Introduction

This manual is intended to clarify field definition and intent. This document contains the most up to date instructions for v. 2.81 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. 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. Use the Ctrl + F function to search for a number or term of interest.
Bookmarks have been added for July 2017 updates.

General Information:
The STS data collection forms should be held for two 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?
Some but not all could be collected from the EMR. Some fields are too complex to extract from the EMR in real time. Caution needs to be used with auto data transfer from the EMR.

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.

A. 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. Any mismatch will cause your data file submission not to process. Valid date ranges can be found in the current Software Specifications.

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.

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 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.

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.
FAQ 04/2017: Is the Partner 3 trial considered an STS-related clinical trial.
Answer: No, there are currently no STS trials underway in the Adult Cardiac Surgery Database.

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.

B. 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:
Enter middle name, middle initial or leave blank if no middle initial.

Seq. #: 65
Long Name: Date of Birth; S**hort 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:

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:
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.
If DOB (SeqNo 65) is not submitted, age must be provided in order for Risk Model calculations to be made.

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. #: 80
Long Name: Social Security #; **Short Name:** SSN
Definition: Indicate the patient's Social Security Number (SSN). 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:
The entire 9 digit Social Security Number is crucial to provide linkage for long term follow up and every attempt should be made to collect it. However, follow your state and local regulations for collecting this field.

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; S**hort 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 that is all that's 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 V2.81. (p. 20-21)

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; S**hort 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 and 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 the 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 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 prin¬cipal 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**.

FAQ 10/2016: My facility does not document ethnicity. If there is no mention of ethnicity in the medical record how should this this be coded?
Answer: You cannot make the assumption that the patient is not Hispanic, Latino or Spanish without clear documentation in the medical record.
Code not documented.

C. 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 names 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.

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 this field is missing or incorrect, the file will not be processed.
If the hospital NPI is changed (mergers, acquisitions) it is crucial that STS and DCRI be notified as soon as possible. This will ensure records are handled appropriately at harvest.

Seq. #: 225
Long Name: Payor - Government Health Insurance; **Short Name:** PayorGov
Definition: Indicate whether government insurance was used by the patient to pay for part or all of this admission. Government insurance refers to patients who are covered by government-reimbursed care. This includes Medicare, Medicaid, Military Health Care (e.g. TriCare), State-Specific Plan, and Indian Health Service.

Intent/Clarification:
CHIP (Children's Health Insurance Plan), High Risk Pools Local Government Health Insurance Plan (LGHIP), state or federal prisoners.

Blue Cross Federal Government is coded as Commercial insurance.

Seq. #: 230
Long Name: Payor - Government Health Insurance - Medicare; **Short Name:** PayorGovMcare

Definition: Indicate whether the government insurance used by the patient to pay for part or all of this admission included Medicare.

Intent/Clarification:

Choose all that apply for patients with multiple payors.

If patient is covered by a Medicare product and managed by a commercial (including HMO) plan it is coded as having Medicare**,** Commercial**, and HMO** coverage.

Seq. #: 240
Long Name: Payor - Government Health Insurance - Medicare - Fee For Service; **Short Name:** PayorGovMcareFFS
Definition: Indicate if patient is covered by Medicare Fee for Service (Medicare Part B).

Intent/Clarification:
Check with your hospital billing department if you are unsure whether the patient has Medicare Part B.

Seq. #: 245
Long Name: Payor - Government Health Insurance - Medicaid; **Short Name:** PayorGovMcaid
Definition: Indicate whether the government insurance used by the patient to pay for part or all of this admission included Medicaid.

Intent/Clarification:

Seq. #: 250
Long Name: Payor - Government Health Insurance - Military Health Care; **Short Name:** PayorGovMil
Definition: Indicate whether the government insurance used by the patient to pay for part or all of this admission included Military Health Care.

Intent/Clarification:
Examples of payers for Military Health Care would be TriCare, Champus, Department of Defense or Department of Veterans Affairs.

Seq. #: 255
Long Name: Payor - Government Health Insurance - State-Specific Plan; **Short Name:** PayorGovState
Definition: Indicate whether the government insurance used by the patient to pay for part or all of this admission included State-Specific Plan (e.g., MI Health, TennCare, Mass).

Intent/Clarification:

Seq. #: 260
Long Name: Payor - Government Health Insurance - Indian Health Service; **Short Name:** PayorGovIHS
Definition: Indicate whether the government insurance used by the patient to pay for part or all of this admission included Indian Health Service.

Intent/Clarification:

Seq. #: 265
Long Name: Payor - Government Health Insurance - Correctional Facility; **Short Name:** PayorGovCor
Definition: Indicate whether the government insurance used by the patient to pay for part or all of this admission included a state or federal correctional facility.

Intent/Clarification:

Seq. #: 270
Long Name: Payor - Government Health Insurance - Other; **Short Name:** PayorGovOth
Definition: Indicate whether the government insurance used by the patient to pay for part or all of this admission included some other government plan.

Intent/Clarification:

Seq. #: 275
Long Name: Payor - Commercial Health Insurance; **Short Name:** PayorCom
Definition: Indicate whether commercial insurance was used by the patient to pay for part or all of this admission. Commercial insurance refers to all indemnity (fee-for-service) carriers and Preferred Provider Organizations (PPOs), (e.g., Blue Cross and Blue Shield).

Intent/Clarification:
Workman's compensation is considered commercial insurance.

Seq. #: 280
Long Name: Payor - Health Maintenance Organization; **Short Name:** PayorHMO
Definition: Indicate whether a Health Maintenance Organization (HMO) insurance was used by the patient to pay for part or all of this admission. HMO refers to a Health Maintenance Organization characterized by coverage that provides health care services for members on a pre-paid basis.

Intent/Clarification:

Seq. #: 285
Long Name: Payor - Non-U.S. Insurance; **Short Name:** PayorNonUS
Definition: Indicate whether any non-U.S. insurance was used by the patient to pay for part or all of this admission. **Intent/Clarification:**

Seq. #: 290
Long Name: Payor - None / Self; **Short Name:** PayorNS
Definition: Indicate whether no insurance was used by the patient to pay for this admission. None refers to individuals with no or limited health insurance; thus, the individual is the payor regardless of ability to pay. Only mark "None" when "self" or "none" is denoted as the first insurance in the medical record.

Intent/Clarification:

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.

Intent/Clarification:

FAQ 01/2016: The A patient was seen in the emergency room and taken to the cath lab. Later that day, she was taken emergently to the OR for surgery. She was originally admitted under observation, but was changed to admission the next morning which was after her surgery. Her insurance is Medicare so technically the date of admission does not match the date of her surgery. I am unable to enter the actual date of admission as it is the day after the surgical procedure was performed. Is it acceptable to add the date she came into the ER and had surgery as the admission date or should I leave this blank?

Answer: Technically, the day of admission is the day pt changes to inpatient. However, in this case, you must use the day of the beginning of the surgery.

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.

Seq. #: 315
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:
Do not include transfers to other services, such as renal care unit. If the patient is discharged (given a new account number) to hospice care but remains in the same bed/unit, the discharge date is that date. If the patient is discharged (given a new account number) to a psychiatric or rehab unit, even if located in the same building, the discharge date is that date.

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 cath and is then held over for surgery (elective or urgent), this should be coded as an elective admission, however the surgery status could be coded as urgent based on cath findings.

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

Other: This field would include **direct admits from** MD office, provider, non-acute clinic, Rehab units (if they go to the ED, it's ED as admission 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 transferring facility, such as transplant. The goal is to identify high acuity patients and does not reflect negatively on the raeferring 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.

D. Risk Factors

General Info:
Scenario: A patient in the field, is alone, intubated, and taken directly to CT, then OR for dissection. No family, no known medical history. After exiting the OR, family and medical records become available. Do we mark the pre op risk factors as unknown, or mark them as yes/no based on information obtained after the procedure? Answer: You can use the information that would be available from the family in this circumstance.

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
4'9" = 145 cm
4'10'' = 147
4'11'' = 149
5'0'' = 152
5'1'' = 155
5'2'' = 157
5'3'' = 160
5'4'' = 163
5'5'' = 165
5'6'' = 168
5'7'' = 170
5'8'' = 173
5'9'' = 175 cm
5'10'' = 178
5'11'' = 180
6'0'' = 183
6'1'' = 185
6'2'' = 188
6'3'' = 191
6'4" = 193
6'5" = 196
6'6" = 198

FAQ 12/16: If a pt is a bilateral leg amputee due to PVD, should we use current height or height prior to amputation? Cath PCI wants original height but I thought STS wanted current Height prior to surgery, after amputation. Answer: Code the patient's current height prior to amputation.

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), a field for risk calculation.
To convert pounds to kilograms, divide # of lbs. by 2.2 1 Kg = 2.2 pounds

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

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

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 females (considered a strong predictor for development of CAD); may include but 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 01/2016: The patient's father had an MI in his 40's. This meets the < 55 years old criteria, but the definition states, "You must have the exact age (not age range or approximation) to document premature CAD." Please confirm whether or not the patient meets the criteria for premature CAD. Answer: In his 40's is sufficient to code family history. In his 50's would not be as he could have been older than 55.

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) 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. Exclusions are steroid induced hyperglycemia and gestational (transient), without elevated HbA1c and/or treatment, code "no**".**
Not all patients receiving diabetic medications are considered diabetic. It is important to remember, some medications used to treat diabetes may be used to treat other conditions.

