Data Collection Form fields:
Updated: November 2019

Data Manager Quick-Links

Major Changes coming to the Databases January 1, 2020 (click to learn about upcoming webinars, harvest dates, and other important information)

New Data Warehouse - Starting January 1, 2020 – Important Information for ALL SITES!

Adult Cardiac Homepage

Data Collection Resources (version specific abstraction documents)

Ask an Abstraction Question

Data Manager Education

Monthly Webinars

Advances in Qualtiy and Outcomes: A Data Managers Meeting

Performance Measures (NQF Measures)

STS National Database News - Publication for STS Data Managers

Public Reporting

Contact Information

Introduction

This manual is intended to clarify field definition and intent. This document contains the most up to date instructions for v. 2.9 data abstraction. Do not refer to old manuals or other data definitions. **Please review this document prior to submitting clinical questions.** FAQs will be added to the document in red to provide additional examples and clarification. Comments in green are provided for clarification within prior updates. Please do not print this document since it will change frequently. Using the web version will ensure that you have the most up to date information. Occasionally there may be changes or important information that will be highlighted here and will be also included in STS Database Newsletters. **Update Nov 2019 – Unless otherwise indicated, Data Managers are not required to go back in past records to update them based on**

new updated FAQ's and Updates to the Training Manual. Data Mangers should move forward with new updated FAQ's and Updates to the Training Manual as they abstract records. In the event of an audit, records will be audited based on the Training Manual at that time. Use the Ctrl + F function to search for a number or term of interest. Bookmarks have been added for November 2019 update

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General Information:

November 2018

The STS data collection forms should be held for three years.
If you only collect data directly to the software you are not required to create data collection forms to save**.**

For all questions where the choices include "no" and "unknown," how should the question be coded when there is no specific documentation?
When a history and physical or a consultation exists in the medical record and the values are not specifically addressed in the documentation, code no. Unknown should be coded only in the circumstance where no clinical documentation exists and the patient cannot give history and supportive documentation.

Will the STS plan to extract data from the EMR?
Currently, the STS is not extracting from the EMR. Some but not all could be collected from the EMR. Some fields are too complex to extract from the EMR in real time.

Is there a list of the procedures that should be included in the Adult Cardiac Surgery Database?
While there is no all-inclusive list of procedures to be included, all procedures must include a surgeon that is listed in the participation agreement with the STS.

FAQ December 2018: Should transcatheter mitral valve (TMVR) procedures be included in the ACSD?
Answer: Transcatheter mitral valve procedures are optional to be included in the ACSD and will not be analysed.

FAQ August 2019 - Data Manager's have shared they are using an internet link that provides UDI for valves. Does this sound correct?
Answer – No, there is no internet link that will provide you with an UDI. The UDI's are device specific which means they are unique for each device imanted into each patient. No two devices will have the same UDI. See the below image for what an UDI number looks like.

FAQ August 2019 - The current data specs allow for 50 charecters to be entered for the UDI. However, most UDI's are greater than 50 charecters, please advise?
Answer - The UDI is made up of 5 different identifiers and each identifier is preceed by a number in paraentheses (e.g (GIN (01) #; Expiration Date (17); Manufacturing Date (11); Lot number (10) AND Serial number (21)). It is necessary to enter all of the charecters, including the paraentheses, into the database so the FDA can identify each unique device. If you are not able to enter the entire UDI, including the paraentheses, then please leave this field blank. The field length will be addressed in the 2020 version upgrade to allow for more charecters.

FAQ August 2019 – A patient had a TEVAR performend on June 1st and was discharged on June 4th. The patient returned on June 15th with an endoleak and required another TEVAR to fix the endoleak. How do I account for this second procedure, we don't want to lose data from this case.
Answer – On the first DCF from the June 1st TEVAR you will enter this as a readmission (readmit primary reason – Other – related readmission), and a readmit primary procedure of 'OR for Aorta Intervention.' A DCF will need to be filled out for the second case as well since it was a separate readmission and any complications following the second procedure will be captured on the second DCF. This is true for all primary procedures that are captured in the STS ACSD. If a patient has a CABG and then comes back within 30 days for a Valve, the valve would be captured on a separate DCF. If there are additional questions about when a second DCF should be filled out for a new admission requiring and ACSD procedure within 30 days of the first procedure then please send in a FAQ.

Administrative

SEQ. #: 5
Long Name: Software Vendor Identifier
Short Name: VendorID
Definition: Name (assigned by STS) given to identify software vendor (up to 8 characters). Vendors should use standard name identification across sites. Changes to Vendor Name Identification must be approved by the STS.

Intent/Clarification:
Name must match what is listed as the Active vendor for your Participant ID in the database. Any mismatch will cause your data file submission not to process.

SEQ. #: 10
Long Name: Software Version
Short Name: SoftVrsn
Definition: Vendor's software product name and version number identifying the software which created this record. Vendor controls the value in this field. Version passing certification/harvest testing will be noted at warehouse.

Intent/Clarification: -

SEQ. #: 15
Long Name: STS Data Version
Short Name: DataVrsn
Definition: Version number of the STS Data Specifications/Dictionary, to which each record conforms. It will identify which fields should have data, and what are the valid data for each field. This must be entered into the record automatically by the software.

Intent/Clarification:

Data version must be appropriate for the procedure date listed in the record. Valid date ranges can be found in the current Software Specifications.

Any mismatch will cause your data file submission not to process.

SEQ. #: 20
Long Name: On-Demand Files Version Number
Short Name: OnDemandVrsn
Definition: The version number of the On-Demand lists in use at the time this data record was created or edited. The value is inserted into the record at the time the record is created or is modified by the user. The version numbers will be specified by the STS.

Intent/Clarification:
Inconsistencies here do not prevent your file from being processed. However, any mismatch will appear in your Data Quality Report (DQR) as a value that could not be interpreted. You should contact your designated Data Submission Coordinator for assistance.
http://www.sts.org/sts-national-database/database-managers/contact-information

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SEQ. #: 25

Long Name: Participant ID
Short Name: ParticID
Definition: Participant ID is a unique number assigned to each database participant by the STS. A database participant is defined as one entity that signs a Participation Agreement with the STS, submits one data file to the harvest, and gets back one report on their data. The participant ID must be entered into each record.
Each participant's data if submitted to harvest must be in one data file. If one participant keeps their data in more than one file (e.g. at two sites), then the participant must combine them back into one file for harvest submission.
If two or more participants share a single purchased software, and enter cases into one database, then the data must be extracted into two different files, one for each participant ID, with each record having the correct participant ID number.

Intent/Clarification:
Each participant's data, if submitted to harvest, must be in one data file. If one participant keeps the data in more than one file (e.g.at two sites), then the participant must combine them back into one file for harvest submission. If two or more participants share a single purchased software, and enter cases in to one database, then the data must be extracted into two different files, one for each participant ID, with each record having the correct participant ID number.

SEQ. #: 30
Long Name: Record ID
Short Name: RecordID
Definition: An arbitrary, unique value generated by the software that permanently identifies each record in the participant's database (note that unlike the PatID value, this does not identify the individual patient). The value of the identifier is a combination of a code assigned to the software developer by the STS, and a value generated by the software to create a unique value. Once assigned to a record, this value can never be changed or reused. The data warehouse will use this value to communicate issues about individual records with the participant. It may also be used by the data warehouse to link this record to other clinical data.

Intent/Clarification:
The data warehouse will use this value to communicate issues about individual records with the participant. It may also be used by the data warehouse to link this record to other clinical data.

SEQ. #: 35
Long Name: Cost Link
Short Name: CostLink
Definition: A participant specified alpha-numeric code that can be used to link this record's clinical data with the participant's cost information for this patient admission.

This information may be used in the future to perform procedure cost analysis (for which the actual cost data would have to be harvested separately). The value in this field must not be the patient's Medical Record Number, Social Security Number or any other patient identifying value.

Intent/Clarification:
This information may be used in the future to perform procedure cost analysis, for which the actual cost data would have to be harvested separately. The value in this field must not be the patient's Medical Record Number, Social Security Number or any other patient identifying value.

SEQ. #: 40
Long Name: Patient ID
Short Name: PatID
Definition: An arbitrary value, (not a recognizable ID like Social Security Number or Medical Record Number) that uniquely and permanently identifies each patient. The value of the identifier is a combination of a code assigned to the software developer by the STS, and a value generated by the software to create a unique value. Once assigned to a patient, this can never be changed or reused. If a patient is admitted to the hospital more than once, each record for that patient will have the same value in this field.

Intent/Clarification:
The value of the identifier is a combination of a code assigned to the software developer by the STS, and a value generated by the software to create a unique value. Once assigned to a patient, this can never be changed or reused. If a patient is admitted to the hospital more than once, each record for that patient will have the same value in this field.

SEQ. #: 45
Long Name: Patient Participating In STS-Related Clinical Trial
Short Name: ClinTrial
Definition: Indicate which, if any, STS-related clinical trial in which the patient is participating. The STS will assign a code to each clinical trial as they begin collecting data.

Intent/Clarification:
A list of trials will be posted as they are started.

There is one clinical trial underway. The Hybrid CABG trial started 10/2017. This is to be captured by checking Trial 1.

SEQ. #: 46
Long Name: Patient Participating In STS-Related Clinical Trial - Patient ID
Short Name: ClinTrialPatID
Definition: Indicate the patient identifier used to identify the patient in the clinical trial.

Intent/Clarification: Instructions will be provided for each trial.

There is one trial underway. The Hybrid CABG trial started 10/2017. Format for this field is HCR-###-####.

Demographics

SEQ. #: 50
Long Name: Patient Last Name
Short Name: PatLName
Definition: Indicate the patient's last name documented in the medical record. This field should be collected in compliance with state/local privacy laws.

Intent/Clarification: -

SEQ. #: 55
Long Name: Patient First Name
Short Name: PatFName
Definition: Indicate the patient's first name documented in the medical record. This field should be collected in compliance with state/local privacy laws.

Intent/Clarification: -

SEQ. #: 60
Long Name: Patient Middle Name
Short Name: PatMName
Definition: Indicate the patient's middle name as documented in the medical record. Leave "blank" if no middle name. This field should be collected in compliance with state/local privacy laws.

Intent/Clarification: -

SEQ. #: 65
Long Name: Date of Birth **Short Name:** DOB
Definition: Indicate the patient's date of birth using 4-digit format for year. This field should be collected in compliance with state/local privacy laws.

Intent/Clarification: Required date format: mm/dd/yyyy

SEQ. #: 70
Long Name: Patient Age
Short Name: Age
Definition: Indicate the patient's age in years, at time of surgery. This should be calculated from the date of birth and the date of surgery, according to the convention used in the USA (the number of birthdate anniversaries reached by the date of surgery). If age is less than 18, the data record will be accepted into the database, but will not be included in the national analysis and report.

Intent/Clarification: -

SEQ. #: 75
Long Name: Sex
Short Name: Gender
Definition: Indicate the patient's sex at birth as either male or female.

Intent/Clarification:
Patients who have undergone gender reassignment surgery maintain the risk associated with their chromosomal gender.

SEQ. #: 76
Long Name: National Identification (Social Security Number) Known
Short Name: SSNKnown
Definition: Indicate whether the patient’s National Identification Number is known or if the patient refused to provide this information.

Intent/Clarification: - Refused means the patient did not wish to share the information. No means the information was not available, or the participant site did not wish to provide.

FAQ September 2018: Do not take the Medicare number as the Social Security number.

SEQ. #: 80
Long Name: National Identification (Social Security Number)
Short Name: SSN
Definition: Indicate the patient's National Identification Number. Although this is the Social Security Number in the USA, other countries may have a different National Patient Identifier Number. For example, in Canada, this would be the Social Insurance Number.

This field should be collected in compliance with state/local privacy laws.

Intent/Clarification: -

SEQ. #: 85
Long Name: Medical Record Number
Short Name: MedRecN
Definition: Indicate the patient's medical record number at the hospital where surgery occurred. This field should be collected in compliance with state/local privacy laws.

Intent/Clarification: -

SEQ. #: 90
Long Name: Patient's Street Address
Short Name: PatAddr
Definition: Indicate the street address at which the patient resides at time of admission. If patient is homeless, enter "Homeless".

This field should be collected in compliance with state/local privacy laws.

Intent/Clarification:
This may be a hotel or relative's home if the patient is not a local resident. This will track referrals and assist with follow-up. A post office box may be used if no other address is available.

SEQ. #: 95
Long Name: Patient's City
Short Name: PatCity
Definition: Indicate the city in which the patient resides at time of admission.

This field should be collected in compliance with state/local privacy laws.

Intent/Clarification: -

SEQ. #: 100
Long Name: Patient's Region
Short Name: PatRegion
Definition: Indicate the region of the country (i.e., state or province) in which the patient resides at time of admission.

Intent/Clarification:
Regional information is used to assess disparities in health care delivery.

SEQ. #: 105
Long Name: Patient's ZIP Code
Short Name: PatZIP
Definition: Indicate the ZIP Code of the patient's local residence. Outside the USA, this data may be known by other names such as Postal Code.

This field should be collected in compliance with state/local privacy laws.

Intent/Clarification:
Regional information is used to assess disparities in health care delivery.

SEQ. #: 115
Long Name: Patient's Country
Short Name: PatientCountry
Definition: Indicate the patient's country of residence at time of admission.
This field should be collected in compliance with state/local privacy laws.

Intent/Clarification:
List of country codes found in Data Specifications V2.9 (p.9)

SEQ. #: 120
Long Name: Permanent Address
Short Name: PermAddr
Definition: Indicate whether the patient considers the given address to be their permanent address.

Intent/Clarification:
The intent is to identify patients who travel outside their local area for treatment. CMS is tracking disparities in health care delivery and looking at underserved areas. This also assists with long term follow up locally.

SEQ. #: 150
Long Name: Race Documented
Short Name: RaceDocumented
Definition: Indicate whether race is documented

Intent/Clarification:
Race should be self-reported by the patient/family. Do not assign race or make assumptions if race is not documented.

SEQ. #: 155
Long Name: Race - White
Short Name: RaceCaucasian
Definition: Indicate whether the patient's race, as determined by the patient or family, includes White. "White" refers to a person having origins in any of the original peoples of Europe, the Middle East, or North Africa. It includes people who indicated their race(s) as "White" or reported entries such as Irish, German, Italian, Lebanese, Arab, Moroccan, or Caucasian. [The 2010 Census Redistricting Data (Public Law 94-171) Summary File]

Intent/Clarification:
The Census Bureau collects race data in accordance with guidelines provided by the U.S. Office of Management and Budget, these data are based on self-identification. The racial categories included in the census form generally reflect a social definition of race recognized in this country and are not an attempt to define race biologically, anthropologically or genetically. In addition, it is recognized that categories of the race item include racial and national origin or socio-cultural groups. People may choose to report more than one race to indicate their racial mixture, such as American Indian and White.

People who identify their origin (ETHNICITY) as Hispanic, Latino or Spanish may be of any race. In addition, it is recognized that the categories of the race item include both racial and national origin and socio-cultural groups. You may choose more than one race category.

SEQ. #: 160
Long Name: Race - Black / African American

Short Name: RaceBlack
Definition: Indicate whether the patient's race, as determined by the patient or family, includes Black / African American. "Black or African American" refers to a person having origins in any of the Black racial groups of Africa. It includes people who indicated their race(s) as "Black, African Am., or Negro" or reported entries such as African American, Kenyan, Nigerian, or Haitian. [The 2010 Census Redistricting Data (Public Law 94-171) Summary File]

Intent/Clarification:
This includes a person having origins in any of the black racial groups of Africa. Terms such as “Haitian” or “Negro” can be used in addition to “Black or African American.”

Definition source: Standards for Maintaining, Collecting and Presenting Federal Data on Race and Ethnicity: The minimum categories for data on race and ethnicity for Federal statistics, program administrative reporting and civil rights compliance reporting.

SEQ. #: 165
Long Name: Race - Asian
Short Name: RaceAsian
Definition: Indicate whether the patient's race, as determined by the patient or family, includes Asian. "Asian" refers to a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam. It includes people who indicated their race(s) as "Asian" or reported entries such as "Asian Indian", "Chinese", "Filipino", "Korean", "Japanese", "Vietnamese", and "Other Asian" or provided other detailed Asian responses. [The 2010 Census Redistricting Data (Public Law 94-171) Summary File]

Intent/Clarification: -

Definition source: Standards for Maintaining, Collecting and Presenting Federal Data on Race and Ethnicity: The minimum categories for data on race and ethnicity for Federal statistics, program administrative reporting and civil rights compliance reporting.

SEQ. #: 170
Long Name: Race - American Indian / Alaskan Native
Short Name: RaceNativeAm
Definition: Indicate whether the patient's race, as determined by the patient or family, includes American Indian / Alaskan Native. "American Indian or Alaska Native" refers to a person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment. This category includes people who indicated their race(s) as "American Indian or Alaska Native" or reported their enrolled or principle tribe, such as Navajo,

Blackfeet, Inupiat, Yup’ik, or Central American Indian groups or South American Indian groups. [The 2010 Census Redistricting Data (Public Law 94-171) Summary File]

Intent/Clarification:
This includes all in North American native peoples such as American Indian/Alaskan Native, Inuit.

SEQ. #: 175
Long Name: Race - Native Hawaiian / Pacific Islander
Short Name: RacNativePacific
Definition: Indicate whether the patient's race, as determined by the patient or family, includes Native Hawaiian / Pacific Islander. "Native Hawaiian or Other Pacific Islander" refers to a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. It includes people who indicated their race(s) as "Pacific Islander" or reported entries such as "Native Hawaiian", "Guamanian or Chamorro", "Samoan", and "Other Pacific Islander" or provided other detailed Pacific Islander responses. [The 2010 Census Redistricting Data (Public Law 94-171) Summary File]

Intent/Clarification: -

Definition source: Standards for Maintaining, Collecting and Presenting Federal Data on Race and Ethnicity. The minimum categories for data on race and ethnicity for Federal statistics, program administrative reporting and civil rights compliance reporting.

SEQ. #: 180
Long Name: Race - Other
Short Name: RaceOther
Definition: Indicate whether the patient's race, as determined by the patient or family, includes any other race. "Some Other Race" includes all other responses not included in the White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander race categories described above. [The 2010 Census Redistricting Data (Public Law 94-171) Summary File]

Intent/Clarification: -

SEQ. #: 185
Long Name: Hispanic or Latino or Spanish Ethnicity
Short Name: Ethnicity
Definition: Indicate if the patient is of Hispanic, Latino or Spanish ethnicity as reported by the patient / family. "Hispanic, Latino or Spanish" refers to a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin

regardless of race. [The 2010 Census Redistricting Data (Public Law 94-171) Summary File]

Intent/Clarification:
People who identify their origin as Hispanic, Latino or Spanish **may be of any race.** Do not make assumptions about ethnicity if it is not documented in the medical record.

Hospitalization

SEQ. #: 205
Long Name: Hospital Name
Short Name: HospName
Definition: Indicate the full name of the facility where the procedure was performed. Values should be full, official hospital name as it appears on the contract with the STS, with no abbreviations or variations in spelling for a single hospital. Values should also be in mixed-case.

Intent/Clarification:
User maintains list of valid values. New values are made available through a utility that is separate from entering a data record.

This must match what DCRI and STS have on your contract. If this name does not match your file will be rejected. Please update if any changes occur.

Update Hospital and Surgeon information here:
http://www.sts.org/sites/default/files/documents/Updated_STSContactUpdateForm_FINAL_03142017_0.pdf

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SEQ. #: 210
Long Name: Hospital ZIP Code **Short Name:** HospZIP
Definition: Indicate the ZIP Code of the hospital. Outside the USA, these data may be known by other names such as Postal Code. This field should be collected in compliance with state/local privacy laws.

Intent/Clarification: -

SEQ. #: 215
Long Name: Hospital Region
Short Name: HospStat

Definition: Indicate the region of the country (i.e., state or province) in which the hospital is located.

Intent/Clarification: -

SEQ. #: 220
Long Name: Hospital National Provider Identifier
Short Name: HospNPI
Definition: Indicate the hospital's National Provider Identifier (NPI). This number, assigned by the Center for Medicare and Medicaid Services (CMS), is used to uniquely identify facilities for Medicare billing purposes.
Non-US participants will have a unique hospital ID number assigned by STS.

Intent/Clarification:
STS/DCRI maintains a list of Hospital NPIs associated with Participation Agreements. Data files that include other hospitals cannot be processed. **This is different from the Surgeon NPI. https://nppes.cms.hhs.gov/NPPES/NPIRegistryHome.do. If the field is missing or incorrect, the file will not be processed.**

If the hospital NPI is changed (e.g. thru mergers/acquisitions) it is crucial that STS and DCRI be notified as soon as possible. This will ensure records are handled appropriately at harvest.

Update Hospital and Surgeon information here:
http://www.sts.org/sites/default/files/documents/Updated_STSContactUpdateForm_FINAL_03142017_0.pdf

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SEQ. #: 221
Long Name: Hospital CMS Certification Number
Short Name: HospCMSCert
Definition: Indicate the hospital's CMS certification number

Intent/Clarification:
In order to avoid confusion with the NPI, the Medicare/Medicaid Provider Number, also known as the OSCAR Provider Number, Medicare Identification Number or Provider Number) has been renamed the **CMS Certification Number (CCN).**

FAQ August 2017: Where can I find the CMS certification number for my site?
Answer: Contact your medical records billing department for the number. You can also look for the number on the CMS website at https://www.ahd.com/search.php

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SEQ. #: 291
Long Name: Primary Payor
Short Name: PayorPrim
Definition: Indicate the primary insurance payor for this admission.

Intent/Clarification:
When there is more than one payor, the primary payor pays first.

FAQ August 2017: How is a Medicare/Medicaid managed care product coded (ie. Humana Medicare, Star Molina Medicaid)?
Answer: The Medicare/Medicaid managed care products are captured in the primary payor category as Medicare or Medicaid only.

FAQ December 2017: The patient was admitted after a car accident. His primary insurance would then be his auto insurance policy with his health care policy as his secondary insurance. For the STS, how is the auto insurance policy coded?
Answer: The intent is to capture the patient's normal health care policy, do not capture the auto insurance policy.

FAQ July 2019 - Since the Payors are now part of the Risk Model, which option is recommended to capture the Payor fields when the Hospital documents state "Medicaid Pending"? The 2.9 definition states "for this admission", suggesting that the patient is uninsured (None/Self) at the time of admission. Is this insurance at time of arrival or at time of discharge?
Answer - Please capture insurance at time of arrival.

SEQ. #: 292
Long Name: Primary Payor Medicare Fee For Service
Short Name: PrimMCareFFS
Definition: Indicate whether the patient is covered by Medicare Fee For Service (Part B).

Intent/Clarification: -

FAQ Sept 2019 - Are Medicare Replacement Plans or Managed Care Plans that pay via PFFS (Private-Fee-for-Service) answered as YES in Seq 292 or is this field only for traditional Medicare plans that pay via FFS (Fee-for-service)?
Answer: This field is for traditional Medicare plans that pay via FFS (Fee-for-service)? Medicare Replacement and Managed Care plans are no longer medicare FFS. The intent is to discern the way the patient's care is managed.

SEQ. #: 293
Long Name: Secondary (Supplemental) Payor

Short Name: PayorSecond
Definition: Indicate which if any secondary insurance payor was used for this admission.

Intent/Clarification:
When there is more than one payor, the secondary payor pays after the primary payor.

FAQ August 2017: How is a Medicare/Medicaid managed care product coded (ie. Humana Medicare, Star Molina Medicaid)?
Answer: The Medicare/Medicaid managed care products are captured in the secondary payor category as Medicare or Medicaid only.

SEQ. #: 294
Long Name: Secondary Payor Medicare Fee For Service
Short Name: SecondMCareFFS
Definition: Indicate whether the patient is covered by Medicare Fee For Service (Part B).

Intent/Clarification: -

FAQ August 2017: When is secondary Medicare FFS coded?
Answer: Code a secondary Medicare FFS provider only when the FFS ID number is different from the primary Medicare FFS provider number.

FAQ Sept 2019 - Are Medicare Replacement Plans or Managed Care Plans that pay via PFFS (Private-Fee-for-Service) answered as YES in Seq 292 or is this field only for traditional Medicare plans that pay via FFS (Fee-for-service)?
Answer**:** This field is for traditional Medicare plans that pay via FFS (Fee-for-service)? Medicare Replacement and Managed Care plans are no longer medicare FFS. The intent is to discern the way the patient's care is managed.

SEQ. #: 305
Long Name: Date of Admission
Short Name: AdmitDt
Definition: Indicate the Date of Admission. For those patients who originally enter the hospital in an out-patient capacity (i.e., catheterization), the admit date is the date the patient's status changes to in-patient. In the event admission date comes after date of surgery, use date of surgery.

Intent/Clarification: Required date format: mm/dd/yyyy

SEQ. #: 310
Long Name: Date of Surgery
Short Name: SurgDt
Definition: Indicate the date of index cardiac surgical procedure. Index cardiac surgical procedure is defined as the initial major cardiac surgical procedure of the hospitalization.

Intent/Clarification:
The date the patient enters the operating room for surgery.

Required date format: mm/dd/yyyy

SEQ. #: 320
Long Name: Admit Source
Short Name: AdmitSrc
Definition: Indicate the source of admission for the patient to your facility.

Intent/Clarification:
Choose elective admission, through the ED, transferred in from another acute care facility or “other,” which includes transfers from non-acute care facilities such as nursing homes.

If a patient is admitted for an elective catheterization and is then held-over for surgery (elective or urgent), this should be coded as an elective admission; however, the surgery status should be coded as urgent based on the catheterization findings.

If the facility has a stand-alone “feeder” ER (with the same patient ID) then the source is ED.

The option “Other” includes **direct admits** from MD offices, providers, non-acute clinics, Rehab units. However, if patients is sent to the ED then ED should be selected as admit source.

SEQ. #: 325
Long Name: Other Hospital Performs Cardiac Surgery
Short Name: OthHosCS
Definition: The transferring hospital has the necessary personnel and facilities to have been able to perform cardiac surgery.

Intent/Clarification:
The intent is to capture patients whose acuity requires a higher level of care or more complex procedure than can be provided at the transferring facility, such as a transplant. The goal is to identify high acuity patients and does not reflect negatively on

the referring hospital. Code “yes” if the transferring hospital performs heart surgery, even if it is not the type of surgery the patient is being transferred for such as transplant or VAD.

Risk Factors

General Information:

If the patient is alone, intubated and unable to give history; use the information from the patient’s family if they become available.

Pregnancy is not captured as a risk factor; the associate risk is captured in other factors present at the time.

SEQ. #: 330
Long Name: Height (cm)
Short Name: HeightCm
Definition: Indicate the height of the patient in centimeters.

Intent/Clarification:
Used to calculate BSA (body surface area) and is a field for risk calculation. 1 inch = 2.54 cm. For patients who have had lower extremity amputations, code the patient’s original height. **Update October 2019 - Time frame – capture height closest to time of OR for index procedure. Use the Anesthesia Record as priority source, followed by the Perfusion record. If height is not avalaible from the above sources, use the height recorded in other documents closest to entry to OR for index procedure.**

SEQ. #: 335
Long Name: Weight (kg)
Short Name: WeightKg
Definition: Indicate the weight of the patient in kilograms closest to the date of procedure.

Intent/Clarification:

Used to calculate BSA (body surface area) and is a field for risk calculation. Record in kilograms. 1 Kg = 2.2 pounds. **Update October 2019 - Time frame – capture weight closest to time of OR for index procedure. Use the Anesthesia Record as priority source, followed by the Perfusion record. If weight is not avalaible from the above sources, use the weight recorded in other documents closest to entry to OR for index procedure.**

SEQ. #: 355
Long Name: RF-Family History of Premature CAD
Short Name: FHCAD
Definition: Indicate if the patient has any direct blood relatives (parents, siblings, children) who have had any of the following at age
<55 y for male relatives or <65 y for female relatives:
● Angina
● Acute MI
● Sudden cardiac death without obvious cause
● CABG surgery
● PCI

Intent/Clarification:
The disease, treatment (surgical, non-surgical or medical) and/or symptoms must have been present or reported to have occurred prior to age 55 in males and 65 in females. This is considered a strong predictor for development of CAD and may include, but is not limited to, angina, acute MI, CABG, PCI or sudden cardiac death with no known cause. Early onset of CAD in patient and or first-generation family members predisposes patient to increased risk of mortality/morbidity.

Code family history as “No” if the patient is adopted and family history is unknown.

You must have the exact age (not age range or approximation) to document premature CAD.

FAQ July 2019 – How are half-siblings captured?
Answer- Half-siblings are considered second-degree relatives and will not be coded as family history of first degree / direct blood relatives.

FAQ October 2019 - Patient history has strong family history of CAD with multiple first-degree family members; however, no ages are given in medical record for any family member with history of CAD. Patient was able to give a complete history, so no issues there. Should this be coded as "No" or "Unknown".
Answer - Code unknown in this scenario.

SEQ. #: 360
Long Name: RF-Diabetes
Short Name: Diabetes
Definition: History of diabetes diagnosed and/or treated by a healthcare provider. The American Diabetes Association criteria include documentation of the following:

1. Hemoglobin A1c >=6.5%; or
2. Fasting plasma glucose >=126 mg/dL (7.0 mmol/L); or
3. 2-h Plasma glucose >=200 mg/dL (11.1 mmol/L) during an oral glucose tolerance test; or
4. In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose >=200 mg/dL (11.1 mmol/L)

This does not include gestational diabetes.

2013 ACCF/AHA Data Standards
Cannon et al. JACC Vol. 61, No. 9, 2013

Intent/Clarification:
Indicate if the patient has a history of diabetes mellitus regardless of duration of disease or need for anti-diabetic agents. Code no for patients with steroid induced hyperglycemia and gestational (transient) diabetes if there is no supportive documentation of diabetes such as a HbA1c and/or treatment.
Not all patients receiving diabetic medications are considered diabetic. It is important to remember that some medications used to treat diabetes may be used to treat other conditions. **Update Sept 2019 - Time frame – capture any occurrence between birth and entry to OR for index procedure**.

A HbA1c value **≥** 6.5, collected within 3 months prior to surgery, is acceptable for documentation of diabetes = “yes”.

FAQ June 2019: Patient has a history of Type 1 diabetes and has had a pancreatic transplant. Do you mark yes for history of diabetes?
Answer – Yes.

SEQ. #: 365
Long Name: RF-Diabetes-Control
Short Name: DiabCtrl
Definition: Indicate the patient’s diabetes control method as presented on admission. Patients placed on a preprocedure diabetic pathway of insulin drip at admission but whose diabetes was controlled by diet or oral methods are not coded as being treated with insulin.
Choose the most aggressive therapy from the order below

- Insulin: insulin treatment (includes any combination with insulin)
- Other subcutaneous medications (e.g., GLP-1 agonist)
- Oral: treatment with oral agent (includes oral agent with or without diet treatment)
- Diet only: Treatment with diet only
- None: no treatment for diabetes

- Other: other adjunctive treatment, non-oral/insulin/diet
- Unknown

2013 ACCF/AHA Data Standards
Cannon et al. JACC Vol. 61, No. 9, 2013

Intent/Clarification:
Code diet only for patients who have had a history of diabetes that is resolved and not taking medication.

For patients who have had pancreatic transplant, code other adjunctive treatment.

FAQ June 2019: How should diabetes control be coded for the patient who has had a pancreatic transplant?
Answer: If the patient has had a pancreatic transplant code “other”, since the insulin from the new pancreas is not exogenous insulin.

SEQ. #: 370
Long Name: RF-Dyslipidemia
Short Name: Dyslip
Definition: Indicate if the patient has a history of dyslipidemia that was diagnosed and/or treated by a physician. NCEP criteria include
documentation of the following:
● Total cholesterol >200 mg/dL (5.18 mmol/L); or
● LDL >=130 mg/dL (3.37 mmol/L);
● HDL <40 mg/dL (1.04 mmol/L) in men and <50 mg/dL (1.30 mmol/L) in women;
● Currently receiving antilipidemic treatment

Intent/Clarification:
Code “Yes” if a patient is prescribed treatment for dyslipidemia resulting in normal lab values even if anti-lipids are prescribed prophylactically, even pre-operatively, prior diagnosis with current therapy, or new diagnosis with therapy, or new diagnosis that meets the lab value definition, or if the patient is on a statin preoperatively.
Studies indicate some of the cholesterol-independent or “pleiotropic” effects of statins involve improving endothelial function, enhancing stability of atherosclerotic plaques, decreasing oxidative stress and inflammation, and inhibiting thrombogenic response.

Code “Yes” when:

A. Documented history of dyslipidemia
B. Lab values prior to OR entry support the diagnosis of dyslipidemia, include historic lab values
C. Patient is on a statin medication prior to admission

Code “No” when:

A. The patient is put on a statin after admission without the diagnosis of dyslipidemia or

laboratory documentation to support the diagnosis.

FAQ December 2018: Can dyslipidemia be coded from the laboratory values?
Answer: Yes, dyslipidemia can be coded from the laboratory values if they support the diagnosis of dyslipidemia.

SEQ. #: 375
Long Name: RF-Renal Fail-Dialysis
Short Name: Dialysis
Definition: Indicate whether the patient is currently (prior to surgery) undergoing dialysis.

Intent/Clarification:
Includes any form of peritoneal or hemodialysis the patient is ~~receiving prior~~ ~~currently~~ **receiving rountinely prior to surgery with the intent to resume post -op (Update Nov 2019)** ~~to surgery~~.-Also, may include Continuous Veno-Venous Hemofiltration (CVVH, CVVH-D), and Continuous Renal Replacement Therapy (CRRT) as dialysis.

Code '"No" for renal dialysis if ultrafiltration is the only documentation found in the record since this is for volume management.

FAQ February 2019: The patient has a history of dialysis 6 years ago but does not currently require dialysis. His preoperative creatinine is 3.3. Should this be coded as yes for renal failure dialysis preoperatively?
Answer: No, this remote history of dialysis is not coded as renal failure dialysis.

SEQ. #: 380
Long Name: RF-Hypertension
Short Name: Hypertn
Definition: Indicate if the patient has a current diagnosis of hypertension defined by any 1 of the following:
● History of hypertension diagnosed and treated with medication, diet, and/or exercise
● **Update Nov 2019 - ~~Prior documentation of blood pressure >140 mm Hg systolic and/or 90 mm Hg diastolic for patients without diabetes or chronic kidney disease, or prior documentation of blood pressure >130 mm Hg systolic or 80 mm Hg diastolic on at least 2 occasions for patients with diabetes or chronic kidney disease~~**
● Currently undergoing pharmacological therapy for treatment of hypertension

Intent/Clarification: - Update Sept 2019 - Time frame – capture any occurrence between birth and entry to OR for index procedure. Update Nov 2019 - Capturing of HTN as a risk factor must be based on Provider diagnosis of HTN in the medical record.

SEQ. #: 385
Long Name: RF- Endocarditis
Short Name: InfEndo
Definition: Indicate whether the patient has a history of endocarditis. Endocarditis must meet the current CDC definition:
Endocarditis must meet at least 1 of the following criteria:

1. Patient has organisms cultured from valve or vegetation.
2. Patient has 2 or more of the following signs or symptoms: fever (>38°C), new or changing murmur*, embolic phenomena*, skin manifestations* (i.e., petechiae, splinter hemorrhages, painful subcutaneous nodules), congestive heart failure*, or cardiac conduction abnormality*

* With no other recognized cause and at least 1 of the following:
1) Organisms cultured from 2 or more blood cultures
2) Organisms seen on Gram's stain of valve when culture is negative or not done
3) Valvular vegetation seen during an invasive procedure or autopsy
4) Positive laboratory test on blood or urine (e.g., antigen tests for H influenzae, S pneumoniae, N meningitidis, or Group B Streptococcus)
5) Evidence of new vegetation seen on echocardiogram and if diagnosis is made antemortem, physician institutes appropriate antimicrobial therapy.

Choose "Yes" for patients with pre-operative endocarditis who begin antibiotics post-op. Code "Yes" for patients who are diagnosed intraoperatively.

Intent/Clarification:
Marantic Endocarditis (Nonbacterial Thrombotic Endocarditis) (Lupus) should not be coded as infectious endocarditis. **Update Sept 2019 - Time frame – capture any occurrence between birth and entry to OR for index procedure.**

SEQ. #: 390
Long Name: RF-Infect Endocard Type
Short Name: InfEndTy
Definition: Indicate the type of endocarditis the patient has. If the patient is currently being treated for endocarditis, the disease is considered active. If no antibiotic medication (other than prophylactic medication) is being given at the time of surgery and the cultures are negative, then the infection is considered treated.

Intent/Clarification:

- **Active** - currently being treated; also include patients who were diagnosed in the

OR but began treatment postop.

- **Treated** - no antibiotic medication at time of surgery (other than prophylactic medication).

SEQ. #: 395
Long Name: RF-Infect Endocard Culture
Short Name: InfEndCult
Definition: Indicate culture results (may use cultures obtained in the OR).

Intent/Clarification:
The most common causal agents are listed; choose "other" if none of these apply or "unknown" if no culture result is available. Culture Negative, Streptococcus species, Methicillin sensitive staphylococcus aureus (MRSA), Coagulase negative staphylococcus, Enterococcus species, Gram negative species, Polymicrobial, Mycobacterium (chimera), Fungal, Other, or Unknown. You may use cultures obtained in the OR.

SEQ. #: 400
Long Name: RF-Tobacco Use
Short Name: TobaccoUse
Definition: Indicate current (within 30 days prior to admission) or previous use of any tobacco product, including Cigarettes, Pipe, Cigars, Smokeless Cans, Other tobacco products (orbs, strips, sticks, hookah, etc.). Meaningful Use Definition Http://www.healthit.gov/providers-professionals/achieve-meaningful-use/core-measures/record-smoking-status

Intent/Clarification:
Electronic cigarettes (Ecig) = "No;" Electronic cigarettes are not considered tobacco products.

- Current – Everyday smoker (Tobacco use within the most recent 30 days – on a daily basis)
- Current – Some Days smoker (Tobacco use within the most recent 30 days – on a less than daily basis)
- Smoker, current status unknown (Tobacco use within the most recent 30 days– frequency of use is unknown)
- Former smoker (Tobacco use prior to the most recent 30 days, without use within the most recent 30 days.)
- Smoking Status unknown (No information is available on patient's smoking status)

Example: Patient who smoked prior to admission, has been in the hospital > 2 weeks prior to surgery, and did not smoke while in the hospital is captured as "Yes, Current Everyday Smoker". The patient smoked within the 30-day window.

SEQ. #: 405
Long Name: RF-Chronic Lung Disease
Short Name: ChrLungD
Definition: Indicate whether the patient has chronic lung disease, and the severity level according to the following classification:

No
Mild: FEV1 60% to 75% of predicted, ~~and/~~or on chronic inhaled or oral bronchodilator therapy.
Moderate: FEV1 50% to 59% of predicted, ~~and/~~or on chronic oral/systemic steroid therapy aimed at lung disease.
Severe: FEV1 < 50% ~~and/~~or Room Air pO2 < 60 or pCO2 > 50.
CLD present, severity not documented.
Unknown

Time Frame: Do not use values obtained more than 12 months prior to the date of surgery.

A history of chronic inhalation reactive disease (asbestosis, mesothelioma, black lung disease or pneumoconiosis) may qualify as chronic lung disease. Radiation induced pneumonitis or radiation fibrosis also qualifies as chronic lung disease. (if above criteria is met) A history of atelectasis is a transient condition and does not qualify.
Chronic lung disease can include patients with chronic obstructive pulmonary disease, chronic bronchitis, or emphysema. It can also include a patient who is currently being chronically treated with inhaled or oral pharmacological therapy (e.g., beta-adrenergic agonist, anti-inflammatory agent, leukotriene receptor antagonist, or steroid). Patients with asthma or seasonal allergies are not considered to have chronic lung disease.

Intent/Clarification:
Bedside spirometry can be used to quantify chronic lung disease. ~~ONLY if the study is interpreted by a pulmonologist.~~ **Beginning January 1, 2019, spirometry results that have not been interpreted by a pulmonologist may be used to quantify chronic lung disease**.

FAQ December 2017: The patient has sarcoidosis, should this be coded as chronic lung disease?
Answer: Sarcoidosis can be considered a chronic lung disease if the patient meets the criteria based on pulmonary function studies, use of inhaled medications or steroids aimed at the lungs.

FAQ December 2017: If the patient had a bilateral lung transplant due to severe CLD two years prior to a MVR, should chronic lung disease be coded as severe and the type be coded obstructive for this patient?
Answer: No, the patient no longer has chronic lung disease.

FAQ February 2019: Bedside spirometry was done and the results were interpreted differently by the surgeon and the pulmonologist. Which interpretation should be used?
Answer: Code chronic lung disease based on the results of the spirometry.

FAQ February 2019: The bedside spirometry results have an FEV1 of 57% but the pulmonologist states the patient has mild chronic lung disease. How should chronic lung disease be code?
Answer: Code based on the FEV1, 57% should be coded as moderate.

FAQ July 2019 - Patient had PFT done, with FEV1 % Predicted of 48%. I have not seen any documented diagnosis of chronic lung disease in the chart. Do I still code as 'Severe', based on the PFT or does there also have to be a diagnosis of chronic lung disease?
Answer -Yes, this should be coded as severe COPD per FEV1 results and does not require physician documentation.

SEQ. #: 410
Long Name: RF-Chronic Lung Disease - Type
Short Name: ChrLungDType
Definition: Indicate the type of chronic lung disease.

Intent/Clarification:

- **Obstructive** - Obstructive chronic lung disease is characterized by chronically poor airflow. It typically worsens over time and the main symptoms include shortness of breath, cough, and sputum production (ex. COPD; Chronic Bronchitis; Emphysema);
- **Reactive** - Reactive lung disease is a specific type of reactive airway disease, a term used to generally describe a condition where the individual experiences asthma-like symptoms after exposure to toxins. The condition is distinctly different from asthma which is not COPD, a chronic respiratory disease where allergic reactions induce wheezing, though sometimes the terms are used interchangeably. (Ex. asbestosis and mesothelioma);
- **Interstitial Fibrosis** - Interstitial lung disease (ILD), also known as diffuse parenchymal lung disease (DPLD), refers to a group of lung diseases affecting the interstitium (the tissue and space around the air sacs of the lungs). It concerns alveolar epithelium, pulmonary capillary endothelium, basement membrane, perivascular and perilymphatic tissues. The term ILD is used to distinguish these diseases from obstructive airways diseases; (ex. ILD, DPLD, Cystic Fibrosis)
- **Restrictive** - Restrictive lung diseases, or restrictive ventilatory defects, are a category of extrapulmonary, pleural, or parenchymal respiratory diseases that restrict lung expansion, resulting in a decreased lung volume, an increased work of breathing, and inadequate ventilation and/or oxygenation.
- **Other** - chronic lung disease other than previously described (ex: Amiodarone toxicity)
- **Multiple** - Multiple types of chronic lung disease conditions are present
- **Not documented**

FAQ December 2017: The patient has sarcoidosis, should chronic lung disease type be coded as obstructive for this patient?

Answer: While sarcoidosis can be considered a chronic lung disease if the patient meets the criteria based on pulmonary function studies, use of inhaled medications or steroids aimed at the lungs, the patient who has had bilateral lung transplant no longer has chronic lung disease and a should not have lung disease type coded as obstructive.

SEQ. #: 415
Long Name: RF-Pulmonary Function Test
Short Name: PFT
Definition: Indicate whether pulmonary function tests were performed.

Intent/Clarification:
Pulmonary function testing is a valuable tool for evaluating the respiratory system, representing an important adjunct to the patient history, various lung imaging studies, and invasive testing such as bronchoscopy and open-lung biopsy.
Insight into underlying pathophysiology can often be gained by comparing the measured values for pulmonary function tests obtained on a patient at any particular point with normative values derived from population studies. The percentage of predicted normal is used to grade the severity of the abnormality. Pulmonary function testing is used in clinical medicine for evaluating respiratory symptoms such as dyspnea and cough, for stratifying preoperative risk, and for diagnosing common diseases such as asthma and chronic obstructive pulmonary disease.

~~Bedside spirometry can be used to quantify chronic lung disease ONLY if the study is interpreted by a pulmonologist.~~ **Beginning January 1, 2019, spirometry results that have not been interpreted by a pulmonologist may be used to quantify chronic lung disease.**

Time Frame: Do not use values obtained more than 12 months prior to the date of surgery.

SEQ. #: 420
Long Name: RF-Forced Expiratory Volume Predicted
Short Name: FEV1
Definition: Indicate the FEV1 % predicted from the most recent pulmonary function test prior to procedure.
Choose the highest value reported for % predicted, whether or not a bronchodilator was used.

Intent/Clarification:
FEV_1 is the maximal amount of air forcefully exhaled in one second. It is then converted to a percentage of normal. For example, the FEV_1 may be 80% of predicted based on height, weight, and race. FEV_1 is a marker for the degree of obstruction. In normal persons, the FEV_1 accounts for the greatest part of the exhaled volume from a spirometric maneuver and reflects mechanical properties of the large and the medium-

sized airways.

- FEV1 > 75% of predicted = Normal
- FEV1 60% to 75% of predicted = Mild obstruction
- FEV1 50% to 59% of predicted = Moderate obstruction
- FEV1 < 50% of predicted = Severe obstruction

SEQ. #: 425
Long Name: DLCO Test Performed
Short Name: DLCO
Definition: Indicate whether a lung diffusion test (DLCO) was performed.

Intent/Clarification:
The diffusing capacity (DLCO) is a test of the integrity of the alveolar-capillary surface area for gas transfer.

SEQ. #: 430
Long Name: DLCO Predicted **Short Name:** DLCOPred
Definition: Indicate the % predicted DLCO value obtained for the patient. Choose the value that represents the ~~highest~~ **lowest** % predicted whether or not it is the simple DLCO or the DLCO/VA.

Intent/Clarification:
The **lowest** value for DLCO uncorrected should be captured.

SEQ. #: 435
Long Name: RF-Arterial Blood Gas
Short Name: ABG
Definition: Indicate whether a room-air arterial blood gas was performed prior to surgery. Answer no if the only available arterial blood gasses were drawn while patient was receiving supplemental oxygen.

Intent/Clarification:
Arterial blood gasses may be drawn in patients with suspected lung disease or sometimes during cardiac catheterization.

Do not use ABGs drawn after initiation of anesthetic management. They may not accurately reflect the patient's true baseline due to preop sedation, anxiety, pain and other factors.

Answer “No” if the only available arterial blood gasses were drawn while patient was receiving supplemental oxygen.

FAQ June 2019: Can I use an aterial blood gas that was drawn 2 months prior to surgery?
Answer: No use the arterial blood gas value closest to surgery within 30 days of surgery.

FAQ June 2019: Beginning June 2019 use the arterial blood gas value closest to surgery within 30 days of surgery.

SEQ. #: 440
Long Name: RF-Carbon Dioxide Level
Short Name: PCO2
Definition: Indicate PCO2 on most recent room air blood gas prior to procedure.

Intent/Clarification:
Higher levels (CO_2 retention) may indicate hypoventilation and low levels are consistent with hyperventilation.

The normal range is 35-45 mmHg.

SEQ. #: 445
Long Name: RF-Oxygen Level
Short Name: PO2
Definition: Indicate PO2 result on most recent room air arterial blood gas prior to procedure.

Intent/Clarification:
The partial pressure of oxygen that is dissolved in arterial blood in known as PO_2. In persons over 60 years of age, the normal is lower.

Normal values 80-100mm Hg.

SEQ. #: 450
Long Name: RF-Home Oxygen
Short Name: HmO2
Definition: Indicate whether supplemental oxygen at home is prescribed and used.

Intent/Clarification:
Choices include the following:

- Yes, PRN
- Yes, Oxygen dependent
- No
- Unknown

Code "No" for patients who are using home O_2 on a prn basis but have not used > 1 month,

Code "Unknown if there is no indication of when home O_2 was last used.

SEQ. #: 455
Long Name: RF-Inhaled Medication or Oral Bronchodilator Therapy
hort Name: BDTx
Definition: Indicate whether oral and/or inhaled bronchodilator or inhaled (not oral or IV) steroid medications were in use by the patient routinely prior to this procedure.

Intent/Clarification:
Capture patients with prescribed home bronchodilator therapy prior to admission. Capture only routine use. Do not capture for patients using bronchodilators to treat asthma.

A bronchodilator is a substance that dilates the bronchi and bronchioles, decreasing airway resistance and thereby facilitating airflow. They are most useful in obstructive lung diseases, of which asthma and chronic obstructive pulmonary disease are the most common conditions. Bronchodilators are either short-acting or long-acting. Short-acting medications provide quick or "rescue" relief from acute bronchoconstriction. Long-acting bronchodilators help to control and prevent symptoms.

Code “Unknown” when there is conflicting information in the medical record and/or with the patient/family.

SEQ. #: 460
Long Name: RF-Sleep Apnea
Short Name: SlpApn
Definition: Indicate whether patient has a diagnosis of sleep apnea (may be described as obstructive sleep apnea or OSA).

Intent/Clarification:
Sleep apnea is a potentially serious sleep disorder in which breathing repeatedly stops and starts during sleep. Sleep apnea occurs in two main types: Obstructive Sleep Apnea, the more common form that occurs when throat muscles relax, and Central Sleep Apnea, which occurs when the brain doesn't send proper signals to the muscles that control breathing. Additionally, some people have complex sleep apnea, which is a combination of both. Sleep apnea has been associated with sudden death.

- Capture patients with prescribed home therapy despite frequency of use.
- Sleep apnea must be diagnosed by a physician/NP/PA. **Do not capture suspected sleep apnea or that reported by family members as sleep apnea.**
- CPAP or BiPAP therapy is no longer a requirement to code "yes" for sleep apnea.
- Code "No" to sleep apnea if sleep apnea has been surgically corrected.
- **Update Nov 2019 - Sleep Apnea cannot be diagnosed with a screening tool. It needs to be diagnosed with a formal diagnostic tool such as sleep study.**

Code “Yes” if sleep apnea is **diagnosed using a formal diagnostic tool such as a sleep study (Update Nov 2019)** but is not treated.

SEQ. #: 465
Long Name: RF-Pneumonia
Short Name: Pneumonia
Definition: Indicate whether patient has a recent (within 30 days) or remote (more than 30 days) history of pneumonia.

Intent/Clarification:
Pneumonia is an infection of one or both lungs caused by bacteria, viruses, fungi, chemicals, or aspiration. It can be community acquired or acquired in a health care setting. Typical symptoms associated with pneumonia include cough, chest pain, fever, and difficulty in breathing. Diagnostic tools include x-rays and examination of the sputum. Treatment depends on the cause of pneumonia; bacterial pneumonia is treated with antibiotics.

Code as:
- Recent- pneumonia diagnosis within 30 days of procedure or
- Remote - pneumonia diagnosis more than 30 days prior to the procedure.
- No - meaning no history of pneumonia
- Unknown

There must be documentation of pneumonia to code "Yes". "**Possible** pneumonia" with antibiotic treatment should be coded "Unknown".

Pneumonitis, inflammation of the lung tissue, without infection is not considered pneumonia and should be coded as "no".

SEQ. #: 470
Long Name: RF-Illicit Drug Use **Short Name:** IVDrugAb
Definition: Indicate whether documented history of use of illicit drugs, such as heroin, ~~marijuana~~, cocaine, or methamphetamine, or abuse of a controlled substance.
Do not include rare historical use. Do not include prescribed medicinal marijuana. Treatment with methadone is not considered illicit drug use.

Intent/Clarification:
Capture patients with habitual use of illicit drugs. Include abuse of street and prescription medications. Illicit drug use is associated with numerous health and social problems, and age-related physiological, psychological, and social changes that could impact recovery from surgery.

- **Recent** - Within 30 days of procedure
- **Remote** - More than 30 days prior to procedure
- **No** – No illicit drug use
- **Unknown** - patient/family unable to provide history.

FAQ February 2018: Illicit drugs: With the legalization of marijuana in some states across the country, should marijuana be excluded from the illicit drug definition so that all patients have parity in measurement of the illicit drug question. Medicinal use is also different from recreational use and rarely is the information clear as to the category of patients reporting marijuana use.
ANSWER: Marijuana should not be captured as an illicit drug and has been removed from the definition.

FAQ February 2018: if the patient denies illicit drug use but the drug screen is positive should illicit drug use be coded yes?
ANSWER: Yes, Code Illicit drug use if the drug screen is positive.

FAQ Sept 2019 - Is it appropriate to answer "unknown" when drug use has not been assessed?
Answer – Yes, code unknown if drug use has not been assessed.

SEQ. #: 475
Long Name: RF-Depression
Short Name: Depression
Definition: Indicate whether there is a current or previous history of depression or documentation of a depressed mood or affect.

Intent/Clarification:
People with heart disease are more likely to suffer from depression than otherwise healthy people. Angina and heart attacks are closely linked with depression. Recovery following heart surgery may be negatively impacted by the presence of preoperative depression.

A clinical diagnosis of depression/treatment is not required to code "Yes". Patient/family stating depressed mood or affect is sufficient.

Do not code “Yes” if a patient taking antidepressant medications for something other than depression (examples: radiculopathy, smoking cessation, fibromyalgia, sleep disorders, hormonal imbalances).

Include patients who are reporting symptoms of depression; treated or not treated with medications or therapy.

Bipolar disorders are considered depression.

Code “Unknown” when there is conflicting information in the medical record and/or with the patient/family.

FAQ May 2019: Is a documented history of postpartum depression to be coded "Yes" for Depression?
Answer: Code this as yes for depression.

SEQ. #: 480
Long Name: RF-Alcohol Use
Short Name: Alcohol
Definition: Specify alcohol consumption history.

Intent/Clarification: 480
Code current alcohol use (within 30 days of surgery):

- ≤ 1 drink per week (rare or occasional drink) one beer, one glass of wine or one shot
- 2-7 drinks per week (Social)
- ≥ 8 drinks per week (Heavy drinker)
- None (Non-drinker)
- Unknown- patient/family unable to provide history

Alcohol abuse is not necessarily a quantity of alcohol but implies interference with home, work and life functioning. Documentation the patient is an alcoholic at the time of admission should be coded ≥ 8 drinks per week.

FAQ Sept 2019 - Is it appropriate to answer "unknown" when alcohol use has not been assessed?
Answer – Yes, code unknown if alcohol use has not been assessed.

SEQ. #: 485
Long Name: RF-Liver Disease
Short Name: LiverDis
Definition: Indicate whether the patient has a history of hepatitis B, hepatitis C, cirrhosis, portal hypertension, esophageal varices, ~~**chronic alcohol abuse**~~ or congestive hepatopathy. Exclude NASH in the absence of cirrhosis.

Intent/Clarification:
LFTs or a MELD score alone **cannot** be used to code "Yes" to liver disease since other conditions impact these lab values. Liver fibrosis with recurrent ascites, supported by the

MELD can be coded as liver disease. **Update Sept 2019 - Time frame – capture any occurrence between birth and entry to OR for index procedure.**

The following are not coded as liver disease:

- ~~Patients who have had liver transplant without residual anatomic or systemic issues or associated MELD scores.~~
- Hepatitis A
- Gilberts syndrome
- Fatty liver
- Liver Cancer

FAQ September 2017: Patient had a liver transplant 11 years ago and is here for convergent A-Fib ablation. His MELD score this admission was 10.69, bilirubin was 1.8, and there was no GI/Hepatology consult.
How should I code liver disease? I wouldn't be able to show that he has history of liver transplant if I key no.
Answer: Capture yes to liver disease and yes to liver transplant. It is important to capture the history of liver disease.

FAQ May 2018: The patient has a history of drug induced vs. autoimmune hepatitis, is this coded as liver disease.
Answer: Yes, code as liver disease. Active or history of hepatitis can leave chronic sequelae that could impact the patient.

FAQ May 2019- Would hepatic sarcoidosis be coded as liver disease?
Answer - Sarcoidosis should not be coded alone as liver disase. To code liver disease other qualifying disease criteria must be met (cirrhosis, hepatits, MELD score).

FAQ June 2019: Is ANY history of alcohol abuse to be coded liver disease, regardless of number of years in recovery? Example: If the patient has been in recovery for a significant amount of time, and liver work up is clean, do we still code YES for liver disease?
Answer: Do not code liver disease. Chronic ETOH is not considered liver disease without other liver disease criteria being met.

SEQ. #: 486
Long Name: RF-Liver Disease - Child Pugh Class
Short Name: LiverChildPugh
Definition: Indicate the Child Pugh Class, if known.

Intent/Clarification:
Documentation includes the compilation of the MELD score, the clinical diagnosis and the controllability of ascites.

- Child-Pugh A
- Child-Pugh B
- Child-Pugh C
- Unknown

FAQ August 2017: Can I calculate the Child-Pugh classification?
Answer: No, it is the responsibility of the surgeon/physician to calculate the Child-Pugh classification and document the score in the medical record. If not documented, code unknown.

FAQ December 2017: Can the Child-Pugh classification that was calculated and documented in the patient's medical record by an APN or PA, or must this be performed and documented by the physician/surgeon?
Answer: Documentation of the Child-Pugh classification documented by an APN or PA can be used.

SEQ. #: 487
Long Name: RF-Liver Disease - Listed for Liver Transplant
Short Name: LiverTransList
Definition: Indicate whether the patient is listed for liver transplant.

Intent/Clarification: -

SEQ. #: 488
Long Name: RF-Liver Disease - Status Post Liver Transplant
Short Name: LiverStatusPost
Definition: Indicate whether the patient has received a liver transplant prior to this operation.

Intent/Clarification: -

FAQ September 2017: Patient had a liver transplant 11 years ago and is here for convergent A-Fib ablation. His MELD score this admission was 10.69, bilirubin was 1.8, and there was no GI/Hepatology consult.
How should I code liver disease? I wouldn't be able to show that he has history of liver transplant if I key no.
Answer: Capture yes to liver disease and yes to liver transplant. It is important to capture the history of liver disease.

SEQ. #: 490
Long Name: RF-Immunocompromise

Short Name: ImmSupp
Definition: Indicate whether immunocompromise is present due to immunosuppressive medication therapy within 30 days preceding the operative procedure or existing medical condition. This includes, but is not limited to systemic steroid therapy, anti-rejection medications and chemotherapy. This does not include topical steroid applications, one-time systemic therapy, inhaled steroid therapy or pre-procedure protocol.

Intent/Clarification:
Include patients being treated with IVIG.Patients who have had splenectomy are considered immunocompromised. Examples of conditions causing immunocompromise include Hypogammaglobulinemia and HIV infection.

FAQ September 2018: Should HGB H disease, Thalassemia, be coded as immunocompromised?
Answer: Yes, code patients with Thalassemia as immunocompromised.

FAQ June 2019: Is splenic sequestration considered an immunocompromised medical condition?
Answer: No

FAQ July 2019 - Pt has systemic lupus taking Plaquenil QD. Is this considered immunocompromise?
Answer: Yes, Plaquenil suppress the immune system.

FAQ Sept 2019 - If a patient had a partial Splenectomy in the past would Seq#490 be a coded as "yes"?
Answer: Code no in this scenario. A partial splenectomy may reduce both short and long-term mortality by preserving immune system functioning.

FAQ October 2019 - Is a patient with IgG4 related sclerosing disease considered immunosuppressed? The patient is not on any medications currently for this illness.
Answer - No

SEQ. #: 495
Long Name: RF-Mediastinal Radiation
Short Name: MediastRad
Definition: Indicate whether patient has a history of radiation therapy to the mediastinum or chest.

Intent/Clarification:
Chest wall or mediastinal radiation can cause damage to blood vessels, heart valves and lung tissue. Scar tissue caused by radiation therapy can lead to increased bleeding, may make harvesting the internal mammary artery difficult and may interfere with sternal healing**. Update Sept 2019 - Time frame – capture any occurrence between birth and entry to OR for index procedure.**

Include radiation to the “mantel/chest” area only – this includes breast cancer with radiation.

FAQ February 2018: Mediastinal Radiation: Should I count Brachymesh as radiation to the mediastinal area? The patient has history of a wedge resection with Brachymesh (with radioactive seeds) in 2015. This is not beam radiation; however, it is a form of radiation.
Answer: The low-dose rate iodine-125 seeds have limited range and limited impact to reentry into the chest and should not be coded as Mediastinal Radiation.

SEQ. #: 500
Long Name: RF-Cancer Within 5 Years
Short Name: Cancer
Definition: Indicate whether the patient has a history of cancer diagnosed within 5 years of procedure. Do not capture low grade skin cancers such as basal cell or squamous cell carcinoma.

Intent/Clarification:
Capture cancers that have or will require surgical intervention, chemotherapy and or radiation therapy. If the date of diagnosis is not known, then the date of the last treatment may be used to determine the 5-year interval.

FAQ October 2019 – My patient has a history of cancer; however, I do not know if the cancer occurred within 5 years. Can I code unknown in this case?
Answer - Yes

SEQ. #: 505
Long Name: RF-Peripheral Arterial Disease
Short Name: PVD
Definition: Indicate whether the patient has a history of peripheral arterial disease (includes upper and lower extremity, renal, mesenteric, and abdominal aortic systems). This can include:
1. Claudication, either with exertion or at rest,
2. Amputation for arterial vascular insufficiency,
3. Vascular reconstruction, bypass surgery, or percutaneous intervention to the extremities (excluding dialysis fistulas and vein stripping),
4. Documented abdominal aortic aneurysm with or without repair,
5. Positive noninvasive test (e.g., ankle brachial index =< 0.9, ultrasound, magnetic resonance or computed tomography imaging of > 50% diameter stenosis in any peripheral artery, i.e., renal, subclavian, femoral, iliac) or angiographic imaging

Peripheral arterial disease excludes disease in the carotid, cerebrovascular arteries or thoracic aorta.
PVD does not include DVT **or AVM (Update Nov 2019)**

Intent/Clarification:

PAD is sometimes called PVD, code only arterial disease. PAD includes subclavian artery stenosis. **Update Sept 2019 - Time frame – capture any occurrence between birth and entry to OR for index procedure.**

FAQ July 2019 - Is a pulmonary artery aneurysm captured in the risk factor section?
Answer: No, this is not captured.

FAQ July 2019 - Is Raynaud's Disease coded as 'YES" to peripheral arterial disease?
Answer: Raynaud's is an idiopathic vasomotor response to cold or stress and not peripheral arterial disease.

SEQ. #: 510
Long Name: RF-Thoracic Aorta Disease
Short Name: ThAoDisease
Definition: Indicate whether the patient has a history of disease of the thoracic or thoracoabdominal aorta.
Abdominal aortic disease without thoracic involvement is captured in peripheral artery disease.

Intent/Clarification:
Code "Yes" to aortic aneurysms, aortic dissection/rupture. Fusiform ascending thoracic aneurysm is more likely to dissect when the aortic cross clamp is applied and should be coded as thoracic aorta disease. **Update Sept 2019 - Time frame – capture any occurrence between birth and entry to OR for index procedure.**

Code "No" to blunt trauma or infection.
This field is not intended to capture calcification of the aorta.

FAQ July 2019 - Is a pulmonary artery aneurysm captured in the risk factor section?
Answer: No, this is not captured.

FAQ Nov 2019 – Can Aortic ectasia can be coded as YES to thoracic aortic disease.
Answer - Yes

SEQ. #: 515
Long Name: RF-Syncope
Short Name: Syncope
Definition: Indicate whether the patient had a sudden loss of consciousness with loss of postural tone, not related to anesthesia, with spontaneous recovery and believed to

be related to cardiac condition. Capture events occurring within the past one year as reported by patient or observer. Patient may experience syncope when supine.

Intent/Clarification:
Cardiac conditions including dysrhythmias, such as ventricular tachycardia or ventricular fibrillation, and aortic stenosis can cause syncope.

Near syncope should be coded as "no".

Cardiac arrest with resuscitation is **not** syncope.

SEQ. #: 520
Long Name: RF-Unresponsive Neurologic State
Short Name: UnrespStat
Definition: Indicate whether the patient has a history of non-medically induced, unresponsive state within 24 hours of the time of surgery. Patient experienced complete mental unresponsiveness and no evidence of psychological or physiologically appropriate responses to stimulation, includes patients who experience sudden cardiac death.

Intent/Clarification:
The intent is to identify those patients whose postoperative neurologic state may not be a result of the surgery but rather patient's unknown preoperative neurologic status.

Code "Yes" if the patient never regained consciousness prior to surgery.

Temporary loss of consciousness that resolved after cardiac arrest should not be coded as yes.

SEQ. #: 521
Long Name: RF-Chest Wall Deformity
Short Name: ChestWallDef
Definition: Indicate whether the patient has a chest wall deformity.

Intent/Clarification:
A deformity is thought to be caused by excessive growth of the costal cartilages (ribs), although the reason for this is unknown. This overgrowth causes the ribs and cartilages to buckle and pushes the sternum either inwards or outwards.

Pectus excavatum results in a sunken sternum sometimes called funnel chest and usually involves the lower half of the sternum.

In pectus carinatum the sternum protrudes in a convex shape and is sometimes called pigeon chest.

Chest wall deformity should be coded for the patient with an existing deformity or one that has been previously repaired.

SEQ. #: 525
Long Name: RF-Cerebrovascular Dis
Short Name: CVD
Definition: Indicate whether the patient has a current or previous history of any of the following:
A. Stroke: Stroke is an acute episode of focal or global neurological dysfunction caused by brain, spinal cord, or retinal vascular injury as a result of hemorrhage or infarction, where the neurological dysfunction lasts for greater than 24 hours.
B. TIA: is defined as a transient episode of focal neurological dysfunction caused by brain, spinal cord, or retinal ischemia, without acute infarction, where the neurological dysfunction resolves within 24 hours.
C. Noninvasive or invasive arterial imaging test demonstrating >=50% stenosis of any of the major extracranial or intracranial vessels of the brain
D. Previous cervical or cerebral artery revascularization surgery or percutaneous intervention

This does not include chronic (nonvascular) neurological diseases or other acute neurological insults such as metabolic and anoxic ischemic encephalopathy.

Intent/Clarification:
A positive CT scan, even in the patient with no symptoms, should be coded as cerebral vascular disease. A CT scan following surgery with evidence of old infarct should be coded no.

Subdural hematoma **or AVM (Update Nov 2019)** is not cerebral vascular disease.

~~FAQ October 2018: Is a totally occluded vertebral artery coded as cerebral vascular disease?~~
~~Answer: Do not code cerebral vascular disease in version 2.9. This will be reviewed with the next version upgrade.~~

FAQ February 2019: Beginning January 1st, 2019 included vertebral artery disease, internal carotid disease and intercranial consistent with atherosclerotic disease with document presence as CVD. External carotid disease is still excluded.

FAQ February 2019: The patient is a 27-year old with endocarditis, multiple cerebral septic emboli are found on MRI. The only symptom the patient has is headache. Is this considered cerebrovascular disease?
Answer: Yes, code cerebrovascular disease.

FAQ June 2019: If a patient has a brain/cerebral aneurysm, would I answer ‘yes’ to cerebrovascular disease?
Answer: Yes

FAQ October 2019 - Can we code CVD for occlusion of right Common Carotid Artery in an aortic Dissection? MRA mentions " A 1.1 cm long occlusion at the proximal right CCA, partial reconstitution of flow at the proximal cervical segment of the right CCA for a 3.0 cm segment. Distal to that, there is progressively decreased flow related enhancement in the cervical right CCA. Reconstitution of flow of the right ECA from collateral flow. A long intraluminal thrombus in the distal right CCA and extending to the precavernous segment of the right ICA.
Answer - Code Yes to account for the risk of a dissection because the blood flow is null so a dissection acts like an occlusion.

SEQ. #: 530
Long Name: RF-Prior CVA
Short Name: CVA
Definition: Indicate whether the patient has a history of stroke. Stroke is an acute episode of focal or global neurological dysfunction caused by brain, spinal cord, or retinal vascular injury as a result of hemorrhage or infarction, where the neurological dysfunction lasts for greater than 24 hours.

Intent/Clarification:
Include any confirmed neurological deficit of abrupt onset caused by a disturbance in cerebral blood supply that did not resolve within 24 hours of the event. The physical deficit can be in the form of extremity weakness, facial asymmetry, language (speech and/or cognitive thinking) impairment. The intent is to differentiate between neurological events that resolve within 24 hours and those that don't.
Code "yes" to prior CVA if the patient has no history of stroke and no symptoms but imaging study results show an infarct (old/chronic or new). **Update Sept 2019 - Time frame – capture any occurrence between birth and entry to OR for index procedure**.

FAQ February 2019: The patient is a 27-year old with endocarditis, multiple cerebral septic emboli are found on MRI. The only symptom the patient has is headache. Is this considered a CVA?
Answer: Yes, code CVA.

FAQ Sept 2019 - Do I code a history of subarachnoid hemorrhage as a prior CVA?
Answer – No not all subarachnoid hemorrhages will create a stroke. There must be some form of deficit documented in the chart to code SAH as a CVA.

SEQ. #: 535
Long Name: RF-Prior CVA-When
Short Name: CVAWhen

Definition: Indicate when the CVA events occurred. Those events occurring within 30 days prior to the surgical procedure are considered recent, while all others are considered remote.

Intent/Clarification:
≤ 30 days is recent
> 30 days is remote

SEQ. #: 540
Long Name: RF-CVD TIA
Short Name: CVDTIA
Definition: Indicate whether the patient has a history of a Transient Ischemic Attack (TIA). Transient ischemic attack (TIA) is defined as a transient episode of focal neurological dysfunction caused by brain, spinal cord, or retinal ischemia, without acute infarction, where the neurological dysfunction resolves within 24 hours.

Intent/Clarification:
Choices are:
- Yes
- No
- Unknown

Update Sept 2019 - Time frame – capture any occurrence between birth and entry to OR for index procedure. "Unknown" should be selected if any neurologic dysfunction occurred or was suspected, was resolved in 24 hours, and could not be confirmed or if patient/family unable to provide history.

SEQ. #: 545
Long Name: RF-CVD Carotid Stenosis
Short Name: CVDCarSten
Definition: Indicate which carotid artery was determined from any diagnostic test to be >= 50% stenotic.

Intent/Clarification:
Code what is found **on the study closest to entry into OR for index procedure** ~~at the time of surgery,~~ even if a prior stent is in place.
Choices are:
- None
- Right
- Left
- Both

If the results are reported in a range, such as "40-50%", choose the highest level in the range.

FAQ February 2019 – Leave stenosis blank for dissestion.

SEQ. #: 550
Long Name: RF-CVD Carotid Stenosis - Right
Short Name: CVDStenRt
Definition: Indicate the severity of stenosis reported on the right carotid artery.

Intent/Clarification:
Indicate % stenosis:
50 - 79% or “moderate”
80 - 99% or “critical”, “severe”, or “subtotal”.
100% or “total”
Not documented
If the results are reported in a range, such as “40-50%”, choose the highest level in the range.

SEQ. #: 555
Long Name: RF-CVD Carotid Stenosis - Left
Short Name: CVDStenLft
Definition: Indicate the severity of stenosis reported on the left carotid artery.

Intent/Clarification:
Indicate % stenosis:
50 - 79% = “moderate”
80 - 99% = “critical”, “severe”, or “subtotal”.
100% = “total”
Not documented

If the results are reported in a range, such as “40-50%”, choose the highest level in the range.

SEQ. #: 560
Long Name: RF-CVD Prior Carotid Surgery
Short Name: CVDPCarSurg
Definition: Indicate whether the patient has a history of previous carotid artery surgery and/or stenting.

Intent/Clarification:
Update Sept 2019 - Time frame – capture any occurrence between birth and entry to OR for index procedure. Carotid endarterectomy is a surgical procedure during

which a surgeon removes atherosclerotic plaque or other material obstructing the flow of blood from the artery. This procedure eliminates a substance called plaque from the artery and can restore blood flow.

Carotid artery stenting is a procedure in which a slender, metal-mesh tube, called a stent, is inserted and expands inside the carotid artery to increase blood flow in areas blocked by plaque.

Also includes internal carotid artery aneurysm coils.

General Information for Labs:

Update Aug 2019 - Use results closest to surgery, prior to anesthesia provider initiating care. Lab values should be collected ~~STS recommends values~~ within 30 days, unless otherwise stated below.

Capture lab values if available. Not all patients will have, or need to have, all the following labs drawn.

Do not use labs drawn after IV fluids are hung in holding area or OR. Include POC (point of care) results.

Update Nov 2019 – Please do not round lab values up enter the value based on the limitations of the vendor tool for example if INR is 1.16 but vendor will only allow you to enter one place after the decimal point, then enter as 1.1.

SEQ. #: 565
Long Name: RF-Last WBC Count
Short Name: WBC
Definition: Indicate the pre-operative White Blood Cell (WBC) count closest to the date and time prior to surgery but prior to anesthetic management (induction area or operating room).

Intent/Clarification:
White Blood Cells (leukocytes) are part of the body's immune defense and are often elevated in the presence of infection. The hospital laboratory report should be accessed first when coding this variable. If this is unavailable, then additional source documents may be referenced for lab results. **Update Nov 2019 – The unit of measurement for WBC is x10^3/µl or 10^3/µl (1000 ul) or 10^3/mm^3 (1000/mm^3) or K/µl or K/mm3**

SEQ. #: 570
Long Name: RF-Hemoglobin
Short Name: RFHemoglobin

Definition: Indicate the pre-operative Hemoglobin level at the date and time closest to surgery but prior to anesthetic management (induction area or operating room). Capture only measured hemoglobin levels, not calculated values.

Intent/Clarification:
The hemoglobin (Hgb) test may be used to screen for, diagnose, or monitor a number of conditions and diseases that affect red blood cells (RBCs) and/or the amount of hemoglobin in blood. The hospital laboratory report should be accessed first when coding this variable. If this is unavailable, then additional source documents may be referenced for lab results. **Update Nov 2019 – The unit of measurement for Hgb is g/dl or g/100 ml or g%.**

SEQ. #: 575
Long Name: RF-Last Hematocrit
Short Name: Hct
Definition: Indicate the pre-operative Hematocrit level at the date and time closest to surgery but prior to anesthetic management (induction area or operating room). Capture only measured hematocrit levels, not calculated values.

Intent/Clarification:
Hematocrit (Hct) is the proportion of red cells in the blood. The hospital laboratory report should be accessed first when coding this variable. If this is unavailable, then additional source documents may be referenced for lab results. **Update Nov 2019 – The unit of measurement for Hct is %.**

SEQ. #: 580
Long Name: RF-Platelets
Short Name: Platelets
Definition: Indicate the platelet count closest to the date and time prior to surgery but prior to anesthetic management (induction area or operating room).

Intent/Clarification:
Platelets (plt) are a blood component instrumental in clot formation. The hospital laboratory report should be accessed first when coding this variable. If this is unavailable, then additional source documents may be referenced for lab results. **Update Nov 2019 – The unit of measurement for Platelets is x10^3/µl or 10^3/µl (1000 µl) or 10^3/mm^3 (1000/mm^3) or K/µl or K/mm3**

SEQ. #: 585
Long Name: RF-Last Creat Level
Short Name: CreatLst
Definition: Indicate the creatinine level closest to the date and time prior surgery but prior to anesthetic management (induction area or operating room).

A creatinine level should be collected on all patients, even if they have no prior history of renal disease. A creatinine value is a high predictor of a patient's outcome and is used in the predicted risk models.

Intent/Clarification:
Creatinine (Cr) is a chemical waste molecule excreted by the kidneys that is generated from muscle metabolism. If the kidneys become impaired for any reason, the creatinine level in the blood will rise due to poor clearance by the kidneys. Abnormally high levels of creatinine thus warn of possible malfunction or failure of the kidneys. **Update Nov 2019 – The unit of measurement for Creatinine is mg/dl or mg/100ml or mg%**

SEQ. #: 590
Long Name: RF-Total Albumin
Short Name: TotAlbumin
Definition: Indicate the total albumin closest to the date and time prior to surgery but prior to anesthetic management (induction area or operating room).

Intent/Clarification:
Albumin (alb), produced only in the liver, is the major plasma protein that circulates in the bloodstream. Albumin is essential for maintaining the oncotic pressure in the vascular system. A decrease in oncotic pressure due to a low albumin level allows fluid to leak out from the interstitial spaces into the peritoneal cavity, producing ascites. Albumin is also very important in the transportation of many substances such as drugs, lipids, hormones, and toxins that are bound to albumin in the bloodstream. A low serum albumin indicates poor liver function. Decreased serum albumin levels are not seen in acute liver failure because it takes several weeks of impaired albumin production before the serum albumin level drops. The most common reason for a low albumin is chronic liver failure caused by cirrhosis. The serum albumin concentration is usually normal in chronic liver disease until cirrhosis and significant liver damage has occurred. **Update Nov 2019 – The unit of measurement for Albumin is g/dl or g/100 ml or g%.**

You can capture results up to 6 weeks prior to surgery provided there is no known acute liver disease process.

SEQ. #: 595
Long Name: RF-Total Bilirubin
Short Name: TotBlrbn
Definition: Indicate the total Bilirubin closest to the date and time prior to surgery but prior to anesthetic management (induction area or operating room).

Intent/Clarification:

Bilirubin (Tbili) testing checks for levels of bilirubin, an orange-yellow pigment, in blood. Bilirubin is a natural byproduct that results from the normal breakdown of red blood cells. As a normal process, bilirubin is carried in the blood and passes through the liver. Too much bilirubin may indicate liver damage or disease. **Update Nov 2019 – The unit of measurement for Bilirubin is mg/dl or mg/100 ml or mg%.**

You can capture results up to 6 weeks prior to surgery provided there is no known acute liver disease process.

SEQ. #: 600
Long Name: RF-Last A1c Level
Short Name: A1cLvl
Definition: Indicate the pre-operative HbA1c level closest to the date and time prior surgery but prior to anesthetic management (induction area or operating room).

Intent/Clarification:
Glycosylated hemoglobin, HbA1c, is a form of hemoglobin used primarily to identify the average plasma glucose concentration over prolonged periods of time. It is formed in a non-enzymatic glycation pathway by hemoglobin's exposure to plasma glucose. Normal levels of glucose produce a normal amount of glycosylated hemoglobin. As the average amount of plasma glucose increases, the fraction of glycosylated hemoglobin increases in a predictable way. This serves as a marker for average blood glucose levels over the previous months prior to the measurement. The HbA1c level is proportional to average blood glucose concentration over the previous four weeks to three months. **Update Nov 2019 – The unit of measurement for A1C is %.**

The 2010 American Diabetes Association Standards of Medical Care in Diabetes added the A1c ≥ 6.5% as a criterion for the diagnosis of diabetes.

This lab must be drawn preoperatively since cardiopulmonary bypass, fluid shifts and transfusions can alter results and not accurately reflect the prior glucose levels

You can capture results up to 3 months prior to surgery.

SEQ. #: 605
Long Name: RF-HIT Antibodies
Short Name: HITAnti
Definition: Indicate whether Heparin Induced Thrombocytopenia (HIT) is confirmed by antibody testing.

Intent/Clarification:

Heparin induced thrombocytopenia (HIT) can be defined as any clinical event best explained by platelet factor 4 (PF4)／heparin-reactive antibodies ('HIT antibodies') in a patient who is, or has recently received heparin. Thrombocytopenia is the most common 'event' in HIT and occurs in at least 90% of patients, depending upon the definition of thrombocytopenia. A high proportion of patients with HIT develop thrombosis. Alternative, non-heparin, anticoagulant therapy reduces the risk of subsequent thrombosis. The SRA (serotonin release assay) test is the most definitive HIT test. The timeframe is any time prior to surgery. http://emedicine.medscape.com/article/1357846-overview

Choices are:

- Yes - Positive antibody testing (test was performed, HIT positive)
- No - Negative antibody testing (test was performed, HIT negative)
- NA - antibody testing not performed

SEQ. #: 610
Long Name: RF-INR
Short Name: INR
Definition: Indicate the International Normalized Ratio (INR) closest to the date and time prior to surgery but prior to anesthetic management (induction area or operating room).

Intent/Clarification:
INR is the standard unit used to report the result of a prothrombin (PT) test. An individual whose blood clots normally and who is not on anticoagulation should have an INR of approximately 1. The higher the INR, the longer it takes blood to clot. As the INR increases above a given level, the risk of bleeding and bleeding-related events increases. As the INR decreases below a given level, the risk of clotting events increases.

SEQ. #: 615
Long Name: RF-MELD Score
Short Name: MELDScr
Definition: MELD score value calculated by software to indicate severity of liver disease.

Intent/Clarification:
MELD is a validated liver disease severity scoring system that uses laboratory values for serum bilirubin, serum creatinine and the INR to predict survival. In patients with chronic liver disease, an increasing MELD score is associated with increasing risk of death.

MELD is not used to confirm liver disease, rather as a severity measure for patients with known liver disease.

≤ 15 predictive of 95% survival at 3 months
~ 30 predictive of 65% survival at 3 months
≥ 40 predictive of 10-15% survival at 3 months
MELD = 3.8[Ln serum bilirubin (mg/dL)] + 11.2[Ln INR] + 9.6[Ln serum creatinine (mg/dL)] + 6.4. Laboratory values of INR, total bilirubin and serum creatinine that are <1.0 are set to 1.0. In addition, serum creatinine levels >4.0 mg/dL are capped at 4.0 mg/dL, and patients on dialysis receive an assigned serum creatinine value of 4.0 mg/dL.

Reference: http://www.mayoclinic.org/medical-professionals/model-end-stage-liver-disease

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SEQ. #: 620
Long Name: RF-BNP
Short Name: BNP
Definition: Indicate the BNP value.

Intent/Clarification:
Brain natriuretic peptide (BNP), now known as B-type natriuretic peptide or Ventricular Natriuretic Peptide (still BNP), is a 32-amino acid polypeptide secreted by the ventricles of the heart in response to excessive stretching of heart muscle cells (cardiomyocytes). The physiologic actions of BNP are similar to those of ANP and include decrease in systemic vascular resistance and central venous pressure as well as an increase in natriuresis. Thus, the net effect of BNP and ANP is a decrease in blood volume, which lowers systemic blood pressure and afterload, yielding an increase in cardiac output, partly due to a higher ejection fraction. **Update Nov 2019 – The unit of measurement for BNP is pg/ml**

SEQ. #: 645
Long Name: RF-Five Meter Walk Test Done
Short Name: FiveMWalkTest
Definition: Indicate whether the five-meter walk test was done.

Intent/Clarification:
Frailty is a risk factor for surgery that has been difficult to quantify. This test quantifies frailty prior to surgery in ambulatory patients. **Prolonged times strongly correlate with increased risk and this risk factor will be assessed for possible inclusion in risk model updates being done in 2015.**

Instructions:
1. Accompany the patient to the designated area, which should be well-lit, unobstructed, and contain clearly indicated markings at 0 and 5 meters
2. Position the patient with his/her feet behind and just touching the 0-meter start line

3. Instruct the patient to “walk at your comfortable pace” until a few steps past the 5-meter mark (the patient should not start to slow down before the 5-meter mark)
4. Begin each trial on the word “Go”
5. Start the timer with the first footfall after the 0-meter line
6. Stop the timer with the first footfall after the 5-meter line
7. Repeat 3 times, allowing sufficient time for recuperation between trials. (If patient is unable to repeat x3, enter 1 or 2 times)

Note: Patient may use a walking aid (cane, walker). If the patient is receiving an IV drip, he/she should perform the test without the IV only if it can be interrupted temporarily without any potential risk to the patient, if not, then the patient may perform the test pushing the IV pole. If the time taken to walk 5 meters averages > 6 seconds, the patient is considered frail.

Choices are:

- Yes
- No
- Non-ambulatory patient (physically or medically unable to perform the test)

Reference: *Gait Speed as an Incremental Predictor of Mortality and Major Morbidity in Elderly*... Afilalo et al. J Am Coll Cardiol.2010; 56: 1668-1676

FAQ August 2019 - What is the time frame on the 5M walk test?
Answer – To code ‘YES’ to 5M walk test performed it should be done within 3 months of surgery.

SEQ. #: 650
Long Name: RF-Five Meter Walk Time 1
Short Name: FiveMWalk1
Definition: Indicate the time in seconds it takes the patient to walk 5 meters for the first of three tests.

Intent/Clarification: -

SEQ. #: 655
Long Name: RF-Five Meter Walk Time 2
Short Name: FiveMWalk2
Definition: Indicate the time in seconds it takes the patient to walk 5 meters for the second of three tests.

Intent/Clarification: -

SEQ. #: 660
Long Name: RF-Five Meter Walk Time 3
Short Name: FiveMWalk3
Definition: Indicate the time in seconds it takes the patient to walk 5 meters for the third of three tests.

Intent/Clarification: -

SEQ. #: 661
Long Name: RF - Six Minute Walk Test Done
Short Name: SixMWalkDone
Definition: Indicate whether a six-minute walk test was done.

Intent/Clarification:
The 6MWT is a practical simple test that requires a 100-ft hallway but no exercise equipment or advanced training for technicians. Walking is an activity performed daily by all but the most severely impaired patients. This test measures the distance that a patient can quickly walk on a flat, hard surface in a period of 6 minutes (the 6MWD). It evaluates the global and integrated responses of all the systems involved during exercise, including the pulmonary and cardiovascular systems, systemic circulation, peripheral circulation, blood, neuromuscular units, and muscle metabolism.

- Yes
- No

SEQ. #: 662
Long Name: RF - Six Minute Walk Test Distance
Short Name: SixMWalkDist
Definition: Indicate the distance in feet the patient walked during the six-minute walk test.

Intent/Clarification: -

Previous Cardiac Interventions

SEQ. #: 665
Long Name: Prev Cardiac Intervent
Short Name: PrCVInt

Definition: Indicate whether the patient has undergone any previous cardiovascular intervention, either surgical or non-surgical, which may include those done during the current admission.

Intent/Clarification:
A patient who had previous invasive cardiac procedures (PCI or surgery) will have increased risk due to a variety of factors; such as repeated exposure to heparin potentiating incidence of heparin antibodies, heparin resistance or surgical adhesions. This is intended to capture surgical and/or interventional procedures, not diagnostic ones like TEE or cath.

FAQ January 2018: Patient has a history of a CABG, then later a VAD, then a heart transplant. The patient is now having a CABG on his transplanted heart. For sequence 665 previous cardiac interventions, do we count his prior history of the CABG and VAD on his native heart, or only what has happened since getting his transplant?

Answer: Count the prior transplant as a previous intervention.

SEQ. #: 670
Long Name: Prev CAB
Short Name: PrCAB
Definition: Indicate whether the patient had a previous Coronary Bypass Graft prior to the current admission.

Intent/Clarification:
This applies only to surgical approach to revascularization. Angioplasty or other catheter based coronary artery occlusion treatment does not apply.

SEQ. #: 675
Long Name: Prev Valve
Short Name: PrValve
Definition: Indicate whether the patient had a previous surgical replacement and/or surgical repair of a cardiac valve. This may also include percutaneous valve procedures.

Intent/Clarification:
This may include percutaneous valve procedures such as percutaneous valvotomy or valvuloplasty, as well as surgical or transcatheter valve repair or replacement. Capture all procedures that apply. These do not have to be in chronological order.

FAQ January 2018: Should we collect previous percutaneous Mitral Valve if they were unable to deploy the clip? Unable to grasp the leaflets so the procedure was aborted and the pt underwent surgical MVR (same episode of care).
Answer: No, this is not captured as a previous CV intervention as the clip was not

deployed.

FAQ February 2018: A 35-year old male underwent a percutaneous aortic valvuloplasty at age 12. He now enters the OR for a surgical AVR. How is previous CV intervention coded?
Answer: Code Previous valve procedure.

SEQ. #: 695
Long Name: Prev Valve Procedure 1
Short Name: PrValveProc1
Definition: Indicate the first previous valve procedure.

Intent/Clarification: Indicate which specific valve procedure was performed:
No additional valve procedure(s)
Aortic valve balloon valvotomy/valvuloplasty
Aortic valve repair, surgical
Aortic valve replacement, surgical
Aortic valve replacement, transcatheter
Mitral valve balloon valvotomy/valvuloplasty
Mitral valve commissurotomy, surgical
Mitral valve repair, percutaneous
Mitral valve repair, surgical
Mitral valve replacement, surgical
Mitral valve replacement, transcatheter
Tricuspid valve balloon valvotomy/valvuloplasty
Tricuspid valve repair, percutaneous
Tricuspid valve repair, surgical
Tricuspid valve replacement, surgical
Tricuspid valve replacement, transcatheter
Tricuspid valvectomy
Pulmonary valve balloon valvotomy/valvuloplasty
Pulmonary valve repair, surgical
Pulmonary valve replacement, surgical
Pulmonary valve replacement, transcatheter
Pulmonary valvectomy
Other valve procedure

FAQ February 2018: A 35-year old male underwent a percutaneous aortic valvuloplasty at age 12. He now enters the OR for a surgical AVR. How is previous valve procedure coded?
Answer: Code Aortic balloon valvotomy/valvuloplasty.

SEQ. #: 700

Long Name: Prev Valve Procedure 2
Short Name: PrValveProc2
Definition: Indicate the second previous valve procedure or select "No additional valve procedures"

Intent/Clarification:
If a second procedure was done, please select from the list above or select:
No Additional Valve Procedure(s) - Software will grey out any additional selections.

SEQ. #: 705
Long Name: Prev Valve Procedure 3
Short Name: PrValveProc3
Definition: Indicate the third previous valve procedure or select "No additional valve procedures"

Intent/Clarification:
If a third procedure was done, please select from the list above or select:
No Additional Valve Procedure(s) - Software will grey out any additional selections.

SEQ. #: 710
Long Name: Prev Valve Procedure 4
Short Name: PrValveProc4
Definition: Indicate the fourth previous valve procedure or select "No additional valve procedures"

Intent/Clarification:
If a fourth procedure was done, please select from the list above or select:
No Additional Valve Procedure(s) - Software will grey out any additional selections.

SEQ. #: 715
Long Name: Prev Valve Procedure 5
Short Name: PrValveProc5
Definition: Indicate the fifth previous valve procedure or select "No additional valve procedures"

Intent/Clarification:
If a fifth procedure was done, please select from the list above or select:
No Additional Valve Procedure(s) - Software will grey out any additional selections.

SEQ. #: 775
Long Name: Previous PCI
Short Name: POCPCI
Definition: Indicate whether a previous Percutaneous Coronary Intervention (PCI) was performed any time prior to this surgical procedure.
Percutaneous coronary intervention (PCI) is the placement of an angioplasty guide wire, balloon, or otherdevice (e.g. stent, atherectomy, brachytherapy, or thrombectomy catheter) into a native coronary artery or coronary artery bypass graft for the purpose of mechanical coronary revascularization.

Intent/Clarification:
An **attempted**, even if unsuccessful, PCI should be coded as a Previous CV intervention-PCI. This is in an effort to harmonize with ACC-NCDR.

SEQ. #: 780
Long Name: Previous PCI-Within This Episode of Care
Short Name: POCPCIWhen
Definition: Indicate whether the previous Percutaneous Cardiac Intervention (PCI) was performed within this episode of care. Episode of care is defined as continuous inpatient hospitalization which includes transfer from one acute care hospital to another.

Intent/Clarification:
This field is intended to capture PCIs done during the same episode of care prior to the surgical procedure. Include patients who were transferred for surgery from another facility following PCI.

Do not code PCIs done after the surgical procedure here.

Do not code as the same episode of care if the patient is discharged home between interventions. Choices are:

- Yes, at this facility
- Yes, at some other acute care facility
- No

NOTE THAT SEQUENCE NUMBER 785 IS A CHILD TO SEQUENCE NUMBER 780.

SEQ. #: 785
Long Name: Previous PCI-Indication for Surgery
Short Name: POCPCIndSurg
Definition: Select the indication for surgery following the Percutaneous Cardiac Intervention (PCI).

Intent/Clarification: Indicate whether surgery was required due to:

- **PCI complication** - complication during PCI necessitating surgical intervention such as dissection or acute occlusion.
- **PCI failure with clinical deterioration** - PCI failed to yield expected and/or desired results, patient condition deteriorated, includes attempts to cross with the wire but unsuccessful.
- **PCI for STEMI, multi-vessel disease** - STEMI with primary PCI of culprit lesion and multi-vessel disease requiring CABG.
- **PCI failure without clinical deterioration** - PCI failed to yield expected and/or desired results, patient condition did not deteriorate, includes attempts to cross with the wire but unsuccessful.
- **PCI/Surgery staged procedure (not STEMI)** - PCI and surgical procedures performed in a staged fashion in a patient not experiencing STEMI.
- **Other** - other indication for surgery not described above.

SEQ. #: 790
Long Name: Previous PCI-Stent
Short Name: POCPCISt
Definition: Indicate whether an intracoronary stent was used during the previous Percutaneous Cardiac Intervention (PCI).

Intent/Clarification:
A stent is a small mesh tube that's used to treat narrow or weak arteries. It is placed in an artery as part of a procedure called percutaneous coronary intervention (PCI). PCI restores blood flow through narrow or blocked arteries and helps support the inner wall of the artery in the months or years after PCI. Doctors may also place stents in weak arteries to improve blood flow and help prevent the arteries from bursting. Stents usually are made of metal mesh, but sometimes they're made of fabric. Fabric stents, also called stent grafts, are used in larger arteries.

FAQ July 2019 - When a patient has a prior history of stents, and then comes to the hospital on this admission and gets a balloon angioplasty before CABG, there is not a way to mark both of those. I mark yes on Previous PCI, but then I have to choose whether it was on this admission or not. If there was something done this admission (in this case, a balloon angioplasty), then I mark "Within this episode; Yes, at this facility" but then that takes away the possibility of me marking anything about the prior stents. Answer: Code Yes to prior Stent - this field is a child of 775 (Prior PCI), not 780 (Previous PCI Time frame)- so history of prior stent and type of stent from any prior PCI will be captured in 790 and 795.

SEQ. #: 795
Long Name: Previous PCI-Stent Type

Short Name: POCPCIStTy
Definition: Indicate type of intracoronary stent placed.

Intent/Clarification:
Choices are:

- **Bare metal**
- **Drug-eluting** - coated with medicine that is slowly and continuously released into the artery. The medicine is intended to prevent the artery from becoming blocked again.
- **Bio-resorbable** - A bio-resorbable, biodegradable, or bio-absorbable stent serves the same purpose, but is manufactured from a material intended to dissolve or be absorbed in the body.
- **Multiple types**
- **Unknown**

FAQ July 2018: We are using the Cobra stent which is Nanocoated, what should we code for stent type?
Answer: Code as unknown, Nanocoated will have to be added to the next version.

FAQ July 2019 - When a patient has a prior history of stents, and then comes to the hospital on this admission and gets a balloon angioplasty before CABG, there is not a way to mark both of those. I mark yes on Previous PCI, but then I have to choose whether it was on this admission or not. If there was something done this admission (in this case, a balloon angioplasty), then I mark "Within this episode; Yes, at this facility" but then that takes away the possibility of me marking anything about the prior stents.
Answer: Code Yes to prior Stent - this field is a child of 775 (Prior PCI), not 780 (Previous PCI Time frame)- so history of prior stent and type of stent from any prior PCI will be captured in 790 and 795.

SEQ. #: 800
Long Name: Previous PCI-Interval
Short Name: POCPCIIn
Definition: Indicate the interval of time between the previous PCI and the current surgical procedure.

Intent/Clarification:
The choices are ≤ 6 hours or > 6 hours prior to OR entry. The timing of surgery after PCI may influence outcomes such as renal failure due to contrast given during PCI.

SEQ. #: 805
Long Name: Previous Other Cardiac **Short Name:** POC
Definition: Indicate whether the patient had any other previous cardiac intervention.

Intent/Clarification:
If the patient had any other procedure involving the heart and/or great vessels not mentioned above, choose this field. These do not have to be in chronological order.

FAQ November 2017: How would a history of ethanol ablation and myectomy be captured in this sequence number?
Answer: Code as previous other cardiac intervention – not listed.

FAQ February 2018: The patient enters the operating room electively for an AVR. The same procedure was attempted at another hospital 6 months previously but was cancelled after discovering a porcelain aorta as the surgeon attempted to place cannulation sutures.
How is previous CV intervention coded?
Answer: Code previous Other Cardiac Intervention (not listed).

FAQ January 2019: Would we capture Brachytherapy under pervious other CV intervention?
Answer: No, this is not traditionally considered a previous CV intervention.

SEQ. #: 810
Long Name: Previous Other Cardiac Intervention 1
Short Name: POCInt1
Definition: Indicate the first other cardiac intervention that was performed.

Intent/Clarification:
No additional interventions
Ablation, catheter, atrial fibrillation
Ablation, catheter, other or unknown
Ablation, catheter, ventricular
Ablation, surgical, atrial fibrillation
Ablation, surgical, other or unknown
Aneurysmectomy, LV
Aortic procedure, arch
Aortic procedure, ascending
Aortic procedure, descending
Aortic procedure, root
Aortic procedure, thoracoabdominal
Aortic Procedure, TEVAR
Aortic root procedure, valve sparing
Atrial appendage obliteration, Left, surgical
Atrial appendage obliteration, Left, transcatheter
Cardiac Tumor
Cardioversion(s)
Closure device, atrial septal defect
Closure device, ventricular septal defect
Congenital cardiac repair, surgical
ECMO

Implantable Cardioverter Defibrillator (ICD) with or without pacemaker
Permanent Pacemaker
Pericardial Window/Pericardiocentesis
Pericardiectomy
Pulmonary thromboembolectomy
Total Artificial Heart (TAH)
Transmyocardial Laser Revascularization (TMR)
Transplant heart & lung
Transplant, heart
Transplant, lung(s)
Ventricular Assist Device (VAD), BiVAD
Ventricular Assist Device (VAD), left
Ventricular Assist Device (VAD), right
Other Cardiac Intervention (not listed)

FAQ March 2018: I have a patient who has Wolff-Parkinson-White Syndrome. She had an ablation and cardioversion because of this arrhythmia. I am not sure where to capture this for sequence #945. Would I say yes to #945 and code it as Sick Sinus Syndrome?
Answer: Code Wolff-Parkinson-White syndrome as ablation, catheter, other or unknown.

SEQ. #: 815
Long Name: Previous Other Cardiac Intervention 2
Short Name: POCInt2
Definition: Indicate the second other cardiac intervention that was performed.

Intent/Clarification:
If a second procedure was done, please select from the list above or select “No Additional Interventions,” software will grey out any additional selections.

SEQ. #: 820
Long Name: Previous Other Cardiac Intervention 3
Short Name: POCInt3
Definition: Indicate the third other cardiac intervention that was performed.

Intent/Clarification:
If a third procedure was done, please select from the list above or select: No Additional Interventions - Software will grey out any additional selections.

SEQ. #: 825
Long Name: Previous Other Cardiac Intervention 4
Short Name: POCInt4
Definition: Indicate the fourth other cardiac intervention that was performed.

Intent/Clarification:
If a fourth procedure was done, please select from the list above or select “No Additional Interventions,” software will grey out any additional selections.

SEQ. #: 830
Long Name: Previous Other Cardiac Intervention 5
Short Name: POCInt5
Definition: Indicate the fifth other cardiac intervention that was performed.

Intent/Clarification:
If a fifth procedure was done, please select from the list above or select “No Additional Interventions,” software will grey out any additional selections.

SEQ. #: 835
Long Name: Previous Other Cardiac Intervention 6
Short Name: POCInt6
Definition: Indicate the sixth other cardiac intervention that was performed.

Intent/Clarification:
If a sixth procedure was done, please select from the list above or select “No Additional Interventions,” software will grey out any additional selections.

SEQ. #: 840
Long Name: Previous Other Cardiac Intervention 7
Short Name: POCInt7
Definition: Indicate the seventh other cardiac intervention that was performed.

Intent/Clarification:
If a seventh procedure was done, please select from the list above or select “No Additional Interventions,” software will grey out any additional selections.

Preoperative Cardiac Status

SEQ. #: 885
Long Name: Prior MI
Short Name: PrevMI
Definition: Indicate if the patient has had at least one documented previous myocardial infarction at any time prior to this surgery. (Refer to training manual for MI definition.)

Intent/Clarification:
Indicate if the patient has a history of MI. A myocardial infarction is evidenced by **any of the following** in addition to a rise and fall of cardiac biomarkers (preferably troponin) with at least one of the values in the abnormal range for that laboratory [typically above the 99th percentile of the upper reference limit (URL) for normal subjects] **together with at least one of the following** manifestations of myocardial ischemia:

1) Ischemic symptoms;
   a) ECG changes indicative of new ischemia (new ST-T changes, new LBBB, or loss of R- wave voltage)
   b) Development of pathological Q waves in ≥ 2 contiguous leads on ECG (or equivalent findings for posterior MI)
   c) Imaging evidence of new loss of viable myocardium or new regional wall motion abnormality
   d) Documentation in the medical record of the diagnosis of acute myocardial infarction based on the cardiac biomarker pattern in the absence of any items enumerated in and due to conditions that may mask their appearance (e.g., peri-operative infarct when the patient cannot report ischemic symptoms; baseline left bundle branch block or ventricular pacing)
2) ECG changes associated with prior myocardial infarction can include the following (with or without prior symptoms):
   a) Any Q wave in leads V2-V3 ≥ 0.02 seconds or QS complex in leads V2 and V3.
   b) Q wave ≥ 0.03 seconds and ≥ 0.1 mV deep or QS complex in leads I, II, aVL, aVF, or V4-V6 in any two leads of a contiguous lead grouping (I, aVL, V6; V4-V6; II, III, and aVF).
   c) R-wave ≥ 0.04 seconds in V1-V2 and R/S ≥ 1 with a concordant positive T-wave in the absence of a conduction defect.
3) Imaging evidence of a region with new loss of viable myocardium at rest in the absence of a non-ischemic cause. This can be manifest as:
   a) Echocardiographic, CT, MR, ventriculographic or nuclear imaging evidence of left ventricular thinning or scarring and failure to contract appropriately (i.e., hypokinesis, akinesis, or dyskinesis)
   b) Fixed (non-reversible) perfusion defects on nuclear radioisotope imaging (e.g., MIBI, thallium)
4) Medical records documentation of prior myocardial infarction.

Do not use phrases such as “cannot rule out”, “suggestive”, “probable”, “cannot exclude”, etc. to code MI.

FAQ February 2018: I know AMI and other registries are differentiating between real NSTEMIs and Type 2 Demand NSTEMIs, not calling the second one an MI. How do you want us to capture these Demand Type 2 NSTEMIs that only have troponin slightly

increased with no EKG changes? They are generally related to CHF or endocarditis. Do they count as an MI or not?
Answer: Physician documentation should indicate MI; do not code slight troponin increases and no EKG changes alone as MI without confirmation in the medical record by a physician or physician extender.

SEQ. #: 890
Long Name: MI-When
Short Name: MIWhen
Definition: Indicate the time period between the last documented myocardial infarction and surgery.

Intent/Clarification:
Time of surgery is documented as the hour the patient entered the operating room. Select the time-interval category based on information available on when the MI occurred. MI occurrence is the time of diagnosis and/or when confirmation of the last MI is documented prior to surgery. If the EKG indicates a prior MI of undetermined age Code as >21 days if the patient has no recently reported or documented symptoms. More recent infarctions would likely be described as "evolving" on the EKG.

SEQ. #: 895
Long Name: Cardiac Presentation/Symptoms - At Time Of This Admission
Short Name: CardSympTimeOfAdm
Definition: Indicate the patient's cardiac symptoms at the time of this admission.

Intent/Clarification:
Indicate the patient's cardiac presentation / symptoms. Choose the worst status.
Time Frame: The highest value at the time of admission. If this is a subsequent episode of care, within 7 days, do not code the CAD Presentation from the previous episode of care.

If the patient presents with atypical symptoms of myocardial ischemia (i.e. only shortness of breath, upper abdominal pain, left arm pain, etc.) that is known and documented to be myocardial ischemia, and is considered to be an angina equivalent, code the selection that fits their presentation. If these symptoms are not thought to be, or have not been proven to be the anginal equivalent, code "No Symptoms".

- **No symptoms** – No angina, no acute STEMI, non-STEMI, no anginal equivalent, and no other atypical chest pain.
- **Stable angina** without a change in frequency or pattern for the 6 weeks prior. Angina is controlled by rest and/or oral or transcutaneous medications.
- **Unstable angina**: There are three principal presentations of unstable angina.
    - Rest angina (occurring at rest and prolonged, usually >20 minutes)
    - New-onset angina (within the past 2 months, of at least Canadian Cardiovascular Society Class III severity)
    - Increasing angina (previously diagnosed angina that has become distinctly more frequent, longer in duration, or increased by 1 or more Canadian

Cardiovascular Society class to at least CCS III severity)

- **Non-STEMI** The patient was hospitalized for a non-ST elevation myocardial infarction (STEMI) as documented in the medical record. Non-STEMIs are characterized by the presence of **both** criteria:
  - Cardiac biomarkers (creatinine kinase-myocardial band, Troponin T or I) exceed upper limit of normal according to the individual hospitals. Laboratory confirmation of myocardial necrosis; laboratory parameters with a clinical presentation consistent or suggestive of ischemia. ECG changes and/or ischemic symptoms may or may not be present.
  - Absence of ECG changes diagnostic of a STEMI (see STEMI).
- **ST-Elevation MI (STEMI)** or equivalent. The patient presented with a ST elevation myocardial infarction (STEMI) or its equivalent as documented in the medical record. STEMIs are characterized by the presence of both criteria:
  - ECG evidence of STEMI: New/presumed new ST-segment elevation or new left bundle branch block not documented to be resolved within 20 minutes. ST-segment elevation is defined by new or presumed new sustained ST-segment elevation at the J-point in two contiguous ECG leads with the cut-off points: ≥ 0.2 mV in men or ≥ 0.15mV in women in leads V2- V3 and/or ≥ 0.1 mV in other leads and lasting greater than or equal to 20 minutes. If no exact ST-elevation measurement is recorded in the medical chart, physician's written documentation of ST-elevation or Q waves is acceptable. If only one ECG is performed, then the assumption that the ST elevation persisted at least the required 20 minutes is acceptable. Left bundle branch block (LBBB) refers to new or presumed new LBBB on the initial ECG. Cardiac biomarkers (creatinine kinase-myocardial band, Troponin T or I) exceed the upper limit of normal according to the individual hospital's laboratory parameters and a clinical presentation which is consistent or suggestive of ischemia. Note: For purposes of the Registry, ST elevation in the posterior chest leads (V7 through V9), or ST depression that is maximal in V1-3, without ST-segment elevation in other leads, demonstrating posterobasal myocardial infarction, is considered a STEMI equivalent.
- **Anginal Equivalent** - An anginal equivalent is a symptom such as shortness of breath (dyspnea), diaphoresis, extreme fatigue, or belching, occurring in a patient at high cardiac risk. Anginal equivalents are considered to be symptoms of myocardial ischemia. Anginal equivalents are considered to have the same importance as angina pectoris in patients presenting with elevation of cardiac enzymes or certain EKG changes which are diagnostic of myocardial ischemia. For the patient with diabetes who presents with “silent angina”, code anginal equivalent.
- **Other** – Aortic dissections, sudden death, heart block, arrhythmia, syncope, heart failure or **other symptoms associated with non-coronary artery disease conditions such as Aortic or Mitral stenosis / insuffficiency without CAD**

FAQ Sept 2019 - I have physician documentation that the patient is NHYA 3, and CCS 3. Can I equate CCS 3 as angina, since CCS is a grading system for angina? The physician does not explicitly state the word 'angina'. I see in the Training Manual there is a recent FAQ for HF seq. 915 that states I cannot code HF based on documentation of an NYHA class, so I am wondering if I can code an angina from CCS documentation.

Answer - You can code YES to Seq 895 in this scenario. CCS Class is specific to patients having angina. The NYHA Class is often used to document functional class and may or may not be associated with a diagnosis of heart failure. You will have to clarify with the physician as to the type of angina if you can not determine the type based on the documentation in the medical record.

SEQ. #: 900
Long Name: Cardiac Symptoms - At Time Of Surgery
Short Name: CardSympTimeOfSurg
Definition: Indicate the patient's cardiac symptoms at the time of this procedure.

Intent/Clarification:
The intent is to capture changes between admission and surgery; whether a patient improves or deteriorates. The definition is the same as Seq. #895, although timeframes may overlap.

- For elective admissions, patient symptoms, same value/answer, will be entered twice for seq. #895 and 900.
- If the patient did not improve or deteriorate between admission and surgery, the code will be the same.
- If the patient presents with STEMI or Non-STEMI, they should be coded as such in both sequence numbers 895 and 900.
- If the patient remains longer than 7 days and in that case presentation at the time of admission would be STEMI or Non-STEMI and at the time of surgery would be coded as unstable angina.
- Unstable angina at the time of admission would be coded unstable angina at the time of surgery.

SEQ. #: 911
Long Name: Heart Failure
Short Name: HeartFail
Definition: Indicate whether there is physician documentation or report that the patient has been in a state of heart failure.

Intent/Clarification:
Heart failure is described as unusual dyspnea on light exertion, recurrent dyspnea occurring in the supine position, fluid retention; or the description of rales, jugular venous distension, pulmonary edema on physical exam, or pulmonary edema on chest x-ray presumed to be cardiac dysfunction. A low ejection fraction alone, without clinical evidence of heart failure does not qualify as heart failure. An elevated BNP without other supporting documentation should not be coded as CHF.

Heart failure is a complex clinical syndrome that results from any structural or functional impairment of ventricular filling or ejection of blood. The cardinal manifestations of HF

are dyspnea and fatigue, which may limit exercise tolerance, and fluid retention, which may lead to pulmonary and/or splanchnic congestion and/or peripheral edema. Some patients have exercise intolerance but little evidence of fluid retention, whereas others complain primarily of edema, dyspnea, or fatigue. Because some patients present without signs or symptoms of volume overload, the term “heart failure” is preferred over “congestive heart failure.” There is no single diagnostic test for HF because it is largely a clinical diagnosis based on a careful history and physical examination.

FAQ July 2019 - How should heart failure be coded when there is not supportive documentation of the patient being in heart failure or history of heart failure, but the OP note states NYHA Class I. Should these cases be coded yes for heart failure and enter NHYA Class I or code NO for heart failure?
Answer - NYHA Class documentation alone can't be used for diagnosis for heart failure, you must have physician documentation that states heart failure. There needs to be documentation in the chart that the patient has been in or was in a state of heart failure.

FAQ August 2019 – Can I code heart failure for a patient with a documented diagnosis of cardiomyopathy without a diagnosis of heart failure documented in the medical record?
Answer - Do not code heart failure for this patient. A diagnosis of heart failure must be documented in the medical record to code heart failure. Cardiomyopathy may or may not be associated with a heart failure diagnosis.

FAQ Sept 2019 -Is heart failure Seq 911 specific to left heart failure or do we capture right and left heart failure?
Answer – Capture either right or left heart failure in Seq 911.

SEQ. #: 912
Long Name: Heart Failure Timing
Short Name: HeartFailTmg
Definition: Indicate whether heart failure is acute, chronic or both (acute on chronic)

Intent/Clarification:

- Acute heart failure is the rapid onset of symptoms and signs of heart failure and may occur with or without previous cardiac disease occurring within 2 weeks of surgery. Acute decompensated heart failure is a sudden worsening of the signs and symptoms of heart failure, which typically includes difficulty breathing (dyspnea), leg or feet swelling, and fatigue.
- Chronic heart failure develops gradually over time with symptoms of shortness of breath, lower extremity swelling and fatigue without an acute exacerbation within the 2 weeks prior to admission.
- Both involves patients with chronic heart failure who presents with acute symptoms presents with a worsening of symptoms within 2 weeks of surgery.

SEQ. #: 913
Long Name: Heart Failure Type
Short Name: HeartFailType
Definition: Indicate the type of heart failure.

Intent/Clarification:

- Systolic: The left ventricle lacks the force to push enough blood into the circulation.
- Diastolic: The left ventricle is stiff and fails to relax sufficiently to allow adequate filling.
- Both: Components of both systolic and diastolic failure exist.
- Unavailable: The type of heart failure is not documented in the medical record.

FAQ July 2019 – Does there need to be specific physician documentation of the type of heart failure in the chart or can the Data Manager determine if it is systolic or diastolic based on ther patient's EF?
Answer – There must be physician documentation in the medical record indicating if the heart failure is systolic, diastolic, or combined dysfunction.

SEQ. #: 915
Long Name: Classification-NYHA
Short Name: ClassNYH
Definition: Indicate the patient's worst dyspnea or functional class, coded as the New York Heart Association (NYHA) classification within the past 2 weeks. This is to be used for heart failure only, is not intended to classify angina.

Intent/Clarification:
NYHA is for congestive heart failure (CHF).
Select the **highest level** of heart failure within the two weeks leading up to episode of hospitalization or at the time of the procedure. The intent is to capture the highest level of failure. Physician documentation should be in the medical record.

- **Class I**: Patient has cardiac disease but without resulting limitations of ordinary physical activity. Ordinary physical activity (e.g., walking several blocks or climbing stairs) does not cause undue fatigue, palpitation, dyspnea, or anginal pain. Limiting symptoms may occur with marked exertion.
- **Class II**: Patient has cardiac disease resulting in slight limitation of ordinary physical activity. Patient is comfortable at rest. Ordinary physical activity such as walking more than two blocks or climbing more than one flight of stairs results in limiting symptoms (e.g., fatigue, palpitation, dyspnea, or anginal pain).
- **Class III**: Patient has cardiac disease resulting in marked limitation of physical activity. Patient is comfortable at rest. Less than ordinary physical activity (e.g., walking one to two level blocks or climbing one flight of stairs) causes fatigue, palpitation, dyspnea, or anginal pain.
- **Class IV**: Patient has dyspnea at rest that increases with any physical activity. Patient has cardiac disease resulting in inability to perform any physical activity without discomfort. Symptoms may be present even at rest. If any physical activity is undertaken, discomfort is increased. The physician documents new onset CHF

with an EF of 25% and SOB. There is no indication of what level of activity causes the SOB.

FAQ July 2019 - Does the physician specifically have to document NYHA class or can the Data Manager select the class that matches the definitions listed above?
Answer - There must be physician documentation in the medical record indicating the NYHA class.

SEQ. #: 930
Long Name: Cardiogenic Shock
Short Name: CarShock
Definition: Indicate if the patient developed cardiogenic shock. Cardiogenic shock is defined as a sustained (>30 min) episode of hypoperfusion evidenced by systolic blood pressure <90 mm Hg and/or, if available, cardiac index <2.2 L/min per square meter determined to be secondary to cardiac dysfunction and/or the requirement for parenteral inotropic or vasopressor agents or mechanical support (e.g., IABP, extracorporeal circulation, VADs) to maintain blood pressure and cardiac index above those specified levels.

Note: Transient episodes of hypotension reversed with IV fluid or atropine do not constitute cardiogenic shock. The hemodynamic compromise (with or without extraordinary supportive therapy) must persist for at least 30 min.
ACCF/AHA 2013

Intent/Clarification:

- At the time of the procedure. **Update Sept 2019 - Do not code cardiogenic shock after induction.**
- This includes patients with cardiogenic shock who have been stabilized on IABP/inotropes at the time of surgery.
- Do not code yes to cardiogenic shock for patients with a low cardiac index who are asymptomatic and do not require mechanical or inotropic support.
- Hemodynamic issues that could be contributed to anesthesia induction problems should not count in the preoperative status of the patient.
- Elective procedures should not be coded as cardiogenic shock.
- Do not code yes to cardiogenic shock just because the patient has a LVAD; the patient must meet the blood pressure and/or cardiac index parameters of the definition of cardiogenic shock.

SEQ. #: 935
Long Name: Resuscitation
Short Name: Resusc

Definition: Indicate whether the patient required cardiopulmonary resuscitation before the start of the operative procedure which includes the institution of anesthetic management. Capture resuscitation timeframe: within 1 hour or 1-24 hours pre-op.

Intent/Clarification:
Indicate whether the patient required cardiopulmonary resuscitation within 24 hours of the start of the operative procedure. The start of the procedure begins with the induction of anesthesia. Capture resuscitation timeframe: within 1 hour of surgery or 1-24 hours pre-operatively.

The additional time options were added to harmonize with NCDR, looking at 24 hours pre-procedure yet still mapping to previous STS versions and risk models.

- Resuscitation may include **complete** circulatory support such as ECMO/other mechanical assist devices (ex. Impella, LVAD) initiated emergently prior to surgery. Intra-aortic balloon counterpulsation (IABP) by itself does not qualify as complete circulatory support.
- Do not code yes for resuscitation started after induction of anesthesia. The goal is to identify patients who require CPR and/or mechanical circulatory support to maintain life in the 24-hour period preceding surgery.

ECMO: ECMO is to be captured as a status of 'Salvage' in sequence 1975 and as 'Resuscitation – Yes' in sequence 935. ECMO is a supportive modality and not a procedural type. The risk of the patient on ECMO is accounted for when 'Status = salvage' and should be left in the intended procedural category.

FAQ May 2019: The patient was in surgery having Right carotid endarterectomy done (and please note the plan was to have the AVR done tomorrow) when during this procedure the patient became bradycardic and required chest compressions and multiple doses of epi. They were able to get the patient back after 10 minutes of chest compressions. However, the pt. had a second bradycardic cardiac arrest and the surgeon decided on a salvage aortic valve replacement! So is the Endarterectomy now part of the AVR surgery (How do I mark this on the STS tool?)

Answer: If this was done in the same room then code the the AVR as Salvage and the endarterectomy. You can also code resuscitation.

SEQ. #: 945
Long Name: Cardiac Arrhythmia
Short Name: Arrhythmia
Definition: Indicate whether the patient has a history of a cardiac rhythm disturbance before the start of the operative procedure which includes the institution of anesthetic management.

Intent/Clarification:

- Yes
- No

FAQ March 2018: I have a patient who has Wolff-Parkinson-White Syndrome. She had an ablation and cardioversion because of this arrhythmia. I am not sure where to capture this for sequence #945. Would I say yes to #945 and code it as Sick Sinus Syndrome? Or does this arrhythmia not get captured?
Answer: Do not code Wolff-Parkinson-White syndrome as an arrhythmia.

SEQ. #: 947
Long Name: Cardiac Arrhythmia - Permanently Paced Rhythm
Short Name: ArrhythPPaced
Definition: Indicate whether the patient has a permanently paced rhythm, evidenced by pacemaker activity during heart rhythm evaluation.

Intent/Clarification:

- Yes
- No

SEQ. #: 950
Long Name: Cardiac Arrhythmia - VTach / VFib
Short Name: ArrhythVV
Definition: Indicate whether arrhythmia was VTach or VFib.

Intent/Clarification:
V-tach rhythm must be sustained/persistent or paroxysmal and require some type of intervention (pharmacological and/or electrical) to interrupt and cease the arrhythmia. Do not include short runs of VT.

- None
- Remote - more than 30 days prior to procedure
- Recent - within 30 days of this procedure

SEQ. #: 955
Long Name: Cardiac Arrhythmia - Sick Sinus Syndrome
Short Name: ArrhythSSS
Definition: Indicate whether arrhythmia was sick sinus syndrome.

Intent/Clarification:
Sick sinus syndrome is a collection of heart rhythm disorders caused by dysfunction in the SA node, the heart's main pacemaker. SSS may present as: Sinus bradycardia -- slow

heart rates from the natural pacemaker of the heart. Tachycardias - fast heart rates Bradycardia-tachycardia -- alternating slow and fast heart rhythms

- None
- Remote - more than 30 days prior to procedure
- Recent - within 30 days of this procedure

SEQ. #: 960
Long Name: Cardiac Arrhythmia - AFlutter
Short Name: ArrhythAFlutter
Definition: Indicate whether arrhythmia was atrial flutter.

Intent/Clarification:
Atrial flutter (AFL) is an abnormal heart rhythm that occurs in the atria of the heart. When it first occurs, it is usually associated with a fast heart rate or tachycardia (beats over 100 per minute) which falls into the category of supra-ventricular tachycardias. While this rhythm occurs most often in individuals with cardiovascular disease (e.g. hypertension, coronary artery disease, and cardiomyopathy) and diabetes, it may occur spontaneously in people with otherwise normal hearts. It is typically not a stable rhythm, and frequently degenerates into atrial fibrillation (AF). However, it does rarely persist for months to years. If rhythm is described as fib/flutter, code fibrillation.

- None
- Remote - more than 30 days prior to procedure
- Recent - within 30 days of this procedure

SEQ. #: 961
Long Name: Cardiac Arrhythmia - Atrial Fibrillation
Short Name: ArrhythAtrFib
Definition: Indicate whether arrhythmia was atrial fibrillation.

Intent/Clarification:

- None
- Remote - more than 30 days prior to procedure
- Recent - within 30 days of this procedure

SEQ. #: 962
Long Name: Cardiac Arrhythmia - Atrial Fibrillation - Type
Short Name: ArrhythAFib
Definition: Indicate whether arrhythmia was atrial fibrillation and if so, which type.

Intent/Clarification:

If the diagnosis of atrial fibrillation is present code the type:

- Paroxysmal: Recurrent AF (> 2 episodes). Terminates spontaneously within 7 days.
- Persistent: Sustained episode > 7 days, or lasting < 7 days, but necessitating pharmacologic or electrical cardioversion.
- Long-Standing Persistent: Continuous episode of > 1-year duration.
- Permanent: Continuous episode of > 1-year duration.

FAQ August 2017: The definition of longstanding persistent and permanent are the same, can you clarify the difference?
Answer: Longstanding persistent atrial fibrillation lasts longer than 1 year but still responds to treatment ie. cardioversion or ablation therapy.
Permanent atrial fibrillation lasts longer than 1 year but no longer responds to any form of treatment. These patients are treated for rate control and prevention of stroke only.

FAQ July 2019 - Patient had one episode of rapid Afib in Sept 2018 was treated with Amiodarone and has been on Amiodarone since with no recurrence. Do I code as persistent or paroxysmal afib?
Answer - If the AF required medication or procedure to convert in Sept 2018 code it as persistent. If it converted spontaneously in Sept 2018 and then the patient was placed on medication for prevention reoccurrence then this would be coded as paroxysmal.

SEQ. #: 965
Long Name: Cardiac Arrhythmia - Second Degree Heart Block
Short Name: ArrhythSecond
Definition: Indicate whether arrhythmia was second degree heart block.

Intent/Clarification:
In second degree heart block, some signals from the atria don't reach the ventricles. This causes "dropped beats." On an ECG, the P wave isn't followed by the QRS wave, because the ventricles weren't activated. There are two types: Type I second-degree heart block, or Mobitz Type I, or Wenckebach's AV block. Electrical impulses are delayed more and more with each heartbeat until a beat is skipped. This condition is not too serious but sometimes causes dizziness and/or other symptoms. Type II second-degree heart block, or Mobitz Type II. This is less common than Type I but generally more serious. Because electrical impulses can't reach the ventricles, an abnormally slow heartbeat may result. In some cases a pacemaker is needed.

- None
- Remote -more than 30 days prior to procedure
- Recent -within 30 days of this procedure

SEQ. #: 970
Long Name: Cardiac Arrhythmia - Third Degree Heart Block

Short Name: ArrhythThird
Definition: Indicate whether arrhythmia was third degree heart block.

Intent/Clarification:
Heart block is applicable only if the patient has or did have 3rd degree heart block (complete heart block). Complete heart block, also referred to as third-degree heart block, or third-degree atrioventricular (AV) block, is a disorder of the cardiac conduction system where there is no conduction through the AV node. Therefore, complete dissociation of the atrial and ventricular activity exists.

- None
- Remote- more than 30 days prior to procedure
- Recent - within 30 days of this procedure

Preoperative Medications

Update October 2019 - Contraindications for pre-op medication requires documentation of a contraindication for the class of medications when applicable such as statin, beta blockers, ADP inhibitors etc. not just one medication in the medication class. For example, a documented contraindication for Toprol at pre-op would need to be documented as a contraindication for Beta Blockers, instead of one drug in the medication class.

FAQ June 2018: Is Pletal captured in the adult cardiac surgery database.
Answer: No, Pletal is not captured.

SEQ. #: 1020
Long Name: Meds-ACE Inhibitors or ARB Within 48 Hours
Short Name: MedACEI48
Definition: Indicate whether the patient received ACE Inhibitors or ARB within 48 hours preceding surgery (e.g., if indicated for LV dysfunction or acute MI).

Intent/Clarification:
ACE and ARBs are used in the treatment of hypertension, congestive heart failure (reduces the workload of the heart). The drug action is to inhibit the release of the hormone angiotensin II that constricts blood vessels, causing an increase in blood pressure. Therefore, blood vessels dilate to increase systemic blood flow to the heart. Some ACE inhibitors have additional diuretic components to increase the elimination of excess fluid.
Studies have shown that preoperative use of ACEI/ARB is associated with a 27.6% higher risk for Acute Kidney Injury (AKI) postoperatively. Stopping ACEI or ARB before cardiac surgery may reduce the incidence of AKI. This includes renin inhibitors.

- **Yes** - Capture those who are prescribed to take medications on a regular schedule and are presumed to be at a therapeutic level, 48 hours preceding surgery, (entry into the OR)
- **No** - did not receive an ACE inhibitor or ARB within 48 hours preceding surgery
- **Contraindicated** - Documented evidence of contraindication: If a contraindication is

documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist

- **Unknown** - conflicting information in the medical record and/or with the patient/family or no information available

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SEQ. #: 1025
Long Name: Meds- Amiodarone Prior To Surgery
Short Name: MedAmiodarone
Definition: Indicate whether and when the patient received Amiodarone therapy prior to surgery. Dronedarone (Multaq) may be coded as Amiodarone.

Intent/Clarification:
Intended to capture **ongoing** medication administration prior to surgery.

Amiodarone may play a role in reducing the risk of post-operative arrhythmias, notably A-Fib.

- **Yes: on home therapy**
- **Yes: therapy started this admission,** can include patients where a preoperative protocol was initiated; this allows differentiation from those patients on long term home therapy.
- **No**: a single dose prior to surgery such as in ED does not count as “Yes,” , only capture those who are prescribed to take medications on a regular schedule and are presumed to be at a therapeutic level, preceding surgery (entry into the OR)
- **Unknown**: conflicting information in the medical record and/or with the patient/family or no information available

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SEQ. #: 1030
Long Name: Meds-Beta Blockers Within 24 Hours
Short Name: MedBeta
Definition: Indicate whether or not the patient received beta blockers within 24 hours preceding surgery, or if beta blocker was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, or physician assistant. A "hold order" is not considered a contraindication.

Intent/Clarification:
NQF Endorsed Measure - Part of the medication bundle in the STS Composite Quality Rating (Star Rating).
Beta blockers have been proven to increase survival in cardiac patients. For the treatment of:

1. High blood pressure
2. Treating chest pain or angina

3. Controlling irregular heart rhythms, prevention of post op Afib
4. Slowing ventricular rate response
5. Treating congestive heart failure

Yes- include those who received within 24 hours prior to ***incision in the OR***. This can include onetime doses given prior to ***incision in OR***
No – Patient did not receive prior to ***incision in the OR***
Contraindicated - documented evidence of contraindication: If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (examples might include allergy, bradycardia, hypotension, heart block, COPD, Other), check "Contraindication." by physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist. Documents created by hospitals used to track Core Measure Information may be used but would still have to be countersigned by physician, Nurse Practitioner, Anesthesia, Physician Assistant.

FAQ September 2018/January 2019: Is it a contraindication if the patient has a hold order for BB if HR<55 and the nurse holds the medication.

Answer: You can code contraindicated for the medication not given by the health care professional as a result of the order parameters not being met.

For example: If the patient's heart rate of 55 was within the order parameters then you could not code this as a contraindication. But if the orders specificed not to give the medication for a HR of less than 60 then you could code this as a contraindication. This must be addressed on the MAR as the reason for not administrating the medication.

SEQ. #: 1035
Long Name: Meds-Beta Blocker Therapy For More Than 2 Weeks Prior To Surgery
Short Name: MedBetaTher
Definition: Indicate whether the patient received beta blocker therapy for at least 2 weeks prior to surgery.

Intent/Clarification:
Studies have shown that the abrupt discontinuation of Beta-Blockers during the perioperative period in patients who were on chronic Beta-Blocker therapy prior to surgery can lead to increased mortality during the intraoperative and postoperative periods. The American College of Cardiology/American Heart Association has given the continuation of Beta-Blocker therapy throughout the perioperative period a Class I recommendation.

- **Yes** - Capture those who are prescribed to take a Beta-Blocker on a regular schedule (daily) and are presumed to be at a therapeutic level, for at least 2 weeks preceding surgery (entry into the OR). Do Not Include a one-time dose.
- **No** – Beta-Blocker was prescribed but patient is not taking a daily dose or not prescribed Beta-Blocker, within the two weeks preceding surgery
- **Contraindicated**- Documented evidence of contraindication: If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly

within the medical record, notation of a medication allergy prior to arrival, by Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist. A "hold order" is not an acceptable contraindication.

- **Unknown** – conflicting information in the medical record and/or with the patient/family or no information is available

Update Sept 2019- Anti-anginal medications: beta blockers, calcium channel blockers, long acting nitrates and "other antianginal medication" are to be captured if the patient is on them at home > 2 weeks prior to admission, even if they are stopped prior to surgery. Capturing these home meds demonstrates that the physicians caring for these patients were appropriately attempting to manage the patient's CAD.

SEQ. #: 1040
Long Name: Meds-Calcium Channel Blocker Therapy For More Than 2 Weeks Prior To Surgery
Short Name: MedCChanTher
Definition: Indicate whether the patient received calcium channel blocker therapy for at least 2 weeks prior to surgery.

Intent/Clarification:
Calcium channel blockers (CCB), calcium channel antagonists or calcium antagonists are a number of medications that disrupts the movement of calcium (Ca2+) through calcium channels. Calcium channel blockers are used as antihypertensive drugs, i.e. as medications to decrease blood pressure in patients with hypertension. CCBs are particularly effective against large vessel stiffness, one of the common causes of elevated systolic blood pressure in elderly patients. Calcium channel blockers are also frequently used to alter heart rate, to prevent cerebral vasospasm, and to reduce chest pain caused by angina pectoris

- **Yes** - Capture those who are prescribed to calcium channel blockers on a regular schedule and are presumed to be at a therapeutic level, for at least 2 weeks preceding surgery (entry into the OR)
- **No** – Patient did not receive a Calcium Channel Blocker for at least 2 weeks preceding surgery
- **Contraindicated** - Documented evidence of contraindication: If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist
- **Unknown** – conflicting information in the medical record and/or with the patient/family or no information is available
-

Update Sept 2019- Anti-anginal medications: beta blockers, calcium channel blockers, long acting nitrates and "other antianginal medication" are to be captured if the patient is on them at home > 2 weeks prior to admission, even if they are stopped prior to surgery. Capturing these home meds

demonstrates that the physicians caring for these patients were appropriately attempting to manage the patient's CAD.

SEQ. #: 1045
Long Name: Meds-Long-Acting Nitrate Therapy For More Than 2 Weeks Prior To Surgery
Short Name: MedLongActNit
Definition: Indicate whether the patient received long-acting nitrate therapy for at least 2 weeks prior to surgery.

Intent/Clarification:

- **Yes** - Capture those prescribed to take medications on a regular schedule and are presumed to be at a therapeutic level, for at least 2 weeks preceding surgery (entry into the OR). Nitropaste or Nitropatch are long-acting nitrates. Do Not include a one-time dose
- **No** – Patient did not receive a Long-Acting Nitrate for at least 2 weeks preceding surgery
- **Contraindicated** - Documented evidence of contraindication: If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist -BH
- **Unknown** – conflicting information in the medical record and/or with the patient/family or no information is available
-

Update Sept 2019- Anti-anginal medications: beta blockers, calcium channel blockers, long acting nitrates and "other antianginal medication" are to be captured if the patient is on them at home > 2 weeks prior to admission, even if they are stopped prior to surgery. Capturing these home meds demonstrates that the physicians caring for these patients were appropriately attempting to manage the patient's CAD.

SEQ. #: 1050
Long Name: Meds-Nitrates-I.V. Within 24 Hours
Short Name: MedNitIV
Definition: Indicate whether the patient received IV Nitrates within 24 hours preceding surgery.

Intent/Clarification:
Nitrates act by increasing dilatation of the coronary arteries, thereby increasing blood flow to the myocardium and decreasing myocardial ischemic changes. Trade name is Nitroglycerin.

- **Yes -** Capture those who are prescribed to take IV Nitrates and are presumed to

be at a therapeutic level, 24 hours preceding surgery (entry into the OR)
- **No** – Patient did not receive IV Nitrates within 24 hours preceding surgery

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SEQ. #: 1055
Long Name: Meds-Other Antianginal Medication Therapy For More Than 2 Weeks Prior To Surgery
Short Name: MedOthAntiang
Definition: Indicate whether the patient received any other antianginal medication therapy for at least 2 weeks prior to surgery.

Intent/Clarification:
- **Yes** - Capture those who are prescribed to take any other antianginal medication on a regular schedule and are presumed to be at a therapeutic level, for at least 2 weeks preceding surgery (entry into the OR) - Do Not Include a one-time dose
- **No** – Patient did not receive any other antianginal medication therapy for at least 2 weeks preceding surgery. Do not capture if patient was given a sublingual, IV, or short acting formula of one of these medications.
- **Contraindicated** - Documented evidence of contraindication: If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist -BH
- **Unknown** – conflicting information in the medical record and/or with the patient/family

Update Sept 2019- Anti-anginal medications: beta blockers, calcium channel blockers, long acting nitrates and "other antianginal medication" are to be captured if the patient is on them at home > 2 weeks prior to admission, even if they are stopped prior to surgery. Capturing these home meds demonstrates that the physicians caring for these patients were appropriately attempting to manage the patient's CAD.

SEQ. #: 1060
Long Name: Meds-ADP Inhibitors Within Five Days
Short Name: MedADP5Days
Definition: Indicate whether the patient has received ADP Inhibitors within 5 days preceding surgery.

Intent/Clarification:
ADP stands for Adenosine Diphosphate. The anticoagulant properties of these medications may increase the risk of bleeding by inhibiting platelet aggregation (clotting). This category includes P2Y12 inhibitors. They are often used to treat patients with a history of atherosclerotic cardiovascular disease and potentially reduce the incidence of major cardiovascular events (stroke, peripheral arterial disease events). Peak drug

levels are reached within 3-7 days of initiated maintenance dosing, while termination of drug affects are not seen for 5 days after last dose.

- **Yes** - Capture those who are prescribed to ADP inhibitors on a regular schedule and are presumed to be at a therapeutic level within 5 day preceding surgery (entry into the OR) **and** those who received a one-time dose of Plavix, preceding surgery
- **No** - did not receive an ADP inhibitor within 5 days preceding surgery
- **Contraindicated** - Documented evidence of contraindication: If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist
- **Unknown** – conflicting information in the medical record and/or with the patient/family or no information available

FAQ October 2017: ADP is coded 'Yes' for patients who receive a single dose of Plavix, is that true for Brillinta and Effient?
Answer: Code 'Yes' for one-time doses of Brillinta and Effient.

FAQ February 2018: A patient is brought to the ED on Saturday evening diagnosed with NSTEMI. He is on chronic Plavix due to prior stent placements. On Monday he is transitioned to Cangrelor and is taken to surgery on Wednesday. How is the medication captured?
Answer: Do not code the Cangrelor.

SEQ. #: 1065
Long Name: Meds-ADP Inhibitors Discontinuation
Short Name: MedADPIDis
Definition: Indicate the number of days prior to surgery ADP Inhibitor use was discontinued. If less than 24 hours, enter "0".

Intent/Clarification:
Peak drug levels are reached within 3-7 days of initiated maintenance dosing, while termination of drug affects are not seen for 5 days after last dose, which may increase risk of bleeding.

FAQ February 2018: A patient is brought to the ED on Saturday evening diagnosed with NSTEMI. He is on chronic Plavix due to prior stent placements. On Monday he is transitioned to Cangrelor and is taken to surgery on Wednesday. How is the medication captured?
Answer: Do not code the Cangrelor due to the short half-life; code the days prior to the discontinuation of Plavix.

FAQ July 2019 – Patient receives last dose of plavix on 4/27 at 1:15pm. Surgery is 4/29 at 730 am. Is Plavix discontinuation counted as 2 days before surgery or 1 day since it is less than 48 hours?

Answer: Code as 2 days counting each day starting at midnight. Day one is 4/28, Day two is 4/29.

SEQ. #: 1070
Long Name: Meds-Aspirin Within Five Days
Short Name: MedASA
Definition: Indicate whether or not the patient received Aspirin or Ecotrin within 5 days preceding surgery.

Intent/Clarification:
Anti-inflammatory, analgesic and antiplatelet action. Half-life of aspirin products is 5-7 days. Aspirin use may predispose patient to post op bleeding.

- **Yes** - Capture those who are prescribed to take Aspirin or Ecotrin on a regular schedule and are presumed to be at a therapeutic level, 5 days preceding surgery (entry into the OR) - The minimum dose should be at least 75 mg (i.e. Aggrenox, which is only 25mg, should not be included).
- **No** – Patient did not receive Aspirin within 5 days preceding surgery.
- **Contraindicated** - Documented evidence of contraindication: If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist
- **Unknown** – conflicting information in the medical record and/or with the patient/family or no information available.

SEQ. #: 1071
Long Name: Meds-Aspirin Discontinuation
Short Name: MedASADis
Definition: Indicate the number of days prior to surgery Aspirin use was discontinued. If less than 24 hours, enter "0".

Intent/Clarification: -

FAQ July 2019 – Patient receives last dose of plavix on 4/27 at 1:15pm. Surgery is 4/29 at 730 am. Is Plavix discontinuation counted as 2 days before surgery or 1 day since it is less than 48 hours?
Answer: Code as 2 days counting each day starting at midnight. Day one is 4/28, Day two is 4/29.

SEQ. #: 1072
Long Name: Meds-Aspirin One-Time Dose

Short Name: MedASAOnce
Definition: Indicate whether the patient received a one-time dose of Aspirin and is not on daily aspirin.

Intent/Clarification: -

SEQ. #: 1073
Long Name: Meds-Glycoprotein IIb/IIIa Inhibitor Within 24 Hours
Short Name: MedGP
Definition: Indicate whether the patient received Glycoprotein IIb/IIIa inhibitors within 24 hours preceding surgery.

Intent/Clarification:
- **Yes**: if the patient received a IIb/IIIa inhibitor within 24 hours of OR entry date and time.
- **No**

SEQ. #: 1075
Long Name: Meds-Anticoagulants Within 48 Hours
Short Name: MedACoag
Definition: Indicate whether the patient received IV and/or sub-q anticoagulants within 48 hours preceding surgery.
Do NOT include Coumadin or one-time boluses of Heparin.

Intent/Clarification:
Anticoagulant therapy inhibits platelet aggregation and clot formation, is used to treat and prevent blood clots, decreasing the viscosity of the blood. These medications may increase the risk of bleeding
- **Yes**: Only capture those who are prescribed to take IV and/or Sub-Q anticoagulants on a regular schedule and are presumed to be at a therapeutic level, within 48 hours preceding surgery (entry into the OR).
- **No**: Patient did not receive IV and/or Sub-Q anticoagulants within 48 hour preceding surgery. Do not capture one-time heparin, Lovenox/Enoxaparin doses used during the cardiac cath or any time within 48 hours preceding surgery.

SEQ. #: 1080
Long Name: Meds-Anticoagulants-Medication Name
Short Name: MedACMN
Definition: Indicate the name of the anticoagulant the patient received within 48 hours preceding surgery.

Intent/Clarification:

- Heparin (Unfractionated)
- Heparin (Low Molecular)
- Both
- Other

SEQ. #: 1091
Long Name: Meds-Warfarin (Coumadin) Within 5 Days
Short Name: MedCoum5Days
Definition: Indicate whether the patient has received Warfarin (Coumadin) within 5 days preceding surgery.

Intent/Clarification:
This is collected to capture the risk of bleeding related to anticoagulation therapy.

- **Yes** - Capture those who took Coumadin within 5 days preceding surgery and are presumed to be at a therapeutic level within 24 hours prior to OR entry date and time.
- **No** – Patient did not receive a Coumadin within 5 days prior to OR entry date and time.
- **Unknown** – Conflicting information in the medical record and/or with the patient/family or no information is available

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SEQ. #: 1092
Long Name: Meds-Warfarin (Coumadin) Discontinuation
Short Name: MedCoum5Dis
Definition: Indicate the number of days prior to surgery Warfarin (Coumadin) use was discontinued. If less than 24 hours, enter "0".

Intent/Clarification:

SEQ. #: 1101
Long Name: Meds-Factor Xa Inhibitors Within 5 Days
Short Name: MedXa5Days
Definition: Indicate whether the patient has received Factor Xa Inhibitors within 5 days preceding surgery.

Intent/Clarification:
Direct factor Xa inhibitors (“xabans “) are a class of anticoagulant drugs which act directly upon Factor X in the coagulation cascade, without using anti-thrombin as a mediator. This is collected to capture risk of bleeding related to anticoagulation therapy

- **Yes -** Capture those who are prescribed to take Factor Xa inhibitors on a regular schedule within the 5 days preceding surgery and are presumed to be at a therapeutic level, within 24 hours prior to OR entry date and time.
- **No –** Patient did not receive Factor Xa Inhibitors within 5 days prior to OR entry date and time.
- **Unknown** – Conflicting information in the medical record and/or with the patient/family or no information is available.
-

FAQ August 2017: Clarify which medications should be coded in this category.
Answer: Confusion lies when the medications could be coded in any or all of three categories, Factor Xa, Thrombin Inhibitors, or NOAC. Initially all three categories were included to differentiate medications that did not have antidotes. With more antidotes available, the three medications seem redundant. Capture the medication according to the manufacturer's category description. The only caveat to remember is that you should only code ONE of the three medications so as not to have it appear that the patient is receiving more than one.

SEQ. #: 1102
Long Name: Meds-Factor Xa Inhibitors Discontinuation
Short Name: MedXa5DDis
Definition: Indicate the number of days prior to surgery Factor Xa Inhibitor use was discontinued. If less than 24 hours, enter "0".

Intent/Clarification:

SEQ. #: 1111
Long Name: Meds-Novel Oral Anticoagulant Within 5 Days
Short Name: MedNOAC5Days
Definition: Indicate whether the patient has received Novel Oral Anticoagulant within 5 days preceding surgery.

Intent/Clarification:
New agents have been introduced that are collectively referred to as **novel oral anticoagulants** (**NOACs**) or **directly acting oral anticoagulants** (**DOACs**). They have been shown to be as good as or possibly better than Coumadin with less serious side effects. The newer anticoagulants (NOACs/DOACs), are more expensive than the traditional ones and should be used with care in patients with kidney problems. Additionally, there is no antidote for the factor Xa inhibitors, so it is difficult to stop their effects in the body in cases of emergency (accidents, urgent surgery). Idarucizumab was FDA approved for the reversal of dabigatran in 2015.

- Yes - Capture those who are prescribed to take novel oral anticoagulants on a regular schedule within the 5 days preceding surgery and are presumed to be at a therapeutic level, within 24 hours prior to OR entry date and time.

- No - Patient did not receive a novel oral anticoagulant within 5 days prior to OR entry date and time.
- Unknown - Conflicting information in the medical record and/or with the patient/family or no information is available.

FAQ August 2017: Clarify which medications should be coded in this category. Answer: Confusion lies when the medications could be coded in any or all of the three categories, Factor Xa, Thrombin Inhibitors, or NOAC. Initially all three categories were included to differentiate medications that did not have antidotes. With more antidotes available, the three medications seem redundant. Capture the medication according to the manufacturer's category description. The only caveat to remember is that you should only code ONE of the three medications so as not to have it appear that the patient is receiving more than one.

SEQ. #: 1112
Long Name: Meds-Novel Oral Anticoagulant Discontinuation
Short Name: MedNOACDisc
Definition: Indicate the number of days prior to surgery Novel Oral Anticoagulant use was discontinued. If less than 24 hours, enter "0".

Intent/Clarification:

SEQ. #: 1121
Long Name: Meds-Thrombin Inhibitors Within 5 Days
Short Name: MedThromIn5Days
Definition: Indicate whether the patient has received Thrombin Inhibitors within 5 days preceding surgery.

Intent/Clarification:

- **Yes** - Capture those who are prescribed to take thrombin inhibitors within the 5 days preceding surgery and are presumed to be at a therapeutic level, within 24 hours preceding surgery (entry into the OR) - Do Not Include a one-time dose
- **No** – Patient did not receive a Thrombin Inhibitor medication within 5 days prior to OR entry date and time.
- **Contraindicated** - Documented evidence of contraindication: If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist
- **Unknown** – conflicting information in the medical record and/or with the patient/family or no information is available.

FAQ August 2017: Clarify which medications should be coded in this category. Answer: Confusion lies when the medications could be coded in any or all of three

categories, Factor Xa, Thrombin Inhibitors, or NOAC. Initially all three categories were included to differentiate medications that did not have antidotes. With more antidotes available, the three medications seem redundant. Capture the medication according to the manufacturer's category description. The only caveat to remember is that you should only code ONE of the three medications so as not to have it appear that the patient is receiving more than one.

SEQ. #: 1122
Long Name: Meds-Thrombin Inhibitors Discontinuation
Short Name: MedThromInDisc
Definition: Indicate the number of days prior to surgery Thrombin Inhibitor use was discontinued. If less than 24 hours, enter "0".

Intent/Clarification:

SEQ. #: 1125
Long Name: Meds-Thrombolytics Within 24 Hours
Short Name: MedThrom
Definition: Indicate whether the patient received thrombolytics within 24 hours preoperatively.

Intent/Clarification:
Thrombolytic (fibrinolytic) therapy is the use of drugs to break up or dissolve blood clots, which are the main cause of both heart attacks and stroke. It can predispose a patient to bleeding if given within 24 hours prior to surgery. There are three major classes of thrombolytic drugs: tissue plasminogen activator (tPA), streptokinase (SK), and urokinase (UK). This includes one-time doses.

- **Yes** - Capture those who received thrombolytics within 24 hours preceding of OR entry date and time.
- **No** – Patient did not receive thrombolytics within 24 hours preceding surgery.
- **ONLY CAPTURE DOSES GIVEN WITHIN 24 HOURS NOT 48 AS LISTED IN THE V2.9 DATA COLLECTION FORM.**

SEQ. #: 1130
Long Name: Meds-Inotropes Within 48 Hours
Short Name: MedInotr
Definition: Indicate whether the patient received IV inotropic agents within 48 hours preceding surgery.

Intent/Clarification:
Positive Inotropic agent actions act at the cellular level, increasing intracellular calcium.

Cardiovascular effects range from increasing or decreasing the heart rate, increasing force of the heart muscle contraction, peripheral or extremity arterial or venous constriction. The degree to which these systems are affected are dose dependent. As well, these drugs may lose their cardiovascular effect causing a negative response at higher dosing levels. Initiation of these drugs typically is in response to some hemodynamic instability in the patient.
This field is in the risk models. Use of inotropic agents preoperatively is associated with increased risk of mortality and morbidity- including renal failure, prolonged vent, reoperation, and length of stay.

- **Yes** - Capture those who received IV inotropic agent(s), within 48 hours preceding OR entry date and time.
- N**o** – Patient did not receive Inotropes within 48hours preceding surgery.

SEQ. #: 1135
Long Name: Meds-Lipid Lowering Within 24 Hours
Short Name: MedLipid
Definition: Indicate whether or not the patient received lipid lowering medication within 24 hours preceding surgery.

Intent/Clarification:
Capture medications administered to lower the total cholesterol, LDL, HDL or triglyceride levels. Patient may be on prescribed medication and have normal cholesterol values, these patients should still be coded as ““Yes,”” for dyslipidemia.

- **Yes** - Capture those who are prescribed to take lipid-lowering medication on a regular schedule and are presumed to be at a therapeutic level 24 hours preceding surgery (entry into the OR) - Do Not Include a one-time dose
- **No** – Patient did not receive a lipid lowering medication within 24 hours preceding surgery
- **Contraindicated** - Documented evidence of contraindication: If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist
- **Unknown** – Conflicting information in the medical record and/or with the patient/family or no information is available.

FAQ February 2018: A patient with familial hypercholesterolemia enters the OR for an elective CAB. Medications taken on the morning of surgery include Lopressor, Lipitor and Repatha. How are these medications captured? There is particular discussion related to Repatha timing.
Answer: Code non-statin.

FAQ August 2019 - The patient was on red rice yeast prior to surgery, can this be abstracted as ‘YES’ for meds-lipid lowering within 24 hours?
Answer - If the patient is prescribed red rice yeast as a lipid lowering agent, you may code this as a non-statin/other agent. Caputure red rice yeast as a non-statin/other.

FAQ Nov 2019 - Patient is on Repatha (no other lipid lowering meds) with last dose 9 days prior to surgery. Should 1135 lipid lowering medication be answered as yes since they are taking it appropriately, once every 2 weeks?
Answer - Code Yes to lipid lowering medication in this scenario since they are taking it appropriately, once every 2 weeks, and should be therapeutic.

SEQ. #: 1141
Long Name: Meds-Lipid Lowering-Medication Type
Short Name: MedLipType
Definition: Indicate the type of lipid lowering medication the patient received within 24 hours preceding surgery.

Intent/Clarification:
- Statin
- Statin + Other
- Non-Statin/Other

FAQ February 2018: A patient with familial hypercholesterolemia enters the OR for an elective CAB. Medications taken on the morning of surgery include Lopressor, Lipitor and Repatha. How are these medications captured? There is particular discussion related to Repatha timing.
Answer: Code Statin + Other.

FAQ August 2019 - The patient was on red rice prior to surgery, can this be abstracted as yes for meds-lipid lowering within 24 hours?
Answer - If the patient is prescribed red rice yeast as a lipid lowering agent, you may code this as a non-statin/other agent. Caputure red rice yeast as a non-statin/other.

SEQ. #: 1143
Long Name: Meds-Steroids Within 24 Hours
Short Name: MedSter
Definition: Indicate whether the patient was taking steroids within 24 hours of surgery. This does not include a one-time dose related to prophylaxis therapy (i.e. for IV dye exposure during cath procedure or surgery pre-induction period). Non-systemic medications are not included in this category (i.e., nasal sprays, topical creams).

Intent/Clarification:
Systemic delivery only. Non-systemic delivery is not included in this data element. Non-systemic delivery includes topical creams, nasal sprays, inhalers or ophthalmic or otic drops.
Do not include one-time systemic dose as part of clinical pathway guideline or procedure/surgical preparatory order.
- **Yes** - Capture those who are prescribed to take **systemic steroids** within 24

hours preceding surgery and are presumed to be at a therapeutic level within 24 hours preceding OR entry date and time - Do Not Include a one-time dose.

- **No** – Patient did not receive a systemic steroids within 24 hours preceding surgery
- **Contraindicated** - Documented evidence of contraindication: If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist -BH
- **Unknown** – Conflicting information in the medical record and/or with the patient/family or no information is available

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Hemodynamics/Cath/Echo

****General Information: All Hemodynamic values for ejection fraction, pulmonary artery pressure, valve insufficiency and stenosis etc should be captured from studies done ~~closest to the time of surgery~~ as described below October 2019 Update. Any test that provides hemodynamic measurements may be used.**

Capturing of Hemodynamic/Cath/ECHO results:

Effective October 2019 Source Document Priority for Coding:

1. **Pre-op results captured from objective studies (cath, echo, nuclear study, etc..) closest and prior to OR Entry, within 6 months of OR date (while it is preferred that the cath be done within 6 months, they can be used for up to one year).**
2. **Use the OR pre-incision results if pre-incision results change the planned surgery. For example, if pre-op MV regurgitation was mild and pre-incision MV regurgitation is severe and the surgeon decides to do a MV Repair – code severe for MV regurgitation.**
3. **Use the OR pre-incision results if no other values are available or if the valves were not visualized on any of the pre- operative exams regardless if planned surgery was changed or not.**
4. **If no other results are available, then Surgeon documentation should be used.**

~~**November 2018 Update** - Pre-op results closet and prior to OR Entry, within 6 months of OR date, unless pre-incision results change the planned surgery. Use the OR pre-incision results if no other values are available or if the valves were not visualized on any of the pre-~~
~~operative echos regardless if planned surgery was changed or not.~~
~~Multiple results may be used to obtain hemodynamic values with the closest and prior to OR Entry result required. Any test that provides hemodynamic measurements may be used.~~

Example:
Echo from 9/21 has all needed results – abstract these results

Echo from 9/30 has updated EF but no other results – change EF result to match update result
10/1 Pre incision TEE has updated MV degree of insufficiency and planned surgery was changed related to findings on the TEE – Abstract ONLY the MV degree of insufficiency from these results since the planned surgery was changed as a result of this finding.

If Audited be sure to include all of the Cath, Echo, TEE, and TTE results from 6 months pre procedure.

FAQ June 2019: If the patient's valve is not visualized on a preoperative echo but visualized on the intraoperative pre-incision echo, may I code those values.
Answer: Yes, if the valve was not visualized on the pre-op echo but was visualized on the intra-op pre-incision echo then you may use the intra-op pre-incision echo for the value of that valve only, not for all the valves if they were visualized on the pre-op echo.

FAQ June 2019: If valve regurgitation is dictated from echocardiogram as "NO SIGNIFICANT REGURGITATION" do we code as "None" or "Trivial/Trace"?
Answer: Code none

FAQ June 2019: Can I use this is for all valve insufficiency elements in version 2.9:
+1 = trace/trivial, +2 = mild, +3 = moderate, and +4 = severe?
Answer: You can not assume that +1 equals trace etc... Please work with your echo dept to develop a protocol that clearly defines what the scoring system equals in terms of descriptive terminology. Have this protocol available in the event of an audit.

FAQ August 2019 - If the pre-op echo reports 'structurally normal valve'. Is this valve considered normal with no disease?
Answer - This documentation implies that the valve is normal without disease or regurgitation.

FAQ Nov 2019 - Patient has a cath 14 months before AVR that shows 1 vessel RCA CTO. No cath is repeated within 1 year. I know I have to code NO to Cath performed since > 1 year, but can I say YES to Seq 1155 CAD known and Yes to Seq 1170 Number of diseased vessels since I have cath report in chart and once diseased always diseased? Should I code Seq 1175 Native Stenosis known as NO since the cath is > 1 year old?
Answer - In this scenario, code YES to Seq 1155 CAD known. Code 1 vessel to Seq 1170 and in Seq 1175 in the cornary Grid code 100% for RCA since it was a CTO.

FAQ Nov 2019 - What is the correct value to code when the EF is listed as > 55%?
Answer - Capture as 56%.

FAQ Nov 2019 - What is the correct value to code when the EF is listed as < 15%.
Answer – Capture as 14%.

FAQ Nov 2019 - What value do we code when the conclusion for EF states "normal" and the left heart portion of the report says 60-70% by visual estimate. Do we code 60% for "normal" verbiage or 65% since we have a numerical range?
Answer - Use the numerical values first in this scenario capture as 65%. Use descriptive terms when you have no numerical values.

FAQ Nov 2019 - From the echocardiogram, should we take the dimensions from the 2D Mode or the M mode?
Answer - Use the 2D measurements as priority source when you have values from both modes.

FAQ Nov 2019 - If echo reports a RVSP of <35 what would I enter for sequence 1575?
Answer - Capture as 34, in addition if it is documented as > 35, then enter 36.

FAQ Nov 2019 - If there is ONLY ramus disease, would that count as 1V disease?
Answer – Yes, the Ramus should count as a single vessel disease vessel on the left side.

SEQ. #: 1145
Long Name: Cardiac Catheterization Performed
Short Name: CarCathPer
Definition: Indicate whether cardiac catheterization and/or CT angio was performed.

Intent/Clarification:
Diagnostic coronary angiography is defined as the passage of a catheter into the aortic root or other great vessels for the purpose of angiography of the native coronary arteries or bypass grafts supplying native coronary arteries.

~~Capture procedures done within 6 months prior to surgery~~. **While it is preferred that the cath be done within 6 months, they can be used for up to one year**. Do not include stand-alone right heart catheterization in this field; include coronary angiogram either done with or without right and/or left heart pressures.

SEQ. #: 1150
Long Name: Cardiac Catheterization Date
Short Name: CarCathDt
Definition: Indicate the date cardiac catheterization was performed.

Intent/Clarification:
If more than one was performed, capture the date closest to surgery. Do not include stand-alone RHC (right heart caths) in this field. While it is preferred that the cath be done within 6 months, they can be used for up to one year.

Required date format: mm/dd/yyyy.

FAQ Sept 2019 - If the only documentation indicates cardiac catheterization was performed on May 2019, with no exact day. How should I code the date?

Answer - If month and year are known code 5/1/19. If only the year is known Code 01/01/Year. Leave Blank if you have no information on the month, day, or year of the cath.

SEQ. #: 1155
Long Name: Coronary Anatomy/Disease Known
Short Name: CorAnatDisKnown
Definition: Indicate whether coronary artery anatomy and/or disease is documented and available prior to surgery.

Intent/Clarification:
Indicated if coronary artery anatomy and/or disease is documented **prior** to surgery**.** Sometimes the results are known and verbally communicated to the surgeon, but the Cath Lab Report is not documented in the medical record until after surgery has started; this is particularly true for emergent cases. This can be captured even if dictation was not completed until after the surgery. Results dictated following the procedure may be used.

SEQ. #: 1160
Long Name: Dominance
Short Name: Dominance
Definition: Indicate whether coronary artery dominance is documented prior to surgery.

Intent/Clarification:

- **Left** - The posterior descending artery (PDA) arises from the left circumflex artery.
- **Right** - The posterior descending artery (PDA) arises from the right coronary artery.
- **Co-dominant** - The right coronary artery supplies the posterior descending artery (PDA) and the circumflex supplies the posterolateral artery (**PLA or PLB**). Thus, there is approximately equal contribution to the inferior surface of the left ventricle from both the left circumflex and right coronary arteries.
- **Not documented**

SEQ. #: 1165
Long Name: Source(s) Used To Quantify Stenosis
Short Name: StenSource
Definition: Indicate source or sources used to quantify coronary artery stenosis.

Intent/Clarification:

- Angiogram
- CT
- IVUS
- Progress/OP Note

- Other
- Multiple

Oct 2019 - ~~If multiple sources are available, select surgeon "s documentation of the degree of stenosis. This is the degree of stenosis the surgeon used to develop the operative plan~~.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

FAQ August 2017: Should IVUS results be used for the LM only or can it be used to quantify disease in any artery?
Answer: IVUS can be used to quantify the stenosis in any artery.

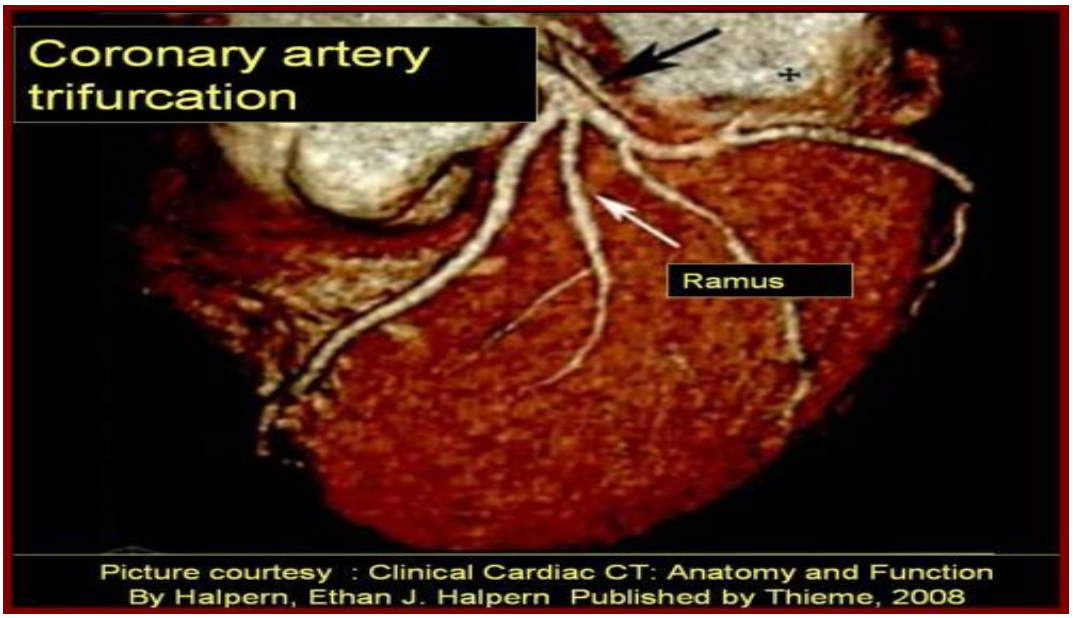
SEQ. #: 1170
Long Name: Num Dis Vessels
Short Name: NumDisV
Definition: Indicate the number of diseased major native coronary vessel systems: LAD system, Circumflex system, and/or Right system with ≥ 50% narrowing of any vessel preoperatively.
NOTE: Left main disease (≥ 50%) is counted as TWO vessels (LAD and Circumflex, which may include a Ramus Intermedius). For example, left main and RCA would count as three total.

A vessel that has ever been considered diseased, should always be considered diseased.

Intent/Clarification:
There are three (3) major coronary systems; Left Anterior Descending (LAD), Circumflex and Right Coronary System (RCA). Each system has "branches" that are considered part of their corresponding system. Vessel stenosis or narrowing is measured in percentages (%), most often expressed as a range of "stenosis".

The Ramus Intermedius is a vessel that can function as part of the LAD system or as part of the Circumflex system depending on its course. If the Ramus is part of the LAD system and functions much like a diagonal, code 1 vessel disease. If the Ramus is part of the Circumflex system and functions much like an obtuse marginal AND the patient has LAD disease, code 2 vessel disease.

If there is any confusion about the distribution of the Ramus as it relates to the LAD or Circumflex coronary artery, consult with your surgeon.



The number of diseased vessels may not necessarily match the number of bypass grafts performed.

Left main disease (≥ 50%) is counted as TWO vessels (LAD and Circumflex). For example, left main ≥50% and RCA would count as a total of three.

If bypass is performed for an anomalous, kinked or damaged vessel, or myocardial bridging this vessel is counted as one diseased or abnormal vessel.

Code the number of vessels diseased only for those vessels that have a stenosis greater than or equal to 50%.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1175
Long Name: Percent Native Artery Stenosis Known
Short Name: PctStenKnown
Definition: Indicate whether the percent stenosis of native coronary stenosis is known.

Intent/Clarification:
A patient may never have more than three vessel disease. Once a coronary artery is found to be diseased, for the purposes of the STS, the vessel is considered diseased for the remainder of the patient's life and all subsequent reoperations regardless of previous interventions.

The Coronary section is arranged in a grid format. Each column header has a ""Yes,"/no" field. If any column has a ""Yes,""answer, at least one vessel below must have documentation. If the medical record has conflicting reports on the vessel name, for

example a vessel is described as OM 1 by one provider and the same vessel is referred to as the Ramus by another provider, use the surgeon “s description of the lesion location.
Each Column with a “Yes,” response below must have documentation on at least one Vessel.

Update Nov 2019 - Ostial disease can be considered proximal disease in a coronary artery.

Update Nov 2019 - The PLB artery can also be known as the PLA artery.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

Coronary	Native Artery % Stenosis Known: PctStenKnown (1175) ☐ Yes ☐ No (If yes↓)	Graft(s) Graft(s) Present: GraftsPrsnt (1180) ☐ Yes ☐ No (If yes↓)	Stent(s) Stent(s) Present: StentPrsnt (1185) ☐ Yes ☐ No (If yes↓)	Fractional Flow Reserve (FFR) performed: FFRPerf (1190) ☐Yes ☐No (If yes↓)	Instantaneous wave-free ratio (iFR) performed: IFRPerf (1191) ☐Yes ☐No(If yes↓)

SEQ. #: 1180
Long Name: Graft(s) Present
Short Name: GraftsPrsnt
Definition: Indicate whether one or more coronary artery bypass grafts are present prior to this surgery.

Intent/Clarification:
- **Yes** – A previous coronary bypass graft is documented in the medical record.
- **No** – No previous graft documented in the medical record.

SEQ. #: 1185
Long Name: Stent(s) Present
Short Name: StentPrsnt
Definition: Indicate whether one or more intracoronary stents are present prior to this surgery.

Intent/Clarification:
- **Yes** – a previously placed coronary artery stent is documented in the medical record.
- **No** – no previous coronary artery stent documented in the medical record.

FAQ October 2019 - If there is documentation that the patient had a previous coronary stent; however, no documentation about which vessel has the stent how should we abstract this data?
Answer - In the scenario you described, code Yes to history of previous PCI and stent in Seq 775 and 779 and in the Coronary GRID code Yes to stent present and leave all selections blank since you do not know what vessel was stented in the past. If you knew the vessel, you could code not documented to that stent in the grid. In this situation you will receive a consistency error, however, the error consistency error is sort of like an outlier report it is asking you to double check your data. If you have and the data entered into the database is correct then, ignore the consistency error. This will be addressed in the upgrade.

SEQ. #: 1190
Long Name: Fractional Flow Reserve (FFR) Performed
Short Name: FFRPerf
Definition: Indicate whether Fractional Flow Reserve (FFR) was performed.

Intent/Clarification:
Fractional flow reserve (FFR) is a technique used in coronary catheterization to measure pressure differences across a coronary artery stenosis (narrowing, usually due to atherosclerosis) to determine the likelihood that the stenosis impedes oxygen delivery to the heart muscle (myocardial ischemia).
Fractional flow reserve is defined as the pressure behind (distal to) a stenosis relative to the pressure before the stenosis. The result is an absolute number; an FFR of 0.80 means that a given stenosis causes a 20% drop in blood pressure. In other words, FFR expresses the maximal flow down a vessel in the presence of a stenosis compared to the maximal flow in the hypothetical absence of the stenosis.

- **Yes** – a vessel that has a Fractional Flow Reserve documented in the medical record. If the value from the FFR is higher than the cardiac catheterization; code from the FFR.
- **No** – a vessel that has no Fractional Flow Reserve documented in the medical record.

SEQ. #: 1191
Long Name: Instantaneous Wave-Free Ration (iFR) Performed
Short Name: IFRPerf
Definition: Indicate whether Instantaneous wave-free ration (iFR) was performed.

Intent/Clarification:
Instantaneous wave-free ratio is performed using high fidelity pressure wires that are passed distal to the coronary stenosis. iFR isolates a specific period in diastole, called the wave-free period, and uses the ratio of distal coronary pressure (Pd) to the pressure observed in the aorta (Pa) over this period. During this wave-free period, the competing forces (waves) that affect coronary flow are quiescent meaning pressure and flow are linearly related as compared to the rest of the cardiac cycle.

When stenoses are flow limiting, Pd and Pa pressures over the wave-free period diverge; a normal ratio is 1.0 and iFR values of below 0.90 suggest flow limitation. iFR can be calculated using dedicated consoles available for medical use and typically uses an average over 5 heart beats but can be performed using a single heartbeat. iFR is measured at rest, without the need for pharmacological vasodilators or stressors and compares well to other invasive and non-invasive markers of ischemia or flow limitation.

- **Yes** – a vessel that has an Instantaneous Wave-Free Ration documented in the medical record.
- **No** – a vessel that has no Instantaneous Wave-Free Ration documented in the medical record.

GENERAL STATEMENT (10/2017): The following descriptive terms and associated percentages can be used to quantify the % stenosis in any coronary artery.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

Stenosis ≥50%		
▪ Borderline obstructive/obstruction	▪ Borderline disease	50%
▪ Moderate disease	▪ Intermediate disease	
Stenosis ≥70%		
▪ Significant	▪ Obstructive disease	70%
▪ Flow-limiting		
Stenosis ≥ 90%		
▪ Critical	▪ Subtotaled	90%
▪ Severe	▪ Tight	
▪ Occlusive		
Stenosis 100%		
▪ Total occlusion	▪ Chronic Total Occlusion (CTO)	100%
▪ Occluded		

*Code the highest value when a range is document (Example: if 'mild to moderate' is documented, 50% will be coded)

Update Nov 2019 - Ostial disease can be considered proximal disease in a coronary artery.

Update Nov 2019 - The PLB artery can also be known as the PLA artery.

SEQ. #: 1195
Long Name: Percent Stenosis - Left Main
Short Name: PctStenLMain
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥50%
If "Native Artery % Stenosis Known" (field 1175) is marked "Yes," at least one vessel must

have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank.

In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**
Stenosis at the ostia of the LAD and circumflex is not considered left main disease for the purpose of Society of Thoracic Surgeons (STS). **Stenosis needs to be in the left main artery.**

If the cath report states 40% disease, but the Intravascular Ultrasound (IVUS) shows 70%, code 70%.

Oct 2019 - ~~If multiple sources are available, select surgeon "s documentation of the degree of stenosis. This is the degree of stenosis the surgeon used to develop the operative plan.~~

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer: When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

FAQ October 2017: How would bilateral spontaneous coronary dissections from the ostium of both the Left and Right main coronary arteries to the distal end of the coronary tree be coded.
Answer: Code 100% for both LM and RCA.

SEQ. #: 1200
Long Name: Graft Stenosis - Left Main
Short Name: GrftStenLMain
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If "Graft Present" (field 1180) is marked ""Yes,"" at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis documented code patent. If no documentation of graft stenosis, code not documented.

- Patent
- Stenosis ≥ 50%

- 100% occlusion
- Not documented

SEQ. #: 1205
Long Name: Stent Stenosis - Left Main
Short Name: StntStenLMain
Definition: Indicate the highest percent of stent stenosis at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of in-stent stenosis if present.
If no documentation of in-stent stenosis, leave blank.
If "Stent Present" (field 1185) is marked ""Yes,"" at least one vessel must have a stent present marked to avoid a missing data flag in the DQR.
If no documentation of in-stenosis, code not documented.

- Patent
- Stenosis ≥50%
- Not documented

SEQ. #: 1210
Long Name: Fractional Flow Reserve (FFR) - Left Main
Short Name: FFRLMain
Definition: Indicate the FFR in this vessel.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when "FFR" (field 1190) is marked ""Yes,"" and has been performed and documented in at least one vessel.
If there is no FFR reported for this vessel, leave blank. Choose the **lowest value** documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1212
Long Name: Instantaneous Wave-Free Ration (iFR) - Left Main
Short Name: IFRLMain
Definition: Indicate the iFR in this vessel at the time of this surgery.
Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest value** documented in the medical record. iFR values of below 0.90 suggest flow limitation. Choose the lowest value documented in the medical record.

SEQ. #: 1215
Long Name: Percent Stenosis - Proximal LAD
Short Name: PctStenProxLAD
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥50%
If "Native Artery % Stenosis Known" (field 1175) is marked ""Yes,"" at least one vessel must have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank.
In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%. Update Nov 2019 - Ostial disease can be considered proximal disease in a coronary artery.**

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer**:** When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

FAQ October 2018:
General Statement:
The mid LAD is considered to be the LAD starting at the 1st diagonal vessel and/or at the first septal perforator.

SEQ. #: 1220
Long Name: Graft Stenosis - Proximal LAD
Short Name: GrftStenProxLAD
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If "Graft Present" (field 1180) is marked ""Yes,"" at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, code not documented.

- Patent
- Stenosis ≥ 50%

- 100% Occlusion
- Not documented

SEQ. #: 1225
Long Name: Stent Stenosis - Proximal LAD
Short Name: StntStenProxLAD
Definition: Indicate the highest percent of stent stenosis at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of in-stent stenosis is present.
If no documentation of in-stent stenosis, leave blank.
If “Stent Present” (field 1185) is marked ““Yes,”” at least one vessel must have a stent present marked to avoid a missing data flag in the DQR.
If no documentation of in- stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- Not documented

SEQ. #: 1230
Long Name: Fractional Flow Reserve (FFR) - Proximal LAD
Short Name: FFRProxLAD
Definition: Indicate the FFR in this vessel.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is ““Yes,”” and has been performed and documented in at least one vessel. If there is no FFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1232
Long Name: Instantaneous Wave-Free Ration (iFR) - Proximal LAD
Short Name: IFRProxLAD
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation.

SEQ. #: 1235
Long Name: Percent Stenosis - Mid LAD
Short Name: PctStenMidLAD
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥ 50%
If "Native Artery % Stenosis Known"(1175) is marked "Yes," at least one vessel must have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank
In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer**:** When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

FAQ October 2018:
General Statement:
The mid LAD is considered to be the LAD starting at the 1st diagonal vessel and/or at the first septal perforator.

SEQ. #: 1240
Long Name: Graft Stenosis - Mid LAD
Short Name: GrftStenMidLAD
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If "Graft Present" (field 1180) is marked "Yes," at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent

- Stenosis ≥ 50%
- 100% Occlusion
- Not documented

SEQ. #: 1245
Long Name: Stent Stenosis - Mid LAD
Short Name: StntStenMidLAD
Definition: Indicate the highest percent of stent stenosis at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of in-stent stenosis is present.
If no documentation of in-stent stenosis, leave blank.
If "Stent Present" (field 1185) is marked "Yes," at least one vessel must have a stent present marked to avoid a missing data flag in the DQR.
If no documentation of in- stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- Not documented

SEQ. #: 1250
Long Name: Fractional Flow Reserve (FFR) - Mid LAD
Short Name: FFRMidLAD
Definition: Indicate the FFR in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is "Yes," and has been performed and documented in at least one vessel. If there is no FFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1252
Long Name: Instantaneous Wave-Free Ration (iFR) - Mid LAD
Short Name: IFRMidLAD
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation.

SEQ. #: 1255
Long Name: Percent Stenosis - Distal LAD
Short Name: PctStenDistLAD
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥ 50%
If "Native Artery % Stenosis Known" (field 1175) is marked "Yes," at least one vessel must have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank
In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer**:** When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

SEQ. #: 1260
Long Name: Graft Stenosis - Distal LAD
Short Name: GrftStenDistLAD
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If "Graft Present" (field 1180) is marked "Yes," at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- 100% Occlusion
- Not documented

SEQ. #: 1265
Long Name: Stent Stenosis - Distal LAD
Short Name: StntStenDistLAD
Definition: Indicate the highest percent of stent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of in-stent stenosis is present.
If no documentation of in-stent stenosis, leave blank.
If "Stent Present" (field 1185) is marked "Yes," at least one vessel must have a stent present marked to avoid a missing data flag in the DQR.
If no documentation of in- stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- Not documented

SEQ. #: 1270
Long Name: Fractional Flow Reserve (FFR) - Distal LAD
Short Name: FFRDistLAD
Definition: Indicate the FFR in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is "Yes," and has been performed and documented in at least one vessel. If there is no FFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1272
Long Name: Instantaneous Wave-Free Ration (iFR) - Distal LAD
Short Name: IFRDistLAD
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation.

SEQ. #: 1275
Long Name: Percent Stenosis - Diagonal 1
Short Name: PctStenDiag1
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥ 50%
If "Native Artery % Stenosis Known" (field 1175) is marked "Yes," at least one vessel must have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank
In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer: When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

SEQ. #: 1280
Long Name: Graft Stenosis - Diagonal 1
Short Name: GrftStenDiag1
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If "Graft Present" (field 1180) is marked "Yes," at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- 100% Occlusion
- Not documented

SEQ. #: 1285

Long Name: Stent Stenosis - Diagonal 1
Short Name: StntStenDiag1
Definition: Indicate the highest percent of stent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
If no documentation of in-stent stenosis, leave blank.
The intent is to capture the degree of in-stent stenosis is present.
If "Stent Present" (field 1185) is marked "Yes," at least one vessel must have a stent present marked to avoid a missing data flag in the DQR.
If no documentation of in- stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- Not documented

SEQ. #: 1290
Long Name: Fractional Flow Reserve (FFR) - Diagonal 1
Short Name: FFRDiag1
Definition: Indicate the FFR in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is "Yes," and has been performed and documented in at least one vessel. If there is no FFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1292
Long Name: Instantaneous Wave-Free Ration (iFR) - Diagonal 1
Short Name: IFRDiag1
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation.

SEQ. #: 1295
Long Name: Percent Stenosis - Diagonal 2
Short Name: PctStenDiag2

Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥ 50%
If "Native Artery % Stenosis Known" (field 1175) is marked "Yes," at least one vessel must have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank
In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer**:** When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

SEQ. #: 1300
Long Name: Graft Stenosis - Diagonal 2
Short Name: GrftStenDiag2
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If "Graft Present" (field 1180) is marked "Yes," at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- 100% Occlusion
- Not documented

SEQ. #: 1305
Long Name: Stent Stenosis - Diagonal 2
Short Name: StntStenDiag2
Definition: Indicate the highest percent of stent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of in-stent stenosis is present.
If no documentation of in-stent stenosis, leave blank.
If "Stent Present" (field 1185) is marked "Yes," at least one vessel must have a stent present marked to avoid a missing data flag in the DQR.
If no documentation of in- stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- Not documented

SEQ. #: 1310
Long Name: Fractional Flow Reserve (FFR) - Diagonal 2
Short Name: FFRDiag2
Definition: Indicate the FFR in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is "Yes," and has been performed and documented in at least one vessel.
If there is no FFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1312
Long Name: Instantaneous Wave-Free Ration (iFR) - Diagonal 2
Short Name: IFRDiag2
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation.

SEQ. #: 1315
Long Name: Percent Stenosis - Diagonal 3
Short Name: PctStenDiag3
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥ 50%
If "Native Artery % Stenosis Known" (field 1175) is marked "Yes," at least one vessel must

have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank
In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer: When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

SEQ. #: 1320
Long Name: Graft Stenosis - Diagonal 3
Short Name: GrftStenDiag3
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If “Graft Present” (field 1180) is marked “Yes,” at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- 100% Occlusion
- Not documented

SEQ. #: 1325
Long Name: Stent Stenosis - Diagonal 3
Short Name: StntStenDiag3
Definition: Indicate the highest percent of stent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of in-stent stenosis is present.
If no documentation of in-stent stenosis, leave blank.
If “Stent Present” (field 1185) is marked “Yes,” at least one vessel must have a stent

present marked to avoid a missing data flag in the DQR.
If no documentation of in-stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- Not documented

SEQ. #: 1330
Long Name: Fractional Flow Reserve (FFR) - Diagonal 3
Short Name: FFRDiag3
Definition: Indicate the FFR in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is "Yes," and has been performed and documented in at least one vessel.
If there is no FFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1332
Long Name: Instantaneous Wave-Free Ration (iFR) - Diagonal 3
Short Name: IFRDiag3
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation.

SEQ. #: 1335
Long Name: Percent Stenosis - Circumflex
Short Name: PctStenCircflx
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥ 50%
If "Native Artery % Stenosis Known" (field 1175) is marked "Yes," at least one vessel must have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank.

In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer: When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

SEQ. #: 1340
Long Name: Graft Stenosis - Circumflex
Short Name: GrftStenCircflx
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If “Graft Present” (field 1180) is marked “Yes,” at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- 100% Occlusion
- Not documented

SEQ. #: 1345
Long Name: Stent Stenosis - Circumflex
Short Name: StntStenCircflx
Definition: Indicate the highest percent of stent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If “Graft Present” (field 1180) is marked “Yes,” at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- 100% Occlusion
- Not documented

SEQ. #: 1350
Long Name: Fractional Flow Reserve (FFR) - Circumflex
Short Name: FFRCircflx
Definition: Indicate the FFR in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is "Yes," and has been performed and documented in at least one vessel.
If there is no FFR reported for this vessel, leave blank. Choose the lowest value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1352
Long Name: Instantaneous Wave-Free Ration (iFR) - Circumflex
Short Name: IFRCircflx
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation.

SEQ. #: 1355
Long Name: Percent Stenosis - Obtuse Marginal 1
Short Name: PctStenOM1
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥ 50%
If "Native Artery % Stenosis Known" (field 1175) is marked "Yes," at least one vessel must have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank
In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer: When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

SEQ. #: 1360
Long Name: Graft Stenosis - Obtuse Marginal 1
Short Name: GrftStenOM1
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If “Graft Present” (field 1180) is marked “Yes,” at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- 100% Occlusion
- Not documented

SEQ. #: 1365
Long Name: Stent Stenosis - Obtuse Marginal 1
Short Name: StntStenOM1
Definition: Indicate the highest percent of stent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of in-stent stenosis is present.
If no documentation of in-stent stenosis, leave blank.
If “Stent Present” (field 1185) is marked “Yes,” at least one vessel must have a stent present marked to avoid a missing data flag in the DQR.
If no documentation of in- stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- Not documented

SEQ. #: 1370
Long Name: Fractional Flow Reserve (FFR) - Obtuse Marginal 1
Short Name: FFROM1
Definition: Indicate the FFR in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is "Yes," and has been performed and documented in at least one vessel.
If there is no FFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1372
Long Name: Instantaneous Wave-Free Ration (iFR) - Obtuse Marginal 1
Short Name: IFROM1
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation.

SEQ. #: 1375
Long Name: Percent Stenosis - Obtuse Marginal 2
Short Name: PctStenOM2
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥ 50%
If "Native Artery % Stenosis Known" (field 1175) is marked "Yes," at least one vessel must have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank
In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?

Answer: When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

SEQ. #: 1380
Long Name: Graft Stenosis - Obtuse Marginal 2
Short Name: GrftStenOM2
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If “Graft Present” (field 1180) is marked “Yes,” at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- 100% Occlusion
- Not documented

SEQ. #: 1385
Long Name: Stent Stenosis - Obtuse Marginal 2
Short Name: StntStenOM2
Definition: Indicate the highest percent of stent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of in-stent stenosis is present.
If no documentation of in-stent stenosis, leave blank.
If “Stent Present” (field 1185) is marked “Yes,” at least one vessel must have a stent present marked to avoid a missing data flag in the DQR.
If no documentation of in- stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- Not documented

SEQ. #: 1390
Long Name: Fractional Flow Reserve (FFR) - Obtuse Marginal 2

Short Name: FFROM2
Definition: Indicate the FFR in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is "Yes," and has been performed and documented in at least one vessel.
If there is no FFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1392
Long Name: Instantaneous Wave-Free Ration (iFR) - Obtuse Marginal 2
Short Name: IFROM2
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation.

SEQ. #: 1395
Long Name: Percent Stenosis - Obtuse Marginal 3
Short Name: PctStenOM3
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥ 50%
If "Native Artery % Stenosis Known" (field 1175) is marked "Yes," at least one vessel must have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank
In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer: When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

SEQ. #: 1400
Long Name: Graft Stenosis - Obtuse Marginal 3
Short Name: GrftStenOM3
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If “Graft Present” (field 1180) is marked “Yes,” at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- 100% Occlusion
- Not documented

SEQ. #: 1405
Long Name: Stent Stenosis - Obtuse Marginal 3
Short Name: StntStenOM3
Definition: Indicate the highest percent of stent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
If no documentation of in-stent stenosis, leave blank.
The intent is to capture the degree of in-stent stenosis is present.
If “Stent Present” (field 1185) is marked “Yes,” at least one vessel must have a stent present marked to avoid a missing data flag in the DQR.
If no documentation of in- stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- Not documented

SEQ. #: 1410
Long Name: Fractional Flow Reserve (FFR) - Obtuse Marginal 3
Short Name: FFROM3
Definition: Indicate the FFR in this vessel at the time of this surgery.

Intent/Clarification:

The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is “Yes,” and has been performed and documented in at least one vessel. If there is no FFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1412
Long Name: Instantaneous Wave-Free Ration (iFR) - Obtuse Marginal 3
Short Name: IFROM3
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation.

SEQ. #: 1415
Long Name: Percent Stenosis - Ramus
Short Name: PctStenRamus
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥ 50%
If “Native Artery % Stenosis Known” (field 1175) is marked “Yes,” at least one vessel must have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank
In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer: When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

SEQ. #: 1420
Long Name: Graft Stenosis - Ramus
Short Name: GrftStenRamus
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If "Graft Present" (field 1180) is marked "Yes," at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- 100% Occlusion
- Not documented

SEQ. #: 1425
Long Name: Stent Stenosis - Ramus
Short Name: StntStenRamus
Definition: Indicate the highest percent of stent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of in-stent stenosis is present.
If no documentation of in-stent stenosis, leave blank.
If "Stent Present" (field 1185) is marked "Yes," at least one vessel must have a stent present marked to avoid a missing data flag in the DQR.
If no documentation of in- stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- Not documented

SEQ. #: 1430
Long Name: Fractional Flow Reserve (FFR) - Ramus
Short Name: FFRRamus
Definition: Indicate the FFR in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is "Yes," and has been performed and documented in at least one vessel.
If there is no FFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1432
Long Name: Instantaneous Wave-Free Ration (iFR) - Ramus
Short Name: IFRRamus
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation.
If there is no iFR reported for this vessel, leave blank. Choose the lowest value documented in the medical record. iFR values of below 0.90 suggest flow limitation.

SEQ. #: 1435
Long Name: Percent Stenosis - RCA
Short Name: PctStenRCA
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥ 50%
If "Native Artery % Stenosis Known" (field 1175) is marked "Yes," at least one vessel must have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank.
In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**
Update Nov 2019- The right posterior atrioventricular segment (PAV or rPAV) and should be captured as the RCA in the Database.

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer: When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

FAQ October 2017: How would bilateral spontaneous coronary dissections from the ostium of both the Left and Right main coronary arteries to the distal end of the coronary tree be coded.
Answer: Code 100% for both LM and RCA.

SEQ. #: 1440
Long Name: Graft Stenosis - RCA
Short Name: GrftStenRCA
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If "Graft Present" (field 1180) is marked "Yes," at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- 100% Occlusion
- Not documented

SEQ. #: 1445
Long Name: Stent Stenosis - RCA
Short Name: StntStenRCA
Definition: Indicate the highest percent of stent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
If no documentation of in-stent stenosis, leave blank.
The intent is to capture the degree of in-stent stenosis is present.
If "Stent Present" (field 1185) is marked "Yes," at least one vessel must have a stent present marked to avoid a missing data flag in the DQR.
If no documentation of in- stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- Not documented

SEQ. #: 1450
Long Name: Fractional Flow Reserve (FFR) - RCA
Short Name: FFRRCA
Definition: Indicate the FFR in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is "Yes," and has been performed and documented in at least one vessel.

If there is no FFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1452
Long Name: Instantaneous Wave-Free Ration (iFR) - RCA
Short Name: IFRRCA
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation.

SEQ. #: 1455
Long Name: Percent Stenosis - Acute Marginal (AM)
Short Name: PctStenAM
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥ 50%
If "Native Artery % Stenosis Known" (field 1175) is marked "Yes," at least one vessel must have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank
In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer: When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

SEQ. #: 1460
Long Name: Graft Stenosis - Acute Marginal (AM)

Short Name: GrftStenAM
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If "Graft Present" (field 1180) is marked "Yes," at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- 100% Occlusion
- Not documented

SEQ. #: 1465
Long Name: Stent Stenosis - Acute Marginal (AM)
Short Name: StntStenAM
Definition: Indicate the highest percent of stent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of in-stent stenosis is present.
If no documentation of in-stent stenosis, leave blank.
If "Stent Present" (field 1185) is marked "Yes," at least one vessel must have a stent present marked to avoid a missing data flag in the DQR.
If no documentation of in- stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- Not documented

SEQ. #: 1470
Long Name: Fractional Flow Reserve (FFR) - Acute Marginal (AM)
Short Name: FFRAM
Definition: Indicate the FFR in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is "Yes," and has been performed and documented in at least one vessel.
If there is no FFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1472
Long Name: Instantaneous Wave-Free Ration (iFR) - Acute Marginal (AM)
Short Name: IFRAM
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation. If there is no iFR reported for this vessel, leave blank.

SEQ. #: 1475
Long Name: Percent Stenosis - Posterior Descending (PDA)
Short Name: PctStenPDA
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥ 50%
If "Native Artery % Stenosis Known" (field 1175) is marked "Yes," at least one vessel must have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank
In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer: When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

SEQ. #: 1480
Long Name: Graft Stenosis - Posterior Descending (PDA)
Short Name: GrftStenPDA
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.

If “Graft Present” (field 1180) is marked “Yes,” at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- 100% Occlusion
- Not documented

SEQ. #: 1485
Long Name: Stent Stenosis - Posterior Descending (PDA)
Short Name: StntStenPDA
Definition: Indicate the highest percent of stent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
If no documentation of in-stent stenosis, leave blank.
The intent is to capture the degree of in-stent stenosis is present.
If “Stent Present” (field 1185) is marked “Yes,” at least one vessel must have a stent present marked to avoid a missing data flag in the DQR.
If no documentation of in- stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- Not documented

SEQ. #: 1490
Long Name: Fractional Flow Reserve (FFR) - Posterior Descending (PDA)
Short Name: FFRPDA
Definition: Indicate the FFR in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is “Yes,” and has been performed and documented in at least one vessel. If there is no FFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1492
Long Name: Instantaneous Wave-Free Ration (iFR) - Posterior Descending (PDA)
Short Name: IFRPDA
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation.

SEQ. #: 1495
Long Name: Percent Stenosis - Posterolateral (PLB)
Short Name: PctStenPLB
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture % stenosis for vessels with documented stenosis ≥ 50%
If "Native Artery % Stenosis Known" (field 1175) is marked "Yes," at least one vessel must have a percent stenosis marked to avoid a missing data flag in the DQR.
If there is no stenosis or no documentation or mention of a vessel, leave the selection blank
In instances where multiple lesions are present, enter the single highest percent stenosis noted in that vessel. When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

Update General Statement / FAQ September 2017: Do we enter vessel stenosis in a coronary artery in the data collection form if it is less than 50%?
Answer: When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. For reports where there is 0% stenosis, enter 0%. If stenosis of the vessel is not reported, then leave blank. Understand that these fields will only need to be completed when the number of diseased vessels in NumDisV - seq 1170 is select as one or more.

SEQ. #: 1500
Long Name: Graft Stenosis - Posterolateral (PLB)
Short Name: GrftStenPLB
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
The intent is to capture the degree of stenosis in a graft if one is present.
If "Graft Present" (field 1180) is marked "Yes," at least one vessel must have a graft stenosis marked to avoid a missing data flag in the DQR.
If no stenosis, or no documentation of graft stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- 100% Occlusion

- Not documented

SEQ. #: 1505
Long Name: Stent Stenosis - Posterolateral (PLB)
Short Name: StntStenPLB
Definition: Indicate the highest percent of stent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
If no documentation of in-stent stenosis, leave blank.
The intent is to capture the degree of in-stent stenosis is present.
If "Stent Present" (field 1185) is marked "Yes," at least one vessel must have a stent present marked to avoid a missing data flag in the DQR.
If no documentation of in- stenosis, leave blank.

- Patent
- Stenosis ≥ 50%
- Not documented

SEQ. #: 1510
Long Name: Fractional Flow Reserve (FFR) - Posterolateral (PLB)
Short Name: FFRPLB
Definition: Indicate the FFR in this vessel at the time of this surgery.

Intent/Clarification:
The intent is to capture the pressure difference across a coronary artery when FFR (field 1190) is "Yes," and has been performed and documented in at least one vessel. If there is no FFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. A FFR of 0.70 indicates a higher level of stenosis than a FFR of 0.80.

SEQ. #: 1512
Long Name: Instantaneous Wave-Free Ration (iFR) - Posterolateral (PLB)
Short Name: IFRPLB
Definition: Indicate the iFR in this vessel at the time of this surgery.

Intent/Clarification:
If there is no iFR reported for this vessel, leave blank. Choose the **lowest** value documented in the medical record. iFR values of below 0.90 suggest flow limitation.

SEQ. #: 1515
Long Name: Syntax Score Known
Short Name: SyntaxScrKnown
Definition: Indicate whether a syntax score is known.

Intent/Clarification:
The SYNTAX score is an angiographic grading tool to determine the complexity of coronary artery disease. It is not used routinely at all sites.

- Yes - a syntax score is documented
- No - no syntax score is documented

SEQ. #: 1520
Long Name: Syntax Score
Short Name: SyntaxScr
Definition: Indicate syntax score documented prior to this surgery.