A hemoglobin A1C value of ≥ 6.5%, collected within 3 months prior to surgery, is acceptable for documentation of diabetes = "yes".

FAQ 12/16: The surgeon documented "history of non-insulin-dependent diabetes, which by report has resolved, secondary to weight loss". I have coded Seq. 360 as yes since the patient does have a history, but how would I code Seq. 365? Should I code as "diet only" or "none"?
Answer: Code diet only.

Seq. #: 365
Long Name: RF-Diabetes-Control; **Short Name:** DiabCtrl

Definition: Indicate the patient's diabetes control method (long term management) 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 (with or without diet treatment). May include the following, and others not listed:
  - Sulfonylureas - Diabinese, glipizide (Glucotrol, Glucotrol XL), glyburide (Micronase, DiaBeta, Glynase), and glimepiride (Amaryl).
  - Meglitinides - Repaglinide (Prandin) and nateglinide (Starlix).
  - Biguanides - metformin (Glucophage).
  - Thiazolidinediones - rosiglitazone (Avandia) and pioglitazone (Actos).
- Alpha-glucosidase inhibitors - acarbose (Precose)
- DPP-4 Inhibitor – sitagliptin (Januvia)
- Diet only: Treatment with diet only
- None: no treatment for diabetes
- Other: other adjunctive treatment, non-oral/insulin/diet. May include exenatide (Byetta, Bydureon), liraglutide (Victoza), Pramlintide (Symlin).
- Unknown

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

FAQ: 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.

FAQ 12/16: The surgeon documented "history of non-insulin-dependent diabetes, which by report has resolved, secondary to weight loss". I have coded Seq. 360 as yes since the patient does have a history, but how would I code Seq. 365? Should I code as "diet only" or "none"?
Answer: Code diet only.

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.
National Cholesterol Education Program criteria include documentation of the following:

- Total cholesterol >200 mg/dL (5.18 mmol/L); or
- LDL >=130 mg/dL (3.37 mmol/L); or
- HDL <40 mg/dL (1.04 mmol/L) in men and <50 mg/dL (1.30 mmol/L) in women;
- Currently receiving antilipidemic treatment

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

Intent/Clarification:
Code as "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.

FAQ 07/2016:

Code Yes when:

A. Documented history of dyslipidemia
B. Lab values prior to OR entry that support the diagnosis of dyslipidemia (includes 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 01/2016: If the patient is on a statin preoperatively, it counts as "Yes".~~

~~03/2015 Dyslipidemia is yes if pt has documented history of dyslipidemia OR if labs within 30 days support dyslipidemia (even if drawn after admission, prior to surgery) OR pt is on a statin prior to admission. Dyslipidemia is no if pt is put on statin after admission without diagnosis of dyslipidemia or lab documentation OR if only dyslipidemia medication is a non-statin~~.

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 patient is receiving prior 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.

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
- 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

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

Intent/Clarification:

Seq. #: 385

Long Name: RF- Endocarditis; **Short Name:** InfEndo

Definition: Indicate whether the patient has a history of endocarditis: 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. CDC, January 2013

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

Intent/Clarification:
This is a case where operative or autopsy findings can change a pre-operative risk factor.

Marantic Endocarditis (Nonbacterial Thrombotic Endocarditis) (Lupus) should not be coded as infectious endocarditis.

FAQ 01/2016: The STS Surgeons are currently deciding if a time period prior to surgery will be applied. It is generally accepted that a case of endocarditis 20 years in the past is not as risky as a patient with endocarditis 6 months in the past. This will be updated in the future.

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, 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, Staphylococcus aureus, Streptococcus species, Coagulase negative staphylococcus, Enterococcus species, 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:
Please note in Clarification that the definition of 'Current' (within 30 days prior to admission) has been changed from the V2.73

Electronic cigarettes (Ecig) = "No" 05/2015 Electronic cigarettes are not considered tobacco products.

- Current – Every Day 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". 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: FEV_1 60% to 75% of predicted, and/or on chronic inhaled or oral bronchodilator therapy.
- Moderate: FEV_1 50% to 59% of predicted, and/or on chronic oral steroid therapy aimed at lung disease.
- Severe: FEV_1 < 50% and/or Room Air pO_2 <60 or pCO_2 > 50.
- CLD present, severity not documented
- Unknown

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

Note: **Patients with asthma or seasonal allergies are not considered to have chronic lung disease.**

FAQ 01/2016: Pts on home oxygen without documentation of COPD or PFT/ABG testing are coded as **"Unknown"**

FAQ 01/2016: If a patient is on NO medication, has no O2 need, no PFT/ABG, no notation of prior history of COPD, yet the H&P states the pt has "severe COPD", do we code as "severe"?
Answer: ~~You cannot code severe without supportive documentation.~~
FAQ 07/2016: Lung disease documented, severity unknown

FAQ 01/2016: When the physician documents "severe COPD" (or other lung disease), but the FEV_1 and home meds do not support "severe", do we still code it as "severe"?
FAQ 07/2016 Answer: Code chronic lung disease ~~severity not documented~~ based on the severity indicated in diagnostic testing and/or medications.

FAQ 07/2016 ~~FAQ 01/2016~~: As it reads right now, it is causing some confusion if inhaled or oral bronchodilator therapy alone qualifies for chronic lung disease without a diagnosis of any disease. We have a patient who was on Albuterol but did not have a diagnosis for asthma or any chronic lung disease. Are we safe to assume that any chronic inhaled or oral bronchodilator therapy drug, without a corresponding diagnosis to include or exclude it, would qualify as Mild Chronic Lung Disease?
Answer: To code "yes", you MUST have a diagnosis of some type of chronic lung disease, (other than asthma). ~~Steroid inhalers~~ ONLY systemic steroids qualify for moderate CLD. Steroid inhalers do not count for preoperative steroids, or immunosuppression.

FAQ 01/2016: If the physician documents that the patient has "reactive COPD" or any type of chronic lung disease and a PFT is not performed and the patient is not on a chronic inhaled or oral bronchodilator, or chronic steroid therapy aimed at lung disease, does the abstractor mark the

lowest form of chronic lung disease, such as "Mild," and then select reactive as noted above? (Does the patient need to be on chronic lung meds and/or have PFT results to answer this element?)
FAQ 07/2016 Answer: Code lung disease documented, severity ~~not documented~~ unknown

FAQ 01/2016: Question: PFT - FEV_1=82%; Chest CT shows emphysema and MDs note states "moderate COPD." Pt has a 1.2 - 2 PPD current smoker history. What is the best way to code this element?
Answer: You can code Lung Disease Documented, severity unknown. The FEV_1 does not meet criteria**.**

A bedside spirometry interpreted by only a Respiratory Therapist or Surgeon cannot be used for documentation of chronic lung disease.

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).

FAQ 11/2016: If there are pulmonary function studies that meet the criteria to quantify chronic lung disease, can they be used to code CLD?
Answer: Yes, you can code CLD from the pulmonary function studies.

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). [2] 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)
- **Other** - chronic lung disease other than previously described (ex Amiodarone toxicity)
- **Multiple** - Multiple types of chronic lung disease conditions are present
- **Not documented**

Asthma is not to be included as Chronic Lung Disease.

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.

PFT = "yes" if only FEV_1 is done.

A bedside spirometry interpreted by only a Respiratory Therapist or Surgeon cannot be used for documentation of chronic lung disease.

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

Can PFTs alone be used for chronic lung disease?

07/2016 Yes, you can use the values from full PFTs (and bedside spirometry if the bedside studies have been interpreted by a pulmonologist) to code chronic lung disease.

Seq. #: 420

Long Name: RF-Forced Expiratory Volume Predicted; **Short Name:** FEV_1

Definition: Indicate the FEV_1 % 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 % predicted** whether or not it is the simple DLCO or the DLCO/VA.

Intent/Clarification:
The diffusing capacity (DLCO) may be reduced, < 80% predicted, in disorders such as emphysema, pulmonary fibrosis, obstructive lung disease, pulmonary embolism, pulmonary hypertension and anemia. DLCO >120% of predicted may be seen in normal lungs, asthma, pulmonary hemorrhage, polycythemia, and left to right intracardiac shunt. Choose the highest reported DLCO.

FAQ 01/2017: If you have a full PFT result, which value should be used, DLCOuncorrected, DLCOcorrected, DLCO/VA?
Answer: Following discussion with pulmonary specialists and surgeon leadership, use DLCOunc. If more than one value for DLCOunc is available, choose the lowest value.

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.

FAQ 01/2016: Question: What is the STS definition of anesthetic management? If this implies that we cannot use post cath ABGs, what is the acceptable time frame after anesthetic management (for a cath procedure) to draw an ABG?
Answer: Caths are not usually done (in adults) under anesthesia or deep sedation. If the patient is awake on RA and breathing spontaneously, you can use the cath ABG.

Seq. #: 440
Long Name: RF-Carbon Dioxide Level; **Short Name:** PCO_2
Definition: Indicate PCO_2 on most recent room air blood gas prior to procedure.

Intent/Clarification:
The normal range is 35-45 mmHg. Higher levels (CO_2 retention) may indicate hypoventilation and low levels are consistent with hyperventilation.

FAQ 11/2016: If there are room air blood gases with a pCO2 that meets the criteria to quantify chronic lung disease, can they be used to code CLD?
Answer: Yes, you can code CLD from the room air blood gas result for pCO2.

Seq. #: 445
Long Name: RF-Oxygen Level; **Short Name:** PO_2
Definition: Indicate PO_2 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. Normal values 80-100mm Hg. In persons over 60 years of age, the normal is lower.

FAQ 11/2016: If there are room air blood gases with a pO2 that meets the criteria to quantify chronic lung disease, can they be used to code CLD?

Answer: Yes, you can code CLD from the room air blood gas result for pO2.

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

For patients who are using home O_2 on a prn basis but have not used > 1 month, code "no".
If no indication of when O_2 last used code "unknown".

FAQ: If patients are on O_2 only at night, how do we code? Answer: PRN oxygen use

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Seq. #: 455
Long Name: RF-Inhaled Medication or Oral Bronchodilator Therapy; **Short 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, despite amount prior to admission. Capture only routine use.

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.

Unknown - conflicting information in the medical record and/or with the patient/family

FAQ 07/2016 FAQ: If a patient only has asthma, but takes inhaled bronchodilators/steroids on a regular basis, do we capture this as “yes”? Answer: Code RF-Inhaled Medication or Oral Bronchodilator yes … the field is for inhaled medications and is not a diagnosis of lung disease.

FAQ 11/2016: If the patient is using inhaled medication or oral bronchodilators can these medications be used to code CLD?
Answer: Yes, as long as the medications are being administered for chronic lung disease (not asthma).

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:
Capture patients with prescribed home therapy despite frequency of use. Do not capture suspected sleep apnea or that reported by family members as sleep apnea. Sleep apnea must be diagnosed by a physician/NP/PA.

CPAP or BiPAP therapy is no longer a requirement to code "yes" for sleep apnea.

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.

If sleep apnea has been surgically corrected, then code "no" to sleep apnea.

If sleep apnea is diagnosed using a tool but is not treated can the diagnosis alone be used to code sleep apnea? Yes, you can code from the diagnosis made using a tool preoperatively.

FAQ: Do we count central sleep apnea as yes? Answer: Yes

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.
This is coded 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 alone is not considered pneumonia and should be coded as "no".

Seq. #: 470
Long Name: RF-Illicit Drug Use; **Short Name:** IVDrugAb
Definition: Indicate whether there is 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.

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

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.
Include patients receiving the following treatments for **diagnosed depression**:

Cognitive behavioral therapy (CBT)

Selective serotonin reuptake inhibitor (SSRI), a type of antidepressant medication that includes citalopram (Celexa), sertraline (Zoloft), and fluoxetine (Prozac)

Serotonin and norepinephrine reuptake inhibitor (SNRI), a type of antidepressant medication similar to SSRI that includes venlafaxine (Effexor) and duloxetine (Cymbalta)

MAOI - MAOI refers to a category of antidepressant drugs known as "monoamine oxidase inhibitors" that alleviate depression by stopping (inhibiting) the monoamine oxidase enzyme from metabolizing chemical messengers (neurotransmitters) within the nervous system. This class is the oldest group of antidepressants first manufactured in the 1950s. However, today, it is basically a drug of "last" option when other antidepressants do not work for a patient. This is because MAOIs are known to have many side effects, have severe interaction effects with other drugs, and produce adverse reactions when taken with certain foods. These drugs may include the following: Phenelzine (Nardil), Isocarboxazid (Marplan), Tranylcypromine (Parnate), and Selegiline (Emsam).

A clinical diagnosis of depression/treatment is not required to code "yes". Patient/family stating depressed mood or affect is sufficient.
Also note, if patient taking one of these medications for something other than depression (examples: radiculopathy, smoking cessation, fibromyalgia, sleep disorders, hormonal imbalances), do not code "yes".

Unknown – unclear information in the medical record or no information available from the patient, from family members, etc.

FAQ: Is bipolar disease considered depression? Answer: ~~No, bipolar disorders and depression are two different disease processes~~.
FAQ 07/2016: Bipolar disease is considered a depression.

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

Intent/Clarification:
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

What is the difference between alcoholism and alcohol abuse?
Alcohol abuse is a pattern of drinking that results in harm to one's health, interpersonal relationships, or ability to work. Manifestations of alcohol abuse include the following: Failure to fulfill major responsibilities at work, school, or home. Drinking in dangerous situations, such as drinking while driving or operating machinery. Legal problems related to alcohol, such as being

arrested for drinking while driving or for physically hurting someone while drunk. Continued drinking despite ongoing relationship problems caused or worsened by drinking. Long-term alcohol abuse can turn into alcohol dependence. Dependency on alcohol, also known as alcohol addiction and alcoholism, is a chronic disease. Signs and symptoms of alcohol dependence include: A strong craving for alcohol; continued use despite repeated physical, psychological, or interpersonal problems; the inability to limit drinking.

FAQ: How is alcohol abuse quantified, is it > 8 drinks/week?
Alcohol abuse is not necessarily a quantity of alcohol. The definition should imply interference with home, work and life functioning.
FAQ 07/2016: An alcoholic generally drinks more than 8 drinks per week prior to the current admission.
FAQ 08/2016: This is not intended to mean that someone who drinks 8 drinks per week is an alcoholic however, if you have documentation the patient is an alcoholic at the time of admission you can code " ≥ 8 drinks per week".

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:
Hepatitis A is a transient condition- do not code as liver disease

Liver fibrosis with recurrent ascites should be coded as "yes" if documented appropriately and is supported by the MELD score.

Do not code liver disease for the liver transplant patient, if the patient has no residual anatomic or systemic issue OR if the MELD score does not quantify liver disease.

LFTs or a MELD score alone **cannot** be used to code "yes" to liver disease since other conditions impact these lab values.

FAQ: Liver disease should not be coded for Gilberts syndrome.

FAQ: Liver disease should not be coded for fatty liver.

FAQ 01/2016: Do not code liver cancer as liver disease, code as cancer.

FAQ 11/2016: Because there are medications to treat Hepatitis-C that will give a negative test result, should liver disease be coded no for these patients?
Answer: No, these patients should be coded as yes to liver disease.

FAQ 06/2017: Should liver disease be coded for the patient with hemochromatosis?
Answer: No, it can lead to liver disease but is not considered liver disease by itself.

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 an 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, onetime systemic therapy, inhaled steroid therapy or preprocedure steroid protocol.

Intent/Clarification

There are multiple classes of drugs considered to be immunosuppressive. Corticosteroids (only if taken systemically) Cytotoxic drugs, Antimetabolites and Cyclosporine, and Biologics (biologic response modifiers) (ex.: Actemra; Cimzia, Enbrel, Humira, Kineret, Orencia, Remicade, Rituxan, Simponi). Biologics are genetically engineered proteins derived from human genes. They are designed to inhibit specific components of the immune system that play pivotal roles in fueling inflammation. Immunosuppression can result from radiation therapy, malnutrition, or removal of the spleen. Immunodeficiency can be inherited or acquired. Examples of conditions causing immunocompromise include Hypogammaglobulinemia and HIV infection.

If patient has had a previous splenectomy, code "yes" to immunocompromise.
Patients with a history of receiving chemotherapeutic medications greater than 30 days prior to surgery should be coded as "no".
Positive Coombs test alone is not indicative of immunocompromise.

FAQ: Can immunosuppression be coded for an anorexic patient with acute weight loss of more than 20 pounds in the last month? Answer: No, there is not sufficient evidence to code immunosuppression.

FAQ 01/2016: If a patient has received a short treatment of prednisone (5 days) for respiratory problems within 30 days of CABG, do I code yes or no in this category?
Answer: No
What is the cut off for the number of days and the dose that equals immunosuppression.
Please address medications that cause immunosuppression.

FAQ 11/2016: Is a patient who is being treated with IVIG for chronic lymphocytic leukemia (CLL) considered immunocompromised?
Answer: Yes, IVIG is treatment for immunosuppression in patients with CLL.

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.
Code "no" for a patient with a history of laryngeal cancer who received radiation and chemotherapy
Code “no” for radiation pellets, beads, etc.
Include radiation to the “mantel/chest” area only – this includes breast cancer with radiation.

FAQ 07/17: Pt. previously had coronary stents and brachytherapy (radiation via catheter for in-stent restenosis). H&P says "yes" to "mediastinal radiation" b/c of the brachytherapy. Should this be captured as Mediastinal Radiation?
Answer: No, this does not have the same impact on the mediastinum as true 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 cancer diagnosis is unknown, you may use the date of the last treatment to determine the 5 year interval. If both dates are unknown, code as "unknown".