Intent/Clarification:
The SYNTAX score is an angiographic grading tool to determine the complexity of coronary artery disease. The SYNTAX score is the sum of the points assigned to each individual lesion identified in the coronary tree with >50% diameter narrowing in vessels > 1.5mm diameter.
Each segment is given a score of 1 or 2 based on the presence of disease and this score is then weighted based on a chart, with values ranging from 3.5 for the proximal left anterior descending artery (LAD) to 5.0 for left main, and 0.5 for smaller branches.
The percent diameter stenosis is not a consideration in the SYNTAX score, only the presence of a stenosis from 50–99% diameter, <50% diameter narrowing or the total occlusion.
The SYNTAX score is a useful differentiator for the outcome of patients undergoing three-vessel PCI. The patients with the highest scores have the highest risk and the lowest scores, the lowest risk. The high scores indicate complex conditions and represent greatest risks to patients undergoing PCI. High scores have the worst prognosis for revascularization with PCI compared to coronary artery bypass graft surgery (CABG).
When the Syntax score is reported in a range, code the highest value.

Reference: Sianos G, Morel MA, Kappetein AP, et al. The SYNTAX score: an angiographic tool grading the complexity of CAD. EuroInterv 2005; 1: 219-227

- Normal
- Abnormal
- Unavailable

SEQ. #: 1525
Long Name: Stress Test Performed
Short Name: StressTst
Definition: Indicate whether a stress test was performed prior to this surgery.

Intent/Clarification:
Indicate whether a stress test was performed within 6 months prior to this surgery. Types of stress tests include the following:

Standard Exercise Stress Test without imaging:
- Treadmill Exercise Stress EKG

Stress Echocardiogram
- Exercise Stress Echo with Doppler
  - Exercise Echo with Doppler
  - Pharmacologic Stress Echo with Doppler
- Exercise Echo
- Exercise Echo with Color Flow Doppler
- Exercise Echo with Spectral Color Flow

Stress Testing with SPECT MPI
- Nuclear Medicine Studies
- Cardiac Scan - Infarct
- Myocardial Perfusion - Rest/Stress
- Myocardial Perfusion - Rest/Spect
- Myocardial Perfusion - Rest/Stress/Spect
- Myocardial Perfusion - Rest or Stress
- PET Studies Heart, N-13 Blood Flow, Rest
- Heart, N-13 Blood Flow, Stress
- Myocardial Viability with Nuclear Perfusion

Stress Testing with CMR
  - MRI Studies
  - CMRI Dobutamine Stress
- CMRI Adenosine Stress and Perfusion
- CMRI Exercise Stress
- CMRI Stress plus Flow Velocities with infusion
- CMRI Stress plus Flow Velocities without infusion
- MRI Part 2 Exercise Stress EKG
- MRI Part 2 Pharmacologic Stress EKG

SEQ. #: 1531
Long Name: Stress Test Result
Short Name: StrsTstRes
Definition: Indicate the results of the stress test.

Intent/Clarification:

- **Negative:** A stress test is negative when the electrocardiogram (ECG) is normal or not suggestive of ischemia. ECGs are not suggestive of ischemia when < 1 mm of horizontal or down sloping ST segment depression or elevation for ≥ 60-80 milliseconds after the end of the QRS complex, either during or after exercise.
- **Positive:** A stress test is positive when the electrocardiogram (ECG) suggests ischemia. ECGs suggestive of ischemia can be described as having ≥ 1 mm of horizontal or down sloping ST-segment depression or elevation for ≥ 60-80 milliseconds after the end of the QRS complex, either during or after exercise. It is also be suggestive of ischemia if the patient had symptoms of ischemia (i.e. chest pain), arrhythmias, and/or a fall in blood pressure during or immediately after the procedure. If more than one study was performed with conflicting results and one study suggested coronary artery disease, code "Yes".
- **Not documented**

SEQ. #: 1540
Long Name: Hemo Data-EF Done
Short Name: HDEFD
Definition: Indicate whether the Ejection Fraction was measured prior to the induction of anesthesia.

Intent/Clarification:
Some patients may not have had an LV Gram performed during cardiac catheterization due to existing clinical conditions. Ejection fraction (EF) and hemodynamic pressures may be obtained from other sources other than coronary angiogram, such as echo, or MUGA.
Because anesthesia can alter the values to be collected, do not collect data from intra-operative transesophageal echo (TEE) after the induction of anesthesia, unless you have no other source to collect the information.

Time Frame: Do not use results more than 6 months prior to this operation.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1545
Long Name: Hemo Data-EF
Short Name: HDEF

Definition: Indicate the percentage of the blood emptied from the left ventricle at the end of the contraction. Use the most recent determination prior to the surgical intervention documented on a diagnostic report.
Enter a percentage in the range of 1 - 99. If a qualitative description is reported, code the mean value for that range; i.e., normal (50-70%) is coded as 60%.
● Hyperdynamic: >70% (code 71%)
● Normal: 50%–70% (midpoint 60%)
● Mild dysfunction: 40%–49% (midpoint 45%)
● Moderate dysfunction: 30%–39% (midpoint 35%)
● Severe dysfunction: <30% (code 29%)
Note: If no diagnostic report is in the medical record, a value documented in the medical record is acceptable.
ACCF/AHA 2013

Intent/Clarification:
Report of a reported range value, for example, a range of 55-60 is coded as 58%.

~~Use the most recent determination **prior to the induction** of anesthesia documented on a diagnostic report, regardless of the diagnostic procedure to obtain it.~~

If no diagnostic report specifying an ejection fraction (EF) is in the medical record, a value documented in the progress record is acceptable.

If there is no documentation of a pre-op EF, then it is acceptable to code the EF from the intra-op TEE prior to **incision.**

~~Use the surgeon's documentation if more than one value is reported as this was likely used to plan operative care.~~

Time Frame: Not greater than **6 months**.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1555
Long Name: Hemo Data-Dimensions Available
Short Name: DimAvail
Definition: Indicate whether intracardiac dimensions are available.

Intent/Clarification:
Time Frame: Collect the last value closest to incision, not greater than **6 months** prior.

SEQ. #: 1560

Long Name: Hemo Data-LV End Systolic Dimension
Short Name: LVSD
Definition: Indicate LV End -Systolic Dimension in mm.
LV end systolic dimension is the same as left ventricular internal dimension in end systole (LVIDs)

Intent/Clarification:
During systole the left ventricle contracts pumping blood through the body. During diastole the left ventricle relaxes and fills with blood again. The systolic dimension of the left ventricle demonstrates ventricular emptying and when compared to the end diastolic dimension, left ventricular performance is calculated.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1565
Long Name: Hemo Data-LV End-Diastolic Dimension
Short Name: LVEDD
Definition: Indicate the Left Ventricular End-Diastolic Dimension in mm. LV end diastolic dimension is the same as left ventricular internal dimension in end diastole (LVIDs)

Intent/Clarification:
During systole the ventricles contract pumping blood through the body. During diastole the ventricles relax and fill with blood again. The end-diastolic dimension of the left ventricle demonstrates ventricular filling and when compared to the end systolic dimension, left ventricular performance is calculated.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1570
Long Name: Hemo-PA Systolic Pressure Measured
Short Name: PASYSMeas
Definition: Indicate whether the PA systolic pressure was measured prior to ~~incision~~ induction.

Intent/Clarification:
Elevated pulmonary artery pressures are indicative of pulmonary hypertension, mitral valve disease and other pulmonary/cardiac diseases. Normal systolic pulmonary artery pressure readings are between 15-30 mm of pressure. If there are no PA pressures recorded or available from heart Cath –one may use PA pressure values from Swan Ganz Catheter inserted for surgery prior to induction of anesthesia.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1575
Long Name: Hemo-PA Systolic Pressure
Short Name: PASYS
Definition: Capture ~~highest~~ PA systolic pressure recorded prior to ~~incision~~ induction.

Intent/Clarification:
Elevated pulmonary artery pressures are indicative of pulmonary hypertension, mitral valve disease and other pulmonary/cardiac diseases. Normal systolic pulmonary artery pressure readings are between 15-30 mm of pressure.

If there are no PA pressures recorded or available from heart Cath one may use PA pressure values from Swan Ganz Catheter inserted for surgery prior to induction.

~~If more than one preoperative measurement is available, choose the **HIGHEST** PA systolic pressure recorded before induction~~.

If PA systolic pressure is not available, it is acceptable to code the peak RV systolic pressure (RSVP). RVSP and PA systolic pressures will be the same as long as there is no pulmonary valve disease or outflow obstruction.

~~If more than one preoperative measurement is available, choose the **HIGHEST** PA systolic pressure recorded before induction.~~

If there is a preoperative echo, use those values UNLESS the diagnostic information from the TEE changes the procedure performed.

If there is no preop information, you may use the pre-incision intraoperative TEE.

FAQ August 2017: Please clarify, should the value be taken prior to induction or prior to incision?
Answer: The PA systolic value should be taken prior to induction of anesthesia.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1590
Long Name: VD-Insuff-Aortic
Short Name: VDInsufA
Definition: Indicate whether there is evidence of Aortic valve insufficiency/regurgitation. Enter the degree of insufficiency reported closest to incision and no more than 6 months prior to surgery.

Intent/Clarification:
Regurgitation/insufficiency is incompetence of the aortic valve or any of its valvular apparatus which allows diastolic blood flow to flow back into the left ventricular chamber. This may be a chronic or an acute condition.

Time Frame: Collect the last value closest to incision, not greater than **6 months** prior. Choose the **highest** level of valve dysfunction when there are differences in interpretation of the most recent study. Capture even if patient is not scheduled for valve repair and/or replacement when available.

- None
- Trivial/Trace
- Mild
- Moderate
- Severe
- Not documented

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1591
Long Name: VD-Aortic Valve Eccentric Jet
Short Name: VDAVEccJet
Definition: Indicate whether aortic valve regurgitation is an eccentric jet.

Intent/Clarification:
- Yes
- No
- Not Documented

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1595
Long Name: VD-Aortic
Short Name: VDAort
Definition: Indicate whether Aortic Valve disease is present.

Intent/Clarification:
Aortic valvular disease can be congenital or acquired and cause stenosis, regurgitation or both.

The valve should be coded as being diseased if there is mild, moderate or severe

insufficiency or aortic stenosis.

FAQ September 2018: Does once diseased – always diseased apply to valves?
Answer: No, the valve is not considered disease unless there is disease present on the prosthetic valve.

SEQ. #: 1600
Long Name: VD-Stenosis-Aortic
Short Name: VDStenA
Definition: Indicate whether Aortic Stenosis is present.

Intent/Clarification:
The aortic valve controls the direction of blood flow from the left ventricle to the aorta. When in good working order, the aortic valve does not impede the flow of blood between these two spaces. Under some circumstances, the aortic valve becomes narrower than normal, impeding the flow of blood. This is known as aortic valve stenosis or aortic stenosis, often abbreviated as A.S.

AS is described as trace, mild, moderate or severe. Aortic valve stenosis may be caused by aging (leaflets become calcified, thick and stiff), birth defects (congenital bicuspid (2) leaflets) or other disease processes like rheumatic fever.

Capture any degree of aortic valve stenosis present, even if the patient is not scheduled for valve replacement, record if available.

- Yes
- No

Time Frame: Collect the last value closest to incision, not greater than **6 months**.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1605
Long Name: VD-Aortic Hemodynamic Data Available
Short Name: AoHemoDatAvail
Definition: Indicate whether aortic valve hemodynamic measurements are available.

Intent/Clarification:
Collect the last value prior to induction not greater than **6 months**; if no reported values are available, code the value closest to and prior to incision.

October 2019: Please refer to the General Statement from October 2019 regarding time

frame of hemodynamic results.

SEQ. #: 1610
Long Name: VD-Smallest Aortic Valve Area
Short Name: VDAoVA
Definition: Indicate the ~~smallest~~ documented aortic valve area (in cm squared).

Intent/Clarification:
The normal adult aortic valve opening is 3.0-4.0 (cm^2). Aortic stenosis becomes hemodynamically significant when the area decreases to less than 2(cm^2), as the systolic flow is impeded across the valve. **Collect the last value prior to induction not greater than 6 months; if no reported values are available, code the value closest to and prior to incision.**

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1615
Long Name: VD-Aortic Gradient-Highest Mean
Short Name: VDGradA
Definition: Indicate the ~~highest~~ documented MEAN gradient (in mmHg) across the aortic valve ~~closest to the time of surgery.~~

Intent/Clarification:
When the aortic valve becomes stenotic, it causes a pressure gradient between the left ventricle (LV) and the aorta. The more constricted the valve, the higher the gradient between the LV and the aorta. For example, if the gradient is 20 mmHg, at peak systole, while the LV generates a pressure of 140 mmHg, the pressure that is transmitted to the aorta would only be 120 mmHg. A blood pressure cuff would measure a normal systolic blood pressure; the actual pressure generated by the LV would be considerably higher. In individuals with AS, the left ventricle (LV) has to work harder to overcome the increased afterload caused by the stenotic aortic valve and eject blood out of the LV. The more severe the aortic stenosis, the higher the gradient is between the left ventricular systolic pressures and the aortic systolic pressures.

Collect the last value prior to induction not greater than 6 months; if no reported values are available, code the value closest to and prior to incision.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1616
Long Name: VD - Maximum Aortic Jet Velocity (Vmax)
Short Name: VDVMax
Definition: Indicate the maximum aortic jet velocity

Intent/Clarification:
The antegrade systolic velocity across the narrowed aortic valve, or aortic jet velocity, is measured using continuous-wave (CW) Doppler (CWD) ultrasound. Velocity increases as stenosis severity increases. **Collect the last value prior to induction not greater than 6 months; if no reported values are available, code the value closest to and prior to incision.**

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1646
Long Name: VD-Aortic Valve Disease Primary Etiology
Short Name: VDAoPrimEt
Definition: Indicate the primary etiology of aortic valve disease.

Intent/Clarification:
There is no hierarchy, choose the primary etiology documented in the medical record. Primary etiology may also be identified at the time of the surgical procedure.

FAQ October 2017: My surgeon replaced a mitral valve in a patient with a history of Hodgkin's disease who is s/p chemotherapy and radiation therapy. The etiology is described as radiation induced heart disease. How should this be coded?
Answer: This should be coded as mixed etiology and would apply to aortic valve etiology as well. This will be added in the next upgrade. In addition to capturing the etiology, code mediastinal radiation in Seq. No. 495.

FAQ March 2018: The patient had a thrombotic mass on the aortic valve from an antiphospholipid syndrome. What would you code as the etiology?
Answer: Code not documented as there is no option to code not listed or other.

FAQ Sept 2019 - I have a patient had a pre-operative diagnosis of Bicuspid aortic valve and Ascending Aortic Aneurysm. Once patient was in the OR the surgeon notes that the aortic valve was unicuspid. What do I choose for Seq 1646 Aoritc Etiology and Seq 4505 Patient's gentic history?
Answer – Code bicuspid in both Seq 1646 and Seq 4505 as these are along the same pathophysiologic process and are variants of valve morphology. This will be addressed in the upgrade.

SEQ. #: 1647
Long Name: VD-Aortic Valve Disease Sievers Class
Short Name: VDAoSievers
Definition: Indicate the documented Sievers class

Intent/Clarification:
A systematic classification of bicuspid aortic valves: Three major types were identified: type 0 (no raphe), type 1 (one raphe), and type 2 (two raphes), followed by two supplementary characteristics, spatial position and function. These characteristics served to classify and codify the bicuspid aortic valves.
Raphe is a groove, seam or ridge in tissue typically marking the line where two halves fused in the embryo.

SEQ. #: 1680
Long Name: VD-Insuff-Mitral
Short Name: VDInsufM
Definition: Indicate whether there is evidence of Mitral valve insufficiency/regurgitation. Enter the degree of insufficiency reported closest to incision and no more than 6 months prior to surgery.

Intent/Clarification:
Mitral regurgitation/insufficiency may be an acute or chronic condition manifesting itself as increased left heart filling pressures which increase the left ventricular stroke volume (amount of blood ejected from the Left Vent. with each heartbeat). Over time, and depending upon the severity, MR can result in pulmonary edema and systemic volume overload. In chronic MR, Left Ventricular Hypertrophy may result. Mitral prolapse and rheumatic fever are the most common cause of MR. "Moderate to severe" should be coded as "Severe".

Collect the last value closest to incision, not greater than **6 months.**

- None
- Trivial/Trace
- Mild
- Moderate
- Severe
- Not documented

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1681
Long Name: VD-Mitral Valve Eccentric Jet
Short Name: VDMVEccJet
Definition: Indicate whether mitral valve regurgitation is an eccentric jet.

Intent/Clarification:

- Yes
- No
- Not Documented

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1685
Long Name: VD-Mitral
Short Name: VDMit
Definition: Indicate whether Mitral valve disease is present.

Intent/Clarification:
The mitral valve is made up of the annulus, anterior and posterior leaflets, and chordae, which attach the leaflets to their respective papillary muscles. A normally functioning valve allows blood to flow unimpeded from the left atrium to the left ventricle during diastole and prevents regurgitation during systole. Normal mitral valve function is dependent not only on the integrity of the underlying valvular structure, but on that of the adjacent myocardium as well. Mitral valve disease is the most common form of heart valve disease in the United States, affecting 5 percent of the population and resulting in over 500,000 hospital admissions per year. There are two general forms of mitral valve disease: mitral regurgitation/insufficiency and mitral stenosis.

The valve should be coded as being diseased if there is mild, moderate or severe insufficiency **or mitral stenosis.**

- Yes
- No

FAQ September 2018: Does once diseased – always diseased apply to valves? Answer: No, the valve is not considered disease unless there is disease present on the prosthetic valve.

SEQ. #: 1690
Long Name: VD-Stenosis-Mitral
Short Name: VDStenM
Definition: Indicate whether Mitral Stenosis is present.

Intent/Clarification:
Stenosis is the narrowing of the valve opening. Valve stenosis is most often caused by rheumatic fever, causing the leaflets to become rigid, stiff, and thick and/or fused reducing the amount of blood able to be ejected from the left atria into the left ventricle. Mitral stenosis (MS) causes blood to back up, dilate the left atria and create buildup of fluid in the lungs (congestive heart failure). Atrial fibrillation is a common arrhythmia in patients with MS.

Time Frame: Collect the last value closest to incision, not greater than **6 months**. Capture any degree of stenosis even if patient is not scheduled for valve repair and/or replacement when available.

- Yes
- No

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1695
Long Name: VD-Mitral Hemodynamic Data Available
Short Name: MiHemoDatAvail
Definition: Indicate whether mitral valve hemodynamic measurements are available.

Intent/Clarification:
- Yes
- No

SEQ. #: 1700
Long Name: VD-Smallest Mitral Valve Area
Short Name: VDMVA
Definition: Indicate the ~~smallest~~ documented Mitral Valve Area ~~closest to the time of surgery.~~

Intent/Clarification:
The normal area of the mitral valve orifice is about 4 to 6 (cm2). Under normal conditions, a normal mitral valve will not impede the flow of blood from the left atrium to the left ventricle during (ventricular) diastole, and the pressures in the left atrium and the left ventricle during ventricular diastole will be equal. When the mitral valve area goes below 2.0 (cm2), the valve causes an impediment to the flow of blood into the left ventricle, creating a pressure gradient across the mitral valve.

Collect the last value prior to induction not greater than **6 months**; if no reported values are available, code the value closest to and prior to incision.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1705
Long Name: VD-Mitral Gradient-Highest Mean
Short Name: VDGradM
Definition: Indicate the ~~highest~~ documented mean gradient (in mm Hg) across the mitral valve.

Intent/Clarification:
Mitral valve stenosis results from a narrowing of the mitral valve orifice when the valve is open. The high resistance across the stenotic mitral valve causes blood to back up into the left atrium thereby increasing LA pressure. This results in the left atrial (LA) pressure being much greater than left ventricular (LV) pressure during diastolic filling.
The gradient is highest during early diastole when the flow across the valve is highest. Normally, the pressure gradient across the valve is very small (a few mmHg); however, the pressure gradient can become quite high during severe stenosis (10-30 mmHg).

Collect the last value prior to induction not greater than **6 months**; if no reported values are available, code the value closest to and prior to incision.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1731
Long Name: VD-Mitral Valve Disease Primary Etiology
Short Name: VDMiPrimEt
Definition: Indicate the primary etiology of Mitral valve disease.

Intent/Clarification:
There is no hierarchy, choose the primary etiology as documented in the medical record. Primary etiology may not be identified until the time of the surgical procedure.

FAQ October 2017: My surgeon replaced a mitral valve in a patient with a history of Hodgkin's disease who is s/p chemotherapy and radiation therapy. The etiology is described as radiation induced heart disease. How should this be coded?
Answer: This should be coded as mixed etiology. This will be added in the next upgrade. In addition to capturing the etiology, code mediastinal radiation in Seq. No. 495.

FAQ May 2018: The surgeon does a mitral valve cleft repair and does not mark etiology, should valve clefts such as these be captured as congenital?
Answer: Yes, code congenital etiology.

FAQ July 2019 – My patient's documented MV disease etiology was chronic ischemic, however, the patient has never had a MI. Can I choose the Ischemic- chronic (MI > 21 days) selection even though my patient has not had a MI?
Answer - Yes, this will be addressed in the upgrade.

SEQ. #: 1746
Long Name: VD-Mitral Valve Primary Lesion
Short Name: VDMiPrimLes
Definition: Indicate the primary mitral valve lesion.

Intent/Clarification:
There is no hierarchy, choose the primary lesion. Primary lesion may be identified at the time of the surgical procedure.

SEQ. #: 1775
Long Name: VD-Insuff-Tricuspid
Short Name: VDInsufT
Definition: Indicate whether there is evidence of Tricuspid valve insufficiency/regurgitation. Enter the degree of insufficiency reported closest to incision and no more than **6 months** prior to surgery.

Intent/Clarification:
Tricuspid regurgitation/insufficiency creates a backwards flow of blood across the tricuspid valve and causes enlargement of the right atrium and possibly atrial fibrillation. Capture even if patient is not scheduled for valve repair and/or replacement when available.
Time Frame: Collect the last value closest to incision, not greater than **6 months**.
Choose the highest level of valve dysfunction when there are differences in interpretation of the most recent study.
Capture even if patient is not scheduled for valve repair and/or replacement when available.

- None
- Trivial/Trace
- Mild
- Moderate
- Severe
- Not documented

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

FAQ June 2019: Patient underwent a tricuspid valvectomy in 2013 and the preop echo for TV Replacement states Severe TV insufficiency. Do I code severe insufficiency for the tricuspid valve since the valve isn't there?
Answer**:** Code as severe

SEQ. #: 1777
Long Name: VD-Tricuspid Annular Measurement Available
Short Name: VDTrAnnMeas
Definition: Indicate whether a tricuspid annular diameter measurement is available.

Intent/Clarification:
Tricuspid regurgitation (TR) occurs mainly from tricuspid annular dilation, which can result from left-sided heart failure from myocardial or valvular causes, right ventricular volume and pressure overload, or dilation of cardiac chambers.
Time Frame: Collect the last value closest to incision, not greater than **6 months**.

- Yes
- No

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1778
Long Name: VD-Tricuspid Annulus Size (Diameter)
Short Name: VDTrAnnSize
Definition: Indicate tricuspid annular diameter in cm.

Intent/Clarification:
Normal values for Tricuspid annular diameter: 2-4 (cm)

SEQ. #: 1780
Long Name: VD-Tricuspid
Short Name: VDTr
Definition: Indicate whether Tricuspid Valve disease is present.

Intent/Clarification:
Tricuspid valve disease refers to abnormal function of the tricuspid valve.
Two types of tricuspid disease include:
Tricuspid regurgitation - the valve is leaky or doesn’t close tight enough, causing blood to leak backwards across the valve.
Tricuspid stenosis - the valve leaflets are stiff and do not open widely enough, causing a restriction in the forward flow of blood.

There is no hierarchy, choose the primary etiology as documented in the medical record. Primary etiology may not be identified until the time of the surgical procedure. Tricuspid disease should be captured if tricuspid insufficiency is mild, moderate or severe or Tricuspid stenosis.

- Yes
- No

FAQ September 2018: Does once diseased – always diseased apply to valves? Answer: No, the valve is not considered disease unless there is disease present on the prosthetic valve.

SEQ. #: 1785
Long Name: VD-Stenosis-Tricuspid
Short Name: VDStenT
Definition: Indicate whether Tricuspid Stenosis is present.

Intent/Clarification:
The tricuspid valve is the largest of the four valves. Stenosis, over time, may create an enlarged right atrium, reducing the amount of blood flow into the right ventricle; thereby, reducing cardiac output. Prolonged or chronic tricuspid stenosis may cause systemic vascular congestion, manifested primarily in the liver. Capture even if patient is not scheduled for valve repair or replacement.
Time Frame: Collect the last value closest to incision, not greater than **6 months.**
Choose the highest level of valve dysfunction when there are differences in interpretation of the most recent study.
Capture even if patient is not scheduled for valve repair and/or replacement when available.

- Yes
- No

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1811
Long Name: VD-Tricuspid Valve Disease Primary Etiology
Short Name: VDTrPrimEt
Definition: Indicate the primary etiology of tricuspid valve disease.

Intent/Clarification:
There is no hierarchy, choose the primary etiology. Primary lesion may be identified at the time of the surgical procedure.

FAQ October 2017: My surgeon replaced a mitral valve in a patient with a history of Hodgkin's disease who is s/p chemotherapy and radiation therapy. The etiology is described as radiation induced heart disease. How should this be coded?
Answer: This should be coded as mixed etiology and would apply to tricuspid valve etiology. This will be added in the next upgrade. In addition to capturing the etiology, code mediastinal radiation in Seq. No. 495.

SEQ. #: 1820
Long Name: VD-Insuff-Pulmonic
Short Name: VDInsufP
Definition: Indicate whether there is evidence of Pulmonic valve insufficiency/regurgitation. Enter the degree of insufficiency reported closest to incision and no more than **6 months** prior to surgery.

Intent/Clarification:
Most common cause is from chronic pulmonary hypertension (noted by high PA pressures > 30mm Hg). Incompetent pulmonary leaflets allow blood to flow back into the Right Vent.
Capture even if patient is not scheduled for valve repair and/or replacement
Time Frame: Collect the last value closest to incision, not greater than **6 months.** Enter the level of valve function associated with the highest risk (ie. worst performance) recorded in the chart. "Moderately severe" should be coded as "Severe".
Choose the **highest** level of valve dysfunction when there are differences in interpretation of the most recent study.

Capture even if patient is not scheduled for valve repair and/or replacement when available.

- None
- Trivial/Trace
- Mild
- Moderate
- Severe
- Not documented

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1825
Long Name: VD-Pulmonic
Short Name: VDPulm
Definition: Indicate whether Pulmonic Valve disease is present.

Intent/Clarification:
The pulmonary valve is a valve between the heart and the artery that leads to the lungs. If valve regurgitation or insufficiency is present, blood is able to flow from the artery and back into the heart. Pulmonary stenosis reduces blood flow to the lungs and makes the

right ventricle work harder. The condition can cause the right sided heart failure. Pulmonary valve disease mostly occurs as a congenital abnormality, but it can also be caused by conditions such as pulmonary hypertension, infective endocarditis or Marfan syndrome.

The valve should be coded as being diseased if there is mild, moderate or severe insufficiency or pulmonic stenosis.

- Yes
- No

FAQ September 2018: Does once diseased – always diseased apply to valves? Answer: No, the valve is not considered disease unless there is disease present on the prosthetic valve.

SEQ. #: 1830
Long Name: VD-Pulmonic-RVEDD Known
Short Name: RVEDDKnown
Definition: Indicate whether the Right Ventricular End-Diastolic Dimension (RVEDD) is available.

Intent/Clarification:

- Yes
- No

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1835
Long Name: VD-Pulmonic-RVEDD Indexed To BSA
Short Name: RVEDD
Definition: Indicate (in cm squared) the RVEDD indexed to BSA.

Intent/Clarification:
RVEDD may be called RVDD.
Collect the last value prior to induction not greater than **6 months**; if no reported values are available, code the value closest to and prior to incision.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1840
Long Name: VD-Stenosis-Pulmonic
Short Name: VDStenP
Definition: Indicate whether Pulmonic Stenosis is present.

Intent/Clarification:
Pulmonary stenosis (PS) is often due to congenital malformation of the valve. As it restricts blood flow from the right ventricle into the pulmonary artery, patients experience extreme fatigue and palpitations. Severe PS may create a bluish tint to skin and is life threatening.
Choose **highest** level of valve dysfunction when there are differences in interpretation of most recent study.
Capture even if patient is not scheduled for valve repair and/or replacement when available.

- Yes
- No

Time Frame: Collect the last value closest to incision, **not greater than 6 months**.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1845
Long Name: VD-Pulmonic Hemodynamic Data Available
Short Name: PuHemoDatAvail
Definition: Indicate whether pulmonary valve gradient is available.

Intent/Clarification:
Time Frame: Collect the last value closest to incision, not greater than **6 months**.

- Yes
- No

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1850
Long Name: VD-Pulmonic Gradient-Highest Mean
Short Name: VDGradP
Definition: Indicate highest mean PV gradient documented prior to incision.

Intent/Clarification:
Time Frame: Collect the last value closest to incision, not greater than **6 months**.

October 2019: Please refer to the General Statement from October 2019 regarding time frame of hemodynamic results.

SEQ. #: 1855
Long Name: VD-Pulmonic Valve Disease Etiology
Short Name: VDPuEt
Definition: Indicate the etiology of pulmonary valve disease if known.

Intent/Clarification:
There is no hierarchy, choose the primary etiology. Primary lesion may be identified at the time of the surgical procedure.

FAQ October 2017: My surgeon replaced a mitral valve in a patient with a history of Hodgkin's disease who is s/p chemotherapy and radiation therapy. The etiology is described as radiation induced heart disease. How should this be coded?
Answer: This should be coded as mixed etiology and would apply to pulmonic valve etiology. This will be added in the next upgrade. In addition to capturing the etiology, code mediastinal radiation in Seq. No. 495.

Operative

SEQ. #: 1955
Long Name: Surgeon
Short Name: Surgeon
Definition: Indicate the name of the surgeon responsible for the patient's care.

This field must have controlled data entry where a user selects the surgeon name from a user list. This will remove variation in spelling, abbreviations and punctuation within the field.

Intent/Clarification:
Field must be populated. Missing data or information for a surgeon not on your current contract with the STS will cause your data file submission not to process.

SEQ. #: 1960
Long Name: Surgeon's National Provider Identifier
Short Name: SurgNPI
Definition: Indicate the individual-level National Provider Identifier of the surgeon performing the procedure.

For Non-US surgeons a unique identifier will be assigned by STS.

Intent/Clarification:
Field must be populated. Missing or inaccurate data will cause your data file submission not to process. It is crucial to enter the correct surgeon identifier since it may impact public reporting and physician quality reporting. This link provides an NPI search –

https://nppes.cms.hhs.gov/#/

SEQ. #: 1965
Long Name: Taxpayer Identification Number
Short Name: TIN
Definition: Indicate the Taxpayer Identification Number for the Taxpayer holder of record for the Surgeon's National Provider Identifier that performed the procedure. This may be an individual TIN or a group TIN depending on billing. This information is vital for PQRS reporting.
This field will be blank for Non-US participants

Intent/Clarification: -

SEQ. #: 1966
Long Name: STS Risk Calculator Score Discussed
Short Name: RiskDiscussed
Definition: Indicate whether the STS Risk Calculator score was discussed with the patient/family prior to surgery.

Intent/Clarification:
To meet this measure, discussion should take place between the surgeon and patient/family and be documented. STS risk models are available for CABG, AVR, AVR + CABG, MVR, MVR + CABG, MV Repair, MV Repair + CABG and calculated in vendor software or using the STS Risk Calculator. For all other procedures code NA. The Euroscore cannot be used to complete this field.

Use of STS Risk Calculator is the ONLY way to select “YES” to this question. This is a MIPS reported measure.

http://www.sts.org/quality-research-patient-safety/quality/mips-reporting-database

FAQ July 2018: The intent/clarification stats that STS risk models are available for CAB, AVR, AVR + CAB, MVR, MVR + CAB, MV repair, MV repair + CAB. If the surgeon uses the risk calculator for the patients undergoing these procedures, can we use the risk profile from the calculator to complete the risk factors at the time of surgery?
Answer: No, do not use risk calculator entries for documentation of risk factors in the ACSD.

SEQ. #: 1970
Long Name: Incidence
Short Name: Incidenc
Definition: Indicate if this is the patient's:

- first surgery
- first re-op surgery
- second re-op surgery
- third re-op surgery
- fourth or more re-op surgery
- **N/A – not a cardiovascular surgery**

Intent/Clarification:

Update Nov 2019 - Incidence will be defined by the number of times of entry into the space for a specific procedure. A CABG/AVR/ MVR would be in pericaridal space. A root/ascending/arch would be the pericardial space. An open distal arch/descending would be the pleural space. An open thoracoabdominal would involve the pleural and abdominal space. See examples below:

- **Previous descending with a current AVR/Root/CAB. This would be first incidence into the pericardial space.**
- **Previous AVR/Root/hemiarch with a current CAB. This would be first re-op into the pericardial space.**
- **Previous CAB/AVR with a current open descending. This would be first incidence for pleural space.**

For the purposes of this field surgery is defined as cardiothoracic surgical procedures performed on the heart, great vessels or major pericardial procedures, with or without cardiopulmonary bypass (CPB). The key distinction is surgical entry into the pericardial space. A pericardiectormy or pericardial window would qualify as surgery. Ascending aortic and arch procedures also qualify. A surgical descending thoracic aortic aneurysmectomy does not involve entry into the pericardial space and does not qualify. Similarly, catheter-based procedures such as TAVR, TEVAR, mitral-clip, are endovascular procedures and are not classified as prior surgery. Also include lung procedures utilizing CPB or tracheal procedures utilizing CPB. Reoperation increases risk due to presence of scar tissue or adhesions.

The intent of this field is to capture the incidence of the procedure that the patient is about to go through during the current hospitalization, as compared to those procedures prior to this hospitalization. First operative means the patient has never had any surgical procedure on the heart and/or great vessels. Note: previous surgical intervention increases risk for morbidity and mortality and severity of disease process. **Choosing N/A does not automatically exclude the patient from analysis.**

FAQ August 2019 – Update of FAQ Jan 2018 and Feb 2018 - Patient has a history of a CABG, then later a VAD, then a heart transplant. The patient is now having a CABG on his transplanted heart. What is the incidence for this surgery?
Answer: Code incidence as third reoperation. The key distinction is surgical entry into the pericardial space

FAQ February 2018: The patient enters the operating room electively for an AVR. The same procedure was attempted at another hospital 6 months previously but was cancelled after discovering a porcelain aorta as the surgeon attempted to place cannulation sutures. How is incidence coded for this case?
How is previous CV intervention coded?
Answer: Code incidence as first reoperation.

FAQ February 2018: A 35-year-old male underwent a percutaneous aortic valvuloplasty at age 12. He now enters the OR for a surgical AVR. How is incidence coded?
Answer: Code incidence as first cardiovascular surgery.

FAQ March 2018: Patient went to OR for AVR and CABG. But only sternotomy and adhesiolysis were done because patient had frozen mediastinum and severe intrapericardial adhesion so surgeon decided to do the operation in stages. The sternum was closed. Next day patient went back to OR and AVR/CABG were done.
How would I code this? Will still be first cardiovascular surgery? Reop for cardiac reason? Will I also note as surgery aborted?
Answer: Code the case as first CV surgery.

FAQ May 2018: How does TAVR affect incidence?
Answer: Prior TAVR case that needs a redo-AVR should be coded as first reoperation. Prior TAVR case that needs another cardiac procedure such as a CAB or MVR should be code as incidence as first CV surgery.

FAQ June 2019: The patient had a Mitral Clip Procedure at another facility one year ago. Now is admitted with severe Mitral insufficiency. The decision is to take the patient for Mitral valve Replacement Surgery. Do I code this as first re-op surgery?
Answer: Mitral Valve replacement should be coded as the first operation.

FAQ July 2019 - The patient had a TMVR Procedure at another facility one year ago. Now is admitted with severe Mitral insufficiency. The decision is to take the patient for Mitral valve Replacement Surgery. Is this first re-op or first surgery?
Answer - Prior TMVR case that needs a redo-MVR should be coded as first reoperation. Prior TMVR case that needs another cardiac procedure such as a CAB or AVR should be code as incidence as first CV surgery.

SEQ. #: 1975

Long Name: Status
Short Name: Status
Definition: Indicate the clinical status of the patient prior to entering the operating room.

Intent/Clarification:

- **Elective**- The patient's cardiac function has been stable in the days or weeks prior to the operation. The procedure could be deferred without increased risk of compromised cardiac outcome.

- **Urgent** - Procedure required during same hospitalization in order to minimize chance of further clinical deterioration. Examples include but are not limited to: Worsening or sudden chest pain, CHF, acute myocardial infarction (AMI), anatomy, IABP, unstable angina (USA) with intravenous (IV) nitroglycerin (NTG) or rest angina.
    - Any of the conditions that require that the patient remain in the hospital until surgery can take place, but the patient is able to wait for surgery until the next available OR schedule time. Delay in the operation may be necessitated by attempts to improve the patient's condition, availability of a spouse or parent for informed consent, availability of blood products, or the availability of results of essential laboratory procedures or tests. **There is no hierarchy - choose the primary reason the procedure is urgent.**
    - If a patient has severe aortic and mitral valve stenosis, but also has symptoms such as dyspnea on exertion (DOE), paroxysmal nocturnal dyspnea (PND), congestion on x-ray or pedal edema that has been treated as CHF, code “CHF” as the most appropriate choice.
    - Valve dysfunction is defined as a structural failure with that valve. For prosthetic valves – fractured leaflet, thrombus formation, pannus development which impedes flow through the valve orifice, or valvular dehiscence (coming loose or disconnected at the suture line). Native valve dysfunction includes papillary rupture or torn leaflet. Rupture or dissection during cardiac cath; Perforation, tamponade following cardiac cath-does not include stent closure.

- **Emergent** - Patients requiring emergency operations will have ongoing, refractory (difficult, complicated, and/or unmanageable) unrelenting cardiac compromise, with or without hemodynamic instability, and not responsive to any form of therapy except cardiac surgery. An emergency operation is one in which there should be no delay in providing operative intervention. Patients requiring emergency operations will have ongoing, refractory (difficult, complicated, and/or unmanageable) cardiac compromise, with or without hemodynamic instability, and not responsive to any form of therapy except cardiac surgery. Hemodynamic picture of shock that is being chemically or mechanically supported. (IV inotrope or IABP to maintain cardiac output [CO]. Requires intubation and ventilation for pulmonary edema. The patient is extending an MI and requires immediate surgery. The patient continues to show signs of ongoing ischemia, i.e. EKG changes. Acute native valve dysfunction i.e. as acute papillary muscle rupture or torn leaflet. Prosthetic valve dysfunction is defined as a structural failure with that valve-fractured or

torn leaflet, thrombus formation, pannus development which impedes flow through the valve orifice, or valvular dehiscence (coming loose or disconnected at the suture line). Acute dissection secondary to trauma or dissection secondary to progression of disease. Rupture or dissection during cardiac cath; perforation, tamponade following cardiac cath.

- If a patient presents with a scenario that does not fit into a definite category; it is reasonable to code the reason that most closely matches the patient's presentation.

- **Emergent/Salvage** - The patient is undergoing CPR en-route to the OR prior to anesthesia induction or has ongoing ECMO to maintain life. ECMO: ECMO is to be captured as a status of 'Salvage' in sequence 1975 and as 'Resuscitation – Yes' in sequence 935. ECMO is a supportive modality and not a procedural type. The risk of the patient on ECMO is accounted for when 'Status = salvage' and should be left in the intended procedural category.

FAQ May 2019: The patient was in surgery having Right carotid endarterectomy done (and please note the plan was to have the AVR done tomorrow) when during this procedure the patient became bradycardic and required chest compressions and multiple doses of epi. They were able to get the patient back after 10 minutes of chest compressions. However, the pt. had a second bradycardic cardiac arrest and the surgeon decided on a salvage aortic valve replacement! So is the Endarterectomy now part of the AVR surgery (How do I mark this on the STS tool?)

Answer: If this was done in the same room then code the the AVR as Salvage and the endarterectomy. You can also code resuscitation.

SEQ. #: 1990
Long Name: Urgent Or Emergent Reason
Short Name: UrgEmergRsn
Definition: Choose one reason from the list below that best describes why this operation was considered urgent or emergent.

Intent/Clarification:
See list for options. There may be multiple reasons, choose one that best describes this patient's clinical state.

FAQ November 2018: The emergent urgent reason is patient specific and needs to be taken from the surgeon's notes.

FAQ Urgent Reason: Unstable angina at the time of admission would be coded unstable angina at the time of surgery.

SEQ. #: 1995
Long Name: Previously Attempted Case Canceled
Short Name: PCancCase
Definition: Indicate whether this case was previously attempted during this admission and cancelled or aborted after patient entered the operating room.

Intent/Clarification:
To capture occasions when the patient goes to the operating room with the intention to perform a cardiac surgery but the case is canceled.

SEQ. #: 2000
Long Name: Previously Attempted Canceled Case Date
Short Name: PCancCaseDt
Definition: Enter date previously attempted case was cancelled.

Intent/Clarification:
Date must be during this hospital admission. Required date format: mm/dd/yyyy.

SEQ. #: 2005
Long Name: Previously Attempted Canceled Case Timing
Short Name: PCancCaseTmg
Definition: Indicate at what point previously attempted case was cancelled or aborted.

Intent/Clarification:
The intent is to capture the timing associated with cancelling the case:

- Prior to Induction of Anesthesia
- After Induction, Prior to Incision
- After Incision Made

SEQ. #: 2010
Long Name: Previously Attempted Canceled Case Reason
Short Name: PCancCaseRsn
Definition: Indicate the reason why the previously attempted case was cancelled or aborted.

Intent/Clarification:
The intent is to capture the reason for cancelling the case:

- Anesthesiology event - Includes airway, line insertion and medication issues encountered during induction
- Cardiac arrest - Patient deterioration unrelated to induction
- Equipment/supply issue - Device malfunction or supply issue including devices and blood products needed for surgery but not available
- Access issue – Unable to gain access for lines and/or surgical exposure
- Unanticipated tumor – Tumor discovered at time of surgery
- Donor organ unacceptable – Organs for transplant found to be unacceptable
- Abnormal labs – Lab results could increase risk of surgery and/or require intervention prior to surgery
- Other – Reason not specified above

SEQ. #: 2015
Long Name: Previously Attempted Cancelled Case Procedure - CABG
Short Name: PCancCaseCAB
Definition: Indicate whether the plan for the previously attempted procedure included coronary artery bypass grafting.

Intent/Clarification:
The intent is to capture if the intended procedure for the cancelled case was Coronary Artery Bypass.

SEQ. #: 2020
Long Name: Previously Attempted Canceled Case Procedure - Mechanical Assist Device
Short Name: PCancCaseMech
Definition: Indicate whether the plan for the previously attempted procedure included implanting or explanting a mechanical assist device.

Intent/Clarification:
The intent is to capture if the intended procedure for the cancelled case was a mechanical assist device.

SEQ. #: 2025
Long Name: Previously Attempted Canceled Case Procedure - Other Non-Cardiac
Short Name: PCancCaseONC
Definition: Indicate whether the plan for the previously attempted procedure included any other non-cardiac procedure.

Intent/Clarification:
The intent is to capture if the intended procedure for the cancelled case was any other non-cardiac procedure.

SEQ. #: 2030
Long Name: Previously Attempted Canceled Case Procedure - Valve, Surgical
Short Name: PCancCaseValSur
Definition: Indicate whether the plan for the previously attempted procedure included a surgical valve procedure.

Intent/Clarification:
The intent is to capture if the intended procedure for the cancelled case was a surgical valve procedure.

SEQ. #: 2035
Long Name: Previously Attempted Canceled Case Procedure - Valve, Transcatheter
Short Name: PCancCaseValTrans
Definition: Indicate whether the plan for the previously attempted procedure included a transcatheter valve procedure.

Intent/Clarification:
The intent is to capture if the intended procedure for the cancelled case was a transcatheter valve procedure.

SEQ. #: 2040
Long Name: Previously Attempted Canceled Case Procedure - Other Cardiac
Short Name: PCancCaseOC
Definition: Indicate whether the plan for the previously attempted procedure included any other cardiac procedure.

Intent/Clarification:
The intent is to capture if the intended procedure for the cancelled case was any other cardiac procedure.

SEQ. #: 2050
Long Name: Current Case Canceled
Short Name: CCancCase

Definition: Indicate whether the current case was canceled or aborted after patient entered the operating room.

Intent/Clarification:
The intent is to capture if the current case that was cancelled occurred after the patient entered the operating room.

FAQ February 2018: The patient's initial surgical plan was to have a minimally invasive AVR. During the intra-operative TEE, the findings included severe MR, severe left ventricular dilation, massive left atrial size, and EF of 10%. The surgeon discussed surgical options with the team and family, and it was decided to change the surgical plan from "aortic and mitral valve replacement" to a transfemoral balloon aortic valvuloplasty. The patient was moved from the OR suite to a hybrid OR suite due to his size and equipment needs.
Should this be captured as a cancelled case?
Answer: Do not code as a cancelled case, an aortic valvuloplasty was performed.

FAQ March 2018: Patient went to OR for AVR and CABG. But only sternotomy and adhesiolysis were done because patient had frozen mediastinum and severe intrapericardial adhesion so surgeon decided to do the operation in stages. The sternum was closed. Next day patient went back to OR and AVR/CABG were done.
How would I code this? Will still be first cardiovascular surgery? Reop for cardiac reason? Will I also note as surgery aborted?
Answer: Code the dissection of the adhesions as a canceled procedure.

SEQ. #: 2055
Long Name: Current Case Canceled Timing
Short Name: CCancCaseTmg
Definition: Indicate at what point the current case was canceled or aborted.

Intent/Clarification:
The intent is to capture the timing associated with cancelling the case:

- Prior to Induction of Anesthesia
- After Induction, Prior to Incision
- After Incision Made

SEQ. #: 2060
Long Name: Current Case Canceled Reason
Short Name: CCancCaseRsn
Definition: Indicate the reason why the current case was canceled or aborted.

Intent/Clarification:
The intent is to capture the reason for cancelling the case:

- **Anesthesiology event** - Includes airway, line insertion and medication issues encountered during induction
- **Cardiac arrest** - Patient deterioration unrelated to induction
- **Equipment/supply issue** - Device malfunction or supply issue including devices and blood products needed for surgery but not available
- **Access issue** – Unable to gain access for lines and/or surgical exposure
- **Unanticipated tumor** – Tumor discovered at time of surgery
- **Donor organ unacceptable** – Organs for transplant found to be unacceptable
- **Abnormal labs** – Lab results could increase risk of surgery and/or require intervention prior to surgery
- **Other** – Reason not specified above

SEQ. #: 2065
Long Name: Current Case Canceled Procedure - CABG
Short Name: CCancCaseCAB
Definition: Indicate whether the plan for the current procedure included coronary artery bypass grafting.

Intent/Clarification:
The intent is to capture if the intended procedure for the cancelled case included Coronary Artery Bypass.

SEQ. #: 2075
Long Name: Current Case Canceled Procedure - Mechanical Assist Device
Short Name: CCancCaseMech
Definition: Indicate whether the plan for the current procedure included implanting or explanting a mechanical assist device.

Intent/Clarification:
The intent is to capture if the intended procedure for the cancelled case was a mechanical assist device.

SEQ. #: 2080
Long Name: Current Case Canceled Procedure - Other Non-cardiac
Short Name: CCancCaseONC
Definition: Indicate whether the plan for the current procedure included any other non-cardiac procedure.

Intent/Clarification:
The intent is to capture if the intended procedure for the cancelled case was any other non-cardiac procedure.

SEQ. #: 2085
Long Name: Current Case Canceled Procedure - Valve, Surgical
Short Name: CCancCaseValSur
Definition: Indicate whether the plan for the previously attempted procedure included a surgical valve procedure.

Intent/Clarification:
The intent is to capture if the intended procedure for the cancelled case was a surgical valve procedure.

SEQ. #: 2090
Long Name: Current Case Canceled Procedure - Valve, Transcatheter
Short Name: CCancCaseValTrans
Definition: Indicate whether the plan for the previously attempted procedure included a transcatheter valve procedure.

Intent/Clarification:
The intent is to capture if the intended procedure for the cancelled case was a transcatheter valve procedure.

SEQ. #: 2095
Long Name: Current Case Canceled Procedure - Other Cardiac
Short Name: CCancCaseOC
Definition: Indicate whether the plan for the current procedure included any other cardiac procedure.

Intent/Clarification:
The intent is to capture if the intended procedure for the cancelled case was any other cardiac procedure.

SEQ. #: 2100
Long Name: Operative Approach
Short Name: OPApp
Definition: Indicate the initial operative approach.

Intent/Clarification:
The intent is to capture the **initial** operative approach:

- Full conventional sternotomy

- Partial sternotomy
- Transverse sternotomy (includes clamshell)
- RIGHT OR LEFT parasternal incision
- Sub-xiphoid
- Sub-Costal
- Left Thoracotomy
- Right Thoracotomy
- Bilateral Thoracotomy
- Limited (mini) Thoracotomy, right (transapical TAVR)
- Limited (mini) Thoracotomy, left
- Limited (mini) Thoracotomy, bilateral
- Thoracoabdominal Incision
- Percutaneous
- Port Access
- Other
- None (cancelled case)

Commonly used approaches for the following devices:

- **Impella 2.0**
  - Percutaneous femoral
  - Percutaneous iliac
- **Impella 5.0**
  - Percutaneous femoral
  - Open femoral
  - Open aorta
  - Open iliac
- **VA ECMO**
  - Percutaneous femoral
  - Open Femoral
  - Percutaneous carotid
  - Percutaneous subclavian
  - Open subclavian

SEQ. #: 2105
Long Name: Operative Approach Converted
Short Name: ApproachCon
Definition: Indicate whether the operative approach was converted during the procedure.

Intent/Clarification:
The intent is to capture whether the approach was converted and whether that was part of the initial surgical plan.

- Yes, planned
- Yes, unplanned
- No

SEQ. #: 2110
Long Name: Robot Used
Short Name: Robotic
Definition: Indicate whether a robot was used during cardiac surgery.

Intent/Clarification:
The intent is to whether any portion of the procedure was used during the surgical procedure.

- Yes
- No

SEQ. #: 2115
Long Name: Robot Use Time Frame
Short Name: RobotTim
Definition: Indicate the time frame of robotic use.

Intent/Clarification:
The intent is to the extent of the procedure where the robot was used.

- Used for entire operation
- Used for part of the operation

SEQ. #: 2120
Long Name: CAB
Short Name: OpCAB
Definition: Indicate whether coronary artery bypass grafting was done.

Intent/Clarification:
The intent is to capture procedures where bypass grafts were constructed to native coronary arteries.

- Yes, planned*
- Yes, unplanned due to surgical complication*
- Yes, unplanned due to unsuspected disease or anatomy*
- No

***If yes, complete Section J.**

FAQ September 2017: Pt with previous CAB in January of this year now presents with Aortic Dissection. The dissection was repaired and cadaver vein graft extensions were used to reimplant the PDA/PL grafts. The OM and Diag grafts were occluded by the dissection. Should this case include a CAB?
Answer: No, a distal coronary artery graft is not constructed using the cadaver vein.
FAQ October 2017: Following a David procedure, due to bleeding at the right coronary anastomosis, a Kay Zubiate reconstruction was required to reconstruct the ostium of the RCA using a segment of saphenous vein. How is this coded?
Answer: Code CAB; Yes, unplanned due to surgical complication.

FAQ May 2019: I had a patient who had a planned CABG for 1 day and a planned TVAR the next day. Is the TAVR captured, if so, where?
Answer: Yes, please code the TAVR in the Aortic Valve Section even though it was done on a different day. This patient will appropriately fall out of the isolated CAB category considering the additional risk of the TAVR procedure.

FAQ October 2019 – Is unroofing of an anomalous coronary artery captured as a CABG?
Answer - If only anomalous vessel CABG, then this should be captured as a congenital procedure, not ISOCAB. If in conjunction with other atherosclerotic vessels, then it is an ISOCAB only. If bypass is performed for an anomalous, kinked or damaged vessel, this vessel is counted as one diseased or abnormal vessel in Seq 1170.

SEQ. #: 2125
Long Name: Valve
Short Name: OpValve
Definition: Indicate whether a surgical procedure was done on the Aortic, Mitral, Tricuspid or Pulmonic valves.

Intent/Clarification:
The intent is to capture procedures where valve procedures were performed.

- Yes*
- No

***If yes, complete Section K.**

FAQ October 2018: How is a Konno-Rastan procedure coded?
Answer: Konno-Rastan's should be captured as a Konno procedure by coding sequence numbers 2125, 3460 and 3461 (Konno). Konno-Rastans are more extensive outflow tract procedures and are not captured in this version.

FAQ May 2019: I had a patient who had a planned CABG for 1 day and a planned TVAR the next day. Is the TAVR captured, if so, where?
Answer: Yes, please code the TAVR in the Aortic Valve Section even though it was done on a different day. This patient will appropriately fall out of the isolated CAB category considering the additional risk of the TAVR procedure.

FAQ July 2019 - While undergoing TAVR procedure, surgery was converted to open AVR. I know this 'conversion to open' will be captured in the TVT database, but do I still enter the case in STS since it is now an open procedure? My site does not normally enter TAVR cases into the STS.
Answer - Yes, this should be entered into the STS Database. If the site usually enters TAVRs into the STS database and the patient ends up converting to SAVR then the TAVR should not be captured as the index procedure, the SAVR should be entered as the index procedure and the preoperative risk of the failed TAVR should be caputred.

FAQ August 2019 - A patient was admitted for tricuspid valve endocarditis and had a AngioVac-assisted extirpation of matter from the tricuspid valve via percutaneous approach with cardiopulmonary bypass support. Is this case included in the Registry?
Answer - Aortic thrombectomy using the AngioVac system is not collected, unless done in conjunction with an STS qualifying procedure, such as CAB or AVR etc.

SEQ. #: 2126
Long Name: Surgeon Input for Valve Surgery Data Abstraction
Short Name: OpValSurgInput
Definition: Indicate whether the surgeon provided input for the valve surgery data abstraction.

Intent/Clarification:
Indicates that the data manger confirms that because of interaction with the surgeon the data included reflects the pathology and the procedure performed.

SEQ. #: 2128
Long Name: Aorta Procedure Performed
Short Name: AortProc
Definition: Indicate whether a procedure was performed on the aorta.

Intent/Clarification:
The intent is to capture procedures where procedures were performed involving the aorta. **Update Nov 2019 - Aorta procedures for the purpose of the database refers to actual aorta procedures not stand-alone head or visceral vessels management without an additional aorta or planned staged aorta procedure performed**.

- Yes, planned*
- Yes, unplanned due to surgical complication*
- Yes, unplanned due to unsuspected disease or anatomy*
- No

***If Yes, complete Section M2**

SEQ. #: 2129
Long Name: Surgeon Input for Aortic Surgery Data Abstraction
Short Name: AortProcSurgInput
Definition: Indicate whether the surgeon provided input for the aortic surgery data abstraction.

Intent/Clarification:
Indicates that the data manger confirms that because of interaction with the surgeon the data included reflects the pathology and the procedure performed.

- Yes
- No

SEQ. #: 2140
Long Name: Other Card
Short Name: OpOCard
Definition: Indicate whether another cardiac procedure was done (other than CABG and/or Valve procedures).

Intent/Clarification:
The intent is to capture procedures where **Other Cardiac Procedures were performed.**

- Yes, planned*
- Yes, unplanned due to unsuspected disease or anatomy*
- Yes, unplanned due to surgical complication*
- No

***If Yes, complete Section M.**

Do not include isolated ECMO, Impella or IABP insertions here.

FAQ September 2017: If a patient has an extensive atrial fibrillation procedure and an LAA clipping, how would we include the atrial ligation/exclusion method and device?
Answer: Multiple sequence numbers will be required to code the ligation/exclusion and device.
First capture sequence numbers 2140 and 2145 to open section M and M-1.
Then capture the atrial appendage procedure in sequence 4050; then ligation/exclusion method in sequence 4051 and Model in sequence number 4052 as well as the UDI, if available, in sequence 4053.
Code the extensive ablation procedure in section M-1 as described by your physician including lesion number 7 to complete the LAA.

FAQ October 2017: A patient has a four-vessel bypass. During the procedure he also has an endarterectomy and vein patch angioplasty of the circumflex (no bypass). Do I code that a coronary bypass graft was done? Do I capture this as Other Cardiac thus throwing this out of the isolated CABG category?
Answer: In order to open the child fields in the coronary bypass grid to complete the fields for endarterectomy you must code 'Yes'. Leave proximal site blank. Do not code as 'Other Cardiac'.

FAQ December 2017: Should subxiphoid pericardial window or subxiphoid thoracoscopic epicardial ablation, a convergent procedure, be coded as other as other cardiac?
Answer: Yes, code other cardiac procedure.

FAQ December 2017: Should epicardial ablation performed for inappropriate sinus tachycardia be coded as an 'other cardiac' procedure or as an atrial fibrillation procedure?
Answer: Code this procedure as other cardiac procedure performed.

FAQ February 2018: The patient's initial surgical plan was to have a minimally invasive AVR. During the intra-operative TEE, the findings included severe MR, severe left ventricular dilation, massive left atrial size, and EF of 10%. The surgeon discussed surgical options with the team and family, and it was decided to change the surgical plan from "aortic and mitral valve replacement" to a transfemoral balloon aortic valvuloplasty. The patient was moved from the OR suite to a hybrid OR suite due to his size and equipment needs.
How should this case be captured?
Answer: Code other cardiac procedure, an aortic valvuloplasty was performed.

FAQ August 2018: The patient had a procedure where the left subclavian vein to the superior vena cava was bypassed with a reversed greater saphenous vein. Should this be included in the adult cardiac database?
Answer: No, do not include.

FAQ January 2019: Patient goes to OR for esophageal perforation repair and while in OR they also find that he requires an Inferior Pulm Vein repair. The pulm vein repair location and size of repair required that patient be put on bypass. Case occurred in pericardium, but not within the heart. Please confirm if this case should be entered in the ACSD.
Answer: Yes, this case can be entered into the ACSD as other cardiac.

FAQ January 2019: Should a pulmonary artery aneruysm repair be entered in the adult cardiac database? The pericardium was opened and the case was done on pump.
Answer: Yes, this case can be entered into the ACSD as other cardiac.

FAQ May 2019: How should I code the following procedure performed with a CABG or not - "Left ventriculotomy with removal of apical thrombus"?
Answer: Code other cardiac, other

FAQ June 2019: Patient underwent CABG and LV Thrombus Evacuation. A transverse low incision on the aorta was made and the LV cavity was inspected through the aortic valve. The aortic valve of the right coronary cusp was retracted gently, and the apex was visualized transaortic. The clot was removed in pieces. Should the LV Thrombus Evacuation be captured as Other Cardiac Procedure?
Answer: Code as Other Cardiac as this increases the patient risk during CABG since you are removing thrombus.

FAQ August 2019 - A patient was admitted for tricuspid valve endocarditis and had a AngioVac-assisted extirpation of matter from the tricuspid valve via percutaneous approach with cardiopulmonary bypass support. Is this case included in the Registry?
Answer - Aortic thrombectomy using the AngioVac system is not collected, unless done in conjunction with an STS qualifying procedure, such as CAB or AVR etc.

FAQ Nov 2019 - Pt has a planned PCI of the LAD and a bioprosthetic MVR in a hybrid OR. In v2.9, how would I capture this PCI done in the OR with the MVR? (since concurrent PCI was removed from this version). In this case the PCI was done prior to the MVR within the hybrid procedure. Wondering if I should capture the concurrent PCI as a planned Other Cardiac procedure in addition to the MVR or should it be captured as a prior PCI within same episode of care?
Answer - Code PCI as other planned, other cardiac procedure in this scenario.

SEQ. #: 2145
Long Name: Atrial Fibrillation Procedure Performed
Short Name: AFibProc
Definition: Indicate whether an atrial fibrillation procedure was performed.

Intent/Clarification:
The intent is to capture when atrial fibrillation procedures were performed.

- Yes*
- No

***If Yes, complete Section M1.**

FAQ September 2017: If a patient has an extensive atrial fibrillation procedure and an LAA clipping how would we include the atrial ligation/exclusion method and device?
Answer: Multiple sequence numbers will be required to code the ligation/exclusion and device.
First capture sequence numbers 2140 and 2145 to open section M and M-1.
Then capture the atrial appendage procedure in sequence 4050; then ligation/exclusion method in sequence 4051 and Model in sequence number 4052 as well as the UDI, if available, in sequence 4053.
Code the extensive ablation procedure in section M-1 as described by your physician including lesion number 7 to complete the LAA.

FAQ May 2019: How are we capturing epicardial botox injections for treatment of atrial fibrillationif done in conjunction with another database procedure?

Answer: Code this as yes to Other Cardiac, Afib seq 2145 and in the a-fib section code primarily epicardial for lesion location at seq 419 but leave method blank.

FAQ May 2019: Is the surgical component of the Convergent MAZE procedure that is completed by a Cardiothoracic Surgeon, required data entry for STS?

Answer: Yes, this can be captured in the Afib section as primarily epicardial.

SEQ. #: 2146
Long Name: Surgeon Input for Other Cardiac Afib Data Abstraction
Short Name: AFibProcSurgInput
Definition: Indicate whether the surgeon provided input for the other cardiac Afib procedure data abstraction.

Intent/Clarification:
Indicates that the data manger confirms that because of interaction with the surgeon the data included reflects the pathology and the procedure performed.

- Yes*
- No

SEQ. #: 2155
Long Name: Other Non Card
Short Name: OpONCard
Definition: Indicate whether a non-cardiac procedure was done.

Intent/Clarification:
The intent is to capture when non-cardiac procedures were performed.

FAQ May 2018: We had a patient who underwent EGD with dilatation of his esophagus for stricture in order to pass the TEE probe in the OR. This was done immediately prior to the CAB procedure, in the same operating room and under one anesthetic setting. Is this coded as an 'other non-cardiac' procedure?
Answer: No, this is not an 'other non-cardiac' procedure and should not take the patient out of the isolated CAB category.

FAQ June 2018: The patient had a history of hydrocephalous and a VP shunt placement. A CT prior to OR showed the VP shunt lying over the sternum and did not enter the heart. Pt had a neurosurgeon (in the open heart room) Externalize the shunt immediately prior to this patients open heart surgery. Is this considered an Other Non-Cardiac procedure?

Answer: No, this did not require a non-cardiac procedure as the VP shunt was externalized or simply “moved aside”.

FAQ June 2018: If a patient had hernia repair, involving the hernia sac and requiring mesh placement, during CABG procedure is this captured as other non-cardiac procedure?
Answer: Yes, this extensive hernia repair is an Other Non-Cardiac procedure.

FAQ September 2018: Patient had CAB, Aortic Root replacement, and plication of a redundant left hemi-diaphragm. Does the plication of the hemi-diaphragm get captured as an Other Non-Cardiac Procedure category?
Answer: It does not add to the risk, do not code anything.

FAQ January 2019: In the OR, but prior to skin incision, the anesthesiologist placed an introducer in the right internal jugular vein for purposes of SG catheter insertion but was unable to advance the catheter due to resistance. A centeral venous introducer was then placed in the left subclavian vein and the SG was floated successfully. Following the median sternotomy incision, a large hematoma was noted in the area around the innominate vein. Careful dissection revealed the central venous introducer protruding from the innominate vein. There was a fairly large tear in vein extending beneath the upper left sternum. Manual pressure was held, cardiopulmonary bypass was established between the RCFA and and RA. The tear was closed longitudinally using 6-0 prolene. Patient taken off bypass for IMA and vein harvest, and placed back on bypass for remainder of CABG. Is this an ‘other non cardiac/other vascula’ unplanned due to surgical complication?
Answer: Yes, code other non-cardiac due to surgical complication.

FAQ February 2019: The patient was admitted for elective AVR and has a history of persistent right pleural effusion. During the surgery a right total lung decortication was performed (prior to the AVR). The pleural effusion was evacuated and the lung exhibitied a significant amount of scar and was clearly trapped. Two hours was spent removing the pleural rind and an appropriate level of decortication was achieved. Should this be captured as an ‘other non-cardiac procedure’?
Answer: Yes, code other non-cardiac.

FAQ February 2019: Would repair of severe pectus excavatum performed during an AVR + CAB be coded as an ‘other non cardiac’?
Answer: No, do not code the repair as other non cardiac.

FAQ May 2019: The patient was in surgery having Right carotid endarterectomy done (and please note the plan was to have the AVR done tomorrow) when during this procedure the patient became bradycardic and required chest compressions and multiple doses of epi. They were able to get the patient back after 10 minutes of chest compressions. However, the pt. had a second bradycardic cardiac arrest and the surgeon decided on a salvage aortic valve replacement! So is the Endarterectomy now part of the AVR surgery (How do I mark this on the STS tool?)

Answer: If this was done in the same room then code the the AVR as Salvage and the endarterectomy. You can also code resuscitation.

SEQ. #: 2195
Long Name: CPT-1 Code # 1
Short Name: CPT1Code1
Definition: Indicate the first CPT procedure code (CPT-1) pertaining to the surgery for which the data collection form was initiated.

Intent/Clarification:
There is no STS list. Use whichever CPT codes were entered for procedures performed during this operation. Consult with your Billing/Coding Department, if applicable.

SEQ. #: 2200
Long Name: CPT-1 Code # 2
Short Name: CPT1Code2
Definition: Indicate, if applicable, the second CPT procedure code (CPT-1) pertaining to the surgery for which the data collection form was initiated.

Intent/Clarification:
There is no STS list. Use whichever CPT codes were entered for procedures performed during this operation. Consult with your Billing/Coding Department, if applicable.

SEQ. #: 2205
Long Name: CPT-1 Code # 3
Short Name: CPT1Code3
Definition: Indicate, if applicable, the third CPT procedure code (CPT-1) pertaining to the surgery for which the data collection form was initiated.

Intent/Clarification:
There is no STS list. Use whichever CPT codes were entered for procedures performed during this operation. Consult with your Billing/Coding Department, if applicable.

SEQ. #: 2210
Long Name: CPT-1 Code # 4
Short Name: CPT1Code4
Definition: Indicate, if applicable, the fourth CPT procedure code (CPT-1) pertaining to the surgery for which the data collection form was initiated.

Intent/Clarification:

There is no STS list. Use whichever CPT codes were entered for procedures performed during this operation. Consult with your Billing/Coding Department, if applicable.

SEQ. #: 2215
Long Name: CPT-1 Code # 5 **Short Name:** CPT1Code5
Definition: Indicate, if applicable, the fifth CPT procedure code (CPT-1) pertaining to the surgery for which the data collection form was initiated.

Intent/Clarification:
There is no STS list. Use whichever CPT codes were entered for procedures performed during this operation. Consult with your Billing/Coding Department, if applicable.

SEQ. #: 2220
Long Name: CPT-1 Code # 6
Short Name: CPT1Code6
Definition: Indicate, if applicable, the sixth CPT procedure code (CPT-1) pertaining to the surgery for which the data collection form was initiated.

Intent/Clarification:
There is no STS list. Use whichever CPT codes were entered for procedures performed during this operation. Consult with your Billing/Coding Department, if applicable.

SEQ. #: 2225
Long Name: CPT-1 Code # 7
Short Name: CPT1Code7
Definition: Indicate, if applicable, the seventh CPT procedure code (CPT-1) pertaining to the surgery for which the data collection form was initiated.

Intent/Clarification:
There is no STS list. Use whichever CPT codes were entered for procedures performed during this operation. Consult with your Billing/Coding Department, if applicable.

SEQ. #: 2230
Long Name: CPT-1 Code # 8
Short Name: CPT1Code8
Definition: Indicate, if applicable, the eighth CPT procedure code (CPT-1) pertaining to the surgery for which the data collection form was initiated.

Intent/Clarification:
There is no STS list. Use whichever CPT codes were entered for procedures performed during this operation. Consult with your Billing/Coding Department, if applicable.

SEQ. #: 2235
Long Name: CPT-1 Code # 9
Short Name: CPT1Code9
Definition: Indicate, if applicable, the ninth CPT procedure code (CPT-1) pertaining to the surgery for which the data collection form was initiated.

Intent/Clarification:
There is no STS list. Use whichever CPT codes were entered for procedures performed during this operation. Consult with your Billing/Coding Department, if applicable.

SEQ. #: 2240
Long Name: CPT-1 Code # 10
Short Name: CPT1Code10
Definition: Indicate, if applicable, the tenth CPT procedure code (CPT-1) pertaining to the surgery for which the data collection form was initiated.

Intent/Clarification:
There is no STS list. Use whichever CPT codes were entered for procedures performed during this operation. Consult with your Billing/Coding Department, if applicable.

SEQ. #: 2245
Long Name: OR Entry Date And Time
Short Name: OREntryDT
Definition: Indicate the date and time, to the nearest minute (using 24-hour clock), that the patient entered the operating room. If the procedure was performed in a location other than the OR, record the time when the sterile field, or its equivalent, was set up.

Intent/Clarification:
The intent is to capture the actual date and time the patient physically enters the operating room. For emergency procedures done outside the OR, this may be an estimated time.
Required date format: mm/dd/yyyy
Required time format: hh:mm (0-24 hour clock)

FAQ Sept 2019 - I had a patient who had a planned CABG for 1 day and a planned TVAR the next day. Per the Training Manual, I am to capure this as one procedure in

the Aortic Valve Section even though it was done on a different day. In this scenario, do I enter the OR times from the CABG or TAVR procedure?
Answer - Use the OR times Seq 2245, 2250, 2253, 2265, 2270, and 2275 from the CABG in this scenario.

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SEQ. #: 2250
Long Name: OR Exit Date And Time
Short Name: ORExitDT
Definition: Indicate the date and time, to the nearest minute (using 24-hour clock), that the patient exits the operating room. If the procedure was performed in a location other than the OR, record the time when the sterile field, or its equivalent, was taken down.

Intent/Clarification:
The intent is to capture the actual date and time the patient physically leaves the operating room. This field is used to calculate post-operative ventilation time and therefore prolonged ventilation.

Required date format: mm/dd/yyyy.
Required time format: hh:mm (0-24 hour clock)

FAQ October 2019 - A patient underwent CABG surgery, the Physician closed the chest, and while moving the patient off the OR table the patient had a VFIB arrest. She was placed back on the OR table, IABP Inserted, and her chest re-opened and an additional bypass graft performed. They re-closed the chest, took the patient off the table to another Hybrid OR room where a Cath Lab Physician placed an Impella. After the Impella was placed, the patient was transferred to the ICU. The hybrid room is across the hall from the previous OR Room. Same staff attended and care was not interrupted. How do I code OR exit date and time?
Answer - Code as all one procedure. The patient never left the OR in this situation – use the final time of OR exit.

SEQ. #: 2251
Long Name: General Anesthesia
Short Name: GenAnes
Definition: Indicate whether general anesthesia was used during this procedure.

Intent/Clarification:
The intent is to clarify whether general anesthesia was used.

FAQ August 2019 - Is general anesthesia to be checked “Yes” if used anytime during the procedure. This is related to cases that start with MAC and convert to general anesthesia?

Answer - The intent of this field is to capture if general anesthesia was used at any time during the procedure, regardless if they started with procedural sedation.

SEQ. #: 2252
Long Name: Procedural Sedation
Short Name: ProcSed
Definition: Indicate whether the procedure was performed under sedation (also referred to as “moderate sedation” or “conscious sedation”) and not general anesthesia.

Intent/Clarification:
The intent is to identify whether sedation was used, moderate or conscious, instead of general anesthesia.

SEQ. #: 2253
Long Name: Intubation
Short Name: Intubate
Definition: Indicate the status of intubation.

Intent/Clarification:
The intent is to identify whether the patient required endotracheal or tracheal intubation.

SEQ. #: 2255
Long Name: Initial Intubation Date And Time
Short Name: IntubateDT
Definition: Indicate the date (mm/dd/yyyy) and time (hh:mm) (24 hour clock) ventilatory support started. Date in the format mm/dd/yyyy.

Intent/Clarification:
The following guidelines apply:

- Capture the intubation closest to the surgical start time. If the patient was intubated upon admission and remained intubated until the surgical start time, capture this intubation's date and time.
- If the patient was admitted intubated (intubated at another institution) and remained continually intubated until the surgical start time, capture the patient’s admission date and time.
- If the patient was admitted with a tracheostomy in place without ventilator support, capture the date and time closest to the surgical start time that ventilator support was initiated.
- If the patient was admitted with a tracheostomy in place and was receiving chronic ventilator support, capture the admission date and time.

- If the intubation date and time is otherwise unknown, enter the date and time the patient entered the operating room.
- Do not alter the previously established date and time that ventilator support was initiated for scenarios including, but not limited to, interruptions in ventilator support due to accidental extubation/de-cannulation, elective tube change etc.

Required date format: mm/dd/yyyy
Required time format: hh:mm (0-24 hour clock)

SEQ. #: 2260
Long Name: Initial Extubation Date And Time
hort Name: ExtubateDT
Definition: Indicate the date (mm/dd/yyyy) and time (hh:mm) (24 hour clock) ventilatory support initially ceased after surgery.

Intent/Clarification:
The following guidelines apply:

- Capture extubation time closest to the surgical stop time
- If the patient has a tracheostomy and is separated from the mechanical ventilator postoperatively within the hospital admission, capture the date and time of separation from the mechanical ventilator closest to the surgical stop time.
- If the patient expires while intubated or cannulated and on the ventilator, capture the date and time of expiration as extubation time.
- If patient is discharged on chronic ventilator support, capture the date and time of discharge.

Required date format: mm/dd/yyyy
Required time format: hh:mm (0-24 hour clock)

FAQ Nov 2019 - The respiratory therapist always documents the extubation time. However, the ICU nurse also documents the extubation time on her flow sheet. I often get the following scenario, RT time extubated documented as 0700, RN documents on her flowsheet 0703. Which time do I take?
Answer - Capture the time documented by the Respiratory Therapist as priority source documentation in this scenario.

SEQ. #: 2265
Long Name: Skin Incision Start Date And Time
Short Name: SIStartDT
Definition: Indicate the date and time, to the nearest minute (using 24-hour clock), that the first skin incision, or its equivalent, was made.

Intent/Clarification:
Use the first incision, i.e. vein harvest incision; for the skin incision date and time. Do not code access site stab wounds. First skin incision would also apply to Carotid, Vascular, Thoracic and Other non-cardiac procedures.

Required date format: mm/dd/yyyy
Required time format: hh:mm (0-24 hour clock)

SEQ. #: 2270
Long Name: Skin Incision Stop Date And Time
Short Name: SIStopDT
Definition: Indicate the date and time, to the nearest minute (using 24-hour clock), that the skin incision was closed, or its equivalent. If the patient leaves the operating room with an open incision, collect the time that the dressings were applied to the incision.

Intent/Clarification:
Use the documented time the incision was closed.

Required date format: mm/dd/yyyy
Required time format: hh:mm (0-24 hour clock)

SEQ. #: 2275
Long Name: Anesthesia End Date and Time
Short Name: AnesEndDT
Definition: Indicate the anesthesia end time documented in the medical record. The definition of anesthesia end time is when the anesthesiologist is no longer in personal attendance, that is, when the patient is safely placed under post-anesthesia supervision.

Intent/Clarification:
The time may be in the recovery room or intensive care unit; when it is documented that anesthesia care has ended. This field will be referenced for selecting the peak post op glucose (6550) Anesthesia end time should be captured from the anesthesia record.

Required date format: mm/dd/yyyy
Required time format: hh:mm (0-24 hour clock)

SEQ. #: 2280
Long Name: Appropriate Antibiotic Selection
Short Name: AbxSelect

Definition: Indicate if there was documentation of an order for a first generation or second generation cephalosporin prophylactic antibiotic, documentation that it was given preoperatively or in the event of a documented allergy an alternate antibiotic choice is ordered and administered.

Intent/Clarification: Refer to the antibiotic guidelines on the STS website.

http://www.sts.org/resources-publications/clinical-practice-credentialing-guidelines/antibiotic-guidelines

FAQ Sept 2019 - Is Clindamycin an appropriate choice for PCN allergic patients? Answer - An alternative antibiotic can be given as the primary (prophylactic) antibiotic for a patient with a PCN allergy as deemed apporpriate by hosptial infectious disease consultant. Standing orders are acceptable as long as an Infection Disease Consultant was involved in the development of the orders.

SEQ. #: 2285
Long Name: Appropriate Antibiotic Administration Timing
Short Name: AbxTiming
Definition: Indicate whether prophylactic antibiotics were administered within one hour of surgical incision or start of procedure if no incision required (two hours if receiving Vancomycin or fluoroquinolone).

The surgical incision time is the time of the first incision, regardless of location.

Intent/Clarification:
The documented time the antibiotic started must be prior to the documented time of the first surgical incision. Refer to antibiotic guidelines on the STS website.

http://www.sts.org/resources-publications/clinical-practice-credentialing-guidelines/antibiotic-guidelines

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SEQ. #: 2290
Long Name: Appropriate Antibiotic Discontinuation
Short Name: AbxDisc
Definition: Indicate whether the prophylactic antibiotics were ordered to be discontinued OR were discontinued within 48 hours after surgery end time.

Determining the timeframe (within 48 hours) begins at the "surgical end time".

Intent/Clarification:
Refer to antibiotic guidelines on the STS website.

http://www.sts.org/resources-publications/clinical-practice-credentialing-guidelines/antibiotic-guidelines

FAQ January 2019: Patient had antibiotic frequency changed from q8 X 5 Doses to q12 X five doses which timed last dose beyond the 48 hour limit. Would change for renal insufficiency be a permitted exclusion?
Answer: No, the antibiotic should still be discontinued within 48 hours.

SEQ. #: 2295
Long Name: Additional Intraoperative Prophylactic Antibiotic Dose
Short Name: AddIntraopPAnti
Definition: Indicate whether an additional prophylactic antibiotic dose was given in the operating room.

Intent/Clarification:
Refer to antibiotic guidelines on the STS website.

http://www.sts.org/resources-publications/clinical-practice-credentialing-guidelines/antibiotic-guidelines

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SEQ. #: 2296
Long Name: Temperature Measured
Short Name: TempMeas
Definition: Indicate whether the patient's core temperature was measured during the procedure.

Intent/Clarification:

SEQ. #: 2300
Long Name: Lowest Temperature
Short Name: LwstTemp
Definition: Record the patient's lowest core temperature in the operating room in degrees centigrade.

Intent/Clarification:
The intent is to capture the lowest documented temperature intraoperatively. The source of the documentation may be Esophageal, CPB venous return, Bladder, Nasopharyngeal, Tympanic, Rectal, or Other.

SEQ. #: 2305
Long Name: Lowest Temperature Source
Short Name: LwstTempSrc
Definition: Indicate the source where the lowest core temperature was measured.

Intent/Clarification:
Temperatures are typically documented on perfusion record or anesthesia record. Venous temperatures on CPB are most common and always available, however not as accurate. Sources may be Esophageal, CPB venous return, Bladder, Nasopharyngeal, Tympanic, Rectal, Other, or Unknown.

SEQ. #: 2310
Long Name: Lowest Intra-op Hemoglobin
Short Name: LwstIntraHemo
Definition: Enter the lowest measured hemoglobin recorded in the operating room. Do not enter calculated values.

Intent/Clarification:
If you do not have measured lab values you may use calculated values. **Update Nov 2019 – The unit of measurement for Hgb is g/dl or g/100 ml or g%.**

**Note that Hemoglobin (Hgb) should always be less that the Hematocrit (Hct).

FAQ July 2019 - The definition states do not use calculated values however, under intent it states if you do not have a value you can use a calculated value? So which is it you can use calculated or you can not?
Answer - Calculated values are acceptable to use if that is all that is documented.

SEQ. #: 2315
Long Name: Lowest Hematocrit
Short Name: LwstHct
Definition: Enter the lowest measured hematocrit recorded in the operating room. Do not enter calculated values.

Intent/Clarification:
If you do not have measured lab values you may use calculated values. **Update Nov 2019 – The unit of measurement for Hct is %.**

**Note that Hemoglobin (Hgb) should always be less that the Hematocrit (Hct).

SEQ. #: 2320
Long Name: Highest Intra-op Glucose
Short Name: HighIntraGlu
Definition: Enter the highest glucose recorded in the operating room.

Intent/Clarification:
Typically documented in laboratory tests, anesthesia record, or perfusion record.
Update Nov 2019 – The unit of measurement for Glucose is mg/dl.

SEQ. #: 2325
Long Name: CPB Utilization
Short Name: CPBUtil
Definition: Indicate the level of CPB or coronary perfusion used during the procedure.

Intent/Clarification:
- **None**: No CPB or coronary perfusion used during the procedure.
- **Combination**: With or without CPB and/or with or without coronary perfusion at any time during the procedure (capture conversions from off-pump to on-pump only):
    - At start of procedure: No CPB/No Coronary Perfusion -> conversion to -> CPB
    - At start of procedure: No CPB/No Coronary Perfusion -> conversion to -> Coronary perfusion
    - At start of procedure: No CPB/No Coronary Perfusion -> conversion to -> Coronary perfusion -> conversion to -> CPB
- **Full CPB** or coronary perfusion was used for the entire procedure

FAQ June 2019 - When the patient is placed on left heart bypass during an open descending thoraco-abdominal aneurysm repair, is the left heart bypass time captured under cardiopulmoanry bypass time?
Answer: Code NO to Seq 2325 as this is not actual bypass as defined by the Training Manual.

SEQ. #: 2330
Long Name: CPB Utilization - Combination Plan
Short Name: CPBCmb
Definition: Indicate whether the combination procedure from off-pump to on-pump was a planned or an unplanned conversion.

Intent/Clarification:

To capture if the operation was intended to be an off pump case and, for some clinical reason, required cardiopulmonary bypass to complete the operation.

- **Planned** - The surgeon intended to treat with any of the combination options described in "CPB utilization"
- **Unplanned** - The surgeon did not intend to treat with any of the combination options described in "CPB utilization"

SEQ. #: 2335
Long Name: CPB Utilization - Unplanned Combination Reason
Short Name: CPBCmbR
Definition: Indicate the reason that the procedure required the initiation of CPB and/or coronary perfusion.

Intent/Clarification:
To capture the reason that caused the procedure to require the initiation of cardiopulmonary bypass:

- Exposure/visualization
- Bleeding
- Inadequate size and/or diffuse disease of the distal vessel
- Hemodynamic instability (hypotension/arrhythmias)
- Conduit quality and/or trauma
- Other

Update Nov 2019 - The cannulation site refers to where the catheter is inserted. Two stage/triple stage cannulation = right atrium. Code all caval/ bicaval cannulation as venous site = right atrium. An option for SVC will be added in the upgrade.

FAQ Nov 2019 - How do I code femoral and IJ cannulation?
Answer - Code as femoral and jugular.

SEQ. #: 2340
Long Name: Cannulation - Arterial Cannulation Site - Aortic
Short Name: CanArtStAort
Definition: Indicate whether the arterial cannulation site included the aorta.

Intent/Clarification:
The arterial cannulation site was the aorta.

SEQ. #: 2345
Long Name: Cannulation - Arterial Cannulation Site - Femoral
Short Name: CanArtStFem
Definition: Indicate whether the arterial cannulation site included a femoral artery.

Intent/Clarification:
The arterial cannulation site was the femoral artery.

SEQ. #: 2350
Long Name: Cannulation - Arterial Cannulation Site - Axillary
Short Name: CanArtStAx
Definition: Indicate whether the arterial cannulation site included an axillary artery.

Intent/Clarification:
The arterial cannulation site was the axillary artery.

SEQ. #: 2355
Long Name: Cannulation - Arterial Cannulation Site - Innominate
Short Name: CanArtStInn
Definition: Indicate whether the arterial cannulation site included an innominate artery.

Intent/Clarification:
The arterial cannulation site was the innominate artery.

SEQ. #: 2360
Long Name: Cannulation - Arterial Cannulation Site - Other
Short Name: CanArtStOth
Definition: Indicate whether the arterial cannulation site included any other artery.

Intent/Clarification:
There was any other arterial cannulation site.

SEQ. #: 2365
Long Name: Cannulation - Venous Cannulation Site - Femoral
Short Name: CanVenStFem
Definition: Indicate whether the venous (inflow) cannulation site included a femoral vein.

Intent/Clarification:
The venous cannulation site was the femoral vein.

SEQ. #: 2370
Long Name: Cannulation - Venous Cannulation Site - Jugular
Short Name: CanVenStJug
Definition: Indicate whether the venous (inflow) cannulation site included a jugular vein.

Intent/Clarification:
The venous cannulation site was the jugular vein.

SEQ. #: 2375
Long Name: Cannulation - Venous Cannulation Site - Right Atrial
Short Name: CanVenStRtA
Definition: Indicate whether the venous (inflow) cannulation site included the right atrium.

Intent/Clarification:
The venous cannulation site was the right atrium.

SEQ. #: 2380
Long Name: Cannulation - Venous Cannulation Site - Left Atrial
Short Name: CanVenStLfA
Definition: Indicate whether the venous (inflow) cannulation site included the left atrium.

Intent/Clarification:
The venous cannulation site was the left atrium.

SEQ. #: 2385
Long Name: Cannulation - Venous Cannulation Site - Pulmonary Vein
Short Name: CanVenStPulm
Definition: Indicate whether the venous (inflow) cannulation site included a pulmonary vein.

Intent/Clarification:
The venous cannulation site was the pulmonary vein.

SEQ. #: 2390
Long Name: Cannulation - Venous Cannulation Site - Caval/Bicaval
Short Name: CanVenStBi
Definition: Indicate whether the venous (inflow) cannulation site included the superior and/or inferior vena cava.

Intent/Clarification:
The venous cannulation site was the superior and/or inferior vena cava.
Update Nov 2019 - Code all caval/ bicaval cannulation as venous site = right atrium. An option for SVC will be added in the upgrade.

SEQ. #: 2395
Long Name: Cannulation - Venous Cannulation Site - Other
Short Name: CanVenStOth
Definition: Indicate whether the venous (inflow) cannulation site included any other site.

Intent/Clarification:
Any other venous cannulation site was used.

SEQ. #: 2400
Long Name: Cardiopulmonary Bypass Time
Short Name: PerfusTm
Definition: Indicate the total number of minutes that systemic return is diverted into the cardiopulmonary bypass (CPB) circuit and returned to the systemic system. This time period (Cardiopulmonary Bypass Time) includes all periods of cerebral perfusion and sucker bypass. This time period (Cardiopulmonary Bypass Time) excludes any circulatory arrest and modified ultrafiltration periods. If more than one period of CPB is required during the surgical procedure, the sum of all the CPB periods will equal thetotal number of CPB minutes.

Intent/Clarification:
The total time in minutes. This information can be obtained from the perfusion record or in the Surgeon’s dictation.

SEQ. #: 2405
Long Name: Circulatory Arrest
Short Name: CircArr

Definition: Indicate whether or not circulatory arrest was utilized during the procedure.

Intent/Clarification:
Circulatory arrest is defined as the complete cessation of blood flow to the patient. Circulatory arrest is a surgical technique that involves cooling the body of the patient and stopping blood circulation and is not the same as coronary-pulmonary bypass time. It is used in cardiac surgery to allow operation on the aortic arch and in neurosurgery to repair some brain aneurysms.

SEQ. #: 2410
Long Name: Circulatory Arrest Time Without Cerebral Perfusion
Short Name: DHCATm
Definition: Indicate the total number of minutes of deep hypothermic circulatory arrest without cerebral perfusion. If more than one period of circulatory arrest is required during this surgical procedure, the sum of these periods is equal to the total duration of circulatory arrest.

Intent/Clarification:
If more than one period of circulatory arrest with cerebral perfusion is required during this surgical procedure, the sum of these periods is equal to the total duration of circulatory arrest without cerebral perfusion.

SEQ. #: 2415
Long Name: Circulatory Arrest With Cerebral Perfusion
Short Name: CPerfUtil
Definition: Indicate whether circulatory arrest with cerebral perfusion was performed.

Intent/Clarification:
Selective cerebral perfusion is a technique that involves providing blood flow and metabolic support to the brain while the blood flow to the rest of the body is stopped during circulatory arrest. This approach is commonly used during complex surgery that requires circulatory arrest. It offers more protection for the brain and minimizes the risk of stroke and other serious complications.

SEQ. #: 2420
Long Name: Cerebral Perfusion Time
Short Name: CPerfTime
Definition: Indicate the total number of minute’s cerebral perfusion was performed. This would include antegrade and/or retrograde cerebral perfusion strategies.

Intent/Clarification:
If more than one period of circulatory arrest with cerebral perfusion was used, add the times for the total circulatory arrest with cerebral perfusion time.

SEQ. #: 2425
Long Name: Cerebral Perfusion Type
Short Name: CPerfTyp
Definition: Indicate type of cerebral perfusion utilized.

Intent/Clarification:
Indicate the type of cerebral perfusion:

- Antegrade
- Retrograde
- Both antegrade and retrograde

SEQ. #: 2426
Long Name: Total Circulatory Arrest Time
Short Name: TotCircArrTm
Definition: Calculated variable measuring circulatory arrest without cerebral perfusion time plus any cerebral perfusion time.

Intent/Clarification:

This value will be automatically generated by the software. It will total the number of minutes of circulatory arrest without cerebral perfusion + the total number of minutes of circulatory arrest with cerebral perfusion.

SEQ. #: 2430
Long Name: Aortic Occlusion
Short Name: AortOccl
Definition: Indicate the technique of aortic occlusion used.

Intent/Clarification:
Identify the method used to prevent blood from circulating through the heart and to allow the delivery of cardioplegia into the aortic root to arrest the heart. In procedures where cardioplegia is not administered for myocardial protection, but a cross clamp is applied to isolated diseased sections of the aorta (i.e. descending thoracic or thoracoabdominal aneurysm repairs) the appropriate response to aortic occlusion is aortic cross clamp. You should populate the cross clamp time field with the appropriate minutes of cross clamp time. The Cardioplegia field would be equal to None.

Externally, the aortic cross clamp is used. Internally, balloon occlusion is used. Choose one of the following:

- None - beating heart
- None - fibrillating heart
- Aortic Cross clamp
- Balloon Occlusion

SEQ. #: 2435
Long Name: Cross Clamp Time (min)
Short Name: XClampTm
Definition: Indicate the total number of minutes that the coronary circulation is mechanically isolated from systemic circulation, either by an aortic cross clamp or systemic circulatory arrest.

Intent/Clarification:
Example: For the following two operations: (1) “Transplant, Heart”, and (2) “Transplant, Heart and Lung”, the field “Cross Clamp Time” will be defined as the cross clamp time of the **donor** heart. Therefore, these two operations represent the only operations where the field “Cross Clamp Time” can be greater than the field “Cardiopulmonary Bypass Time.

FAQ July 2019: How is cross clamp time documented when performing descending aorta surgery when the beating heart is perfusing the upper body and the bypass pump is perfusing the lower body? During these surgeries the cross clamp is moved as the vessels are reimplanted.
Answer: Capture the time from start to finish of the entire cross clamp time. This means any time the clamp is on the aorta regardless if the clamp is moved.

SEQ. #: 2440
Long Name: Cardioplegia Delivery
Short Name: CplegiaDeliv
Definition: Indicate the delivery method of cardioplegia if used.

Intent/Clarification:
Cardioplegia is a solution that is used to cause the heart to arrest as documented by the surgeon or perfusionist. Refer to the perfusion record or Surgeon’s dictation.

- Non, if not used
- Antegrade
- Retrograde
- Both

SEQ. #: 2445
Long Name: Cardioplegia Type
Short Name: CplegiaType
Definition: Indicate the type of cardioplegia used.

Intent/Clarification:
Choose one of following:

- **Blood** (If any blood is contained in the solution, any ratio). Includes the following solutions:
  - Combination of blood +St. Thomas solution (i.e.Plegisol)
  - DelNido cardioplegia
  - Microplegia
- **Crystalloid** (If solution is **only** crystalloid)
- **Both** (If both types of solutions are used) Use “Both” if two different solutions were used during the procedure, 1 with blood and 1 crystalloid
- **Other**

SEQ. #: 2450
Long Name: Cerebral Oximetry Used
Short Name: CerOxUsed
Definition: Indicate whether cerebral oximetry was used.

Intent/Clarification:

Cerebral oximetry is similar to pulse oximetry in that it uses differences in light absorption between oxygenated and deoxygenated hemoglobin to measure regional oxygen saturation.

SEQ. #: 2490
Long Name: Diffuse Aortic Calcification (Porcelain Aorta)
Short Name: ConCalc
Definition: Indicate whether diffuse or concentric calcification of the aorta was discovered preoperatively or intraoperatively using imaging or palpation.

Intent/Clarification:
The intent is to capture when and if concentric calcification is discovered. This may impact the surgeon’s approach to cannulation.

Concentric calcification is the same as circumferential calcification and is often described as a porcelain aorta.

SEQ. #: 2495
Long Name: Assessment of Ascending Aorta/Arch
Short Name: AsmtAscAA
Definition: Indicate whether the Ascending Aorta/Arch was evaluated for atheroma or plaque during surgery using TEE or epiaortic ultrasound. (Not intended for assessment of aneurysmal disease or dissection.)

Intent/Clarification:
Do not capture descending calcification. The intent is to evaluate the area of the aorta that will be cannulated, clamped or otherwise manipulated during the case. Calcification or atheroma in this area can predispose the patient to stroke. Include descriptions of aortic root as ascending calcification.

- Yes
- No
- Not reported

SEQ. #: 2497
Long Name: Method of Assessment of Aorta Plaque
Short Name: AsmtAoDxMeth
Definition: Indicate the method of assessing the highest grade of atheroma or plaque in the ascending aorta.

Intent/Clarification:
Do not capture descending calcification. The intent is to evaluate the area of the aorta that will be cannulated, clamped or otherwise manipulated during the case. Calcification or atheroma in this area can predispose the patient to stroke. Include descriptions of aortic root as ascending calcification.

Indicate the method of assessment: Epiaortic ultrasound is an intraoperative evaluation. TEE can be performed pre and/or intraoperatively. Some patients may have preoperative evaluation by CT scan. MRI/A is another modality.

SEQ. #: 2500
Long Name: Assessment of Aorta Plaque
Short Name: AsmtAoDx
Definition: Indicate highest grade of atheroma or plaque in the ascending aorta.

Intent/Clarification:

Choose one of following:

- Normal Aorta/No or minimal plaque
- Extensive intimal thickening
- Protruding Atheroma < 5 mm
- Protruding Atheroma ≥ 5 mm
- Mobile Plaques
- Not Documented

This will be found intraoperatively in the surgeon's dictation or the anesthesia record.

SEQ. #: 2505
Long Name: Aortic Condition Altered Plan
Short Name: AsmtAPln
Definition: Indicate whether aortic assessment changed cannulation strategy or surgical plan.

Intent/Clarification:
This assessment can assist the surgeon with selection of optimal site for cannulation of ascending aorta or may prompt decision to select alternate arterial cannulation site or an off pump approach.

SEQ. #: 2510
Long Name: Intraop Blood Products Refused
Short Name: IBldProdRef
Definition: Indicate whether the patient or family refused blood products.

Intent/Clarification: Identify if the patient refused blood or blood products prior to surgery. This may be found in the history and physical, surgical consultation or in a specific consent/refusal form.

Sequence number 2510 is the parent field to sequence number 2515.

SEQ. #: 2515
Long Name: Intraop Blood Products
Short Name: IBldProd
Definition: Indicate whether blood products were transfused any time intraoperatively during the initial surgery. Intraoperatively is defined as any blood started inside of the OR.

Intent/Clarification:
Intraoperatively is defined as any blood started inside of the OR.
For these Intraop Blood Product data fields, the intent is to ONLY collect blood products that were transfused any time intraoperatively during the INITIAL SURGERY. This includes RBCs, FFP, Platelets or Cryoprecipitate.

Sequence number 2515 is the parent field to sequence numbers 2520, 2525, 2530, and 2535.

SEQ. #: 2520
Long Name: Intraop Blood Products - RBC Units
Short Name: IBdRBCU
Definition: Indicate the number of units of packed red blood cells that were transfused intraoperatively. Do not include autologous, cell-saver, pump-residual or chest tube recirculated blood.