FAQ 11/2016: Is it correct to code a patient who is being treated with Gleevec for chronic lymphocytic leukemia (CLL) as having cancer, even if the diagnosis was longer than 5 years ago?
Answer: Yes, if the patient is currently receiving treatment for CLL, cancer should be coded 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

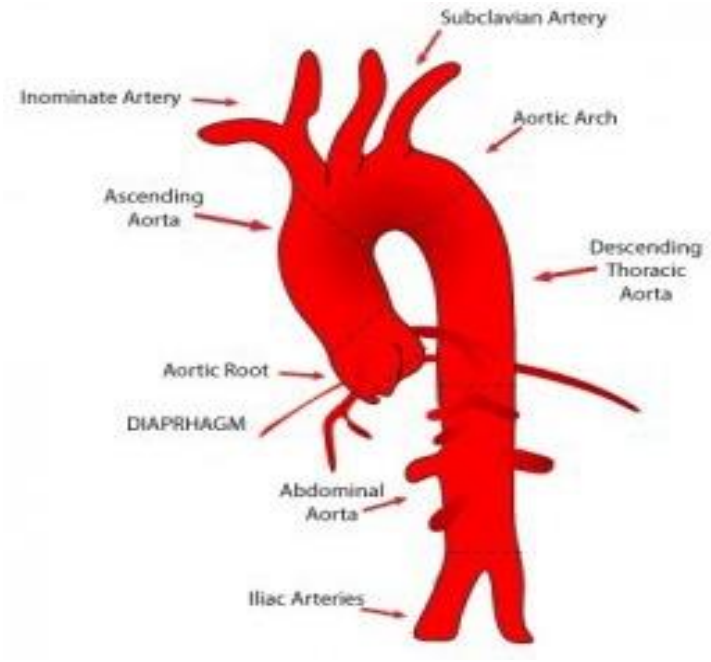
Peripheral arterial disease excludes disease in the carotid, cerebrovascular arteries or thoracic aorta. PAD does not include DVT.

Intent/Clarification:
Capture subclavian artery stenosis. PAD sometimes called PVD, but only count arterial, not venous disease.

Seq. #: 510
Long Name: RF-Thoracic Aortic 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 Code "no" to blunt trauma or infection
This field is not intended to capture calcification of the aorta.

FAQ 01/2016: There is a fusiform ascending thoracic aneurysm measuring 4.3 cm in the mid ascending portion by CT scan. The patient is asymptomatic. Should this be coded as disease of the aorta?
Answer: Yes, code ascending aortic disease; this size is more likely to dissect when the aortic cross clamp is applied.

Thoracic aorta anatomy:



FAQ 03/2017: Pt had CT-Calcium Scan and the result noted atherosclerotic calcifications in the thoracic aorta and coronary arteries. Total coronary calcium score of 1400. Can this be coded Yes as Thoracic Aorta Disease?
Answer: No, aortic disease cannot be identified by CT-Calcium scan.

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:
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. To identify those patients whose postoperative neurologic state may not be a result of the surgery, but rather patients' unknown preoperative neurologic status.

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:

- 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.
- TIA: 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.
- Noninvasive or invasive arterial imaging demonstrating ≥ 50% stenosis of any major extracranial or intracranial vessels to the brain.
- 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: Subdural hematoma is not cerebrovascular disease.
Clarify the patient with no symptoms who has a CT scan that is positive, should that be coded as CVD.

FAQ 11/2016: If the medical record does not include any documentation about cerebral vascular disease or carotid stenosis how should CVD and/or carotid stenosis be coded? Should the fields be left blank?
Answer: Do not leave blank, code no.

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.

Code "Yes" if a patient had a permanent stroke with residual deficit(s) persisting longer than 24 hours, yet over time and/or with therapy regained function.

The intent is to differentiate between neurological events that resolve within 24 hours and those that don't.
Clarify the patient who has symptoms of TIA lasting less than 24 hours, CT scan is positive for infarct; should that be coded as a CVA.
FAQ 07/2016 If the patient has no history of stroke and no symptoms but the CT reports an infarct do you code yes to prior CVA?
Yes, code prior CVA.

FAQ 08/2016: The patient is admitted with active endocarditis and the MRI demonstrates small punctate foci that favor small ischemic infarcts. How are endocarditis emboli collected for these events preoperatively?
Code these events as prior CVAs.

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

Unknown should be selected if some 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 at the time of surgery (even is prior stent is in place) Choices are:

- None
- Right
- Left
- Both

FAQ 01/2016: Question: A pt had both an ultrasound and CT to assess carotid stenosis. The procedures were done two days apart. Should I record the worst % stenosis or the results from the procedure closest to surgery?
Answer: CT angiogram would be more definitive.

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

FAQ 11/2016: If the medical record does not include any documentation about cerebral vascular disease or carotid stenosis how should CVD and/or carotid stenosis be coded? Should the fields be left blank?
Answer: Do not leave blank, code no.

FAQ 02/2017: The patient had a CT scan this morning which showed type A dissection extending from the aortic root down to the iliacs. Apparently, he had an occluded carotid or at least lack of opacification of that vessel, but he was neurologically intact." Would this be considered a stenosis of the carotid for sequence #545?
Answer: Code yes for CVD.

Seq. #: 550
Long Name: RF-CVD Carotid Stenosis - Right; S**hort 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

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

FAQ 11/2016: If the medical record does not include any documentation about cerebral vascular disease or carotid stenosis how should CVD and/or carotid stenosis be coded? Should the fields be left blank?
Answer: Do not leave blank, code no.

FAQ 02/2017: The patient had a CT scan this morning which showed type A dissection extending from the aortic root down to the iliacs. Apparently, he had an occluded carotid or at least lack of opacification of that vessel, but he was neurologically intact." How would you code percent carotid stenosis sequence #550?
Answer: Code 100% for the affected carotid artery.

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% or “moderate”
80 - 99% or “critical”, “severe”, or “subtotal”.
100% or “total”
Not documented

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

FAQ 11/2016: If the medical record does not include any documentation about cerebral vascular disease or carotid stenosis how should CVD and/or carotid stenosis be coded? Should the fields be left blank?
Answer: Do not leave blank, code no.

FAQ 02/2017: The patient had a CT scan this morning which showed type A dissection extending from the aortic root down to the iliacs. Apparently, he had an occluded carotid or at least lack of opacification of that vessel, but he was neurologically intact." How would you code percent carotid stenosis sequence #550?
Answer: Code 100% for the affected carotid artery.

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:

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.

FAQ 11/2016: The patient does not have a history of stroke but has a history of internal carotid aneurysm which was coiled. This does not seem to meet the definition of carotid surgery or stent, but it seems significant. Should this be coded as yes?
Answer: Yes, code prior carotid surgery and/or stenting.

Capture lab values if available. Not all patients will have (or need to have) all of the following Use results closest to surgery, prior to anesthesia provider initiating care. Do not use labs are hung in holding area or OR. STS recommends values within 30 days, except as POC (point of care) results.

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.

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).

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.

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)..

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.

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.

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 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.

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.

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.

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.

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.

Time frame is 3 months prior to surgery.

FAQ 09/2016: Can the value for HbA1c be used from blood work drawn after surgery.
Do not use values for HbA1c that are drawn after the patient enters the operating room.

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 (nonheparin) 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 is,

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: www.mayoclinic.org/meld/mayomodel6.html

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.

BNP Levels - Heart Failure

- BNP levels < 100 pg/mL suggest no heart failure.
- BNP levels of 100-300 pg/mL suggest heart failure is present.
- BNP levels > 300 pg/mL suggest mild heart failure.
- BNP levels > 600 pg/mL suggest moderate heart failure.
- BNP levels > 900 pg/mL suggest severe heart failure.

An elevated BNP without other supportive documentation should not be coded as CHF

FAQ: A BNP is drawn within 30 days of surgery. However, it was done during a completely different admission for CHF. No new BNP was drawn at the current admission. Should you use the recent BNP? Answer: Do not use a BNP within 30 days IF the BNP had been drawn during a previous hospitalization for CHF.

Seq. #: 625
Long Name: RF-N-Terminal Prohormone of Brain Natriuretic Peptide; **Short Name:** NTproBNP
Definition: NT-proBNP level in the blood is used for screening, diagnosis of acute congestive heart failure (CHF) and may be useful to establish prognosis in heart failure, levels are typically higher in patients with

worse outcome. The plasma concentration of NT-proBNP is typically increased in patients with asymptomatic or symptomatic left ventricular dysfunction and is associated with coronary artery disease and myocardial ischemia. Normal NTpBNP levels should be stratified by age and gender. Normal NTpBNP levels give high NPV in excluding significant cardiovascular disease. Most subjects with raised NTpBNP levels and almost all subjects with NTpBNP levels over four times the normal have significant cardiovascular disease.
Values are expressed in pg/mL.

Intent/Clarification:
Congestive Heart Failure likely: Age < 75, Range > 125pg/mL; Age > 75, Range > 450pg/mL
An elevated NTproBNP without other supporting documentation should not be coded as CHF.

Seq. #: 630
Long Name: RF-High-Sensitivity Troponin T; **Short Name:** hsTnT
Definition: hsTnT concentrations are found to be related to several factors like severity of coronary artery disease, left ventricular mass, left ventricular ejection fraction and regional wall motion abnormality. In patients with acute chest pain, myocardial perfusion abnormalities and coronary artery disease are predicted by resting hsTnT levels. Do not code other troponins here. Values are expressed in ng/L.

Intent/Clarification:

Seq. #: 635
Long Name: RF-High-Sensitivity CRP or Ultra-sensitive CRP; **Short Name:** hsCRP
Definition: The high-sensitivity C-reactive protein (hsCRP) assay is a quantitative analysis test of very low levels of C-reactive protein (CRP) in the blood. The hsCRP assay is being increasingly used as a marker for cardiac risk assessment and as a prognostic tool in heart disease. The CRP test, in addition to lipid evaluation and global risk scoring systems, helps in the evaluation of cardiovascular disease risk in an individual. C-reactive protein is an acute phase protein that appears in circulation in response to inflammatory cytokines, such as interleukin-6, and serves as a biomarker for systemic inflammation.

Only code hsCRP. Values are expressed in mg/L.

Intent/Clarification:
The American Heart Association and U.S. Centers for Disease Control and Prevention have defined risk groups as follows:
Low risk: less than 1.0 mg/L Average risk: 1.0 to 3.0 mg/L High risk: above 3.0 mg/L

Seq. #: 640
Long Name: RF-Growth Differentiation Factor 15; **Short Name:** GDF15
Definition: Growth differentiation factor 15 (GDF15) is a protein belonging to the transforming growth factor beta superfamily that has a role in regulating inflammatory and apoptotic pathways in injured tissues and during disease processes. GDF15 is also known as TGF-PL, MIC-1, PDF, PLAB, and PTGFB. GDF15 mRNA is most abundant in the liver, with lower levels seen in some other tissues. Its expression in liver can be significantly up-regulated in during injury of organs such as liver, kidney, heart and lung.
Moreover, increased circulating GDF-15 concentrations have been linked to an enhanced risk of future adverse cardiovascular events in elderly women and it is a new biomarker of the risk of death in patients with non-ST-elevation acute coronary syndrome.
Values are expressed in pg/mL.

Intent/Clarification:

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.

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
Choices are:

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

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:

E. 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 having 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 07/2017: The patient went to the OR following thoracic trauma requiring a chest tube placement on left side with possible pleurodesis. Can this be coded previous cardiac or thoracic surgery?
Answer: No, this is not considered previous cardiac surgery.

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.

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:

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

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 other device (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.
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, multivessel disease** - STEMI with primary PCI (of culprit lesion) and multivessel 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

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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. A stent is placed in an artery as part of a procedure called percutaneous coronary intervention (PCI), sometimes referred to as coronary angioplasty. PCI restores blood flow through narrow or blocked arteries. A stent helps support the inner wall of the artery in the months or years after PCI. Doctors also may 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.

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.
- **Bioresorbable** - A bioresorbable, biodegradable, or bioabsorbable stent serves the same purpose, but is manufactured from a material intended to dissolve or be absorbed in the body.
- **Multiple types**
- **Unknown**

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 order of chronology.

Do not capture thymectomy as a previous CV intervention unless the pericardium was opened at the time of the thymectomy.

FAQ: 01/2016: I had a patient who had the Impella(right) inserted on 3/3 for VSD and shock. She had surgery on 3/11. The Impella was removed. Does this count as a previous intervention?
Answer: Impella is a catheter based assist device only. Do not code as previous CV intervention.

FAQ 07/2016 ~~FAQ 01/2016~~: A pt had TOF with a VSD repair in 1969. The VSD was repaired with a Teflon patch. Does this count as a "closure device, ventricular septal defect"?
Answer: No, this is not a closure device should be coded as congenital cardiac repair, surgical.

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

Intent/Clarification:
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

Atrial appendage obliteration, Right, surgical
Atrial appendage obliteration, Right, transcatheter
Cardiac Tumor
Cardioversion(s)
Closure device, atrial septal defect
Closure device, ventricular septal defect
Congenital cardiac repair, surgical
Implantable Cardioverter Defibrillator (ICD) with or without pacer Pacemaker
Pericardial Window
Pericardiectomy
Pulmonary thrombectomy
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)

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.

F. 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.

Intent/Clarification:
Indicate if the patient has a history of MI. A myocardial infarction is evidenced by **any of the following**: 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.
Reference: ACCF/AHA Key Elements and Data Definitions 1/2013.

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.

Note: 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.
~~Do not use phrases such as "cannot rule out", "suggestive", "probable", "cannot exclude", etc. to code MI.~~

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. Cardiac presentation is not for angina only.
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); or

  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 or heart failure.

Examples:

FAQ: How should the patient be coded for presentation on admission when status post cardiac arrest and defibrillation for v-fib?
Answer: Code "Other"

FAQ: How should the patient be coded for presentation on admission when the patient presents with Takotsubo cardiomyopathy?
Answer: Code "Other"

FAQ: Does there need to be documentation that DOE is the anginal equivalent of the patient?
Answer**:** There needs to be supportive cardiology documentation in the medical record that the DOE = Angina.

FAQ: Can they assume it is the anginal equivalent if the stress test is positive?
Answer: There needs to be correlation by the cardiologist that the positive stress test is an Anginal Equivalent.

FAQ: When coding cardiac presentation on admission, is an acute transfer from one facility to another considered the same episode of care allowing me to code the presentation at the other facility ED as my presentation on admission?
Answer: Yes

FAQ: 53 yo has syncopal episode at home, brought to hospital and found to have severe aortic stenosis. Cath found 70% LM disease. Answer: Cardiac presentation is "other"

FAQ: The patient collapsed while eating dinner and had no chest pain. EMS found him to be in VF. He was successfully defibrillated. Answer: Cardiac presentation is "Other"; VF is a sign, not a symptom.

FAQ: Patient had an MI, is discharged and comes back in 5 days for surgery.
Answer: CAD presentation is USA.

FAQ: Documentation states SOB with minimal exertion for past 2 weeks and the patient denied chest pain. The physician documents that the patient's SOB is his anginal equivalent.
Answer: Code as USA.

FAQ: A patient presents for valve surgery with CHF, and no pain.
Answer: Code other since the field is intended to capture cardiac presentation.

FAQ 01/2016: Regarding the below situation, are we coding according to definition or per Dr's documentation? Noted in H&P upon arrival: "Pt is in multiorgan failure, including non-ST elevation

myocardial infarction with elevated trop I 0.10." In progress note (next day) note says: "Mildly elevated Troponin. I think this is secondary just to his elevated creatinine. Continue to follow that and once he is stable, he may need to have some type of stress test or further cardiology evaluation." NSTEMI was not mentioned thereafter and pt was transferred next day to another facility d/t TV endocarditis for surgical procedure.
Answer: Do not code previous MI.

FAQ 01/2016: If a patient presents to the hospital for elective surgery and has no complaints of pain on admission, do I capture him as no symptoms for both categories. He did have a heart cath 6 days prior with admission diagnosis of Stable Angina and Class II. I put his anginal classification in as Class II. What should his cardiac presentation on admission and time of surgery be?
Answer: Code stable angina as for both presentation on admission and at the time of surgery.

FAQ 01/2016: I had a patient present to the ER on 1/27/15 with SOB and cough and atypical chest pain. Chest X-ray showed pneumonia. Troponins were found to be elevated. A diagnosis of NSTEMI was made the next day. Do I code his presentation symptoms as Other or NSTEMI? He had a heart cath on 1/29/15 and showed significant coronary disease. Patient went to surgery on 2/2/15 after being treated for pneumonia. He had no symptoms at the time of surgery.
Answer: Code "other" at the time of admission and NSTEMI at the time of surgery. Also code recent pneumonia.

Seq. #: 900
Long Name: Cardiac Symptoms - At Time On Admission to the Operating Room; **Short Name:** CardSympTimeOfSurg
Definition: Indicate the patient's cardiac symptoms at the time of awake, entry to the operating room.

Intent/Clarification:
The intent is to capture changes between admission and surgery; whether a patient improves or deteriorates. Same definition as Seq. #895, although timeframes may overlap. If the patient did not improve or deteriorate between admission and surgery, the code will be the same. For elective admissions, patient symptoms (same value/answer) will be entered twice for seq. #895 and 900.

Will cardiac symptoms at the time of surgery be used in the risk models or will cardiac symptoms at the time of admission be used to calculate risk? The current models use symptoms at the time of surgery and that will be the case when the models are updated in 2015 as the models will be based on 2.73 data specifications.

The following is an effort to clarify coding for presentation on admission and at the time of surgery:

If the patient presents with STEMI or Non-STEMI, they should be coded as such in both sequence numbers 895 and 900 unless 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. #: 905
Long Name: Anginal Classification within 2 weeks **Short Name:** AnginalClass
Definition: Indicate the patient's anginal classification or symptom status within the past 2 weeks.
The anginal classification or symptom status is classified as the highest grade of angina or chest pain by the Canadian Cardiovascular Angina Classification System (CCS).

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Intent/Clarification: Canadian Cardiovascular Angina Class - Indicate the patient's CCA Class:

- **CCS 0**. The patient has no angina.
- **CCA I**. Ordinary physical activity (for example, walking or climbing stairs) does not cause angina; angina occurs with strenuous or rapid or prolonged exertion at work or recreation
- **CCA II**. Slight limitation of ordinary activity (for example, angina occurs walking or stair climbing after meals, in cold, in wind, under emotional stress, or only during the few hours after awakening; walking more than 2 blocks on the level or climbing more than 1 flight of ordinary stairs at a normal pace; and in normal conditions)
- **CCA III**. Marked limitation of ordinary activity (for example, angina occurs with walking 1 or 2 blocks on the level or climbing 1 flight of stairs in normal conditions and at a normal pace)
- **CCA IV**. Inability to perform any physical activity without discomfort; angina syndrome may be present at rest. All other classes of pain go away with rest and/or treatment.