Intent/Clarification:
Do not include autologous, cell-saver, pump-residual or chest tube recirculated blood.

SEQ. #: 2525
Long Name: Intraop Blood Products - FFP Units
Short Name: IBdFFPU
Definition: Indicate the number of units of fresh frozen plasma that were transfused intraoperatively.

Intent/Clarification:
This can be found in the EMR, anesthesia or operative record or blood transfusion records.

SEQ. #: 2530
Long Name: Intraop Blood Products - Platelet Units
Short Name: IBdPlatU
Definition: Indicate the number of units of platelets that were transfused intraoperatively.

Count the dose pack as one unit. A dose pack may consist of 4, 6, 8, 10, or any number of donor platelets obtained. The number of units coded is not volume dependent.

Intent/Clarification:

The number of units of platelets transfused during the surgical procedure while the patient was in the OR.

Platelets can be aggregated from several donors or be designated as single donor platelets. It is imperative that each site understand their institution's definition for Random Donor Platelets (RDP) and Single Donor Platelets (SDP).

SDP or Platelet Pheresis count as one unit. One unit is comprised of platelets derived from a single donor. The number of units is not volume dependent.

SEQ. #: 2535
Long Name: Intraop Blood Products - Cryo Units
Short Name: IBdCryoU
Definition: Indicate the number of units of cryoprecipitate that were transfused intraoperatively. One bag of cryo = one unit.
The number of units is not volume dependent.

Intent/Clarification:
This can be found in the EMR, anesthesia or operative record or blood transfusion records.

SEQ. #: 2545
Long Name: Intraop Clotting Factors
Short Name: IntraClotFact
Definition: Indicate whether clotting factors were administered intraoperatively.

Intent/Clarification:
Update Nov 2019 – Code YES for systemic clotting factors. This does not include topical clotting factors.
Include clotting factors other than those mentioned above. Other clotting factors may include: Factor VIIa, FEIBA (Anti-Inhibitor Coagulant Complex), or Composite (Platelet-rich Plasma)

- Yes, Factor VIIa
- Yes, FEIBA (Anti-Inhibitor Coagulant Complex)
- Yes, Composite, includes Platelet-rich Plasma
- No

SEQ. #: 2546
Long Name: Intraop Prothrombin Complex Concentrate
Short Name: IntraopProComCon

Definition: Indicate whether prothrombin complex concentrate (i.e.K-Centra) was given intraoperatively.

Intent/Clarification: -

SEQ. #: 2550
Long Name: Intraop Antifibrinolytic Medications - Epsilon Amino-Caproic Acid
Short Name: IMedEACA
Definition: Indicate whether the patient received Epsilon Amino-Caproic Acid in the operating room.

Intent/Clarification: -

SEQ. #: 2555
Long Name: Intraop Antifibrinolytic Medications - Tranexamic Acid
Short Name: IMedTran
Definition: Indicate whether the patient received Tranexamic Acid in the operating room.

Intent/Clarification: -

SEQ. #: 2560
Long Name: Intraop TEE post procedure
Short Name: InOpTEE
Definition: Indicate whether intraoperative TEE was performed following procedure.

Intent/Clarification: Indicate if a transesophageal echocardiogram (TEE) was performed intraoperatively following the procedure after the patient is removed from Cardiopulmonary Bypass prior to OR Exit time.

A TEE is performed by passing a small tube thru the patient’s mouth into the esophagus to typically assess the efficiency of the patient’s heart valves and ejection fraction (efficiency of the left ventricle). At this point of the surgery it is done to assess the valves and to obtain ejection fraction.

SEQ. #: 2565
Long Name: Post Repair TEE Aortic Insufficiency
Short Name: PRepAR

Definition: Indicate the highest level of aortic insufficiency/ regurgitation found on post CPB intraop TEE. Mild-to-Moderate should be coded as moderate; moderate to severe should be coded as severe. Amount of AR should be the LAST ASSESSMENT before leaving the operating room. For example: if patient has aortic repair, separates from CPB and finds moderate AR, surgeon goes back on and re-fixes, comes off and finds no AR, it should be recorded as none.

Intent/Clarification: Indicate the level of aortic insufficiency obtained by the intraoperative post-procedure TEE prior to the patient leaving the OR after the surgical procedure is complete. Obtain the amount closest to OR Exit Time.

Insufficiency is also called regurgitation (AR) in which the valve does not seal properly and allows too much blood to return to the left ventricle after diastole. This causes an increase in preload of the left ventricle.

Choices include**:**

- None
- Trivial/Trace
- Mild
- Moderate
- Severe
- Not Documented

If the valve is reported as “normal” code “none”
Choose not documented for the highest level of insufficiency if the test was performed and insufficiency is not reported.

SEQ. #: 2566
Long Name: Aortic Gradient - Post Repair Mean
Short Name: PRepAGradM
Definition: Indicate the mean aortic valve gradient on TEE in the OR after the procedure

Intent/Clarification: Record the mean aortic valve gradient obtained from the TEE intraoperatively post-procedure. Record the one closest to OR Exit Time.

The aortic mean gradient is the mean of the amount of pressure across the aortic valve and should be reported as a pressure in millimeters of Mercury (mmHg) with a typical range of <20 to >50mmHg.

SEQ. #: 2567
Long Name: Post Repair Aortic Paravalvular Leak
Short Name: PRepAPVL
Definition: Indicate whether there was an aortic paravalvular leak noted on TEE in the OR after the procedure

Intent/Clarification: Indicate if any amount of leakage was identified around the aortic valve intraoperatively post-procedure. Obtain the amount closest to OR Exit Time.

Choices are:
- None
- Trivial/Trace
- Mild
- Moderate
- Severe
- Not Documented

FAQ August 2017: Is this field intended to be coded for all valves or just when a new valve is implanted?
Answer: This field should be coded only for current and/or prior prosthetic valves. It can be coded when a new valve is implanted or for a valve that was implanted during a previous operation. DCRI will omit these fields from your DQR when no prosthetic valve is present.

December 2017: This field relates to prosthetic valves only. If the patient does not have a prosthetic valve (current or previously inserted) leave blank. Not Applicable will be added for the next version.

SEQ. #: 2570
Long Name: Post Repair TEE Mitral Insufficiency
Short Name: PRepMR
Definition: Indicate the highest level of mitral insufficiency/ regurgitation found on post CPB intraop TEE. Mild-to-Moderate should be coded as moderate; moderate to severe should be coded as severe. Amount of MR should be the LAST ASSESSMENT before leaving the operating room. For example: if patient has mitral repair, separates from CPB and finds moderate MR, surgeon goes back on and re-fixes, comes off and finds no MR, it should be recorded as none.

Intent/Clarification: Indicate the level of mitral valve insufficiency obtained by the intraoperative post-procedure TEE prior to the patient leaving the OR after the surgical procedure is complete. Obtain the amount closest to OR Exit Time.

Insufficiency is also called mitral regurgitation (MR) in which the valve does not seal properly and allows too much blood to return to the left atrium.

Choices include**:**
- None
- Trivial/Trace
- Mild
- Moderate
- Severe
- Not Documented

If the valve is reported as “normal” code “none”

Choose not documented for the highest level of insufficiency if the test was performed and insufficiency is not reported.

SEQ. #: 2571
Long Name: Mitral Gradient - Post Repair Mean
Short Name: PRepMGradM
Definition: Indicate the mean mitral valve gradient on TEE in the OR after the procedure

Intent/Clarification: Record the mean mitral valve gradient obtained from the TEE intraoperatively post-procedure. Record the one closest to OR Exit Time.

The mitral mean gradient is the mean of the amount of pressure across the mitral valve and should be reported as a pressure in millimeters of Mercury (mmHg) with a typical range of <5 to >10mmHg.

SEQ. #: 2572
Long Name: Post Repair Mitral Paravalvular Leak
Short Name: PRepMPVL
Definition: Indicate whether there was a mitral paravalvular leak noted on TEE in the OR after the procedure

Intent/Clarification: Indicate if any amount of leakage was identified around the mitral valve intraoperatively post-procedure. Obtain the amount closest to OR Exit Time.

Choices are:
- None
- Trivial/Trace
- Mild
- Moderate
- Severe
- Not Documented

FAQ August 2017: Is this field intended to be coded for all valves or just when a new valve is implanted?
Answer: This field should be coded only for current and/or prosthetic valves. It can be coded when a new valve is implanted or for a valve that was implanted during a previous operation. DCRI will omit these fields from your DQR when no prosthetic valve is present.

SEQ. #: 2575

Long Name: Post Repair TEE Tricuspid Insufficiency
Short Name: PRepTR
Definition: Indicate the highest level of tricuspid insufficiency/regurgitation found on post CPB intraop TEE. Mild-to-Moderate should be coded as moderate; moderate to severe should be coded as severe. Amount of TR should be the LAST ASSESSMENT before leaving the operating room.

Intent/Clarification: Indicate the level of tricuspid valve insufficiency obtained by the intraoperative post-procedure TEE prior to the patient leaving the OR after the surgical procedure is complete. Obtain the amount closest to OR Exit Time.

Insufficiency is also called tricuspid regurgitation (TR) in which the valve does not seal properly and allows too much blood to return to the right atrium.
Choices include**:**

- None
- Trivial/Trace
- Mild
- Moderate
- Severe
- Not Documented

If the valve is reported as “normal” code “none”
Choose not documented for the highest level of insufficiency if the test was performed and insufficiency is not reported.

SEQ. #: 2576
Long Name: Tricuspid Gradient - Post Repair Mean
Short Name: PRepTGradM
Definition: Indicate the mean tricuspid valve gradient on TEE in the OR after the procedure

Intent/Clarification: Record the mean tricuspid valve gradient obtained from the TEE intraoperatively post-procedure. Record the one closest to OR Exit Time.

The tricuspid mean gradient is the mean of the amount of pressure across the tricuspid valve and should be reported as a pressure in millimeters of Mercury (mmHg) with a typical range of <5 or ≥5.

SEQ. #: 2577
Long Name: Post Repair Tricuspid Paravalvular Leak
Short Name: PRepTPVL
Definition: Indicate whether there was a tricuspid paravalvular leak noted on TEE in the OR after the procedure

Intent/Clarification: Indicate if any amount of leakage was identified around the tricuspid valve intraoperatively post-procedure. Obtain the amount closest to OR Exit Time.

Choices are:

- None
- Trivial/Trace
- Mild
- Moderate
- Severe
- Not Documented

FAQ August 2017: Is this field intended to be coded for all valves or just when a new valve is implanted?
Answer: This field should be coded only for current and/or prior prosthetic valves. It can be coded when a new valve is implanted or for a valve that was implanted during a previous operation. DCRI will omit these fields from your DQR when no prosthetic valve is present.

SEQ. #: 2581
Long Name: Ejection Fraction Measured Post Procedure
Short Name: PPEFMeas
Definition: Indicate whether the ejection fraction was measured after the procedure.

Intent/Clarification: Indicate if an ejection fraction was obtained intraoperatively **by an intra-op TEE** post-procedure.

Ejection fraction (EF) indicates the efficiency of the left ventricle (ability to pump blood sufficiently to the rest of the body). It compares the amount of blood in the left ventricle at the end of systole (when the ventricle is fuller) to the end of diastole (after the ventricle contracted and should be less full). Issues effecting the left ventricles pumping ability include preload (the amount of blood deposited into the ventricle prior to diastole), afterload (amount of pressure the ventricle has to pump against typically high as a result of elevated systemic venous pressure), ventricular hypertrophy (the enlargement of the ventricle which results in stretching of the ventricle causing decreased contractility and is a usually a result of congestive heart failure), and valvular insufficiency. Ejection fraction is typically reported in a percentage (1-99%) or described with words.

SEQ. #: 2582
Long Name: Ejection Fraction Post Procedure
Short Name: PPEF
Definition: Indicate the percentage of the blood emptied from the left ventricle at the end of the contraction. Use the most recent determination after the procedure documented on a diagnostic report.

Enter a percentage in the range of 1 - 99. If a percentage range is reported, report a whole number using the "mean" (i.e., 50-55% is reported as 53%).

Note: If no diagnostic report is in the medical record, a value documented in the medical record is acceptable.
ACCF/AHA 2013

Intent/Clarification: Record the mean ejection fraction (EF) closest to OR Exit Time. If a qualitative description is reported, code the mean value for that range; i.e., normal (50-70%) is coded as 60%.
● Hyperdynamic: >70% (code 71%)
● Normal: 50%–70% (midpoint 60%)
● Mild dysfunction: 40%–49% (midpoint 45%)
● Moderate dysfunction: 30%–39% (midpoint 35%)
● Severe dysfunction: <30% (code 29%)
Note: If no diagnostic report is in the medical record, a value documented in the medical record is acceptable.

Report of a reported range value, for example, a range of 55-60 is coded as 58%.

SEQ. #: 2606
Long Name: Planned Post Procedure PCI
Short Name: PPPlanedPCI
Definition: Indicate whether the procedure was followed by a planned PCI.

Intent/Clarification: Indicate if the patient returned to the Cath Lab any time after OR EXIT Time and before discharge for a percutaneous coronary intervention (PCI) that was planned prior to **or during** coronary, valve, or aorta surgery. To be considered "planned" this would need to be indicated in the Medical Provider's preoperative /**operative** notes.

A percutaneous coronary intervention (PCI) is understood to be any procedure where entry to the vascular system is obtain thru percutaneous access (a needle poked thru the skin). A catheter is then inserted and a guide wire is thru passed thru the vascular system to the heart. Dye is then injected and pictures of the heart vessels are obtained as the dye flows thru via fluoroscopy (x-ray). An intervention is then performed to "open up" a vessel(s) if a blockage is recognized where dye flow was decreased. This can be done either thru angioplasty (a ballooning of the vessel to allow more blood to flow) or an angioplasty with stent placement (a ballooning of the vessel to allow more blood to pass followed by placement of a stent to help the vessel to remain open). Either "angioplasty" or "angioplasty with stent placement" should be captured here.

FAQ June 2019: The patient goes to surgery for a CAB on 3/11/2019. During the operation the surgeon determines that the patient will need a post op PCI on a vessel that is too small to bypass. The patient is taken back to the cath lab on 3/14/2019 for a planned PCI of the vessel that was too small to bypass. There is no information in the

chart after surgery suggesting the patient is having ischemia. Do we capture this as Reintervention Myocardial Ischemia?
Answer: At time of initial surgery if the surgeon determines that a vessel is not bypasasable and more suitable for PCI then Seq 2606 can be coded as YES.

Coronary Bypass

SEQ. #: 2626
Long Name: Internal Mammary Artery Used
Short Name: IMAUsed
Definition: Indicate whether an internal mammary artery conduit was used

Intent/Clarification:
To capture the use of an internal mammary artery to construct one or more distal anastomoses: LIMA, RIMA, both or none. IMA may be used as a free or in-situ graft; pedicle, skeletonized.

FAQ October 2017: Patient had a non-STEMI with urgent CABG. LIMA and RIMA were initially anastomosed to the LAD and Diagonal but prior to leaving the OR, they had insufficient flow and vein grafts were used. The RIMA was a T-graft to the Diagonal from the free LIMA. The surgeon documented “sluggish flow in the LIMA after harvesting as a pedicle, therefore it was utilized as a free graft. He documented this was probably due to stenosis at the takeoff from the left subclavian artery. The chest was closed and initial vitals were stable. Prior to leaving the OR, EKG and hemodynamic changes were noted. Therefore, the chest was reopened, and the patient was placed back on CPB. The flow via the IMA grafts were poor so the surgeon removed them and used venous grafts to the LAD and Diagonal.” How do I code IMA used?
Answer: Code no, an IMA was not used.

FAQ October 2019 - How do I code the use of an existing LIMA to the Mid LAD that was removed from the Mid LAD and attached to the 1st Diag branch? The proximal IMA was not brought down by pedicle or skeletonized, it already existed. A decision was made to transpose the LIMA over to the adjacent diagonal branch which was a much better target. The left internal thoracic artery was transposed and then sewn end-to-side to diagonal branch.
Answer – Code Seq 2626 as Yes for IMA used, Seq 2629 – leave blank unless you have the original operative note describing the technique, and capture Seq 2630 as direct vision.

SEQ. #: 2627
Long Name: Reason for No IMA
Short Name: NoIMARsn

Definition: Indicate PRIMARY reason Internal Mammary artery was not used as documented in medical record.

Intent/Clarification:

Choose from the following reasons:

- Subclavian stenosis*
- Previous cardiac or thoracic surgery
- Previous mediastinal radiation
- Emergent or salvage procedure
- No (BYPASSABLE) LAD disease - This can include a clean LAD, diffusely diseased LAD or other condition resulting in the LAD not being bypassed.
- Other – The National Quality Forum (NQF) does not consider this exclusion for measure purposes.

Other is not an acceptable exclusion in the NQF endorsed measure and will have a negative impact on the star rating.

FAQ October 2017: Patient had a non-STEMI with urgent CABG. LIMA and RIMA were initially anastomosed to the LAD and Diagonal but prior to leaving the OR, they had insufficient flow and vein grafts were used. The RIMA was a T-graft to the Diagonal from the free LIMA. The surgeon documented sluggish flow in the LIMA after harvesting as a pedicle, therefore it was utilized as a free graft. He documented this was probably due to stenosis at the takeoff from the left subclavian artery. The chest was closed and initial vitals were stable. Prior to leaving the OR, EKG and hemodynamic changes were noted. Therefore, the chest was reopened and the patient was placed back on CPB. The flow via the IMA grafts were poor so the surgeon removed them and used venous grafts to the LAD and Diagonal. If I must code “no” IMA used, what reason for no IMA should I use?

Answer: Code ‘Other’. Subclavian stenosis cannot be considered an exclusion because the IMA was initially used as a free graft.

FAQ December 2017: The IMA was not harvested because the patient had a left upper extremity fistula for hemodialysis and the surgeon was concerned about coronary steal syndrome. How should the reason for no IMA be coded?

Answer: Code this as an exclusion due to subclavian stenosis.

FAQ February 2018: Reason No IMA: Patient has a left lung mass that found to be left internal mammary artery bed; therefore, it was decided not to use the left internal mammary artery aspergillus. In the Op report, the surgeon states "the left apical aspergilloma was directly adjacent to the for bypass".
Answer: Aspergilloma is a rare finding and seq 2627 should be coded as ‘Other’.

FAQ July 2018: The patient has a history of severe PVD. The aortogram at the time of the cardiac catheterization showed an occluded distal aorta. The lower extremeties perfusion was supplied by the mammary arteries. It was felt that the lower extremeties

would be in jeopardy if the mammary is used. How should the case be coded when no IMA is used?
Answer: Code subclavian stenosis for this unique situation.

FAQ January 2019: A patient had a bilateral mastectomy and immediate reconstruction with flap. During that procedure both the RIMA and LIMA were harvested. 7 months later the patient required a CABG and no IMA could be used as they were not present. How should field 2627 be coded?
Answer: Code previous thoracic surgery.

FAQ July 2019 - The patient has pectus carinatum and it is documented "We attempted to harvest the left internal mammary artery however due to the patient's severe pectus, it was impossible to visualize the mammary artery. How do I code reason for no IMA?
Answer - Capture Subclavian Stenosis. This will be addressed in the upgrade.

FAQ October 2019 - I have had multiple cases where the IMA in not used but the physician places an SVG to the LAD. The cardiac cath shows no LAD disease but does have LM disease. The surgeon documents "I elected not use use IMA since the patient does not have any specific LAD disease" Would this be coded as no LAD disease (since there is technically no LAD disease) or other (just because they bypassed the LAD to assist the LM).
Answer – No LAD disease is not an acceptable exclusion in this situation. Left main is functionally 2 VD LAD and CX disease. Code OTHER as reason for no IMA.

SEQ. #: 2628
Long Name: IMA Dist Anast #
Short Name: NumIMADA
Definition: Indicate the total number of distal anastomoses done using IMA grafts.

Intent/Clarification:
To collect the total number of anastomoses constructed using an IMA conduit. More than one anastomosis can be constructed from each IMA; the IMA may be used as a pedicle graft or a free graft. A pedicle graft remains connected at its proximal origin and requires only a distal anastomosis.

SEQ. #: 2629
Long Name: Left IMA Used
Short Name: LeftIMA
Definition: Indicate whether the left internal mammary was used

Intent/Clarification:
The left IMA was used to construct one or more anastomosis; pedicle or skeletonized.

SEQ. #: 2630
Long Name: Left IMA Harvest Technique
Short Name: LIMAHarvTech
Definition: Indicate the harvest technique used for the left internal mammary

Intent/Clarification:

Indicate the technique used to harvest an IMA:

- **Direct vision** (open) - Standard method; through full or partial sternotomy. IMA harvest with the chest open using a standard retractor.
- **Thoracoscopy** - Endoscopy used for the entire IMA harvest.
- **Combination** - Both thoracoscopy and direct vision used for IMA harvest.
- **Robotic assist** - Robot was used to harvest IMA.

FAQ October 2019 - When LIMA is harvested as a pedicle graft proximally pedicle and skeletonized distally, should we count it as Pedicle or Skeletonized?
Answer - Code as skeletonized in this situation.

SEQ. #: 2631
Long Name: Right IMA Used
Short Name: RightIMA
Definition: Indicate whether the right internal mammary was used

Intent/Clarification:
The right IMA was used to construct one or more anastomosis; pedicle or skeletonized.

SEQ. #: 2632
Long Name: Right IMA Harvest Technique
Short Name: RIMAHarvTech
Definition: Indicate the harvest technique used for the right internal mammary

Intent/Clarification:

Indicate the technique used to harvest an IMA:

- **Direct vision** (open) -Standard method; through full or partial sternotomy. IMA harvest with the chest open using a standard retractor.

- **Thoracoscopy** - Endoscopy used for the entire IMA harvest.
- **Combination** - Both Thoracoscopy and direct vision used for IMA harvest.
- **Robotic assist** - Robot was used to harvest IMA.

SEQ. #: 2633
Long Name: Radial Artery Used
Short Name: RadialArtUsed
Definition: Indicate whether a radial artery conduit was used.

Intent/Clarification:
The radial artery was used to construct one or more anastomosis.

SEQ. #: 2634
Long Name: Radial Dist Anast #
Short Name: NumRadDA
Definition: Indicate the total number of distal anastomoses done using radial artery grafts.

Intent/Clarification:
To collect the total number of distal anastomoses constructed using a radial artery. More than one anastomosis can be constructed from each radial artery.

SEQ. #: 2635
Long Name: Radial Dist Anast Harvest Technique
Short Name: RadHTech
Definition: Indicate the technique used to harvest the radial artery(s).

Intent/Clarification:

The technique used to harvest the radial artery (ies):

- Endoscopic
- Direct vision (open) - Standard method; through full or partial radial harvest
- Both - Both endovascular and direct vision used for radial artery harvest

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SEQ. #: 2636
Long Name: Radial Artery Harvest and Preparation Time

Short Name: RadHarvPrepTm
Definition: Indicate the total time for radial artery harvest and preparation.

Intent/Clarification:
It is important to quantify the harvest and prep times to track resource utilization and provide objective data for RUC (Specialty Society Relative Value Scale Update Committee or Relative Value Update Committee, an American Medical Association group involved in health care pricing) surveys and coding. This is important because these values determine the rate at which Medicare and other payers reimburse for procedures.

SEQ. #: 2637
Long Name: Venous Conduit(s) Used
Short Name: VenousCondUsed
Definition: Indicate whether a venous conduit was used

Intent/Clarification:
A venous conduit was used to construct one or more anastomosis.

SEQ. #: 2638
Long Name: Dist Anast - Vein #
Short Name: DistVein
Definition: Indicate the total number of distal anastomoses with venous conduits.

Intent/Clarification:
Distal anastomosis refers to the connection between the bypass graft (conduit) and coronary artery. Record the total number of venous anastomoses constructed using a venous conduit connection to a coronary artery. More than one anastomosis can be constructed from a single vein. Saphenous veins are used as free grafts to bypass any coronary artery.

SEQ. #: 2639
Long Name: Dist Anast - Vein Harvest Technique
Short Name: DistVeinHTech
Definition: Indicate the technique used to harvest the vein graft(s).

Intent/Clarification:
The technique(s) used to harvest the vein grafts:

- Endoscopic
- Direct vision (open) - Through full or partial vein harvest

- Both - Both endoscopic and direct vision used to harvest the vein grafts
- Cryopreserved - Cryopreserved veins harvested from a donor, typically commercially supplied

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SEQ. #: 2640
Long Name: Saphenous Vein Harvest And Preparation Time
Short Name: SaphHarPrepTm
Definition: Indicate the total time for saphenous vein harvest and preparation.

Intent/Clarification:
It is important to quantify the harvest and prep times to track resource utilization and provide objective data for RUC, (Specialty Society Relative Value Scale Update Committee or Relative Value Update Committee, an American Medical Association group involved in health care pricing) surveys and coding. This is important because these values determine the rate at which Medicare and other payers reimburse for procedures.

SEQ. #: 2641
Long Name: Other Arterial Distal Anastomoses #
Short Name: NumOArtD
Definition: Indicate the number of arterial distal anastomoses that were used, other than radial or IMA.

Intent/Clarification:
Any other arterial conduit was used to construct one or more anastomosis; i.e. inferior epigastric artery.

SEQ. #: 2650
Long Name: Number Of Distal Anastomoses With Arterial-Venous Composite Conduits
Short Name: NumArtVenComp
Definition: Indicate the number of distal anastomoses with arterial-venous composite conduits

Intent/Clarification:
To capture grafts constructed from artery and venous composite. The venous component of the composite graft is anastomosed to the coronary artery. (i.e. an IMA or radial artery is lengthened with a segment of saphenous vein). The vein segment is attached to the coronary artery. Alternatively, a composite graft can be constructed as a “Y” or “T” with one limb going to one coronary artery and the other limb going to a different coronary site. The **arterial** segment provides inflow. When part of the IMA was

used as part of the composite graft, code 2626 yes as the internal mammary artery was used. Composite grafts that include an IMA meet the NQF measure for IMA use.

SEQ. #: 2651
Long Name: Number Of Distal Anastomoses With Venous-Arterial Composite Conduits
Short Name: NumVenArtComp
Definition: Indicate the number of distal anastomoses with venous-arterial composite conduits

Intent/Clarification:
To capture the number of grafts (if any) constructed from venous and arterial composite. The arterial component of the composite graft is anastomosed to the coronary artery. i.e., the IMA or radial artery which has been anastomosed to the coronary artery is too short to reach the aorta and is lengthened with a segment of saphenous vein. Alternatively, a composite graft can be constructed as a “Y” or “T” with one limb going to one coronary artery and the other limb going to a different coronary site. The **venous** segment provides inflow. When part of the IMA was used as part of the composite graft, code 2626 yes as the internal mammary artery was used. Composite grafts that include an IMA meet the NQF measure for IMA use.

SEQ. #: 2652
Long Name: Number Of Distal Anastomoses With Arterial-Arterial Composite Conduits
Short Name: NumArtArtComp
Definition: Indicate the number of distal anastomoses with arterial-arterial composite conduits

Intent/Clarification:
To capture the number of grafts (if any) constructed from arterial and arterial composite; i.e. IMA plus radial artery. The concepts are similar to seq# 2651 and 2652, except the composite is composed of arteries only. When part of the IMA was used as part of the composite graft, code 2626 yes as the internal mammary artery was used. Composite grafts that include an IMA meet the NQF measure for IMA use.

SEQ. #: 2710
Long Name: Proximal Technique
Short Name: ProxTech
Definition: Indicate the technique employed for proximal graft anastomosis.

Intent/Clarification:

The intent is to determine various methods used to perform proximal anastomosis which may have an impact on the risk of stroke/ embolization from aortic intima. If more than one technique was used for proximal grafts, choose the highest level of occlusion used.

- Single Cross Clamp
- Partial Occlusion Clamp
- Anastomotic Assist Device – such as Cyclone, Enclose, Cardica Passport, Heart String, etc.
- None (isolated in-situ mammary)

SEQ. #: 2730
Long Name: CAB Distal Site 01
Short Name: CABDistSite01
Definition: Indicate distal insertion site of bypass.

Intent/Clarification:

- These order does not matter, include up to 10 grafts. One graft = one distal insertion.
- Left Main - Left Main
- Prox LAD - Proximal Left Anterior Descending
- Mid LAD - Middle Left Anterior Descending
- Distal LAD - Distal Left Anterior Descending
- Diagonal 1 - First Diagonal
- Diagonal 2 - Second Diagonal
- Diagonal 3 - Third Diagonal
- Circumflex - Circumflex
- Obtuse Marginal 1 - First Obtuse Marginal
- Obtuse Marginal 2 - Second Obtuse Marginal
- Obtuse Marginal 3 - Third Obtuse Marginal
- Ramus - Ramus Intermedius
- RCA - Right Coronary Artery
- Acute Marginal (AM) - Acute Marginal
- Posterior Descending (PDA) - Posterior Descending Artery
- Posterolateral (PLB) - Posterolateral Branch
- Other - Any other site

FAQ September 2017: Pt with previous CAB in January of this year now presents with Aortic Dissection. The dissection was repaired and cadaver vein graft extensions were used to reimplant the PDA/PL grafts. The OM and Diag grafts were occluded by the dissection. How is this captured in the CAB grid?
Answer: Do not complete the CAB grid, a distal coronary artery graft is not constructed using the cadaver vein.

SEQ. #: 2740
Long Name: CAB Proximal Site 01
Short Name: CABProximalSite01
Definition: Indicate proximal site of the bypass graft.

Intent/Clarification:

- In Situ Mammary
- Ascending aorta
- Descending aorta
- Subclavian artery
- Innominate artery
- T-graft off SVG
- T-graft off Radial
- T-graft off LIMA
- T-graft off RIMA
- Natural Y vein graft
- Other

SEQ. #: 2750
Long Name: CAB Conduit 01
Short Name: CABConduit01
Definition: Indicate the conduit type used.

Intent/Clarification:

- Vein graft
- In Situ LIMA
- In Situ RIMA
- Free IMA
- Radial artery
- Other arteries, homograft
- Synthetic graft
- Composite artery-vein

FAQ August 2017: What is a composite artery vein?

Answer: A composite is an extension of the IMA with a vein to allow the reach its intended distal coronary target. Using composite does not exclude the IMA from the composite measure for IMA usage.

FAQ August 2018: What conduit type should be used when the composite is artery-artery, for example, IMA and radial artery?

Answer: Code composite artery-vein. This will have to be addressed in the next version upgrade.

SEQ. #: 2755
Long Name: CAB Distal Position 01
Short Name: CABDistPos01
Definition: Indicate anastomotic position.

Intent/Clarification:

End to side: the end of the graft is inserted into the side of the target vessel

• **Sequential** (**side to side**): sometimes called a jump graft, the side of the graft is inserted into the side of the target vessel and the end of the graft is inserted elsewhere on that vessel or on another target vessel.

SEQ. #: 2760
Long Name: CAB Endarterectomy 01
Short Name: CABEndArt01
Definition: Indicate whether endarterectomy was performed.

Intent/Clarification:
Endarterectomy is a surgical procedure to remove the atheromatous plaque material, or blockage, in the lining of an artery constricted by the buildup of soft/hardening deposits. It is carried out by separating (peeling) the plaque from the arterial wall.

SEQ. #: 2765
Long Name: CAB Vein Patch Angioplasty 01
Short Name: CABVeinPatAng01
Definition: Indicate whether a vein/**arterial** patch angioplasty was performed.

Intent/Clarification:
A patch constructed from a piece of vein, suturing the vein around the arteriotomy to reconstruct the coronary artery without narrowing it. . A bypass graft is then often, but not always, placed into the vein patch reconstruction to provide new inflow.

NOTE: this explanatory note is valid for all subsequent fields related to CAB vein patch angioplasty

FAQ October 2017: The surgeon completed a patch angioplasty using the radial artery instead of a vein, how is this coded?
Answer: Code as vein patch angioplasty. This can apply to either vein or arterial patch.

SEQ. #: 2770
Long Name: CAB 02 **Short Name:** CAB02
Definition: Indicate whether a second Coronary Artery Bypass graft was done.

FAQ October 2017: A patient has a four vessel bypass. During the procedure he also has an endarterectomy and vein patch angioplasty of the circumflex (no bypass). Do I code that a coronary bypass graft was done? Do I capture this as Other Cardiac thus throwing this out of the isolated CABG category?
Answer: In order to open the child fields in the coronary bypass grid to complete the fields for endarterectomy you must code 'Yes'. Leave proximal site blank. Do not code as 'Other Cardiac'.

SEQ. #: 2790
Long Name: CAB Distal Site 02
Short Name: CABDistSite02
Definition: Indicate distal insertion site of bypass.

FAQ October 2017: A patient has a four vessel bypass. During the procedure he also has an endarterectomy and vein patch angioplasty of the circumflex (no bypass). How do I capture the distal insertion site?
Answer: Code distal insertion site circumflex.

SEQ. #: 2800
Long Name: CAB Proximal Site 02
Short Name: CABProximalSite02
Definition: Indicate proximal site of the bypass graft.

FAQ October 2017: A patient has a four vessel bypass. During the procedure he also has an endarterectomy and vein patch angioplasty of the circumflex (no bypass). How do I capture the proximal site?
Answer: Leave proximal site blank.

SEQ. #: 2810
Long Name: CAB Conduit 02
Short Name: CABConduit02
Definition: Indicate the conduit type used.

FAQ October 2017: A patient has a four vessel bypass. During the procedure he also has an endarterectomy and vein patch angioplasty of the circumflex (no bypass). How do I capture conduit type?
Answer: Leave conduit blank.

SEQ. #: 2815
Long Name: CAB Distal Position 02
Short Name: CABDistPos02
Definition: Indicate anastomotic position.

FAQ October 2017: A patient has a four vessel bypass. During the procedure he also has an endarterectomy and vein patch angioplasty of the circumflex (no bypass). How do I capture anastomotic position?
Answer: Leave anastomotic position blank.

SEQ. #: 2820
Long Name: CAB Endarterectomy 02
Short Name: CABEndArt02
Definition: Indicate whether endarterectomy was performed.

FAQ October 2017: A patient has a four vessel bypass. During the procedure he also has an endarterectomy and vein patch angioplasty of the circumflex (no bypass). How do I capture endarterectomy performed?
Answer: Code yes, an endarterectomy was performed.

SEQ. #: 2825
Long Name: CAB Vein Patch Angioplasty 02
Short Name: CABVeinPatAng02
Definition: Indicate whether a vein**/arterial** patch angioplasty was performed.

FAQ October 2017: A patient has a four vessel bypass. During the procedure he also has an endarterectomy and vein patch angioplasty of the circumflex (no bypass). How do I capture vein/arterial patch angioplasty?
Answer: Code yes, a vein patch angioplasty was constructed.
FAQ October 2017: The surgeon completed a patch angioplasty using the radial artery instead of a vein, how is this coded?
Answer: Code as vein patch angioplasty. This can apply to either vein or arterial patch.

SEQ. #: 2830
Long Name: CAB 03
Short Name: CAB03
Definition: Indicate whether a third Coronary Artery Bypass graft was done.

SEQ. #: 2850
Long Name: CAB Distal Site 03
Short Name: CABDistSite03
Definition: Indicate distal insertion site of bypass.

SEQ. #: 2860
Long Name: CAB Proximal Site 03
Short Name: CABProximalSite03
Definition: Indicate proximal site of the bypass graft.

SEQ. #: 2870
Long Name: CAB Conduit 03
Short Name: CABConduit03
Definition: Indicate the conduit type used.

SEQ. #: 2875
Long Name: CAB Distal Position 03
Short Name: CABDistPos03
Definition: Indicate anastomotic position.

SEQ. #: 2880
Long Name: CAB Endarterectomy 03
Short Name: CABEndArt03
Definition: Indicate whether endarterectomy was performed.

SEQ. #: 2885
Long Name: CAB Vein Patch Angioplasty 03
Short Name: CABVeinPatAng03
Definition: Indicate whether a vein/**arterial** patch angioplasty was performed.

FAQ October 2017: The surgeon completed a patch angioplasty using the radial artery instead of a vein, how is this coded?
Answer: Code as vein patch angioplasty. This can apply to either vein or arterial patch.

SEQ. #: 2890
Long Name: CAB 04
Short Name: CAB04
Definition: Indicate whether a fourth Coronary Artery Bypass graft was done.

SEQ. #: 2910
Long Name: CAB Distal Site 04
Short Name: CABDistSite04
Definition: Indicate distal insertion site of bypass.

SEQ. #: 2920
Long Name: CAB Proximal Site 04
Short Name: CABProximalSite04
Definition: Indicate proximal site of the bypass graft.

SEQ. #: 2930
Long Name: CAB Conduit 04
Short Name: CABConduit04
Definition: Indicate the conduit type used.

SEQ. #: 2935
Long Name: CAB Distal Position 04
Short Name: CABDistPos04
Definition: Indicate anastomotic position.

SEQ. #: 2940
Long Name: CAB Endarterectomy 04
Short Name: CABEndArt04
Definition: Indicate whether endarterectomy was performed.

SEQ. #: 2945
Long Name: CAB Vein Patch Angioplasty 04
Short Name: CABVeinPatAng04
Definition: Indicate whether a vein/**arterial** patch angioplasty was performed.

FAQ October 2017: The surgeon completed a patch angioplasty using the radial artery instead of a vein, how is this coded?
Answer: Code as vein patch angioplasty. This can apply to either vein or arterial patch.

SEQ. #: 2950
Long Name: CAB 05
Short Name: CAB05
Definition: Indicate whether a fifth Coronary Artery Bypass graft was done.

SEQ. #: 2970
Long Name: CAB Distal Site 05
Short Name: CABDistSite05
Definition: Indicate distal insertion site of bypass.

SEQ. #: 2980
Long Name: CAB Proximal Site 05
Short Name: CABProximalSite05
Definition: Indicate proximal site of the bypass graft.

SEQ. #: 2990
Long Name: CAB Conduit 05
Short Name: CABConduit05
Definition: Indicate the conduit type used.

SEQ. #: 2995
Long Name: CAB Distal Position 05
Short Name: CABDistPos05

Definition: Indicate anastomotic position.

SEQ. #: 3000
Long Name: CAB Endarterectomy 05
Short Name: CABEndArt05
Definition: Indicate whether endarterectomy was performed.

SEQ. #: 3005
Long Name: CAB Vein Patch Angioplasty 05
Short Name: CABVeinPatAng05
Definition: Indicate whether a vein/**arterial** patch angioplasty was performed.

FAQ October 2017: The surgeon completed a patch angioplasty using the radial artery instead of a vein, how is this coded?
Answer: Code as vein patch angioplasty. This can apply to either vein or arterial patch.

SEQ. #: 3010
Long Name: CAB 06
Short Name: CAB06
Definition: Indicate whether a sixth Coronary Artery Bypass graft was done.

SEQ. #: 3030
Long Name: CAB Distal Site 06
Short Name: CABDistSite06
Definition: Indicate distal insertion site of bypass.

SEQ. #: 3040
Long Name: CAB Proximal Site 06
Short Name: CABProximalSite06
Definition: Indicate proximal site of the bypass graft.

SEQ. #: 3050
Long Name: CAB Conduit 06

Short Name: CABConduit06
Definition: Indicate the conduit type used.

SEQ. #: 3055
Long Name: CAB Distal Position 06
Short Name: CABDistPos06
Definition: Indicate anastomotic position.

SEQ. #: 3060
Long Name: CAB Endarterectomy 06
Short Name: CABEndArt06
Definition: Indicate whether endarterectomy was performed.

SEQ. #: 3065
Long Name: CAB Vein Patch Angioplasty 06
Short Name: CABVeinPatAng06
Definition: Indicate whether a vein/**arterial** patch angioplasty was performed.

FAQ October 2017: The surgeon completed a patch angioplasty using the radial artery instead of a vein, how is this coded?
Answer: Code as vein patch angioplasty. This can apply to either vein or arterial patch.

SEQ. #: 3070
Long Name: CAB 07
Short Name: CAB07
Definition: Indicate whether a seventh Coronary Artery Bypass graft was done.

SEQ. #: 3090
Long Name: CAB Distal Site 07
Short Name: CABDistSite07
Definition: Indicate distal insertion site of bypass.

SEQ. #: 3100

Long Name: CAB Proximal Site 07
Short Name: CABProximalSite07
Definition: Indicate proximal site of the bypass graft.

SEQ. #: 3110
Long Name: CAB Conduit 07
Short Name: CABConduit07
Definition: Indicate the conduit type used.

SEQ. #: 3115
Long Name: CAB Distal Position 07
Short Name: CABDistPos07
Definition: Indicate anastomotic position.

SEQ. #: 3120
Long Name: CAB Endarterectomy 07
Short Name: CABEndArt07
Definition: Indicate whether endarterectomy was performed.

SEQ. #: 3125
Long Name: CAB Vein Patch Angioplasty 07
Short Name: CABVeinPatAng07
Definition: Indicate whether a vein/**arterial** patch angioplasty was performed.

FAQ October 2017: The surgeon completed a patch angioplasty using the radial artery instead of a vein, how is this coded?
Answer: Code as vein patch angioplasty. This can apply to either vein or arterial patch.

SEQ. #: 3130
Long Name: CAB 08
Short Name: CAB08
Definition: Indicate whether an eighth Coronary Artery Bypass graft was done.

SEQ. #: 3150
Long Name: CAB Distal Site 08
Short Name: CABDistSite08
Definition: Indicate distal insertion site of bypass.

SEQ. #: 3160
Long Name: CAB Proximal Site 08
Short Name: CABProximalSite08
Definition: Indicate proximal site of the bypass graft.

SEQ. #: 3170
Long Name: CAB Conduit 08
Short Name: CABConduit08
Definition: Indicate the conduit type used.

SEQ. #: 3175
Long Name: CAB Distal Position 08
Short Name: CABDistPos08
Definition: Indicate anastomotic position.

SEQ. #: 3180
Long Name: CAB Endarterectomy 08
Short Name: CABEndArt08
Definition: Indicate whether endarterectomy was performed.

SEQ. #: 3185
Long Name: CAB Vein Patch Angioplasty 08
Short Name: CABVeinPatAng08
Definition: Indicate whether a vein/**arterial** patch angioplasty was performed.

FAQ October 2017: The surgeon completed a patch angioplasty using the radial artery instead of a vein, how is this coded?
Answer: Code as vein patch angioplasty. This can apply to either vein or arterial patch.

SEQ. #: 3190
Long Name: CAB 09
Short Name: CAB09
Definition: Indicate whether a ninth Coronary Artery Bypass graft was done.

SEQ. #: 3210
Long Name: CAB Distal Site 09
Short Name: CABDistSite09
Definition: Indicate distal insertion site of bypass.

SEQ. #: 3220
Long Name: CAB Proximal Site 09
Short Name: CABProximalSite09
Definition: Indicate proximal site of the bypass graft.

SEQ. #: 3230
Long Name: CAB Conduit 09
Short Name: CABConduit09
Definition: Indicate the conduit type used.

SEQ. #: 3235
Long Name: CAB Distal Position 09
Short Name: CABDistPos09
Definition: Indicate anastomotic position.

SEQ. #: 3240
Long Name: CAB Endarterectomy 09
Short Name: CABEndArt09
Definition: Indicate whether endarterectomy was performed.

SEQ. #: 3245

Long Name: CAB Vein Patch Angioplasty 09
Short Name: CABVeinPatAng09
Definition: Indicate whether a vein/**arterial** patch angioplasty was performed.

FAQ October 2017: The surgeon completed a patch angioplasty using the radial artery instead of a vein, how is this coded?
Answer: Code as vein patch angioplasty. This can apply to either vein or arterial patch.

SEQ. #: 3250
Long Name: CAB 10
Short Name: CAB10
Definition: Indicate whether a tenth Coronary Artery Bypass graft was done.

SEQ. #: 3270
Long Name: CAB Distal Site 10
Short Name: CABDistSite10
Definition: Indicate distal insertion site of bypass.

SEQ. #: 3280
Long Name: CAB Proximal Site 10
Short Name: CABProximalSite10
Definition: Indicate proximal site of the bypass graft.

SEQ. #: 3290
Long Name: CAB Conduit 10
Short Name: CABConduit10
Definition: Indicate the conduit type used.

SEQ. #: 3295
Long Name: CAB Distal Position 10
Short Name: CABDistPos10
Definition: Indicate anastomotic position.

SEQ. #: 3300
Long Name: CAB Endarterectomy 10
Short Name: CABEndArt10
Definition: Indicate whether endarterectomy was performed.

SEQ. #: 3305
Long Name: CAB Vein Patch Angioplasty 10
Short Name: CABVeinPatAng10
Definition: Indicate whether a vein**/arterial** patch angioplasty was performed.

FAQ October 2017: The surgeon completed a patch angioplasty using the radial artery instead of a vein, how is this coded?
Answer: Code as vein patch angioplasty. This can apply to either vein or arterial patch.

Valve Surgery

SEQ. #: 3310
Long Name: Valve Prosthesis Explant
Short Name: ValExp
Definition: Indicate whether a prosthetic valve or annuloplasty was explanted during this procedure.

Intent/Clarification:
The intent is to capture as much information as possible about explanted devices. This will assist with post market device surveillance and provide information on device longevity. Having this information will help surgeons and patients make informed decisions on device selection.

Code the valve explant even if the sewing cuff is retained.

Do not code a valve explant if a valve is implanted and explanted during the same operation due to the fact the valve did not work or fit.

FAQ September 2018: A patient had previous Ross procedure with Pulmonary Autograft implanted in Aortic Position, with reconstruction of aortic annulus with reduction annuolplasty and reconstruction of RVOT. He now has aneurysmal dilation of the ascending aorta and returns for AVR + Aortic Root Reconstruction and replacement of the ascending aorta. Do I collect the Pulmonary Autograft as an explant for seq 3310?
Answer: Yes, code the autograft as the aortic explant.
An OnyxAAP Conduit was used, is this coded in the Aortic Devices?

SEQ. #: 3315
Long Name: Valve Prosthesis Explant Position
Short Name: ValExpPos
Definition: Indicate the location of the first explanted prosthetic valve or annuloplasty device.

Intent/Clarification:
- Aortic
- Mitral
- Tricuspid
- Pulmonic

SEQ. #: 3320
Long Name: Valve Explant Type
Short Name: ValExpTyp
Definition: Indicate the first type of valve device explanted or enter unknown.

Intent/Clarification:
- Mechanical Valve
- Leaflet clip
- Bioprosthetic Valve
- Transcatheter Device
- Homograft
- Other
- Annuloplasty Device
- Unknown

FAQ November 2017: Accurate collection of the valve type is necessary for device longitudinal surveillance. This can be determined by the valve model number. If you are unsure check the valve manufacture website.

FAQ September 2018: A patient had previous Ross procedure with Pulmonary Autograft implanted in Aortic Position, with reconstruction of aortic annulus with reduction annuolplasty and reconstruction of RVOT. He now has aneurysmal dilation of the ascending aorta and returns for AVR + Aortic Root Reconstruction and replacement of the ascending aorta. Do I collect the Pulmonary Autograft as an explant for seq 3310?
Answer: Yes, code the explant type as other.

SEQ. #: 3325
Long Name: Valve Explant Etiology
Short Name: ValExpEt
Definition: Indicate the primary reason for explanting valve device.

Intent/Clarification:

Choose the most critical reason that the patient is having the valve explanted.

- Endocarditis
- Failed repair
- Hemolysis: Valve causes destruction of red blood cells.
- Incompetence
- Pannus: Mobility of the leaflets obstructed or impaired by a membrane of tissue.
- Para-valvular leak: Leak around the valve
- Prosthetic deterioration
- Sizing/positioning issue: Valve size or position is suboptimal
- Stenosis
- Thrombosis
- Other
- Unknown

When coding the replacement of a calcified homograft code prosthetic deterioration.

FAQ September 2018: A patient had previous Ross procedure with Pulmonary Autograft implanted in Aortic Position, with reconstruction of aortic annulus with reduction annuolplasty and reconstruction of RVOT. He now has aneurysmal dilation of the ascending aorta and returns for AVR + Aortic Root Reconstruction and replacement of the ascending aorta. Do I collect the Pulmonary Autograft as an explant for seq 3310?
Answer: Yes, code the explant etiology other.

SEQ. #: 3330
Long Name: Valve Explant Device Known
Short Name: ValExpDevKnown
Definition: Indicate whether the type of explanted valve device is known.

Intent/Clarification:
Information is available to identify the explanted valve device. This may include the patient's device card from the manufacturer.

FAQ August 2018: When the patient has had a Ross procedure and then presents for reoperation, how is the explant of the AV conduit coded?
Answer: Code no to device known.

SEQ. #: 3335
Long Name: Valve Explant Device
Short Name: ValExpDev
Definition: Indicate the model number of the first prosthesis explanted.

Intent/Clarification:
Choose the device type from the device list.

SEQ. #: 3340
Long Name: Valve Explant Unique Device Identifier (UDI)
Short Name: ValExpUDI
Definition: Indicate the device UDI if available, otherwise leave blank.

Intent/Clarification:
This is a unique identifier that will be on each valve. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.

https://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_s%20our%20ce=Members%E2%80%90Only+Updates&utm_campaign=c7c1e8c870%E2%80%90%20Proposed_Rules_7_5_2012&utm_medium=email

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SEQ. #: 3350
Long Name: Second Valve Prosthesis Explant
Short Name: ValExp2
Definition: Indicate whether a second prosthetic valve or annuloplasty was explanted during this procedure.

Intent/Clarification:
In the event that more than one device is explanted, capture both. Code the valve explanted even if the sewing cuff is retained. Do not code a valve explant if a valve is implanted and explanted during the same operation due to the fact the valve did not work or fit.

SEQ. #: 3355
Long Name: Second Valve Prosthesis Explant Position
Short Name: ValExpPos2
Definition: Indicate the location of the second explanted prosthetic valve or annuloplasty.

Intent/Clarification:

- Aortic
- Mitral
- Tricuspid

- Pulmonic

SEQ. #: 3360
Long Name: Second Valve Explant Type
Short Name: ValExpTyp2
Definition: Indicate the second type of valve device explanted or enter unknown.

Intent/Clarification:

- Mechanical Valve
- Leaflet clip
- Bioprosthetic Valve
- Transcatheter Device
- Homograft
- Other
- Annuloplasty Device
- Unknown

November 2017: Accurate collection of the valve type is necessary for device longitudinal surveillance. This can be determined by the valve model number. If you are unsure check the valve manufacture website.

SEQ. #: 3365
Long Name: Second Valve Explant Etiology
Short Name: ValExpEt2
Definition: Indicate the primary reason for explanting valve device.

Intent/Clarification:

Choose the most critical reason that the patient had their valve replaced.

- Endocarditis
- Failed repair
- Hemolysis**:** Valve causes destruction of red blood cells.
- Incompetence
- Pannus: Mobility of the leaflets obstructed or impaired by a membrane of tissue.
- Para-valvular leak: Leak around the valve
- Prosthetic deterioration
- Sizing/positioning issue: Valve size or position is suboptimal
- Stenosis
- Thrombosis
- Other
- Unknown

SEQ. #: 3370
Long Name: Second Valve Explant Device Known
Short Name: ValExpDevKnown2
Definition: Indicate whether the type of explanted valve device is known.

Intent/Clarification:
Information is available to identify the explanted valve device.

SEQ. #: 3375
Long Name: Second Valve Explant Device
Short Name: ValExpDev2
Definition: Indicate the model number of the second prosthesis explanted.

Intent/Clarification:
Choose the device type from the device list.

SEQ. #: 3380
Long Name: Second Valve Explant Device Unique Device Identifier (UDI)
Short Name: ValExpDevUDI
Definition: Indicate the device UDI if available, otherwise leave blank.

Intent/Clarification:
This is a unique identifier that will be on each valve. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.

https://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_s%20our%20ce=Members%E2%80%90Only+Updates&utm_campaign=c7c1e8c870%E2%80%90%20Proposed_Rules_7_5_2012&utm_medium=email

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SEQ. #: 3390
Long Name: VS-Aortic Valve
Short Name: VSAV

Definition: Indicate whether an aortic valve procedure was performed.

Intent/Clarification:

- Yes, planned
- Yes, unplanned due to surgical complication
- Yes, unplanned due to unsuspected disease or anatomy
- No

FAQ November 2018: Patient returns to the hospital 2 years post year AVR. Found to have thrombus in the AV and required open removal of the clot and pannus, the leaflets of the valve are then functioning well, and the aorta is closed.
Answer: Code this as a valve repair with all repair options marked 'no'.

FAQ Sept 2019 - If a patient has a root repair with a valve resuspension, should you code both aortic valve repair (3395), then repair type (3425) for leaflet commissural resuspension in addition to the root proc (3462) & valve sparing root operation (3466), and the resuspension of the AV?
Answer - You do not need to code the AV repair Seq 3395 / 3425 since it is already captured in sequence 3467 (Resuspension AV with replacement of Ascending Aorta).

SEQ. #: 3395
Long Name: VS-Aortic Valve Procedure
Short Name: VSAVPr
Definition: Indicate the type of procedure that was performed on the aortic valve and/or ascending aorta.

Intent/Clarification:

Options include:

- Replacement
- Repair / Reconstruction
- ~~Root replacement with valved conduit (Bentall)~~ (Remove)
- ~~Replacement AV and insertion aortic non-valved conduit in supra-coronary position~~ (Remove)
- ~~Replacement AV and major root reconstruction/debridement with valved conduit~~ (Remove)
- ~~Resuspension AV without replacement of ascending aorta~~ (Remove)
- ~~Resuspension AV with replacement of ascending aorta~~ (Remove)

    - ~~Apico-aortic conduit (Aortic valve bypass)~~ (Remove)

- ~~Autograft with pulmonary valve (Ross procedure)~~ (Remove)
- ~~Homograft Root Replacement~~ (Remove)
- ~~Valve sparing root reimplantation (David)~~ (Remove)
- ~~Valve sparing root remodeling (Yacoub)~~ (Remove)
- ~~Valve Sparing root reconstruction (Florida Sleeve)~~ (Remove)

FAQ September 2017: Surgeon performed the following mitral valve procedure "anterior mitral leaflet endarterectomy/decalcification" done in conjunction with an Aortic Valve Replacement. How is this documented under the options provided for MV repair?
Answer: No, anterior mitral leaflet endarterectomy/decalcification is considered part of the AVR and should not be coded as a mitral valve procedure.

FAQ June 2019: Patient had an AVR for endocarditis. The surgeon also performed unroofing of the mitral valve sub annular abscess. How do I code the mitral valve procedure?
Answer: Don't code--part of the AVR for endocarditis.

FAQ June 2019: Is an aortic endarterectomy considered part of the AVR procedure or does this need to be coded elsewhere?
Answer: This can be part of an AVR and should not be coded elsewhere.

FAQ June 2019: My facility is working on a form for the physicians to complete following the valve sections. They have brought up a question due to repeated questions. If a patient only has a Bentall would you capture no to replacement (3395) and then only complete Yes starting at root procedure (3462) then continue to complete section M?
Answer: No complete both sections 3395 and 3462.

SEQ. #: 3400
Long Name: VS-Aortic Transcatheter Valve Replacement
Short Name: VSTCV
Definition: Indicate whether the aortic valve replacement was done using a transcatheter valve device.

Intent/Clarification:
Transcatheter Aortic Valve Replacement (TAVR) technology is designed to allow some patients, who may not be candidates for conventional open-heart valve replacement surgery due to excessive risk, to obtain a life-saving valve.

Catheter based access is obtained through an artery.

If you participate in the TVT registry you may opt to submit transcatheter cases to the STS adult cardiac surgery registry in addition to the TVT registry, but it is not required.

FAQ November 2018: Our surgeon (who is an STS participant) did the TAVR along with the cardiologist but the cardiologist also did the TMVR by himself.
Both TAVR + TMVR done during same operative episode.
Do we capture just the TAVR in the ACSD since that's the only procedure our surgeon participated in?
Or do we capture the TMVR also (since it was done during same operation…like capturing CEA done by vascular when done during CABG)?
Answer: This is an optional case for ACSD. Double valve should be entered if the site enters TAVR/TMVR cases into the ACSD. It will not be analyzed.

FAQ May 2019: I had a patient who had a planned CABG for 1 day and a planned TVAR the next day. Is the TAVR captured, if so, where?
Answer: Yes, please code the TAVR in the Aortic Valve Section even though it was done on a different day. This patient will appropriately fall out of the isolated CAB category considering the additional risk of the TAVR procedure.

FAQ Sept 2019 - I had a patient who had a planned CABG for 1 day and a planned TVAR the next day. Per the Training Manual, I am to capure this as one procedure in the Aortic Valve Section even though it was done on a different day. In this scenario, do I enter the OR times from the CABG or TAVR procedure?

Answer - Use the OR times Seq 2245, 2250, 2253, 2265, 2270, and 2275 from the CABG in this scenario.

SEQ. #: 3405
Long Name: VS-Transcatheter Valve Replacement Approach
Short Name: VSTCVR
Definition: Indicate transcatheter valve replacement approach.

Intent/Clarification:

TAVR devices may be implanted via multiple vascular approaches:

- Transapical
- Transaxillary
- Transfemoral
- Transaortic
- Subclavian
- Other

SEQ. #: 3407
Long Name: VS-Aortic Surgical Valve Replacement
Short Name: VSAVSurgRep

Definition: Indicate whether the aortic valve replacement was done using a surgical procedure.

Intent/Clarification:
An open surgical valve procedure was performed.

SEQ. #: 3408
Long Name: VS-Aortic Surgical Valve Replacement Device Type
Short Name: VSAVSurgType
Definition: Indicate the type of device used to surgically replace the aortic valve.

Intent/Clarification:
Choose the device type:

- Mechanical
- Bioprosthetic
- Surgeon fashioned pericardium (Ozaki)
- Other

November 2017: Accurate collection of the valve type is necessary for device longitudinal surveillance. This can be determined by the valve model number. If you are unsure check the valve manufacture website.

SEQ. #: 3409
Long Name: VS-Aortic Surgical Bioprosthetic Replacement Valve Type
Short Name: VSAVSurgBioT
Definition: Indicate the type of bioprosthetic device used to surgically replace the aortic valve.

Intent/Clarification:
If bioprosthetic, choose valve type:

- Stented
- Stentless subcoronary valve only
- Sutureless/rapid deployment

SEQ. #: 3410
Long Name: VS-Aortic Valve Repair - Commissural Suture Annuloplasty
Short Name: VSAVRComA
Definition: Indicate whether the aortic valve repair procedure included a commissural annuloplasty.

Intent/Clarification: Sometimes referred to as “subcommissural annuloplasty”. Identifies repairs involving placement of pledgeted mattress sutures across the upper portion of the commissural post to improve leaflet coaptation. These annuloplasty sutures are contained with the inside of the aorta, in contrast to the sutures for commissural resuspension (seq# 3425).

SEQ. #: 3411
Long Name: VS-Aortic Valve Repair - External Suture Annuloplasty
Short Name: VSAVRExSutAn
Definition: Indicate whether the aortic valve repair procedure included an external suture annuloplasty.

Intent/Clarification: To identify placement of the annuloplasty suture outside the right/left commissure, passing the needle through the septal myocardium.

SEQ. #: 3415
Long Name: VS-Aortic Valve Repair - Leaflet Plication
Short Name: VSAVRLPlic
Definition: Indicate whether the aortic valve repair procedure included leaflet plication.

Intent/Clarification: To identify repair with central plication stitches, shortening the leaflet free-edge length for the correction of leaflet prolapse.

FAQ January 2019: How is AV repair with free margin shortening coded, is it part of a Tirone David, or is it a stand alone procedure?
Answer: Code this free margin shortening as leaflet plication.

SEQ. #: 3416
Long Name: VS-Aortic Valve Repair - Nodular Release
Short Name: VSAVRNodRel
Definition: Indicate whether the aortic valve repair procedure included nodular release.

Intent/Clarification: -

SEQ. #: 3420
Long Name: VS-Aortic Valve Repair - Leaflet Free Edge Reinforcement (PTFE) Suture
Short Name: VSAVRPTFE

Definition: Indicate whether the aortic valve repair procedure included leaflet free edge reinforcement (PTFE) suture.

Intent/Clarification: The free edge reinforcement technique is performed by using suture passed in running fashion over and over along the entire length of the free margin.

SEQ. #: 3425
Long Name: VS-Aortic Valve Repair - Leaflet Commissural Resuspension Suture
Short Name: VSAVRComRS
Definition: Indicate whether the aortic valve repair procedure included leaflet commissural resuspension suture.

Intent/Clarification: A commissural resuspension suture is a plegeted mattress suture placed at the top end of the commissural post. The stitch is placed transmurally, so that one pledget is on the inside of the aorta and the other pledget is on the outside of the aorta. This suture has the effect of compressing all aortic layers together and is often used in repair of aortic dissections**.**

SEQ. #: 3430
Long Name: VS-Aortic Valve Repair - Division of Fused Leaflet Raphe
Short Name: VSAVRRaphe
Definition: Indicate whether the aortic valve repair procedure included division of fused leaflet raphe.

Intent/Clarification: The division of the raphe (the two commissures or hinge points that are fused) in bicuspid valves.

SEQ. #: 3435
Long Name: VS-Aortic Valve Repair - Ring Annuloplasty
Short Name: VSAVRRingA
Definition: Indicate whether the aortic valve repair procedure included a ring annuloplasty.

Intent/Clarification: Describes a ring sewn around the base to the annulus to reshape it and provide support. Rings may be flexible or rigid.

SEQ. #: 3436
Long Name: VS-Aortic Valve Repair - Ring Annuloplasty - Type
Short Name: VSAVRRingATy
Definition: Indicate the type of ring annuloplasty that was used in this procedure.

Intent/Clarification:
- External ring
- Internal ring

SEQ. #: 3440
Long Name: VS-Aortic Valve Repair - Leaflet Resection Suture
Short Name: VSAVRLResect
Definition: Indicate whether the aortic valve repair procedure included leaflet resection.

Intent/Clarification: Sutures places to mark the edges of the resection.

SEQ. #: 3441
Long Name: VS-Aortic Valve Repair - Leaflet Shaving
Short Name: VSAVRLeafShav
Definition: Indicate whether the aortic valve repair procedure included leaflet shaving.

Intent/Clarification: Removing the growth

SEQ. #: 3445
Long Name: VS-Aortic Valve Repair - Leaflet Pericardial Patch
Short Name: VSAVRLPPatch
Definition: Indicate whether the aortic valve repair procedure included leaflet pericardial patch.

Intent/Clarification: A pericardial patch can be used to repair larger perforations in the valve leaflets

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SEQ. #: 3450
Long Name: VS-Aortic Valve Repair - Leaflet Debridement
Short Name: VSAVRDeb
Definition: Indicate whether the aortic valve repair procedure included leaflet debridement.

Intent/Clarification: A debridement technique can be used to remove small leaflet lesions such as Lambl's excrescence, fibroelastomas and small calcific deposits. When tumors such as fibroelastoma or myxoma are removed, also code in seq # 4115.

SEQ. #: 3455
Long Name: VS-Aortic Valve Repair - Repair of Peri-prosthetic Leak
Short Name: VSAVRPeriLeak
Definition: Indicate whether the aortic valve repair procedure included repair of a Peri-prosthetic leak.

Intent/Clarification: Leak of a previously place valve prosthesis. A periprosthetic leak occurs because of gap between the valve sewing ring and the native annulus. Repair of such a leak may mandate removal of the entire valve and re-replacement. This is not the intent of this field. Rather, this field pertains to the repair of a peri-prosthetic leak with one or more repair sutures without needing to remove the existing prosthesis.

SEQ. #: 3460
Long Name: VS-Aortic Proc-Aortic Annular Enlargement
Short Name: AnlrEnl
Definition: Indicate whether an annular enlargement procedure was performed on the Aortic Valve. An aortic annular enlargement is defined as incision of the aortic annulus to enlarge the aortic orifice. Annular enlargement techniques include but are not limited to Manougian, Konno and Nicks.

Intent/Clarification:
Enlargement of the aortic annulus during aortic valve replacement permits insertion of a larger prosthetic valve or allows for optimal positioning. The enlarging procedure typically employs a patch of either pericardium or Dacron. In the classic Nick's or Manougian, the patch extends across the annulus (an aorto-annuloplasty). A patch that extends down to but not across the actual annulus (supra-annular aortoplasty) is considered a modification of the Nick's or Manougian and is coded as Nick's or Manougian as appropriate.

FAQ July 2018: How is a bovine pericardial patch enlargement of the aortic root and left atrial roof coded?
Answer: Code this patch enlargement as annular enlargement, code the root in sequence number 3462.

FAQ October 2018: How is a Konno-Rastan procedure coded?
Answer: Konno-Rastan's should be captured as a Konno procedure by coding sequence numbers 2125, 3460 and 3461 (Konno). Konno-Rastans are more extensive outflow tract procedures and are not captured in this version.

FAQ October 2019 - For Aortic annular enlargement with a patch, do you code 3460 (Aortic annular enlargement with patch) and Seq 3469 (patch used)?
Answer – Code Yes to Seq 3460. Do not code Seq 3469.

SEQ. #: 3461
Long Name: VS-Aortic Proc-Aortic Annular Enlargement With Patch - Technique
Short Name: AnlrEnlTech
Definition: Indicate the technique used for the aortic annular enlargement procedure.

Intent/Clarification:
Intended to capture whether a Nicks-Nunez, Manougian, Konno, Other or Unknown was performed utilizing patch material.

FAQ October 2018: How is a Konno-Rastan procedure coded?
Answer: Konno-Rastan's should be captured as a Konno procedure by coding sequence numbers 2125, 3460 and 3461 (Konno). Konno-Rastans are more extensive outflow tract procedures and are not captured in this version.

SEQ. #: 3462
Long Name: VS-Aortic Root Procedure
Short Name: VSAVRoot
Definition: Indicate whether an aortic root procedure was performed during this operation.

Intent/Clarification: For AV surgery involving the aortic root, also complete section M2.

FAQ July 2018: How is a bovine pericardial patch enlargement of the aortic root and left atrial roof coded?
Answer: Code the root in sequence number 3462 and code this patch enlargement as annular enlargement in sequence number 3460.

FAQ June 2019: My facility is working on a form for the physicians to complete following the valve sections. They have brought up a question due to repeated questions. If a patient only has a Bentall would you capture no to replacement (3395) and then only complete Yes starting at root procedure (3462) then continue to complete section M.
Answer: No complete both sections 3395 and 3462.

FAQ Sept 2019 - If a patient has a root repair with a valve resuspension, should you code both aortic valve repair (3395), then repair type (3425) for leaflet

commissural resuspension in addition to the root proc (3462) & valve sparing root operation (3466), and the resuspension of the AV?
Answer - You do not need to code the AV repair Seq 3395 / 3425 since it is already captured in sequence 3467 (Resuspension AV with replacement of Ascending Aorta).

SEQ. #: 3463
Long Name: VS-Aortic Root Procedure With Coronary Ostial Reimplantation (Bentall)
Short Name: VSAVRootOReimp
Definition: Indicate whether the root replacement procedure included coronary Ostial Reimplantation (Bentall).

Intent/Clarification: The coronary ostia are reimplanted following the replacement of the aortic root.

FAQ November 2017: How/where should a Cabrol procedure be captured.
Answer: Code only the aortic root procedure, there is no other field to capture this technique to reimplant the coronary buttons.

FAQ November 2017: Following a David procedure, due to bleeding at the right coronary anastomosis, a Kay Zubiate reconstruction was required to reconstruct the ostium of the RCA using a segment of saphenous vein. How is this coded?
Answer: Code only the aortic root procedure, there is no other field to capture this technique to repair the ostium of the RCA.

SEQ. #: 3464
Long Name: VS-Aortic Root Procedure With Coronary Ostial Reimplantation (Bentall) - Type
Short Name: VSAVRootOReimpTy
Definition: Indicate the type of device used for root replacement.

Intent/Clarification:

SEQ. #: 3465
Long Name: VS-Aortic Root Procedure With Coronary Ostial Reimplantation - Bioprosthetic Type
Short Name: VSAVRepBioTy
Definition: Indicate the type of bioprosthetic device used during the aortic root replacement with coronary Ostial Reimplantation

Intent/Clarification:

SEQ. #: 3466
Long Name: VS-Aortic Valve Sparing Root Operation Performed
Short Name: VSAVSparRt
Definition: Indicate whether a valve sparing root operation was performed.

Intent/Clarification:

SEQ. #: 3467
Long Name: VS-Aortic Valve Sparing Root Operation
Short Name: VSAVSparRtOp
Definition: Indicate the type of aortic valve sparing root operation that was performed.

Intent/Clarification:

SEQ. #: 3468
Long Name: VS-Aortic Valve Major Root Reconstruction
Short Name: VSAVRootRecon
Definition: Indicate whether the procedure included aortic valve major root reconstruction / debridement with or without pericardial patch.

Intent/Clarification:

FAQ June 2018: Would a Mitral valve repair, closure of LVOT-left atrium fistula, Aortic valve replacement, Debridement and patch of abscess cavity in intervalvular fibrosa, and closure of PFO case be considered risk adjusted? Also how would the Debridement and patch of abscess cavity in intervalvular fibrosabe coded?
Answer: This is a major root reconstruction.

SEQ. #: 3469
Long Name: VS-Aortic Valve Patch
Short Name: VSAVPat
Definition: Indicate whether a patch was used

Intent/Clarification:

FAQ December 2017: There was a peri-annular abscess along the right coronary annulus extending from below the right coronary ostium to the right coronary and

noncoronary commissure. Once it was debrided, there was now communication with the right ventricle and the tricuspid valve was visible. All the infected material was debrided and the ventricular septal defect was repaired with a prolene suture. An autologous pericardial patch was used to cover the abscess cavity. It part of the aortic valve procedure but should aortic valve patch also be coded?
Answer: Yes, code patch in this case.

SEQ. #: 3470
Long Name: VS-Aortic Valve Patch Type
Short Name: VSAVPatTy
Definition: Indicate the type of patch used

Intent/Clarification:

SEQ. #: 3472
Long Name: VS-Aortic Valve Implant
Short Name: AorticImplant
Definition: Indicate whether an aortic valve or valve repair device was implanted.

Intent/Clarification:

FAQ August 2017: When will the updated valve/VAD list be published?
Answer: The STS will not be publishing a Valve/VAD list. It is the responsibility of your vendor to maintain the lists in the drop-downs in your software.

FAQ March 2018: How is apical-aortic conduit coded?
Answer: Code the valve implant as an aortic valve implant only and code then code the distal aortic location.

FAQ September 2018: A patient had previous Ross procedure with Pulmonary Autograft implanted in Aortic Position, with reconstruction of aortic annulus with reduction annuolplasty and reconstruction of RVOT. He now has aneurysmal dilation of the ascending aorta and returns for AVR + Aortic Root Reconstruction and replacement of the ascending aorta. An OnyxAAP was used, is this coded in the aortic devices.
Answer: Code this as an aortic valve implant and code it in the aorta device section, include any additional conduits in the aorta section as well.

SEQ. #: 3480
Long Name: VS-Aortic Proc-Implant Model Number
Short Name: VSAoIm
Definition: Indicate the name of the prosthesis implanted. The names provided include the manufacturer's model number with "xx" substituting for the device size.

Intent/Clarification:
Choose the device type from the device list. **The device list will only be updated by the vendors with the specification upgrades. Devices not listed should be entered as Other – FDA approved or Other Non FDA approved devices and entering the UDI will allow for valve identification.**

SEQ. #: 3485
Long Name: VS-Aortic Proc-Imp-Size
Short Name: VSAoImSz
Definition: Indicate the Aortic implant size.

Intent/Clarification:

FAQ Sept 2019 - Our hospital is using ON-X valves with sizes such as 27/29. Our software only allows 2 numbers, which one should I use, 27 or 29?
Answer - Code this valve as a 27.

FAQ Sept 2019 – The Perceval Sutureless Valve comes in 4 sizes, S, M, L, XL. How should I code the size of the valve?
Answer – Code the size of the last digits in the model number. For example, PSV23 will be coded as 23.

REF	SIZE	AORTIC ANNULUS DIAMETER [A] (mm)	SINOTUBULAR JUNCTION DIAMETER [≤ 1.3 A] (mm)
PVS21	S	19-21	≤ 24.7-27.3
PVS23	M	21-23	≤ 27.3-29.9
PVS25	L	23-25	≤ 29.9-32.5
PVS27	XL	25-27	≤ 32.5-35.1

Table 1: Patient anatomical characteristics

SEQ. #: 3490
Long Name: VS-Aortic Proc-Imp - Unique Device Identifier (UDI)
Short Name: VSAoImUDI
Definition: Indicate the device UDI if available, otherwise leave blank.

Intent/Clarification:
This is a unique identifier that will be on each patch. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.

https://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_s%20our%20ce=Members%E2%80%90Only+Updates&utm_

campaign=c7c1e8c870%E2%80%90%20Proposed_Rules_7_5_2012&utm_medium=email

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SEQ. #: 3495
Long Name: VS-Mitral Valve
Short Name: VSMV
Definition: Indicate whether a mitral valve procedure was performed.

Intent/Clarification:

- Yes, planned
- Yes, unplanned due to surgical complication
- Yes, unplanned due to unsuspected disease or anatomy
- No

SEQ. #: 3500
Long Name: VS-Mitral Valve Procedure
Short Name: VSMVPr
Definition: Indicate the type of procedure that was performed on the mitral valve.

Intent/Clarification:

- Repair
- Replacement

FAQ September 2017: Surgeon performed the following mitral valve procedure "anterior mitral leaflet endarterectomy/decalcification" done in conjunction with an Aortic Valve Replacement. How is this documented under the options provided for MV repair?

Answer: No, anterior mitral leaflet endarterectomy/decalcification is considered part of the AVR and should not be coded as a mitral valve procedure.

FAQ November 2018: The patient had a MVR with reconstruction of the atrium with atrioplasty. Excerpt from op note:
We then visualized the valve. There was calcification in the wall of the atrium. We identified the defect and then got 2-0 Ethibond sutures, 3 in number, brought through the sewing ring of the mechanical valve and then deep bites through the annulus with felt buttress exteriorly. We did this in multiple locations all on the area of the repair taking deep bites into the annulus for annular reconstruction. We then found no other abnormalities that we could identify and so I got a Dacron patch 4 x 4 cm and then did a complex reconstruction of the atrium with atrioplasty. This was required because the atrium was stuck to the pulmonary artery and had to be peeled and dissected off. We then did a running 4-0 Prolene suture circumferentially around the Dacron patch in order to reconstruct the atrium.
Answer: This was a technical addition, nothing else to code.

FAQ June 2019: Patient had MVR for endocarditis. There was erosion of the abscess into the left ventricle posteriorly causing atrioventricular disruption measuring about 2 x 3 cm. This area was repaired with a pericardial patch. Would this be coded under "other cardiac procedures", seq # 4135?
Answer: No, it is an inherent part of the procedure for a MVR for endocarditis.

FAQ June 2019: Patient had an AVR for endocarditis. The surgeon also performed unroofing of the mitral valve sub annular abscess. How do I code the mitral valve procedure?
Answer: Don't code-- part of the AVR for endocarditis.

SEQ. #: 3501
Long Name: VS-Mitral Valve - Repair Approach
Short Name: VSMVRepApp
Definition: Indicate the approach that was used to repair the Mitral Valve.

Intent/Clarification:

- Transcatheter
- Surgical

SEQ. #: 3505
Long Name: VS-Mitral Valve Repair - Annuloplasty
Short Name: VSMitRAnnulo
Definition: Indicate whether the mitral valve repair procedure included an annuloplasty.

Intent/Clarification:

FAQ August 2018: How should a Kay annuloplasty of the posterior-medial commissure of the mitral valve be coded?
Answer: Code as annuloplasty only and do not include an implant.

SEQ. #: 3510
Long Name: VS-Mitral Valve Repair - Leaflet Resection
Short Name: VSMitRLeafRes
Definition: Indicate whether the mitral valve repair procedure included a leaflet resection.

Intent/Clarification:

FAQ May 2019: This patient had a mitral valve replacement in 2017 and the ECHO showed the medial disk of the valve was stuck. Pt. had a redo Sternotomy and repair of the mechanical valve by excision of pannus. Findings: The anterior leaflet of the mechanical valve was obstructed by pannus formation. This pannus was removed without injuring the leaflets. After the pannus was removed both leaflets were found to be opening and closing normally. How do you abstract for excision of pannus.

Answer: Code repair and leave repair options as no. This will be updated in the next version. Refer to seq 3390.

SEQ. #: 3515
Long Name: VS-Mitral Leaflet Resection Type
Short Name: VSLeafResTyp
Definition: Indicate the type of leaflet resection.

Intent/Clarification:

- Triangular
- Quadrangular
- Other

FAQ November 2018: Patient had a mitral valve repair with a triangular resection of A2 and quadrangular resection of P2. When coding resection type for SN 3515, should this be coded as other? What classifies as other resection?
Answer: Code quadrangular resection of P2. This will be address in the revision discussions for the next version.

SEQ. #: 3517
Long Name: VS-Mitral Repair Leaflet - Anterior Resection
Short Name: VSLeafAntRes
Definition: Indicate whether anterior MV leaflet resection was performed

Intent/Clarification:

- Yes
- No

SEQ. #: 3518
Long Name: VS-Mitral Repair Leaflet - Anterior Resection - Location Documented
Short Name: VSLeafAntResLocD
Definition: Indicate whether the location of the anterior resection was documented.

Intent/Clarification:

- Yes
- No

SEQ. #: 3519
Long Name: VS-Mitral Repair Leaflet - Anterior Resection - A1
Short Name: VSLeafAntResA1
Definition: Indicate whether the anterior leaflet resection included location A1

Intent/Clarification:

SEQ. #: 3520
Long Name: VS-Mitral Repair Leaflet - Anterior Resection - A2
Short Name: VSLeafAntResA2
Definition: Indicate whether the anterior leaflet resection included location A2

Intent/Clarification:

SEQ. #: 3521
Long Name: VS-Mitral Repair Leaflet - Anterior Resection - A3
Short Name: VSLeafAntResA3
Definition: Indicate whether the anterior leaflet resection included location A3

Intent/Clarification:

SEQ. #: 3522
Long Name: VS-Mitral Repair Leaflet - Posterior Resection
Short Name: VSLeafPostRes
Definition: Indicate whether posterior MV leaflet resection was performed

Intent/Clarification:

- Yes
- No

SEQ. #: 3523
Long Name: VS-Mitral Repair Leaflet - Posterior Resection - Location Documented
Short Name: VSLeafPostResLocD
Definition: Indicate whether posterior MV leaflet resection location was documented

Intent/Clarification:

SEQ. #: 3524
Long Name: VS-Mitral Repair Leaflet - Posterior Resection - P1
Short Name: VSLeafPostResP1
Definition: Indicate whether the posterior leaflet resection included location P1

Intent/Clarification:

SEQ. #: 3525
Long Name: VS-Mitral Repair Leaflet - Posterior Resection - P2
Short Name: VSLeafPostResP2
Definition: Indicate whether the posterior leaflet resection included location P2

Intent/Clarification:

SEQ. #: 3526
Long Name: VS-Mitral Repair Leaflet - Posterior Resection - P3
Short Name: VSLeafPostResP3
Definition: Indicate whether the posterior leaflet resection included location P3

Intent/Clarification:

SEQ. #: 3527
Long Name: VS-Mitral Repair Leaflet - Commissure Resection
Short Name: VSLeafComRes
Definition: Indicate whether resection of the mitral commissure was performed

Intent/Clarification:

- Yes
- No

SEQ. #: 3528
Long Name: VS-Mitral Repair Leaflet - Commissure Resection - Location
Short Name: VSLeafComResLoc
Definition: Indicate the location of the mitral commissure resection

Intent/Clarification:
- Medial
- Lateral
- Both
- Not Documented

SEQ. #: 3532
Long Name: VS-Mitral Valve Repair - Neochords (PTFE)
Short Name: VSMitRPTFE
Definition: Indicate whether the mitral valve repair procedure included neochords (PTFE).

Intent/Clarification: Intended to replace damaged chordae by delivering artificial chordae tendineae.

SEQ. #: 3534
Long Name: VS-Mitral Valve Repair - Anterior Neochords
Short Name: VSNeoAnt
Definition: Indicate whether anterior neochords were placed

Intent/Clarification:
- Yes
- No

SEQ. #: 3535
Long Name: VS-Mitral Valve Repair - Anterior Neochords - Location Documented
Short Name: VSNeoAntLocD
Definition: Indicate whether location of anterior neochord placement was documented

Intent/Clarification:

- Yes
- No

SEQ. #: 3536
Long Name: VS-Mitral Valve Repair - Anterior Neochords - A1
Short Name: VSNeoAntA1
Definition: Indicate whether neochord location included location A1

Intent/Clarification:

SEQ. #: 3537
Long Name: VS-Mitral Valve Repair - Anterior Neochords - A2
Short Name: VSNeoAntA2
Definition: Indicate whether neochord location included location A2

Intent/Clarification:

SEQ. #: 3538
Long Name: VS-Mitral Valve Repair - Anterior Neochords - A3
Short Name: VSNeoAntA3
Definition: Indicate whether neochord location included location A3

Intent/Clarification:

SEQ. #: 3539
Long Name: VS-Mitral Valve Repair - Posterior Neochords
Short Name: VSNeoPost
Definition: Indicate whether posterior neochords were placed

Intent/Clarification:

- Yes
- No

SEQ. #: 3540
Long Name: VS-Mitral Valve Repair - Posterior Neochords - Location Documented
Short Name: VSNeoPostLocD
Definition: Indicate whether location of posterior neochord placement was documented

Intent/Clarification:

- Yes
- No

SEQ. #: 3541
Long Name: VS-Mitral Valve Repair - Posterior Neochords - P1
Short Name: VSNeoPostP1
Definition: Indicate whether posterior neochord location included location P1

Intent/Clarification:

SEQ. #: 3542
Long Name: VS-Mitral Valve Repair - Posterior Neochords - P2
Short Name: VSNeoPostP2
Definition: Indicate whether posterior neochord location included location P2

Intent/Clarification:

SEQ. #: 3543
Long Name: VS-Mitral Valve Repair - Posterior Neochords - P3
Short Name: VSNeoPostP3
Definition: Indicate whether posterior neochord location included location P3

Intent/Clarification:

SEQ. #: 3544
Long Name: VS-Mitral Valve Repair - Commissure Neochords
Short Name: VSNeoCom
Definition: Indicate whether commissural neochords were placed

Intent/Clarification:

- Yes
- No

SEQ. #: 3545
Long Name: VS-Mitral Valve Repair - Commissure Neochords - Location
Short Name: VSNeoComLoc
Definition: Indicate location of commissural neochord placement

Intent/Clarification:
- Medial
- Lateral
- Both
- Not Documented

SEQ. #: 3550
Long Name: VS-Mitral Valve Repair - Chordal / Leaflet Transfer
Short Name: VSMitRChord
Definition: Indicate whether the mitral valve repair procedure included a chordal / leaflet transfer.

Intent/Clarification:
- Yes
- No

SEQ. #: 3551
Long Name: VS-Mitral Valve Repair - Chordal Leaflet Transfer - Anterior
Short Name: VSChorLfAnt
Definition: Indicate whether chordal leaflet transfer was anterior

Intent/Clarification:
- Yes
- No

SEQ. #: 3552
Long Name: VS-Mitral Valve Repair - Chordal Leaflet Transfer - Anterior Location Documented
Short Name: VSChorLfAntLocD
Definition: Indicate whether location of anterior chordal leaflet transfer was documented

Intent/Clarification:

- Yes
- No

SEQ. #: 3553
Long Name: VS-Mitral Valve Repair - Chordal Leaflet Transfer - Anterior - A1
Short Name: VSChorLfAntA1
Definition: Indicate whether anterior chordal leaflet transfer location was A1

Intent/Clarification:

SEQ. #: 3554
Long Name: VS-Mitral Valve Repair - Chordal Leaflet Transfer - Anterior - A2
Short Name: VSChorLfAntA2
Definition: Indicate whether anterior chordal leaflet transfer location was A2

Intent/Clarification:

SEQ. #: 3555
Long Name: VS-Mitral Valve Repair - Chordal Leaflet Transfer - Anterior - A3
Short Name: VSChorLfAntA3
Definition: Indicate whether anterior chordal leaflet transfer location was A3

Intent/Clarification:

SEQ. #: 3556
Long Name: VS-Mitral Valve Repair - Chordal Leaflet Transfer - Posterior
Short Name: VSChorLfPost
Definition: Indicate whether chordal leaflet transfer was posterior

Intent/Clarification:

- Yes
- No

SEQ. #: 3557
Long Name: VS-Mitral Valve Repair - Chordal Leaflet Transfer - Posterior Location Documented
Short Name: VSChorLfPostLocD
Definition: Indicate whether location of posterior chordal leaflet transfer was documented

Intent/Clarification:

- Yes
- No

SEQ. #: 3558
Long Name: VS-Mitral Valve Repair - Chordal Leaflet Transfer - Posterior - P1
Short Name: VSChorLfPostP1
Definition: Indicate whether posterior chordal leaflet transfer location was P1

Intent/Clarification:

SEQ. #: 3559
Long Name: VS-Mitral Valve Repair - Chordal Leaflet Transfer - Posterior - P2
Short Name: VSChorLfPostP2
Definition: Indicate whether posterior chordal leaflet transfer location was P2

Intent/Clarification:

SEQ. #: 3560
Long Name: VS-Mitral Valve Repair - Chordal Leaflet Transfer - Posterior - P3
Short Name: VSChorLfPostP3
Definition: Indicate whether posterior chordal leaflet transfer location was P3

Intent/Clarification:

SEQ. #: 3561
Long Name: VS-Mitral Valve Repair - Chordal Leaflet Transfer - Commissure
Short Name: VSChorLfCom

Definition: Indicate whether chordal leaflet transfer was commissural

Intent/Clarification:

- Yes
- No

SEQ. #: 3562
Long Name: VS-Mitral Valve Repair - Chordal Leaflet Transfer - Commissure Location
Short Name: VSChorLfComLoc
Definition: Indicate location of commissural leaflet transfer

Intent/Clarification:

- Medial
- Lateral
- Both
- Not Documented

SEQ. #: 3565
Long Name: VS-Mitral Valve Repair - Folding Plasty
Short Name: VSMitRFold
Definition: Indicate whether the mitral valve repair procedure included folding plasty.

Intent/Clarification:

SEQ. #: 3566
Long Name: VS-Mitral Valve Repair - Sliding Plasty
Short Name: VSMitRSlidP
Definition: Indicate whether the mitral valve repair procedure included a sliding plasty.

Intent/Clarification:

SEQ. #: 3567
Long Name: VS-Mitral Valve Repair - Annular Decalcification / Debridement
Short Name: VSMitRADecalc
Definition: Indicate whether the mitral valve repair procedure included an annular decalcification / debridement.

Intent/Clarification:

SEQ. #: 3568
Long Name: VS-Mitral Valve Repair - Leaflet Extension / Replacement / Patch
Short Name: VSMitRLeafERP
Definition: Indicate whether the mitral valve repair procedure included a leaflet extension / replacement / patch.

Intent/Clarification:

SEQ. #: 3569
Long Name: VS-Mitral Valve Repair - Leaflet Extension / Replacement / Patch - Location **Short Name:** VSMitRLeafERPLoc
Definition: Indicate the location of the mitral leaflet extension/replacement patch

Intent/Clarification:

SEQ. #: 3570
Long Name: VS-Mitral Valve Repair - Edge To Edge Repair
Short Name: VSMitREdge
Definition: Indicate whether the mitral valve repair procedure included an edge to edge repair.

Intent/Clarification:

Edge-to-edge repair is a surgical approximation of the mitral valve leaflets, sometimes called the Alfieri procedure or Bow Tie procedure.

SEQ. #: 3580
Long Name: VS-Mitral Valve Repair - Mitral Commissurotomy
Short Name: VSMitRMitComm
Definition: Indicate whether the mitral valve repair procedure included a mitral commissurotomy.

Intent/Clarification: Disruption of the components of a commissure fused as a result of valvular disease.

SEQ. #: 3585
Long Name: VS-Mitral Valve Repair - Mitral Commissuroplasty
Short Name: VSMitRMitCplasty
Definition: Indicate whether the mitral valve repair procedure included a mitral commissuroplasty.

Intent/Clarification:

SEQ. #: 3590
Long Name: VS-Mitral Valve Repair - Mitral Cleft Repair (Scallop Closure)
Short Name: VSMitRMitCleft
Definition: Indicate whether the mitral valve repair procedure included a mitral cleft repair.

Intent/Clarification:

SEQ. #: 3591
Long Name: VS-Mitral Valve Repair - Paraprosthetic Leak Repair
Short Name: VSMitParaprosLeak
Definition: Indicate whether there was repair of a mitral paraprosthetic leak

Intent/Clarification: Leak of a previously place valve prosthesis.

SEQ. #: 3600
Long Name: VS-Mitral Repair Attempted
Short Name: MitralIntent
Definition: Indicate whether a Mitral Valve Repair was attempted prior to the Mitral Valve Replacement.

Intent/Clarification:

- Yes
- No

SEQ. #: 3605
Long Name: VS-Mitral Chordal Preservation
Short Name: VSChorPres

Definition: Indicate whether native chords were preserved.

Intent/Clarification:

- Anterior
- Posterior
- Both
- None

FAQ October 2019 - Due to endocarditis, the entire mitral valve and subleaflet apparatus was excised and a replacement performed. The surgeon also placed artificial chords from each papillary muscle to the annulus. How would this be coded?
Answer – Code Yes to chords preserved in this scenario. Additional clarification Nov 2019 - STS realizes that native chords are ideal, however, given the current limitations in this version it is believed this is the best way to signify the presence of artificial chords.

FAQ Nov 2019 - For an MVR, if the surgeon dictates that he removed the anterior leaflet, does that mean the chords came out with it?
Answer - That is correct. If it is dictated that the anterior leaflet is removed and it is not specified specifically that the anterior chords were preserved, and the posterior leaflet is left intact then it should be recorded as posterior preservation only. This is the most common scenario.

SEQ. #: 3610
Long Name: VS-Mitral Transcatheter Valve Replacement
Short Name: VSTCVMit
Definition: Indicate whether the mitral valve replacement was done using a transcatheter valve device.

Intent/Clarification: Sept 2019 Update: Transcatheter Mitral Valve Replacement (TMVR) technology is designed to allow some patients, who may not be candidates for conventional open-heart valve replacement surgery due to excessive risk, to obtain a life-saving valve. Catheter based access is obtained through an artery.

If you participate in the TVT registry you may opt to submit transcatheter cases to the STS adult cardiac surgery registry in addition to the TVT registry, but it is not required.

SEQ. #: 3615
Long Name: VS-Mitral Implant
Short Name: MitralImplant

Definition: Indicate whether a mitral valve or valve device was implanted.

Intent/Clarification:
- Yes
- No

FAQ August 2017: When will the updated valve/VAD list be published?
Answer: The STS will not be publishing a Valve/VAD list. It is the responsibility of your vendor to maintain the lists in the dropdowns in your software.

SEQ. #: 3620
Long Name: VS-Mitral Implant - Type
Short Name: MitralImplantTy
Definition: Indicate the type of mitral valve or valve device implanted.

Intent/Clarification:
- Mechanical Valve
- Bioprosthetic valve
- Annuloplasty device
- Mitral Leaflet clip
- Transcatheter device
- Surgically implanted transcatheter device
- Other

FAQ November 2017: Accurate collection of the valve type is necessary for device longitudinal surveillance. This can be determined by the valve model number. If you are unsure check the valve manufacture website.

FAQ July 2018: The surgeon did a redo open MV replacement but used a transcatheter valve (9600CT). We answered "no" for seq 3610 Mitral Transcatheter Valve Replacement and answered 3620 as Transcatheter Device. The TAVR valve was placed upside down into the previous mechanical valve. The DQR is showing that the case is not eligible for analysis due "Transcatheter Valve Procedure". Is this correct? Should the case not be analyzed due to the valve type? Or should we change the valve type to bioprothetic instead since it wasn't a transcatheter procedure?
Answer: When a "transcatheter" valve is used in an open cardiac procedure regard it as a valve replacement. Because the procedure is performed on CPB under direct vision code the implant type as bioprosthetic and include the model number (9600CT) of the transcatheter valve.

SEQ. #: 3625
Long Name: VS-Mitral Proc-Implant Model Number

Short Name: VSMiIm
Definition: Indicate the model number of the device implanted. The names provided include the manufacturer's model number with "xx" substituting for the device size.

Intent/Clarification:
Choose the device type from the device list.

SEQ. #: 3630
Long Name: VS-Mitral Proc-Imp-Size
Short Name: VSMiImSz
Definition: Indicate the Mitral implant size.

Intent/Clarification:

FAQ Sept 2019 - Our hospital is using ON-X valves with sizes such as 27/29. Our software only allows 2 numbers, which one should I use, 27 or 29?
Answer - Code this valve as a 27.

SEQ. #: 3635
Long Name: VS-Mitral Proc-Imp-Unique Device Identifier (UDI)
Short Name: VSMiImUDI
Definition: Indicate the device UDI if available, otherwise leave blank.

Intent/Clarification:
This is a unique identifier that will be on each valve. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.

https://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_s%20our%20ce=Members%E2%80%90Only+Updates&utm_campaign=c7c1e8c870%E2%80%90%20Proposed_Rules_7_5_2012&utm_medium=email

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SEQ. #: 3640
Long Name: VS-Tricuspid Valve
Short Name: VSTV
Definition: Indicate whether a tricuspid valve procedure was performed.

Intent/Clarification:

- Yes, planned

- Yes, unplanned due to surgical complication
- Yes, unplanned due to unsuspected disease or anatomy
- No

SEQ. #: 3646
Long Name: VS-Tricuspid Repair
Short Name: VSTrRepair
Definition: Indicate whether tricuspid repair was performed

Intent/Clarification:
- Yes
- No

SEQ. #: 3647
Long Name: VS-Tricuspid Repair - Annuloplasty
Short Name: VSTrRepAnnulo
Definition: Indicate whether the tricuspid repair included an annuloplasty

Intent/Clarification:
- Yes
- No

SEQ. #: 3648
Long Name: VS-Tricuspid Repair - Annuloplasty Type
Short Name: OpTricusAnTy
Definition: Indicate type of annuloplasty procedure.

Intent/Clarification:
- Pericardium
- Suture
- Prosthetic ring
- Prosthetic band
- Other

SEQ. #: 3649

Long Name: VS-Tricuspid Repair - Leaflet Resection
Short Name: VSTrLeafRes
Definition: Indicate whether the tricuspid repair included leaflet resection

Intent/Clarification:
- Yes
- No

SEQ. #: 3650
Long Name: VS-Tricuspid Replacement
Short Name: VSTrReplace
Definition: Indicate whether tricuspid replacement was performed

Intent/Clarification:
- Yes
- No

FAQ August 2017: When will the updated valve/VAD list be published?
Answer: The STS will not be publishing a Valve/VAD list. It is the responsibility of your vendor to maintain the lists in the drop-downs in your software.

SEQ. #: 3652
Long Name: VS-Tricuspid Transcatheter Valve Replacement
Short Name: VSTCVTri
Definition: Indicate whether the tricuspid valve replacement was done using a transcatheter valve device.

Intent/Clarification:
- Yes
- No

SEQ. #: 3653
Long Name: VS-Tricuspid Valvectomy **Short Name:** VSTrValvec
Definition: Indicate whether tricuspid valvectomy was performed

Intent/Clarification:
Intended to capture procedures where the tricuspid valve is removed.

SEQ. #: 3660
Long Name: VS-Tricuspid Implant **Short Name:** TricuspidImplant
Definition: Indicate whether a tricuspid valve or device was implanted.

Intent/Clarification:

- Yes
- No

FAQ January 2019: How is a tricuspid replacement coded when it is fashioned from CorMatrix?
Answer: Code the implant as other.

SEQ. #: 3665
Long Name: VS-Tricuspid Implant - Type
Short Name: TricusImplantTy
Definition: Indicate the type of tricuspid valve or valve device implanted.

Intent/Clarification:

- Mechanical valve
- Annuloplasty device
- Bioprosthetic valve
- Transcatheter device
- Homograft
- Other

November 2017: Accurate collection of the valve type is necessary for device longitudinal surveillance. This can be determined by the valve model number. If you are unsure check the valve manufacture website.