Notes:
If this is a subsequent episode of care (within 2 weeks), code the most recent Anginal Classification. When the only chest pain the patient experienced is during an exercise stress test, code no angina, since this system is designed to classify angina during activities of daily living. Do not capture angina that only occurred during diagnostic testing. 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 anginal equivalent, code the selection that fits their presentation.

Seq. #: 910
Long Name: Heart Failure within 2 weeks; **Short Name:** CHF
Definition: Indicate if there is physician documentation the patient has been in a state of heart failure within the past 2 weeks.
Heart failure is defined as physician documentation or report of any of the following clinical symptoms of heart failure 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.

Intent/Clarification: Capture the patient's actual status in the weeks before surgery, the new diagnosis or exacerbation of an existing heart failure condition**.**

DO NOT code stable or asymptomatic compensated failure or patients whose symptoms improved after medical therapy. A low ejection fraction (EF) without clinical presentation does not qualify for history of heart failure

Note(s): If this is a subsequent episode of care (within 2 weeks), code the most recent Heart Failure. Also code this as prior heart failure (seq 920).

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. If the NYHA class is not documented, use the guidelines below to assign a class based on documented symptoms.

- **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. How do I code NYHA classification? You cannot code the NYHA classification if there is no supportive documentation in the record. Code yes to Heart Failure and leave NYHA classification blank.

FAQ: 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. How do I code NYHA classification?
Answer: You cannot code the NYHA classification if there is no supportive documentation in the record. Code "yes" to Heart Failure and leave NYHA classification blank.

FAQ: Pt. is diagnosed with STEMI and has a cardiac arrest. Prior to surgery he has documented respiratory failure and pulmonary edema. Should NYHA Class be IV based on the fact he was intubated and remained intubated for days?
Answer: This should be coded as heart failure, NYHA class IV because of pulmonary edema secondary to cardiac failure, whether or not he remained intubated

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Seq. #: 920
Long Name: Prior Heart failure; **Short Name:** PriorHF
Definition: Indicate history of heart failure occurring more than 2 weeks prior to current episode of care. A previous hospital admission with principal diagnosis of heart failure is considered evidence of heart failure history but is not essential.
Time Frame: > 2 weeks prior to this episode of care

Intent/Clarification:
The goal is to capture patients who have improved following medical management and do not exhibit clinical signs of failure within 2 weeks of surgery but have documented failure symptoms prior to that.
Newly diagnosed HF that is described to have onset of symptoms over past few months (but not previously known or treated) that is now worsening –code yes to both 910 and 920

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

Notes:

- At the time of the procedure is defined as incision time.
- This includes patients with CS who have been stabilized on IABP/inotropes at the time of surgery
- Do not code yes to shock for patients with a low cardiac index who are asymptomatic and do not require mechanical or inotropic support.

FAQ 01/2016: A patient with bacterial endocarditis, respiratory failure, septic shock and multisystem failure prior to arrival. How do I capture the degree of her illness? I did count IV inotropes. The only shock question available to us is cardiogenic shock.
Answer: If patient meets the criteria: 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 then cardiogenic shock can be coded.

FAQ 08/06/2015: Question: If the physician documents the patient is in cardiogenic shock, yet the patient does NOT MEET ANY elements in the definition, do we still code it?
Answer: No, it is important to have supportive physician documentation but the patient must meet the clinical definition; please read the data specification.

FAQ 09/2016: The patient was admitted for elective CAB and developed cardiogenic shock after induction but prior to incision. Can cardiogenic shock be coded as a risk factor after the patient enters the operating room?
No, hemodynamic issues that could be contributed to anesthesia induction problems should not count in the preoperative status of the patient. Also, elective procedures should not be coded as cardiogenic shock.

FAQ 03/2017: Should the patient who is admitted for pump exchange with LVAD be considered to be in cardiogenic shock?
Answer: No, the patient is not in cardiogenic shock just because he has LVAD; the patient must meet the blood pressure 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: ≤1 hour, or 1-24 hours pre-op.

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

- This may include complete circulatory support such as ECMO/other mechanical assist devices (ex. Impella, LVAD) initiated emergently prior to surgery.
- Do not code yes for resuscitation started after induction of anesthesia, the goal is to capture patients who required CPR prior to entering the OR.

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
- Unknown

In the fields that follow, for each arrhythmia, Choose none, remote (more than 30 days pre op), or recent (within 30 days of procedure). The arrhythmia must have been treated with one or more of the definitional list of therapies and/or clinically documented. These do not include arrhythmias such as 1st degree heart block, occasional premature ventricular contractions (PVC's) or supraventricular tachycardia (SVT) that did not require treatment.

To define "treated for an arrhythmia": a patient is considered to be treated for arrhythmia if they are on a medication specifically to treat an arrhythmia. Today, most arrhythmias are treated with antiarrhythmic medications. Coumadin is considered a treatment for A-fib, but a patient on Coumadin with documented a-fib rhythm would be coded yes. Patients may take Digoxin to treat arrhythmias. In the past Digoxin was used to treat A-fib, but patients can also be on Digoxin to increase contractility, etc. Therefore, do not assume that all patients that are on Digoxin are being treated for A-fib.

If the patient had a history of an arrhythmia (i.e. a-fib or V-tach) and is currently on medication to control rate and rhythm, and presents in sinus rhythm, code the patient as having the arrhythmia.

Treatment may include:

Ablation therapy - surgical and/or catheter based
Implantable cardioverter/defibrillator (ICD)
Pacemaker
Pharmacological treatment
Electrocardioversion

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 sufficient as to 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), and 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. #: 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) within 30 days of the surgical procedure. 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

FAQ 07/2016~~The options for third degree heart block are only none or recent. Do not code remote.~~ Third degree heart block can be coded remote.

Seq. #: 975

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:
A pacemaker is indicated when electrical impulse conduction or formation is dangerously disturbed. The **pacemaker rhythm** can easily be recognized on the ECG. It shows **pacemaker spikes**: vertical signals that represent the electrical activity of the pacemaker. Usually these spikes are more visible in unipolar than in bipolar pacing.

FAQ 09/2016: The patient has a permanent pacemaker but is in sinus rhythm when they enter the operating room. Should this be coded as permanent paced rhythm?
No, to code permanently paced rhythm the patient should be 100% paced.

Seq. #: 980
Long Name: Cardiac Arrhythmia - Atrial Fibrillation; **Short Name:** ArrhythAFib
Definition: Indicate whether arrhythmia was atrial fibrillation and if so, which type.

Intent/Clarification:
In atrial fibrillation, the electrical signals that coordinate the muscle of the upper chambers (atria) of the heart become rapid and disorganized; resulting in an irregular heartbeat (arrhythmia) often greater than 300 beats per minute. The likelihood of developing these arrhythmias increases with age. After age 65, between 3 percent and 5 percent of people have AF.

- None
- Paroxysmal
- Continuous / persistent – includes “Long-Standing Persistent” and “Permanent”

Paroxysmal	Recurrent AF (> 2 episodes). Terminates spontaneously within 7 days
Continuous/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	AF at a point in which no further treatment of any kind is considered.

Many patients with paroxysmal AF eventually develop permanent AF. The signs and symptoms of AF vary, and may include a sudden flutter of the heart, anxiety, shortness of breath, weakness and difficulty exercising, chest pain, sweating, dizziness or fainting. AF may have no known cause, or it may be related to coronary artery disease, thyroid disease, high blood pressure, structural defects of the heart and its valves, lung disease or other disorders. AF is diagnosed by electrocardiogram (ECG), or with devices that are worn by the patient to monitor the heart over time (Holter monitors and/or event recorders). AF may increase the risk of blood clots and stroke. Medications can be prescribed to prevent blood clots from forming. AF sometimes requires treatment with medications, controlled electric shocks to the heart or procedures that destroy the heart tissue that gives rise to the irregular heart rhythm. Less often, a pacemaker or other device is implanted to monitor and control the heart's rhythm.

FAQ 07/2016~~ FAQ 01/2016~~: Prior to admission, pt is in NSR. In the operative report section, “Findings at Operation: Paroxysmal afib. The pt developed afib intraoperatively." This is noted after CPB was commenced and the pt was observed to have a large LAA. Consent is for AVR only, but a modified MAZE (LAA and PVI) is also performed unexpectedly.

1. Is it best to capture the afib post op or pre op? Intraop Afib wouldn’t be in either the preop or postop section. The patient was in NSR preop.

Seq. #: 985
Long Name: Cardiac Arrhythmia - Atrial Fibrillation Duration; **Short Name:** ArrhythAFibDur
Definition: Indicate the duration of atrial fibrillation.

Intent/Clarification:
- Less than or equal to 1 year (Paroxysmal, Persistent)
- More than one year (Long-Standing Persistent, Permanent)
- Unknown- conflicting information in the medical record and/or with the patient/family or no information available

2007, 2012 HRS Consensus Statement (Heart Rhythm Society)

G. Preoperative Medications

General:
FAQ: How should medications be coded when we have no idea if they have been taking them regularly or are at a therapeutic level?
Answer: If the patient has a history and physical in the medical record and has been seen by a physician, surgeon or consultant and there is no documentation of the medications, code no. If there is a list of home medications, code as listed.

FAQ: How should we code preop meds that the patient refuses?
Answer: Code "No"

FAQ 01/2016: 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 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 patients CAD.

The medications below are being collected for different reasons. Please read the intent for each to better understand how it should be captured.

Seq. #: 1020
Long Name: Meds-ACE Inhibitors or ARB Within 48 Hour; **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:
Intent: 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.
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.

~~See ACE-I/ARB Table for a list of the more common ACE-I/ARB medications.~~

- **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-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. Intent: The anticoagulant properties of these medications may increase the risk of bleeding.
The medications (ADP inhibitors) inhibit platelet aggregation (clotting). 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 take medications 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 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. #: 1030
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.

Seq. #: 1035
Long Name: Meds- Amiodarone; **Short Name:** MedAmiodarone
Definition: Indicate whether and when the patient received Amiodarone therapy prior to surgery.

Intent/Clarification:
Intended to capture **ongoing** medication administration prior surgery. Intent: This antiarrhythmic may play a role in reducing the risk of post-operative arrhythmias, notably AFib.

FAQ 01/2016: Dronedarone (Multaq) may be coded as Amiodarone until it can be added.

- **Yes: on home therapy**
- **Yes: therapy started this admission**
- **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

Note: In some sites, a preop Amiodarone protocol is started prior to admission for surgery, code this as "yes, started this admission" to differentiate these patients from those on long term home therapy.

Seq. #: 1040
Long Name: Meds-Anticoagulants Within 48 Hours; **Short Name:** MedACoag
Definition: Indicate whether the patient received IV and/or subq anticoagulants within 48 hours preceding surgery. Do NOT include Coumadin (see seq#1075)
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 medications on a regular schedule and are presumed to be at a therapeutic level, within 48 hours preceding surgery (entry into the OR)
- **No**: Do not capture one-time heparin, Lovenox/Enoxaparin doses used during the cardiac cath or any time within 48 hours preceding surgery.

FAQ 09/2016: Which anticoagulant should be coded when the patient receives both unfractionated and low molecular weight heparin at nearly the same time?
Code low molecular weight heparin because the half life low molecular weight heparin is 4-5 hours unlike unfractionated heparin which is 45 minutes. Consider the timing of the administration of the anticoagulants.

Seq. #: 1045
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)
- Other

Seq. #: 1050
Long Name: Meds-Antiplatelets Within 5 Days; **Short Name:** MedAplt5Days
Definition: Indicate whether the patient has received Antiplatelets within 5 days preceding surgery.

Intent/Clarification:
This field is intended to capture any antiplatelet drug that is not captured or reflected by the Aspirin, ADP inhibitor, thrombin inhibitor, and GP IIB/IIIA fields. These medications may increase the risk of bleeding

~~See Antiplatelet Table for a list of the more common Antiplatelet medications~~
- **Yes** - Capture those who are prescribed to take medications on a regular schedule and are presumed to be at a therapeutic level, 5 days preceding surgery (entry into the OR)
- **No** – Patient did not receive an antiplatelet 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 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 11/2016: How is Cangrelor coded?
Answer: This medication is a P2Y12 and in the preoperative medications it is coded as a Med-Anitplatelet.

Seq. #: 1055
Long Name: Meds-Aspirin; **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 medications 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). Do Not Include a one-time dose
- **No** – Patient did not receive an 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 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. #: 1060
Long Name: Meds-Beta Blockers; **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).
~~See Beta Blocker Table for a list of the more common Beta Blocker medications~~

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

Reference: "Preoperative Beta-Blocker Use and Mortality and Morbidity Following CABG Surgery in North America." Ferguson TB Jr et al JAMA 2002 May 1; 287(17):2221-7Reference

- **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 –would still have to be countersigned by physician, Nurse Practitioner, Anesthesia, Physician Assistant.

If a "hold order" has parameters associated with it, this is acceptable as a contraindication (i.e. hold if HR <

60 & there is documentation of the HR less than 60 in the medication administration record (MAR).
The abstractor may review vital signs for pre-op vitals, but also needs documentation that the medication was held for HR< 60 (as in the MAR by the administering RN).

FAQ: Clarify exclusions for beta blockers.
Answer: Documentation for contraindications must be documented in the medical record.

FAQ 08/06/2015: Question: Please confirm if I can select "Contraindication" for Pre-Open Heart Surgery Physician Orders that state "For patients taking a beta blocker, hold medication day of surgery due to anticipated use of inotropes intra-operatively."
Answer: No, that is not an exclusion.

08/2016 FAQ: Is it now required that a beta blocker be given for emergent or emergent salvage cases?
The NQF allows for the following exclusions: Cases are removed from the denominator if preoperative beta blocker was contraindicated or if the clinical status of the patient was emergent or emergent salvage prior to entering the operating room. If the clinical status is emergent or emergent salvage continue to code no for those patients, exclusions occur at DCRI accordingly.

FAQ 05/2017: Our patient is on daily Cosopt (Dorzolamide/Timolol) eye drops at home for reduction of ocular hypertension. Does this drug qualify as pre-op beta blocker < 24 hrs pre-op or as beta blocker therapy?
Answer: No, do not code Cosopt as a preoperative Beta Blocker.

FAQ 07/17: If the documentation states the medication is contraindicated is that sufficient to code contraindication?
Answer: The documentation must indicate the reason why the medication is contraindicated; heart block, profound hypotension, etc. Just documenting the medication is contraindicated without a reason is not sufficient.

Seq. #: 1065
Long Name: Meds-Beta Blocker Therapy; **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.
03/15 Optimizing medication therapy for patients with coronary disease is important when assessing the appropriateness of care. Guidelines recommend maximizing medical therapy prior to recommending revascularization -PCI or surgery. This is being captured as part of appropriateness criteria.
03/15 If a patient was on a beta blocker at home but it was discontinued on admission, 5 days pre-op, do I code yes or no? Code yes, appropriate medication therapy was attempted prior to surgery.

- **Yes** - Capture those who are prescribed to take medications 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** – medication prescribed and patient is not taking daily dose of beta blocker 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. If a "hold order" has parameters associated with it, this is acceptable as a contraindication (i.e. hold if HR < 60 & there is documentation of the HR less than 60 in the medication administration record (MAR).

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

FAQ 05/2017: Our patient is on daily Cosopt (Dorzolamide/Timolol) eye drops at home for reduction of ocular hypertension. Does this drug qualify as pre-op beta blocker < 24 hrs pre-op or as beta blocker therapy?
Answer: No, do not code Cosopt as a preoperative Beta Blocker.

Seq. #: 1070
Long Name: Meds-Calcium Channel Blocker Therapy; **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 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)
- **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 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

03/15 Optimizing medication therapy for patients with coronary disease is important when assessing the appropriateness of care. Guidelines recommend maximizing medical therapy prior to recommending revascularization -PCI or surgery. This is being captured as part of appropriateness criteria.
03/15 If a patient was on CA channel blocker at home but it was discontinued on admission- 5 days pre-op, do I code yes or no? Code yes, appropriate medication therapy was attempted prior to surgery.

Seq. #: 1075
Long Name: Meds-Coumadin; **Short Name:** MedCoum
Definition: Indicate whether the patient received Coumadin within 24 hours preceding surgery.

Intent/Clarification: 03/15 This is collected to capture risk of bleeding related to anticoagulation therapy
Note: While Anisindione is taken orally, it is not Coumadin (Warfarin) and should not be captured here.

- **Yes** - Capture those who are prescribed to take medications on a regular schedule and are presumed to be at a therapeutic level within 24 hours preceding surgery (entry into the OR)
- **No** – Patient did not receive a Coumadin within 24 hours preceding surgery
- **Unknown** – conflicting information in the medical record and/or with the patient/family or no information is available

Seq. #: 1080
Long Name: Meds-Factor Xa Inhibitors; **Short Name:** MedXaInhibitors
Definition: Indicate whether the patient received factor Xa inhibitors within 24 hours preoperatively.

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
Examples: Arixtra - Fondaparinux Xarelto -Rivaroxaban Eliquis -Apixaban (Not intended to be inclusive list)

- **Yes -** Capture those who are prescribed to take medications on a regular schedule and are presumed to be at a therapeutic level, within 24 hours preceding surgery (entry into the OR)
- **No –** Patient did not receive Factor Xa Inhibitors within 24 hours preceding surgery
- **Unknown** – conflicting information in the medical record and/or with the patient/family or no information is available

Seq. #: 1085
Long Name: Meds-Glycoprotein IIb/IIIa Inhibitor; **Short Name:** MedGP
Definition: Indicate whether the patient received Glycoprotein IIb/IIIa inhibitors within 24 hours preceding surgery.

Intent/Clarification:
These medications are anti-platelet and thrombin agents. This is collected to capture risk of bleeding related to anticoagulation.

- **Yes** - Capture those who are prescribed to take medications on a regular schedule and are presumed to be at a therapeutic level, within 24 hours preceding surgery (entry into the OR)
- **No** – Patient did not receive a Glycoprotein IIb/IIIa inhibitor within 24 hours preceding surgery
- **Unknown** – conflicting information in the medical record and/or with the patient/family or no information is available

Seq. #: 1090
Long Name: Meds-Glycoprotein IIb/IIIa Inhibitor-Medication Name; **Short Name:** MedGPMN
Definition: Indicate the name of the Glycoprotein IIb/IIIa Inhibitor the patient received within 24 hours preceding surgery.