SEQ. #: 3670
Long Name: VS-Tricuspid Proc-Implant Model Number
Short Name: VSTrIm
Definition: Indicate the model number of the prosthesis implanted. The names provided include the manufacturer's model number with "xx" substituting for the device size.

Intent/Clarification:
Choose the device type from the device list.

SEQ. #: 3675
Long Name: VS-Tricuspid Proc-Imp-Size
Short Name: VSTrImSz
Definition: Indicate the Tricuspid implant size.

Intent/Clarification:

SEQ. #: 3680
Long Name: VS-Tricuspid Proc-Imp-Unique Device Identifier (UDI)
Short Name: VSTrImUDI
Definition: Indicate the device UDI if available, otherwise leave blank.

Intent/Clarification:
This is a unique identifier that will be on each valve. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.

https://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_s%20our%20ce=Members%E2%80%90Only+Updates&utm_campaign=c7c1e8c870%E2%80%90%20Proposed_Rules_7_5_2012&utm_medium=email

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SEQ. #: 3685
Long Name: VS-Pulmonic Valve
Short Name: VSPV
Definition: Indicate whether a pulmonic valve procedure was performed.

Intent/Clarification:

- Yes, planned
- Yes, unplanned due to surgical complication
- Yes, unplanned due to unsuspected disease or anatomy
- No

FAQ December 2018: Pulmonic valve insufficiency status post repair of tetralogy of Fallot.
Pulmonary valve replacement and patch revision of right ventricular outflow tract. "Under cold quiet diastolic arrest, the RV outflow tract patch was opened midway between the RV and the pulmonary artery. The incision was extended proximally and distally. Some calcified areas of patch were excised. A 25 mm Medtronic Mosaic mitral

valve was positioned at the neo-annulus and then anastomosed here posteriorly with running 4-0 Prolene. Photosensitized bovine pericardial patch was trimmed and anastomosed beginning at the pulmonary artery and then extending both suture lines, a 4-0 Prolene proximally to complete the outflow patch closure. Following this, anterior suture line was used to fix the anterior portion of the valve to the patch with running 4-0 Prolene. How is the patch coded?
Answer: Code this as a pulmonary valve replacement only.

SEQ. #: 3690
Long Name: VS-Pulmonic Proc-Procedure
Short Name: OpPulm
Definition: Indicate the type of procedure that was performed on the pulmonic valve.

Intent/Clarification:

- Replacement
- Reconstruction
- Valvectomy

FAQ June 2018: Redo pulmonary valve replacement with insertion of a 29 mm Edwards magna pericardial tissue heart valve. Patching of the pulmonary artery using bovine pericardium. How do you code for Patch?
Answer: The PA was most likely narrowed because of the prior surgery. The narrowing would require a patch for closure. Do not code anything additional.

SEQ. #: 3695
Long Name: VS-Pulmonic Transcatheter Valve Replacement
Short Name: VSTCVPu
Definition: Indicate whether the pulmonic valve replacement was done using a transcatheter valve device.

Intent/Clarification:

- Yes
- No

SEQ. #: 3700
Long Name: VS-Pulmonic Implant
Short Name: PulmonicImplant
Definition: Indicate whether a pulmonic valve or device was implanted.

Intent/Clarification:

- Yes
- No

FAQ August 2017: When will the updated valve/VAD list be published?
Answer: The STS will not be publishing a Valve/VAD list. It is the responsibility of your vendor to maintain the lists in the drop-downs in your software.

SEQ. #: 3701
Long Name: VS-Pulmonic - Type Of Implant
Short Name: VSPuTypeImp
Definition: Indicate the type of pulmonic implant

Intent/Clarification:

- Surgeon Fashioned
- Commercially Supplied

SEQ. #: 3702
Long Name: VS-Pulmonic - Surgeon Fashioned Implant Material
Short Name: VSPuImpMat
Definition: Indicate the material used to fashion the pulmonic implant

Intent/Clarification: Unlike conventional valve replacement, measured and crafted to meet specific dimensions of the annulus.

- PTFE (Gore-Tex)
- Pericardium
- Other

SEQ. #: 3705
Long Name: VS-Pulmonic Implant - Type **Short Name:** PulmonicImplantTy
Definition: Indicate the type of pulmonic valve or valve device implanted.

Intent/Clarification:

- Mechanical valve
- Annuloplasty device
- Bioprosthetic valve
- Transcatheter device
- Homograft
- Other

November 2017: Accurate collection of the valve type is necessary for device longitudinal surveillance. This can be determined by the valve model number. If you are unsure check the valve manufacture website.

SEQ. #: 3710
Long Name: VS-Pulmonic Proc-Implant Model Number
Short Name: VSPuIm
Definition: Indicate the model number of the prosthesis implanted. The names provided include the manufacturer's model number with "xx" substituting for the device size.

Intent/Clarification:
Choose the device type from the device list.

SEQ. #: 3715
Long Name: VS-Pulmonic Proc-Imp-Size
Short Name: VSPuImSz
Definition: Indicate the Pulmonic implant size.

Intent/Clarification:

SEQ. #: 3720
Long Name: VS-Pulmonic Proc-Imp-Unique Device Identifier **Short Name:** VSPuImUDI
Definition: Indicate the device UDI if available, otherwise leave blank.

Intent/Clarification:
This is a unique identifier that will be on each valve. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.

https://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_s%20our%20ce=Members%E2%80%90Only+Updates&utm_campaign=c7c1e8c870%E2%80%90%20Proposed_Rules_7_5_2012&utm_medium=email

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Mechanical Cardiac Assist Devices

SEQ. #: 3725

Long Name: IABP
Short Name: IABP
Definition: Indicate whether the patient was placed on an Intra-Aortic Balloon Pump (IABP).

Intent/Clarification:
IABP is a device inserted into the descending thoracic aorta distal to the left subclavian and proximal to the renal arteries used to increase coronary blood flow and decrease work of the left ventricle. Balloon catheter inflates and deflates rapidly in conjunction with cardiac cycle. Inflation of the balloon partially obstructs the aorta, diverting more blood into coronary arteries. Deflation of the balloon just prior to systole, allows blood to be more easily ejected by the left ventricle. This applies to IABP devices in at the time of surgery, not previously placed and removed devices.

- Yes
- No

SEQ. #: 3730
Long Name: IABP-When Inserted
Short Name: IABPWhen
Definition: Indicate when the IABP was inserted.

Intent/Clarification:
Identify when the IABP was inserted as it relates to the cardiac operation.

- **Preop** refers to the IABP placement in the Cath lab or in the ICU prior to patient entering the operating room. This applies to IABP devices in at the time of surgery, not previously placed and removed devices.

- **Intraop** refers to insertion of the IABP during the cardiac operation (after the patient has entered the operating room and before the patient leaves the operating room).

- **Postop** refers to insertion of the IABP after the patient has left the operating room.

SEQ. #: 3735
Long Name: IABP-Indication
Short Name: IABPInd
Definition: Indicate the primary reason for inserting the IABP.

Intent/Clarification:

The reason for inserting an IABP as it relates to the cardiac operation. Choose one of the following:

- Hemodynamic instability (hypotension/shock)
- Procedural support
- Unstable angina
- Cardiopulmonary Bypass (CPB) weaning failure
- Prophylactic
- Other

SEQ. #: 3745
Long Name: Catheter Based Assist Device Used
Short Name: CathBasAssist
Definition: Indicate whether the patient was placed on a catheter-based assist device (e.g., Impella).

Intent/Clarification:
Catheter based assist devices offer short term minimally invasive circulatory support. Catheter Based Assist Devices are only captured in this section and are not included in section L.2 Ventricular Assist Devices. Examples include Impella, Tandem Heart. Do not capture devices inserted and removed prior to the operation.

FAQ March 2019: Are NUPULSE (implantable IABP's) to be captured in the adult Cardiac STS database?
Answer: This implantable device is not captured in the database currently and is not captured in INTERMACS.

SEQ. #: 3755
Long Name: Catheter Based Assist Type
Short Name: CathBasAssistTy
Definition: Indicate the type of catheter-based assist device.

Intent/Clarification:
- RV (Right Ventricular)
- LV (Left Ventricular)
- BiVAD (Biventricular)

SEQ. #: 3760
Long Name: Catheter Based Assist Device When Inserted
Short Name: CathBasAssistWhen

Definition: Indicate when the catheter-based assist device was inserted.

Intent/Clarification:
Identify when the assist device was inserted as it relates to the cardiac operation.

- **Preop** refers to the assist device placement in the Cath lab or in the ICU prior to patient entering the operating room.
- **Intraop** refers to insertion of the assist device during the cardiac operation (after the patient has entered the operating room and before the patient leaves the operating room).
- **Postop** refers to insertion of the assist device after the patient has left the operating room.
- **Non-operative** refers to patients who have a catheter-based assist initiated by a CT surgeon but are not having a CT surgery procedure. These may be for victims of near drowning, influenza, amniotic fluid embolus. Stand-alone procedures are not mandatory to collect, however if your surgeon(s) elects to track these, use this harvest code.

SEQ. #: 3765
Long Name: Catheter Based Assist Device Indication
Short Name: CathBasAssistInd
Definition: Indicate the primary reason for inserting the device.

Intent/Clarification:
The goal is to identify the reason the device was inserted.

- Hemodynamic Instability
- Cardiopulmonary Bypass (CPB) weaning failure
- PCI Failure
- Procedural support
- Other

SEQ. #: 3775
Long Name: Extracorporeal Membrane Oxygenation
Short Name: ECMO
Definition: Indicate whether the patient was placed on ECMO.

Intent/Clarification:
ECMO, which stands for Extracorporeal Membrane Oxygenation, functions as a replacement for a critically ill patient's heart and lungs. It is used to support a patient

who is awaiting surgery, or to give vital organs time to recover from heart surgery or disease. It can also be used to rewarm victims of hypothermia or drowning.

ECMO initiation may be done in the OR or at the bedside in the ICU.

- Veno-Venous
- Veno-Arterial
- Veno-venous converted to Veno-arterial
- No (ECMO not initiated)

ECMO: ECMO is to be captured as a status of 'Salvage' in sequence 1975 and as 'Resuscitation – Yes' in sequence 935. ECMO is a supportive modality and not a procedural type. The risk of the patient on ECMO is accounted for when 'Status = salvage' and should be left in the intended procedural category.

FAQ November 2018: Patient was placed on VA ECMO intra-op. Post op VA ECMO was removed but VV ECMO was initiated due to continued failure. Which one is coded?
Answer: Code the VA – it was place intraop probably for failure to wean so this is probably the most important ECMO site.

FAQ June 2019 Had a patient that was placed on VV ECCO2R. Is this coded as ECMO?
Answer: Yes

FAQ Nov 2019 - Currently if ECMO is placed via thoracic catheters (chest opened) at bedside it is considered a return to OR, other cardiac. If ECMO is inserted peripherally it is captured in the timing of ECMO and not captured as a return to OR. Please clarify how we are to capture ECMO?
Answer - Capture institution of post operative ECMO in Seq 3775 - 3785 and as Seq 6778 a return to OR for any ECMO regardless of where ECMO is performed.

SEQ. #: 3780
Long Name: ECMO When Initiated
Short Name: ECMOWhen
Definition: Indicate when patient was placed on ECMO.

Intent/Clarification:

- **Preop** refers to placement in the Cath lab or in the ICU prior to patient entering the operating room.

- **Intraop** refers to insertion during the cardiac operation.

- **Postop** refers to insertion after the patient has left the operating room.

- **Non-Operative** refers to patients who have ECMO initiated by a CT surgeon but are not having a CT surgery procedure. Stand-alone procedures are not mandatory to collect, however if your surgeon(s) elects to track these, use this harvest code.

SEQ. #: 3785
Long Name: ECMO Indication
Short Name: ECMOInd
Definition: Indicate clinical indication for placing patient on ECMO.

Intent/Clarification:

The intent is to capture the indication for ECMO

- Cardiac Failure
- Respiratory Failure
- Hypothermia (Intended to capture rewarming for hypothermic/drowning victims)
- Rescue/salvage (Indended to capture cath lab or other disasters requiring support)
- Other

Ventricular Assist Devices

General Information: It is required that VADs inserted in conjunction with a CV surgery be captured with the associated procedure.

SEQ. #: 3790
Long Name: VAD-Patient Admitted With VAD
Short Name: PrevVAD
Definition: Indicate if at the time of this procedure, the patient has a VAD in place that was inserted during a previous admission or from an outside hospital.

Intent/Clarification:

SEQ. #: 3795
Long Name: Previous VAD Facility
Short Name: PrevVADF
Definition: Indicate if the previously implanted assist device was implanted at another facility.

Intent/Clarification:

SEQ. #: 3800
Long Name: Previous VAD Insertion Date
Short Name: PrevVADD
Definition: Indicate insertion date of previous VAD.

Intent/Clarification:
Required date format: mm/dd/yyyy.

SEQ. #: 3805
Long Name: Previous VAD Indication
Short Name: PrevVADIn
Definition: Specify indication for VAD insertion.

Intent/Clarification:

- **Bridge to Transplantation**: Includes those patients who are supported with a VAD until a heart transplant is possible.
- **Bridge to Recovery:** Includes those patients who are expected to have ventricular recovery. (i.e. Myocarditis patients, viral cardiomyopathies, AMI w/ revascularization, and post-transplant reperfusion injury).
- **Destination**: Includes those patients where a heart transplant is not an option. The VAD is placed for permanent life sustaining support.
- **Post Cardiotomy Ventricular Failure**: Includes those postcardiotomy patients who receive a VAD because of failure to separate from the heart-lung machine. Postcardiotomy refers to those patients with the inability to wean from cardiopulmonary bypass secondary to left, right, or biventricular failure.
- **Device Malfunction**: Includes those patients who are currently VAD supported and are experiencing device failure.
- **End of (device) Life**: Mechanical device pump has reached functional life expectancy and requires replacement.
- **Salvage**: Moribund patients unresponsive to medical interventions.

SEQ. #: 3810
Long Name: Previous VAD Type
Short Name: PrevVADTy

Definition: Indicate type of VAD previously inserted.

Intent/Clarification:

- Right VAD (RVAD) - Right Ventricular Assist Device
- Left VAD (LVAD) - Left Ventricular Assist Device
- Biventricular VAD (BiVAD) - Biventricular Assist Device
- Total Artificial Heart (TAH)

SEQ. #: 3815
Long Name: Previous VAD Device Model Number
Short Name: PrevVADDevice
Definition: Indicate Previous VAD device.

Intent/Clarification:
Choose the device type from the device list.

SEQ. #: 3820
Long Name: Previous VAD Unique Device Identifier (UDI)
Short Name: PrevVADUDI
Definition: Indicate the device UDI if available, otherwise leave blank.

Intent/Clarification:
This is a unique identifier that will be on each device. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.

https://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_s%20our%20ce=Members%E2%80%90Only+Updates&utm_campaign=c7c1e8c870%E2%80%90%20Proposed_Rules_7_5_2012&utm_medium=email

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SEQ. #: 3825
Long Name: Previous VAD Explanted During This Admission **Short Name:** PrevVADExp
Definition: Indicate whether the previously inserted VAD was explanted during this hospitalization.

Intent/Clarification:

This is a unique identifier that will be on each VAD. It may not be available immediately. If not available leave blank.

https://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_s%20our%20ce=Members%E2%80%90Only+Updates&utm_campaign=c7c1e8c870%E2%80%90%20Proposed_Rules_7_5_2012&utm_medium=email

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SEQ. #: 3830
Long Name: Previous VAD Explanted During This Admission - Reason
Short Name: PrevVADExpRsn
Definition: Indicate the primary reason the VAD was explanted.

Intent/Clarification:
- Yes, not during this procedure
- Yes, during this procedure
- No

SEQ. #: 3835
Long Name: Previous VAD Explanted During This Admission - Date
Short Name: PrevVADExpDt
Definition: Indicate date of explant.

Intent/Clarification:
Choose the device type from the device list.

FAQ July 2018: The pt. had LVAD implanted in 2015 and no longer needs it. It was "decommissioned" in the cath lab (by surgeon + cardiologist) where they removed the driveline but the pump was left in situ so pt. wouldn't have to undergo major surgery to remove it. Do we need to capture this in adult cardiac database?
Answer: While this is fairly common in Intermacs, this would be included in Intermacs database only. Do not to include in ACSD.

SEQ. #: 3840
Long Name: Ventricular Assist Device Implanted During This Hospitalization
Short Name: VADImp
Definition: Indicate whether a VAD was inserted during this hospitalization.

Intent/Clarification:

SEQ. #: 3845
Long Name: VAD-Implant Timing
Short Name: VADImpTmg
Definition: Indicate timing of VAD insertion.

Intent/Clarification:
Indicate the timing of insertion:

- Pre-operative (during the same hospitalization but not the same OR trip as the cardiovascular surgical procedure.
- Stand-alone VAD procedure-this was the only procedure performed.
- In conjunction with the cardiovascular surgical procedure (same trip to the OR)-planned. In conjunction with a CV surgical procedure and planned before surgery, consent in the chart.
- In conjunction with the cardiovascular surgical procedure (same trip to the OR)-unplanned. In conjunction with a CV surgical procedure and not planned before surgery.
- Post-operative (after the surgical procedure during reoperation)

SEQ. #: 3850
Long Name: VAD-Indication for this VAD
Short Name: VADInd
Definition: Indicate the reason for implanting a Ventricular Assist Device (VAD) during this hospitalization.

Intent/Clarification:

- **Bridge to Transplantation:** Includes those patients who are supported with a VAD until a heart transplant is possible.
- **Bridge to Recovery:** Includes those patients who are expected to have ventricular recovery. (i.e. Myocarditis patients, viral cardiomyopathies, AMI w/revascularization, post-transplant reperfusion injury).
- **Destination:** Includes those patients where a heart transplant is not an option. The VAD is placed for permanent life sustaining support.
- **Post Cardiotomy Ventricular Failure:** Includes those postcardiotomy patients who receive a VAD because of failure to separate from the heart-lung machine. Postcardiotomy refers to those patients with the inability to wean from cardiopulmonary bypass secondary to left, right, or biventricular failure.
- **Device Malfunction:** Includes those patients who are currently VAD supported and are experiencing device failure.
- **End of (device) Life:** Mechanical device pump has reached functional life expectancy and requires replacement.
- **Salvage:** Moribund patients unresponsive to medical interventions.

SEQ. #: 3855
Long Name: VAD-Implant Type
Short Name: VImpTy
Definition: Indicate the first type of VAD implanted during this hospitalization.

Intent/Clarification:

- Right VAD (RVAD) - Right Ventricular Assist Device
- Left VAD (LVAD) - Left Ventricular Assist Device
- Biventricular VAD (BiVAD) - Biventricular Assist Device
- Total Artificial Heart (TAH)

SEQ. #: 3860
Long Name: VAD-Device
Short Name: VProdTy
Definition: Indicate the VAD brand name implanted. Implant defined as physical placement of the VAD.

Intent/Clarification:
Choose the device type from the device list.

SEQ. #: 3865
Long Name: VAD-Implant Date
Short Name: VImpDt
Definition: Indicate the date the VAD was implanted.

Intent/Clarification:
Required date format: mm/dd/yyyy

SEQ. #: 3870
Long Name: VAD-Implant Unique Device Identifier (UDI)
Short Name: VImpUDI
Definition: Indicate the device UDI if available, otherwise leave blank.

Intent/Clarification:

This is a unique identifier that will be on each device. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.

https://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_s%20our%20ce=Members%E2%80%90Only+Updates&utm_campaign=c7c1e8c870%E2%80%90%20Proposed_Rules_7_5_2012&utm_medium=email

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SEQ. #: 3875
Long Name: VAD-Explant
Short Name: VExp
Definition: Indicate if the VAD was explanted. Explant is defined as physical removal of the VAD.

Intent/Clarification:

- Yes, not during this procedure
- Yes, during this procedure
- No

SEQ. #: 3880
Long Name: VAD-Explant Reason
Short Name: VExpRsn
Definition: Indicate the reason the VAD was explanted.

Intent/Clarification:

- **Cardiac Transplant** -VAD was explanted for cardiac transplant.
- **Recovery** -VAD was removed after cardiac recovery.
- **Device Transfer** -VAD was explanted in order to implant another assist device.
- **Device-Related Infection** - An infection within the pump pocket, driveline, VAD endocarditis, or other infection requiring explantation of the VAD. The body of the VAD has an active infection requiring removal to eliminate the infection. "Device-related infections" are defined as positive culture in the presence of leukocytosis, and/or fever requiring medical or surgical intervention.
- **Device Malfunction** -The VAD pump itself is not functioning properly causing hemodynamic compromise, and/or requiring immediate intervention or VAD replacement.
- **End of (device) Life** -Mechanical device pump has reached functional life expectancy and requires replacement.

Note: Code “No” if the patient expires with the VAD in place; the VAD was not explanted.

SEQ. #: 3885
Long Name: VAD-Explant Date
Short Name: VExpDt
Definition: Indicate the date the VAD was explanted.

Intent/Clarification:
Required date format: mm/dd/yyyy

SEQ. #: 3895
Long Name: VAD-Implant #2
Short Name: VImp2
Definition: Indicate whether a second ventricular assist device was implanted.

Intent/Clarification:

SEQ. #: 3900
Long Name: VAD-Implant Timing #2
Short Name: VADImpTmg2
Definition: Indicate timing of VAD #2 insertion.

Intent/Clarification:

- Pre-operative (during the same hospitalization but not the same OR trip as the cardiovascular surgical procedure.
- Stand-alone VAD procedure-this was the only procedure performed.
- In conjunction with the cardiovascular surgical procedure (same trip to the OR)-planned. In conjunction with a CV surgical procedure and planned before surgery, consent in the chart.
- In conjunction with the cardiovascular surgical procedure (same trip to the OR)-unplanned. In conjunction with a CV surgical procedure and not planned before surgery.
- Post-operative (after the surgical procedure during reoperation).

SEQ. #: 3905
Long Name: VAD-Indication for this VAD #2
Short Name: VADInd2
Definition: Indicate the reason for implanting a Ventricular Assist Device (VAD) #2 during this hospitalization.

Intent/Clarification:

- **Bridge to Transplantation:** Includes those patients who are supported with a VAD until a heart transplant is possible.
- **Bridge to Recovery:** Includes those patients who are expected to have ventricular recovery. (i.e. Myocarditis patients, viral cardiomyopathies, AMI w/revascularization, post-transplant reperfusion injury).
- **Destination:** Includes those patients where a heart transplant is not an option. The VAD is placed for permanent life sustaining support.
- **Post Cardiotomy Ventricular Failure:** Includes those postcardiotomy patients who receive a VAD because of failure to separate from the heart-lung machine. Postcardiotomy refers to those patients with the inability to wean from cardiopulmonary bypass secondary to left, right, or biventricular failure.
- **Device Malfunction:** Includes those patients who are currently VAD supported and are experiencing device failure.
- **End of (device) Life:** Mechanical device pump has reached functional life expectancy and requires replacement.
- **Salvage:** Moribund patients unresponsive to medical interventions.

SEQ. #: 3910
Long Name: VAD-Implant Type #2
Short Name: VImpTy2
Definition: Indicate the second type of ventricular assist device implanted.

Intent/Clarification:

- Right VAD (RVAD) - Right Ventricular Assist Device
- Left VAD (LVAD) - Left Ventricular Assist Device
- Biventricular VAD (BiVAD) - Biventricular Assist Device
- Total Artificial Heart (TAH)

SEQ. #: 3915
Long Name: VAD-Device #2
Short Name: VProdTy2
Definition: Indicate the specific product #2 implanted. Implant defined as physical placement of the VAD.

Intent/Clarification:
Choose the device type from the device list.

SEQ. #: 3920
Long Name: VAD-Implant Date #2
Short Name: VImpDt2
Definition: Indicate the date the VAD #2 was implanted.

Intent/Clarification:
Required date format: mm/dd/yyyy

SEQ. #: 3925
Long Name: VAD-Implant Unique Device Identifier (UDI) #2
Short Name: VImpUDI2
Definition: Indicate the device UDI if available, otherwise leave blank.

Intent/Clarification:
This is a unique identifier that will be on each device. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.

https://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_s%20our%20ce=Members%E2%80%90Only+Updates&utm_campaign=c7c1e8c870%E2%80%90%20Proposed_Rules_7_5_2012&utm_medium=email

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SEQ. #: 3930
Long Name: VAD-Explant #2
Short Name: VExp2
Definition: Indicate if the VAD #2 was explanted. Explant is defined as physical removal of the VAD.

Intent/Clarification:

- Yes, not during this procedure
- Yes, during this procedure
- No

SEQ. #: 3935
Long Name: VAD-Explant Reason #2
Short Name: VExpRsn2
Definition: Indicate the reason the VAD #2 was explanted.

Intent/Clarification:

- **Cardiac Transplant** -VAD was explanted for cardiac transplant.
- **Recovery** -VAD was removed after cardiac recovery.
- **Device Transfer** -VAD was explanted in order to implant another assist device.
- **Device-Related Infection** - An infection within the pump pocket, driveline, VAD endocarditis, or other infection requiring explantation of the VAD. The body of the VAD has an active infection requiring removal to eliminate the infection. "Device-related infections" are defined as positive culture in the presence of leukocytosis, and/or fever requiring medical or surgical intervention.
- **Device Malfunction** -The VAD pump itself is not functioning properly causing hemodynamic compromise, and/or requiring immediate intervention or VAD replacement.
- **End of (device) Life** -Mechanical device pump has reached functional life expectancy and requires replacement.

Note: Code "No" if the patient expires with the VAD in place; the VAD was not explanted.

SEQ. #: 3940
Long Name: VAD-Explant Date #2
Short Name: VExpDt2
Definition: Indicate the date the VAD #2 was explanted.

Intent/Clarification:
Required date format: mm/dd/yyyy

SEQ. #: 3950
Long Name: VAD-Implant #3
Short Name: VImp3
Definition: Indicate whether a third ventricular assist device was implanted.

Intent/Clarification:

SEQ. #: 3955
Long Name: VAD-Implant Timing #3
Short Name: VADImpTmg3
Definition: Indicate timing of VAD #3 insertion.

Intent/Clarification:
- Pre-operative (during the same hospitalization but not the same OR trip as the cardiovascular surgical procedure.

- Stand-alone VAD procedure-this was the only procedure performed.
- In conjunction with the cardiovascular surgical procedure (same trip to the OR)-planned. In conjunction with a CV surgical procedure and planned before surgery, consent in the chart.
- In conjunction with the cardiovascular surgical procedure (same trip to the OR)-unplanned. In conjunction with a CV surgical procedure and not planned before surgery.
- Post-operative (after the surgical procedure during reoperation).

SEQ. #: 3960
Long Name: VAD-Indication for this VAD #3
Short Name: VADInd3
Definition: Indicate the reason for implanting a Ventricular Assist Device (VAD)#3 during this hospitalization.

Intent/Clarification:

- **Bridge to Transplantation:** Includes those patients who are supported with a VAD until a heart transplant is possible.
- **Bridge to Recovery:** Includes those patients who are expected to have ventricular recovery. (i.e. Myocarditis patients, viral cardiomyopathies, AMI w/revascularization, post-transplant reperfusion injury).
- **Destination:** Includes those patients where a heart transplant is not an option. The VAD is placed for permanent life sustaining support.
- **Post Cardiotomy Ventricular Failure:** Includes those postcardiotomy patients who receive a VAD because of failure to separate from the heart-lung machine. Postcardiotomy refers to those patients with the inability to wean from cardiopulmonary bypass secondary to left, right, or biventricular failure.
- **Device Malfunction:** Includes those patients who are currently VAD supported and are experiencing device failure.
- **End of (device) Life:** Mechanical device pump has reached functional life expectancy and requires replacement.
- **Salvage:** Moribund patients unresponsive to medical interventions.

SEQ. #: 3965
Long Name: VAD-Implant Type #3
Short Name: VImpTy3
Definition: Indicate the third type of ventricular assist device implanted.

Intent/Clarification:

- Right VAD (RVAD) - Right Ventricular Assist Device
- Left VAD (LVAD) - Left Ventricular Assist Device
- Biventricular VAD (BiVAD) - Biventricular Assist Device

- Total Artificial Heart (TAH)

SEQ. #: 3970
Long Name: VAD-Device #3
Short Name: VProdTy3
Definition: Indicate the specific product #3 implanted. Implant defined as physical placement of the VAD.

Intent/Clarification:
Choose the device type from the device list.

SEQ. #: 3975
Long Name: VAD-Implant Date #3 **Short Name:** VImpDt3
Definition: Indicate the date the VAD #3 was implanted.

Intent/Clarification:
Required date format: mm/dd/yyyy

SEQ. #: 3980
Long Name: VAD-Implant Unique Device Identifier (UDI) #3 **Short Name:** VImpUDI3
Definition: Indicate the device UDI if available, otherwise leave blank.

Intent/Clarification:
This is a unique identifier that will be on each device. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.

https://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_s%20our%20ce=Members%E2%80%90Only+Updates&utm_campaign=c7c1e8c870%E2%80%90%20Proposed_Rules_7_5_2012&utm_medium=email

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SEQ. #: 3985
Long Name: VAD-Explant #3
Short Name: VExp3
Definition: Indicate if the VAD #3 was explanted. Explant is defined as physical removal of the VAD.

Intent/Clarification:

- Yes, not during this procedure
- Yes, during this procedure
- No

SEQ. #: 3990
Long Name: VAD-Explant Reason #3
Short Name: VExpRsn3
Definition: Indicate the reason the VAD #3 was explanted.

Intent/Clarification:

- **Cardiac Transplant** -VAD was explanted for cardiac transplant.
- **Recovery** -VAD was removed after cardiac recovery.
- **Device Transfer** -VAD was explanted in order to implant another assist device.
- **Device-Related Infection** - An infection within the pump pocket, driveline, VAD endocarditis, or other infection requiring explantation of the VAD. The body of the VAD has an active infection requiring removal to eliminate the infection. "Device-related infections" are defined as positive culture in the presence of leukocytosis, and/or fever requiring medical or surgical intervention.
- **Device Malfunction** -The VAD pump itself is not functioning properly causing hemodynamic compromise, and/or requiring immediate intervention or VAD replacement.
- **End of (device) Life** -Mechanical device pump has reached functional life expectancy and requires replacement.

Note: Code "No" if the patient expires with the VAD in place; the VAD was not explanted**.**

SEQ. #: 3995
Long Name: VAD-Explant Date #3
Short Name: VExpDt3
Definition: Indicate the date the VAD #3 was explanted.

Intent/Clarification:
Required date format: mm/dd/yyyy

Other Cardiac Procedures

SEQ. #: 4030
Long Name: Other Card-ASD Repair - PFO Type

Short Name: OCarASDPFO
Definition: Indicate whether a patent foramen ovale (PFO) was repaired.

Intent/Clarification:
Normally, the opening between the left and right atria closes before birth, but if it does not, the child is born with a hole in this area called patent foramen ovale (PFO). Other types of atrial septal defects occur, most commonly, secundum atrial septal defects, which account for about 70 percent of all ASDs and occur in the middle of the atrial septum.

PFO (Patent Foramen Ovale): Small interatrial communication in the region of the foramen ovale characterized by no deficiency of the septum primum and a normal limbus with no deficiency of the septum secundum.

FAQ September 2018: Should endovascular PFO closures performed by CV surgery with Cardiology assist be captured in the ACSD?
Answer: This is not a surgical procedure and is not included in the adult cardiac surgery database.

SEQ. #: 4035
Long Name: Other Card-ASD Repair - Secundum Or Sinus Venosus
Short Name: OCarASDSec
Definition: Indicate whether a secundum or sinus venosus ASD was repaired.

Intent/Clarification:
Atrial Septal Defect (ASD) is closed with/without patch. During normal development of the heart, there is an opening in the atrial septum. ASDs in the upper part of the atrial septum (called sinus venosus) where the superior vena cava and right atrium join and can involve the right upper pulmonary vein.

- **Secundum:** An ASD confined to the region of the fossa ovalis; it's most common etiology is a deficiency of the septum primum, but deficiency of the limbus or septum secundum may also contribute.

- **Sinus Venosus:** An ASD with a vena cava or pulmonary vein (or veins) that overrides the atrial septum or the superior interatrial fold (septum secundum) producing an interatrial or anomalous veno-atrial communication. Although the term sinus venosus atrial septal defect is commonly used; the lesion is more properly termed a sinus venosus communication because, while it functions as an interatrial communication, this lesion is not a defect of the true atrial septum.

When the Mitral Valve procedure is performed via a trans-septal incision the closure of the septum should not be coded as an ASD repair.

SEQ. #: 4040

Long Name: Other Card-AFib Intracardiac Lesions
Short Name: OCarAFibIntraLes
Definition: Indicate whether intracardiac lesions were created for the purpose of AFib ablation.

Intent/Clarification:
Lesions created inside the heart (i.e. Maze procedures; lesions to mitral annulus; etc). Intracardiac procedures carry a higher risk.

FAQ Nov 2019 - How can I determine primarily intracardiac vs primarily epicardial lesions? Is there a specific number of lesion sets that qualifies the ablation as intracardiac?
Answer - If the procedure includes any intracardiac lesions then code this as intracardiac. Once the heart is open and an intracardiac lesion set is performed, then it is an intracardiac ablation no matter how many lesion sets are performed.

SEQ. #: 4045
Long Name: Other Card-AFib Epicardial Lesions
Short Name: OCarAFibEpLes
Definition: Indicate whether epicardial lesions were created for the purpose of AFib ablation.

Intent/Clarification:
Lesions created on the outside surface of the heart (i.e. pulmonary vein isolation with or without connection to the left atrial appendage).

SEQ. #: 4050
Long Name: Other Card-Atrial Appendage Procedure
Short Name: OCarAAProc
Definition: Indicate whether atrial appendage ligation/exclusion was performed.

Intent/Clarification: This should also be coded in the AFib section if done in conjunction with creation of lesions for AFib ablation

- RAA – Right Atrial Appendage
- LAA – Left Atrial Appendage
- Both – Right and Left Atrial Appendage
- No

FAQ September 2017: If a patient has an extensive atrial fibrillation procedure and an LAA clipping how would we include the atrial ligation/exclusion method and device?
Answer: Multiple sequence numbers will be required to code the ligation/exclusion and device.
First capture sequence numbers 2140 and 2145 to open section M and M-1.

Then capture the atrial appendage procedure in sequence 4050; then ligation/exclusion method in sequence 4051 and Model in sequence number 4052 as well as the UDI, if available, in sequence 4053.
Code the extensive ablation procedure in section M-1 as described by your physician including lesion number 7 to complete the LAA.

FAQ December 2017: The patient had a thoracoscopy for clipping of the LAA performed by the CV surgeon as a primary procedure. No other procedures were performed. Should this case be included in the adult cardiac surgery database?
Answer: Yes, these cases should be include.

SEQ. #: 4051
Long Name: Other Card-Atrial Appendage Ligation/Exclusion Method
Short Name: OCarAAMeth
Definition: Indicate the method used to ligate/exclude the atrial appendage

Intent/Clarification:

- Intra-atrial over-sewing
- Epicardial suture ligation
- Amputation with over-sewing
- Stapler (cutting)
- Stapler (noncutting)
- Epicardially applied occlusion device

FAQ September 2017: If a patient has an extensive atrial fibrillation procedure and an LAA clipping how would we include the atrial ligation/exclusion method and device?
Answer: Multiple sequence numbers will be required to code the ligation/exclusion and device.
First capture sequence numbers 2140 and 2145 to open section M and M-1.
Then capture the atrial appendage procedure in sequence 4050; then ligation/exclusion method in sequence 4051 and Model in sequence number 4052 as well as the UDI, if available, in sequence 4053.
Code the extensive ablation procedure in section M-1 as described by your physician including lesion number 7 to complete the LAA.

SEQ. #: 4052
Long Name: Other Card-Atrial Appendage Ligation/Exclusion Model
Short Name: OCarAAModel
Definition: Indicate the epicardial occlusion device model used

Intent/Clarification:
Capture commercially produced exclusion devices:

- AtriClip
- Lariat
- Other

FAQ September 2017: If a patient has an extensive atrial fibrillation procedure and an LAA clipping how would we include the atrial ligation/exclusion method and device? Answer: Multiple sequence numbers will be required to code the ligation/exclusion and device.
First capture sequence numbers 2140 and 2145 to open section M and M-1.
Then capture the atrial appendage procedure in sequence 4050; then ligation/exclusion method in sequence 4051 and Model in sequence number 4052 as well as the UDI, if available, in sequence 4053.
Code the extensive ablation procedure in section M-1 as described by your physician including lesion number 7 to complete the LAA.

FAQ September 2017: Is there supposed to be a drop-down list of atrial ligation devices in this field? Answer: No, there is no drop-down list.

Update July 2019 Sites are to manually enter in the device model used**.** Sites should only type in AtriClip, Lariat, or Other. **DO NOT PUT OTHER INFORMATION IN THIS FIELD.** This will be addressed in the upgrade.

SEQ. #: 4053
Long Name: Other Card-Atrial Appendage Ligation/Exclusion UDI
Short Name: OCarAAUDI
Definition: Indicate the Unique Device Identifier of the epicardial occlusion device

Intent/Clarification:
This is a unique identifier that will be on each device. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.

https://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_s%20our%20ce=Members%E2%80%90Only+Updates&utm_campaign=c7c1e8c870%E2%80%90%20Proposed_Rules_7_5_2012&utm_medium=email

FAQ September 2017: If a patient has an extensive atrial fibrillation procedure and an LAA clipping how would we include the atrial ligation/exclusion method and device? Answer: Multiple sequence numbers will be required to code the ligation/exclusion and device.
First capture sequence numbers 2140 and 2145 to open section M and M-1.
Then capture the atrial appendage procedure in sequence 4050; then ligation/exclusion method in sequence 4051 and Model in sequence number 4052 as well as the UDI, if available, in sequence 4053.
Code the extensive ablation procedure in section M-1 as described by your physician

including lesion number 7 to complete the LAA.

SEQ. #: 4055
Long Name: Other Card-Arrhythmia Device Surgery
Short Name: OCarACD
Definition: Indicate which arrhythmia correction device was surgically placed in conjunction with the primary surgical procedure.

Intent/Clarification:

- **Permanent Pacemaker**: An internal electronic generator that controls the heart rate
- **Permanent Pacemaker with Cardiac Resynchronization Technique (CRT-P)**: An internal permanent pacemaker that uses biventricular electrical stimulation to synchronize ventricular contraction
- **Implantable Cardioverter Defibrillator (ICD)**: An internal device that defibrillates the heart
- **ICD with CRT (CRT-D)**: An internal ICD that uses biventricular electrical stimulation to synchronize ventricular contraction
- **Implantable recorder**
- **None**

SEQ. #: 4060
Long Name: Other Card-Lead Insertion
Short Name: OCarLeadInsert
Definition: Indicate whether lead(s) insertion was performed. Do not capture temporary lead placement.

Intent/Clarification:
These include leads for pacemakers, implantable defibrillators or combination devices.

- Yes
- No

Do not capture leads placed for temporary pacemakers.

SEQ. #: 4065
Long Name: Other Card-Arrhythmia Correction Surgery-Lead Extraction
Short Name: OCarACDLE
Definition: Indicate whether procedure included lead extraction for a device intended to treat cardiac arrhythmias.

Intent/Clarification:

- Yes, planned
- Yes, planned due to surgical complication
- Yes, unplanned due to unsuspected disease or anatomy
- No

FAQ September 2018: How does a LVAD explant, ICD explant, and lead extraction get coded as part of a heart transplant?
Answer: LVAD explant gets coded. ICD implant and lead extraction are part of the previous heart and should not be captured.

FAQ May 2019: Patient with endocarditis underwent redo tricuspid valve replacement with explantation of Micra leadless ventricular pacemaker. Does this get abstracted?
Answer: Code as lead extraction, even though there are not traditional leads it still connects to the myocardium. STS will consider adding this to the next upgrade.

SEQ. #: 4070
Long Name: Other Card-Congenital
Short Name: OCarCong
Definition: Indicate whether the patient had a congenital defect repair either in conjunction with, or as the primary surgical procedure. Do not include bicuspid Aortic valve or PFO here as these are captured elsewhere.

Intent/Clarification:
Indicate if a congenital procedure was performed.

- Yes
- No

FAQ October 2019 - Could you advise how unroofing of an anomalous coronary artery should be captured?
Answer - If only anomalous vessel CABG, then this should be captured as a congenital procedure, not ISOCAB. If in conjunction with other atherosclerotic vessels, then it is an ISOCAB only. If bypass is performed for an anomalous, kinked or damaged vessel, this vessel is counted as one diseased or abnormal vessel in Seq 1170.

SEQ. #: 4075
Long Name: Other Card-LVA
Short Name: OCarLVA
Definition: Indicate whether the patient had a Left Ventricular Aneurysm Repair either in conjunction with, or as the primary surgical procedure.

Intent/Clarification:
Indicate if a LV aneurysm repair was performed.

- Yes
- No

FAQ August 2018: The patient was taken to the HYBRID suite for repair of LV aneurysm using a transcatheter approach using the Revivent Transcatheter Ventricular Enhancement System #4. The CV surgeon worked in conjunction with the cardiologist. The surgical approach was mini-thoracotomy. Should this be included in the ACSD? Answer: Do not include this catheter based procedure.

SEQ. #: 4080
Long Name: Other Card-Myocardial Stem Cell Therapy
Short Name: OCarStemCell
Definition: Indicate whether myocardial stem cell procedure was performed.

Intent/Clarification:
Indicate if regenerative stem cell therapy used for cardiac repair was performed.

- Yes
- No

SEQ. #: 4085
Long Name: Other Card-Pulmonary Thromboembolectomy **Short Name:** OCPulThromDis
Definition: Indicate whether the patient had surgery for pulmonary thromboembolic disease.

Intent/Clarification:

Indicate if an embolectomy and endarterectomy was performed.

- Yes, Acute
- Yes, Chronic

SEQ. #: 4090
Long Name: Other Card-Subaortic Stenosis Resection
Short Name: OCarSubaStenRes
Definition: Indicate whether resection of subaortic stenosis was performed.

Intent/Clarification:
Subaortic stenosis (or subvalvular aortic stenosis) is a narrowing of the area below the aortic valve. This may vary from a thin layer of extra tissue to large bundles of heart

muscle.

This can be performed alone or in conjunction with an aortic valve procedure.

SEQ. #: 4100
Long Name: Other Card-Subaortic Stenosis Resection Type
Short Name: OCarSubaStenResTy
Definition: Indicate the type of subaortic stenosis.

Intent/Clarification:
- Muscle
- Ring
- Membrane
- Web
- Not reported

SEQ. #: 4105
Long Name: Other Card-Surgical Ventricular Restoration
Short Name: OCarSVR
Definition: Indicate whether the patient had a Surgical Ventricular Restoration either in conjunction with, or as the primary surgical procedure. Surgical Ventricular Restorations are procedures that restore the geometry of the heart after an anterior MI. They include the Dor procedure or the SAVER procedure. This SVR procedure is distinct from an anterior left ventricular aneurysmectomy (LVA) and from a Batista procedure (left ventricular volume reduction procedure).

Intent/Clarification: Used to treat congestive heart failure caused by myocardial infarction (heart attack). The goal of the SVR is to restore the heart to a more normal size and shape, therefore improving function.

SEQ. #: 4110
Long Name: Other Card-Transmyocardial Laser Revascularization
Short Name: OCarLasr
Definition: Indicate whether the patient underwent the creation of multiple channels in left ventricular myocardium with a laser fiber either in conjunction with, or as the primary surgical procedure.

Intent/Clarification:
A laser is used to make small transmural perforations in the heart. These channels allow for blood to enter the myocardium directly from the ventricle chamber or through

communications with the native coronary circulations. Used primarily in areas of the heart where bypass grafting is not feasible, to improve collateralization of circulation.

SEQ. #: 4115
Long Name: Other Card-Tumor
Short Name: OCTumor
Definition: Indicate whether the patient had resection of an intracardiac tumor.

Intent/Clarification:
Cardiac tumors are abnormal growths that can occur in the heart or on the heart valves. The tumors can be malignant or benign. Tumors can begin in the heart or in another part of the body. Tumors cause problems because of their size and location and can embolize:

- Myxoma
- Fibroelastoma
- Hypernephroma
- Sarcoma
- Other
- No

SEQ. #: 4120
Long Name: Other Card-Card Tx
Short Name: OCarCrTx
Definition: Indicate whether the patient had a Heterotopic or Orthotopic heart transplantation either in conjunction with, or as the primary surgical procedure.

Intent/Clarification:

- **Heterotopic Transplant** – The transplant recipient's heart is not explanted. A donor's heart is implanted as a "piggy back" to the patient's native heart. The donor heart acts as an assist pump for the diseased heart. The patient now has two hearts.
- **Orthotopic** – The patient's diseased native heart is excised and replaced with a donor heart. The recipient heart is removed completely except for small cuff of right and left atrium.

SEQ. #: 4125
Long Name: Other Card-Cardiac Trauma
Short Name: OCarTrma
Definition: Indicate whether the patient had a surgical procedure for an injury due to Cardiac Trauma either in conjunction with, or as the primary surgical procedure.

Intent/Clarification: Injury to the heart such as a gunshot wound, stab wound, car accident or other trauma induced injury.

SEQ. #: 4130
Long Name: Other Card-VSD
Short Name: OCarVSD
Definition: Indicate whether the patient had a Ventricular Septal Defect Repair either in conjunction with, or as the primary surgical procedure.

Intent/Clarification: (VSD) Defect of the ventricular septum is closed with/without patch.

- Yes, congenital
- Yes, acquired
- No

SEQ. #: 4135
Long Name: Other Card-Other
Short Name: OCarOthr
Definition: Indicate whether the patient had another cardiac procedure performed either in conjunction with, or as the primary surgical procedure that is not included within this section.

Intent/Clarification: The following is a guideline for assessing which procedures to capture for Other Card - Other:

Code procedures that have a high likelihood of negatively impacting a patient's outcome (survival, quality of life, ability to recover) and/or prolong the patient's length of stay. You do not want to code this if minor procedures were done in conjunction with a CABG or a Valve and lose the patient in the analysis of isolated procedures!

Due to the difficulty of publishing a complete list of procedures to include and not to include in this field, the STS encourages sites to submit the procedure in question as a clinical question. Whether to include or not to include a procedure will be dealt with on a procedure by procedure basis.

FAQ October 2018: Per my surgeon, are these included in the STS case list (previous version 2.7 they were not, but just double checking)? I have 2 patients with cardiac tamponade: subxiphoid window with pericardial fluid drainage and pericardial biopsy. The first patient also had anterior mediastinal mass biopsy that turned out to be non-Hodgkin lymphoma. The second patient had pericardial fluid d/t scleroderma.
Answer: No, isolated pericardial windows are not included in the adult cardiac surgery database, they can be included in the General Thoracic Database.

FAQ January 2019: Should a pulmonary artery aneurysm repair be entered into adult cardiac database. No other procedure was performed. The pericardium was opened and the pt. was done pump assist.
Answer: This case may be entered as Other-Cardiac.

FAQ February 2019: During cannulation for a MVR, the superior vena cava was perforated. When coming off bypass the posterior wal of the SVC continued to bleed and ultimately required reconstruction with a 22 mm dacron graft. Should this be considered an 'other cardiac procedure'?
Answer: Code other cardiac procedure, due to surgical complication.

FAQ May 2019– The patient went to the OR for redo MV replacement & left atrium clot evacuation. Would I capture the LA clot removal under 'other cardiac' procedure?
Answer: You do not need to capture the clot removal since the left atrium is already open.

FAQ June 2019: Patient had MVR for endocarditis. There was erosion of the abscess into the left ventricle posteriorly causing atrioventricular disruption measuring about 2 x 3 cm. This area was repaired with a pericardial patch. Would this be coded under "other cardiac procedures", seq # 4135?
Answer: No, it is inherent to the MVR for endocarditis.

FAQ June 2019: Patient had a CABG with a pericardiectomy performed during the procedure. Do I code the pericardiectomy as other cardiac procedure?
Answer: Pericardiectomy is coded as other cardiac procedure only when the pericardium is removed from the left phrenic nerve to the right phrenic nerve.
A partial resection is not included as other cardiac procedure.

Atrial Fibrillation Procedures

SEQ. #: 4191
Long Name: AFib Lesion Location
Short Name: OCarAFibLesLoc
Definition: Indicate the location of the majority of lesions created to treat atrial fibrillation.

Intent/Clarification:
Indicate whether the lesions created were primarily epicardial or primarily intracardiac.

FAQ December 2017: Should subxiphoid pericardial window or subxiphoid thoracoscopic epicardial ablation, a convergent procedure, be coded as other as other cardiac?
Answer: Yes, code this as a primarily epicardial procedure.

FAQ May 2019: How are we capturing epicardial botox injections for treatment of atrial fibrillationif done in conjunction with another database procedure?

Answer: Code this as yes to Other Cardiac, Afib seq 2145 and in the a-fib section code primarily epicardial for lesion location at seq 4191 but leave method blank.

FAQ May 2019: Is the surgical component of the Convergent MAZE procedure that is completed by a Cardiothoracic Surgeon, required data entry for STS?

Answer: Yes, this can be captured in the Afib section as primarily epicardial.

SEQ. #: 4200
Long Name: Atrial Fibrillation Surgical Procedure-Method of Lesion Creation - Radio Frequency
Short Name: OCarAFibMethRad
Definition: Indicate whether the method used to create the lesion(s) for the AFib ablation procedure included radio frequency.

Intent/Clarification: Radiofrequency energy uses an alternating current resulting in thermal injury to disrupt atrial fibrillation pathways. These probes can be applied to either endocardial or epicardial heart surfaces to create transmural linear lesions that block atrial conduction.

FAQ December 2017: Should subxiphoid pericardial window or subxiphoid thoracoscopic epicardial ablation in a convergent procedure, be coded as radiofrequency?
Answer: Yes, code radiofrequency energy for the lesions created in this convergent procedure.

SEQ. #: 4205
Long Name: Atrial Fibrillation Surgical Procedure-Method of Lesion Creation - Radio Frequency - Bipolar
Short Name: OCarAFibMethRadBi
Definition: Indicate whether the radiofrequency method used to create the lesion(s) for the AFib ablation was bipolar.

Intent/Clarification: If radiofrequency was used, was it bipolar.

FAQ December 2017: Should subxiphoid pericardial window or subxiphoid thoracoscopic epicardial ablation, a convergent procedure, be coded as radiofrequency-bipolar?

Answer: Yes, code the lesions created using bipolar radiofrequency energy in this convergent procedure.

SEQ. #: 4210
Long Name: Atrial Fibrillation Surgical Procedure-Method of Lesion Creation - Cut-And-Sew
Short Name: OCarAFibMethCAS
Definition: Indicate whether the method used to create the lesion(s) for the AFib ablation procedure included cut-and-sew.

Intent/Clarification: A technically difficult procedure where the lesions are created using a scalpel creating surgical incisions in the atrium and sewing them to create scars that inhibit re-entry rhythms.

SEQ. #: 4215
Long Name: Atrial Fibrillation Surgical Procedure-Method of Lesion Creation - Cryo
Short Name: OCarAFibMethCryo
Definition: Indicate whether the method used to create the lesion(s) for the A-Fib ablation procedure included cryoablation.

Intent/Clarification: Cryoablation used to restore normal heart rhythm. It freezes the heart tissue that triggers an irregular heartbeat. Cryoablation is performed with a nitrous oxide cooled probe that, when applied to atrial tissue, produces transmural lesions that block atrial conduction.

SEQ. #: 4240
Long Name: Lesions Documented
Short Name: OCarLesDoc
Definition: Indicate whether the lesions created during the atrial fibrillation surgery are documented.

Intent/Clarification: Indicate whether the lesions were documented in the medical record.

- Yes – there is documentation of lesion lines
- No – documentation is not available for the lesion lines used in the ablation
- procedure.

FAQ December 2017: Should subxiphoid pericardial window or subxiphoid thoracoscopic epicardial ablation lesions in a convergent procedure be coded?

Answer: Yes, code the lesions created according to the documentation by the surgeon.

SEQ. #: 4250
Long Name: AFib Lesion Location - ~~Bilateral~~ Pulmonary Vein Isolation
Short Name: AFibLes1
Definition: Indicate whether the AFib lesion was pulmonary vein isolation.

Intent/Clarification:
Pulmonary vein ablation is a treatment for atrial fibrillation in which both the left and right pulmonary veins are ablated.

Refer to the pictures and the corresponding numbers graph on the data collection form.

FAQ August 2019 - How should a unilateral pulmonary vein isolation be captured? Previously, in version 2.81, this same field was named “Pulmonary Vein Isolation.” The word bilateral was added to the field in v2.9.
Answer – Code both unilateral pulmonary vein isolation and bilateral pulmonary vein isolation in Seq 4520.

SEQ. #: 4255
Long Name: AFib Lesion Location - Box Lesion Only
Short Name: AFibLes2
Definition: Indicate whether the AFib lesion was a box lesion

Intent/Clarification:
Box is a treatment for atrial fibrillation was performed.

Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4260
Long Name: AFib Lesion Location - Inferior Pulmonary Vein Connecting Lesion
Short Name: AFibLes3a
Definition: Indicate whether the AFib lesion was an Inferior Pulmonary Vein Connecting Lesion

Intent/Clarification:

Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4265

Long Name: AFib Lesion Location - Superior Pulmonary Vein Connecting Lesion
Short Name: AFibLes3b
Definition: Indicate whether the AFib lesion was a Superior Pulmonary Vein Connecting Lesion

Intent/Clarification:
Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4270
Long Name: AFib Lesion Location - Posterior Mitral Annular Line Lesion
Short Name: AFibLes4
Definition: Indicate whether the AFib lesion was a Posterior Mitral Annular Line

Intent/Clarification: Indicate whether the A-fib lesion was a Pulmonary Vein Connecting Lesion to Posterior Mitral Annulus lesion.

Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4275
Long Name: AFib Lesion Location - Pulmonary Vein Connecting Lesion to Anterior Mitral Annulus
Short Name: AFibLes5
Definition: Indicate whether the AFib lesion was a - Pulmonary Vein Connecting Lesion to Anterior Mitral Annulus lesion.

Intent/Clarification: Indicate whether the afib lesion was a - Pulmonary Vein Connecting Lesion to Anterior Mitral Annulus lesion.

Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4280
Long Name: AFib Lesion Location - Mitral Valve Annular Lesion
Short Name: AFibLes6
Definition: Indicate whether the AFib lesion was a Mitral Valve Cryo Lesion

Intent/Clarification:
Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4285
Long Name: AFib Lesion Location - LAA Ligation/Removal/Obliteration
Short Name: AFibLes7
Definition: Indicate whether the left Atrial Appendage was ligated or removed

Intent/Clarification:
Refer to the pictures and the corresponding numbers graph on the data collection form.

FAQ September 2017: If a patient has an extensive atrial fibrillation procedure and an LAA clipping how would we include the atrial ligation/exclusion method and device?
Answer: Multiple sequence numbers will be required to code the ligation/exclusion and device.
First capture sequence numbers 2140 and 2145 to open section M and M-1.
Then capture the atrial appendage procedure in sequence 4050; then ligation/exclusion method in sequence 4051 and Model in sequence number 4052 as well as the UDI, if available, in sequence 4053.
Code the extensive ablation procedure in section M-1 as described by your physician including lesion number 7 to complete the LAA.

SEQ. #: 4290
Long Name: AFib Lesion Location - Pulmonary Vein to LAA Lesion
Short Name: AFibLes8
Definition: Indicate whether the AFib lesion was a Pulmonary Vein to LAA lesion

Intent/Clarification:
Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4295
Long Name: AFib Lesion Location - Intercaval Line to Tricuspid Annulus ('T' lesion)
Short Name: AFibLes9
Definition: Indicate whether the AFib lesion was an Intercaval Line to Tricuspid Annulus ('T' lesion)

Intent/Clarification:
Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4300
Long Name: AFib Lesion Location - Tricuspid Cryo Lesion, Medial (10)
Short Name: AFibLes10

Definition: Indicate whether the AFib lesion was a Tricuspid Cryo Lesion, Medial (10)

Intent/Clarification:
Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4305
Long Name: AFib Lesion Location - Intercaval Line (SVC and IVC)
Short Name: AFibLes11
Definition: Indicate whether the AFib lesion was an Intercaval Line

Intent/Clarification:
Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4310
Long Name: AFib Lesion Location - Tricuspid Annular Line to RAA
Short Name: AFibLes12
Definition: Indicate whether the AFib lesion was a Tricuspid Annular Line to RAA lesion

Intent/Clarification:
Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4315
Long Name: AFib Lesion Location - Tricuspid Cryo Lesion (13)
Short Name: AFibLes13
Definition: Indicate whether the Afib lesion was a Tricuspid Cryo Lesion (13)

Intent/Clarification:
Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4320
Long Name: AFib Lesion Location - RAA Ligation/Removal/Obliteration
Short Name: AFibLes14
Definition: Indicate whether the Right Atrial Appendage was ligated or removed

Intent/Clarification:
Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4325
Long Name: AFib Lesion Location - RAA Lateral Wall (Short)
Short Name: AFibLes15a
Definition: Indicate whether the Afib lesion was a RAA Lateral Wall (Short) lesion

Intent/Clarification:
Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4330
Long Name: AFib Lesion Location - RAA Lateral Wall to 'T' Lesion
Short Name: AFibLes15b
Definition: Indicate whether the Afib lesion was a RAA Lateral Wall to 'T' Lesion

Intent/Clarification:
Refer to the pictures and the corresponding numbers graph on the data collection form.

SEQ. #: 4336
Long Name: AFib Lesion Location - Coronary Sinus Lesion
Short Name: AFitLesCSL
Definition: Indicate whether the Afib lesion was a Coronary Sinus Lesion.

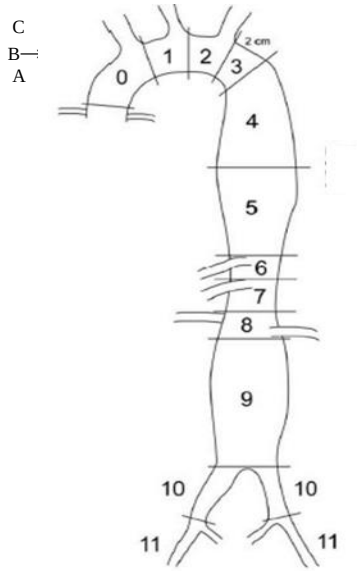
Intent/Clarification:
Refer to the pictures and the corresponding numbers graph on the data collection form.

Aorta and Aortic Root Procedures

GENERAL INFORMATION:

FAQ November 2018: Proximal aorta punch holes: Can you tell me how/where I would abstract this 'procedure' done to the aorta during a CABG: "Intraaortic debridement of loose atheromatous debris at the aortic proximal to punch holes used to sew the proximal anastomosis to the aorta."
Answer: Code nothing in the aorta fields.

Please use the following diagram for reference in section M2



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)
N. Zone 11 (external iliacs)

FAQ August 2019 - Use the following table only as a guide to the anatomical location of zones. **Please verify with your surgeon the proximal and distal locations using zones, do not assume.** For example, do not assume that the procedure was performed in Zone 2 if you surgeon states it was an “Arch” procedure. You will to verify with your surgeon if it was Zone 1, 2, or 3.

Root/Ascending	Zone 0 (A) - Below STJ Zone 0 (B) - STJ – Midascending Zone 0 (C) - Midascending – distal ascending
Arch	Zone 1 Zone 2 Zone 3
Descending	Zone 4 Zone 5
Thoracoabdominal	Zone 6 Zone 7 Zone 8 Zone 9 Zone 10 Zone 11
Dissections: Stanford Type A	Starts in zone 0 – verify with your surgeon what section of zone 0
Dissections: Stanford Type B	Starts in zone 3 - verify with your surgeon for the proximal and distal zones
Dissections: Non-A or non-B	Starts in zone 1 or zone 2 and is less common – verify with your surgeon for the proximal and distal zones

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SEQ. #: 4500
Long Name: Family History of Disease Of The Aorta
Short Name: FamHistAorta
Definition: Indicate whether there is a family history of disease of the aorta

Intent/Clarification:
For the purposes of this database (and published guidelines), family history means any alive or dead first-degree relative ('FDR': sibling, parent, child) with either a thoracic aortic aneurysm (include 'dilated' or 'enlarged' aorta), or aortic dissection/rupture. Abdominal aneurysms should be excluded, as they are typically not familial in nature. Thoracic location is sometimes described as 'near' or 'above' the heart, or 'in the chest'. For this database, in the case of family history of an unexplained death of a first-degree family member select 'unknown'. Patients with a family history of thoracic aneurysm and especially with a history of dissection/rupture who require aortic surgery may have more fragile aortic tissue or require a more extensive procedure, which could affect procedural outcomes.

Excludes isolated abdominal aortic aneurysm/dissections.

FAQ July 2019 – How are half-siblings captured?
Answer- Half-siblings are considered second-degree relatives and will not be coded as family history of first degree / direct blood relatives.

SEQ. #: 4505
Long Name: Genetic History
Short Name: PatGenHist
Definition: Indicate the genetic history of the patient

Intent/Clarification:
Indicate whether or not the patient has a history of any of the listed (well-known) genetically triggered thoracic aortic conditions.

- Non-specified' Familial Aneurysm: patients in whom another family member(s) had thoracic aneurysm but no specific gene mutation was identified when tested.

- Other: patient has been told they have a relevant gene mutation related to thoracic aneurysm but did not match any of the choices listed above; these will include known pathogenic mutations familiar to specialists but not associated with a 'named' syndrome like the other choices.

- None: patient has undergone genetic testing with no positive findings.

- Unknown: no known syndromic/genetic diagnosis, but has not specifically been

tested for pathogenic mutations.

The diagnosis has been made and is documented in the medical record by clinical or genetic testing.

FAQ Sept 2019 - I have a patient had a pre-operative diagnosis of Bicuspid aortic valve and Ascending Aortic Aneurysm. Once patient was in the OR the surgeon notes that the aortic valve was unicuspid. What do I choose for Seq 1646 Aoritc Etiology and Seq 4505 Patient's gentic history?
Answer – Code bicuspid in both Seq 1646 and Seq 4505 as these are along the same pathophysiologic process and are variants of valve morphology. This will be addressed in the upgrade**.**

SEQ. #: 4510
Long Name: Prior Aortic Intervention
Short Name: PriorAorta
Definition: Indicate whether the patient had prior aortic intervention

Intent/Clarification:
Includes both open surgical and/or endovascular (stent) intervention of any part of the aorta.

SEQ. #: 4520
Long Name: Prior Aortic Intervention - Previous Repair - Root
Short Name: PriorRepRoot
Definition: Indicate whether the prior intervention involved the aortic root

Intent/Clarification:
The aortic root is the ‘sinus’ segment of the aorta that immediately exits the heart, and contains the aortic valve and coronary artery origins. It ends anatomically at the sinotubular junction where the tubular ascending aorta begins.

The region of the aorta designated in zone 0 from the below the sinotubular junction.

SEQ. #: 4521
Long Name: Prior Aortic Intervention - Previous Repair Type - Root
Short Name: PriorRepTyRoot
Definition: Indicate the type of prior root repair

Intent/Clarification:

In this location, surgery would either name aortic root replacement as well as designations of ‘mechanical’ or biological’, also called “Bentall” procedures and also includes ‘valve-sparing’ root procedures (“David”, “Re-implantation”, “Yacoub”, “Remodeling”, “Florida Sleeve).

The only applicable choice for root repair type is open.

SEQ. #: 4522
Long Name: Prior Aortic Intervention - Repair Failure - Root
Short Name: PriorFailRoot
Definition: Indicate whether there is failure of the prior root repair

Intent/Clarification:
Either a secondary ‘false’ pseudo-aneurysm has developed in or near the previous aortic root repair, or a portion of preserved aortic root tissue (typically the coronary origins or ‘buttons’) has become aneurysmal.

There are four areas of prior root failure. These include proximal, distal and right coronary and left coronary button suture line issues.

SEQ. #: 4523
Long Name: Prior Aortic Intervention - Disease Progression - Root
Short Name: PriorProgRoot
Definition: Indicate whether there is progression of disease following the prior root repair

Intent/Clarification:
If only a portion of the aortic root (typically the non-coronary sinus) was replaced during the initial root procedure, aneurysmal progression of the left and or right coronary sinuses may have occurred. Also, development of coronary button aneurysms would be considered progression of disease.

SEQ. #: 4525
Long Name: Prior Aortic Intervention - Previous Repair - Ascending
Short Name: PriorRepAsc
Definition: Indicate whether the prior intervention involved the ascending aorta

Intent/Clarification:

The ascending aorta is also called the tubular ascending segment and is the portion above the aortic root (‘sinus segment’) beginning at the sinotubular junction and extending to the first aortic arch vessel (innominate or brachiocephalic artery).

SEQ. #: 4526
Long Name: Prior Aortic Intervention - Previous Repair Type - Ascending
Short Name: PriorRepTyAsc
Definition: Indicate the type of prior ascending aorta repair

Intent/Clarification:
Most simply classified as ascending aortic replacement with a prosthetic graft, but also includes ascending aortic resection (removal of the aneurysm with end-to-end proximal and distal aortic connection), aortoplasty (reduction of the diameter of the ascending aorta with sutures or by removing a longitudinal segment).

SEQ. #: 4527
Long Name: Prior Aortic Intervention - Repair Failure - Ascending
Short Name: PriorFailAsc
Definition: Indicate whether there is failure of the prior ascending repair

Intent/Clarification:
A situation where there has been a previous replacement or aortoplasty of the (tubular) ascending aortic segment in which the patient has manifested a pseudo-aneurysm and/or further aortic expansion, contained rupture of the proximal or distal suture line.

The region of the aorta designated in zone 0 from the sinotubular junction to distal ascending aorta.

SEQ. #: 4528
Long Name: Prior Aortic Intervention - Disease Progression - Ascending
Short Name: PriorProgAsc
Definition: Indicate whether there is progression of disease following the prior ascending aorta repair/

Intent/Clarification:
A situation could arise where the ascending aorta was previously replaced with a tube graft, but a small segment of the ascending aorta (usually the ascending to proximal arch transition) was not removed, and has subsequently become aneurysmal, now requiring intervention. Another scenario is if an ascending (reduction) aortoplasty was

employed as the previous repair, and this segment has become aneurysmal to an extent requiring intervention currently.

SEQ. #: 4530
Long Name: Prior Aortic Intervention - Previous Repair - Arch
Short Name: PriorRepArch
Definition: Indicate whether the prior intervention involved the aortic arch

Intent/Clarification:
The aortic arch is the segment of aorta beyond the tubular ascending segment, and begins at the level of the first branching vessel of the aorta (typically the innominate or brachiocephalic artery), and terminating just after the last branch vessel of the aortic arch (left subclavian artery), before transitioning to the descending thoracic aorta; specifically zones 1, 2 and 3.

The region of the aorta designated in zones 1, 2, & 3 from the distal ascending to the proximal descending thoracic aorta.

SEQ. #: 4531
Long Name: Prior Aortic Intervention - Previous Repair Type - Arch
Short Name: PriorRepTyArch
Definition: Indicate the type of prior arch repair

Intent/Clarification:
Open arch repairs may include ‘hemi-arch’ repairs, where branch arteries are not re-implanted or bypassed, and extent of arch replacement with a graft includes a significant portion of the lesser curve (non-branched portion) of the aortic arch, as well as ‘total’ arch replacement (all branch vessels re-implanted or bypassed in addition to graft replacement of the aorta), or ‘partial’ arch replacement (one or more, but not all arch vessels re-implanted or replaced in addition to graft replacement of a portion the aortic arch). Additionally, ‘hybrid’ repairs may combine surgical bypasses to one or more arch vessels with endograft (stent) repair of the aortic arch, and total endovascular arch replacement (rare) includes endovascular perfusion of arch vessels using special techniques.

SEQ. #: 4532
Long Name: Prior Aortic Intervention - Repair Failure - Arch
Short Name: PriorFailArch
Definition: Indicate whether there is failure of the prior arch repair

Intent/Clarification:
Relates to pseudo-aneurysms that have formed as part of arch repair, or failure of an endograft to 'seal' with an endoleak leading to further aortic expansion. Could also indicated a bypassed or re-implanted arch vessel failure that requires a later re-intervention.

An **endoleak** is defined as persistent blood flow in the aneurysm sac through and around the endovascular seal and is the most common complication after endovascular aneurysm repair.

SEQ. #: 4533
Long Name: Prior Aortic Intervention - Disease Progression - Arch
Short Name: PriorProgArch
Definition: Indicate whether there is progression of disease following the prior arch repair

Intent/Clarification: Cases of partial arch replacement or hemi-arch aortic replacement where the residual aortic arch has become aneurysmal to an extent requiring re-intervention, or a re-implanted branch vessel has become aneurysmal requiring intervention.

SEQ. #: 4535
Long Name: Prior Aortic Intervention - Previous Repair - Descending
Short Name: PriorRepDesc
Definition: Indicate whether the prior intervention involved the descending aorta

Intent/Clarification:
The descending thoracic aorta begins after the aortic arch (beyond the left subclavian artery) and extends to the level of the aortic hiatus at the diaphragm.

The region of the aorta designated in zones 4 & 5 from the distal arch to the celiac arteries.

SEQ. #: 4536
Long Name: Prior Aortic Intervention - Previous Repair Type - Descending
Short Name: PriorRepTyDesc
Definition: Indicate the type of prior descending aorta repair

Intent/Clarification:

The descending thoracic aorta can be replaced with a tube graft (open surgical) or using endovascular (stent) repair. Hybrid repairs include the use of an ‘elephant trunk’ extension of an aortic arch repair and secondary open surgical or endograft connection to the elephant trunk extension.

SEQ. #: 4537
Long Name: Prior Aortic Intervention - Repair Failure - Descending
Short Name: PriorFailDesc
Definition: Indicate whether there is failure of the prior descending repair

Intent/Clarification:
Formation of pseudo-aneurysm or failure of an endograft repair to ‘seal’ or an endoleak causing aneurysm expansion at the site of previous treatment.

An **endoleak** is defined as persistent blood flow in the aneurysm sac through and around the endovascular seal and is the most common complication after endovascular aneurysm repair.

SEQ. #: 4538
Long Name: Prior Aortic Intervention - Disease Progression - Descending
Short Name: PriorProgDesc
Definition: Indicate whether there is progression of disease following the prior descending aorta repair

Intent/Clarification:
A situation where a segment of the descending thoracic aorta was previously replaced and an adjacent non-replaced segment has expanded to an extent requiring a new intervention. Also, a pre-emptive elephant trunk extension was created at the time of a previous arch repair, and the descending thoracic aorta has become large enough to complete treatment.

SEQ. #: 4540
Long Name: Prior Aortic Intervention - Previous Repair - Suprarenal Abdominal
Short Name: PriorRepSupraAb
Definition: Indicate whether the prior intervention involved the suprarenal abdominal aorta

Intent/Clarification:
The segment of aorta beginning at the level of the diaphragm and ending just below the renal artery branches. This segment includes major branches to the abdominal organs,

including the celiac and superior mesenteric artery, but not the inferior mesenteric artery.

The region of the aorta designated in zone 6 & 7 from the celiac to the renal arteries.

SEQ. #: 4541
L**ong Name:** Prior Aortic Intervention - Previous Repair Type - Suprarenal Abdominal
Short Name: PriorRepTySupraAb
Definition: Indicate the type of prior suprarenal abdominal aorta repair

Intent/Clarification:
Similar to the aortic arch, when this segment is replaced either with open surgery or with endovascular (stent) grafting, its major vessels require either re-implantation or bypass.

SEQ. #: 4542
Long Name: Prior Aortic Intervention - Repair Failure - Suprarenal Abdominal
Short Name: PriorFailSupraAb
Definition: Indicate whether there is failure of the prior suprarenal abdominal repair

Intent/Clarification:
This includes pseudo-aneurysms as well as failure of endograft ‘seal’ or endoleak causing continued expansion of the aorta requiring another intervention. Additionally, stenosis or occlusion of a bypassed or re-implanted visceral vessel indicates a repair failure that could mandate a re-intervention.

An **endoleak** is defined as persistent blood flow in the aneurysm sac through and around the endovascular seal and is the most common complication after endovascular aneurysm repair.

SEQ. #: 4543
Long Name: Prior Aortic Intervention - Disease Progression - Suprarenal Abdominal
Short Name: PriorProgSupraAb
Definition: Indicate whether there is progression of disease following the prior suprarenal abdominal aorta repair

Intent/Clarification:
If a portion of the supra-renal aorta was not replaced during the initial surgery (most typically proximally, near the diaphragm, during open surgery), aneurysm progression in this location could occur, requiring another intervention. Aneurysm formation of the

proximal portions of the visceral vessels themselves could also occur (more likely in genetic aneurysm syndromes) and require re-intervention as well.

SEQ. #: 4545
Long Name: Prior Aortic Intervention - Previous Repair - Infrarenal Abdominal
Short Name: PriorRepInfraAb
Definition: Indicate whether the prior intervention involved the infrarenal abdominal aorta

Intent/Clarification:
This is the segment of aorta below the renal arteries, and terminating just before the bifurcation of the aorta into the common iliac arteries.

The region of the aorta designated in zone 9 the infrarenal abdominal aorta.

SEQ. #: 4546
Long Name: Prior Aortic Intervention - Previous Repair Type - Infrarenal Abdominal
Short Name: PriorRepTyInfraAb
Definition: Indicate the type of prior infrarenal abdominal aorta repair

Intent/Clarification:
The infra-renal aorta can be replaced either with open surgery or endovascular (stent) graft repair. The latter usually involves from the kidneys and branching graft into the common iliac arteries.

SEQ. #: 4547
Long Name: Prior Aortic Intervention - Repair Failure - Infrarenal Abdominal
Short Name: PriorFailInfraAb
Definition: Indicate whether there is failure of the prior infrarenal abdominal repair

Intent/Clarification:
This includes pseudo-aneurysms as well as failure of endograft ‘seal’ or endoleak causing continued expansion of the aorta requiring another intervention.

An **endoleak** is defined as persistent blood flow in the aneurysm sac through and around the endovascular seal and is the most common complication after endovascular aneurysm repair.

SEQ. #: 4548
Long Name: Prior Aortic Intervention - Disease Progression - Infrarenal Abdominal
Short Name: PriorProgInfraAb
Definition: Indicate whether there is progression of disease following the prior infrarenal abdominal aorta repair

Intent/Clarification:
A situation where a segment of infra-renal aorta was left behind or un-treated during a previous procedure and has now become aneurysmal to an extent requiring re-intervention.

SEQ. #: 4620
Long Name: Endoleak
Short Name: Endoleak
Definition: Indicate whether endoleak is present

Intent/Clarification:
An endoleak is defined as the presence of blood leaking through or around an endograft into the aneurysm sac resulting in perfusion and persistent pressurization of the aneurysm sac, it is the most common complication after endovascular aneurysm repair. In the case of an aortic dissection, an endoleak refers to persistent false lumen perfusion. The intent is to identify the efficacy of the procedure with the optimal therapy resulting in the absence of any endoleak.

SEQ. #: 4625
Long Name: Endoleak - Type I - Leak At Graft Attachment Site
Short Name: EndoleakTypeI
Definition: Indicate whether endoleak is type I

Intent/Clarification:
The intent is to identify the presence of a Type I endoleak. A Type I endoleak is defined as leakage of blood around a graft at the proximal or distal seal zones. This results due to a gap between the aortic wall and the endograft at either the proximal or distal seal zone.

SEQ. #: 4630
Long Name: Endoleak - Type I - Location **Short Name:** EndoleakTyILoc
Definition: Indicate the location of the type I endoleak

Intent/Clarification:
The intent is to identify the location of the Type I endoleak. A Type Ia endoleak is defined as a leak occurring at the proximal seal zone. A Type Ib endoleak is defined as a leak occurring at the distal seal zone. A Type Ic endoleak is defined as a non-occluded iliac artery in patients with an aorto-uni-iliac device with a patent femoral-femoral bypass.

SEQ. #: 4635
Long Name: Endoleak - Type II - Aneurysm Sac Filling Via Branch Vessel
Short Name: EndoleakTypeII
Definition: Indicate whether endoleak is type II

Intent/Clarification:
The intent is to identify the presence of a Type II endoleak. A Type II endoleak is defined as retrograde filling of the aneurysm sac or false lumen in the case of dissection by aortic branch vessels (e.g. left subclavian artery, intercostal arteries, etc.).

SEQ. #: 4640
Long Name: Endoleak - Type II - Number Of Vessels
Short Name: EndoleakVessNum
Definition: Indicate the number of vessels involved in the type II endoleak

Intent/Clarification:
The intent is to identify the number of vessels providing retrograde flow into the aneurysm sac or false lumen. A Type IIa endoleak is defined as one branch vessel with retrograde flow causing an endoleak. A Type IIb endoleak is defined as more than one branch vessel with retrograde flow causing an endoleak.

SEQ. #: 4645
Long Name: Endoleak - Type III - Leak Through Defect In Graft
Short Name: EndoleakTypeIII
Definition: Indicate whether endoleak is type III

Intent/Clarification:
The intent is to identify the presence of a Type III endoleak. A Type III endoleak is defined as leakage of blood into the aneurysm sac, or false lumen in the case of dissection, due to either a gap between separate endograft components, or a defect in the fabric of the graft secondary to graft strut fracture or erosion.

SEQ. #: 4650
Long Name: Endoleak - Type III - Graft Defect Type
Short Name: EndoleakType
Definition: Indicate the graft defect type

Intent/Clarification:
The intent is to identify which type of Type III endograft exists. A Type IIIa defect (junctional separation of modular components) occurs when an endoleak occurs secondary to junctional separation of overlapping enodgrafts. A Type IIIb defect (endograft fracture or holes) occurs when an endoleak occurs secondary to a perforation in the fabric of an endograft secondary to graft strut fracture or erosion.

SEQ. #: 4655
Long Name: Endoleak - Type IV - Leak Through Graft Fabric - Porosity
Short Name: EndoleakTypeIV
Definition: Indicate whether endoleak is type IV

Intent/Clarification:
The intent is to identify the presence of a Type IV endoleak. A Type IV endoleak is defined as the presence of an endoleak secondary to graft porosity. All other types of endoleaks must be definitively ruled out prior to selecting this diagnosis.

SEQ. #: 4660
Long Name: Endoleak - Type V - Endotension-Expansion Aneurysm Sac Without Leak
Short Name: EndoleakTypeV
Definition: Indicate whether endoleak is type V

Intent/Clarification:
The intent is to identify the presence of a Type V endoleak. A Type V endoleak, also known as endotension, is defined as persistent aneurysm expansion in the absence of a confirmed endoleak.

SEQ. #: 4665

Long Name: Aorta Infection
Short Name: Infection
Definition: Indicate whether infection is present

Intent/Clarification:
The intent is to establish the presence of a primary aortic infection (either native aorta or prosthetic graft). This can be prospectively established preoperatively with diagnostic cultures (i.e. perigraft fluid or phlegmon aspiration) or other imaging such (tagged WBC scan or characteristic MRI or CT changes). The final diagnosis should depend on surgeon report, intraoperative cultures and pathologic data.

SEQ. #: 4670
Long Name: Aorta Infection Type **Short Name:** InfecType
Definition: Indicate the type of aortic infection

Intent/Clarification:
Intent is to establish the type of an infection within the aorta including the sinus of Valsalva and the aortic valve. Infection may involve native tissues or prosthetic graft or prosthetic valve material. Multiples infection types might be described as involving more than one type, i.e. Graft and native aorta.

SEQ. #: 4675
Long Name: Aorta Trauma **Short Name:** Trauma
Definition: Indicate whether there was aortic trauma

Intent/Clarification:
Aortic trauma will include blunt trauma (i.e. blunt aortic injury in motor vehicle accident), penetrating trauma (i.e. gun shot, stabbing, etc.), and iatrogenic trauma (i.e. endovascular catheter induced perforation or dissection). Do not include surgical complications; may include catheter trauma.

SEQ. #: 4680
Long Name: Trauma Location - Root
Short Name: TraumacRoot
Definition: Indicate whether the aortic trauma involved the root

Intent/Clarification:
Includes the sinus of Valsalva, aortic valve leaflets and aortoventricular junction.

SEQ. #: 4685
Long Name: Trauma Location - Ascending
Short Name: TraumaAsc
Definition: Indicate whether the aortic trauma involved the ascending aorta

Intent/Clarification:
Sinotubular junction to the innominate artery

SEQ. #: 4690
Long Name: Trauma Location - Arch
Short Name: TraumaArch
Definition: Indicate whether the aortic trauma involved the arch

Intent/Clarification:
Proximal aspect of the innominate artery to the distal aspect of the left subclavian artery/aortic isthmus

---

SEQ. #: 4695
Long Name: Trauma Location - Descending
Short Name: TraumaDesc
Definition: Indicate whether the aortic trauma involved the descending aorta

Intent/Clarification:
Aorta distal to the left subclavian to the diaphragmatic hiatus

---

SEQ. #: 4700
Long Name: Trauma Location - Thoracoabdominal
Short Name: TraumaThorac
Definition: Indicate whether the aortic trauma involved the thoracoabdominal aorta

Intent/Clarification:
Location of trauma includes parts of the descending thoracic aorta and abdominal aorta.

SEQ. #: 4705
Long Name: Trauma Location - Abdominal

Short Name: TraumaAbdom
Definition: Indicate whether the aortic trauma involved the abdominal aorta

Intent/Clarification:
Location of trauma includes parts of the descending thoracic aorta and abdominal aorta. Trauma isolated to infradiaphragmatic abdominal aorta

---

SEQ. #: 4710
Long Name: Aorta Presentation
Short Name: Presentation
Definition: Indicate the clinical presentation

Intent/Clarification:
This is intended to define the presenting symptoms that lead to the diagnosis and operative intervention and might include: Pain, CHF, Cardiac Arrest, Syncope, Stroke, limb numbness, Paralysis, Fatigue, Infection, Weakness, Hoarseness (vocal cord dysfunction). However, some patients may be asymptomatic.
There is no specific hierarchy and the primary presentation should be indicated by the surgeon.

SEQ. #: 4715
Long Name: Aorta Primary indication **Short Name:** PrimIndic
Definition: Indicate the primary indication for intervention

Intent/Clarification:
The intent is to identify the condition/diagnosis/pathology for which surgery is being conducted and may include: Aneurysm, Dissection, Valvular Dysfunction, Obstruction, Intramural Hematoma, Infection, Stenosis, and Coarctation.

Intramural hematoma is when there is blood in the wall of the aorta but no dissection flap is visualized.

Aortic coarctation is a narrowing of the aorta and usually a congenital issue

There is no specific hierarchy and the primary presentation should be indicated by the surgeon.

FAQ October 2017: How should the primary indication be coded for the patient with a penetrating ulcer of the descending aorta?
Answer: Code aneurysm.

SEQ. #: 4720

Long Name: Aneurysm - Etiology
Short Name: AnEtilogy
Definition: Indicate the aneurysm etiology

Intent/Clarification:
Choices here are Atherosclerosis, Infection, inflammatory, Connective Tissue Disorder, Penetrating Ulcer, Pseudoaneurysm, Mycotic, Traumatic transection, Intercostal visceral patch, Anastomotic site, Unknown.

Mycotic aneurysm refers to a native tissue infection.

Inflammatory refers to an autoimmune disease - Ehlers Danlos

Connective Tissue Disorder refers to Marfans, etc.

Pseudoaneurysm is an outpouching that does not involve all layers of the aortic wall.

If the patient has a Bicuspid Aortic Valve, code connective tissue disorder and choose Bicuspid in sequence number 4505.

FAQ October 2017: If the etiology of the aortic aneurysm is described by the surgeon as systemic hypertension, how is that coded?
Answer: Code unknown.

FAQ October 2017: If the etiology of the aortic aneurysm is described by the surgeon as degenerative, how is that coded?

Answer: Code unknown.

SEQ. #: 4725
Long Name: Aneurysm - Type
Short Name: AnType
Definition: Indicate the aneurysm type

Intent/Clarification:
Saccular aneurysm is a focal dilation of all layers of the aorta.

Fusiform aneurysm is a diffuse dilation of all layers of the aortic wall involving an extended segment.

Most aneurysms tend to be fusiform. Saccular aneurysms would be dictated as such.

SEQ. #: 4730

Long Name: Aneurysm - Rupture
Short Name: AnRupt
Definition: Indicate whether the aneurysm ruptured

Intent/Clarification:
Aneurysm rupture is a complete breakdown in the integrity of the aortic wall and if not “contained” will result in exsanguination.

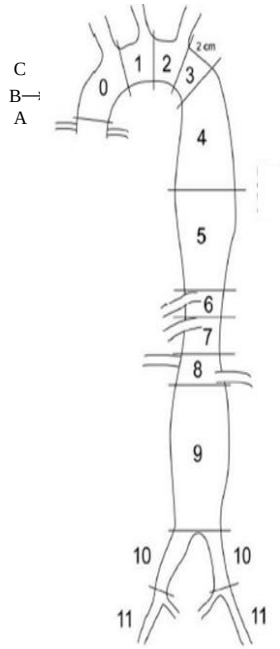
SEQ. #: 4735
Long Name: Aneurysm - Rupture - Contained
Short Name: AnRuptCon
Definition: Indicate whether the rupture was contained

Intent/Clarification:
Contained rupture is a complete breakdown in the integrity of the aortic wall but is being “contained” by some clot or another structure. It is an unstable situation. When seen on CT scan, it is almost always “contained” as frank rupture is usually fatal.

SEQ. #: 4740
Long Name: Aneurysm - Location
Short Name: AnLoc
Definition: Indicate the location of the aneurysm

Intent/Clarification:
STJ is the Sino-tubular Junction and identifies the boundary between the aortic root and the ascending aorta and is marked as Zone 0 which includes everything from above the aortic root to the innominate artery, i.e.: both the aortic root and ascending aorta.

There is no specific hierarchy and choose the primary zone of maximum diameter indicated by the surgeon.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

FAQ October 2017: If the aneurysm spans more than one zone how should this be coded?
Answer: Code the most proximal zone with largest diameter.

SEQ. #: 4745
Long Name: Dissection - Timing
Short Name: DisTiming
Definition: Indicate the timing of the aortic dissection

Intent/Clarification:
The intent is to define the time interval from occurrence of dissection until presentation of the patient. The best assessment of dissection is the onset of symptoms. Usually found either in the EMS report or history of present illness on the H&P, record the time from first onset of pain until the patient is evaluated for treatment. Report “unknown” ONLY if the patient cannot describe a specific onset of symptoms.

SEQ. #: 4746
Long Name: Dissection Onset Date Known
Short Name: DisOnsetDtKnown
Definition: Indicate whether the date of dissection onset is known

Intent/Clarification:

The intent is to confirm the duration of symptoms preceding the patient's evaluation for treatment. While dissection timing (seq 4745) describes fairly broad intervals, this sequence refers to the patient's recall of specific date when symptoms were first felt. Typical symptoms include sudden onset of pain which is usually memorable. Report "no" ONLY for any patient whose dissection is incidentally discovered or if the patient does not recall the onset of pain.

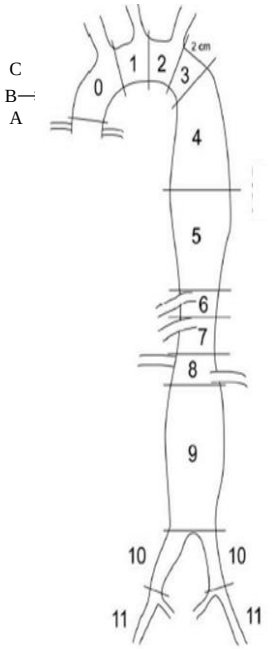
FAQ October 2018: The patient presented with chronic pain after a chronic aortic dissection with substantial aneurysmal change of his thoracoabdominal aorta. The previous history includes repair of an acute aortic dissection of the ascending aorta and hemiarch in 2014 with a chronic dissection of the descending following the procedure. He now presents for an open repair of the chronic dissection of the thoracoabdominal aorta. What timing in sequence 4746 should be recorded?
Answer: The chronic dissection occurred after the repair of the ascending and hemiarch in 2014. Code the previous date of surgery at the timing for onset.

SEQ. #: 4747
Long Name: Dissection Onset Date **Short Name:** DisOnsetDt
Definition: Indicate dissection onset date

Intent/Clarification:
Report the date of symptoms onset if it is known by the patient. If the patient's recall is non-specific (e.g. "Sometime last week") leave this item blank. Use 8-digit format (mm/dd/yyyy).

SEQ. #: 4750
Long Name: Dissection - Primry Tear Location **Short Name:** DisTearLoc
Definition: Indicate location of the primary tear

Intent/Clarification:
The intent is to identify the primary entry tear for the dissection. As most dissections include multiple re-entry tears it may be difficult to confirm the primary site and the surgeon MUST be the final arbiter of this definition. This is the site identified by the surgeon at an open operation or judged by the surgeon from imaging as the primary site to be covered by endovascular stent. If the radiology report names a primary entry point and the surgeon concurs, report this location.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

Zone “0” is subdivided into 3 sections:

A. Below sinotubular junction
B. Sinotubular junction to mid-ascending aorta
C. Mid-ascending to distal ascending (at the innominate artery)

SEQ. #: 4755
Long Name: Dissection - Secondary Tear Location **Short Name:** DisSecLoc
Definition: Indicate location of secondary tear

Intent/Clarification:
The intent is to identify any secondary tear for the dissection. This would be a re-entry site resulting from flow within the false lumen returning to the true lumen. The surgeon MUST be the final arbiter of this definition. This is the site identified by the surgeon at open operation or judged by the surgeon from imaging as a secondary site to be covered by endovascular stent.

Refer to the image showing the zones and note that zone “0” is subdivided into 3 sections:

A. Below sinotubular junction

B. Sinotubular junction to mid-ascending aorta
C. Mid-ascending to distal ascending (at the innominate artery)

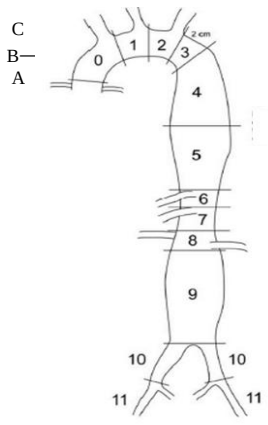
SEQ. #: 4760
Long Name: Dissection - Retrograde Extension **Short Name:** DisRetExt
Definition: Indicate whether there was retrograde extension

Intent/Clarification:
The intent is to determine whether the dissection propagates proximal (toward the aortic valve) from the primary tear location. Report yes if imaging indicates an extension of the false lumen proximal (toward the aortic valve) to the primary tear location.

SEQ. #: 4765
Long Name: Dissection - Retrograde Location
Short Name: DisRetLoc
Definition: Indicate location of retrograde extension

Intent/Clarification:
The intent is to define how far the retrograde dissection extends toward the aortic valve. This would be the point at which the false lumen comes closest to the aortic valve. The surgeon or radiologist can be the final arbiter of this definition. Refer to the image showing the zones and note that zone “0” is subdivided into 3 sections:

A. Below sinotubular junction
B. Sinotubular junction to mid-ascending aorta
C. Mid-ascending to distal ascending (at the innominate artery)



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 4770
Long Name: Dissection - Post TEVAR
Short Name: DisPosTEVAR
Definition: Indicate whether dissection occurred following TEVAR

Intent/Clarification:
The intent is to identify whether RETROGRADE dissection occurred or extended during TEVAR (Thoracic Endovascular Aortic Repair)

Report yes if:

A. Retrograde dissection is noted on post TEVAR imaging that was not present on imaging before TEVAR
OR
B. Retrograde dissection (false lumen) extends closer to the aortic valve than was noted on pre TEVAR imaging

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SEQ. #: 4775
Long Name: Dissection - Distal Extension
Short Name: DistalExt
Definition: Indicate whether there is distal extension

Intent/Clarification: The intent is to identify where distal (antegrade) dissection occurred or extended.

SEQ. #: 4780
Long Name: Dissection - Distal Extension Location
Short Name: DistalExtLoc
Definition: Indicate location of distal extension

Intent/Clarification:
The intent is to define the how far along the aorta (away from the valve) any new or extended dissection goes. Refer to the image showing the zones and report the most distal (highest # zone) extent of the false lumen.

SEQ. #: 4785
Long Name: Dissection - Malperfusion
Short Name: DisMal
Definition: Indicate whether malperfusion was present

Intent/Clarification:
The intent is to identify whether there is compromised blood flow to any branch vessel as a consequence of the dissection or repair. Radiology report or the surgeon's evaluation may be used to define this. If any vessel has compromised blood flow report "yes". Report "unknown" if the surgeon or radiologist indicate that the imaging is inadequate to confirm the presence or absence of malperfusion.

SEQ. #: 4790
Long Name: Dissection - Malperfusion - Coronary
Short Name: DisMalCor
Definition: Indicate whether coronary malperfusion was present

Intent/Clarification:
The intent is to identify which vessels have compromised flow as a consequence of the dissection or repair. If the answer to Dissection – malperfusion (sequence 4785) is "yes" AND any coronary blood flow is compromised report yes. The surgeon is the final arbiter of this definition.

SEQ. #: 4791
Long Name: Dissection - Malperfusion - Right Subclavian
Short Name: DisMalRtSubclav
Definition: Indicate whether right subclavian malperfusion was present

Intent/Clarification:
The intent is to identify which vessels have compromised flow as a consequence of the dissection or repair. If the answer to Dissection – malperfusion (sequence 4785) is "yes" AND right subclavian blood flow is compromised report yes. The surgeon is the final arbiter of this definition.

SEQ. #: 4792
Long Name: Dissection - Malperfusion - Right Common Carotid
Short Name: DisMalRtComCar
Definition: Indicate whether right common carotid malperfusion was present

Intent/Clarification:
The intent is to identify which vessels have compromised flow as a consequence of the dissection or repair. If the answer to Dissection – malperfusion (sequence 4785) is “yes” AND right common carotid blood flow is compromised report yes. The surgeon is the final arbiter of this definition.

SEQ. #: 4800
Long Name: Dissection - Malperfusion - Left Common Carotid
Short Name: DisMalComL
Definition: Indicate whether left common carotid malperfusion was present

Intent/Clarification:
The intent is to identify which vessels have compromised flow as a consequence of the dissection or repair. If the answer to Dissection – malperfusion (sequence 4785) is “yes” AND left common carotid blood flow is compromised report yes. The surgeon is the final arbiter of this definition.

SEQ. #: 4805
Long Name: Dissection - Malperfusion - Left Subcalvian
Short Name: DisMalSubL
Definition: Indicate whether left subclavian malperfusion was present

Intent/Clarification:
The intent is to identify which vessels have compromised flow as a consequence of the dissection or repair. If the answer to Dissection – malperfusion (sequence 4785) is “yes” AND left subclavian blood flow is compromised report yes. The surgeon is the final arbiter of this definition.

SEQ. #: 4810
Long Name: Dissection - Malperfusion - Celiac
Short Name: DisMalCel
Definition: Indicate whether celiac malperfusion was present

Intent/Clarification:
The intent is to identify which vessels have compromised flow as a consequence of the dissection or repair. If the answer to Dissection – malperfusion (sequence 4785) is “yes” AND celiac blood flow is compromised report yes. The surgeon is the final arbiter of this definition.

SEQ. #: 4815
Long Name: Dissection - Malperfusion - Superior Mesenteric
Short Name: DisMalSup
Definition: Indicate whether superior mesenteric malperfusion was present

Intent/Clarification:
The intent is to identify which vessels have compromised flow as a consequence of the dissection or repair. If the answer to Dissection – malperfusion (sequence 4785) is “yes” AND superior mesenteric blood flow is compromised report yes. The surgeon is the final arbiter of this definition.

SEQ. #: 4820
Long Name: Dissection - Malperfusion - Renal, Left
Short Name: DisMalRenL
Definition: Indicate whether left renal malperfusion was present

Intent/Clarification:
The intent is to identify which vessels have compromised flow as a consequence of the dissection or repair. If the answer to Dissection – malperfusion (sequence 4785) is “yes” AND left renal blood flow is compromised report yes. The surgeon is the final arbiter of this definition.

SEQ. #: 4825
Long Name: Dissection - Malperfusion - Renal, Right
Short Name: DisMalRenR
Definition: Indicate whether right renal malperfusion was present

Intent/Clarification:
The intent is to identify which vessels have compromised flow as a consequence of the dissection or repair. If the answer to Dissection – malperfusion (sequence 4785) is “yes” AND left renal blood flow is compromised report yes. The surgeon is the final arbiter of this definition.

SEQ. #: 4830
Long Name: Dissection - Malperfusion - Iliofemoral
Short Name: DisMalIlio
Definition: Indicate whether iliofemoral malperfusion was present

Intent/Clarification:
The intent is to identify which vessels have compromised flow as a consequence of the dissection or repair. If the answer to Dissection – malperfusion (sequence 4785) is “yes” AND either or both iliofemoral systems blood flow is compromised report yes. The surgeon is the final arbiter of this definition.

SEQ. #: 4835
Long Name: Dissection - Malperfusion - Spinal
Short Name: DisMalSpin
Definition: Indicate whether spinal malperfusion was present

Intent/Clarification:
The intent is to identify which vessels have compromised flow as a consequence of the dissection or repair. If the answer to Dissection – malperfusion (sequence 4785) is “yes” AND any spinal artery blood flow is compromised report yes. The surgeon is the final arbiter of this definition.

SEQ. #: 4836
Long Name: Discection - lower Extremity Motor Function **Short Name:** DisLowMotFun
Definition: Indicate status of lower extremity motor function

Intent/Clarification:
The intent is to identify if any NEW motor deficit of either lower extremity as a presenting symptom. This is preoperative status and does not include new post-operative paralysis or paraplegia.

This is intended to capture new sensory-motor deficit due to vascular malperfusion and not due to post-operative complication.

SEQ. #: 4837
Long Name: Dissection - Lower Extremity Sensory Deficit
Short Name: DisLowSenDef
Definition: Indicate whether lower extremity sensory deficit is present

Intent/Clarification:
The intent is to identify any NEW sensory deficit of either lower extremity is present following dissection. Report “yes” if any note comments on numbness or insensate areas that were not recorded in the past medical history. Only report “unknown” if there is no comment in the medical record regarding sensation in the lower extremities.

This is preoperative status and does not include post-operative paralysis or paraplegia.

SEQ. #: 4840
Long Name: Dissection - Rupture
Short Name: DisRupt
Definition: Indicate whether dissection ruptured

Intent/Clarification:
Report **“**yes” if any volume of blood is extravascular (outside the aortic adventitial layer), i.e. beyond the outmost layer of the aortic wall.

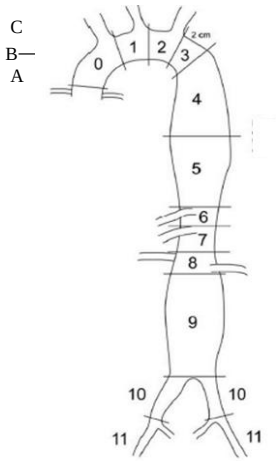
SEQ. #: 4845
Long Name: Dissection - Rupture - Contained
Short Name: DisRuptCon
Definition: Indicate whether the rupture was contained.

Intent/Clarification:
Report “yes” if extravascular blood is contained by surrounding structures such that bleeding has stopped.

SEQ. #: 4850
Long Name: Dissection - Rupture Location
Short Name: DisRuptLoc
Definition: Indicate the rupture location

Intent/Clarification:
Intent is to identify where the rupture occurred. This is the site identified by the surgeon at an open operation or judged by the surgeon or radiologist from imaging as the rupture site to be covered by endovascular stent. Refer to the image showing the zones and note that zone “0” is subdivided into 3 sections:

A. Below sinotubular junction
B. Sinotubular junction to mid-ascending aorta
C. Mid-ascending to distal ascending (at the innominate artery)



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 4855

Long Name: Root - Aorto-Annular Ectasia
Short Name: RootAAnnEctasia
Definition: Indicate whether aorto-annular ectasia is present

Intent/Clarification:
Annuloaortic ectasia refers to dilatation of the aortic root involving the annulus and/or the sinuses and/or the sinotubular junction and typically giving rise to aortic insufficiency. The intent of capturing this field is to identify patients with aortic root dilatation specifically that impacts aortic valvular function.

SEQ. #: 4870
Long Name: Root - Asymmetric Root Dilatation
Short Name: RootDilaAsym
Definition: Indicate whether asymmetric root dilatation is present

Intent/Clarification:
Asymmetric root dilatation refers to predominance of dilatation present in one or two sinus segments as opposed to more uniform root dilatation involving all 3 sinus segments (these may often be associated with aortic insufficiency).
The intent of this field is to determine the relative frequency of asymmetric sinus dilatation and its relationship to other clinical manifestations (e.g. aortic insufficiency or aortic dissection) as opposed to more uniform root dilatation.

SEQ. #: 4875
Long Name: Root - Asymmetric Root Dilatation - Location
Short Name: RoottDilaAsym
Definition: Indicate location of asymmetric root dilatation

Intent/Clarification:
The intent is to clarify left, right, or non-coronary aortic root dilatation.

SEQ. #: 4880
Long Name: Root - Sinus Of Valsalva Aneurysm
Short Name: RootSinus
Definition: Indicate whether there is a sinus of Valsalva aneurysm

Intent/Clarification:
SOV aneurysm specifically refers to distinct dilatation of a single sinus segment, i.e. does not involve a second sinus segment as would be the case with “asymmetric root dilatation”.
The intent of this field is to identify the frequency of distinct sinus segment aneurysms as opposed to other root pathologies.

SEQ. #: 4881
Long Name: Root - Sinus of Valsalva Aneurysm - Location
Short Name: RootSinusLoc
Definition: Indicate location of sinus of Valsalva aneurysm

Intent/Clarification: The intent is to clarify left, right, or non-coronary sinus of Valsalva aneurysm.

FAQ September 2017: An aortic dissection case had Sinus of Valsalva aneurysm within the right, left and non-coronary sinuses, it was symmetrical. Since you cannot answer all three, what should be answered?
Answer: Answer yes to sequence number 4880 and leave sequence number 4881 blank.

SEQ. #: 4882
Long Name: Arch Type
Short Name: ArchType
Definition: Indicate arch type

Intent/Clarification:

Right arch: a right arch implies that the aortic arch travels around (anteriorly) to the right mainstem bronchus and right pulmonary artery and then passes posterior to the trachea.
Left arch: a left arch implies that the aortic arch travels anterior to the trachea and then passes over and around the left pulmonary artery.
Grouped Intent/Clarification: The intent of these arch fields is to establish a concise characterization of the arch anatomy and its brachiocephalic branches at the time of arch interventions in order to allow for correlations of specific anatomy with other clinical findings/characterizations.

SEQ. #: 4884
Long Name: Arch - Aberrant Right Subclavian
Short Name: ArchAbRtSub
Definition: Indicate whether the right subclavian is aberrant

Intent/Clarification:
An aberrant right subclavian artery is any artery that does not emanate from the innominate artery (these are typically associated with left arch anatomy).
Grouped Intent/Clarification: The intent of these arch fields is to establish a concise characterization of the arch anatomy and its brachiocephalic branches at the time of arch interventions in order to allow for correlations of specific anatomy with other clinical findings/characterizations.

SEQ. #: 4885
Long Name: Arch - Aberrant Left Subclavian
Short Name: ArchAbLtSub
Definition: Indicate whether the left subclavian is aberrant

Intent/Clarification:
An aberrant left subclavian is any left subclavian that does not emanate from the distal arch as a separate ostium sequential and distal to the takeoff of the left common carotid artery on the greater curvature of the aortic arch.
Grouped Intent/Clarification: The intent of these arch fields is to establish a concise characterization of the arch anatomy and its brachiocephalic branches at the time of arch interventions in order to allow for correlations of specific anatomy with other clinical findings/characterizations.

SEQ. #: 4886
Long Name: Arch - Kommerell
Short Name: ArchKom
Definition: Indicate whether Kommerell arch type is present

Intent/Clarification:

Kommerell's diverticulum: This is not a true diverticulum but a remnant of the left fourth aortic arch and is a bulbous dilatation at the origin of the left subclavian artery. It is often associated with other arch anomalies.
Grouped Intent/Clarification: The intent of these arch fields is to establish a concise characterization of the arch anatomy and its brachiocephalic branches at the time of arch interventions in order to allow for correlations of specific anatomy with other clinical findings/characterizations.

SEQ. #: 4887
Long Name: Arch - Bovine
Short Name: ArchBovine
Definition: Indicate whether bovine arch type is present

Intent/Clarification:
This entity refers to a common origin of both the innominate artery and the left common carotid artery as they emanate from the greater curve of the arch.
Grouped Intent/Clarification: The intent of these arch fields is to establish a concise characterization of the arch anatomy and its brachiocephalic branches at the time of arch interventions in order to allow for correlations of specific anatomy with other clinical findings/characterizations.

SEQ. #: 4888
Long Name: Arch - Variant Vertebral Origin
Short Name: ArchVarVertOr
Definition: Indicate whether there is variant origin of the vertebral

Intent/Clarification:
This refers to any vertebral artery that emanates directly from the aortic arch rather than a branch of either subclavian artery.
Grouped Intent/Clarification: The intent of these arch fields is to establish a concise characterization of the arch anatomy and its brachiocephalic branches at the time of arch interventions in order to allow for correlations of specific anatomy with other clinical findings/characterizations.

SEQ. #: 4889
Long Name: Arch - Patent Internal Mammary Artery Bypass Graft
Short Name: ArchPatIMA
Definition: Indicate whether there is a patent internal mammary bypass graft present

Intent/Clarification:
Patent internal mammary artery bypass graft: this refers specifically to a patient who has undergone prior CABG and has a patent internal mammary graft (either left or right) present.

Grouped Intent/Clarification: The intent of these arch fields is to establish a concise characterization of the arch anatomy and its brachiocephalic branches at the time of arch interventions in order to allow for correlations of specific anatomy with other clinical findings/characterizations.

FAQ July 2019 - How does one answer the Patient IMA bypass graft when a patient did not have a previous CABG. To select 'No' implies they did have a CABG and it is not patent OR if "No' to CABG in Previous interventions is marked it will be analyzed correctly by DCRI? Answer: Leave this blank since there is not IMA Graft. We will add N/A to the upgrade

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SEQ. #: 4891
Long Name: Ascending Asymmetric Dilation
Short Name: AscAsymDil
Definition: Indicate whether there is asymmetric dilatation of the ascending aorta

Intent/Clarification:
Asymmetric dilatation refers to non-uniform dilatation of the aorta distal to the sinotubular junction, as is often noted as a pattern of dilation that affects the greater curvature of the ascending aorta.

SEQ. #: 4892
Long Name: Ascending Proximal Coronary Bypass Grafts
Short Name: AscProxGr
Definition: Indicate whether proximal bypass grafts are present on the aorta

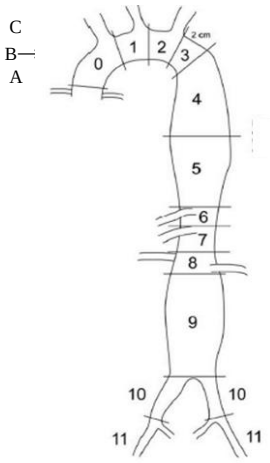
Intent/Clarification:
These refer to any saphenous vein graft, radial artery or free internal mammary artery graft that emanates from the ascending aorta.

The intent is to tabulate the relative frequency of bypass grafts from the ascending aorta during reoperative cases that require aortic reconstruction.

General Statements:
November 2017: Record dimension in millimeters (mm). If reported in centimeters you will need to convert. Example 5.3cm = 53mm.

SEQ. #: 4895
Long Name: 3-D Reconstruction Aortic Diameter Measurements Available
Short Name: Diameter3DMeas
Definition: Indicate whether 3-D reconstruction aortic diameter measurements are available

Intent/Clarification: **Update October Timeframe - capture results closest and prior to OR Entry, within 1 year of OR date**. 3-D reconstruction of CT imaging of the aorta, which accounts for the 3-dimensional curvature of the aorta, draws a cross section perpendicular to the centerline direction of blood flow and is more accurate than 2-D axial, coronal, or sagittal images, which may show a cross-section of the aorta diagonal to the centerline direction of blood flow. 3-D reconstruction is most accurate when the CT scan is obtained with ECG-gating, which accounts for cardiac pulsation and motion of the aortic root. The Radiology report should note whether 3-D reconstruction was performed. Alternately, CT images may be sent by the surgeon to an outside laboratory for 3-D reconstruction (e.g., M2S). When measuring the largest diameter of the aorta, this should be done from adventitia to adventitia (i.e., including the wall of the aorta, not just the area with contrast**).**



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

FAQ October 2017: If 3D measurements are available in the PACs system, can the data manager use the values to code 3D measurements.
Answer: The data manager should not use the measurements from the PACs unless the measurements are supported by documentation from the surgeon. It is not the intention of the STS that the data manager should interpret the measurements.

SEQ. #: 4900
Long Name: Diameter Measurements 3D - Annulus
Short Name: Diam3DAnnulus
Definition: Indicate diameter of the annulus

Intent/Clarification:

The annulus is the region where the left ventricular outflow tract meets the aortic root and lies at the level of a plane defined by the lowest point of the aortic sinuses. It is usually oval-shaped with minimum and maximum diameters. Provide the average of the minimum and maximum diameters in millimeters.

SEQ. #: 4905
Long Name: Diameter Measurements 3D - Sinus Segment
Short Name: Diam3DSinus
Definition: Indicate diameter of the sinus segment

Intent/Clarification:
This is the widest diameter of the aortic root, usually at the mid-sinus level.

SEQ. #: 4910
Long Name: Diameter Measurements 3D - Sinotubular Junction
Short Name: Diam3DSinotubular
Definition: Indicate the diameter of the sinotubular junction

Intent/Clarification:
This is the region where the bulbous aortic root meets the tubular ascending aorta. Provide the largest diameter.

SEQ. #: 4915
Long Name: Diameter Measurements 3D - Mid-ascending
Short Name: Diam3DMidAsc
Definition: Indicate the diameter of the mid-ascending aorta

Intent/Clarification:
The mid ascending aorta is usually measured at the bifurcation of the pulmonary artery. Provide the largest diameter.

SEQ. #: 4920
Long Name: Diameter Measurements 3D - Distal Ascending
Short Name: Diam3DDistalAsc
Definition: Indicate the diameter of the distal ascending aorta

Intent/Clarification:

The distal ascending aorta is usually measured just proximal to the origin of the innominate artery. Provide the largest diameter.

SEQ. #: 4925
Long Name: Diameter Measurements 3D - Zone 1
Short Name: Diam3DZone1
Definition: Indicate the diameter of zone 1

Intent/Clarification:
Zone 1 of the aorta includes the segment of aorta between the innominate artery and left carotid artery as well as the segment of aorta from which the left carotid artery arises (see figure). Provide the largest diameter.

SEQ. #: 4930
Long Name: Diameter Measurements 3D - Zone 2
Short Name: Diam3DZone2
Definition: Indicate the diameter of zone 2

Intent/Clarification:
Zone 2 of the aorta includes the segment of aorta between the left carotid artery and left subclavian artery as well as the segment of aorta from which the left subclavian artery arises (see figure). Provide the largest diameter.

SEQ. #: 4935
Long Name: Diameter Measurements 3D - Zone 3
Short Name: Diam3DZone3
Definition: Indicate the diameter of zone 3

Intent/Clarification:
Zone 3 of the aorta is the 2 cm segment of aorta just beyond the left subclavian artery (see figure). Provide the largest diameter.

SEQ. #: 4940
Long Name: Diameter Measurements 3D - Zone 4
Short Name: Diam3DZone4
Definition: Indicate the diameter of zone 4

Intent/Clarification:

Zone 4 of the aorta extends from 2 cm beyond the left subclavian artery to the mid descending thoracic aorta, which is usually defined by the T6-T7 vertebral bodies (see figure). Provide the largest diameter.

SEQ. #: 4941
Long Name: Diameter Measurements 3D - Zone 5
Short Name: Diam3DZone5
Definition: Indicate the diameter of zone 5

Intent/Clarification:
Zone 5 of the aorta extends from the mid descending thoracic aorta (at T6-T7) to the origin of the celiac artery but does not include the origin of the celiac artery (see figure). Provide the largest diameter.

SEQ. #: 4942
Long Name: Diameter Measurements 3D - Zone 6
Short Name: Diam3DZone6
Definition: Indicate the diameter of zone 6

Intent/Clarification:
Zone 6 of the aorta extends from the celiac artery to the origin of the superior mesenteric artery but does not include the origin of the superior mesenteric artery (see figure). Provide the largest diameter.

SEQ. #: 4943
Long Name: Diameter Measurements 3D - Zone 7
Short Name: Diam3DZone7
Definition: Indicate the diameter of zone 7

Intent/Clarification:
Zone 7 of the aorta extends from the superior mesenteric artery to the origin of the first renal artery but does not include the origin of the first renal artery (see figure). Provide the largest diameter.

SEQ. #: 4944
Long Name: Diameter Measurements 3D - Zone 8
Short Name: Diam3DZone8

Definition: Indicate the diameter of zone 8

Intent/Clarification:
Zone 8 of the aorta is the segment of aorta from which all the renal arteries arise (usually two but may be more) (see figure). Provide the largest diameter.

SEQ. #: 4945
Long Name: Diameter Measurements 3D - Zone 9
Short Name: Diam3DZone9
Definition: Indicate the diameter of zone 9

Intent/Clarification:
Zone 9 of the aorta is the segment of aorta between the last renal artery take-off and the aortic bifurcation (see figure). Provide the largest diameter.

SEQ. #: 4946
Long Name: Diameter Measurements 3D - Zone 10
Short Name: Diam3DZone10
Definition: Indicate the diameter of zone 10

Intent/Clarification:
Zone 10 is the common iliac arteries (see figure). Provide the largest diameter.

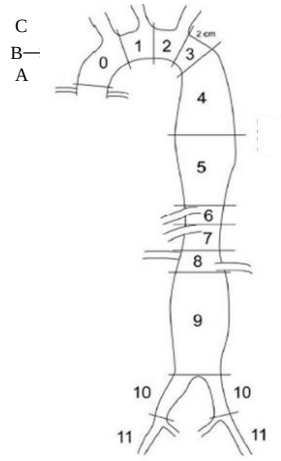
SEQ. #: 4947
Long Name: Diameter Measurements 3D - Zone 11
Short Name: Diam3DZone11
Definition: Indicate the diameter of zone 11

Intent/Clarification:
Zone 11 is the external iliac arteries (see figure). Provide the largest diameter.

SEQ. #: 4948
Long Name: Diameter Measurements Largest - Annulus
Short Name: DiamLgstAnnulus
Definition: Indicate diameter of the annulus.

Intent/Clarification:

The annulus is the region where the left ventricular outflow tract meets the aortic root and is a plane defined by the nadir of the aortic sinuses. It may be best seen on a coronal or sagittal image. Provide the largest measurement. Use 3D measurements if available.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4949
Long Name: Diameter Measurements Largest - Sinus Segment
Short Name: DiamLgstSinus
Definition: Indicate diameter of the sinus segment

Intent/Clarification:
This is the widest diameter of the aortic root at the mid-sinus level. This may be best seen on a coronal or sagittal image.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4950
Long Name: Diameter Measurements Largest - Sinotubular Junction
Short Name: DiamLgstSinotubular
Definition: Indicate the diameter of the sinotubular junction

Intent/Clarification:
This is the region where the bulbous aortic root meets the tubular ascending aorta. This may be best seen on a coronal image.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4951
Long Name: Diameter Measurements Largest - Mid-ascending
Short Name: DiamLgstMidAsc
Definition: Indicate the diameter of the mid-ascending aorta

Intent/Clarification:
The mid ascending aorta is usually measured at the bifurcation of the pulmonary artery. This may be best seen on an axial image with the fullest view of the right pulmonary artery or on a coronal image with the largest view of the mid ascending aorta. On the axial image, the largest diameter should be recorded. On the coronal image, the measurement should be taken perpendicular to the direction of blood flow.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4952
Long Name: Diameter Measurements Largest - Distal Ascending
Short Name: DiamLgstDistalAsc
Definition: Indicate the diameter of the distal ascending aorta

Intent/Clarification:

The distal ascending aorta is usually measured just proximal to the origin of the innominate artery. This may be best seen on a coronal image with the largest view of the aorta. The measurement should be taken perpendicular to the direction of blood flow.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4953
Long Name: Diameter Measurements Largest - Zone 1
Short Name: DiamLgstZone1
Definition: Indicate the diameter of zone 1

Intent/Clarification:
Zone 1 of the aorta includes the segment of aorta between the innominate artery and left carotid artery as well as the segment of aorta from which the left carotid artery arises (see figure). This may be best seen on a sagittal image. The measurement should be taken perpendicular to the direction of blood flow.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4954
Long Name: Diameter Measurements Largest - Zone 2
Short Name: DiamLgstZone2
Definition: Indicate the diameter of zone 2

Intent/Clarification:
Zone 2 of the aorta includes the segment of aorta between the left carotid artery and left subclavian artery as well as the segment of aorta from which the left subclavian artery arises (see figure). This may be best seen on a sagittal image. The measurement should be taken perpendicular to the direction of blood flow.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4955
Long Name: Diameter Measurements Largest - Zone 3
Short Name: DiamLgstZone3
Definition: Indicate the diameter of zone 3

Intent/Clarification:
Zone 3 of the aorta is the 2 cm segment of aorta just beyond the left subclavian artery (see figure). This may be best seen on a sagittal image. The measurement should be taken perpendicular to the direction of blood flow.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4956
Long Name: Diameter Measurements Largest - Zone 4
Short Name: DiamLgstZone4
Definition: Indicate the diameter of zone 4

Intent/Clarification:
Zone 4 of the aorta extends from 2 cm beyond the left subclavian artery to the mid descending thoracic aorta, which is usually defined by the T6-T7 vertebral bodies (see figure). Provide the largest diameter.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4957
Long Name: Diameter Measurements Largest - Zone 5
Short Name: DiamLgstZone5
Definition: Indicate the diameter of zone 5

Intent/Clarification:

Zone 5 of the aorta extends from the mid descending thoracic aorta (at T6-T7) to the origin of the celiac artery but does not include the origin of the celiac artery (see figure). Provide the largest diameter.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4958
Long Name: Diameter Measurements Largest - Zone 6
Short Name: DiamLgstZone6
Definition: Indicate the diameter of zone 6

Intent/Clarification:
Zone 6 of the aorta extends from the celiac artery to the origin of the superior mesenteric artery but does not include the origin of the superior mesenteric artery (see figure). Provide the largest diameter.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4959
Long Name: Diameter Measurements Largest - Zone 7
Short Name: DiamLgstZone7
Definition: Indicate the diameter of zone 7

Intent/Clarification:
Zone 7 of the aorta extends from the superior mesenteric artery to the origin of the first renal artery but does not include the origin of the first renal artery (see figure). Provide the largest diameter.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4960
Long Name: Diameter Measurements Largest - Zone 8
Short Name: DiamLgstZone8
Definition: Indicate the diameter of zone 8

Intent/Clarification:
Zone 8 of the aorta is the segment of aorta from which all the renal arteries arise (usually two but may be more) (see figure). Provide the largest diameter.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4961
Long Name: Diameter Measurements Largest - Zone 9
Short Name: DiamLgstZone9
Definition: Indicate the diameter of zone 9

Intent/Clarification:
Zone 9 of the aorta is the segment of aorta between the last renal artery take-off and the aortic bifurcation (see figure). Provide the largest diameter.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4962
Long Name: Diameter Measurements Largest - Zone 10
Short Name: DiamLgstZone10
Definition: Indicate the diameter of zone 10

Intent/Clarification:
Zone 10 is the common iliac arteries (see figure). Provide the largest diameter.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4963
Long Name: Diameter Measurements Largest - Zone 11
Short Name: DiamLgstZone11
Definition: Indicate the diameter of zone 11

Intent/Clarification:
Zone 11 is the external iliac arteries (see figure). Provide the largest diameter.

FAQ October 2017: If the diameter measurement is not included in the surgeon dictation or the available 2-D or 3-D studies should the values be 0 or should the field be left blank.

Answer: Leave blank.

SEQ. #: 4970
Long Name: Planned Staged Hybrid
Short Name: PlanStagHybrid
Definition: Indicate whether the procedure was a planned staged hybrid

Intent/Clarification:
The intent is to identify procedures that will involve a combination of open and endovascular procedures or devices. In particular, the combination of an open approach with stent grafts which can be deployed open on endovascularly. Staged procedure means that this will be done in more than one setting. For instance, two trips to the operating room or hybrid room.

FAQ October 2017: The patient was initially scheduled for TEVAR but after a series of CT scans and manifestations of signs and symptoms, the surgeon opted to repair the ascending aortic flap first and then, 3 days later, he took the patient back to the OR for the TEVAR. Should this be captured as post-operative event aortic reintervention?
Answer: No, code as a planned staged hybrid. Then capture the TEVAR accordingly in Seq. No. 5095.

FAQ June 2019: Capture the TEVAR with the index procedure on the same data collection form.

SEQ. #: 4975
Long Name: Open ~~Arch~~ **Surgical** Procedure
Short Name: ArchProc
Definition: Indicate whether there was an open ~~arch~~ surgical procedure

Intent/Clarification:
The intent is to identify procedures with replacement of or connection to the arch of the aorta. Anything from the base of the innominate through the subclavian takeoff would be included.

FAQ November 2017: When coding a Bentall procedure the data manager is further required to complete section M-2. Coding is relatively straight forward until the intervention section where there are no fields related to the ascending aorta. It is a misnomer to code open arch when an arch procedure is not performed. Until such time as the specification can be upgrade, how should the ascending aorta replacement be captured?
Answer: The field name should reflect open surgical procedures, not arch procedures only.

SEQ. #: 4980
Long Name: Open Arch Procedure - Distal Technique
Short Name: ArchDisTech
Definition: Indicate the distal technique for the arch procedure

Intent/Clarification:
The intent is to define that the distal anastomosis was done with or without a clamp. Many arch procedures are done with the clamp removed, sewing to the aorta looking down the barrel of the vessel. This of course requires circulatory arrest. The clamp means that the aorta is clamped with an instrument and the anastomosis is completed proximal (close to the heart) to that part of the aorta.

SEQ. #: 4985
Long Name: Open Arch Procedure - Distal Site
Short Name: ArchDiscSite
Definition: Indicate the distal site

Intent/Clarification:
The intent of this is to define the level of the distal (far from the heart) anastomosis. Ascending aorta implies the ascending was resected with a clamp on the distal ascending aorta. Hemiarch means a single anastomosis was done somewhere in the ascending or proximal arch without separate grafts to the head vessels. Zone 1 means the innominate was reconnected with a graft between the innominate and left common carotid takeoffs. Zone 2 means the innominate and carotid were reconnected with a graft sewn to between the left common carotid and the left subclavian takeoffs. Zone three means the innominate, carotid and the left subclavian were reconnected with the graft being sewn beyond the left subclavian takeoff. Zone 4 means the graft was sewn to the mid descending thoracic aorta.

SEQ. #: 4990
Long Name: Open Arch Procedure - Distal Extention
Short Name: ArchDisExt
Definition: Indicate distal extension type

Intent/Clarification:
The intent of the question is to define whether graft was left that extended (distally) beyond the arch anastomosis. An elephant trunk is a soft graft, while a frozen elephant trunk means a stent was placed distally.

SEQ. #: 4995
Long Name: Open Arch Procedure - Arch Branch Reimplantation
Short Name: ArchBranReimp
Definition: Indicate whether arch branch reimplantation was performed

Intent/Clarification:
The intent of this is to define the end branches that were sewn to the graft.

FAQ July 2019: The surgeon performed an open elephant trunk and the graft material covered the Left Subclavian. Therefore, he fenestrated the graft and stented into the Left Subclavian. How should this be captured?
Answer: This should be captured as Arch Reimplantation (seq 4995) ‘yes’, and Left Subclavian (seq 5010) ‘yes.’ Capture the graft material in the device section, but you do not need to capture the stent in the device section.

SEQ. #: 5000
Long Name: Open Arch Procedure - Arch Branch Reimplantation - Innominate
Short Name: ArchBranInnom
Definition: Indicate whether arch branch reimplantation included the innominate artery

Intent/Clarification:
The intent is to determine whether the innominate artery was reattached to the graft.

SEQ. #: 5001
Long Name: Open Arch Procedure - Arch Branch Reimplantation - Right Subclavian
Short Name: ArchBranRSub
Definition: Indicate whether arch branch reimplantation included the right subclavian artery

Intent/Clarification:
The intent is to determine whether the right subclavian artery was reattached to the graft. This means the right subclavian was sewn to directly, not from the trunk or bifurcation of the innominate.

SEQ. #: 5002
Long Name: Open Arch Procedure - Arch Branch Reimplantation - Right Common Carotid
Short Name: ArchBranRComm
Definition: Indicate whether arch branch reimplantation included the right common carotid artery

Intent/Clarification:
The intent is to determine whether the right carotid artery was reattached to the graft. This means the right subclavian was sewn to directly, not from the trunk or bifurcation of the innominate.

SEQ. #: 5005
Long Name: Open Arch Procedure - Arch Branch Reimplantation - Left Common Carotid
Short Name: ArchBranLComm
Definition: Indicate whether arch branch reimplantation included the left common carotid artery

Intent/Clarification:

The intent is to determine whether the left common carotid artery was reattached to the graft.

SEQ. #: 5010
Long Name: Open Arch Procedure - Arch Branch Reimplantation - Left Subclavian
Short Name: ArchBranLSub
Definition: Indicate whether arch branch reimplantation included the left subclavian artery

Intent/Clarification:
The intent is to determine whether the left subclavian artery was reattached to the graft.

FAQ July 2019: The surgeon performed an open elephant trunk and the graft material covered the Left Subclavian. Therefore, he fenestrated the graft and stented into the Left Subclavian. How should this be captured?
Answer: This should be captured as Arch Reimplantation (seq 4995) 'yes', and Left Subclavian (seq 5010) 'yes.' You do not need to capture the stent in the device section.

SEQ. #: 5011
Long Name: Open Arch Procedure - Arch Branch Reimplantation - Left Vertebral **Short Name:** ArchBranLVert
Definition: Indicate whether arch branch reimplantation included the left vertebral artery

Intent/Clarification:
The intent is to determine whether the left vertebral artery was reattached to the graft. This means a separate graft or anastomosis was created for the vertebral, not when it remains attached to the left subclavian artery.

SEQ. #: 5012
Long Name: Open Arch Procedure - Arch Branch Reimplantation - Other
Short Name: ArchBranOth
Definition: Indicate whether arch branch reimplantation included any other artery

Intent/Clarification:
The intent is to determine whether the left vertebral artery was reattached to the graft. This means a separate graft or anastomosis was created for the vertebral, not when it remains attached to the left subclavian artery.

SEQ. #: 5015
Long Name: Open Descending Thoracic Aorta or Thoracoabdominal Procedure
Short Name: DescAortaProc
Definition: Indicate whether there was an open procedure of the descending thoracic or thoracoabdominal aorta

Intent/Clarification:
The intent of this is to define procedures involving the descending thoracic aorta or the thoraco-abdominal aorta, usually through the left chest.

FAQ March 2017: My surgeon replaces some of the distal arch during an open descending repair operation (SEQ# 5015). Should the surgeon capture the arch procedure in SEQ#4975 or is the distal arch procedure captured in SEQ#5020 DescAortaLoc (proximal location)?

Answer: Code the distal arch site for this procedure.

SEQ. #: 5020
Long Name: Proximal Location
Short Name: DescAortaLoc
Definition: Indicate the proximal location of the descending aorta procedure

Intent/Clarification:
The intent of this procedure is to define the proximal extent or coverage of the arch as defined by the zones defined on the collection form or with an open anastomosis to the mid to distal arch, without branch anastomosis, known as a hemiarch. Zones imply the zone branches are taken or revascularized.

SEQ. #: 5030
Long Name: Intercostal Reimplantation
Short Name: AortaInterReimp
Definition: Indicate whether intercostal vessels were reimplanted

Intent/Clarification:
The intent of this is to define procedures where either an island of intracostals is sewn to the graft or a separate branch is used to sew them to the graft.

SEQ. #: 5035
Long Name: Distal Location

Short Name: AortaDisZone
Definition: Indicate the distal location of the descending/thoracoabdominal procedure

Intent/Clarification:
The intent of this is to define the distal extant of the aortic intervention as defined by the zones defined on the collection form.

FAQ March 2018: How is apical-aortic conduit coded?
Answer: Code the valve implant as an aortic valve implant only and code then code the distal aortic location.

SEQ. #: 5045
Long Name: Visceral Vessel Intervention
Short Name: AortaVisceral
Definition: Indicate whether there was visceral vessel intervention

Intent/Clarification:
The intent of this is to define whether the celiac artery was revascularized by sewing it to the graft, reimplantation, or using a branch graft.

SEQ. #: 5050
Long Name: Visceral Vessel Intervention - Celiac
Short Name: AortaViscCel
Definition: Indicate whether the visceral vessel intervention involved the celiac artery

Intent/Clarification:
The intent of this is to define whether the celiac artery was revascularized by sewing it to the graft, reimplantation, or using a branch graft.

SEQ. #: 5055
Long Name: Visceral Vessel Intervention - Superior Mesenteric
Short Name: AortaViscSup
Definition: Indicate whether the visceral vessel intervention involved the superior mesenteric artery

Intent/Clarification:
The intent of this is to define whether the superior mesenteric artery was revascularized by sewing it to the graft, reimplantation, or using a branch graft.

SEQ. #: 5060
Long Name: Visceral Vessel Intervention - Right Renal
Short Name: AortaViscRenR
Definition: Indicate whether the visceral vessel intervention involved the right renal artery

Intent/Clarification:
The intent of this is to define whether the right renal artery was revascularized by sewing it to the graft, reimplantation, or using a branch graft.

SEQ. #: 5065
Long Name: Visceral Vessel Intervention - Left Renal
Short Name: AortaViscRenL
Definition: Indicate whether the visceral vessel intervention involved the left renal artery

Intent/Clarification:
The intent of this is to define whether the left renal artery was revascularized by sewing it to the graft, reimplantation, or using a branch graft.

SEQ. #: 5066
Long Name: Endovascular Procedures
Short Name: EndovasProc
Definition: Indicate whether there was an endovascular procedure

Intent/Clarification:
The intent is to capture catheter-based procedures where a stent is implanted into the aorta.

FAQ June 2019: Should TEVAR procedures alone be included in the STS Registry for Adult Cardiac Surgery Database?
Answer: TEVAR are included as endovascular aorta cases if done by a CT surgeon on the participant agreement. EVAR is not included.

SEQ. #: 5067
Long Name: Endovascular Procedures - Access
Short Name: EndovasAccess
Definition: Indicate the access used for the endovascular procedure

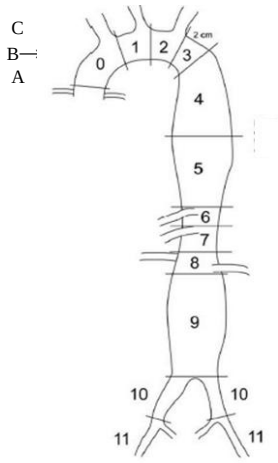
Intent/Clarification:
Please label the blood vessel through which the stent graft was delivered.

SEQ. #: 5068
Long Name: Endovascular Procedures - Percutaneous Access
Short Name: EndovasPercAcc
Definition: Indicate whether access was percutaneous

Intent/Clarification:
The intent is to capture needle access; no incision is required; a stab wound may be required for sheath placement.

SEQ. #: 5070
Long Name: Endovascular Procedures - Proximal Landing Zone
Short Name: EndoProxZone
Definition: Indicate the proximal landing zone

Intent/Clarification:
The proximal landing zone is the area of the area of the aorta closest to the heart where the graft is located. If two or more stent grafts were used, please label the proximal landing zone according to the site where the most proximal stent graft has its most proximal location.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5080
Long Name: Endovascular Procedures - Distal Landing Zone
Short Name: EndoDistalZone
Definition: Indicate the distal landing zone

Intent/Clarification:
The distal landing zone defines the closet to the iliac bifurcation (furthest from the heart). If two or more stent grafts were used, please label the distal landing zone according to the site where the most distal stent graft has its most distal location.

SEQ. #: 5090
Long Name: Endovascular Procedures - TAVR
Short Name: EndovasTAVR
Definition: Indicate whether there was a transcatheter aortic valve procedure component

Intent/Clarification:
Indicate whether TAVR was performed in conjunction with this endovascular procedure.

SEQ. #: 5095
Long Name: Endovascular Procedures - Ascending TEVAR
Short Name: EndovasTEVAR
Definition: Indicate whether an ascending TEVAR was performed

Intent/Clarification:
Intent is to identify whether a stent graft placed in zone 0, a region spanning from the STJ to the innominate artery.

FAQ October 2017: The patient was initially scheduled for TEVAR but after a series of CT scans and manifestations of signs and symptoms, the surgeon opted to repair the ascending aortic flap first and then, 3 days later, he took the patient back to the OR for the TEVAR. Should this be captured as post operative event aortic reintervention? Answer: No, code as a planned staged hybrid. Then capture the TEVAR accordingly in Seq. No. 5095.

FAQ June 2019: Capture the TEVAR with the index procedure <u>on the same data collection form.</u>

SEQ. #: 5100
Long Name: Arch Vessel Management - Innominate
Short Name: Innominate
Definition: Indicate the management of the innominate artery

Intent/Clarification:
The innominate artery originates in the aortic arch as the first branch of the arch and divides into the right common carotid and right subclavian arteries.
Intent is to understand how the innominate artery received its blood flow following an endovascular procedure. Options included **native flow** where no direct endo-intervention on the vessel was performed or **extra-anatomic bypasses** which may be performed in a staged fashion (i.e. commonly an additional operation previous to the endovascular one, typically done during the same admission).

SEQ. #: 5105
Long Name: Innominate - Extra-Anatomic Bypass - Aorta-Innominate
Short Name: InAortaInnom
Definition: Indicate whether the extra-anatomic bypass was an aorta to innominate bypass

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy

Intent is to describe one option of how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission) to provide blood flow following or as part of that strategy.

Aorta to innominate bypass means a graft was created from the native aorta or surgically replaced aorta to the innominate artery.

SEQ. #: 5110
Long Name: Innominate - Extra-Anatomic Bypass - Aorta-Right Carotid
Short Name: InAortaCarotid
Definition: Indicate whether the extra-anatomic bypass was an aorta to right carotid bypass

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission) to provide blood flow following or as part of that strategy.

Aorta to Right carotid bypass means a graft was created from the native aorta or surgically replaced aorta to the right carotid artery. This bypass is done beyond the innominate and often for aneurysm of the innominate and includes bypass of the right subclavian as well.

SEQ. #: 5115
Long Name: Innominate - Extra-Anatomic Bypass - Aorta-Right Subclavian
Short Name: InAortaSubclav
Definition: Indicate whether the extra-anatomic bypass was an aorta to right subclavian bypass

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission) to provide blood flow following or as part of that strategy.

Aorta to Right subclavian bypass means a graft was created from the native aorta or surgically replaced aorta to the right subclavian artery. This bypass is done beyond the innominate and often for aneurysm of the innominate and includes bypass of the right carotid as well.

SEQ. #: 5125
Long Name: Innominate - Extra-Anatomic Bypass - Right Carotid - Right Subclavian
Short Name: InCaroSubclav
Definition: Indicate whether the extra-anatomic bypass was a right carotid to right subclavian bypass

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission).

This means that either a bypass (i.e. use of a separate graft) or direct transposition was performed to create a communication between the right carotid and subclavian vessels.

SEQ. #: 5135
Long Name: Innominate - Extra-Anatomic Bypass - Other
Short Name: InOther
Definition: Indicate whether any other extra-anatomic innominate bypass was performed

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission).

SEQ. #: 5140
Long Name: Arch Vessel Management - Left Carotid
Short Name: LeftCarotid
Definition: Indicate the management of the left carotid artery

Intent/Clarification:
Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission). Options included native flow where no direct endo-intervention on the vessel was performed or extra-anatomic bypasses which may be performed in a staged fashion (i.e. commonly an additional operation previous to the endovascular one).
The left carotid artery arises from the aortic arch.

SEQ. #: 5150

Long Name: Left Carotid - Extra-Anatomic Bypass - Aorta-Left Carotid
Short Name: LTCaroAortaCaro
Definition: Indicate whether the extra-anatomic bypass was an aorta to left carotid bypass

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission).

SEQ. #: 5160
Long Name: Left Carotid - Extra-Anatomic Bypass - Innominate-Left Carotid
Short Name: LTCaroInnomCaro
Definition: Indicate whether the extra-anatomic bypass was an innominate to left carotid bypass

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy. Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission).

SEQ. #: 5170
Long Name: Left Carotid - Extra-Anatomic Bypass - Right Carotid - Left Carotid
Short Name: LTCaroCarotid
Definition: Indicate whether the extra-anatomic bypass was a right carotid to left carotid bypass

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

Intent is to describe specifically how the arch branch vessel was managed as part of a (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission). This bypass crossed the midline and may go either in front of or behind the esophagus.

SEQ. #: 5175
Long Name: Left Carotid - Extra-Anatomic Bypass - Other
Short Name: LTCaroOther
Definition: Indicate whether any other extra-anatomic left carotid bypass was performed

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.
Intent is to describe specifically how the arch branch vessel was managed as part of a (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission).

SEQ. #: 5180
Long Name: Arch Vessel Management - Left Subclavian
Short Name: LeftSubclavian
Definition: Indicate the management of the left subclavian artery

Intent/Clarification:
Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission). Options included native flow where no direct endo-intervention on the vessel was performed or extra-anatomic bypasses which may be performed in a staged fashion (i.e. commonly an additional operation previous to the endovascular one).
The left subclavian artery arises from the distal aortic arch.

SEQ. #: 5195
Long Name: Left Subclavian - Extra-Anatomic Bypass - Aorta-Left Subclavian
Short Name: LTSubAortaSub
Definition: Indicate whether the extra-anatomic bypass was an aorta to left subclavian bypass

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission).

SEQ. #: 5205
Long Name: Left Subclavian - Extra-Anatomic Bypass - Left Carotid-Left Subclavian
Short Name: LTSubCarotidSub
Definition: Indicate whether the extra-anatomic bypass was a left carotid to left subclavian bypass

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission).
This means that either a bypass (i.e. use of a separate graft) or direct transposition was performed to create a communication between the left carotid and subclavian vessels.

SEQ. #: 5213
Long Name: Left Subclavian - Extra-Anatomic Bypass - Other
Short Name: LTSubOther
Definition: Indicate whether any other extra-anatomic left subclavian bypass was performed

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission). Although most strategies are included in the list above this may be checked if another procedure is performed such as a transposition.

SEQ. #: 5214
Long Name: Arch Vessel Management - Other Arch Vessels Extra-Anatomic Bypass
Short Name: OthArchVes
Definition: Indicate whether other arch vessel extra-anatomic bypass was performed

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission) when something other than the vessels described above are included in the description.

SEQ. #: 5215
Long Name: Other - Extra-Anatomic Bypass - Innominate - Carotid
Short Name: OthInnomCaro
Definition: Indicate whether the extra-anatomic bypass was innominate to carotid

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission) when a bypass was created from the innominate to one of the carotid arteries.

This field may be redundant if the bypass was to the left carotid because it is described in a field above but may checked if an innominate to right carotid bypass was performed but that would be a very rare event.

SEQ. #: 5216
Long Name: Other - Extra-Anatomic Bypass - Innominate - Subclavian
Short Name: OthInnomSub
Definition: Indicate whether the extra-anatomic bypass was innominate to subclavian

Intent/Clarification:

An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission) when a bypass was created from the innominate artery to one of the subclavian arteries.

SEQ. #: 5217
Long Name: Other - Extra-Anatomic Bypass - Subclavian - Subclavian
Short Name: OthSubSub
Definition: Indicate whether the extra-anatomic bypass was subclavian to subclavian

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission) when a bypass was created between the two subclavian arteries.

SEQ. #: 5218
Long Name: Other - Extra-Anatomic Bypass - Other
Short Name: OthOther
Definition: Indicate whether any other extra-anatomic arch vessel bypass was performed

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

Intent is to describe specifically how the arch branch vessel was managed as part of a hybrid strategy (i.e. separate surgical procedure either done concurrently or at a previous time, typically done during the same admission). Many patients have their left vertebral artery originating from the aorta directly and this could be bypassed or reconstructed by transposition to the carotid artery or other means.

SEQ. #: 5220
Long Name: Visceral Vessel Management - Celiac
Short Name: Celiac
Definition: Indicate management of the celiac artery

Intent/Clarification:
The intent is to clarify whether the celiac axis/artery was revascularized during an endovascular repair of the thoracic or thoracoabdominal aorta.

If the celiac artery was left intact and continues to receive blood flow from the native aorta in the normal manner after the endovascular procedure then **"Native Flow"** should be selected.

If the celiac artery is instrumented with an endovascular branch graft extending from the main body of an aortic endograft and landing distally within the celiac as would be performed in an endovascular thoracoabdominal aortic repair then **"Endovascular Branch Graft"** should be selected.

If the celiac artery is instrumented with a separate endovascular graft that does not extend from an aortic endograft but rather courses parallel to an aortic endograft and lands distally within the celiac with flow through the celiac endovascular graft from the native aorta as would be performed with a "chimney" or "periscope" technique for endovascular thoracoabdominal aortic repair then **"Endovascular Parallel Graft"** should be selected.

If the celiac artery is fed by a surgical bypass graft (e.g. iliac artery to celiac bypass, infrarenal aorta to celiac bypass – see below) with subsequent endovascular coverage of the celiac by the aortic endograft typically as would be performed in a "hybrid" thoracoabdominal aortic repair then **"Extra-anatomic Bypass"** should be selected.

If the celiac artery is covered by an aortic endograft with a fenestration/opening in the endograft corresponding to the location of the celiac and allowing continued antegrade flow into the celiac via this fenestration despite endograft coverage as would be performed in an endovascular juxtarenal or thoracoabdominal aortic repair then **"Fenestrated"** should be selected.

This may include coverage of a graft.

SEQ. #: 5225
Long Name: Celiac - Extra-Anatomic Bypass - Aorta-Celiac
Short Name: CeliacAortaCeli
Definition: Indicate whether the extra-anatomic bypass was aorta to celiac

Intent/Clarification:

An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

The bypass may originate from any segment of the aorta (e.g. ascending, descending, abdominal).

SEQ. #: 5245
Long Name: Celiac - Extra-Anatomic Bypass - Iliac-Celiac
Short Name: CeliacIliacCeliac
Definition: Indicate whether the extra-anatomic bypass was iliac to celiac

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

The bypass may originate from any segment of the iliac artery (e.g. common, external, or internal).

SEQ. #: 5265
Long Name: Celiac - Extra-Anatomic Bypass - Other
Short Name: CeliacOther
Definition: Indicate whether another extra-anatomic celiac bypass was performed

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

This includes a bypass from any other vessel to the celiac or one if its branches (e.g. hepatic, splenic). Examples would include hepatorenal or splenorenal bypass.

SEQ. #: 5270
Long Name: Visceral Vessel Management - Superior Mesenteric
Short Name: SupMesenteric
Definition: Indicate management of the superior mesenteric artery

Intent/Clarification:
The intent is to clarify whether the superior mesenteric artery (SMA) was revascularized during an endovascular repair of the thoracic or thoracoabdominal aorta.

If the SMA was left intact and continues to receive blood flow from the native aorta in the normal manner after the endovascular procedure, then **"Native Flow"** should be selected.

If the SMA is instrumented with an endovascular branch graft extending from the main body of an aortic endograft and landing distally within the SMA as would be performed in an endovascular thoracoabdominal aortic repair, then **"Endovascular Branch Graft"** should be selected.

If the SMA is instrumented with a separate endovascular graft that does not extend from an aortic endograft but rather courses parallel to an aortic endograft and lands distally within the SMA with flow through the SMA endovascular graft from the native aorta as would be performed with a "chimney" or "periscope" technique for endovascular thoracoabdominal aortic repair then **"Endovascular Parallel Graf**t" should be selected.

If the SMA is fed by a surgical bypass graft (e.g. iliac artery to SMA bypass, infrarenal aorta to SMA bypass – see below) with subsequent endovascular coverage of the SMA by the aortic endograft typically as would be performed in a "hybrid" thoracoabdominal aortic repair then **"Extra-anatomic Bypass"** should be selected.

If the SMA is covered by an aortic endograft with a fenestration/opening in the endograft corresponding to the location of the SMA and allowing continued antegrade flow into the SMA via this fenestration despite endograft coverage as would be performed in an endovascular juxtarenal or thoracoabdominal aortic repair then **"Fenestrated"** should be selected.

SEQ. #: 5280
Long Name: Superior Mesenteric - Extra-Anatomic Bypass - Aorta-Superior Mesenteric
Short Name: SupMesAortaSuMe
Definition: Indicate whether the extra-anatomic bypass was aorta to superior mesenteric

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

The bypass may originate from any segment of the aorta (e.g. ascending, descending, abdominal).

SEQ. #: 5300
Long Name: Superior Mesenteric - Extra-Anatomic Bypass - Iliac-Superior Mesenteric
Short Name: SupMesIliacSupMe
Definition: Indicate whether the extra-anatomic bypass was iliac to superior mesenteric

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

The bypass may originate from any segment of the iliac artery (e.g. common, external, or internal).

SEQ. #: 5315
Long Name: Superior Mesenteric - Extra-Anatomic Bypass - Other
Short Name: SupMesOther
Definition: Indicate whether another extra-anatomic superior mesenteric bypass was performed

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy. This includes a bypass from any other vessel to the SMA.

SEQ. #: 5320
Long Name: Visceral Vessel Management - Right Renal
Short Name: RightRenal
Definition: Indicate management of the right renal artery

Intent/Clarification:
The intent is to clarify whether the right renal artery was revascularized during an endovascular repair of the thoracic or thoracoabdominal aorta.

If the right renal artery was left intact and continues to receive blood flow from the native aorta in the normal manner after the endovascular procedure, then **“Native Flow”** should be selected.

If the right renal artery is instrumented with an endovascular branch graft extending from the main body of an aortic endograft and landing distally within the right renal artery as would be performed in an endovascular thoracoabdominal aortic repair, then **“Endovascular Branch Graft”** should be selected.

If the right renal artery is instrumented with a separate endovascular graft that does not extend from an aortic endograft but rather courses parallel to an aortic endograft and lands distally within the right renal artery with flow through the right renal artery endovascular graft from the native aorta as would be performed with a “chimney” or “periscope” technique for endovascular thoracoabdominal aortic repair then **“Endovascular Parallel Graft”** should be selected.

If the right renal artery is fed by a surgical bypass graft (e.g. iliac artery to right renal artery bypass, infrarenal aorta to right renal artery bypass – see below) with subsequent endovascular coverage of the right renal artery by the aortic endograft typically as would be performed in a “hybrid” thoracoabdominal aortic repair then **“Extra-anatomic Bypass**” should be selected.

If the right renal artery is covered by an aortic endograft with a fenestration/opening in the endograft corresponding to the location of the right renal artery and allowing continued antegrade flow into the right renal artery via this fenestration despite endograft coverage as would be performed in an endovascular juxtarenal or thoracoabdominal aortic repair then **“Fenestrated”** should be selected.

FAQ February 2019: The right and left renal arteries were covered with endograft secondary to emergency rupture. A dialysis catheter was placed. How should visceral vessel right renal be coded?
Answer: Leave blank

SEQ. #: 5335
Long Name: Right Renal - Extra-Anatomic Bypass - Aorta-Right Renal
Short Name: RtRenAortaRtRe
Definition: Indicate whether the extra-anatomic bypass was aorta to right renal

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

The bypass may originate from any segment of the aorta (e.g. ascending, descending, abdominal).

SEQ. #: 5355
Long Name: Right Renal - Extra-Anatomic Bypass - Iliac-Right Renal

Short Name: RtRenIliacRtRen
Definition: Indicate whether the extra-anatomic bypass was iliac to right renal.

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

The bypass may originate from any segment of the aorta (e.g. ascending, descending, abdominal).

SEQ. #: 5365
Long Name: Right Renal - Extra-Anatomic Bypass - Other
Short Name: RtRenOther
Definition: Indicate whether another extra-anatomic right renal bypass was performed

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

This includes a bypass from any other vessel to the right renal artery. An example would include hepatorenal bypass.

SEQ. #: 5370
Long Name: Visceral Vessel Management - Left Renal
Short Name: LeftRenal
Definition: Indicate management of the left renal artery

Intent/Clarification:
The intent is to clarify whether the left renal artery was revascularized during an endovascular repair of the thoracic or thoracoabdominal aorta.

If the left renal artery was left intact and continues to receive blood flow from the native aorta in the normal manner after the endovascular procedure, then **“Native Flow”** should be selected.

If the left renal artery is instrumented with an endovascular branch graft extending from the main body of an aortic endograft and landing distally within the left renal artery as would be performed in an endovascular thoracoabdominal aortic repair, then **“Endovascular Branch Graft”** should be selected.

If the left renal artery is instrumented with a separate endovascular graft that does not extend from an aortic endograft but rather courses parallel to an aortic endograft and lands distally within the left renal artery with flow through the left renal artery endovascular graft from the native aorta as would be performed with a “chimney” or “periscope” technique for endovascular thoracoabdominal aortic repair then **“Endovascular Parallel Graft”** should be selected.

If the left renal artery is fed by a surgical bypass graft (e.g. iliac artery to left renal artery bypass, infrarenal aorta to left renal artery bypass – see below) with subsequent endovascular coverage of the left renal artery by the aortic endograft typically as would be performed in a “hybrid” thoracoabdominal aortic repair then **“Extra-anatomic Bypass”** should be selected.

If the left renal artery is covered by an aortic endograft with a fenestration/opening in the endograft corresponding to the location of the left renal artery and allowing continued antegrade flow into the left renal artery via this fenestration despite endograft coverage as would be performed in an endovascular juxtarenal or thoracoabdominal aortic repair then **“Fenestrated”** should be selected.

FAQ February 2019: The right and left renal arteries were covered with endograft secondary to emergency rupture. A dialysis catheter was placed. How should visceral vessel left renal be coded?
Answer: Leave blank.

SEQ. #: 5375
Long Name: Left Renal - Extra-Anatomic Bypass - Aorta-Left Renal
Short Name: LtRenAortaLtRe
Definition: Indicate whether the extra-anatomic bypass was aorta to left renal

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

The bypass may originate from any segment of the aorta (e.g. ascending, descending, abdominal).

SEQ. #: 5380
Long Name: Left Renal - Extra-Anatomic Bypass - Iliac-Left Renal

Short Name: LtRenIliacLtRen
Definition: Indicate whether the extra-anatomic bypass was iliac to left renal

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

The bypass may originate from any segment of the iliac artery (e.g. common, external, or internal).

SEQ. #: 5385
Long Name: Left Renal - Extra-Anatomic Bypass - Other
Short Name: LtRenOther
Definition: Indicate whether another extra-anatomic left renal bypass was performed

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

This includes a bypass from any other vessel to the left renal artery. An example would include splenorenal bypass.

SEQ. #: 5390
Long Name: Visceral Vessel Management - Right Iliac
Short Name: RightIliac
Definition: Indicate management of the right iliac artery

Intent/Clarification:
The intent is to clarify whether the right iliac artery was revascularized during an endovascular repair of the thoracic or thoracoabdominal aorta.

If the right iliac artery was left intact and continues to receive blood flow from the native aorta in the normal manner after the endovascular procedure, then **“Native Flow”** should be selected.

If the right iliac artery is instrumented with an iliac limb extending from the main body of an abdominal aortic endograft (either bifurcated or aorto uni-iliac) and landing distally within the right iliac artery, then **“Bifurcated Graft”** should be selected.

If the right iliac artery is fed by a surgical bypass graft and not an endovascular device or native antegrade flow from the aorta, then **“Extra-anatomic Bypass”** should be selected.

SEQ. #: 5391
Long Name: Visceral Vessel Management - Right Iliac - Femoral-Femoral
Short Name: RtIliacFemFem
Definition: Indicate whether the extra-anatomic bypass was femoral to femoral

Intent/Clarification:
This would typically be a bypass from the left common femoral artery to the right common femoral artery.

SEQ. #: 5392
Long Name: Visceral Vessel Management - Right Iliac - Other
Short Name: RtIliacOther
Definition: Indicate whether another right iliac extra-anatomic bypass was performed

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

This includes a bypass from any other vessel to the right iliac artery. An example would include aorto-iliac bypass.

SEQ. #: 5393
Long Name: Visceral Vessel Management - Left Iliac
Short Name: LeftIliac
Definition: Indicate management of the left iliac artery

Intent/Clarification:
The intent is to clarify whether the left iliac artery was revascularized during an endovascular repair of the thoracic or thoracoabdominal aorta.

If the left iliac artery was left intact and continues to receive blood flow from the native aorta in the normal manner after the endovascular procedure, then **“Native Flow”** should be selected.

If the left iliac artery is instrumented with an iliac limb extending from the main body of an abdominal aortic endograft (either bifurcated or aorto uni-iliac) and landing distally within the left iliac artery, then **“Bifurcated Graft”** should be selected.

If the left iliac artery is fed by a surgical bypass graft and not an endovascular device or native antegrade flow from the aorta, then **“Extra-anatomic Bypass”** should be selected.

SEQ. #: 5394
Long Name: Visceral Vessel Management - Left Iliac - Femoral-Femoral
Short Name: LtIliacFemFem
Definition: Indicate whether the extra-anatomic bypass was femoral to femoral

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

This would typically be a bypass from the right common femoral artery to the left common femoral artery.

SEQ. #: 5395
Long Name: Visceral Vessel Management - Left Iliac - Other
Short Name: LtIliacOther
Definition: Indicate whether another left iliac extra-anatomic bypass was performed

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

This includes a bypass from any other vessel to the left iliac artery. An example would include aorto-iliac bypass.

SEQ. #: 5396
Long Name: Visceral Vessel Management - Internal Iliac Preserved
Short Name: IntIliacPres
Definition: Indicate whether the internal iliac was preserved

Intent/Clarification:

The intent is to clarify whether native antegrade flow is maintained within the internal iliac arteries during an endovascular repair of the thoracoabdominal aorta.

SEQ. #: 5397
Long Name: Visceral Vessel Management - Other visceral Vessels Extra-Anatomic Bypass
Short Name: OthVisVes
Definition: Indicate whether extra-anatomic bypass of other visceral vessels was performed

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

This includes a bypass to any branch of the major visceral vessels such as the hepatic or splenic branches of the celiac axis, a bypass to the inferior mesenteric artery or accessory renal artery, or a bypass to another named visceral vessel other than the celiac, SMA, left or right renal arteries.

SEQ. #: 5398
Long Name: Visceral Vessel Management - Other visceral Vessels Extra-Anatomic Bypass - Aorta-Other
Short Name: OthVisAortOth
Definition: Indicate whether other extra-anatomic bypass included an aorta to other bypass

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

The bypass may originate from any segment of the aorta (e.g. ascending, descending, abdominal).

SEQ. #: 5399
Long Name: Visceral Vessel Management - Other visceral Vessels Extra-Anatomic Bypass - Iliac-Other
Short Name: OthVisIliacOth

Definition: Indicate whether other extra-anatomic bypass included an iliac to other bypass

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

The bypass may originate from any segment of the iliac artery (e.g. common, external, or internal).

SEQ. #: 5400
Long Name: Visceral Vessel Management - Other visceral Vessels Extra-Anatomic Bypass - Other
Short Name: OthVisOther
Definition: Indicate whether any other visceral vessel extra-anatomic bypass was performed

Intent/Clarification:
An extra-anatomic bypass refers to any bypass graft that is placed outside of the normal anatomic vascular pathway to provide blood flow following or as part of that strategy.

This includes a bypass from any vessel other than the aorta or iliac artery to another named visceral vessel other than the celiac, SMA, left or right renal arteries.

SEQ. #: 5401
Long Name: Disection Proximal Entry Tear Covered
Short Name: DisProxTearCov
Definition: Indicate whether the proximal entry tear was covered.

Intent/Clarification:
If the proximal entry tear (so-called primary tear) of an aortic dissection is fully covered by an aortic endograft then “Yes” should be selected.

SEQ. #: 5402
Long Name: Endoleak At End Of Procedure
Short Name: EndoEndProc
Definition: Indicate whether there was endoleak present at the end of the procedure

Intent/Clarification:
The intent is to define whether an endoleak is noted at the completion of an endovascular repair. This would typically be determined by the surgeon's assessment of the intraoperative completion angiogram.

An **endoleak** is defined as persistent blood flow in the aneurysm sac through and around the endovascular seal and is the most common complication after endovascular aneurysm repair.

SEQ. #: 5403
Long Name: Endoleak At End Of Procedure - Type
Short Name: EndoEndProcTy
Definition: Indicate the type of endoleak present

Intent/Clarification:
If an endoleak is noted **at the completion** of an endovascular repair before exiting the operating room, the intent is to define the type of endoleak present. This would typically be determined by the surgeon's assessment of the intraoperative completion angiogram.

A **Type Ia endoleak** is defined as a leak occurring at the proximal seal zone.

A **Type Ib endoleak** is defined as a leak occurring at the distal seal zone.

A **Type II endoleak** is defined as retrograde filling of the aneurysm sac or false lumen in the case of dissection by aortic branch vessels (e.g. left subclavian artery, intercostal arteries, etc.).

A **Type III endoleak** is defined as leakage of blood into the aneurysm sac, or false lumen in the case of dissection, due to either a gap between separate endograft components, or a defect in the fabric of the graft secondary to graft strut fracture or erosion.

A **Type IV endoleak** is defined as the presence of an endoleak secondary to graft porosity. All other types of endoleaks must be definitively ruled out prior to selecting this diagnosis.

A Type **V endoleak**, also known as endotension, is defined as persistent aneurysm expansion in the absence of a confirmed endoleak.

SEQ. #: 5404
Long Name: Conversion To Open
Short Name: ConvToOpen

Definition: Indicate whether there was an unplanned conversion to an open procedure

Intent/Clarification:
This includes any conversion to open surgery not pre-specified as part of the operative plan.

SEQ. #: 5405
Long Name: Conversion To Open - Reason
Short Name: ConvToOpenRes
Definition: Indicate the reason for conversion to open procedure

Intent/Clarification:
If the reason for open conversion was failure of an endograft to deploy, either partially or fully, such that the planned endovascular treatment could not be completed then **"Deployment failure"** should be selected. If the reason for open conversion is a persistent endoleak noted on completion angiogram then **"Endoleak"** should be selected. If the aorta or a branch vessel ruptures intraoperatively requiring open conversion then **"Rupture"** should be selected. If partial or complete (occlusion) loss of antegrade flow within a branch vessel occurs and requires open conversion to restore flow then **"Occlusion/loss of branch"** should be selected.

SEQ. #: 5406
Long Name: Intraop Dissection Extension
Short Name: IntDisExten
Definition: Indicate whether there was intraoperative dissection extension

Intent/Clarification:
If a pre-existing aortic dissection is made to propagate either proximally or distally beyond its preoperative extent during the operation, then extension of dissection has occurred. If the pre-existing dissection extends proximally (i.e. back towards the aortic arch or ascending aorta) beyond the original extent, then **"Retrograde"** should be selected. If the pre-existing dissection extends distally (i.e. downstream towards the descending or abdominal aorta) beyond the original extent, then **"Antegrade"** should be selected. If the pre-existing dissection extends both proximally and distally then **"Both"** should be selected.

SEQ. #: 5407
Long Name: Unintentional Rupture Of Dissection Septum
Short Name: UnintRup

Definition: Indicate whether there was unintentional rupture of the dissection septum

Intent/Clarification:
The intent is to capture those instances where the dissection membrane/septum is unintentionally ruptured during an endovascular repair of an aortic dissection. This is typically due to the septum being fractured by a balloon or endograft, and the result is the creation of a new fenestration/connection between the true and false lumens of the dissection (so-called stent graft induced new entry tear (SINE)). This would typically be determined by the surgeon's assessment of the intraoperative completion angiogram, intravascular ultrasound, and/or transesophageal echocardiography.

It should be noted that in certain instances the surgeon may elect to intentionally fracture/rupture the dissection septum/membrane, typically using a balloon, and these cases should <u>not</u> be coded as unintentional rupture.

SEQ. #: 5408
Long Name: Unintentional Rupture Of Dissection Septum - Location
Short Name: UnintRupLoc
Definition: Indicate the location of the unintentional rupture of the dissection septum

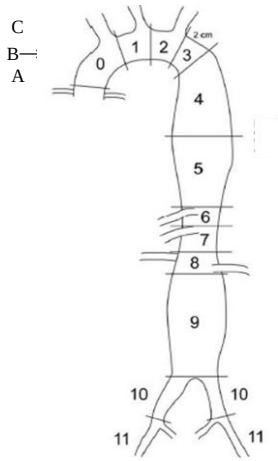
Intent/Clarification:
The exact aortic segment in which the unintentional rupture of the dissection septum occurred should be specified. This would typically be determined by the surgeon's assessment of the intraoperative completion angiogram, intravascular ultrasound, and/or transesophageal echocardiography.

Zone 0 definitions:

A. If the unintentional rupture of the dissection septum occurred in the aortic root (sinus of Valsalva segment just above the aortic valve) then "Below STJ" should be selected.

B. If the unintentional rupture of the dissection septum occurred in the segment of the ascending aorta between the sinotubular junction (defined as the junction between the aortic root and tubular ascending aorta) and the mid-point of the ascending aorta (i.e. proximal tubular ascending aorta) then "STJ-midascending" should be selected.

C. If the unintentional rupture of the dissection septum occurred in the segment of the ascending aorta between the mid-point of the ascending aorta and the origin of the innominate artery or first branch vessel off the aortic arch then "Midascending-distal ascending" should be selected.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5420
Long Name: Spinal Drain
Short Name: SpinalDrain
Definition: Indicate when/if a spinal drain was placed

Intent/Clarification:
Indicate whether a cerebrospinal fluid drain was used for the thoracic aortic intervention. Cerebrospinal fluid (CSF) drainage is an adjunct to protect against paraplegia during aortic repairs. CSF pressure may increase during the perioperative period of aortic repair leading to paraplegia. High CSF pressure may reduce spinal cord blood perfusion. CSF drainage reduces CSF pressure promoting spinal cord blood perfusion, reducing the risk of paraplegia. This field will capture the use of the cerebrospinal fluid drain during aortic repair. This is most often placed by anesthesia. This will also include any failed attempt (maldepolyed).

SEQ. #: 5425
Long Name: IntraOp Motor Evoked Potential
Short Name: MotorEvoke
Definition: Indicate whether motor evoked potential was measured intraoperatively

Intent/Clarification:
Motor evoked potentials are used to monitor spinal cord function (motor cortex) during aortic intervention. Monitoring involves direct monitoring of electrical impulses used to

stimulate the motor cortex and measurement of the response along the spinal cord. Changes in function during aortic intervention may indicate spinal cord injury. Adjunctive measures may be beneficial in restoring MEPs implying improvement in spinal cord function. It requires trained personnel, e.g. neurophysiologist, for monitoring. This will include unsuccessfully attempts at use of MEPs.

SEQ. #: 5426
Long Name: IntraOp Motor Evoked Potential - Documented MEP Abnormality
Short Name: MotorEvokeAb
Definition: Indicate whether any abnormality of motor evoked potential was documented

Intent/Clarification:
Motor evoked potentials are used to monitor spinal cord function (motor cortex) during aortic intervention. Monitoring involves direct monitoring of electrical impulses used to stimulate the motor cortex and measurement of the response along the spinal cord. Changes in function during aortic intervention may indicate spinal cord injury. Adjunctive measures may be beneficial in restoring MEPs implying improvement in spinal cord function. It requires trained personnel, e.g. neurophysiologist, for monitoring. This will include unsuccessfully attempts at use of MEPs.

SEQ. #: 5430
Long Name: IntraOp Somatosensory Evoked Potential
Short Name: SomatEvoke
Definition: indicate whether somatosensory evoked potential was measured intraoperatively

Intent/Clarification:
Somatosensory evoked potentials are used to monitor spinal cord function (sensory function) during aortic intervention. Monitoring involves direct monitoring of electrical impulses used to stimulate the sensory ventral tracts and measurement of the sensory response along the spinal cord. Changes in function during aortic intervention may indicate spinal cord injury. Adjunctive measures may be beneficial in restoring SSEPs implying improvement in spinal cord function. SSEPs may be less sensitive than MEPs for spinal cord dysfunction. It requires trained personnel, e.g. neurophysiologist, for monitoring. This will include unsuccessfully attempts at use of SSEPs.

SEQ. #: 5431

Long Name: IntraOp Somatosensory Evoked Potential - Documented SEP Abnormality
Short Name: SomatEvokeAb
Definition: Indicate whether any abnormality of somatosensory evoked potential was documented

Intent/Clarification:
Somatosensory evoked potentials are used to monitor spinal cord function (sensory function) during aortic intervention. Monitoring involves direct monitoring of electrical impulses used to stimulate the sensory ventral tracts and measurement of the sensory response along the spinal cord. Changes in function during aortic intervention may indicate spinal cord injury. Adjunctive measures may be beneficial in restoring SSEPs implying improvement in spinal cord function. SSEPs may be less sensitive than MEPs for spinal cord dysfunction. It requires trained personnel, e.g. neurophysiologist, for monitoring. This will include unsuccessfully attempts at use of SSEPs.

SEQ. #: 5432
Long Name: IntraOp EEG
Short Name: IntraOpEEG
Definition: Indicate whether EEG was monitored intraoperatively

Intent/Clarification:
Intraoperative electroencephalography may be used to monitor overall brain function during thoracic aortic procedures. Like MEPs and SSEPs, it requires trained personnel, e.g. neurophysiologist, for monitoring.

This will include unsuccessfully attempts at use of IntraOp/EEG.

FAQ October 2017: Can intraoperative Bispectral Index monitoring (BIS) be used as an acceptable substitute for EEG, since the measurement is a processed EEG parameter?
Answer: No, BIS does not provide the same information.

SEQ. #: 5433
Long Name: IntraOp EEG - Documented EEG Abnormality
Short Name: IntraOpEEGAb
Definition: Indicate whether any abnormality of intraoperative EEG was documented

Intent/Clarification:
Intraoperative electroencephalography may be used to monitor overall brain function during thoracic aortic procedures. Like MEPs and SSEPs, it requires trained personnel, e.g. neurophysiologist, for monitoring.

This will include unsuccessfully attempts at use of IntraOp/EEG.

SEQ. #: 5434
Long Name: IntraOp Intravascular Ultrasound (IVUS)
Short Name: IntraOpIVUS
Definition: indicate whether intravascular ultrasound was used intraoperatively

Intent/Clarification:
The unique point-of-view picture, generated in real time, yielding information that goes beyond what is possible with routine imaging methods, such as coronary angiography, performed in the Cath lab, or even non-invasive multi-slice CT scans.

SEQ. #: 5435
Long Name: IntraOp Transcutaneous Doppler
Short Name: TransDoppler
Definition: Indicate whether a transcutaneous Doppler was used intraoperatively

Intent/Clarification:
Transcutaneous Doppler enables the surgeon to alter his or her approach depending on the size and the location of aortic atheromatous burden, and provides an opportunity for intervention guidance during aortic cannulation, cross clamping and aortotomy.

SEQ. #: 5436
Long Name: IntraOp Angiogram
Short Name: IntraOpAng
Definition: Indicate whether an intraoperative angiogram was performed

Intent/Clarification:
An intraoperative angiography allows the surgeon to inspect the anatomic results of the surgical procedure.

SEQ. #: 5437
Long Name: IntraOp Angiogram - Volume Of Contrast
Short Name: IntraOpAngVol
Definition: Indicate the total volume of contrast given intraoperatively.

Intent/Clarification:

The volume of contrast used during the intraoperative angiogram documented in the perioperative record, the operative dictation, or the Cath Lab event log.

SEQ. #: 5438
Long Name: IntraOp Angiogram - Fluoroscopy Time In Minutes
Short Name: IntraOpAngFlTm
Definition: Indicate the total intraoperative fluoroscopy time in minutes.

Intent/Clarification:
The total number of minute's intraoperative fluoroscopy documented in the perioperative record, the operative dictation, or the Cath Lab event log.

SEQ. #: 5440
Long Name: Aorta Device Inserted
Short Name: ADevIns
Definition: Indicate whether one or more devices were inserted into the aorta.

Intent/Clarification:
This will include all synthetic prosthetics inserted. This may include Dacron, PTFE, homografts, autografts, stents, and stentgrafts. Some aortic interventions may not require prosthetic materials or device implants such as primary repair of a pseudoaneurysm. This will be indicated as "No."

FAQ September 2018/Updated July 2019: A patient had previous Ross procedure with Pulmonary Autograft implanted in Aortic Position, with reconstruction of aortic annulus with reduction annuolplasty and reconstruction of RVOT. He now has aneurysmal dilation of the ascending aorta and returns for AVR + Aortic Root Reconstruction and replacement of the ascending aorta. An OnyxAAP (free-style) valve was used, bard felt and a graft was placed, is this coded in the aortic devices?
Answer: ~~Code this as an aortic valve implant and code it in the aorta device section, include any additional conduits in the aorta section as well.~~ If a separate valve is used, code the valve in the valve section and the graft should go in the aorta section. Do not capture the felt. If an aortic conduit is used, capture, this device in the Aorta section. Do not enter devices twice.

FAQ July 2019 - There was an FAQ that suggested we enter the same graft (30 hemashield) twice and choose both "below STJ" and "mid ascending to distal ascending" but that would be entering the same product being inserted twice.

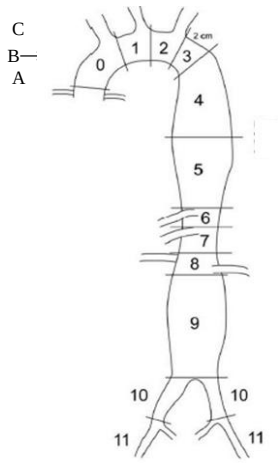
Answer - In the device section you enter the zones the implant covers, both proximal and distal. Therefore, the information for model number, UDI, and if successful is being

entered twice in the device section. The only part that is entered once is the locations/zones

FAQ July 2019: The surgeon performed an open elephant trunk and the graft material covered the Left Subclavian. Therefore, he fenestrated the graft and stented into the Left Subclavian. How should this be captured?
Answer: This should be captured as Arch Reimplantation (seq 4995) 'yes', and Left Subclavian (seq 5010) 'yes.' Capture the graft material in the device section, but you do not need to capture the stent in the device section.

SEQ. #: 5450
Long Name: Aorta Device - Location #01
Short Name: ADevLoc01
Definition: Indicate the location within the aorta where device #01 was inserted.

Intent/Clarification:
Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotublar junction.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

FAQ July 2018: Are we to enter graft devices for starting point and ending point - 2 entries for each piece utilized, do we also list bio-glue? felt pieces used to support suture lines and other supplies??
Answer: Yes, enter the most proximal and most distal locations. Bioglue is not included.

SEQ. #: 5455
Long Name: Aorta Device - Delivery Method #01
Short Name: ADevDelMeth01
Definition: Indicate the delivery method used to insert device #01 within the aorta.

Intent/Clarification:
For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endo-vascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5460
Long Name: Aorta Device - Outcome #01
Short Name: ADevOut01
Definition: Indicate the outcome of the attempt to insert device #01.

Intent/Clarification:
Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel bypass. If a device was mal-deployed but later removed this would be classified as “DelivMeth/deploy/remove.”

Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair from rupture or persistent endoleak. This would be classified as TEVAR as “DelivMeth/deploy /remove.”

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means.

November 2017: For section M2, ‘device’ refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5465
Long Name: Aorta Device - Model Number #01
Short Name: ADevModel01
Definition: Indicate the model number of aorta device #01.

Intent/Clarification:
This is the model number from the manufacturer related to the type of device implanted.

FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

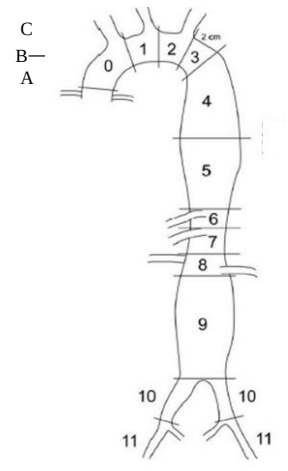
SEQ. #: 5470
Long Name: Aorta Device - Unique Device Identifier #01
Short Name: ADevUDI01
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #01 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:
This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

SEQ. #: 5475
Long Name: Aorta Device - Location #02
Short Name: ADevLoc02
Definition: Indicate the location within the aorta where device #02 was inserted or indicate that no additional devices were inserted.

Intent/Clarification:

Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotublar junction



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)

M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5480
Long Name: Aorta Device - Delivery Method #02
Short Name: ADevDelMeth02
Definition: Indicate the delivery method used to insert device #02 within the aorta.

Intent/Clarification:

For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endo-vascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5485
Long Name: Aorta Device - Outcome #02
Short Name: ADevOut02
Definition: Indicate the outcome of the attempt to insert device #02.

Intent/Clarification:
Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel bypass. If a device was mal-deployed but later removed this would be classified as “DelivMeth/deploy/remove.”

Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair

from rupture or persistent endoleak. This would be classified as TEVAR as “DelivMeth/deploy /remove.”

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means.

November 2017: For section M2, ‘device’ refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5490
Long Name: Aorta Device - Model Number #02
Short Name: ADevModel02
Definition: Indicate the model number of aorta device #02.

Intent/Clarification:
This is the model number from the manufacturer related to the type of device implanted.

FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

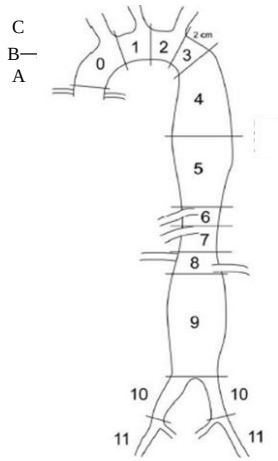
SEQ. #: 5495
Long Name: Aorta Device - Unique Device Identifier #02
Short Name: ADevUDI02
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #02 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:
This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

SEQ. #: 5500
Long Name: Aorta Device - Location #03
Short Name: ADevLoc03
Definition: Indicate the location within the aorta where device #03 was inserted or indicate that no additional devices were inserted.

Intent/Clarification:

Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotublar junction.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5505
Long Name: Aorta Device - Delivery Method #03
Short Name: ADevDelMeth03
Definition: Indicate the delivery method used to insert device #03 within the aorta.

Intent/Clarification:
For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endovascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5510
Long Name: Aorta Device - Outcome #03
Short Name: ADevOut03
Definition: Indicate the outcome of the attempt to insert device #03.

Intent/Clarification:
Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel

bypass. If a device was mal-deployed but later removed this would be classified as “DelivMeth/deploy/remove.”
Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair from rupture or persistent endoleak. This would be classified as TEVAR as “DelivMeth/deploy /remove.”

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means.

November 2017: For section M2, ‘device’ refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5515
Long Name: Aorta Device - Model Number #03
Short Name: ADevModel03
Definition: Indicate the model number of aorta device #03.

Intent/Clarification:
This is the model number from the manufacturer related to the type of device implanted.

FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

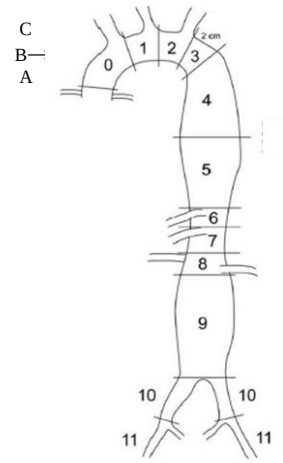
SEQ. #: 5520
Long Name: Aorta Device - Unique Device Identifier #03 **Short Name:** ADevUDI03
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #03 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:
This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

SEQ. #: 5525
Long Name: Aorta Device - Location #04
Short Name: ADevLoc04

Definition: Indicate the location within the aorta where device #04 was inserted or indicate that no additional devices were inserted.

Intent/Clarification:
Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotubular junction.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5530
Long Name: Aorta Device - Delivery Method #04
Short Name: ADevDelMeth04
Definition: Indicate the delivery method used to insert device #04 within the aorta.

Intent/Clarification:
For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endo-vascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5535
Long Name: Aorta Device - Outcome #04
Short Name: ADevOut04

Definition: Indicate the outcome of the attempt to insert device #04.

Intent/Clarification:
Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel bypass. If a device was mal-deployed but later removed this would be classified as "DelivMeth/deploy/remove."
Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair from rupture or persistent endoleak. This would be classified as TEVAR as "DelivMeth/deploy /remove."

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means November 2017: For section M2, 'device' refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5540
Long Name: Aorta Device - Model Number #04
Short Name: ADevModel04
Definition: Indicate the model number of aorta device #04.

Intent/Clarification:
This is the model number from the manufacturer related to the type of device implanted.

FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

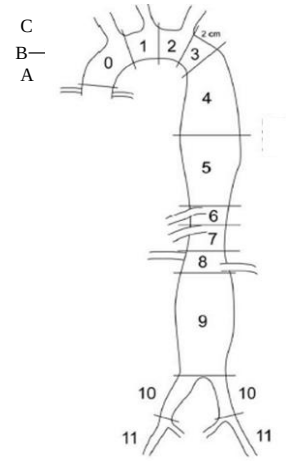
SEQ. #: 5545
Long Name: Aorta Device - Unique Device Identifier #04
Short Name: ADevUDI04
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #04 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:
This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

SEQ. #: 5550
Long Name: Aorta Device - Location #05 **Short Name:** ADevLoc05
Definition: Indicate the location within the aorta where device #05 was inserted or indicate that no additional devices were inserted.

Intent/Clarification:

Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotublar junction.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)
N. Zone 11 (external iliacs)

SEQ. #: 5555
Long Name: Aorta Device - Delivery Method #05
Short Name: ADevDelMeth05
Definition: Indicate the delivery method used to insert device #05 within the aorta.

Intent/Clarification:

For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endo-vascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5560
Long Name: Aorta Device - Outcome #05
Short Name: ADevOut05
Definition: Indicate the outcome of the attempt to insert device #05.

Intent/Clarification:
Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel bypass. If a device was mal-deployed but later removed this would be classified as “DelivMeth/deploy/remove.”
Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair from rupture or persistent endoleak. This would be classified as TEVAR as “DelivMeth/deploy /remove.”

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means November 2017: For section M2, ‘device’ refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5565
Long Name: Aorta Device - Model Number #05
Short Name: ADevModel05
Definition: Indicate the model number of aorta device #05.

Intent/Clarification:
This is the model number from the manufacturer related to the type of device implanted.

FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

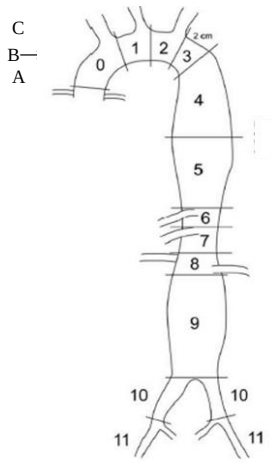
SEQ. #: 5570

Long Name: Aorta Device - Unique Device Identifier #05
Short Name: ADevUDI05
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #05 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:
This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

SEQ. #: 5575
Long Name: Aorta Device - Location #06
Short Name: ADevLoc06
Definition: Indicate the location within the aorta where device #06 was inserted or indicate that no additional devices were inserted.

Intent/Clarification:
Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotubular junction.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5580
Long Name: Aorta Device - Delivery Method #06

Short Name: ADevDelMeth06
Definition: Indicate the delivery method used to insert device #06 within the aorta.

Intent/Clarification:
For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endo-vascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5585
Long Name: Aorta Device - Outcome #06
Short Name: ADevOut06
Definition: Indicate the outcome of the attempt to insert device #06.

Intent/Clarification:
Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel bypass. If a device was mal-deployed but later removed this would be classified as “DelivMeth/deploy/remove.”
Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair from rupture or persistent endoleak. This would be classified as TEVAR as “DelivMeth/deploy /remove.”

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means

November 2017: For section M2, ‘device’ refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5590
Long Name: Aorta Device - Model Number #06
Short Name: ADevModel06
Definition: Indicate the model number of aorta device #06.

Intent/Clarification:
This is the model number from the manufacturer related to the type of device implanted.

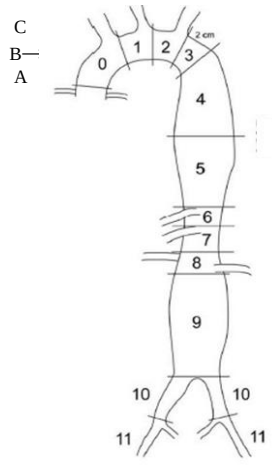
FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

SEQ. #: 5595
Long Name: Aorta Device - Unique Device Identifier #06
Short Name: ADevUDI06
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #06 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:
This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

SEQ. #: 5600
Long Name: Aorta Device - Location #07
Short Name: ADevLoc07
Definition: Indicate the location within the aorta where device #07 was inserted or indicate that no additional devices were inserted.

Intent/Clarification:
Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotublar junction.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5605
Long Name: Aorta Device - Delivery Method #07
Short Name: ADevDelMeth07
Definition: Indicate the delivery method used to insert device #07 within the aorta.

Intent/Clarification:
For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endo-vascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5610
Long Name: Aorta Device - Outcome #07
Short Name: ADevOut07
Definition: Indicate the outcome of the attempt to insert device #07.

Intent/Clarification: Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel bypass. If a device was mal-deployed but later removed this would be classified as “DelivMeth/deploy/remove.”
Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair from rupture or persistent endoleak. This would be classified as TEVAR as “DelivMeth/deploy /remove.”

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means

November 2017: For section M2, ‘device’ refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5615
Long Name: Aorta Device - Model Number #07
Short Name: ADevModel07
Definition: Indicate the model number of aorta device #07.

Intent/Clarification:

This is the model number from the manufacturer related to the type of device implanted.

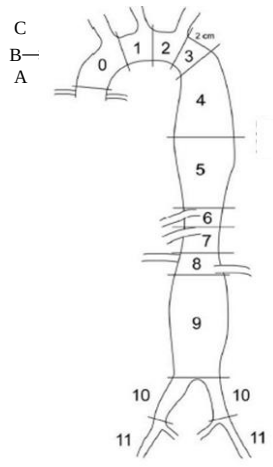
FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

SEQ. #: 5620
Long Name: Aorta Device - Unique Device Identifier #07
Short Name: ADevUDI07
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #07 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:
This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

SEQ. #: 5625
Long Name: Aorta Device - Location #08
Short Name: ADevLoc08
Definition: Indicate the location within the aorta where device #08 was inserted or indicate that no additional devices were inserted.

Intent/Clarification:
Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotublar junction.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5630
Long Name: Aorta Device - Delivery Method #08
Short Name: ADevDelMeth08
Definition: Indicate the delivery method used to insert device #08 within the aorta.

Intent/Clarification:
For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endo-vascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5635
Long Name: Aorta Device - Outcome #08
Short Name: ADevOut08
Definition: Indicate the outcome of the attempt to insert device #08.

Intent/Clarification:
Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel bypass. If a device was mal-deployed but later removed this would be classified as “DelivMeth/deploy/remove.”
Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair from rupture or persistent endoleak. This would be classified as TEVAR as “DelivMeth/deploy /remove.”

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means

November 2017: For section M2, ‘device’ refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5640
Long Name: Aorta Device - Model Number #08
Short Name: ADevModel08
Definition: Indicate the model number of aorta device #08.

Intent/Clarification:
This is the model number from the manufacturer related to the type of device implanted.

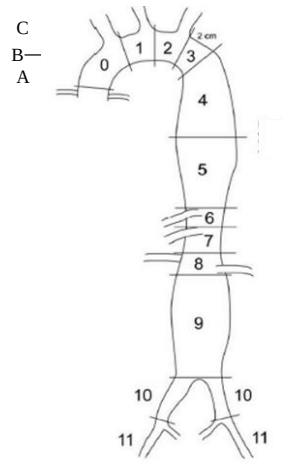
FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

SEQ. #: 5645
Long Name: Aorta Device - Unique Device Identifier #08
Short Name: ADevUDI08
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #08 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:
This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

SEQ. #: 5650
Long Name: Aorta Device - Location #09
Short Name: ADevLoc09
Definition: Indicate the location within the aorta where device #09 was inserted or indicate that no additional devices were inserted.

Intent/Clarification:
Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotubular junction.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5655
Long Name: Aorta Device - Delivery Method #09
Short Name: ADevDelMeth09
Definition: Indicate the delivery method used to insert device #09 within the aorta.

Intent/Clarification:
For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endo-vascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5660
Long Name: Aorta Device - Outcome #09
Short Name: ADevOut09
Definition: Indicate the outcome of the attempt to insert device #09.

Intent/Clarification:
Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel bypass. If a device was mal-deployed but later removed this would be classified as “DelivMeth/deploy/remove.”

Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair from rupture or persistent endoleak. This would be classified as TEVAR as "DelivMeth/deploy /remove."

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means

November 2017: For section M2, 'device' refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5665
Long Name: Aorta Device - Model Number #09
Short Name: ADevModel09
Definition: Indicate the model number of aorta device #09.

Intent/Clarification:
This is the model number from the manufacturer related to the type of device implanted.

FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

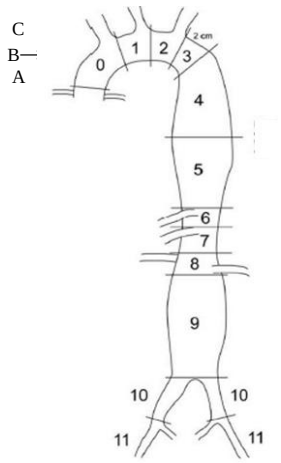
SEQ. #: 5670
Long Name: Aorta Device - Unique Device Identifier #09
Short Name: ADevUDI09
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #09 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:
This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

SEQ. #: 5675
Long Name: Aorta Device - Location #10
Short Name: ADevLoc10

Definition: Indicate the location within the aorta where device #10 was inserted or indicate that no additional devices were inserted.

Intent/Clarification:
Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotublar junction.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5680
Long Name: Aorta Device - Delivery Method #10
Short Name: ADevDelMeth10
Definition: Indicate the delivery method used to insert device #10 within the aorta.

Intent/Clarification:
For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endovascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5685
Long Name: Aorta Device - Outcome #10
Short Name: ADevOut10
Definition: Indicate the outcome of the attempt to insert device #10.

Intent/Clarification:

Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel bypass. If a device was mal-deployed but later removed this would be classified as "DelivMeth/deploy/remove."
Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair from rupture or persistent endoleak. This would be classified as TEVAR as "DelivMeth/deploy /remove."

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means

November 2017: For section M2, 'device' refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5690
Long Name: Aorta Device - Model Number #10
Short Name: ADevModel10
Definition: Indicate the model number of aorta device #10.

Intent/Clarification:
This is the model number from the manufacturer related to the type of device implanted.

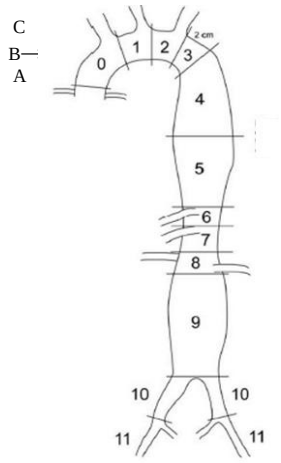
FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

SEQ. #: 5695
Long Name: Aorta Device - Unique Device Identifier #10
Short Name: ADevUDI10
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #10 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:
This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

SEQ. #: 5700
Long Name: Aorta Device - Location #11
Short Name: ADevLoc11
Definition: Indicate the location within the aorta where device #11 was inserted or indicate that no additional devices were inserted.

Intent/Clarification:
Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotublar junction.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5705
Long Name: Aorta Device - Delivery Method #11
Short Name: ADevDelMeth11
Definition: Indicate the delivery method used to insert device #11 within the aorta.

Intent/Clarification:
For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endovascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5710

Long Name: Aorta Device - Outcome #11
Short Name: ADevOut11
Definition: Indicate the outcome of the attempt to insert device #11.

Intent/Clarification:
Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel bypass. If a device was mal-deployed but later removed this would be classified as "DelivMeth/deploy/remove."
Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair from rupture or persistent endoleak. This would be classified as TEVAR as "DelivMeth/deploy /remove."

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means

November 2017: For section M2, 'device' refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5715
Long Name: Aorta Device - Model Number #11
Short Name: ADevModel11
Definition: Indicate the model number of aorta device #11.

Intent/Clarification:
This is the model number from the manufacturer related to the type of device implanted.

FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

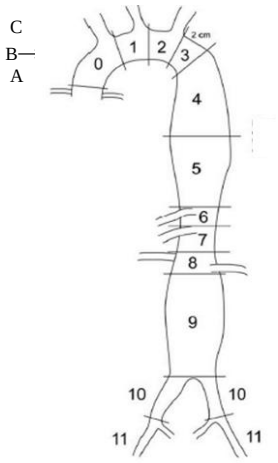
SEQ. #: 5720
Long Name: Aorta Device - Unique Device Identifier #11
Short Name: ADevUDI11
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #11 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:

This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

SEQ. #: 5725
Long Name: Aorta Device - Location #12
Short Name: ADevLoc12
Definition: Indicate the location within the aorta where device #12 was inserted or indicate that no additional devices were inserted.

Intent/Clarification:
Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotublar junction.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5730
Long Name: Aorta Device - Delivery Method #12
Short Name: ADevDelMeth12
Definition: Indicate the delivery method used to insert device #12 witin the aorta.

Intent/Clarification:
For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endovascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5735
Long Name: Aorta Device - Outcome #12
Short Name: ADevOut12
Definition: Indicate the outcome of the attempt to insert device #12.

Intent/Clarification:
Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel bypass. If a device was mal-deployed but later removed this would be classified as "DelivMeth/deploy/remove."

Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair from rupture or persistent endoleak. This would be classified as TEVAR as "DelivMeth/deploy /remove."

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means

November 2017: For section M2, 'device' refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5740
Long Name: Aorta Device - Model Number #12
Short Name: ADevModel12
Definition: Indicate the model number of aorta device #12.

Intent/Clarification:
This is the model number from the manufacturer related to the type of device implanted.

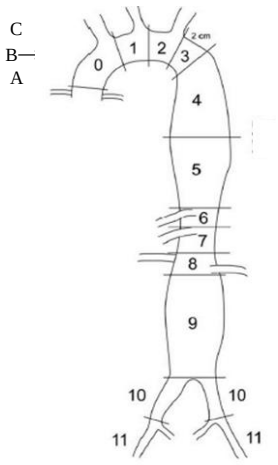
FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

SEQ. #: 5745
Long Name: Aorta Device - Unique Device Identifier #12
Short Name: ADevUDI12
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #12 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:
This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

SEQ. #: 5750
Long Name: Aorta Device - Location #13
Short Name: ADevLoc13
Definition: Indicate the location within the aorta where device #13 was inserted or indicate that no additional devices were inserted.

Intent/Clarification:
Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotublar junction.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5755
Long Name: Aorta Device - Delivery Method #13
Short Name: ADevDelMeth13
Definition: Indicate the delivery method used to insert device #13 witin the aorta.

Intent/Clarification:
For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endovascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5760
Long Name: Aorta Device - Outcome #13
Short Name: ADevOut13
Definition: Indicate the outcome of the attempt to insert device #13.

Intent/Clarification:
Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel bypass. If a device was mal-deployed but later removed this would be classified as “DelivMeth/deploy/remove.”
Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair from rupture or persistent endoleak. This would be classified as TEVAR as “DelivMeth/deploy /remove.”

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means

November 2017: For section M2, ‘device’ refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5765
Long Name: Aorta Device - Model Number #13
Short Name: ADevModel13
Definition: Indicate the model number of aorta device #13.

Intent/Clarification:
This is the model number from the manufacturer related to the type of device implanted.

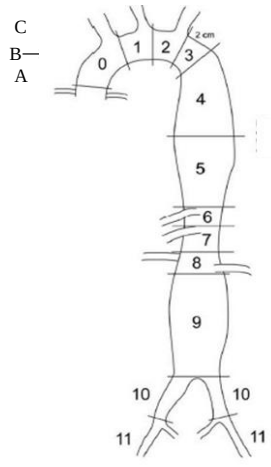
FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

SEQ. #: 5770
Long Name: Aorta Device - Unique Device Identifier #13
Short Name: ADevUDI13
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #13 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:
This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

SEQ. #: 5775
Long Name: Aorta Device - Location #14
Short Name: ADevLoc14
Definition: Indicate the location within the aorta where device #14 was inserted or indicate that no additional devices were inserted.

Intent/Clarification:
Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotublar junction.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5780
Long Name: Aorta Device - Delivery Method #14
Short Name: ADevDelMeth14
Definition: Indicate the delivery method used to insert device #14 witin the aorta.

Intent/Clarification:
For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endovascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5785
Long Name: Aorta Device - Outcome #14
Short Name: ADevOut14
Definition: Indicate the outcome of the attempt to insert device #14.

Intent/Clarification:
Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel bypass. If a device was mal-deployed but later removed this would be classified as “DelivMeth/deploy/remove.”
Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair from rupture or persistent endoleak. This would be classified as TEVAR as “DelivMeth/deploy /remove.”

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means

November 2017: For section M2, ‘device’ refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5790
Long Name: Aorta Device - Model Number #14
Short Name: ADevModel14
Definition: Indicate the model number of aorta device #14.

Intent/Clarification:
This is the model number from the manufacturer related to the type of device implanted.

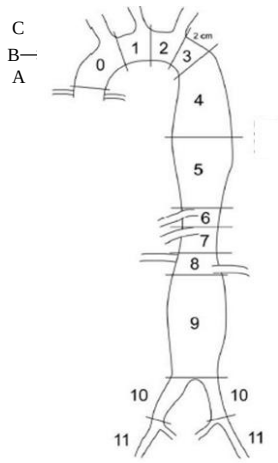
FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

SEQ. #: 5795
Long Name: Aorta Device - Unique Device Identifier #14
Short Name: ADevUDI14
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #14 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:
This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

SEQ. #: 5800
Long Name: Aorta Device - Location #15
Short Name: ADevLoc15
Definition: Indicate the location within the aorta where device #15 was inserted or indicate that no additional devices were inserted.

Intent/Clarification:
Zone 0 is the Ascending Aorta and includes letter A-C. Verify exact location with CV Surgeon. Aortic Root (letter A) is below sinotubular junction.



A. Below sinotubular junction
B. Sinotubular junction to mid ascending
C. Mid ascending to distal ascending
D. Zone 1 (between innominate and left carotid)
E. Zone 2 (between left carotid and left subclavian)
F. Zone 3 (first 2 cm. distal to left subclavian)
G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H. Zone 5 (mid descending aorta to celiac)
I. Zone 6 (celiac to superior mesenteric)
J. Zone 7 (superior mesenteric to renals)
K. Zone 8 (renal to infra-renal abdominal aorta)
L. Zone 9 (infrarenal abdominal aorta)
M. Zone 10 (common iliac)

N. Zone 11 (external iliacs)

SEQ. #: 5805
Long Name: Aorta Device - Delivery Method #15
Short Name: ADevDelMeth15
Definition: Indicate the delivery method used to insert device #15 within the aorta.

Intent/Clarification:
For each device the method of implant should be specified as either “open” or “endovascular.” If a device was attempted to be implanted endovascularly but eventually implanted by open techniques, then this is designated “open.”

SEQ. #: 5810
Long Name: Aorta Device - Outcome #15
Short Name: ADevOut15
Definition: Indicate the outcome of the attempt to insert device #15.

Intent/Clarification:
Maldeployed: This indicates that a device implantation was attempted by endovascular means but was not successfully deployed in the intended position. An example would be attempted deployment of a fenestrated or branched device for transverse arch intervention and mal-alignment of the portal did not allow successful branch vessel bypass. If a device was mal-deployed but later removed this would be classified as “DelivMeth/deploy/remove.”

Deployed and Removed: This indicates that a device was attempted to be implanted by endovascular means but was not successfully deployed. An example would be open repair of descending thoracic aortic repair after failed thoracic endovascular aortic repair from rupture or persistent endoleak. This would be classified as TEVAR as "DelivMeth/deploy /remove."

Successfully Deployed/Implanted: This indicates that the device was successfully deployed by endovascular or **open** means

November 2017: For section M2, 'device' refers to any implanted material within the aorta; Grafts or stent-grafts.

SEQ. #: 5815
Long Name: Aorta Device - Model Number #15
Short Name: ADevModel15
Definition: Indicate the model number of aorta device #15.

Intent/Clarification:
This is the model number from the manufacturer related to the type of device implanted.

FAQ September 2017: Is there supposed to be a drop-down list of model numbers for aorta devices in this field?
Answer: No, there is no drop-down list.

SEQ. #: 5820
Long Name: Aorta Device - Unique Device Identifier #15
Short Name: ADevUDI15
Definition: Indicate the Unique Device Identifier (UDI) of aorta device #15 if available, otherwise leave blank. Note that the UDI is not the same as the serial number.

Intent/Clarification:
This is the number supplied from the manufacturer to identify the specific to the exact device inserted. This number is used to link the specific patient to the specific device implanted.

Congenital Defect Repair

SEQ. #: 6500
Long Name: Other Card-Congenital Diagnosis 1

Short Name: OCarCongDiag1
Definition: Indicate the first of the three most significant congenital diagnoses.

Intent/Clarification:
A comprehensive list of diagnoses is available at (under V2.9 Congenital Diagnoses and Procedure List):

http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection

FAQ Sept 2019 - For congenital defect repair, if we are to exclude bicuspid valve, should we also exclude a quadricuspid/unicuspid valve, and leave it in the isolated valve category, instead of completing the congenital section?

Answer – Yes, these are variants of valve morphology and should be left in the isolated valve category do not code as a congenital case.

SEQ. #: 6505
Long Name: Other Card-Congenital Diagnosis 2
Short Name: OCarCongDiag2
Definition: Indicate the second of the three most significant congenital diagnoses.

Intent/Clarification:
A comprehensive list of diagnoses is available at (under V2.9 Congenital Diagnoses and Procedure List):

http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection

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SEQ. #: 6510
Long Name: Other Card-Congenital Diagnosis 3
Short Name: OCarCongDiag3
Definition: Indicate the third of the three most significant congenital diagnoses.

Intent/Clarification:
A comprehensive list of diagnoses is available at (under V2.9 Congenital Diagnoses and Procedure List):

http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection

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SEQ. #: 6515
Long Name: Other Card-Congenital Procedure 1
Short Name: OCarCongProc1
Definition: Indicate the first of the three most significant congenital procedures.

Intent/Clarification:
A comprehensive list of diagnoses is available at (under V2.9 Congenital Diagnoses and Procedure List):

http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection

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SEQ. #: 6520
Long Name: Other Card-Congenital Procedure 2
Short Name: OCarCongProc2
Definition: Indicate the second of the three most significant congenital procedures.

Intent/Clarification:
A comprehensive list of diagnoses is available at (under V2.9 Congenital Diagnoses and Procedure List):

http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection

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SEQ. #: 6525
Long Name: Other Card-Congenital Procedure 3
Short Name: OCarCongProc3
Definition: Indicate the third of the three most significant congenital procedures.

Intent/Clarification:
A comprehensive list of diagnoses is available at (under V2.9 Congenital Diagnoses and Procedure List):

http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection

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Other Non-Cardiac Procedures

General information: When considering skin incision start date and time in sequence number 2265, the first skin incision would apply to the incision made for a Carotid, Vascular, Thoracic and Other non-cardiac procedure.

SEQ. #: 6530
Long Name: Other Non Card-Caro Endart
Short Name: ONCCarEn
Definition: Indicate whether the patient underwent surgical removal of stenotic atheromatous plaque or percutaneous/surgical placement of carotid stent in conjunction with the primary surgical procedure.

Intent/Clarification: Right and/or left carotid arteries are branches of the arch of the aorta that transverse the neck and supply blood flow to the brain.

- Yes, planned
- Yes, unplanned due to surgical complication
- Yes, unplanned due to unsuspected disease or anatomy
- No

FAQ May 2019: The patient was in surgery having Right carotid endarterectomy done (and please note the plan was to have the AVR done tomorrow) when during this procedure the patient became bradycardic and required chest compressions and multiple doses of epi. They were able to get the patient back after 10 minutes of chest compressions. However, the pt. had a second bradycardic cardiac arrest and the surgeon decided on a salvage aortic valve replacement! So is the Endarterectomy now part of the AVR surgery (How do I mark this on the STS tool?)

Answer: If this was done in the same room then code the the AVR as Salvage and the endarterectomy. You can also code resuscitation.

SEQ. #: 6535
Long Name: Other Non Card-Other Vasc
Short Name: ONCOVasc
Definition: Indicate whether patient had procedures treating peripheral vascular disease or condition in conjunction with the primary surgical procedure.

Intent/Clarification: May include bypass of superior vena cava syndrome, renal artery bypass, or lower extremity bypass.

- Yes, planned
- Yes, unplanned due to surgical complication
- Yes, unplanned due to unsuspected disease or anatomy
- No

FAQ February 2018: In the OR, after a radial graft harvest, the surgeon writes this: "At this point, there was some concern about the radial artery, not having any backflow after the tourniquet was down, the upper arm was then opened and the hand appeared to have capillary refill; however, a decision was made to freely mobilize proximally the

radial artery as well as distally and re-anastomosed using 7-0 Propene in running fashion. Hemostasis was achieved and the wound packed. Vascular Surgery was consulted." Is this considered an other non-cardiac vascular procedure?
Answer: Do not code the radial graft harvest or re-anastomosis as this is part of the CAB procedure. Do not code as a surgical complication; however, code any postoperative complications affiliated with the radial artery harvest.

FAQ October 2018: The surgeon took a patient to the hybrid room and placed an endostent to the inferior vena cava where a filter had been removed by someone else and caused a tear. Is this included in the database?
Answer: No, endostent to the vena cava are not included in the database.

SEQ. #: 6540
Long Name: Other Non Card-Other Thor
Short Name: ONCOThor
Definition: Indicate whether patient underwent procedures involving Thorax/Pleura in conjunction with the primary surgical procedure. This includes but is not limited to ~~open lung biopsy,~~ lung resection, mediastinal mass and/or lung dissection.

Intent/Clarification: This includes, but is not limited to, lung resection, mediastinal mass and/or lung dissection. Do not code minor thoracic procedures, such as a biopsy. Only capture procedures that increase the risk of morbidity or mortality when done in conjunction with the index procedure. For procedures considered “major” in the Thoracic Database, review the data collection form:

http://www.sts.org/sites/default/files/documents/STSThoracicDCF_V2_3_MajorProc_Annotated.pdf

- Yes, planned
- Yes, unplanned due to surgical complication
- Yes, unplanned due to unsuspected disease or anatomy
- No

FAQ February 2018: How is a wedge biopsy done in conjunction with an isolated CAB coded? Answer: Lung biopsy should not be captured as ‘Other Thoracic Procedure’.

FAQ June 2018: Is removal of the thymus coded as reoperation other non-cardiac thoracic?
Answer: while removing the thymus might add some time to the procedure, it should not be coded as other non-cardiac thoracic.

FAQ February 2019: The patient was admitted for elective AVR and has a history of persistent right pleural effusion. During the surgery a right total lung decortication was performed (prior to the AVR). The pleural effusion was evacuated and the lung exhibitied a significant amount of scar and was clearly trapped. Two hours was spent

removing the pleural rind and an appropriate level of decortication was achieved. Should this be captured as an ‘other non-cardiac procedure’?
Answer: Yes, code other non-cardiac thoracic.

SEQ. #: 6545
Long Name: Other Non Card-Other
Short Name: ONCOther
Definition: Indicate whether the patient had any other non-cardiac procedure performed in conjunction with the primary surgical procedure that is not included within this section.

Intent/Clarification: The goal is to keep as many procedures as possible in the “isolated” category. Only code “yes” for procedures that high likelihood of negatively impacting a patient's outcome (survival, quality of life, ability to recover) and/or prolong the patient's length of stay.

- Yes, planned
- Yes, unplanned due to surgical complication
- Yes, unplanned due to unsuspected disease or anatomy
- No

FAQ May 2019: I have a patient who experienced multiple codes prior to surgery requiring multiple episodes of CPR. Because of this pt's sternum was unstable and after the CABG, the surgeon reconstructed the pts flail chest and sternal fracture.
Answer: Do not code anything for this.

Postoperative

SEQ. #: 6550
Long Name: Postoperative Peak Glucose
Short Name: PostOpPeakGlu
Definition: Indicate the postoperative peak glucose measured within 18-24 hours of anesthesia end time.

Intent/Clarification: Hyperglycemia has been associated with increased in-hospital morbidity and mortality in patients undergoing surgery. The risk of infection was significantly higher for patients undergoing CABG if blood glucose levels were elevated. Hyperglycemia in the immediate postoperative phase increases infection in both diabetic and nondiabetic patients and the higher the level of hyperglycemia the higher the potential for infection in both populations. **Update Nov 2019 – The unit of measurement for Glucose is mg/dl.**

Cardiac surgery patients must have controlled postoperative blood glucose (less than or equal to 180 mg/dL) in the timeframe of 18 to 24 hours after Anesthesia End Time.

(Van den Berghe, 2001) (Zerr, et al 1997) (Latham, et al, 2001)

Code the highest postoperative glucose **18 – 24 hours after Anesthesia End Time**. Can be serum or POC (point of care).

Inclusion Guidelines for Abstraction (SCIP)

- Blood glucose level
- Blood sugar
- Fasting glucose
- Finger stick glucose
- Glucometer results
- Glucose
- Non-fasting glucose
- Random glucose
- Serum glucose

SEQ. #: 6555
Long Name: Postoperative Creatinine Level
Short Name: PostCreat
Definition: Indicate the postoperative Creatinine level. If more than one level is obtained, code the highest level.

Intent/Clarification: **Update Nov 2019 – The unit of measurement for Creatinine is mg/dl or mg/100ml or mg%.**

The postoperative creatinine will be used to evaluate renal function according to the RIFLE criteria. The Acute Dialysis Quality Initiative, a multidisciplinary collaboration, defined a range of acute renal dysfunction called the RIFLE Classification system. It is used to define grades of severity based on objective measurements.
STS will use the underlined serum creatinine values to analyze post op renal function. GFR and urine output will not be included at this time. Renal Failure criteria are highlighted. Classifications of Loss and End-stage disease are beyond the current scope of follow-up.

- Risk (R) - Increase in serum creatinine level X 1.5 or decrease in GFR by 25%, or UO <0.5 mL/kg/h for 6 hours

- Injury (I) - Increase in serum creatinine level X 2.0 or decrease in GFR by 50%, or UO <0.5 mL/kg/h for 12 hours

- **Failure (F): Increase in serum creatinine level X 3.0, or serum creatinine level ≥ 4.0 mg/dL; acute rise must be ≥ 0.5 mg/dL** or decrease in GFR by 75%,; UO , 0.3 mL/kg/hr. X 24 hours, or anuria for 12 hours.

- Loss (L) - Persistent ARF, complete loss of kidney function >4 weeks
- End-stage kidney disease (E) - Loss of kidney function >3 months

Code the highest creatinine level from first postoperative lab to discharge.

Reference: https://ccforum.biomedcentral.com/articles/10.1186/cc2872

The data specifications allow only one decimal place for this value. ~~This may require standard rounding for values reported in two decimal places. For example, for creatinine reported 1.75 code 1.8; for creatinine reported as 1.52 code 1.5.~~

Correction: DCRI has determined that you should not round the values and can only code creatinine to one decimal place.

SEQ. #: 6556
Long Name: Postoperative Hemoglobin
Short Name: PostopHemoglobin
Definition: Indicate the postoperative hemoglobin closest to discharge

Intent/Clarification: The hemoglobin (Hgb) from the laboratory report closest to the time of discharge should be accessed first when coding this variable. If this is unavailable, then point of care testing results may be used. **Update Nov 2019 – The unit of measurement for Hgb is g/dl or g/100 ml or g%.**

SEQ. #: 6557
Long Name: Postoperative Hematocrit
Short Name: PostopHct
Definition: Indicate the postoperative hematocrit closest to discharge

Intent/Clarification: The hematocrit (Hct) from laboratory report closest to the time of discharge should be accessed first when coding this variable. If this is unavailable, then point of care testing results may be used**. Update Nov 2019 – The unit of measurement for Hct is %.**

SEQ. #: 6560
Long Name: Blood Prod

Short Name: BldProd
Definition: Indicate whether blood products were transfused any time postoperatively. Postoperatively is defined as any blood started after the initial surgery. Include blood transfused after the initial surgery, including any blood transfused during a re-operative surgery.

Intent/Clarification: The intent is to track postoperative blood utilization. Blood products refer to, RBC (includes whole blood), FFP, Cryoprecipitate, and Platelets.

Do NOT include:

- Pre-donated autologous blood
- Cell saver blood
- Pump residual blood
- Chest tube re-circulated blood

SEQ. #: 6565
Long Name: Blood Prod - RBC Units
Short Name: BdRBCU
Definition: Indicate the number of units of packed red blood cells that were transfused any time postoperatively.

Do not include autologous, cell-saver or chest tube recirculated blood.

Intent/Clarification: The intent is to track postoperative blood utilization

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SEQ. #: 6570
Long Name: Blood Prod - FFP Units
Short Name: BdFFPU
Definition: Indicate the number of units of fresh frozen plasma that were transfused any time postoperatively.

Intent/Clarification: The intent is to track postoperative blood utilization

---

SEQ. #: 6575
Long Name: Blood Prod - Cryo Units
Short Name: BdCryoU

Definition: Indicate the number of units of cryoprecipitate that were transfused postoperatively. One bag of cryo = one unit.
The number of units is not volume dependent.

Intent/Clarification: The intent is to track postoperative blood utilization

---

SEQ. #: 6580
Long Name: Blood Prod - Platelet Units
Short Name: BdPlatU
Definition: Indicate the number of units of platelets that were transfused postoperatively. Count the dose pack as one unit. A dose pack may consist of 4, 6, 8, 10, or any number of donor platelets obtained. The number of units coded is not volume dependent.

Intent/Clarification: The intent is to track postoperative blood utilization

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SEQ. #: 6585
Long Name: Extubated In OR
Short Name: ExtubOR
Definition: Indicate whether the patient was extubated prior to leaving the operating room during the initial surgery.
If patient expires in the operating room during the initial surgery, answer "Yes".

Intent/Clarification:

- Yes: if the patient is extubated in the OR during the initial surgery
- No: if patient extubated after leaving the operating room

FAQ October 2017: If a patient is extubated in the OR, will this patient be counted in the <6 hours metric.
Answer: Yes, they will now be included in the <6 metric and their vent times will calculate to zero hours by DCRI.

SEQ. #: 6591
Long Name: Postop Intubation/Reintubation During Hospital Stay
Short Name: PostopIntub
Definition: Indicate whether the patient was intubated for the first time after leaving the OR from the initial procedure, or re-intubated during the hospital stay after the initial extubation.

Intent/Clarification: Do not include reintubation for surgical procedures when the patient is extubated prior to leaving the operating room.

SEQ. #: 6595
Long Name: Additional Hours Ventilated
Short Name: VentHrsA
Definition: Indicate how many additional hours the patient was on ventilator after initial extubation.

Intent/Clarification: If the patient was reintubated during the current hospital stay, this value is used in the calculation to determine prolonged ventilation.

Ventilator hours are calculated with a decimal point so that minutes can be included. Divide the number of minutes by 60.

Examples:
0.1 = 6 minutes
0.3 = 15 minutes
0.5 = 30 minutes
0.8 = 45 minutes etc.

FAQ December 2018: Do not include the additional hours ventilated if the patient returns to the operating room or **procedure room (Update Nov 2019)** and requires reintubation for the procedure and is extubated before leaving the operating room **or procedure room (Update Nov 2019).**

FAQ Nov 2019 - The respiratory therapist always documents the extubation time. However, the ICU nurse also documents the extubation time on her flow sheet. I often get the following scenario, RT time extubated documented as 0700, RN documents on her flowsheet 0703. Which time do I take?
Answer - Capture the time documented by the Respiratory Therapist as priority source documentation in this scenario.

SEQ. #: 6600
Long Name: Total Postoperative Ventilation Hours
Short Name: VentHrsTot
Definition: Calculated variable measuring OR exit time to extubation time plus any additional hours due to reintubation.

Intent/Clarification: This will be system calculated by the software by adding initial post-op vent hours plus additional postop vent hours to determine total post op vent

time. Anything greater than 24 hours is considered prolonged postop vent time. Total hours ventilated is rounded in the calculation.

FAQ December 2018: If the patient leaves the operating room and dies within 4 hours, is that patient included in patients who are extubated in less than 6 hours?
Answer: Yes, the patient is included in patient's extubated in less than 6 hours there is no way to know the extubation was associated with the mortality. This will be reviewed with the next upgrade.

FAQ October 2019 - How do we count the total ventilation hours when the pt returns to the OR for surgery? The patient was not extubated prior to returning to the OR. Do we count the hours he was in the OR as part of his 24 hr post op ventilation time?
Answer - You must include the hours during re-operation in this situation since the patient was not extubated before return to OR.

SEQ. #: 6605
Long Name: ICU Visit
Short Name: ICUVisit
Definition: Indicate whether the patient received ICU level of care immediately following the initial surgery. Include ICU unit, post-anesthesia recovery, and other similar critical care environments.

Intent/Clarification: Indicate whether the patient received ICU level of care immediately following the initial surgery. Include ICU units and other similar critical care environments. Do not include PACU if only used for Phase I recovery but do include PACU if used as a critical care unit when an ICU bed was not available.

Update October 2019 - ICU hours are calculated with a decimal point so that minutes can be included. Divide the number of minutes by 60.

Examples:
0.1 = 6 minutes
0.3 = 15 minutes
0.5 = 30 minutes
0.8 = 45 minutes etc.

SEQ. #: 6610
Long Name: Initial ICU hours **Short Name:** ICUInHrs

Definition: Indicate the number of hours the patient received ICU level of care immediately following the initial surgery until the time of actual transfer out of ICU. Include ICU unit, post-anesthesia recovery, and other similar critical care environments. For those sites providing postop ICU level of care in one single stay unit (admission to ICU to hospital discharge), document the number of hours immediately following the initial surgery until a physician order is written to change the level of care provided.

Intent/Clarification: ICU hours begin when the patient arrives in the ICU or your institutions equivalent to an ICU and ends when they physically leave the ICU. For those sites with single stay units (admission to ICU to hospital discharge), document the number of hours immediately following the initial surgery until a *physician order is written* to change the level of care provided. If the patient expires, use the date/time on the death certificate (time pronounced dead).

Time frame is OR Exit Date and Time until the patient leaves the ICU.

The only way to objectively count ICU time is to count the actual time the patient physically leaves the ICU. Using the time of transfer orders misrepresents actual ICU time.

December 2017: For institutions that have single stay units – the patient stays in the ICU the entire hospital stay - use the date and time that they patient's level of care changes in the ADT system to determine ICU days.

FAQ June 2018: When patient is transferred to "other acute care hospital" do I only count the ICU hours for my facility or am I to count the ICU hours for the "other" facility as well?
Answer: ICU hours is until leave the acute care hospital system – account for all ICU hours. Sites don't always have documentation. ICU hours are ICU hours – and sites should do their best to get the information. This would never be something that is publicly reported.

SEQ. #: 6615
Long Name: Readmission to ICU
Short Name: ICUReadm
Definition: Indicate whether the patient spent time in an ICU after having been transferred to a step-down unit (lower level care). Specific situations are described below:

- OR → ICU → OR → ICU = No
- OR → ICU → STEP DOWN →-> ICU = Yes
- OR → STEP DOWN → ICU = Yes

Single care unit:

Code ICU readmission when the level of care increases and is noted in the physician order.

Intent/Clarification: The intent is to capture episodes of patient deterioration necessitating a higher level of care. For single stay units, this is indicated by a physician order.

SEQ. #: 6620
Long Name: Additional ICU Hours
Short Name: ICUAdHrs
Definition: Indicate the number of additional hours spent in the ICU, or at the equivalent higher level of care in single stay units.

Intent/Clarification: This will be used, along with initial ICU hours, to determine total post op ICU hours, an indication of resource utilization.

For single stay units, time should be calculated by the time stamp on a physician's order to elevate the patient's level of care to Intensive Care until the level of care is deescalated. If the patient expires, time should be counted from order to elevate the level of care to the time of death as noted in the medical record.

SEQ. #: 6625
Long Name: Postop Echo
Short Name: POpTTEch
Definition: Indicate whether an echo was performed postoperatively to evaluate valvular function prior to discharge.

Intent/Clarification: Capture echocardiograms performed after the patient leaves the operating room but prior to hospital discharge. Code the exam closest to discharge.

FAQ Nov 2019 - Patient has three postop echo's, one performed on 9/12, one on 9/17 and the last on 9/18. Echo from 9/18(limited) states 'pulmonic valve was not well visualized'. Echo dated 9/17 (full) states ' PV not well visualized, and echo from 9/12 states "there is mild pulmonic valve regurgitation". How would I answer postop pulmonic valve insufficiency?
Answer - In this scenario, code as mild PV regurgitation since the one closest to discharge and prior to that did not visualzie the PV.

SEQ. #: 6630
Long Name: Postop Echo Aortic Insufficiency
Short Name: POpTTAR

Definition: Indicate the level of aortic insufficiency/regurgitation found on post op echo closest to discharge. Mild-to-moderate should be coded as moderate; moderate to severe should be coded as severe.

Intent/Clarification: Capture echocardiograms performed after the patient leaves the operating room but prior to hospital discharge. If the report for an echocardiogram does not address valve disease, code “not reported”. Use the following to categorize the level of insufficiency/regurgitation:

- None
- Trace/trivial
- Mild
- Moderate
- Severe
- Not Reported

SEQ. #: 6631
Long Name: Postop Echo Aortic Paravalvular Leak
Short Name: POpAortParaLk
Definition: Indicate the level of aortic paravalvular leak found on post op echo closest to discharge. Mild-to-moderate should be coded as moderate; moderate to severe should be coded as severe.

Intent/Clarification: To identify a paravalvular leak in a prosthetic aortic valve.

FAQ February 2018: Should paravalvular leak be coded for a TAVR?
Answer: Yes, TAVR valves can have paravalvular leak and should be coded as such.

SEQ. #: 6635
Long Name: Postop Echo Mitral Insufficiency
Short Name: POpTTMR
Definition: Indicate the level of mitral insufficiency/regurgitation found on post op echo closest to discharge. Mild-to-moderate should be coded as moderate; moderate to severe should be coded as severe.

Intent/Clarification: Capture echocardiograms performed after the patient leaves the operating room but prior to hospital discharge. If the report for an echo does not address valve disease, code “not reported”. Use the following to categorize the level of insufficiency/regurgitation:

- None
- Trace/trivial
- Mild

- Moderate
- Severe
- Not Reported

SEQ. #: 6636
Long Name: Postop Echo Mitral Paravalvular leak
Short Name: POpMitParaLk
Definition: Indicate the level of mitral paravalvular leak found on post op echo closest to discharge. Mild-to-moderate should be coded as moderate; moderate to severe should be coded as severe.

Intent/Clarification: To identify a paravalvular leak in a prosthetic mitral valve.

SEQ. #: 6640
Long Name: Postop Echo Tricuspid Insufficiency
Short Name: POpTTTR
Definition: Indicate the level of tricuspid insufficiency/ regurgitation found on post op echo closest to discharge. Mild-to-moderate should be coded as moderate; moderate to severe should be coded as severe.

Intent/Clarification: Capture echocardiograms performed after the patient leaves the operating room but prior to hospital discharge. If the report for an echo does not address valve disease, code “not reported”. Use the following to categorize the level of insufficiency/regurgitation:

- None
- Trace/trivial
- Mild
- Moderate
- Severe
- Not Reported

SEQ. #: 6645
Long Name: Postop Echo Pulmonic Insufficiency
Short Name: POpTTPu
Definition: Indicate the level of pulmonic insufficiency/ regurgitation found on post op echo closest to discharge. Mild-to-moderate should be coded as moderate; moderate to severe should be coded as severe.

Intent/Clarification: Capture echocardiograms performed after the patient leaves the operating room but prior to hospital discharge. If the report for an echo does not

address valve disease, code “not reported”. Use the following to categorize the level of insufficiency/regurgitation:

- None
- Trace/trivial
- Mild
- Moderate
- Severe
- Not Reported

SEQ. #: 6650
Long Name: Postop EF Done
Short Name: POpEFD
Definition: Indicate whether the Ejection Fraction was measured postoperatively.

Intent/Clarification:

- Yes
- No

SEQ. #: 6655
Long Name: Postop EF
Short Name: POpEF
Definition: Indicate the percentage of the blood emptied from the left ventricle at the end of the contraction measured postoperatively.
Intent/Clarification: Enter a range of 1-99. If a percentage range is reported, report a whole number using the “mean” (i.e., 50- 55% is reported as 53%). If a qualitative description is reported, code the mean value for that range; i.e., normal (50-70%) is coded as 60%.
● Hyperdynamic: >70% (code 71%)
● Normal: 50%–70% (midpoint 60%)
● Mild dysfunction: 40%–49% (midpoint 45%)
● Moderate dysfunction: 30%–39% (midpoint 35%)
● Severe dysfunction: <30% (code 29%)
Note: If no diagnostic report is in the medical record, a value documented in the medical record is acceptable.

SEQ. #: 6660
Long Name: Postop Cardiac Enzymes Drawn
Short Name: POpEnzDrawn

Definition: Indicate whether Cardiac Enzymes (biomarkers) were drawn post procedure.

Intent/Clarification: Capture cardiac enzymes that were drawn after surgery, prior to discharge. This does not imply that enzymes should be drawn on all patients; the intent is to capture the values if they were drawn. Include one-time draws if serial enzymes were not drawn.

SEQ. #: 6665
Long Name: Postop Peak CKMB
Short Name: POpPkCKMB
Definition: Indicate the peak CKMB (highest level post procedure).
Intent/Clarification: CKMB is the fraction of the enzyme directly related to myocardial tissue. Record the highest level post procedure if multiple were drawn. **Update Nov 2019 – The unit of measurement for CKMB is u/l or IU/l or umol/(min.L)**

SEQ. #: 6670
Long Name: Postop Peak Troponin I
Short Name: POpPkTrI
Definition: Indicate the peak Troponin I (highest level post procedure).
Intent/Clarification: Troponin I is a very sensitive and specific indicator of damage to the heart muscle (myocardium). It is used in conjunction with other diagnostic criteria to diagnose myocardial infarction. Record the highest level if multiple were drawn. .
Update Nov 2019 – The unit of measurement for Troponin I is ng/ml or µg/l

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SEQ. #: 6675
Long Name: Postop Peak Troponin T
Short Name: POpPkTrT
Definition: Indicate the peak Troponin T (highest level post procedure).
Intent/Clarification: Troponin T is a very sensitive and specific indicator of damage to the heart muscle (myocardium). It is used in conjunction with other diagnostic criteria to diagnose myocardial infarction. Record the highest level if multiple were drawn. **Update Nov 2019 – The unit of measurement for Troponin T is ng/ml or µg/l**

SEQ. #: 6680
Long Name: Postop 12 Lead EKG
Short Name: POpEKG
Definition: Indicate the post procedure 12 lead EKG findings, if performed.

Intent/Clarification: This does not imply 12 leads are standard procedures for all post op patients. If more than one 12 lead EKG is done following surgery, capture the last one done prior to discharge.

- Not Performed
- No ischemic changes
- New ST changes (does not include LBBB or ST elevation)
- New Pathologic Q Wave or LBBB
- New RBBB
- New AV conduction block
- New STEMI
- Other
- N/A (No pre-op EKG for comparison, transplant) Arrhythmias are not captured here.

Postoperative Events

SEQ. #: 6690
Long Name: Post-Op-Surgical Site Infection
Short Name: SurSInf
Definition: Indicate whether a surgical site infection (SSI) was diagnosed within 30 days of the procedure **(whether in hospital or after discharge)** or any time during the hospitalization for surgery.

Update Oct 2019 - Refer to the most current CDC definition for SSI which can be found ~~in the training manual~~ via the following link:

https://www.cdc.gov/nhsn/pdfs/pscmanual/9pscssicurrent.pdf

Intent/Clarification:

- **Superficial Incisional SSI:** Must meet the following criteria:
  - Infection occurs ≤ 30 days, **and** involves only skin/subcutaneous tissue of the incision, **and** patient has ≥ one of the following:
    - Purulent drainage from the superficial incision.
    - Organisms isolated from an aseptically-obtained culture of fluid or tissue from the superficial incision.

        - Superficial incision that is deliberately opened by a surgeon, attending physician or other designee and is culture positive or not cultured **and** patient has ≥ one of the following:
            - pain or tenderness
            - localized swelling
            - redness
            - heat

.

        - ~~A culture with negative findings does not meet this criterion.~~
    - Diagnosis of a superficial incisional SSI by the surgeon or attending physician or other designee.
    - There are two specific types of superficial incisional SSIs:
        - Superficial Incisional Primary (SIP) – a superficial incisional SSI that is identified in the primary incision in a patient that has had an operation with one or more incisions (chest incision for CABG)
        - Superficial Incisional Secondary (SIS) – a superficial incisional SSI that is identified in the secondary incision in a patient that has had an operation with more than one incision (e.g., donor site incision for CABG)

Do not include:

- A stitch abscess alone (minimal inflammation and discharge confined to the points of suture penetration)
- A localized stab wound or pin site infection.
- Diagnosis of “cellulitis” by itself

- **Deep incisional SSI:** Must meet the following criteria
    - Infection occurs within 30 days after the operative procedure, **and** involves deep soft tissues of the incision (e.g., fascial and muscle layers) **and** patient has at least one of the following:
        - Purulent drainage from the deep incision.
        - A deep incision that spontaneously dehisces or is deliberately opened by a surgeon, attending physician or other designee and is culture-positive or not cultured, **and** patient has at least one of the following signs or symptoms:
            - Fever (>38°C)
            - Localized pain or tenderness
            - An abscess or other evidence of infection involving the deep incision that is detected on direct examination, during invasive procedure, or by histopathologic examination or imaging test.
                - A culture with negative findings does not meet this criterion.
    - There are two specific types of deep incisional SSIs:
        - Deep Incisional Primary (DIP) – a deep incisional SSI that is identified in a primary incision in a patient that has had an operation with one or more incisions (e.g., chest incision for CABG)

        - Deep Incisional Secondary (DIS) – a deep incisional SSI that is identified in the secondary incision in a patient that has had an operation with more than one incision (e.g., donor site incision for CABG)

- **Organ/Space SSI:** Must meet the following criteria
    - Infection occurs within 30 days after the operative procedure, and infection involves any part of the body, excluding the skin incision, fascia, or muscle layers, that is opened or manipulated during the operative procedure, **and** patient has at least one of the following:
        - Purulent drainage from a drain that is placed into the organ/space
        - Organisms isolated from an aseptically-obtained culture of fluid or tissue in the organ/space
        - An abscess or other evidence of infection involving the organ/space that is detected on direct examination, during invasive procedure, or by histopathologic examination or imaging test, **and** meets at least one criterion for a specific organ/space infection of mediastinitis below:

- **MED-Mediastinitis:** Must meet the following criteria
    - Mediastinitis must meet at least *1* of the following criteria:
        - Patient has organisms cultured from mediastinal tissue or fluid obtained during an invasive procedure.
        - Patient has evidence of mediastinitis seen during an invasive procedure or histopathologic examination.
        - Patient has **at least 1** of the following signs or symptoms:
            - Fever (>38°C)
            - Chest pain*
            - Sternal instability*
              and at least 1 of the following:
                - Purulent discharge from mediastinal area
                - Organisms cultured from blood or discharge from mediastinal area
                - Mediastinal widening on imaging test.

* With no other recognized cause

Report mediastinitis following cardiac surgery that is accompanied by osteomyelitis as SSI-MED rather than SSI-BONE

FAQ July 2018: At our site we are putting in wound vac for prophylactic use. Should infection be coded in sequence number 6690 in order to capture the wound intervention in sequence number 6725 and wound VAC in sequence number 6735?
Answer: No, do not code infection or wound intervention and wound VAC.

FAQ November 2018: A patient who underwent an isolated CABG developed purulent drainage of the chest tube site within 30 days of the procedure. How is infection of the CT sites captured as it really doesn't fit into any of the categories?
Answer: Don’t code anything if this was superficial at the site.

SEQ. #: 6695
Long Name: Post-Op-Sternal-Superficial Wound Infection
Short Name: CSternalSupInf
Definition: Indicate whether a superficial sternal wound infection was diagnosed within 30 days of the procedure or any time during the hospitalization for surgery.

Intent/Clarification: See above definition for superficial site infection.

SEQ. #: 6700
Long Name: Post-Op-Deep Sternal Infection / Mediastinitis
Short Name: DeepSternInf
Definition: Indicate whether a deep sternal wound infection or mediastinitis was diagnosed within 30 days of the procedure or any time during the hospitalization for surgery.

Intent/Clarification: See above definition for Deep Sternal Infection/Mediastinitis. The STS Composite scores weighs deep sternal wound infection and mediastinitis the same.

SEQ. #: 6705
Long Name: Post-Op-Deep Sternal Infection / Mediastinitis - Date
Short Name: DeepSternInfDt
Definition: Indicate the first date that deep sternal wound infection or mediastinitis was documented.

Intent/Clarification: Required date format: mm/dd/yyyy

SEQ. #: 6710
Long Name: Post-Op-Infect-Thoracotomy
Short Name: CIThor
Definition: Indicate whether a surgical site infection involving a thoracotomy or parasternal site was diagnosed within 30 days of the procedure or any time during the hospitalization for surgery.

Intent/Clarification: Time frame is from OR Exit time to 30 days post procedure or discharge from initial hospital visit if admitted for greater than 30 days.

SEQ. #: 6715
Long Name: Post-Op-Conduit Harvest
Short Name: ConduitHarv
Definition: Indicate whether a surgical site infection involving a conduit harvest site was diagnosed within 30 days of the procedure or any time during the hospitalization for surgery.

Intent/Clarification: Capture infections at the site of an endovascular harvest site or an open harvest site, arm or leg.

Time frame is from OR Exit time to 30 days post hospital visit if admitted for greater than 30 days.

SEQ. #: 6720
Long Name: Post-Op-Cannulation Site
Short Name: CanSite
Definition: Indicate whether a surgical site infection involving a cannulation site was diagnosed within 30 days of the procedure or any time during the hospitalization for surgery.

Intent/Clarification:
Capture infections of cannulation sites **for the index procedure aorta / venous sites cannulated during surgery for CPB and the transcatheter cannulation site for transcatheter procedures such as TAVR**. These are considered secondary surgical site infections since they do not involve the primary surgical incision. Follow CDC criteria above.

Time frame is from OR Exit time to 30 days post procedure or discharge from initial hospital visit if admitted for greater than 30 days.

FAQ March 2019: A patient was readmitted with an infection at the IABP cannulation site. This readmission infection is only related to the IABP should it only be captured as cannulation site infection in sequence number 6720 and MAD site infection in sequence number 6893?

Answer: No, do not capture as cannulation site infection.

SEQ. #: 6725
Long Name: Post-Op-Wound Intervention / Procedure
Short Name: WoundInter
Definition: Indicate whether a wound intervention or procedure was performed.

Intent/Clarification: The intent is to capture treatment strategies employed to treat the surgical site infection(s). Indicate below whether treatment was applied to the primary incision, secondary incision or both. **Update October 2019 - Capture all strategies employed to treat the infection that was diagnosed within 30 days of surgery. The interventions used may occur > 30 days.**

FAQ July 2018: At our site we are putting in wound vac for prophylactic use. Should infection be coded in sequence number 6690 in order to capture the wound intervention in sequence number 6725 and wound VAC in sequence number 6735?
Answer: No, do not code infection or wound intervention and wound VAC.

SEQ. #: 6730
Long Name: Post-Op-Wound Intervention - Open With Packing / Irrigation
Short Name: WoundIntOpen
Definition: Indicate whether wound intervention(s) involved opening the wound and packing and/or irrigation.

Intent/Clarification: The intent is to capture treatment strategies employed to treat the surgical site infection within 30 days following procedure included leaving the incision open with packing/irrigation.

SEQ. #: 6735
Long Name: Post-Op-Wound Intervention - Wound Vac
Short Name: WoundIntVac
Definition: Indicate whether wound intervention(s) included application of a wound vac.

Intent/Clarification: A wound-vac may also be called negative pressure wound therapy. A wound-vac is a device is used to facilitate wound healing by converting an open wound to a closed wound. The application of negative pressure causes removal of excess fluids, increased blood flow and decreased bacterial colonization; promotes granulation tissue formation and wound closure.

FAQ July 2018: At our site we are putting in wound vac for prophylactic use. Should infection be coded in sequence number 6690 in order to capture the wound intervention in sequence number 6725 and VAC in sequence number 6735?
Answer: No, do not code infection or wound intervention or wound VAC.

SEQ. #: 6740
Long Name: Post-Op-Wound Intervention - Secondary Procedure Muscle Flap
Short Name: WoundIntMuscle

Definition: Indicate whether wound intervention(s) included a secondary procedure involving a muscle flap.

Intent/Clarification: Refer to operative dictations. Muscle flaps are typically performed by a CV Surgeon or Plastic Surgeon.

SEQ. #: 6745
Long Name: Post-Op-Wound Intervention - Secondary Procedure Omental Flap
Short Name: WoundIntOmental
Definition: Indicate whether wound intervention(s) included a secondary procedure involving an Omental flap.

Intent/Clarification: Refer to operative dictations.

SEQ. #: 6750
Long Name: In Hospital Post-Op Events
Short Name: Complics
Definition: Indicate whether a postoperative event occurred during the hospitalization for surgery. This includes the entire postoperative period up to discharge, even if over 30 days.

Intent/Clarification:
The intent is to document those events/complications that:

- Pose either a life threatening situation or create a potential long-term deficit
- Require pharmacological, surgical or medical intervention to prevent further clinical deterioration
- Increase length of stay and/or resource utilization.

If the patient expires in the operative room, the complications section does not need to be completed. There would not have been a post-operative period for the patient, therefore, no post-operative complications. Code the Complications data fields “No”.

FAQ June 2018: The patient was transferred to another acute care hospital; following transfer the patient had a number of complications including: prolonged vent and renal failure. In which hospital should the complications be captured?
Answer: The hospital in which the initial procedure was performed is required to capture all complications and outcomes for the patient until the time of discharge from the second hospital.

FAQ December 2018: The patient had the following postoperative complications: thrombocytopenia, hemolytic anemia, AKI, AMS, possible thrombotic microangiopathy. Differential diagnoses included TTP, HUS, DITMA but no DIC was identified. The patient ultimately required plasmapheresis. How is plasmapheresis captured as a post

operative event?
Answer: Plasmapheresis is not captured as a post operative event.

SEQ. #: 6755
Long Name: Post-Op-ReOp Bleed
Short Name: COpReBld
Definition: Indicate whether the patient was re-explored for mediastinal bleeding with or without tamponade either in the ICU or returned to the operating room.

Intent/Clarification: Do not capture reopening of the chest or situations of excessive bleeding that occur prior to the patient leaving the operating room at the time of the primary procedure. Tamponade is a situation which occurs when there is compression or restriction placed on the heart within the chest that creates hemodynamic instability or a hypoperfused state. Do not include medically (non-operatively) treated excessive post-operative bleeding/tamponade events.

Include patients that return to an OR suite or equivalent OR environment (i.e., ICU setting) as identified by your institution, that require surgical re-intervention to investigate/correct bleeding with or without tamponade. Include only those interventions that pertain to the mediastinum or thoracic cavity.

SEQ. #: 6760
Long Name: Post-Op-ReOp Bleed Timing
Short Name: COpReBldTim
Definition: Indicate when reoperation for bleeding took place.

Intent/Clarification:

- Acute* - Within 24 hours of the end of the case
- Late - more than 24 hours after case ends

*Code exactly 24 hours as Acute

SEQ. #: 6765
Long Name: Post-Op-ReOp Vlv Dys
Short Name: COpReVlv
Definition: Indicate whether the patient returned to the operating room for prosthetic or native valve dysfunction. Dysfunction may be structural and/or non-structural failure. Dysfunction may be of prosthesis, a progressive native disease process, or an acute event process that disrupts valve function and creates either clinical compromising insufficiency/regurgitation or valve orifice narrowing.

Intent/Clarification:

- Yes, surgical
- Yes, transcatheter
- No

FAQ December 2018: The patient was transferred from my hospital to another hospital following surgery for higher level of care and required valve surgery, how is the valve surgery captured for my hospital?
Answer: The valve done at the second hospital would be captured as reoperation for valve dysfunction if the patient had a primary procedure at your hospital.

FAQ May 2019: I had a patient who had a planned CABG for 1 day and a planned TVAR the next day. Is the TAVR captured, if so, where?

Answer: Yes, please code the TAVR in the Aortic Valve Section even though it was done on a different day. This patient will appropriately fall out of the isolated CAB category considering the additional risk of the TAVR procedure.

SEQ. #: 6771

Long Name: Post-Op-Reintervention-Myocardial Ischemia
Short Name: CReintMI
Definition: Indicate whether the patient required postoperative reintervention for Myocardial Ischemia.

Intent/Clarification:
Only capture surgical or Cath lab interventions that occur during the hospitalization prior to discharge.

- Yes, surgical
- Yes, PCI
- No

FAQ September 2017: Patient was 4 days post op CAB developed chest pain with elevated troponin. Patient was taken to the Cath lab and found to have a freshly occluded graft. After opening the graft with "mechanical thrombolysis" the graft was open, but noticed an AV fistula between the graft and the LV. The physician then ballooned the area to re-occlude the graft and seal the fistula. This was successful. How does this get captured?
Answer: Code Yes, PCI.

FAQ August 2018: The patient had no chest pain but had a CAB X 2 for large aneurysm originating from the bifurcation of the LAD and Diagonal. Post operatively, the patient was experiencing angina and was taken to the cardiac cath lab where stenting of the proximal LAD was performed. Should this be coded as reop other cardiac?

Answer: No, this is reintervention for myocardial ischemia.

FAQ May 2019: Patient had CABG, coded in ICU postop and a few days postop had to go to cath lab and near total graft occlusion (RCA) found. IABP removed and Impella inserted. They were unable to engage RCA and given the contrast amount and improving hemodynamic status with Impella they felt further attempts at revascularization were futile. So no "intervention type: surgery or PCI or both" done. How should this be captured?
Answer: Code this as a reintervention for MI since the PCI was attempted.

FAQ June 2019: The patient goes to surgery for a CAB on 3/11/2019. During the operation the surgeon determines that the patient will need a post op PCI on a vessel that is too small to bypass. The patient is taken back to the cath lab on 3/14/2019 for a planned PCI of the vessel that was too small to bypass. There is no information in the chart after surgery suggesting the patient is having ischemia. Do we capture this as Reintervention Myocardial Ischemia?
Answer**:** At time of initial surgery if the surgeon determines that a vessel is not bypasasable and more suitable for PCI then Seq 2606 can be coded as YES.

SEQ. #: 6772
Long Name: Post-Op-Reintervention-Myocardial Ischemia-Vessel
Short Name: CReintMIVes
Definition: Indicate the type of vessels that required postoperative reintervention for Myocardial Ischemia.

Intent/Clarification: Reintervention may involve native coronary arteries, coronary artery bypass grafts or both.

- Native Coronary
- Graft
- Both

FAQ September 2017: Patient was 4 days post op CAB developed chest pain with elevated troponin. Patient was taken to the Cath lab and found to have a freshly occluded graft. After opening the graft with "mechanical thrombolysis" the graft was open, but noticed an AV fistula between the graft and the LV. The physician then ballooned the area to re-occlude the graft and seal the fistula. This was successful. How does this get captured?
Answer: Code Graft.

SEQ. #: 6773
Long Name: Post-Op-Reintervention-Myocardial Ischemia - Intervention Type
Short Name: CReintMIIntTy
Definition: Indicate the type of intervention used postoperatively for Myocardial Ischemia.

Intent/Clarification: Reintervention may include surgery, PCI or both.

FAQ September 2017: Patient was 4 days post op CAB developed chest pain with elevated troponin. Patient was taken to the Cath lab and found to have a freshly occluded graft. After opening the graft with "mechanical thrombolysis" the graft was open, but noticed an AV fistula between the graft and the LV. The physician then ballooned the area to re-occlude the graft and seal the fistula. This was successful. How does this get captured?
Answer: Code PCI.

SEQ. #: 6774
Long Name: Post-Op-Aortic Reintervention
Short Name: CAortReint
Definition: Indicate whether the patient underwent postoperative aortic reintervention.

Intent/Clarification:

- Yes
- No

FAQ October 2017: The patient was initially scheduled for TEVAR but after a series of CT scans and manifestations of signs and symptoms, the surgeon opted to repair the ascending aortic flap first and then, 3 days later, he took the patient back to the OR for the TEVAR. Should this be captured as post-operative event aortic reintervention?
Answer: No, code as a planned staged hybrid. Then capture the TEVAR accordingly in Seq. No. 5095.

FAQ Nov 2019 - Patient had an aortic aneurysm repair Elephant Trunk I. On the same admission, he went back to the OR after 7 days for planned Elephant trunk II procedure. Do I capture the return to OR as 6774?

Answer – No capture as one procedure, not return to OR. Use the date and times for OR from the first procedure.

SEQ. #: 6775
Long Name: Post-Op-Aortic Reintervention-Type
Short Name: CAortReintTy
Definition: Indicate the type of aortic intervention the patient received.

Intent/Clarification: Reintervention may be open or endovascular.

SEQ. #: 6778

Long Name: Post-Op-ReOp Other Card
Short Name: COpReOth
Definition: Indicate whether the patient returned to the operating room for other cardiac reasons.

Intent/Clarification: Capture any other cardiac reasons for reoperation.

- Yes
- No

Include patients that return to an OR suite or equivalent OR environment (i.e., ICU setting) as identified by your institution, that require surgical re-intervention to investigate/correct other non-bleed cardiac issues such as emergent open chest in the ICU for cardiac arrest.

FAQ December 2018: Would the removal of Impella in the operating room be considered reoperation other cardiac?
Answer: No, this is an expectation and not a complication.

FAQ February 2019: The patient returned to the OR on the third postoperative day for the removal of a transthoracic IABP. Should this be a reoperation other cardiac.
Answer: Do not consider this expected procedure as a reoperation.

FAQ May 2019: A patient underwent a LVAD procedure. A couple of days later, he returned to the OR for a post op pulmonary embolectomy during the same admission. Should an additional STS form be completed for the pulmonary embolectomy procedure?
Answer: If LVAD is a FDA approved permanent device then it should be entered in the Intermacs Database and the pulmonary embolectomy should be captured for that procedure. If the LVAD is entered in the ACSD then it should be entered as the index procedure with the pulmonary embolectomy as a post-operative event.

FAQ July 2019 - A week after CABG, patient continues to be in cardiogenic shock. They are taken back to OR to have an Impella placed to bridge to LVAD and transplant work up. Does this qualify for ReOP for Other Cardiac Reasons? IABP was in right femoral. Surgeon and cardiologist did not feel the patient could tolerate removal of IABP then placement of femoral impella. She was taken to OR for right axillary impella via cut down.
Answer – Do not code as re-op code only under MAD

FAQ Nov 2019 - Currently if ECMO is placed via thoracic catheters (chest opened) at bedside it is considered a return to OR, other cardiac. If ECMO is inserted peripherally it is captured in the timing of ECMO and not captured as a return to OR. Please clarify how we are to capture ECMO?
Answer - Capture institution of post operative ECMO in Seq 3775 - 3785 and Seq 6778 return to OR for any ECMO regardless of where ECMO is performed.

SEQ. #: 6780
Long Name: Post-Op-Return To OR For Other Non-cardiac Reason
Short Name: COpReNon
Definition: Indicate whether the patient returned to the operating room for other non-cardiac reasons.

This includes procedures requiring a return to the operating room such as tracheostomy, general surgery procedures.

This does not include procedures performed outside the operating room such as GI Lab for peg tube, shunts for dialysis, etc.

Intent/Clarification:
Non-cardiac events include, but are not limited to, events as described in Section N.

Code only those non-cardiac events that require a return to the surgical suite.

This includes procedures requiring a return to the operating room, such as a tracheostomy, hematoma evacuation, etc.

This does not include procedures performed outside the operating room, such as GI lab for peg tubes, shunts for dialysis, etc. Due to practice pattern(s) determined by institutional culture or practice driven patterns, some sites may have included in this section cases and/or events that other sites may not. Capture those events that may pose a clinically or resource utilization impact on the patient AND necessitate a return to the OR.

For planned procedures, (i.e. a patient who is scheduled for lower extremity vascular surgery requiring a CAB prior to the scheduled vascular procedure), Code “No,” as this is not a complication, coding it as a complication misrepresents the outcome of the surgery.

Events captured here are not included in the reoperative measure of the composite score.

FAQ September 2017: Should we code a GI event for an abdominal compartment syndrome leading to a decompressive laparotomy?
Answer: Yes, code GI event for abdominal compartment syndrome in addition to the reoperation other non-cardiac for the decompression laparotomy.

FAQ October 2017: If the patient has a percutaneous tracheostomy done at the bedside, is this considered a reoperation other non-cardiac.
Answer: Yes, code ‘Reoperation, other non-cardiac” for all tracheostomies regardless of the location where the tracheostomy was performed.

FAQ March 2018: The patient completed CABG surgery and arrived in CTICU. The OR nurse notified the surgeon about the missing instrument, a chest X-ray was performed and showed a retained foreign body in the chest. The patient was returned to the operating room for the removal of the foreign body. Does this coded as yes or no for 'Returned to the OR for Other Non-Cardiac Reason'?

Answer: Code reoperation other non-cardiac.

SEQ. #: 6785
Long Name: Post-Op-Open Chest With Planned Delayed Sternal Closure
Short Name: COpPlndDelay
Definition: Indicate whether the chest was left open with planned delayed sternal closure.

Intent/Clarification: This allows capture of patients who have the chest left open with a planned delayed sternal closure.

FAQ August 2018: The patient's chest was left open and would have been closed but the patient died before it could be closed. Should this still coded as delayed sternal closure?
Answer: Yes, that was the intent.

SEQ. #: 6790
Long Name: Post-Op-Sternotomy Issue
Short Name: CSternal
Definition: Indicate presence of a post-operative sternotomy issue.

Intent/Clarification: Indicate presence of a post-operative sternotomy issue prior to discharge. Any condition requiring operative intervention involving the sternotomy should be coded YES.

SEQ. #: 6795
Long Name: Post-Op Sternal instability/dehiscence (sterile)
Short Name: CSternalDehis
Definition: The code indicates sterile dehiscence of the sternal edges without evidence of infection but which requires surgical intervention. Skin and subcutaneous tissue may remain intact.

Intent/Clarification: Wound dehiscence (sterile) is defined as separation of the layers of a surgical wound. This separation can either be superficial or deep and can include the sternum in the case of a median sternotomy incision. The code "Sternal instability (sterile)" should be used to record the complication when the superficial and deep layers of the incision remain intact but non-union of the sternal edges is present. Causes of wound dehiscence can include tissue ischemia, nutritional deficiencies, use of corticosteroids, vitamin C deficiency, and others.

Wound dehiscence due to wound infection should be recorded as a wound infection.

SEQ. #: 6800
Long Name: Post-Op-Sepsis
Short Name: CSepsis
Definition: Sepsis is defined as evidence of serious infection accompanied by a deleterious systemic response. In the time period of the first 48 postoperative or post procedural hours, the diagnosis of sepsis requires the presence of a Systemic Inflammatory Response Syndrome (SIRS) resulting from a proven infection (such as bacteremia, fungemia or urinary tract infection). In the time period after the first 48 postoperative or post procedural hours, sepsis may be diagnosed by the presence of a SIRS resulting from suspected or proven infection. During the first 48 hours, a SIRS may result from the stress associated with surgery and/or cardiopulmonary bypass. Thus, the clinical criteria for sepsis during this time period should be more stringent.

A systemic inflammatory response syndrome (SIRS) is present when at least two of the following criteria are present: hypo- or hyperthermia (>38.5 or <36.0), tachycardia or bradycardia, tachypnea, leukocytosis or leukopenia, or thrombocytopenia.

Intent/Clarification: Indicate whether sepsis was diagnosed during initial hospitalization. Sepsis is defined as having 2 or more of the SIRS (systemic inflammatory response syndrome) criteria and a known or suspected infection, typically occurring within 6 hours of each other. SIRS may occur unrelated to infection, as in the case of cardiac surgery, and not indicative of Sepsis.

- Within the first 48 hours of cardiac surgery a patient MUST meet 2 SIRS criteria typically within 6 hours of each other and have a PROVEN infection (not suspected). Clinical criteria of sepsis must be more stringent during the first 48 hours following surgery because the stress surgery produces results in SIRS criteria and is not typically related to an infection.
- After 48 hours, the patient must have 2 or more SIRS criteria typically within 6 hours of each other and a known or suspected infection.

SIRS criteria included:

- HR > 90 (acute and not a chronic condition)
- Temp >38.5 <36.0
- Resp >20 bpm or $PaCO^2$ <32 mmHg
- WBC <4000 or >12000 or >10% Bands

SEQ. #: 6805
Long Name: Post-Op-Sepsis-Positive Blood Cultures
Short Name: CSepsisPBC
Definition: Indicate whether a recognized pathogen is cultured from 1 or more blood cultures and is not related to an infection at another site.

Intent/Clarification: Indicate if blood cultures obtained in the post-operative period were positive for infectious pathogen. Staph epidermis (*S.* epidermis) is a common contaminate of blood cultures. Refer to the ordering physician's interpretation of results if there is a questions.

SEQ. #: 6810
Long Name: Post-Op-Neuro-Stroke Perm
Short Name: CNStrokP
Definition: Indicate whether the patient has a postoperative stroke and the type of stroke (i.e., any confirmed neurological deficit of abrupt onset caused by a disturbance in blood supply to the brain) that did not resolve within 24 hours.

Intent/Clarification: Stroke occurs when the blood supply to part of the brain is suddenly interrupted or when a blood vessel in the brain bursts, spilling blood into the spaces surrounding brain cells. Brain cells die when they no longer receive oxygen and nutrients from the blood or there is sudden bleeding into or around the brain.

Update Nov 2019 - A confirmed stroke on imaging supercedes the 24 -hour time period.

The symptoms of a stroke include:

- Sudden numbness or weakness, especially on one side of the body
- Sudden confusion or trouble speaking or understanding speech
- Sudden trouble seeing in one or both eyes
- Sudden trouble with walking, dizziness, or loss of balance or coordination
- Sudden severe headache with no known cause

There are two forms of stroke:

- Ischemic - blockage of a blood vessel supplying the brain
- Hemorrhagic - bleeding into or around the brain

Central events are caused by embolic or hemorrhagic events. Neurological deficits such as confusion, delirium and/or encephalopathic (anoxic or metabolic) events are not to be coded in this field.

Reference: https://www.ninds.nih.gov/Disorders/All-Disorders/Stroke-Information-Page

FAQ October 2017: How should embolic stroke be coded?
Answer: Embolic strokes should be coded as ischemic.

FAQ Sept 2019 - A patient developed a post-op ischemic stroke. Three days after this diagnosis, a repeat head CT showed "evidence of hemorrhagic transformation". Should the stroke be coded as "ischemic" or as "hemorrhagic"?

Answer - Code as ischemic.

SEQ. #: 6815
Long Name: Post-Op-Neuro-Transient Ischemic Attack - TIA
Short Name: CNStrokTTIA
Definition: Indicate whether the patient had a postoperative Transient Ischemic Attack (TIA): Loss of neurological function that was abrupt in onset but with complete return of function within 24 hours.

Intent/Clarification: A transient ischemic attack (TIA) is a transient stroke that lasts up to 24 hours. It occurs when the blood supply to part of the brain is briefly interrupted. TIA symptoms, which usually occur suddenly, are similar to those of stroke but do not last as long. Most symptoms of a TIA disappear within an hour, although they may persist for up to 24 hours.

Symptoms can include:

- Numbness or weakness in the face, arm, or leg, especially on one side of the body
- Confusion or difficulty in talking or understanding speech
- Trouble seeing in one or both eyes; and difficulty with walking, dizziness, or loss of balance and coordination.

Patients who have suffered a TIA have an increased risk of peripheral and coronary artery atherosclerosis, and an increased risk of subsequent heart attack and stroke.

Reference: https://www.ninds.nih.gov/Disorders/All-Disorders/Stroke-Information-Page

FAQ Nov 2019 - Patient had an MRI that was positive for a post-op stroke. In discussion with the cardiac team it was felt that this would not be captured as a post-op stroke because the symtoms resolved within 24 hours. How would this be captured since the symptoms resolved within 24 hours?
Answer - code YES to post-op CVA in this scenario. A confirmed stroke on imaging supercedes the 24- hour time period.

SEQ. #: 6821
Long Name: Post-Op-Neuro-Encephalopathy
Short Name: CNEnceph
Definition: Indicate the type of postoperative encephalopathy the patient developed, if any.

Intent/Clarification:
Encephalopathy is a term for any diffuse disease of the brain that alters brain function or structure. The hallmark of encephalopathy is an altered mental state. Blood tests, spinal fluid examination, imaging studies, electroencephalograms, and similar diagnostic studies may be used to differentiate the various causes of encephalopathy.

Encephalopathy may be caused by:

- Infectious agent (bacteria, virus, or prion),
- Metabolic or mitochondrial dysfunction,
- Brain tumor or increased pressure in the skull,
- Prolonged exposure to toxic elements (including solvents, drugs, radiation, paints, industrial chemicals, and certain metals),
- Chronic progressive trauma,
- Poor nutrition,
- Lack of oxygen or blood flow to the brain

Depending on the type and severity of encephalopathy, common neurological symptoms are:

- progressive loss of memory and cognitive ability
- subtle personality changes
- inability to concentrate
- lethargy
- progressive loss of consciousness.

Other neurological symptoms may include:

- myoclonus (involuntary twitching of a muscle or group of muscles)
- nystagmus (rapid, involuntary eye movement)
- tremor
- muscle atrophy and weakness
- dementia
- seizures
- loss of ability to swallow or speak

If multiple causes, choose first event.

Reference**:** https://www.ninds.nih.gov/Disorders/All-Disorders/Stroke-Information-Page

- None
- Anoxic
- ~~Embolic~~
- Drug
- Metabolic
- ~~Intracranial Bleeding~~
- ~~Other~~
- **Mixed**
- Unknown

SEQ. #: 6822
Long Name: Post-Op-Neuro-Coma/Unresponsive State
Short Name: CNComa
Definition: Indicate whether the patient developed a postoperative coma or unresponsive state (not stroke).

Intent/Clarification: A coma, sometimes also called persistent vegetative state, is a profound or deep state of unconsciousness. Persistent vegetative state is not brain-death. An individual in a state of coma is alive but unable to move or respond to his or her environment.

SEQ. #: 6825
Long Name: Post-Op-Neuro-Paralysis
Short Name: CNParal
Definition: Indicate whether the patient had a new postoperative paralysis, paraparesis, or paraplegia related to spinal cord ischemia and not related to a stroke.

Intent/Clarification: Paralysis is a loss of purposeful movement as a result of a neurological injury, drugs or toxins. Loss of motor function may be complete (paralysis) or partial (paresis); unilateral (hemiplegic) or bilateral confined to the lower extremities (paraplegic) or present in all four extremities (quadriplegic); and may be accompanied by increased muscular tension and hyperactive reflexes (spastic) or by loss of reflexes (flaccid). Related to spinal cord ischemia, **not related to stroke.**

SEQ. #: 6826
Long Name: Post-Op-Neuro-Paralysis Type
Short Name: CNParalTy
Definition: Indicate whether the new postoperative paralysis, paraparesis, or paraplegia was transient or permanent.

Intent/Clarification: Related to spinal cord ischemia, **not related to stroke.**

- **Transient** - is non-lasting and of short (< 24 hours) duration.
- **Permanent** - is enduring, lasting, or without change for more than 24 hours.

SEQ. #: 6829
Long Name: Post-Op-Neuro-Paresis
Short Name: CNParesis

Definition: Indicate whether postoperative paresis was present

Intent/Clarification:

- Yes
- No

SEQ. #: 6830
Long Name: Post-Op-Neuro-Paresis Type
Short Name: CNParesisTy
Definition: Indicate the type of post op paresis

Intent/Clarification: Paresis may be transient or permanent and is related to spinal cord ischemia and not to stroke. **Update Nov 2019 - Transient - is non-lasting and of short (< 24 hours) duration & Permanent - is enduring, lasting, or without change for more than 24 hours.**

SEQ. #: 6832
Long Name: Post-Op-Phrenic Nerve Injury
Short Name: PhrenNrvInj
Definition: Indicate whether patient has symptoms of phrenic nerve injury, (e.g., immobility or elevation of the diaphragm, etc.).

Intent/Clarification: Traumatic or thermal injury to the phrenic nerve can result in paralysis of the hemi diaphragm on the affected side, resulting in respiratory difficulty.

SEQ. #: 6833
Long Name: Post-Op-Recurrent Laryngeal Nerve Injury
Short Name: RecLarynNrvInj
Definition: Indicate whether patient has symptoms of recurrent laryngeal nerve injury, (e.g., hoarseness, difficulty speaking, etc.).

Intent/Clarification: The recurrent laryngeal nerve controls movement of the larynx. The larynx contains the apparatus for voice production: the vocal cords, and the muscles and ligaments that move the vocal cords. It also controls the flow of air into the lungs. When the recurrent laryngeal nerve is damaged, the movements of the larynx are reduced. This causes voice weakness, hoarseness, or sometimes the complete loss of voice. The changes may be temporary or permanent.

SEQ. #: 6835
Long Name: Post-Op-Pulm-Vent Prolonged
Short Name: CPVntLng
Definition: Indicate whether the patient had prolonged post-operative pulmonary ventilation > 24.0 hours.
The hours of postoperative ventilation time include OR exit until extubation, plus any additional hours following reintubation.
Include (but not limited to) causes such as ARDS, pulmonary edema, and/or any patient requiring mechanical ventilation > 24 hours postoperatively.

Intent/Clarification: To calculate total hours, include initial and additional hours of mechanical ventilation. Extended ventilation may include, but is not limited to, the specific definitional reasons. Example: If a major stroke or coma occurred that required ventilation for life support, code as prolonged if greater than 24 hours. Do not include the hours ventilated if a patient returns to the operating room suite and requires re-intubation as part of general anesthesia but does not require ventilation beyond the time in the operating room (i.e. after OR Exit Time).

SEQ. #: 6840

Long Name: Post-Op-Pulm-Pneumonia

Short Name: CPPneum
Definition: Indicate whether the patient had pneumonia according to the CDC definition.
Intent/Clarification: See the CDC definition below
https://www.cdc.gov/nhsn/pdfs/pscmanual/6pscvapcurrent.pdf

FAQ June 2019: Should there be diagnostic evidence the patient has pneumonia or is it sufficient for the patient to have cough and rales, for example?
Answer: To code pneumonia accurately, there should be a physician diagnosis documented in the medical record based on radiologic evidence as well as symptoms, i.e. fever, leukocytosis, sputum, etc. Do not code pneumonia based solely on cough and rales. Code pneumonia based on the CDC definition AND Physician Documentation.

Table 1: Specific Site Algorithms for Clinically Defined Pneumonia (PNU1)

Imaging Test Evidence	Signs/Symptoms/Laboratory
Two or more serial chest imaging test results with at least ***one*** of the following[1,2]: New and persistent **or** Progressive and persistent • Infiltrate • Consolidation • Cavitation • Pneumatoceles, in infants ≤1 year old **Note:** In patients ***without*** underlying pulmonary or cardiac disease (e.g., respiratory distress syndrome, bronchopulmonary dysplasia, pulmonary edema, or chronic obstructive pulmonary disease), one definitive imaging test result is acceptable.[1]	For ANY PATIENT, at least ***one*** of the following: • Fever (>38.0°C or >100.4°F) • Leukopenia (≤4000 WBC/mm^3) or leukocytosis (≥12,000 WBC/mm^3) • For adults ≥70 years old, altered mental status with no other recognized cause And at least ***two*** of the following: • New onset of purulent sputum[3] or change in character of sputum[4], or increased respiratory secretions, or increased suctioning requirements • New onset or worsening cough, or dyspnea, or tachypnea[5] • Rales[6] or bronchial breath sounds • Worsening gas exchange (e.g., O_2 desaturations (e.g., PaO_2/FiO_2 ≤240)[7], increased oxygen requirements, or increased ventilator demand)
	ALTERNATE CRITERIA, for infants ≤1 year old: Worsening gas exchange (e.g., O_2 desaturations [e.g., pulse oximetry <94%], increased oxygen requirements, or increased ventilator demand) And at least ***three*** of the following: • Temperature instability • Leukopenia (≤4000 WBC/mm^3) or leukocytosis (≥15,000 WBC/mm^3) and left shift (≥10% band forms) • New onset of purulent sputum[3] or change in character of sputum[4], or increased respiratory secretions or increased suctioning requirements • Apnea, tachypnea[5], nasal flaring with retraction of chest wall or nasal flaring with grunting • Wheezing, rales[6], or rhonchi • Cough • Bradycardia (<100 beats/min) or tachycardia (>170 beats/min)
	ALTERNATE CRITERIA, for child >1 year old or ≤12 years old, at least ***three*** of the following: • Fever (>38. 0°C or >100. 4°F) or hypothermia (<36. 0°C or <96. 8°F) • Leukopenia (≤4000 WBC/mm^3) or leukocytosis (≥15,000 WBC/mm^3) • New onset of purulent sputum[3] or change in character of sputum[4], or increased respiratory secretions, or increased suctioning requirements • New onset or worsening cough, or dyspnea, apnea, or tachypnea[5]. • Rales[6] or bronchial breath sounds • Worsening gas exchange (e.g., O_2 desaturations [e.g., pulse oximetry <94%], increased oxygen requirements, or increased ventilator demand)

SEQ. #: 6845
Long Name: Post-Op-Venous Thromboembolism-VTE
Short Name: CVTE

Definition: Indicate whether the patient developed postoperative venous thrombosis or thromboembolic event.

Intent/Clarification: A clot within a blood vessel is called a thrombus and the process by which it forms is known as thrombosis. It can be damaging as it might block the flow of blood. Also, part of the clot could embolize, or break off, and block a blood vessel further along, cutting off the blood supply to important organs.

Post-operative patients are at risk of forming clots in the lower extremities that could lead to pulmonary embolism. Capture upper and lower extremity events.

SEQ. #: 6850
Long Name: Post-Op-Pulmonary Thromboembolism
Short Name: PulmEmb
Definition: Indicate whether the patient had a pulmonary thromboembolism diagnosed by radiologic study such as V/Q scan, angiogram, or spiral CT.

Intent/Clarification: Pulmonary embolism is a life threatening clot formation in one or more pulmonary arteries causing partial or complete obstruct of blood flow to the lung(s). Pulmonary embolisms must be documented through diagnostic testing.

SEQ. #: 6855
Long Name: Post-Op-Deep Venous Thrombosis
Short Name: DVT
Definition: Indicate whether patient had thrombosis (clot formation) in a deep vein.

Intent/Clarification: Deep vein thrombosis (DVT) is the formation of a blood clot in the deep veins within the body, such as in the leg or pelvis. This kind of thrombosis can occur after surgery and may cause redness, pain and swelling. **Update October 2019 – include upper and lower extremity events.**

SEQ. #: 6860
Long Name: Post-Op-Pleural Effusion Requiring Drainage
Short Name: CPlEff
Definition: Indicate whether a post-operative pleural effusion required drainage via thoracentesis or chest tube insertion.

Intent/Clarification: Interventions include chest tube insertion, needle aspiration or other invasive procedure. May include hemothorax.

FAQ September 2017: A patient experienced a chylothorax postop from a chest tube that was in place from the OR. No new drains were placed. He ultimately was transferred to another acute care hospital that had the ability to perform a lymphsynthigraphy and was diagnosed with a thoracic duct injury. Should this get captured as a complication, and if so how?

Answer: Code pleural effusion requiring drainage for this chylothorax.

FAQ June 2018: We recently had a couple of patients with persistent pleural drainage, chest tubes remain in from surgery. The surgeon took them to them to the OR for pleural doxycycline infusion for chemical pleurodesis. How should this be coded as pleural effusions (no drainage preformed) or post op reop other non-cardiac?
Answer: Do not code anything additional for this pleurodesis.

SEQ. #: 6865
Long Name: Post-Op-Pneumothorax Requiring Intervention
Short Name: PostOpPneumo
Definition: Indicate whether the patient had a post-operative pneumothorax requiring intervention.

Intent/Clarification: Interventions include chest tube insertion, needle aspiration or other invasive procedure. Do not capture a small pneumothorax followed with serial chest X-rays**.**

SEQ. #: 6870
Long Name: Post-Op-Renal-Renal Failure
Short Name: CRenFail
Definition: Indicate whether the patient had acute renal failure or worsening renal function resulting in ONE OR BOTH of the following:
1. Increase in serum creatinine level 3.0 x greater than baseline, or serum creatinine level ≥4 mg/dL. Acute rise must be at least 0.5 mg/dl 2. A new requirement for dialysis postoperatively.
Intent/Clarification:
The Acute Dialysis Quality Initiative, a multidisciplinary collaboration, defined a range of acute renal dysfunction called the RIFLE classification system. It is used to define grades of severity based on objective measurements.

See highlighted Renal Failure criteria below.

Classifications of Loss and End-stage disease are beyond the current scope of follow-up. Code yes if the patient meets the highlighted RIFLE Failure criteria or if dialysis was newly required post op.

Risk (R) - Increase in serum creatinine level X 1.5 or decrease in GFR by 25%, or UO <0.5 mL/kg/h for 6 hours

Injury (I) - Increase in serum creatinine level X 2.0 or decrease in GFR by 50%, or UO <0.5 mL/kg/h for 12 hours, or decrease in GFR by 75%; UO <0.3 mL/kg/h for 24 hours, or anuria for 12 hours.

Failure (F) – Increase in serum creatinine level X 3.0, or serum creatinine **≥ mg/dL 4.0** with at least a 0.5 mg/dL rise, or decrease in GFR by 75%; UO <0.3 mL/kg/h for 24 hours, or anuria for 12 hours.

Loss (L) - Persistent ARF, complete loss of kidney function > 4 weeks

End-stage kidney disease (E) - Loss of kidney function >3 months

CLARIFICATION: If dialysis (seq# 375) is equal to "No" and if postoperative creatinine level (seq# 6555) is greater than or equal to 3X last creatinine level (seq# 585) or postoperative creatinine (seq# 6555) is greater than or equal to 4.0 with a 0.5 mg/dL rise or new postoperative dialysis (seq# 6875) then, renal failure (seq# 6870) is equal to "Yes".

FAQ February 2018: The patient's baseline Cr was 0.62 months before admission. Patient taken for urgent CABG had an abnormally low Cr at baseline of 0.45 after aggressive hydration from heart cath. Her highest post-op creat was 1.5. Is this considered renal failure?
Answer: Hydration can cause an abnormally low Cr; however, a consistent guideline must be followed to capture worsening renal function as indicated by the RIFLE criteria adapted by the STS.

FAQ February 2018: A patient who has undergone a prolonged MV repair encounters rising lactic acid levels and is placed on hemodialysis which results in signs of improvement. The post operative creatinine levels do bump up but do not exceed STS thresholds. Is this coded a renal failure?
Answer: The requirement for new dialysis postoperatively fulfills the definition for renal failure.

Updated August 2019 FAQ February 2019: The right and left renal arteries were covered with endograft secondary to emergency rupture. A dialysis catheter was placed in surgery and dialysis was started post-op. Should renal failure be coded?
Answer: Code yes to renal failure.

FAQ August 2019 - Dialysis temporary catheters were placed. However, dialysis was not started as the patient's family decided to withdraw care. Post-op Creatinine does not meet the definition, but the intent was to start dialysis. Do I code post-op renal failure since dialysis was intended but not started?

Answer – Do not code post-op renal failure in this scenario since dialysis was not started and the post-op creatinine did not meet the data definition.

SEQ. #: 6875
Long Name: Post-Op-Renal-Dialysis Req
Short Name: CRenDial
Definition: Indicate whether the patient had a new requirement for dialysis postoperatively, which may include hemodialysis, peritoneal dialysis.

Intent/Clarification: May include either hemo or peritoneal dialysis. This includes a one-time need for dialysis as well as implementation of longer term therapy.

If the patient was on preoperative peritoneal dialysis and moved to hemodialysis postoperatively, this does not constitute a worsening of the condition and should not be coded as an event. Does not include aquapheresis.

Continuous Veno-Venous Hemofiltration) (CVVH, CVVH-D), Continuous Renal Replacement Therapy (CRRT), and **iHD (update October 2019)** should be coded here as "Yes." (Code Ultra filtration as "No", it is captured in a separate field).

FAQ February 2019: The right and left renal arteries were covered with endograft secondary to emergency rupture. A dialysis catheter was placed. Should renal failure dialysis be coded?
Answer: Code yes to renal failure dialysis.

SEQ. #: 6880
Long Name: Post-Op-Dialysis Required After Discharge
Short Name: DialDur
Definition: Indicate whether dialysis was required after hospital discharge.

Intent/Clarification: The intent is to separate patients with possible long term dialysis from those that recovered kidney function prior to discharge.

SEQ. #: 6881
Long Name: Post-Op-Dialysis Duration
Short Name: DialStat
Definition: Indicate the duration of post-discharge dialysis.

Intent/Clarification: This may be temporary or permanent.

FAQ October 2017: Clarify the difference between temporary and permanent dialysis duration.
Answer: Code temporary if the patient no longer requires dialysis at the time of 30 day follow up after discharge.
Code permanent if the patient continues to require dialysis at the time of 30 day follow up after discharge.

FAQ January 2018: When the patient has required new dialysis during the hospitalization but does not require dialysis after discharge, the duration of dialysis does not grey out and still requires a response. How should duration be coded?
Answer: Code temporary.

SEQ. #: 6885
Long Name: Post-Op-Ultra Filtration
Short Name: CUltraFil
Definition: Indicate whether patient required Ultra filtration.

Intent/Clarification: Ultrafiltration is for fluid overload and is not counted as dialysis. Continuous Veno-Venous Hemofiltration) (CVVH, CVVH-D and Continuous Renal Replacement Therapy (CRRT) should be coded here as “No”, they are considered dialysis and should be captured in Seq# 6875

SEQ. #: 6890
Long Name: Post-Op-Vasc-Iliac/Fem Dissect
Short Name: CVaIlFem
Definition: Indicate whether the patient had a dissection occurring in the iliac or femoral arteries.

Intent/Clarification: The origin of the event may have been at the site of cannulation or a preoperative catheterization insertion site, but the dissection occurred post-operatively.

SEQ. #: 6891
Long Name: Post-Op-Vasc-Acute Limb Isch
Short Name: CVaLbIsc
Definition: Indicate whether the patient had any complication producing limb ischemia. This may include upper or lower limb ischemia.

Intent/Clarification: Ischemic events are restricted to the arterial system. These do not include venous system events, (i.e. DVT (deep vein thrombosis)). Example: A patient

had an IABP removed and experienced an emboli which resulted in a necrotic great toe: Code “Yes” for acute limb ischemia.

FAQ July 2019 - If a patient has a necrotic tip of L thumb and L great toe thought to be related to pressors (IABP was in the R), palpable pulses and Doppler studies of arterial all normal, is this "acute limb ischemia"?
Answer - do not code as acute ischemic event as this was a low flow perfusion situation and not an acute ischemic event that caused the necrosis.

SEQ. #: 6892
Long Name: Post-Op-Mechanical Assist Device Related Complication
Short Name: CMAD
Definition: Indicate whether there was a post-operative event related to a mechanical assist device.

Intent/Clarification:

- Yes
- No

SEQ. #: 6893
Long Name: Post-Op-MAD-Cannula / Insertion Site Issue
Short Name: CMADCanIns
Definition: Indicate whether the mechanical assist device related postoperative event included a cannula/insertion site issue.

Intent/Clarification: May include bleeding or infection.

FAQ March 2019/July 2019: A patient was readmitted with an infection at the IABP cannulation site. This readmission infection is only related to the IABP should it only be captured as cannulation site infection in sequence number 6720 and MAD site infection in sequence number 6893?
Answer**:** No, do not capture as cannulation site infection in Seq 6720 since the IABP is not a cannulation sites used for the index procedure aorta / venous sites cannulated during surgery for CPB and/or the transcatheter cannulation site for transcatheter procedures such as TAVR. Capture Readmit reason as Wound Other

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SEQ. #: 6894
Long Name: Post-Op-MAD-Hemorrhagic
Short Name: CMADHem

Definition: Indicate whether there was hemorrhage related to a mechanical assist device

Intent/Clarification: Patients are at increased risk of bleeding due to anticoagulation and anti-platelet therapy, non-pulsatile blood flow leading to blood vessel malformation, and changes in blood-clotting factors.

SEQ. #: 6895
Long Name: Post-Op-MAD-Thrombotic/Embolic
Short Name: CMADThromEm
Definition: Indicate whether there was a thrombotic or embolic event related to a mechanical assist device

Intent/Clarification:

SEQ. #: 6896
Long Name: Post-Op-MAD-Hemolytic
Short Name: CMADHemolytic
Definition: Indicate whether there was a hemolytic event related to a mechanical assist device

Intent/Clarification: Patients may experience clinical signs of hemolysis (anemia, low hematocrit, hyperbilirubinemia) and a plasma free hemoglobin >40 mg/dL within 72 hours of VAD implant. Do not include hemolysis resulting from non-device causes.

SEQ. #: 6897
Long Name: Post-Op-MAD-Infection
Short Name: CMADInf
Definition: Indicate whether there was infection related to a mechanical assist device

Intent/Clarification: May include driveline/cannula infection, pump pocket infection, VAD endocarditis, sternal wound infection, or sepsis.

FAQ March 2019: If the patient had an issue with the cannulation site for an IABP during the hospitalization for the index procedure, it would be captured in sequence number 6720 and sequence number 6893. Because this is a readmission would this be a readmit infection within 30 days? This readmission infection is only related to the IABP should it only be captured as cannulation site infection in sequence number 6720 and MAD site infection in sequence number 6893/6897?
Answer: No, do not capture as MAD - infection.

SEQ. #: 6898
Long Name: Post-Op-MAD-Other
Short Name: CMADOther
Definition: Indicate whether any other mechanical assist device related event occurred

Intent/Clarification: Device malfunctions, VAD thrombus, psychiatric episodes.

SEQ. #: 6900
Long Name: Post-Op-Rhythm Disturbance Requiring Perm Device
Short Name: CRhythmDis
Definition: Indicate whether patient developed a new dysrhythmia requiring insertion of a permanent device. Do not code these device insertions in the reoperation section even if performed in the OR.

Intent/Clarification: Include permanent pacemakers, Implantable cardioverter defibrillators (ICD) and combination devices. Do not code if the patient experiences third degree block and has temporary pacemaker wires inserted, but the block resolves and the patient does not require a permanent pacemaker.

- Pacemaker
- ICD
- Pacemaker/ICD
- Other
- None

FAQ July 2019 - We have TWO patients this month who went to OR with permanent pacers implanted a long time before their surgery. During the surgery the leads became dislodged. Postoperatively, they had to go back to the EP lab to get their wires replaced by cardiology. Does this count as "YES" to cardiac rhythm disturbance under the postoperative events, or an "other", or don't code it?
Answer – Do not code as re-op or as rhythm disturbance requiring permanent device

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SEQ. #: 6905
Long Name: Post-Op-Other-Card Arrest
Short Name: COtArrst
Definition: Indicate whether the patient had an acute cardiac arrest documented by one of the following:

- Ventricular fibrillation

- Rapid ventricular tachycardia with hemodynamic instability
- Asystole
- ICD shocks

Intent/Clarification: The cardiac arrest may be precipitated by ventricular fibrillation/tachycardia, asystole, or pulseless electrical activity (PEA). Code yes for sudden events requiring CPR. It is expected that all deaths inevitably have cardiac arrest, but this field is to capture those events that are sudden or acute in occurrence.

SEQ. #: 6906
Long Name: Post-Op-Other-Aortic Endoleak
Short Name: COtAortEndo
Definition: Indicate whether a post-operative endoleak occurred

Intent/Clarification: An **endoleak** is defined as persistent blood flow in the aneurysm sac through and around the endovascular seal and is the most common complication after endovascular aneurysm repair.

SEQ. #: 6907
Long Name: Post-Op-Other-Aortic Endoleak Type
Short Name: COtAortEndoTy
Definition: Indicate they type of endoleak

Intent/Clarification:

A **Type Ia endoleak** is defined as a leak occurring at the proximal seal zone.

A **Type Ib endoleak** is defined as a leak occurring at the distal seal zone.

A **Type II endoleak** is defined as retrograde filling of the aneurysm sac or false lumen in the case of dissection by aortic branch vessels (e.g. left subclavian artery, intercostal arteries, etc.).

A **Type III endoleak** is defined as leakage of blood into the aneurysm sac, or false lumen in the case of dissection, due to either a gap between separate endograft components, or a defect in the fabric of the graft secondary to graft strut fracture or erosion.

A **Type IV endoleak** is defined as the presence of an endoleak secondary to graft porosity. All other types of endoleaks must be definitively ruled out prior to selecting this diagnosis.

A Type **V endoleak**, also known as endotension, is defined as persistent aneurysm expansion in the absence of a confirmed endoleak.

SEQ. #: 6908
Long Name: Post-Op-Other-Aortic Rupture **Short Name:** COtAortRupt
Definition: Indicate whether aortic rupture occurred post op

Intent/Clarification:

SEQ. #: 6909
Long Name: Post-Op-Other-Aortic Dissection
Short Name: CVaAoDis
Definition: Indicate whether the patient had a dissection occurring in any part of the aorta.

Intent/Clarification: This includes ascending, arch, descending, thoracic or abdominal aorta. Aortic dissection is bleeding into or along the wall of the aorta. This does not include an aneurysmal event, unless it goes on to rupture or dissect.

SEQ. #: 6910
Long Name: Post-Op-Other-Aortic DissectionType
Short Name: CVaAoDisTy
Definition: Indicate the type of aortic dissection.

Intent/Clarification: May include antegrade, retrograde or both.

If the dissection extends proximally (i.e. back towards the aortic arch or ascending aorta) beyond the original extent then **“Retrograde”** should be selected.

If the dissection extends distally (i.e. downstream towards the descending or abdominal aorta) beyond the original extent then **“Antegrade”** should be selected.

If the dissection extends both proximally and distally then **“Both”** should be selected.

SEQ. #: 6911
Long Name: Post-Op-Other-Aortic Side Branch Malperfusion
Short Name: COtAortSide

Definition: Indicate whether aortic side branch malperfusion occurred

Intent/Clarification: The intent is to identify if aortic branch vessels have compromised flow in the post-operative period.

SEQ. #: 6912
Long Name: Post-Op-Other-Aortic Stent Graft Induced Entry Tear
Short Name: COtAortTear
Definition: Indicate whether an aortic stent graft induced entry tear occurred

Intent/Clarification:
This is typically due to the septum being fractured by a balloon or endograft, and the result is the creation of a new fenestration/connection between the true and false lumens of the dissection (so-called stent graft induced new entry tear (SINE)). This would typically be determined by the surgeon's assessment of the intraoperative completion angiogram, intravascular ultrasound, and/or transesophageal echocardiography.

SEQ. #: 6914
Long Name: Post-Op-Other-Anticoag Event
Short Name: COtCoag
Definition: Indicate whether the patient had bleeding, hemorrhage, and/or embolic events related to anticoagulant therapy postoperatively.
This may include patients who experience Disseminated Intravascular Coagulopathy (DIC) or Heparin Induced Thrombocytopenia (HIT).

Intent/Clarification: The intent of the field is to capture those patients that bleed, hemorrhage and /or suffer an embolic event related to anticoagulant therapy received post-op.

Abnormal coag lab tests without clinical events are not included.

Patients with DIC or HIT are included.

Patients with bleeding secondarily to surgical suture 'leaking' or general surgical 'oozing' are not to be included.

HIT (Heparin Induced Thrombocytopenia) is diagnosed with Heparin Assay and or D-Dimer laboratory tests only and are more than post-pump excessive bleeding or lower platelet counts. The physiological effects of CPB can reduce post-operative platelet counts as much as 50% within 24 hours.

June 2019 Update: Patients with a positive HITA test followed by a negative SRA (Serotonin Release Assay) should not be coded as being HIT positive, even if the SRA results come back after the patient was discharged, since oftentimes these labs are sent out to be read and may take a while to get back.

SEQ. #: 6915
Long Name: Post-Op-Other-Pericardiocentesis
Short Name: COtTamp
Definition: Indicate whether the patient had a pericardiocentesis to remove fluid in the pericardial space compromising cardiac filling.

Intent/Clarification: Tamponade, fluid accumulation between the myocardium and pericardium of the heart, inhibits filling of the heart and results in hemodynamic compromise. Severity of tamponade may dictate the degree of intervention (invasive or non-invasive, surgical or Pericardiocentesis).

THIS FIELD IS FOR THOSE EVENTS THAT DO NOT REQUIRE RETURN TO THE OPERATING ROOM FOR TREATMENT.

SEQ. #: 6920
Long Name: Post-Op-Other-GI Event
Short Name: COtGI
Definition: Indicate whether the patient had a postoperative occurrence of any GI event, including but not limited to:

- GI bleeding requiring transfusion
- Pancreatitis with abnormal amylase/lipase requiring nasogastric (NG) suction therapy
- Cholecystitis requiring cholecystectomy or drainage
- Mesenteric ischemia requiring exploration
- ~~**Hepatic failure**~~
- Prolonged ileus
- Clostridium difficile

Intent/Clarification: GI events may require medical management, observational management, or surgical intervention to control. **Both intrinsic and extrinsic factors can cause GI events.**

DO NOT include events such as prolonged nausea and/or vomiting with no other documented physiological cause. Refer to the specific list included within the definition.

FAQ September 2017: Should we code a GI event for an abdominal compartment syndrome leading to a decompressive laparotomy?

Answer: Yes, code GI event for abdominal compartment syndrome in addition to the reoperation other non-cardiac for the decompression laparotomy.

FAQ July 2018: The patient underwent a CABG/AVR/Maze procedure. Post operatively, developed pneumoperitoneum requiring an exploratory laparotomy where it was discovered the pacemaker wires had perforated the colon. The patient became septic with renal failure and prolonged ventilation. I collected the reoperation other noncardiac, is this also a GI event?
Answer: This should be coded as a GI event.

FAQ June 2019 - The definition for prolonged ileus does not give a time frame. How long should a documented ileus last before it is noted as a complication?

Answer: There is no real time frame, it really has to do with treatment and impact on LOS. Example: A patient experiences a postoperative paralytic ileus that does not increase the length of stay and does not require invasive therapy. Do not code a GI complication.

SEQ. #: 6921
Long Name: Post-Op-Other-Liver Dysfunction or Failure
Short Name: COtLiver
Definition: Indicate whether the patient had liver dysfunction or failure.

Intent/Clarification: Refer to physician's documentation for diagnosis.

FAQ January 2018: Patient has transient elevation of liver enzymes, should this be considered liver dysfunction?
Answer: No, this is not a complication.

FAQ June 2019: Should a patient with post-op shock liver be coded as YES to post-op liver dysfunction?
Answer: Yes

SEQ. #: 6925
Long Name: Post-Op-Other-Multi Sys Fail
Short Name: COtMSF
Definition: Indicate whether the patient had two or more major organ systems suffer compromised functions.

Intent/Clarification: Major organ systems are neurological, renal, pulmonary, cardiac, vascular or systemic. Multisystem Organ Failure (MSOF) means multiple organ systems have failed ~~and function cannot be recovered by mechanical and/or pharmacological means.~~ End-stage means irreversible organ failure.

SEQ. #: 6930
Long Name: Post-Op-Other-A Fib
Short Name: COtAFib
Definition: Indicate whether the patient experienced atrial fibrillation/flutter (AF) requiring treatment. Exclude patients who were in AFib at the start of surgery.

Intent/Clarification: Include any episode of A-Fib lasting longer than one hour and/or requiring treatment. Capture event(s) in all patients who were not in A-Fib at the start of surgery.

FAQ May 2019: Patient had post-op Afib that was treated with Ablation therapy. How is this captured?
Answer: Code this as yes to COtAFib – sequence 6930. Cardioversion, ablation, and medication are considered treatments so this is meets the criteria of this field.

Update June 2019 (FAQ March 2018): I have a patient who went back to the cath lab with anesthesia for TEE with cardioversion (for afib). I am not certain if I should code this here or not. There was not an incision, however this is procedural. Afib is already coded. How do I reflect this intervention for STS?
~~Answer: Code comps-other-other~~.
Answer: Code this as a post-op Afib event only.

Update June 2019 (FAQ March 2018): My patient had post-op AFlutter and AFib and was taken to the electrophysiology lab for comprehensive electrophysiology study (EPS) and successful radiofrequency ablation (RFA) of cavotricuspid isthmus (CTI. I have coded post-op AF, do I also need to code "re-op other cardiac reasons"?
~~Answer: Code comps-other-other.~~
Answer: Code this as a post-op Afib event only.

FAQ July 2019 –Is the start of surgery for this Seq 6930 when the incision occurs or when the patient enters the OR?
Answer – When the patient enters the OR

FAQ Nov 2019 – In order to code this as a post-op event, I need to know if the patient was in Afib at the start of surgery. What is the best way to determine if the patient is in Afib at the start of surgery?
Answer - Use the first rhythm documented on the anesthesia record to see if the patient is in afib upon entry to OR.

SEQ. #: 6950
Long Name: Post-Op-Other-Other
Short Name: COtOther
Definition: Indicate whether a postoperative event occurred that is not identified in the categories above yet impacts hospital length of stay and/or outcome.

Intent/Clarification: It is advised to restrict the capture of post-operative events to those that create a life-threatening event, extended hospitalization, and/or require medical intervention to ward off clinical deterioration.

FAQ January 2018: Should a pseudoaneurysm at the cath site which required a thrombin injection and delayed discharge be captured as a complication?

Answer: No, do not code this as a complication.

Update June 2019 (FAQ March 2018): I have a patient who went back to the cath lab with anesthesia for TEE with cardioversion (for afib). I am not certain if I should code this here or not. There was not an incision, however this is procedural. Afib is already coded. How do I reflect this intervention for STS?
~~Answer: Code comps-other-other~~.
Answer: Code this as a post-op Afib event only.

Update June 2019 (FAQ March 2018): My patient had post-op AFlutter and AFib and was taken to the electrophysiology lab for comprehensive electrophysiology study (EPS) and successful radiofrequency ablation (RFA) of cavotricuspid isthmus (CTI. I have coded post-op AF, do I also need to code "re-op other cardiac reasons"?
~~Answer: Code comps-other-other.~~
Answer: Code this as a post-op Afib event only.

FAQ October 2018: How is plasmapheresis captured?
Answer: Plasmapheresis is not captured as a postoperative event. Capture only the related complications.

FAQ January 2019: Wondering how to mark this post op event. Patient with critical status post op. Note of patient having copious amounts of blood from nose/mouth. ENT does laryngoscopy with noted hole to pyriform sinus--appears this is right above esophagus. Pt requiring 4 RBC. Area cauterized. Sould this be marked as GI event or other?
Answer: Code this as comps-other-other, this is not a GI event.

Discharge / Mortality

SEQ. #: 7000
Long Name: Date of Last Follow-Up
Short Name: LFUDate
Definition: Indicate the date on which the last follow-up was made. If patient dies in the hospital, this value will be the same as the date of death. If no follow-up is made after patient is discharged, this value will be the same as the discharge date.

Intent/Clarification:

This is the date that is last documented in the chart or obtained by contacting the physician's office. Required date format: mm/dd/yyyy

FAQ August 2019 - Is the last follow-up limited to appointment with surgeon (post-op check) or can it be with PCM or care call (telephone follow-up)?
Answer - Other methods can be used. It is basically the date that you have verified that the patient is alive so phone, clinic, etc. If you see that the patient has visited the hospital, lab, x-ray, rehab or physician office any time after 30 days you can code that date. If the patient dies within the hospital stay, the date of death is the last follow-up. If the patient is lost to follow-up, the discharge date is the date.

SEQ. #: 7001
Long Name: Mort-30d Status
Short Name: Mt30Stat
Definition: Indicate whether the patient was alive or dead at 30 days post-surgery (whether in hospital or not).

Intent/Clarification:

- Alive
- Dead
- Unknown

GENERAL INFORMATION: Accurate coding mortality is very important to the integrity of the database.
All patients discharged alive should be followed for 30 days after the date of surgery to capture whether the patient is alive or dead at the end of the 30th day after the day of index surgery. Any patient that dies within 30 days should be coded as a mortality regardless of the cause of death.
Patients that remain in the hospital and die, even if after 30 days following the index surgery are coded as "Died in Hospital".
Patients that are transferred to another acute care hospital should be followed until the time of discharge from that facility. Any patient that dies at another acute care hospital after transfer should be coded as a mortality in the database.

FAQ January 2018:
If the patient is placed on palliative care post surgery, does it change the mortality at all?
Does placing the patient on hospice or making a palliative care referral or being placed on end of life care change mortality at all?
Answer: No, if the patient dies within 30 days of the date of surgery, the death is included in the mortality statistics.

SEQ. #: 7002
Long Name: Mort-Op Death-Method Of Verification
Short Name: Mt30StatMeth
Definition: Indicate the primary method used to verify the patient's 30-day mortality status.

Intent/Clarification:

- Phone call to patient or family
- Letter from medical provider
- Evidence of life or death in medical record
- Office visit on or after 30 days after the date of surgery.
- Social Security Death Master File/NDI
- Other

SEQ. #: 7005
Long Name: Discharge / Mortality Status
Short Name: DischMortStat
Definition: Indicate the discharge and current vital status of the patient

Intent/Clarification:

- In hospital, alive
- Died in hospital
- Discharged alive, last known status is alive
- Discharged alive, died after discharge

GENERAL INFORMATION: Accurate coding mortality is very important to the integrity of the database.
All patients discharged alive should be followed for 30 days after the date of surgery to capture whether the patient is alive or dead at the end of the 30th day after the day of index surgery. Any patient that dies within 30 days should be coded as a mortality regardless of the cause of death.
Patients that remain in the hospital and die, even if after 30 days following the index surgery are coded as "Died in Hospital".
Any patient that is transferred to another acute care facility should be coded as "in hospital, alive" until the patient is discharged from the acute care facility.
Patients that are transferred to another acute care hospital should be followed until the time of discharge from that facility. Any patient that dies at another acute care hospital after transfer should be coded as a mortality in the database.
"In hospital, alive" refers to patient's that are in the hospital at the 30 day mark that were never discharged. It is provided so sites do not get marked as missing on the required mortality fields for their composite scores/STAR ratings.

SEQ. #: 7008
Long Name: Date of Discharge
Short Name: DischDt
Definition: Indicate the date the patient was discharged from the hospital (acute care) even if the patient is going to a rehab or hospice or similar extended care unit within the same physical facility. If the patient died in the hospital, the discharge date is the date of death.

Intent/Clarification:
Required date format: mm/dd/yyyy. **Date of discharge is a child field of sequence number 7005 and can only be completed when the patient is discharged alive.**

FAQ May 2018: If we transfer a patient on ECMO to another hospital, is that transfer date considered the discharge date from our hospital? I understand that it is coded as a transfer to a higher level of care and that any mortality should be coded in my hospital.
Answer: Discharge date should be captured from the final disposition from the second hospital.

FAQ January 2019: The patient was admitted to site 31059 for an elective same-day CAB. The procedure was canceled after induction, prior to incision due to a cardiac arrest that occurred with induction. The patient was intubated and transferred to site 30823, where the same surgeon performed the CAB 5 days later. Given that I can no longer choose "other acute care hospital" as an option for seq. 7009 (discharge location) and must choose the date that the patient was discharged from site 30823 as my discharge date in seq. 7008, how do I choose the highest post-op peak creatinine and discharge H&H--prior to departure from site 31059 (which was later on the same day as the canceled case), or prior to discharge from site 30823? And since the procedure was canceled at site 31059, do I need to capture postoperative events for that site that occurred after the transfer, or only for site 30823?
Answer: This cancelled case related to cardiac arrest prior to incision that was transferred to another center, the receiving site should be able to capture the high risk (arrest, tx from another cardiac center). No need to follow outcomes at the other facility for this cancelled case if cancelled prior to incision.

SEQ. #: 7009
MVRRLong Name: Discharge Location
Short Name: DisLoctn
Definition: Indicate the location to where the patient was discharged.

Intent/Clarification:

- **Home** (or, temporarily, at the home of a relative)
- **Extended Care/Transitional Care Unit (TCU)/Rehab** Code LTAC as Extended Care/Transitional Care Unit/Rehab. Do not count as part of acute care stay.

- ~~Other Acute Care Hospital~~
- **Nursing Home**
- **Hospice**
- **Left AMA**
- **Other**

December 2017: For purposes of the STS database, Nursing Home is considered to be a residence where skilled care or acute care is not required. If the intent after discharge from the hospital is to provide rehabilitation services to a patient with a goal to discharge home then chose Extended Care/Transitional Care/Rehab, not Nursing Home.

Long-Term Acute Care (LTAC)'s treat higher acuity patients (i.e. prolonged ventilation) where the goal is medical recovery with return to a residence; home, nursing home, or with family.

Skilled Nursing Facilities (SNF's) are nursing facilities with staff and equipment to give skilled nursing care and, in most cases, skilled rehabilitative care services. You will need to investigate the intent of discharge. If the intent of discharge is for a patient from the hospital to go to a SNF for rehabilitation and to eventually discharge home then Code as Extended Care/Transitional Care/Rehab. If the intent of discharging to a SNF is for a higher level of care without the intent of discharging home then chose nursing home. You will oftentimes be able to locate the intent within the discharge planning documents by Social Service, Case Management, and/or Physical Therapy.

SEQ. #: 7010
Long Name: Cardiac Rehabilitation Referral
Short Name: CardRef
Definition: Indicate whether advice was given or discussion conducted with the patient (by physician, nurse, or other personnel) regarding the importance of joining a cardiac rehabilitation program, or an appointment made.

Intent/Clarification:
Identify those patients who are referred to post discharge cardiac reconditioning and rehabilitation. Do not count Phase I, in hospital rehab, as "Yes". **Time frame for Cardiac Rehab referral is at or prior to discharge.**

Patients who are clinically, mentally or emotionally inappropriate for a referral, should be identified as "Not Applicable**. Update Nov 2019 - Patients sent to rehab / transitional care/ SNF with plans to return home are not included in this category.**

This is a Joint Commission endpoint and is to be documented on every patient.
Cardiac rehabilitation programs are many times free standing or external to an acute care setting. Cardiac rehabilitation programs are designed specifically for the patients with cardiac disease who have medical and/or surgical recovery needs.

If the surgery was of Non-Cardiac nature (See Section N), code as "Not Applicable".

If the patient is discharged with home health but a discussion regarding Phase II Cardiac Rehab occurred, choose “Yes”.

SEQ. #: 7011
Long Name: Smoking Cessation Counseling
Short Name: SmokCoun
Definition: Indicate whether, prior to discharge from the acute care facility, the patient received smoking cessation counseling. Please select "Not Applicable" for those patients with no prior history of smoking or remote (more than 1 year) history.

Intent/Clarification:
This is a Joint Commission endpoint and it must be documented that either literature and/or counseling was offered and provided to the patient. Update October 2019 -Time frame for smoking cessation counseling is at or prior to discharge.

Counseling should be provided to users of Cigarettes, Pipe, Cigars, Smokeless Cans, Other tobacco products (orbs, strips, sticks, hookah, etc.) It does not include e-cigs.

If the patient was not a smoker on the admission assessment or clinically, mentally or emotionally inappropriate for a referral, select “Not Applicable”.

GENERAL INFORMATION:
FAQ September 2017: When a patient leaves the hospital AMA and there are no prescriptions, how are discharge medications coded?
Answer: Code no.

FAQ February 2018: When a patient is placed on comfort measures only and discharged to hospice how should discharge medications be abstracted: no or contraindicated?
Answer: If medications are not appropriate, code contraindicated as not all centers withhold medications for patients going to hospice.

FAQ July 2019: The patient was discharged without an order for Beta-Blocker Therapy. The surgeon’s office noticed on the first post-discharge visit and call in the prescription 6 days after discharge. The Surgeon addended his Discharge Summary to indicate that the patient was discharged on Beta Blocker Therapy. Is it ok to code this as Yes to Discharge Beta Blocker?
Answer**:** No, the medication has to be prescribed at the **time** of discharge. Addendums can be accepted for STS data, but only for events that actually occurred prior to discharge. For example, the patient was not sent home on a Beta Blocker because of a contraindication. The contraindication was not documented at the time of discharge. The data manager notified the Surgeon of the discrepancy in documentation and he addended his discharge summary according to hospital policy to indicate the contraindication. This would be an acceptable addendum.

General Statement:

Discharge medications should only be captured for the patient transferred to another acute care facility at the time of ultimate disposition from the hospital.

Update October 2019 - Contraindications for discharge medication requires documentation of a contraindication for the class of medications when applicable such as statin, beta blockers, ADP inhibitors etc. not just one medication in the medication class. For example, a documented contraindication for Toprol at discharge would need to be documented as a contraindication for Beta Blockers, instead of one drug in the medication class.

SEQ. #: 7060
Long Name: Aspirin - Discharge
Short Name: DCASA
Definition: Indicate whether or not the patient was discharged from facility on Aspirin, or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.

Intent/Clarification:
Includes enteric coated and/or baby aspirin. Aspirin acts to "*decrease"* the blood viscosity and inhibits the clotting of platelets.

- **Yes**: Capture those who receive an order for Aspirin at discharge that contains at least 75mg ASA
- **No**: Patient did not receive an Aspirin order at discharge
- **Contraindicated** - Documented evidence of contraindication. If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record, such as notation of a medication allergy by Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist.

FAQ September 2017: Is the medication bundle excluded for an Isolated CAB due to AMA status?
Answer: No, the medications are not excluded from the composite measures.

FAQ July 2018: The patient is in the PREVENT II trial where ASA vs Placebo are given at discharge, the site does not know which is given. How should ASA be coded.
Answer: Leave blank.

SEQ. #: 7070
Long Name: ADP Inhibitors - Discharge
Short Name: DCADP
Definition: Indicate whether or not the patient was discharged from facility on an ADP inhibitor, or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.

Intent/Clarification:

These medications inhibit adenosine diphosphate (ADP) induced platelet aggregation (clotting) are often used to treat patients with a history of atherosclerotic cardiovascular disease to potentially reduce the incidence of major cardiovascular events (stroke, peripheral arterial disease, etc.).

- **Yes**: Capture those who receive an order for an ADP Inhibitor at discharge
- **No**: Patient did not receive an ADP Inhibitor order at discharge
- **Contraindicated**: Documented evidence of contraindication. If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record, such as notation of a medication allergy by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist.

FAQ September 2017: We noticed that there is no variable to capture P2Y12 at discharge in v2.9? How should they be coded.

Answer: Code P2Y12 as an ADP Inhibitor in sequence number 7070.

FAQ July 2019 - If a physician documents 'no Plavix r/t low platelets', is this sufficent to code contraindicated or does it need to specify the class of medications?
Answer - Seq 7070 refers to ADP's and the contraindication documentation should indicate that the patient is not discharged on ADP inhibitors instead of one drug in the class. Based on your information, code No to discharge ADP Inhibitors.

SEQ. #: 7075
Long Name: Other Antiplatelet - Discharge
Short Name: DCOthAntiplat
Definition: Indicate whether or not the patient was discharged from facility on any other antiplatelet medication, or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.

Intent/Clarification:

- **Yes**: Capture those who receive an order for any other antiplatelet medication at discharge.
- **No:** Patient did not receive any other antiplatelet medication order at discharge
- **Contraindicated:** Documented evidence of contraindication. If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist.

SEQ. #: 7080
Long Name: Direct Thrombin Inhibitors - Discharge
Short Name: DCDirThromIn
Definition: Indicate whether or not the patient was discharged from facility on a direct thrombin inhibitor, or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.

Intent/Clarification:
Direct thrombin inhibitors (DTIs) are an innovative class of anticoagulants that bind directly to thrombin to inhibit its actions and impede the clotting process.

Bivalent:
- Bivalirudin (transient inhibition - is cleaved by thrombin)
- Lepirudin
- Desirudin

Univalent:
- Argatroban
- Melagatran (and its prodrug ximelagatran)
- Dabigatran

Allosteric Inhibitors:

No allosteric thrombin inhibitor has reached the stage of clinical trials.

- **Yes**: Capture those who receive an order for a thrombin inhibitor at discharge.
- **No**: Patient did not receive a thrombin inhibitor order at discharge.
- **Contraindicated**: Documented evidence of contraindication. If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record, such as notation of a medication allergy by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist

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SEQ. #: 7085
Long Name: Warfarin (Coumadin) - Discharge
Short Name: DCCoum
Definition: Indicate whether or not the patient was discharged from facility on Warfarin (Coumadin), or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.

Intent/Clarification: The primary action of Coumadin/Warfarin is to prevent or delay blood coagulation.

- **Yes**: Capture those who receive an order for warfarin at discharge
- **No**: Patient did not receive a warfarin order at discharge
- **Contraindicated**: Documented evidence of contraindication. If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record, such as notation of a medication allergy by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist.

SEQ. #: 7090
Long Name: Factor Xa Inhibitors - Discharge
Short Name: DCFactorXa
Definition: Indicate whether or not the patient was discharged from facility on a factor Xa inhibitor, or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.

Intent/Clarification:

Direct factor Xa inhibitors ('xabans') are a class of anticoagulant drugs which act directly upon Factor X in the coagulation cascade, without using Antithrombin as a mediator.

- Apixaban (Eliquis)
- Betrixaban
- Darexaban
- Edoxaban (Savaysa)
- Otamixaban
- Rivaroxaban (Xarelto)
- Arixtra (Fondaparinux)
  (not intended to be inclusive list)

- **Yes**: Capture those who receive an order for a Factor Xa inhibitor medication at discharge.
- **No**: Patient did not receive a Factor Xa inhibitor medication order at discharge
- **Contraindicated** - Documented evidence of contraindication. If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist.

SEQ. #: 7091
Long Name: Novel Oral Anticoagulant - Discharge
Short Name: DCNovOrAnti
Definition: Indicate whether or not the patient was discharged from facility on a Novel Oral Anticoagulant, or if it was contraindicated. The contraindication must be

documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.

Intent/Clarification: New agents have been introduced that are collectively referred to as **novel oral anticoagulants** (**NOACs**) or **directly acting oral anticoagulants** (**DOACs**). They have been shown to be as good as or possibly better than the Coumadin with less serious side effects. The newer anticoagulants (NOACs/DOACs), are more expensive than the traditional ones and should be used with care in patients with kidney problems. Additionally, there is no antidote for the factor Xa inhibitors, so it is difficult to stop their effects in the body in cases of emergency (accidents, urgent surgery). Idarucizumab was FDA approved for the reversal of dabigatran in 2015.

- **Yes**: Capture those who receive an order for a Novel Oral Anticoagulant medication at discharge.
- **No**: Patient did not receive a Novel Oral Anticoagulant medication order at discharge
- **Contraindicated** - Documented evidence of contraindication. If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist.

FAQ September 2017: Clarify which medications should be coded in this category. Answer: Confusion lies when the medications could be coded in any or all of the three categories, Factor Xa, Thrombin Inhibitors, or NOAC. Initially all three categories were included to differentiate medications that did not have antidotes. With more antidotes available, the three medications seem redundant. Capture the medication according to the manufacturer's category description. The only caveat to remember is that you should only code ONE of the three medication types so as not to have it appear that the patient is receiving more than one. Code consistently at your site.

SEQ. #: 7095
Long Name: Other Anticoagulant - Discharge
Short Name: DCOthAnticoag
Definition: Indicate whether or not the patient was discharged from facility on any other anticoagulant, or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.

Intent/Clarification: Examples: Heparin (unfractionated), Heparin (Low molecular weight), Enoxaparin/Lovenox, Dalteparin, Tinzaparin

- **Yes:** Capture those who receive an order for any other anticoagulant medication at discharge.
- **No:** Patient did not receive an order for any other anticoagulant medication at discharge
- **Contraindicated** - Documented evidence of contraindication. If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication

allergy prior to arrival) by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist.

SEQ. #: 7100
Long Name: ACE or ARB Inhibitors - Discharge
Short Name: DCACE
Definition: Indicate whether or not the patient was discharged from facility on ACE or ARB Inhibitors, or if it was contraindicated or not indicated (no history of CHF or EF>40%). The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.

Intent/Clarification: Primary use is for the treatment of hypertension but is also an essential treatment for congestive heart failure (reduces the workload of the heart). Routine, lifelong use of angiotensin converting enzyme inhibitors (ACEI) or angiotensin receptor blockers (ARB) is recommended for heart failure patients with a lower than usual ejection fraction (40 percent or less). Action is to dilate blood vessels to improve the amount of blood the heart is able to pump and thereby reducing the workload on the heart.

- **Yes** - Capture those who receive an order for an ACE or ARB inhibitor medication at discharge.
- **No** – Patient did not receive a ACE or ARB inhibitor medication order at discharge
- **Contraindicated** - Documented evidence of contraindication. If a contraindication is documented explicitly as excluded or medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist.
- **Not indicated** (no history of CHF or EF > 40%)

FAQ July 2018: Pt developed severe heart failure post CAB after suffering MI with graft closures. The pt was discharged on Entresto (Sacubitril-Valsartan) I know its not an ACE alone, but is STS capturing this drug and if so under what category would it be. Answer: Yes, Entresto (Sacubitril/Valsartan) should be captured as ACE or ARB inhibitor at discharge.

SEQ. #: 7103
Long Name: Amiodarone - Discharge
Short Name: DCAmiodarone
Definition: Indicate whether or not the patient was discharged from facility on Amiodarone, or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.

Intent/Clarification: Note that this value is specific to Amiodarone, rather than anti-arrhythmic drugs in general. Amiodarone is effective in situations where other anti-arrhythmic may fall short. Dronedarone (Multaq) may be coded as Amiodarone.

- **Yes** - Capture those who receive an order for Amiodarone or Multaq at discharge.
- **No** – Patient did not receive an Amiodarone or Multaq order at discharge.
- **Contraindicated** - Documented evidence of contraindication. If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist

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SEQ. #: 7105
Long Name: Beta Blockers - Discharge
Short Name: DCBeta
Definition: Indicate whether or not the patient was discharged on beta blockers, or if beta blocker was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.

Intent/Clarification: Beta blockers have been proven to increase survival of cardiac patients following MI and in the perioperative period.
Beta blockers are used for the treatment of high blood pressure, treating chest pain or angina, controlling irregular heart rhythms, slowing ventricular rate response and for the treatment of congestive heart failure.

- **Yes** - Capture those who receive an order for a beta blocker medication at discharge.
- **No** – Patient did not receive a beta blocker medication order at discharge.
- **Contraindicated** - Documented evidence of contraindication. If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist.

SEQ. #: 7115
Long Name: Lipid Lowering Statin - Discharge
Short Name: DCLipLowStat

Definition: Indicate whether or not the patient was discharged from facility on a Statin, or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.

Intent/Clarification: Lipid lowering medications block the production of cholesterol and fat. Depending upon the specific medication, each may target unique levels such as HDL (good cholesterol), LDL (bad cholesterol) and triglycerides or polipoprotein B (protein needed to produce cholesterol). They may also reduce the absorption of dietary cholesterol by combining with the cholesterol to remove it from the bloodstream.

Statin medications typically have a generic name ending in the suffix ‘statin’. However, some combination statin/non- statin drugs have other generic names. Do not capture non-statins here unless combined with a statin.

- **Yes** - Capture those who receive an order for a statin at discharge.
- **No** – Patient did not receive a statin order at discharge
- **Contraindicated** - Documented evidence of contraindication. If a contraindication is documented explicitly as excluded for medical reasons or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist.
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FAQ Sept 2019 - If a physician documents 'no Lipitor due to elevated liver enzymes”, is this sufficent to code contraindicated or does it need to specify the class of medications?
Answer - Seq 7115 refers to statin's and the contraindication documentation should indicate that the patient is not discharged on a statin instead of one drug in the class. Based on your information, code No to discharge statin.

SEQ. #: 7120
Long Name: Lipid Lowering - Other - Discharge
Short Name: DCLipLowNonStat
Definition: Indicate whether or not the patient was discharged from facility on a lipid-lowering medication other than a statin, or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.

Intent/Clarification: Non-statin and other medications prescribed at discharge do not meet the measures according to new Heart Association guidelines.

Lipid lowering medications block the production of cholesterol and fat. Depending upon the specific medication, each may target unique levels such as HDL (good cholesterol), LDL (bad cholesterol) and triglycerides or polipoprotein B (protein needed to produce cholesterol). They may also reduce the absorption of dietary cholesterol by combining

with the cholesterol to remove it from the bloodstream. New AHA guidelines favor Statin use and question efficacy of non-statins.
Examples: Fish oils, Niacor, Niaspan, Zetia, Fenofibrate, Tricor, Triglide, Lopid, Colestid, Prevalite, Questran, Welchol

- **Yes** - Capture those who receive an order for a non-statin medication at discharge.
- **No** – Patient did not receive a non-statin medication order at discharge
- **Contraindicated** - Documented evidence of contraindication. If a contraindication is documented explicitly as excluded for medical reasons, or is evidenced clearly within the medical record (notation of a medication allergy prior to arrival) by a Physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist.

SEQ. #: 7121
Long Name: Mort-Date
Short Name: MtDate
Definition: Indicate the date the patient was declared dead.

Intent/Clarification:
Provide the date the patient died in hospital or was discharged alive, died after discharge within 30 days. **For patients who die in hospital only the mortality date is entered. For patients who are discharged alive and die after discharge, enter both the date of discharge and the mortality date.**

Date in the format mm/dd/yyyy.

GENERAL INFORMATION: Accurate coding mortality is very important to the integrity of the database.
All patients discharged alive should be followed for 30 days after the date of surgery to capture whether the patient is alive or dead at the end of the 30th day after the day of index surgery. Any patient that dies within 30 days should be coded as a mortality regardless of the cause of death.
Patients that remain in the hospital and die, even if after 30 days following the index surgery are coded as "Died in Hospital".
Patients that are transferred to another acute care hospital should be followed until the time of discharge from that facility. Any patient that dies at another acute care hospital after transfer should be coded as a mortality in the database.

SEQ. #: 7122
Long Name: Mort-Prim Cause
Short Name: MtCause

Definition: Indicate the PRIMARY cause of death, i.e., the first significant abnormal event which ultimately led to death.

Intent/Clarification: If the patient died due to multiple organ system failure, select the system that either was the initiator of the Multisystem Organ Failure (MSOF) or the primary cause of the patient's demise.

- Cardiac
- Neurologic
- Renal
- Vascular
- Infection
- Pulmonary
- Unknown
- Other

SEQ. #: 7123
Long Name: In-Hospital Death location
Short Name: InHospDthLoc
Definition: Indicate the location within the hospital where the patient died.

Intent/Clarification:

- OR During Initial Surgery
- OR During Reoperation
- In-hospital (Other than OR)

SEQ. #: 7124
Long Name: Mort-Op Death
Short Name: MtOpD
Definition: Operative Mortality includes: (1) all deaths, regardless of cause, occurring during the hospitalization in which the operation was performed, even if after 30 days (including patients transferred to other acute care facilities); and (2) all deaths, regardless of cause, occurring after discharge from the hospital, but before the end of the thirtieth postoperative day.

Intent/Clarification: Includes all causes of death including deaths occurring in hospitals when the patient is transferred to a higher level of care.

SEQ. #: 7125
Long Name: Post Discharge Death Location

Short Name: PostDisDthLoc
Definition: Indicate the location where the patient died after being discharged from the original hospitalization.

Intent/Clarification:

- **Home** (or, temporarily, at the home of a relative)
- **Extended Care Facility/Transitional Care Unit (TCU)** Code LTAC as Extended Care/Transitional Care Unit/Rehab. Do not count as part of acute care stay.
- **Hospice**
- **Acute Rehabilitation** (Ultimate plan for patient to return home after a short-stay)
- **Hospital, During Readmission**
- **Other**
- **Unknown**

FAQ July 2018: The patient died one day after discharge within thirty days. Cardiac arrest is documented in the ED. How is the location of death after discharge coded? Answer: Code the other for this death that technically occurred outside of the hospital.

Readmission

SEQ. #: 7140
Long Name: Readmission
Short Name: Readmit
Definition: Indicate whether the patient was readmitted to the hospital within 30 days of discharge from hospitalization for this surgery. Code yes for inpatient admission to an acute care facility. Do not capture ED or outpatient visits or admission to a skilled facility or nursing home.

Intent/Clarification:

This is not part of the composite score.

The intent is to capture inpatient readmissions to acute care and primary care facilities only where the patient **status is listed as "In-Patient".**

- Obtain information as close to 30 days from date of discharge as possible.
- It is understood that some readmissions are planned; these are still counted as readmissions.
- To code "Yes", readmissions do not need to be at same institution where the initial surgical procedure was done.
- Discharge and readmission to a psychiatric care facilities, where the patient is considered an in-patient are to be considered as readmissions.

- Do not include Emergency Department visits or observation status visits unless the ED visits leads to status of in-patient.
- If a patient is readmitted to an in-patient rehabilitation hospital, code “No”.
- If a patient is readmitted to an LTAC, code “No”.
- Do not code transfers to higher level of care, this is considered an extension of the same acute care admission. If the patient was discharged to the “Acute Rehab” floor of the same hospital and then readmitted back as an in-patient back into a nursing floor, code “Yes” to admission as an inpatient is considered “Yes.”
- To align with CMS, 30 day readmission should not be coded for patients who remain in observation units, no matter the duration.

On occasion a patient is readmitted twice within the 30 day time frame from the date of the procedure. This is a Yes/No question and does not ask how many times readmitted. Any time the patient is readmitted to a hospital ≤ 30 days from the date of discharge regardless if the readmission was planned or unplanned, related or unrelated. You code the first readmission only.

FAQ May 2018: The patient presented in the ED and had a cardiac arrest. The patient died in the ED. Is this is considered a readmission?
Answer: No, this is not considered a readmission, the death should be coded as death outside the hospital.

FAQ July 2018: If the patient is transferred to another acute care facility and ulitimately discharged, do we tract readmission for 30 days following discharge from the second hospital?
Answer: Yes, the readmission is captured for 30 days following the ultimately discharge.

FAQ August 2018: How is readmission to inpatient psych coded? Does that still count as a readmission?
Answer: Yes, this is a readmission.

FAQ August 2018: Several days post CAB, the patient left the hospital AMA with his IV still in place. Security caught him and he asked to be taken to a neighboring hospital. Should this be coded as a readmission?
Answer: Yes, code this as a readmission.

SEQ. #: 7145
Long Name: Date of Readmission
Short Name: ReadmitDt
Definition: Indicate the date the patient was readmitted.

Intent/Clarification:
Indicate the date the patient was readmitted with a status of In-patient. If the patient was admitted with the status of “Observation” but later changed to “In-patient” code the date the patient was changed to in-patient status.

Required date format: mm/dd/yyyy

SEQ. #: 7160
Long Name: Readmit Reason
Short Name: ReadmRsn
Definition: Indicate the primary reason that the patient was readmitted as an in-patient.

Intent/Clarification:
The intent is to identify readmissions where conditions have a physiologic relationship to cardiothoracic surgery.

If the patient was readmitted multiple times, use the first readmission to code this section. Example: If the patient was readmitted twice, the first time with pneumonia and the second time with angina, code pneumonia.

Readmit Reason must be completed if known.

- **Angina:** chest pain or discomfort often spreading to the shoulders, arms, and/or neck, caused by inadequate blood supply to the heart; stable or unstable.
- **Anticoagulant Complication** - **Pharmacological:** relates to a bleeding complication secondary to the administration of an anticoagulant, IIb/IIIa inhibitor or other platelet inhibitor, for example Plavix, Coumadin, ReoPro etc. This is often diagnosed as Sub-therapeutic or Supra-therapeutic INR.
- **Anticoagulant Complications**- **Valvular:** relates to thrombus forming in, on and around the prosthetic valve.
- **Aortic Complication:** may relate to issues in the native aorta or be secondary to aortic procedures.
- **Arrhythmia / Heart Block**: Patient admitted due to rhythm irregularities that may have required pharmacological, non- invasive, or invasive treatment.
- **Blood Pressure**: (hyper or hypotension)
- **Chest Pain, non-cardiac**
- **Congestive Heart Failure**: May be manifested as pulmonary edema or only identified as “heart failure”. Must have a diagnosis of Congestive Heart Failure.
- **Coronary Artery / Graft Dysfunction**: This may include native vessels and/or conduit restenosis, spasm or dissection.
- **Depression/psychiatric issue**
- **DVT (Deep Venous Thrombosis**): the formation of a blood clot in the deep veins within the body, such as in the leg or pelvis diagnosed by ultrasound.
- **Electrolyte imbalance**
- **Endocarditis**: Confirmed diagnosis of endocarditis by blood culture and/or vegetation on or around a heart valve. This may include native tissue, ring or prosthetic valve involvement.
- **Failure to thrive**: weight loss of more than 5%, decreased appetite, poor nutrition, and physical inactivity, often associated with dehydration, depression, immune dysfunction.
- **GI issue**: may require medical management, observational management or surgical intervention to control.

- **Infection- Conduit Harvest Site**: Use CDC definitions.
- **Infection- Deep Sternum / Mediastinitis:** Use CDC definitions. May or may not require surgical intervention.
- **Mental status changes:** Any other mental status change not diagnosed as Stroke or Transient Ischemic Attack
- **Myocardial Infarction**: MI diagnosis and/or angina diagnosed by the criteria listed in the definition. Prior to coding as MI, verify with discharge diagnosis to assure that the MI was 'ruled in' or that the patient's reported angina was not secondary to chest wall pain, as diagnosed with echocardiography, chest x- ray or other methods.
- **PE (Pulmonary Embolism**): Pulmonary embolisms must be documented through diagnostic testing such as VQ scan, angiogram, or CT. Do not confuse Pulmonary Embolism with Pulmonary Edema, captured under 'Respiratory Complication, Other'.
- **Pericardial Effusion and/or Tamponade:** May or may not require invasive intervention on readmission i.e. re-exploration or pericardial tap.
- **Pericarditis/Post Cardiotomy Syndrome:** Inflammatory reaction involving the pericardium that may include fever, effusion, pain.
- **Pleural Effusion Requiring Intervention:** A pleural effusion is a buildup of fluid between the layers of tissue that line the lungs and chest cavity. Diagnosis is often made through imaging studies. Intervention may consist of Thoracentesis (often by Interventional Radiology), Chest tube, Pleural drain (including pleural catheter or pigtail catheter), or Pleural decortication. Intervention does not necessarily entail an OR visit. Many procedures are done at ICU bedside.
- **Pneumonia:** Pneumonia is an inflammation of the lungs, typically diagnosed by microbiology of sputum cultures. It can be detected by imaging studies but should have confirming evidence. Include aspiration pneumonia. Look for documentation in medical record notes.
- **Renal Failure**: Use "Failure" criteria highlighted in RIFLE criteria.
- **Renal Insufficiency**: dysfunction of the kidneys with accumulation of waste products in the blood.
- **Respiratory Complication, Other:** Include acute respiratory failure (often requiring emergent intubation or ECMO cannulation), hypoxemia, pulmonary edema, respiratory acidosis. Pneumonia is separately captured.
- **Sepsis:** See definition of sepsis in the post-operative events section.
- **Stroke:** Confirmed neurological deficit of abrupt onset caused by a disturbance in blood flow to the brain that did not resolve within 24 hours.
- **TIA (Transient Ischemic Attack}:** Neurological dysfunction that lasts less than 24 hours and is completely resolved.
- **Transfusion:**
- **Transplant Rejection:** There are two forms of acute rejection: cellular and vascular. The chances of acute cellular rejection are greatest during the first six months after transplant. Acute vascular rejection is a type of acute rejection that occurs early after transplant (within the first four months) in a small number of patients.
- **VAD Complication:** Any device failure or malfunction of a VAD. Some physiologic complications, such as hemorrhagic stroke, hemolysis, or GI bleeds and be related to VAD complications.
- **Valve Dysfunction:** Can be either structural (i.e. leaflet fracture, impaired leaflet function, calcification) or non- structural (perivalvular leak, hemolytic anemia,

pannus obstruction) dysfunction. Is applicable to either a mechanical or tissue valve. Dysfunction related to Endocarditis is captured separately.

- **Vascular Complication, Acute:** Any major arterial or venous circulatory compromise that requires pharmacological, non- invasive or invasive treatment to resolve; i.e. peripheral delivery of TPA, peripheral angioplasty. Include acute limb ischemia that may require fasciotomy or amputation for treatment. DVT (Deep Vein Thrombosis) is captured separately.
- **Wound:** Other (drainage, cellulitis)
- **Other – Related Readmission:** Those conditions that may have a correlation to cardiothoracic surgery.
- **Other – Nonrelated Readmission:** All other reasons for admission, i.e., trauma, cancer, that are not related to the initial cardiac surgery or its complications.
- **Other – Planned Readmission:** Readmission for a procedure that was conditional upon surgical remediation of a cardiac condition. Example: A patient is re-admitted to the hospital after CABG for reasons that were planned prior to cardiac surgery (e.g., colon resection or kidney transplant).
- **Unknown:** Use this field selection only if there is no information available as to the reason why the patient returned. All effort should be made to identify the reason.

FAQ August 2018: How is readmission reason coded for the patient who is readmitted to inpatient psych?
Answer: Code Depression/psychiatric issue.

FAQ March 2019/July 2019: A patient was readmitted with an infection at the IABP cannulation site. This readmission infection is only related to the IABP should it only be captured as cannulation site infection in sequence number 6720 and MAD site infection in sequence number 6893?

Answer**:** No, do not capture as cannulation site infection in Seq 6720 since the IABP is not a cannulation sites used for the index procedure aorta / venous sites cannulated during surgery for CPB and/or the transcatheter cannulation site for transcatheter procedures such as TAVR. Capture Readmit reason as Wound Other

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SEQ. #: 7165
Long Name: Readmit Reason - Primary Procedure
Short Name: ReadmPro
Definition: Indicate the primary procedure that the patient received after being readmitted as an in-patient.

Intent/Clarification:
If the patient was readmitted multiple times, use the first readmission to code this section. Example: If the patient was readmitted twice and did not have any procedures on the first visit, but had a Cath-lab intervention on the second visit, code No Procedure Performed.

- **No Procedure Performed**: There was no invasive or a non-invasive procedure performed. Patient may have been managed by medical observation,

pharmacological or other medical therapies. Blood transfusions, ECGs, ordinary x-ray imaging, and IV infusions are not considered ‘procedures’.

- **Cath Lab for Valve Intervention**: Valvuloplasty, TAVR, mitral clip and related procedures.
- **Cath Lab for Coronary Intervention (PCI)**: Percutaneous coronary intervention, angioplasty, STENT or other coronary occlusive therapies in the Cath Lab.
- **Dialysis**: The patient required new hemo or peritoneal dialysis. May include CRRT.
- **OR for Bleeding**: Bleeding due to pericardial tamponade or related to a prior cardiac surgery. Includes repair of ventricular lacerations. (Note that OR visit is not an absolute requirement. Procedures done at ICU bedside to control mediastinal bleeding are included, as defined under Postoperative Event.)
- **OR for Coronary Artery Intervention**: Any surgical intervention on any of the coronary arteries due to progressive native coronary disease, conduit spasm, occlusion or dissection.
- **OR for Sternal Debridement / Muscle Flap**: Any surgical intervention necessary to debride (clean or remove marginal tissue or muscle) or Plastic Surgeon involvement to perform muscle flap reconstruction for deep sternal wound infection.
- **OR for Valve Intervention**: Any surgical procedure performed (repair and/or replacement) on any heart valve; native, prosthetic or ring/band device.
- **OR for Vascular Procedure**: Any (arterial) vascular surgical procedure required. Examples would include but are not limited to: (femoral hematoma evacuation, PTA, AAA, Carotid Endarterectomy, Fem-Pop bypass etc.)
- **OR for Aorta Intervention**:
- **Pacemaker Insertion / ICD**: Permanent Pacemaker or Implantable Cardioverter Defibrillator for arrhythmia or heart block.
- **Pericardiotomy / Pericardiocentesis**: Pericardiotomy is removal of all or part of the pericardium. Pericardiocentesis is drainage of accumulated fluid from or around the heart that creates hemodynamic compromise for the patient. Pericardiocentesis is typically performed as a non- surgical intervention, but a more invasive approach can be achieved through the surgical procedure of pericardial window.
- **Planned non-cardiac procedure**: Example: Planned colon resection.
- **Thoracentesis / Chest Tube Insertion**: Thoracentesis is a procedure to remove fluid from the space between the lungs and the chest wall called the pleural space. It is done with a needle. For persistent fluid accumulation, a chest tube can be inserted for more long-term drainage.
- **Wound Vac:** Wound Vac therapy promotes surgical wound healing through Negative Pressure Wound Therapy (NPWT). By delivering negative pressure (a vacuum) at the wound site, this helps draw wound edges together, remove infectious materials and actively promote granulation.
- **Other Procedure**: Some type of invasive or non-invasive procedure was performed that is not included in the above referenced list.
- **Unknown**: Use this field selection only if there is no information available as to the treatment/intervention prescribed. All effort should be made to identify the treatment used.

SEQ. #: 7166
Long Name: Readmit Reason - Primary Procedure - Aorta Intervention Type
Short Name: ReadmAortIntTy
Definition: Indicate the type of aortic intervention required during readmission.

Intent/Clarification: Indicate if the patient requires an open or endovascular aorta procedure.

SEQ. #: 7167
Long Name: Readmit Reason - Primary Procedure - Aorta Intervention Indication
Short Name: ReadmAortIntInd
Definition: Select the indication for aortic reintervention

Intent/Clarification: Indications for an aorta reintervention procedure include:

- Rupture
- Endoleak
- Infection
- Dissection
- Expansion
- Loss of side branch patency
- Other

Risk Scores

SEQ. #: 7170
Long Name: Predicted Risk of Mortality
Short Name: PredMort
Definition: Indicate the Predicted Risk of Mortality.

Intent/Clarification: The prediction of risk is calculated within the software according to a DCRI model specified to the vendor. **No user data input is accepted.**

SEQ. #: 7175
Long Name: Predicted Deep Sternal Wound Infx
Short Name: PredDeep
Definition: Indicate the Predicted Risk of Deep Sternal Wound Infection.

Intent/Clarification: The prediction of risk is calculated within the software according to a DCRI model specified to the vendor. **No user data input is accepted.**

SEQ. #: 7180
Long Name: Predicted Reoperation
Short Name: PredReop
Definition: Indicate the Predicted Risk of Reoperation.

Intent/Clarification: The prediction of risk is calculated within the software according to a DCRI model specified to the vendor. **No user data input is accepted.**

SEQ. #: 7185
Long Name: Predicted Permanent Stroke
Short Name: PredStro
Definition: Indicate the Predicted Risk of Permanent Stroke.

Intent/Clarification: The prediction of risk is calculated within the software according to a DCRI model specified to the vendor. **No user data input is accepted.**

SEQ. #: 7190
Long Name: Predicted Prolonged Ventilation
Short Name: PredVent
Definition: Indicate the Predicted Risk of Prolonged Ventilation.

Intent/Clarification: The prediction of risk is calculated within the software according to a DCRI model specified to the vendor. **No user data input is accepted.**

SEQ. #: 7195
Long Name: Predicted Renal Failure
Short Name: PredRenF
Definition: Indicate the Predicted Risk of Renal Failure.

Intent/Clarification: The prediction of risk is calculated within the software according to a DCRI model specified to the vendor. **No user data input is accepted.**

SEQ. #: 7200
Long Name: Predicted Morbidity or Mortality
Short Name: PredMM

Definition: Indicate the Predicted Risk of Morbidity or Mortality.

Intent/Clarification: The prediction of risk is calculated within the software according to a DCRI model specified to the vendor. **No user data input is accepted.**

SEQ. #: 7205
Long Name: Predicted Short Length of Stay
Short Name: Pred6D
Definition: Indicate the Predicted Risk of Short Length of Stay.

Intent/Clarification: The prediction of risk is calculated within the software according to a DCRI model specified to the vendor. **No user data input is accepted.**

SEQ. #: 7210
Long Name: Predicted Long Length of Stay
Short Name: Pred14D
Definition: Indicate the Predicted Risk of Long Length of Stay.

Intent/Clarification: The prediction of risk is calculated within the software according to a DCRI model specified to the vendor. **No user data input is accepted.**

STS Temporary Fields

STS Temporary fields should only be used at the direction of STS. Do not use for local data collection and clear any data that may have been entered prior to submission. See field 7230 below for instructions.

SEQ. #: 7215
Long Name: Temporary Yes/No Field #1
Short Name: TempYN1
Definition: This is a temporary field that should not be used for data collection until expressly instructed to by the STS.

Intent/Clarification: Use only as directed by STS, do not add custom field here.

SEQ. #: 7220
Long Name: Temporary Yes/No Field #2

Short Name: TempYN2
Definition: This is a temporary field that should not be used for data collection until expressly instructed to by the STS.

Intent/Clarification: Use only as directed by STS, do not add custom field here.

SEQ. #: 7225
Long Name: Temporary Date Field
Short Name: TempDt
Definition: This is a temporary field that should not be used for data collection until expressly instructed to by the STS.

Intent/Clarification: Use only as directed by STS, do not add custom field here.

SEQ. #: 7230
Long Name: Temporary Coded Field
Short Name: TempCode
Definition: This is a temporary field that should not be used for data collection until expressly instructed to by the STS.

Intent/Clarification: Use only as directed by STS, do not add custom field here.

SEQ. #: 7235
Long Name: Temporary Text Field
Short Name: TempText
Definition: This is a temporary field that should not be used for data collection until expressly instructed to by the STS.

Intent/Clarification: Use only as directed by STS, do not add custom field here.

Adult Cardiac Anesthesiology

SEQ. #: 7310
Long Name: Primary Anesthesiologist Name
Short Name: PrimAnesName
Definition: Indicate the full name of the primary anesthesiologist for the procedure.

Intent/Clarification:

Field must be populated. Missing data or information for an anesthesiologist not on your current contract with the STS will cause your data file submission not to process.

SEQ. #: 7315
Long Name: Primary Anesthesiologist National Provider Identifier
Short Name: PrimAnesNPI
Definition: Indicate the individual-level National Provider Identifier (NPI) of the primary anesthesiologist for the procedure.

Intent/Clarification:
Field must be populated. Missing or inaccurate data will cause your data file submission not to process. It is crucial to enter the correct anesthesiologist identifier.

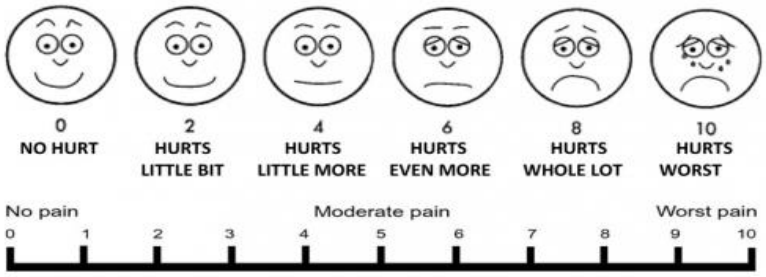
SEQ. #: 7320
Long Name: Care Team Model
Short Name: AnesCareTeamMod
Definition: Indicate the anesthesia care team assigned for the predominant portion of the procedure.

Intent/Clarification:
Determine the care model primarily responsible for providing anesthesia to the patient intraoperatively. This information can be found on the anesthesia record. Check with your anesthesia team or leave blank if the data is not available.

December 2017: Determine the care model primarily responsible for providing anesthesia for the predominant portion of the procedure, defined as greater than 40% of the duration of the procedure from induction of general anesthesia, to the patient intraoperatively. This information can be found on the anesthesia record.

SEQ. #: 7325
Long Name: Pain Score Baseline
Short Name: PainScorePre
Definition: Indicate the highest baseline (preoperative) pain score on the 0-10 integer scale, or indicate that the score was not recorded.

Intent/Clarification:
Pain score, which is a quality metric, is routinely assessed as part of preoperative holding area check in list. This information should be obtainable from a progress note or similar documentation completed by preoperative nurse closest to the OR Entry time.



SEQ. #: 7330
Long Name: Transfusion Algorithm to Guide Transfusion
Short Name: TransfAlg
Definition: Indicate whether a transfusion algorithm or guideline was used to guide transfusion in the patient.

Intent/Clarification:

A transfusion algorithm or guideline is a predetermined set of treatment plans specific to various patient specific criteria to aid in transfusing the patient. Check with your anesthesia team or leave blank if the data is not available.

SEQ. #: 7335
Long Name: Cell saver volume
Short Name: CellSavVol
Definition: Indicate the volume of cell-saver blood that was transfused intraoperatively. Include any volume started in the OR, even if the infusion completed postoperatively.

Do not include autologous, allogeneic, pump-residual, or chest-tube recirculated blood. Value should be recorded in milliliters.

Intent/Clarification:
Cell-saver blood is blood that the patient loses during surgery which is transfused back to the patient. Time frame includes any cell-saver infusions started intraoperatively regardless if they completion time is after OR Exit date/time. This type of data could be obtained from the Perfusionist record who was assigned to that specific case.

Some hospitals will bag the residual pump blood and the anesthesiologist hangs it and gives some extra protamine. This is not the same as Cell Saver blood and should not be included here.

FAQ October 2019 - When you ask for cell saver volume, I am correct in that you want total cell saver given back to the patient including cell saver given on CPB by the perfusionist plus amount given by anesthesia?
Answer – Yes, code any amount of cellsaver given to the patient.

SEQ. #: 7340
Long Name: Heparin Total Dose
Short Name: TotHep
Definition: Indicate the total dose of heparin that was administered intraoperatively prior to the initiation of first cardiopulmonary bypass.

Include all doses of heparin given prior to the first cardiopulmonary bypass. Value should be recorded in units.

Intent/Clarification:
Heparin administered after OR Entry time and prior to the initiation of cardiopulmonary bypass. Measurement should be recorded in units.

FAQ October 2019 - For total heparin, the definition states you want the amount of heparin anesthesia gives before going on CPB. Do you not want the total heparin given on the case? Perfusion gives hepain as well, and sometimes it can be substantial. Sometimes perfusion gives extra loading dose heparin through the pump if crashing on bypass, which really could be recorded as part of pre-CPB dose?
Answer – Capture only heparin given by anesthesia prior to initiation of CPB.

SEQ. #: 7345
Long Name: Heparin Management
Short Name: HepMgmt
Definition: Indicate the method of heparin management used intraoperatively.

Different approaches are utilized to measure the adequacy of heparinization for anticoagulation.

Intent/Clarification:
The adequacy of heparinization determines the coaguability of the patient's blood. Heparin titration based on activated clotting time (ACT) measures how quickly the blood will clot. The larger the number the longer it will take for the blood to clot. Heparin titration based on heparin concentration (Hepcon System) measures the concentration of heparin in the blood. If either of these two measurements are not used to determine the level of heparinization then "other" should be chosen.

SEQ. #: 7350
Long Name: Protamine total dose
Short Name: TotProt

Definition: Indicate the total dose of protamine given intraoperatively to reverse heparinization after first cardiopulmonary bypass.

Value should be recorded in milligrams. Do not include doses given in the ICU.

Intent/Clarification:
Protamine is a medication given used to reverse the effects of heparin within the operating room. Time frame should be after the initiation of cardiopulmonary bypass and prior to ICU admission.

SEQ. #: 7351
Long Name: Antithrombin III Total Dose
Short Name: AntithromDose
Definition: indicate the total dose of antithrombin III

Intent/Clarification:
Antithrombin III is a medication given to enhance the heparin effect to achieve adequate anticoagulation. Time frame should be any amount given within the intraoperative phase after OR Entry time.

SEQ. #: 7360
Long Name: Viscoelastic Testing Used During Operation
Short Name: IntraViscoTest
Definition: Indicate whether viscoelastic testing was used intraoperatively (example: TEG, TEG-FF, or ROTEM).

Viscoelastic testing is a method of measuring coagulation in the blood.

Intent/Clarification:
Viscoelastic testing is used to determine which coagulation products to administer when the patient has an anticipated coagulopathy or non-surgical cause of bleeding. CT anesthesia team or patient's lab record may be useful to see whether any of the above indicated viscoelastic tests has been performed.

SEQ. #: 7365
Long Name: Volatile Agent Used
Short Name: VolAgentUsed
Definition: Indicate whether a volatile agent was used.

Intent/Clarification:

A volatile anesthetic is an inhaled anesthetic administered via an anesthetic gas machine or via the cardiopulmonary bypass machine.

SEQ. #: 7366
Long Name: Volatile Agent - Isoflurane
Short Name: VolAgentIso
Definition: Indicate whether the volatile agent used was Isoflurane

Intent/Clarification:
Indicate if isoflurane was the volatile anesthetic used to provide anesthesia.

SEQ. #: 7367
Long Name: Volatile Agent - Sevoflurane
Short Name: VolAgentSevo
Definition: Indicate whether the volatile agent used was Sevoflurane

Intent/Clarification:
Indicate if sevoflurane the volatile anesthetic used to provide anesthesia.

SEQ. #: 7368
Long Name: Volatile Agent - Desflurane
Short Name: VolAgentDes
Definition: Indicate whether the volatile agent used was Desflurane

Intent/Clarification:
Indicate if desflurane was the volatile anesthetic used to provide anesthesia.

SEQ. #: 7369
Long Name: Volatile Agent - Other
Short Name: VolAgentOth
Definition: Indicate whether any other volatile agent was used

Intent/Clarification:
Although highly unlikely, indicate if any other volatile agents were used to provide anesthesia. Information may be obtained from anesthesia record or perfusion record.

SEQ. #: 7370
Long Name: Volatile Agent Timing - Pre-CPB
Short Name: VolAgentTimPre
Definition: Indicate whether the volatile agent was used prior to the patient being on CPB.

Intent/Clarification:
Time frame of administering a volatile agent is after OR entry and prior to CPB initiation.

SEQ. #: 7375

Long Name: Volatile Agent Timing - During CPB
Short Name: VolAgentTimDur
Definition: Indicate whether the volatile agent was used during the period when patient was on CPB.

Intent/Clarification:
A volatile agent was administered during the use of cardiopulmonary bypass. This information will either come from intraoperative anesthesia chart or perfusion chart. Leave blank if the information is unavailable.

SEQ. #: 7380
Long Name: Volatile Agent Timing - Post CPB
Short Name: VolAgentTimPost
Definition: Indicate whether the volatile agent was used after the patient was taken off CPB.

Intent/Clarification:
Indicate if a volatile agent was administered after the discontinuation of cardiopulmonary bypass and prior to admission to the ICU.

SEQ. #: 7385
Long Name: Volatile Agent Timing - Maintenance (no CPB)
Short Name: VolAgentTimMaint
Definition: Indicate whether a volatile agent was used for maintenance in a non-pump case (no CPB).

Intent/Clarification:
A volatile agent was administered after entry into the OR and prior to ICU admission in off-pump cases.

SEQ. #: 7390
Long Name: Intraop Infusion: Dexmedetomidine
Short Name: DexIntra
Definition: Indicate the use of dexmedetomidine infusion during surgery.

Any use of dexmedetomidine infusion during the intraoperative period, usually but not always, in the post-bypass period.

Intent/Clarification:
Indicate if dexmedetomidine was administered after OR Entry time and prior to OR Exit time

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SEQ. #: 7395
Long Name: Intraop Infusion: Propofol
Short Name: PropIntra
Definition: Indicate the use of propofol infusion during surgery.

Any use of a propofol infusion during the intraoperative period, usually but not always, in the post-bypass period.

Intent/Clarification:
Indicate if Propofol was administered by infusion after OR Entry time and prior to OR Exit time.

Specific attention should be paid to exclude bolus Propofol administration during any time of the intraoperative phase.

SEQ. #: 7400
Long Name: Intraop Mgs of Midazolam
Short Name: MidazIntra
Definition: Indicate the intraoperative does of midazolam in milligrams. Enter zero if no midazolam used.

Intent/Clarification:
Record in milligrams the amount of midazolam administered after OR Entry and prior to OR Exit. Record “0mg” if no midazolam was administered intraoperatively.

SEQ. #: 7405
Long Name: Intraop Insulin Total Dose (max units)
Short Name: TotInsuIntra
Definition: Indicate the total units (bolus and infusion) of insulin administered intraoperatively. Enter zero if no insulin was given.

Intent/Clarification:
Record, in units, the amount of insulin administered after OR Entry and prior to OR Exit. This includes bolus and infusion doses. Record “0 units” if no insulin was administered intraoperatively.

SEQ. #: 7410
Long Name: Blood Pressure Baseline (Pre-Anesthetic Induction) - Systolic
Short Name: PreAnesthBPSys
Definition: Indicate the most representative preoperative blood pressure upon arrival in the operating room.

The most representative initial blood pressure (systolic) should be recorded. This number may be an initial single recording or the average or median of a series of BP determinations. In all cases, the values should be recorded in the operating room prior to the induction of anesthesia.

Intent/Clarification:
Record the systolic blood pressure closest to, but prior to induction of anesthesia that is most representative of the patient’s preoperative status. If the blood pressure closes to induction is debatably abnormal for the patient (erroneously high or low), then a median of the first five (5) blood pressures measurements by the automated record keeping system obtained after OR Entry may be used.

If this information is not available, leave blank.

SEQ. #: 7415
Long Name: Blood Pressure Baseline (Pre-Anesthetic Induction) - Diastolic
Short Name: PreAnesthBPDia
Definition: Indicate the most representative preoperative blood pressure upon arrival in the operating room.

The most representative initial blood pressure (diastolic) should be recorded. This number may be an initial single recording or the average or median of a series of BP determinations. In all cases, the values should be recorded in the operating room prior to the induction of anesthesia.

Intent/Clarification:

Record the diastolic blood pressure closest to, but prior to induction of anesthesia that is most representative of the patient's preoperative status.

If the blood pressure closes to induction is debatably abnormal for the patient, then a median of blood pressures obtained after OR Entry may be used. If the blood pressure closes to induction is debatably abnormal for the patient (erroneously high or low), then a median of the first five (5) blood pressures measurements by the automated record keeping system obtained after OR Entry may be used.

If this information is not available, leave blank.

SEQ. #: 7420
Long Name: Blood Pressure Baseline (Pre-Anesthetic Induction) - Mean
Short Name: PreAnesthBPMean
Definition: Indicate the most representative preoperative blood pressure upon arrival in the operating room.

The most representative initial blood pressure (mean) should be recorded. This number may be an initial single recording or the average or median of a series of BP determinations. In all cases, the values should be recorded in the operating room prior to the induction of anesthesia.

Intent/Clarification: Record the mean arterial pressure obtained from the arterial line closest to the induction of anesthesia. If the mean arterial pressure closes to induction is debatably abnormal for the patient, then a median of arterial pressures obtained after OR Entry may be used. If the arterial pressure closes to induction is debatably abnormal for the patient (erroneously high or low), then a median of the first five (5) arterial pressures measurements by the automated record keeping system obtained after OR Entry may be used.

If no mean arterial pressure is available, leave blank.

Do not capture mean cuff pressure (NBP).

SEQ. #: 7425
Long Name: Heart Rate Baseline (Pre-Anesthetic Induction)
Short Name: PreAnesthHR
Definition: Indicate the most representative preoperative heart rate upon arrival in the operating room.

The most representative initial heart rate should be recorded. This number may be an initial single recording or the average or median of a series of heart rate determinations. In all cases, the values should be recorded in the operating room prior to the induction of anesthesia. The source of heart rate should derive from the ECG monitor, since pulse

rates derived from pulse oximetry/plethysmography or arterial tracings may underestimate the heart rate in tachyarrhythmias and other circumstances.

Intent/Clarification:
Record the heart rate closes to, but prior to induction of anesthesia, that is most representative of the patient's preoperative status. If the heart rate closes to induction is debatably abnormal for the patient, then a median of five (5) heart rates obtained after OR Entry may be used.

If no heart rate is available, leave blank.

SEQ. #: 7430
Long Name: Pulmonary Artery Catheter Used
Short Name: PACIntra
Definition: Indicate the preoperative or intraoperative placement of a pulmonary artery catheter (Swan-Ganz type-catheter).

Placement of a pulmonary artery catheter (PAC) in the preoperative or intraoperative period and use of this catheter during the intraoperative period.

Intent/Clarification:
Identify if a pulmonary artery catheter was placed pre or intra-operatively and used during the intraoperative period.

SEQ. #: 7435
Long Name: Core Temperature Source
Short Name: CoreTempSrc
Definition: Indicate the source of core temperature data used to guide cooling and/or rewarming during cardiac surgery.

Cardiac centers utilize various sites for measuring core temperature during cardiac procedures. These may include the esophageal, bladder, nasopharyngeal, pulmonary artery catheter thermistor, tympanic, or rectal sources. If more than one temperature is being recorded, the value selected as the core should be noted.

Intent/Clarification: Identify what source was used for determining the core temperature. This should coincide with data reported in the Operative section of the adult cardiac surgery data collection form.

SEQ. #: 7440
Long Name: Core Temperature Maximum

Short Name: CoreTempMax
Definition: Indicate the patient's highest core temperature during the procedure in degrees centigrade.

Intent/Clarification:
Indicate the patient's highest core temperature after the induction of anesthesia, prior to OR Exit.

SEQ. #: 7445
Long Name: Nitric Oxide Therapy Begun Intraoperatively
Short Name: NitricOxIntraop
Definition: Indicate the usage of inhaled nitric oxide.

Inhaled nitric oxide is used in the treatment of pulmonary hypertension and right ventricular failure. The intent is to capture the usage of inhaled nitric oxide during the cardiac surgical procedure. Do not record the usage of inhaled vasodilating substances other than nitric oxide in this data field.

Intent/Clarification:
Indicated if nitric oxide was used intraoperatively; after OR Entry but prior to OR Exit.

The Nitric Oxide (NO) machine is kept separate from the anesthesia machine and is often recoded by the Respiratory Therapist. The information is most likely found on the Respiratory Therapist record if not on the anesthesia record.

SEQ. #: 7450
Long Name: Total Crystalloid Administered by Anesthesia Care Team
Short Name: TotCrystAnesth
Definition: Indicate the total volume of intravenous crystalloid administered by the anesthesia care team. The data should be recorded in milliliters. Enter zero if no crystalloid used.

There is continuing controversy as to the risks and benefits of liberal or restrictive intravenous fluid regimens. Record the total volume of all crystalloid intravenous fluids administered by the anesthesia care team. Do not record any blood products in this data field.

Intent/Clarification:
Indicate if crystalloid fluids were administered in the OR by the anesthesia care team. **This does not include fluid administered by perfusion**. Record in milliliters. Enter "0" if no crystalloid fluids were administered by anesthesia.

Common crystalloid fluids include 0.9% NaCl, Lactated Ringers, Plasmalyte and D5 ½ 0.9%Saline.

SEQ. #: 7455
Long Name: Total Synthetic Colloid Administered by Anesthesia Care Team
Short Name: TotColloidAnesth
Definition: Indicate the total volume of intravenous synthetic colloid fluid administered by the anesthesia care team. The data should be recorded in milliliters. Enter zero if no synthetic colloid used.

There is continuing controversy as to the risks and benefits of liberal or restrictive intravenous fluid regimens. Record the total volume of all synthetic colloid intravenous fluids administered by the anesthesia care team. Do not record any blood products in this data field.

Intent/Clarification:
Indicate if colloid fluids were administered in the OR by the anesthesia care team. **This does not include fluid administered by perfusion.** Record in milliliters. Enter “0” if no colloid fluids were administered by anesthesia.

Common colloid fluids are Hespan and Voluven.

SEQ. #: 7460
Long Name: Total Albumin Administered by Anesthesia Care Team
Short Name: TotAlbumAnesth
Definition: Indicate the total volume of intravenous human serum albumin fluid administered by the anesthesia care team. The data should be record in milliliters. Enter zero if no albumin used.

There is continuing controversy as to the risks and benefits of liberal or restrictive intravenous fluid regimens. Record the total volume of all human serum albumin fluid administered by the anesthesia care team. Do not record any blood products in this data field.

Intent/Clarification:
Indicate if Albumin was administered in the OR by the anesthesia care team. **This does not include administration by perfusion.** Record in milliliters. Enter “0” if no albumin was administered by anesthesia.

Albumin solutions include: Albumin 5%, Albumin 20% and Plasmanate 5%.

SEQ. #: 7470
Long Name: Intraoperative Glucose Trough Value
Short Name: GlucTroughIntraop

Definition: Indicate the trough value of intraoperative glucose in mg/dl.

Intraoperative glucose values vary widely in cardiac surgery. Administration of glucose containing fluids, stress, insulin, and glucorticoids may all affect intraoperative glycemic levels.

Intent/Clarification:
Indicate the patient's lowest intraoperative glucose level in mg/dL. Time frame is after induction of anesthesia and prior to OR Exit time.

SEQ. #: 7475
Long Name: Vasodilators used
Short Name: VasodilIntraop
Definition: Indicate the usage of intravenous vasodilating drugs administered by continuous infusion during the intraoperative phase of cardiac surgery.

Vasodilators are used commonly in cardiac surgical patients for the control of intraoperative hypertension and for afterload reduction to improve ventricular function. For the purposes of this data field, infusions of milrinone and pure vasodilating drugs, such as nitroglycerin, nitroprusside, and nicardipine, should be recorded.

Intent/Clarification:
Indicate if the patient received continuous infusion of vasodilating drugs intraoperatively. Do not include one-time dose.

Could include but not limited to: Apresoline/hydralazine, nitroglycerin, nitroprusside, nicardipine, Esmolol, and milrinone.

SEQ. #: 7476
Long Name: Intraoperative Processed EEG (BIS)
Short Name: IntraProcEEG
Definition: Indicate whether an intraoperative processed EEG (BIS) was monitored

Intent/Clarification:
Indicate if a processed EEG was utilized intraoperatively regardless if it was a BIS or other similar device.

SEQ. #: 7480
Long Name: Intraoperative Pre-procedure TEE Performed
Short Name: IntraOpPreTEE
Definition: Indicate whether intraoperative TEE was performed pre-procedure.

Intent/Clarification:
Indicate if an intraoperative TEE was performed after OR Entry time after induction, but prior to Incision time.

SEQ. #: 7485
Long Name: Pre-Procedure Left Ventricular Ejection Fraction Measured
Short Name: PreLVEFMeas
Definition: Indicate whether left ventricular ejection fraction was measured

Intent/Clarification:
Indicate if an ejection fraction was measured during the intraoperative TEE after OR Entry time after inducation, but prior to Incision time.

This field is a child to Seq # 7480.

SEQ. #: 7490
Long Name: Left Ventricular Ejection Fraction Estimate
Short Name: PreLVEF
Definition: Indicate the estimate of Left Ventricular ejection fraction determined by intraoperative transesophageal echocardiography.

Enter a range of 1-99. If a percentage range is reported, report a whole number using the “mean” (i.e., 50-55% is reported as 53%). If a qualitative description is reported, code the mean value for that range; i.e., normal (50-70%) is coded as 60%.
● Hyperdynamic: >70%
● Normal: 50%–70% (midpoint 60%)
● Mild dysfunction: 40%–49% (midpoint 45%)
● Moderate dysfunction: 30%–39% (midpoint 35%)
● Severe dysfunction: <30%
Note: If no diagnostic report is in the medical record, a value documented in the medical record is acceptable.

Use the defining terms/percentages listed above to remain consistent with Adult Cardiac Database reporting.

SEQ. #: 7495
Long Name: Pre-Procedure Right Ventricular Function
Short Name: PreRVFx
Definition: Indicate the estimate of RV function determined by intraoperative transesophageal echocardiography.

Intent/Clarification:
Use the Right Ventricular function obtained between OR Entry and incision time, but after induction.

SEQ. #: 7500
Long Name: Mitral Regurgitation
Short Name: PreMR
Definition: Indicate the degree of mitral valve regurgitation from intraoperative transesophageal echocardiography.

Enter the highest level recorded in the chart, i.e., worst performance level. “Moderately severe” should be coded as “severe”.

Intent/Clarification:
Use the degree of mitral valve regurgitation obtained between OR Entry and incision time, but after induction. Enter the highest level of regurgitation in the chart.

SEQ. #: 7505
Long Name: Mitral Stenosis
Short Name: PreMS
Definition: Indicate the degree of mitral valve stenosis from intraoperative transesophageal echocardiography.

Enter the highest level recorded in the chart, i.e., worst performance level. “Moderately severe” should be coded as “severe”.

Intent/Clarification:
Use the degree of mitral valve regurgitation obtained between OR Entry and incision time, but after induction. Enter the highest level of mitral valve stenosis in the chart.

SEQ. #: 7510
Long Name: Aortic Regurgitation
Short Name: PreAR
Definition: Indicate the degree of aortic valve regurgitation from intraoperative transesophageal echocardiography.

Enter the highest level recorded in the chart, i.e., worst performance level. “Moderately severe” should be coded as “severe”.

Intent/Clarification:

Use the degree of aortic valve regurgitation obtained between OR Entry and incision time, but after induction. Enter the highest level of aortic valve regurgitation in the chart.

SEQ. #: 7515
Long Name: Aortic Stenosis
Short Name: PreAS
Definition: Indicate the degree of aortic valve stenosis from intraoperative transesophageal echocardiography.

Enter the highest level recorded in the chart, i.e., worst performance level. “Moderately severe” should be coded as “severe”.

Intent/Clarification:
Use the degree of aortic valve stenosis obtained between OR Entry and incision time, but after induction. Enter the highest level of aortic valve stenosis in the chart.

SEQ. #: 7520
Long Name: Aortic Valve Area Assessed
Short Name: PreAVAAssessed
Definition: Indicate whether the aortic valve areas was assessed from intraoperative transesophageal echocardiography.

Intent/Clarification:
Time frame is after OR Entry time.

SEQ. #: 7525
Long Name: Aortic Valve Area
Short Name: PreAVA
Definition: Indicate the aortic valve area from intraoperative transesophageal echocardiography.

Enter numeric value in square centimeters for aortic valve.

Intent/Clarification:
Report the aortic valve area obtained between OR Entry and incision time, but after induction. Answer in $cm^{2.}$

SEQ. #: 7530
Long Name: Tricuspid Regurgitation

Short Name: PreTR
Definition: Indicate the degree of tricuspid valve regurgitation from intraoperative transesophageal echocardiography.

Enter the highest level recorded in the chart, i.e., worst performance level. “Moderately severe” should be coded as “severe”.

Intent/Clarification:
Enter the highest level of tricuspid valve regurgitation obtained between OR Entry and incision time, but after induction.

SEQ. #: 7535
Long Name: Patent Foramen Ovale
Short Name: PrePFO
Definition: Indicate the presence of patent foramen ovale diagnosed by intraoperative transesophageal echocardiography.

Intent/Clarification:
Indicated if a patent foramen ovale was identified on the intraoperative TEE. Time frame is between OR Entry and incision time, but after induction.

SEQ. #: 7540
Long Name: Ascending Aorta Assessed
Short Name: AscAoAssessed
Definition: Indicate whether the ascending aorta was assessed using TEE.

Intent/Clarification:
The ascending aorta includes the area from the aortic root to proximal of the innominate artery. Indicate if a TEE was performed intraoperatively to assess the ascending aorta. Time frame is after OR Entry time prior to incision, but after induction.

SEQ. #: 7545
Long Name: Maximal Ascending Aortic Diameter
Short Name: MxAscAo
Definition: Indicate the maximal diameter of ascending aorta as determined by intraoperative transesophageal echocardiography.

Indicate maximal diameter of ascending aorta in centimeters as determined by intraoperative transesophageal echocardiography.

Intent/Clarification:

Record the maximal diameter of the ascending aorta in centimeters using data obtained from an intraoperative TEE. Time frame is after OR Entry time prior to incision, but after induction.

SEQ. #: 7550
Long Name: Maximal Ascending Aortic Atheroma Thickness
Short Name: MxAscAoThick
Definition: Indicate the maximal ascending aortic atherosclerotic thickness as measured by intraoperative transesophageal echocardiography.

Indicate maximal thickness of ascending aorta plaque in millimeters as determined by intraoperative transesophageal echocardiography. If only intimal thickening and no plaque put numeric value of zero.

Intent/Clarification:
Time frame is after OR Entry time prior to incision, but after induction.

SEQ. #: 7555
Long Name: Ascending Aortic Atheroma Mobility
Short Name: AsAthMo
Definition: Indicate the ascending aortic atheroma mobility as measured by intraoperative transesophageal echocardiography.

Intent/Clarification:
Indicate if there was atheroma mobility within the ascending aorta. Time frame is after OR Entry time prior to incision, but after induction.

EQ. #: 7560
Long Name: Aortic Arch Visualized
Short Name: AoArcVis
Definition: Indicate whether the aortic arch was visualized.

Intent/Clarification:
Indicate if an intraoperative TEE was performed that assessed the aortic arch. The aortic arch is normally located between the innominate artery and left subclavian artery. Time frame is after OR Entry time prior to incision, but after induction.

SEQ. #: 7565
Long Name: Maximal Aortic Arch Atheroma Thickness
Short Name: MxArcAth
Definition: Indicate the maximal aortic arch atherosclerotic thickness as measured by intraoperative transesophageal echocardiography.

Indicate maximal thickness of aortic arch plaque in millimeters as determined by intraoperative transesophageal echocardiography. If only intimal thickening and no plaque put numeric value of zero.

Intent/Clarification:
Time frame is after OR Entry time prior to incision, but after induction.

SEQ. #: 7570
Long Name: Aortic Arch Atheroma Mobility
Short Name: ArcAthMo
Definition: Indicate the aortic arch atheroma mobility as measured by pre-CPB intraoperative transesophageal echocardiography.

Intent/Clarification:
Indicate if aortic arch atheroma mobility was noted on the intraoperative TEE. Time frame is after OR Entry time prior to incision, but after induction.

SEQ. #: 7575
Long Name: Cardiopulmonary Bypass Used
Short Name: CPBUsed
Definition: Indicate whether cardiopulmonary bypass was used.

Intent/Clarification:
Indicate if the patient was placed on cardiopulmonary bypass for any portion of the procedure.

SEQ. #: 7580
Long Name: Retrograde Autologous Priming of CPB Circuit
Short Name: RetrAutolPrim
Definition: Indicate whether retrograde autologous priming was used by the cardiopulmonary perfusion team prior to the onset of cardiopulmonary bypass.

Retrograde autologous priming is technique used by cardiopulmonary perfusionists to minimize hemodilution and hypotension during onset of cardiopulmonary bypass.

Intent/Clarification:
Indicate if retrograde autologous priming was used by Perfusion. This information can usually be obtained in the perfusion record.

SEQ. #: 7585
Long Name: Total Fluids Crystalloid Administered by Perfusion Team
Short Name: TotCrystPerf
Definition: Indicate the total volume of intravenous crystalloid fluids administered by cardiopulmonary perfusion team. The data should be record in milliliters. Enter zero if fluid crystalloid not used by perfusion team

There is continuing controversy as to the risks and benefits of liberal or restrictive intravenous fluid regimens. Record the total of all crystalloid intravenous fluids given by the cardiopulmonary perfusion team. Do not record any blood products in this data field.

Intent/Clarification:
Record the entire amount of crystalloid fluids administered intravenously by the perfusion team as recorded on the perfusion record. Do not include amount given by anesthesia, this is captured in SEQ. #7450. If input and output amounts are listed, record the input amount.

December 2017: Indicate the adjusted crystalloid prime volume, which is estimated by subtracting the volume of the retrograde autologous prime from the volume of the total crystalloid prime, administered to the patient by cardiopulmonary perfusion team. The data should be recorded in milliliters.

Record the amount of adjusted crystalloid prime fluid given by the perfusion team. The amount of adjusted crystalloid prime is routinely indicated on the perfusion record. If it is not indicated on the perfusion record, but total crystalloid prime and the volume of retrograde autologous prime are indicated on the perfusion record, the volume of the adjusted crystalloid prime can be derived by subtracting the volume of the retrograde autologous prime from the volume of the total crystalloid prime.

Common crystalloid fluids include 0.9% NaCl, Lactated Ringers, and D5 ½-0.9% NaCl.

SEQ. #: 7590
Long Name: Total Synthetic Colloid Administered by Perfusion Team
Short Name: TotColloidPerf
Definition: Indicate the total volume of intravenous synthetic colloid fluids (of any concentration) administered by the cardiopulmonary perfusion team. The data should be recorded in milliliters. Enter zero if synthetic colloid not administered by perfusion team.

There is continuing controversy as to the risks and benefits of liberal or restrictive intravenous fluid regimens. Record the total of all synthetic colloid intravenous fluids given by the cardiopulmonary perfusion team. Synthetic colloids of all concentrations and substitution ratios should be included, Do not record any blood products in this data field.

Intent/Clarification:
Record the entire amount of colloid fluids administered intravenously by the perfusion team as recorded on the perfusion record. Do not include amount given by anesthesia, this is captured in SEQ. #7455. If input and output amounts are listed, record the input amount.

December 2017: Indicate the total volume of synthetic colloid fluids (of any concentration) administered by the cardiopulmonary perfusion team to the **cardiopulmonary bypass circuit**.

Common colloid fluids used in the OR are Hespan and Voluven.

SEQ. #: 7595
Long Name: Total Albumin Administered by Perfusion Team
Short Name: TotAlbumPerf
Definition: Indicate the total volume of intravenous human serum albumin fluids (of any concentration) administered by the cardiopulmonary perfusion team. The data should be recorded in milliliters. Enter zero if albumin not administered by perfusion team.

There is continuing controversy as to the risks and benefits of liberal or restrictive intravenous fluid regimens. Record the total of all human serum albumin intravenous fluids given by the cardiopulmonary perfusion team. Albumin-containing fluids of all concentrations should be included. Do not record any blood products in this data field.

Intent/Clarification:
Record the entire amount of albumin administered intravenously by the perfusion team. Do not include amount given by anesthesia, this is captured in SEQ. #7460.

December 2017: Record the entire amount of albumin administered to the **cardiopulmonary bypass circuit** by the perfusion team. Do not include amount given by anesthesia, this is captured in SEQ. # 7460.

SEQ. #: 7600
Long Name: Hemofiltration Volume Removed by Perfusion Team **Short Name:** HemofilPerf

Definition: Indicate the total volume of ultrafiltrate removed by the cardiopulmonary perfusion team during cardiopulmonary bypass and during modified ultra-hemofiltration post-CPB. Record the data in milliliters.

Hemofiltration is used to concentrate the red blood cells and plasma proteins in the circulation during and immediately following CPB.

Intent/Clarification:
Indicate the total volume of fluid removed by hemofiltration intraoperatively after the initiation of the initial cardiopulmonary bypass as record on the perfusion record. Record amount in millimeters. Time frame is at the start of the initial cardiopulmonary bypass to admission to the ICU.

SEQ. #: 7605
Long Name: Inotropes used to wean from CPB
Short Name: InotropWeanCPB
Definition: Indicate the usage of inotropic drug infusions to facilitate weaning from cardiopulmonary bypass. For this data field, any drug infusion with inotropic properties, including catecholamines, phosphodiesterase inhibitors, and calcium sensitizers, should be recorded.

Inotropic drugs infusions are used routinely or as required in many cardiac surgical patients during the process of weaning from CPB. Record all usage of drugs with positive inotropic effect, including epinephrine, norepinephrine, dopamine, dobutamine, levosimendan, and milrinone.

Intent/Clarification:
Indicate if inotropes were used to facilitate the weaning process from cardiopulmonary bypass. Select “Yes” if any drug with inotropic property was administered during the weaning process.

Inotropic drugs increase the pumping effect of the heart muscle, making the heart pump stronger. Common inotropic drugs include epinephrine, norepinephrine, dopamine, dobutamine, levosimendan, and milrinone. This also includes drugs with inotropic properties such as catecholamines, phosphodiesterase inhibitors, and calcium sensitizers.

If timing is unclear, obtain clarification regarding timing of the weaning process from the Cardiothoracic Anesthesiology team at your facility.

SEQ. #: 7610
Long Name: Vasopressors used to wean from CPB
Short Name: VasopWeanCPB

Definition: Indicate the usage of vasoconstrictive drugs to facilitate weaning from cardiopulmonary bypass. For this data field, any drug infusion at a dosage range with clinically vasoconstrictive properties, including catecholamines and pure vasoconstrictors, should be recorded.

Low systemic vascular resistance (a.k.a. vasoplegia) is a common condition during cardiopulmonary bypass that may be related to preoperative vasodilating drugs or certain antiarrhythmic drugs. Include purely vasoconstrictive drugs. Also record usage of drugs with inotropic effects that have vasoconstrictive properties in higher doses, such as dopamine and epinephrine.

Intent/Clarification:
Indicate if vasopressors were used to facilitate the weaning process from cardiopulmonary bypass. Select “Yes” for any drug with vasoconstrictive property that was administered, this includes inotropic drugs (such as epinephrine and dopamine) that can be dosed at vasoconstrictive levels or pure vasoconstrictors such as vasopressin or phenylephrine. Vasoconstrictive drugs constrict the blood vessels raising blood pressure.

Common vasoconstrictor drugs include dopamine, epinephrine, neosynephrine/phenylephrine, norepinephrine (Levophed) and vasopressin.

If timing is unclear, obtain clarification regarding timing of the weaning process from the Cardiothoracic Anesthesiology team at your facility.

SEQ. #: 7615
Long Name: Intraoperative Post-procedure TEE Performed
Short Name: IntraOpPostTEE
Definition: Indicate whether intraoperative TEE was performed post-procedure.

Intent/Clarification:
Indicate if a transesophageal echocardiogram was performed post-procedure intraoperatively. Time frame is after weaning from cardiopulmonary bypass to OR Exit time

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SEQ. #: 7620
Long Name: Systolic Anterior Motion of Mitral Valve
Short Name: PostSAM
Definition: Indicate the presence of systolic anterior motion (SAM) of the mitral valve as determined by intraoperative transesophageal echocardiography prior to chest closure.

Choose Yes for any SAM between weaning from CPB and chest closure.

Intent/Clarification:

If a post-procedure TEE was performed, indicate if systolic anterior motion of the mitral valve was noted. Choose “Not assessed” if a post-procedure TEE was performed but systolic anterior motion of the mitral valve was not documented. Time frame is after weaning from cardiopulmonary bypass to OR Exit time.

SEQ. #: 7625
Long Name: Return to CPB for Echo-Related Diagnosis
Short Name: RetCPBEch
Definition: Indicate whether surgical revision was performed based on post procedure intraoperative TEE.

Intent/Clarification:
Indicate if the patient had to be placed back on cardiopulmonary bypass for a surgical revisit as a result from findings on the post-procedure TEE prior to OR Exit time.

SEQ. #: 7630
Long Name: Post-Procedure Left Ventricular Ejection Fraction Measured
Short Name: PostLVEFMeas
Definition: Indicate whether left ventricular ejection fraction was measured post-procedure by intraoperative transesophageal echocardiography.

Intent/Clarification:
Time frame for TEE is the closest time before OR Exit time after final discontinuation of cardiopulmonary bypass time**. Indicate if an ejection fraction was obtained by TEE by the anesthesiologist post-procedure.**

SEQ. #: 7635
Long Name: Post-Procedure Left Ventricular Ejection Fraction Estimate **Short Name:** PostLVEF
Definition: Indicate the post-procedure estimate of left ventricular ejection fraction determined by intraoperative transesophageal echocardiography.

Enter a range of 1-99. If a percentage range is reported, report a whole number using the “mean” (i.e., 50-55% is reported as 53%). If a qualitative description is reported, code the mean value for that range; i.e., normal (50-70%) is coded as 60%.
● Hyperdynamic: >70%
● Normal: 50%–70% (midpoint 60%)
● Mild dysfunction: 40%–49% (midpoint 45%)
● Moderate dysfunction: 30%–39% (midpoint 35%)
● Severe dysfunction: <30%

Note: If no diagnostic report is in the medical record, a value documented in the medical record is acceptable.

Use the defining terms/percentages listed above to remain consistent with Adult Cardiac Database reporting.

SEQ. #: 7640
Long Name: Post-Procedure Right Ventricular Function
Short Name: PostRVFx
Definition: Indicate the post-procedure estimate of RV function determined by intraoperative transesophageal echocardiography.

Intent/Clarification:
Choices are normal, mild dysfunction, moderate dysfunction, severe dysfunction, and not assessed. If a range is reported (i.e. mild-moderate) choose the highest range reported. Choose “unknown” if a post-procedure TEE is performed, but right ventricular dysfunction is not documented. Time frame for TEE is the closest time before OR Exit time after final discontinuation of bypass time.

SEQ. #: 7641
Long Name: Intraoperative Cardiac Arrest Related To Anesthesia Care
Short Name: IntraCardArr
Definition: Indicate whether there was a cardiac arrest related to anesthesia care

Intent/Clarification:
Indicate if the patient’s heart arrested post-procedure, intraoperatively. Time frame is from induction to ICU arrival time.

FAQ December 2017: Indicate if the patient’s heart arrested during the period from the induction of general anesthesia to ICU admission. Time frame is from induction of general anesthesia until the initiation of cardiopulmonary bypass and/or after weaning from cardiopulmonary bypass to ICU admission.

SEQ. #: 7645
Long Name: Patient Died Within The OR
Short Name: ORDeath
Definition: Indicate whether the patient died within the OR.

Intent/Clarification:
Time frame is from OR Entry to OR Exit time.

SEQ. #: 7650
Long Name: Core Temperature Upon Entry To ICU/PACU Measured
Short Name: PostTempMeas
Definition: Indicate whether the core temperature was measured upon initial arrival in the ICU/PACU following cardiac surgery.

Intent/Clarification:
Indicate if the core temperature was measured upon arrival to ICU/PACU immediately following cardiac surgery. Core temperature locations include: bladder, rectum, pulmonary artery, esophageal, nasopharyngeal, and tympanic.

SEQ. #: 7655
Long Name: Core Temperature Upon Entry To ICU/PACU
Short Name: PostCoreTemp
Definition: Indicate the core temperature in degrees Centigrade upon initial arrival in the ICU/PACU following cardiac surgery.

The intent is to capture the initial documented core temperature in the intensive care unit, as per the normal routine for core temperature monitoring in the ICU/PACU.

Intent/Clarification:
Document the initial CORE temperature in degrees Celsius upon arrival to the ICU/PACU following cardiac surgery.

SEQ. #: 7660
Long Name: Postoperative INR Measured
Short Name: PostINRMeas
Definition: Indicate whether the International normalized ratio (INR) was measured upon initial arrival in the ICU/PACU following cardiac surgery.

Intent/Clarification:
Document if an initial International Normalized Ratio (INR) was measured upon arrival to the ICU/PACU following cardiac surgery. This lab is usually part of the Prothrombin test (PT/INR).

SEQ. #: 7665

Long Name: First Postoperative INR
Short Name: PostINR
Definition: Indicate the first international normalized ratio (INR) value upon initial arrival in the ICU/PACU following cardiac surgery.

INR is the standard unit used to report the result of a prothrombin (PT) test. The hospital laboratory report should be accessed first when coding this variable. If this is unavailable, then additional source documents may be referenced for lab results.

Intent/Clarification:
Record the first INR value upon arrival to ICU/PACU following cardiac surgery.

FAQ September 2017: What is the timeframe for this component? I have lab results that are 1 hour and 45 min from surgery. Is this too long of a timeframe?

Answer: Laboratory values should be drawn within one hour of arrival in the ICU/PACU.

SEQ. #: 7670
Long Name: WBC Upon Entry To ICU/PACU Measured
Short Name: PostWBCMeas
Definition: Indicate whether the white blood cell count was measured upon initial arrival in the ICU/PACU following cardiac surgery.

Intent/Clarification:
Document if an initial white blood cell count (WBC) was measure upon arrival to the ICU/PACU. This is usually part of the complete blood count (CBC) test.

FAQ September 2017: What is the timeframe for this component? I have lab results that are 1 hour and 45 min from surgery. Is this too long of a timeframe?

Answer: Laboratory values should be drawn within one hour of arrival in the ICU/PACU.

SEQ. #: 7675
Long Name: WBC Upon Entry To ICU/PACU
Short Name: PostWBC
Definition: Indicate the first white blood cell count upon initial arrival in the ICU/PACU following cardiac surgery.

White Blood Cells (leukocytes) are part of the body's immune defense and are often elevated in the presence of infection. The hospital laboratory report should be accessed first when coding this variable. If this is unavailable, then additional source documents may be referenced for lab results.

Intent/Clarification:
Record the first WBC value upon admission to ICU/PACU following cardiac surgery.

FAQ September 2017: What is the timeframe for this component? I have lab results that are 1 hour and 45 min from surgery. Is this too long of a timeframe?

Answer: Laboratory values should be drawn within one hour of arrival in the ICU/PACU.

SEQ. #: 7680
Long Name: Platelets Upon Entry To ICU/PACU Measured
Short Name: PostPltMeas
Definition: Indicate whether the platelet count was measured upon initial arrival in the ICU/PACU following cardiac surgery.

Intent/Clarification:
Document if an initial platelet count (PLT) was measure upon arrival to the ICU/PACU. This is usually part of the complete blood count (CBC) test.

FAQ September 2017: What is the timeframe for this component? I have lab results that are 1 hour and 45 min from surgery. Is this too long of a timeframe?

Answer: Laboratory values should be drawn within one hour of arrival in the ICU/PACU.

SEQ. #: 7685
Long Name: Platelets Upon Entry To ICU/PACU
Short Name: PostPlt
Definition: Indicate the first platelet count upon initial arrival in the ICU/PACU following cardiac surgery.

Platelets are a blood component instrumental in clot formation. The hospital laboratory report should be accessed first when coding this variable. If this is unavailable, then additional source documents may be referenced for lab results.

Intent/Clarification:
Record the first platelet count upon admission to ICU/PACU following cardiac surgery.

FAQ September 2017: What is the timeframe for this component? I have lab results that are 1 hour and 45 min from surgery. Is this too long of a timeframe?

Answer: Laboratory values should be drawn within one hour of arrival in the ICU/PACU.

SEQ. #: 7690
Long Name: Hematocrit Upon Entry To ICU/PACU Measured
Short Name: PostHCTMeas
Definition: Indicate whether the hematocrit value was measured upon initial arrival in the ICU/PACU following cardiac surgery.

Intent/Clarification:
Document if an initial hematocrit level (HCT) was measure upon arrival to the ICU/PACU. This is usually part of the complete blood count (CBC) test or hemoglobin/hematocrit (H/H) test.

SEQ. #: 7695
Long Name: Hematocrit Upon Entry To ICU/PACU
Short Name: PostHCT
Definition: Indicate the first hematocrit value upon initial arrival in the ICU/PACU following cardiac surgery.

Hct, Hematocrit, is the proportion of red cells in the blood. The hospital laboratory report should be accessed first when coding this variable. If this is unavailable, then additional source documents may be referenced for lab results.

Intent/Clarification:
Record the first hematocrit (Hct) level upon admission to ICU/PACU following cardiac surgery.

FAQ September 2017: Is there a timeframe for the results for this component? I have lab results that are 1 hour and 45 min from surgery. Is this too long of a timeframe?

Answer: Laboratory values should be drawn within one hour of arrival in the ICU/PACU.

SEQ. #: 7696
Long Name: Fibrinogen Upon Entry To ICU/PACU Measured
Short Name: PostFibrinMeas
Definition: Indicate whether fibrinogen was measured upon entry to ICU/PACU

Intent/Clarification:
Document if an initial fibrinogen level was measured upon arrival to the ICU/PACU.

SEQ. #: 7697
Long Name: Fibrinogen Upon Entry To ICU/PACU
Short Name: PostFibrin
Definition: Indicate the fibrinogen level upon entry to ICU/PACU

Intent/Clarification:
Record the first fibrinogen level upon admission to the ICU/PACU following cardiac surgery.

FAQ September 2017: Is there a timeframe for the results for this component? I have lab results that are 1 hour and 45 min from surgery. Is this too long of a timeframe?

Answer: Laboratory values should be drawn within one hour of arrival in the ICU/PACU.

SEQ. #: 7700
Long Name: Lactate Upon Entry To ICU/PACU Measured
Short Name: PostLactMeas
Definition: Indicate whether the lactate value was measured upon initial arrival in the ICU/PACU following cardiac surgery.

Intent/Clarification:
Document if an initial Lactate level (Lactic Acid) was measure upon arrival to the ICU/PACU.

SEQ. #: 7705
Long Name: Lactate Upon Entry To ICU/PACU
Short Name: PostLact
Definition: Indicate the value of lactate in ~~**mg/dl**~~ **mmol/L** upon initial arrival in the ICU/PACU following cardiac surgery. Do not record missing data as a zero value.

Serum lactate is a marker for the duration and severity of malperfusion during critical states. The magnitude of serum lactate has been associated with mortality and adverse outcomes.

Intent/Clarification:
Record the first lactate (lactic acid) level upon admission to the ICU/PACU following cardiac surgery.

FAQ September 2017: Is there a timeframe for the results for this component? I have lab results that are 1 hour and 45 min from surgery. Is this too long of a timeframe?

Answer: Laboratory values should be drawn within one hour of arrival in the ICU/PACU.

SEQ. #: 7710
Long Name: Postop Infusion: Dexmedetomidine
Short Name: DexPost
Definition: Indicate the use of dexmedetomidine infusion after surgery.

Any use of dexmedetomidine infusion during the postoperative period, after transport to the ICU/PACU.

Intent/Clarification:
Indicate if dexmedetomidine was administered after admission to the ICU/PACU following cardiac surgery. Time frame is from OR Exit to Discharge.

SEQ. #: 7715
Long Name: Postop Infusion: Propofol
Short Name: PropPost
Definition: Indicate the use of Propofol infusion after surgery.

Any use of a Propofol infusion during the postoperative period, after transport to the ICU/PACU.

Intent/Clarification:
Indicate if the patient received a Propofol infusion after admission to the ICU/PACU following cardiac surgery. Time frame is from OR Exit to Discharge.

This does not include bolus doses.

SEQ. #: 7720
Long Name: Postoperative Delirium
Short Name: PostopDel
Definition: Indicate whether the patient experienced postoperative delirium.

Postoperative altered mental state such as loss of memory and cognitive ability, personality changes, inability to concentrate, or lethargy, without actual evidence of stroke or coma.

Intent/Clarification:
Indicate if the patient experienced postoperative delirium as evidenced by change in mental status (including memory loss, personality changes, lethargy, and changes in

cognitive ability) without evidence of a stroke or coma. Refer to physician documentation for diagnosis. Time frame is from OR Exit to Discharge.

Definition of Post-operative Delirium

Post-operative delirium is a state of global brain dysfunction occurring after a surgical procedure, the diagnosis of which is made by establishing:

- An acute disturbance in level of arousal (may be thargy-stupor or hypervigilance-agitation) and an acute disturbance in cognition.
    - Identifying these disturbances as representing an acute change in the patient's baseline level of arousal and cognition requires the establishment of baseline functioning in these areas from corroborative sources including family, friends, and caregivers. *Note*: Even patients with poor baseline levels of cognitive function (i.e. pre-existing Dementia) can develop superimposed delirium.
    - The hallmark cognitive changes associated with delirium is a disturbance in attention (reduced ability to direct, focus, sustain, or shift attention) and awareness (reduced orientation to environment).
- These changes must develop over a short period of time (usually hours to a few days).
- These changes in cognition and level of arousal must demonstrate a pattern of fluctuation in severity during course of the day (i.e. there can be intervening periods of lucidity).
- Additional cognitive disturbances which may manifest during an episode of Delirium:
    - Memory deficits
    - Disorientation
    - Language
    - Visuospatial ability
- Additional behavioral disturbances which may manifest during an episode of delirium:
    - Changes in sleep-wake cycle
    - Hostility
    - Verbal and physical aggression
    - Unintentional self-harm (i.e. self-extubation, removal of catheters, falling out of bed)
    - Uncooperativeness with care
    - Euphoria
    - Hallucinations (visual or auditory)
    - Delusions (typically paranoid)
    - Disorganized thinking

FAQ November 2018: Symptoms of delirium are common in the first few hours after extubation in the immediate post op phase, is there a minimum time frame (i.e.: 24 hours) that the symptoms must persist after OR exit to code delirium?
Answers: Sites need physician documention to code yes for post op delirium.

FAQ November 2018: Should post-operative delirium tremens from alcohol withdrawal be coded as yes in this sequence? Or, is this to represent delirium from other etiologies?

Answer: Yes, code delirium for patients with delirium tremens.

SEQ. #: 7725
Long Name: Heparin-Induced Thrombocytopenia (Postop Dx)
Short Name: PostHITAnti
Definition: Indicate whether Heparin Induced Thrombocytopenia, HIT, is confirmed by antibody testing.

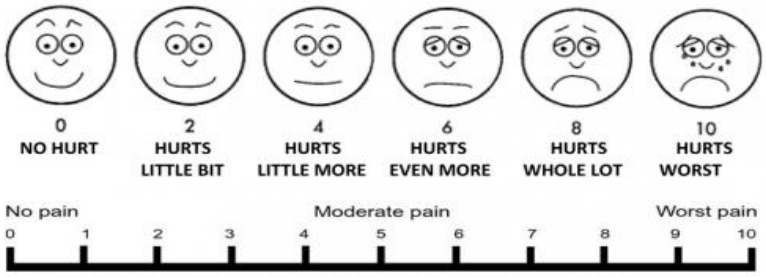
Heparin induced thrombocytopenia (HIT) can be defined as any clinical event best explained by platelet factor 4 (PF4)/heparin-reactive antibodies ('HIT antibodies') in a patient who is receiving, or who has recently received heparin. Thrombocytopenia is the most common 'event' in HIT and occurs in at least 90% of patients, depending upon the definition of thrombocytopenia. A very small proportion of patients with HIT develop thrombosis. Alternative (nonheparin) anticoagulant therapy reduces the risk of subsequent thrombosis.

Intent/Clarification:
Indicate if the patient experienced heparin induced thrombocytopenia (HIT) postoperatively. This is evidenced by the presence of HIT antibodies found via specific laboratory test. Consult with your laboratory to determine the test that your facility uses and the number of positive test used to diagnose a patient. Depending upon the test, some facilities require three positive results before confirming the diagnosis. This is sometimes referred to as being "HITA positive" in documentation. Time frame is from OR Exit to Discharge.

SEQ. #: 7730
Long Name: Pain Score POD #3
Short Name: PainScorePOD3
Definition: Indicate the pain score on postoperative day #3 (Integer Rating Scale).

Highest pain score on postoperative day #3 on the 0-10 integer scale, if recorded, or record score as missing.

Intent/Clarification:
Record the highest pain score using the integer scale from 0-10 on postoperative day 3. With a score of "0" indicating no pain and a score of "10" indicating the worse possible pain ever imagined. If the patient was evaluated on a non-numerical scale use the corresponding answer related to the 1-10 scale.



FAQ Sept 2019 - Should the time frame on this field begin at midnight on POD 3, or at 72 hours from OR exit?
Answer - The timeframe is counted by days, not hours so POD 0 is the day of surgery, POD 1 is the day after surgery, etc…

SEQ. #: 7735
Long Name: Pain Score Hospital Discharge
Short Name: PainScoreDisch
Definition: Indicate the pain score on day of discharge (Integer Rating Scale).

Highest pain score recorded on day of discharge on the 0-10 integer scale, if recorded, or record score as missing.

Intent/Clarification:
Record the highest pain score using the integer scale from 0-10 on the day of discharge from the hospital inpatient stay. With a score of “0” indicating no pain and a score of “10” indicating the worse possible pain ever imagined. If the patient was evaluated on a non-numerical scale use the corresponding answer related to the 1-10 scale.