Intent/Clarification:
Yes: if the patient received a IIb/IIIa inhibitor within 24 hours of surgery. Where **surgery = entry into the OR.**

Generic Name (Brand/Trade Name): Abciximab (ReoPro), Eptifibatide (Integrilin), Tirofiban (Aggrastat),Other- llb/llla not on the list

Seq. #: 1095
Long Name: Meds-Inotropes; **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.
03/15 This field is in the risk models. Use of inotropic agents preop 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 surgery (entry into the OR)
- **No** – Patient did not receive Inotropes within 48hours preceding surgery

Note: Natrecor is a vasodilator and, although it is similar to Milrinone, it is not categorized as an inotrope. See Inotrope Table for a list of the more common inotropic medications.

Seq. #: 1100
Long Name: Meds-Lipid Lowering; **Short Name:** MedLipid
Definition: Indicate whether or not the patient received lipid lowering medication within 24 hours preceding surgery.

Intent/Clarification:
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.
03/15 Note that non-statins are listed here but are no longer considered effective lipid lowering agents according to AHA guidelines. Only statins will count in the measure component of the composite. A contraindication to statins takes the patient out of the denominator. This will be noted in the report.

Note: Flax seed oil is not lipid lowering.

- **Yes** - Capture those who are prescribed to take medications 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

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Seq. #: 1105
Long Name: Meds-Lipid Lowering-Medication Type; **Short Name:** MedLipMN
Definition: Indicate the type of lipid lowering medication the patient received within 24 hours preceding surgery.

Intent/Clarification: Indicate which lipid lowering medications the patient was on; statin, non-statin, combination, or other.

- Statin
- Non-statin (example is fish oil)
- Other
- Combination (this can be a combination drug including statin and non-statin or 2 different drugs)

FAQ 11/2016: How is the lipid lowering medication Praluent coded?
Answer: For preoperative medications Praluent should be coded as a non-statin.

Seq. #: 1110
Long Name: Meds-Long-Acting Nitrate Therapy; **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 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

03/15 Optimizing medication therapy for patients with coronary disease is important when assessing the appropriateness of care. Guidelines recommend maximizing medical therapy prior to recommending revascularization -PCI or surgery.
This is being captured as part of appropriateness criteria.
03/15 If a patient was on long acting nitrates at home but it was discontinued on admission- 5 days pre-op, do I code yes or no? Code yes, appropriate medication therapy was attempted prior to surgery.

Seq. #: 1115
Long Name: Meds-Nitrates-I.V.; **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 Nitroglycerin

- **Yes** - Capture those who are prescribed to take medications on a regular schedule 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

Example: A patient had 400 mcg of NTG intracoronary (IA) during a cardiac cath less than 24 hours pre- op: Do not code as preoperative IV NTG.

Seq. #: 1120
Long Name: Meds-Other Antianginal Medication Therapy **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 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) - 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 physician, Nurse Practitioner, Anesthesia, Physician Assistant, or Pharmacist -BH

- **Unknown** – conflicting information in the medical record and/or with the patient/family

03/15 Optimizing medication therapy for patients with coronary disease is important when assessing the appropriateness of care. Guidelines recommend maximizing medical therapy prior to recommending revascularization -PCI or surgery. This is being captured as part of appropriateness criteria.

FAQ 08/2016: How is Ranexa coded in preoperative medications?
Code Ranexa as an Other Anti-Anginal Medication.

Seq. #: 1130
Long Name: Meds-Steroids; **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. IV dye exposure for 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 medications on a regular schedule 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 Steroid 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 -BH
- **Unknown** – conflicting information in the medical record and/or with the patient/family or no information is available

03/15 Chronic use of steroids leads to immunosuppression, which is associated with increased risk of mortality and morbidity, including renal failure, prolonged vent, reoperation, and length of stay in the current risk models.

FAQ 11/2016: If the patient is taking systemic steroids specifically for lung disease can these medications be used to code CLD?
Answer: Yes, steroid medications aimed at the lung can be used to code moderate CLD.

Seq. #: 1135
Long Name: Meds-Thrombin Inhibitors; **Short Name:** MedThrombinIn
Definition: Indicate whether the patient received thrombin inhibitors within 24 hours preoperatively.

Intent/Clarification:
- **Yes** - Capture those who are prescribed to take medications on a regular schedule 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 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

~~See Thrombin Table for a list of the more common Thrombin medications.~~
03/15 This is collected to capture risk of bleeding related to anticoagulation therapy

Seq. #: 1140
Long Name: Meds-Thrombolytics; **Short Name:** MedThrom
Definition: Indicate whether the patient received thrombolytics within 48 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 ~~48~~ **24** hours prior to surgery. (The intended time is 24 hours not 48 hours.)
There are three major classes of thrombolytic drugs: tissue plasminogen activator (tPA), streptokinase (SK), and urokinase (UK).

- **Yes** - Capture those who are prescribed to take medications on a regular schedule and are presumed to be at a therapeutic level, within ~~48~~ 24 hours preceding surgery (entry into the OR) - ~~Do Not Include a one-time dose~~
- **No** – Patient did not receive Thrombolytics within 24 hours preceding surgery

FAQ 07/2016 ~~03/15~~ This is collected to capture risk of bleeding related to preoperative thrombolytic therapy. It is most often given as a onetime dose, **Include one-time doses.**

H. Hemodynamics/ Cath/ Echo

FAQ 04/2017: General Statement
Hemodynamic values for ejection fraction, pulmonary artery pressure, and valve insufficiency and stenosis should be captured from studies done closest to the time of surgery.

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

Intent/Clarification:
Capture procedures done within 6 months prior to surgery. Do not code right heart catheterization for this field; it is only for left heart catheterization.

Seq. #: 1150
Long Name: Cardiac Catheterization Date; **Short Name:** CarCathDt
Definition: Indicate the date cardiac catheterization 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.
If more than one was performed, capture the date closest to surgery. Do not include stand-alone RHC (right heart cath) in this field.
Can the cardiac cath date be longer than 6 months as it is in the TVT?
While it is preferred that the cath be done within 6 months, they can be used for up to one year.

FAQ: Can CT angio be coded for 12 months?
Answer: Yes, data from a CT angiogram can be used for up to 12 months.

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:
"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.

Seq. #: 1160
Long Name: Dominance; **Short Name:** Dominance
Definition: Indicate whether coronary artery dominance is documented prior to surgery.
"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. (In 05/2015, PLA was removed from the definition of dominance).

Intent/Clarification:
- **Left** - The posterior descending artery (PDA) arises from the left circumflex artery.(05/15 PLA removed)
- **Right** - The posterior descending artery (PDA) arises from the right coronary artery.(05/15 PLA removed)
- **Co-dominant** - The right coronary artery supplies the posterior descending artery (PDA) and the circumflex supplies the posterolateral artery (PLA). 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

Note: If multiple sources are available, select surgeon's documentation degree of stenosis. This is the degree of stenosis (s)he used to develop the operative plan.

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.
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.

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

If bypass is performed for an anomalous, kinked or damaged vessel, 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%.

FAQ: If the patient has disease of the Ramus and Circumflex how should number of diseased vessels be coded when there is no LAD disease? Code as single vessel disease.

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.

FAQ 05/2017: We have a case that was having a TAVR performed and developed severe hypotension. It was decided to perform a cath at that time in the hybrid OR. A complete diagnostic cath was performed and showed 3-vessel disease. They proceeded with a PTCA of the circ. The prior cath 3 mos earlier only showed 1 vessel disease.
1) How should the # disease vessels be coded - 1 or 3 vessel?
2) And which source should I use to code the native stenosis?
3) How should the PTCA be captured - Other cardiac other?
Answer: Code single vessel disease as identified from the cardiac catheterization that was performed 3 months earlier. Code the PCI as combined cardiac surgery and PCI performed, PCI + Valve, concurrent-same setting.

Each Column with a "yes" response below must have documentation on at least one vessel				
Coronary (Last known value pre-op)	**Native Artery** % Stenosis Known: ☐ Yes ☐ No (If yes↓) PctStenKnown (1175)	**Graft(s)** Graft(s) Present: ☐ Yes ☐ No (If yes↓) GraftsPrsnt (1180)	**Stent(s)** Stent(s) Present: ☐ Yes ☐ No (If yes↓) StentPrsnt (1185)	**Fractional Flow Reserve (FFR)** FFR Performed: ☐Yes ☐No (If yes↓) FFRPerf (1190)

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:

- **Yes** – coronary artery % stenosis documented in the medical record.
- **No** – coronary artery % stenosis is not documented in the medical record.

Note: If multiple sources are available, select surgeon's documentation degree of stenosis. This is the degree of stenosis (s)he used to develop the operative plan.

FAQ: When coding the % stenosis in a native coronary artery, code all the known percentages even if they are less than 50%. Understand that these fields will only be open to complete when the number of diseased vessels is completed for vessels with stenosis greater than or equal to 50%.

FAQ: How is stenosis captured for anomalous coronary arteries? Code zero unless there is a documented decrease. When the percent stenosis is given in a range, code the highest value.

FAQ: When the stenosis is given in descriptive terms such as severe, mild, etc. how should the percent stenosis coded? Work with the surgeons and cardiologists at your individual sites to develop consistent terms to code these narrative descriptions of percent stenosis**.**
FAQ: How do you complete % stenosis for a vessel not mentioned? Do you assume 0% or leave blank? Leave it blank, do not assume zero. In order to reduce the impact of blanks on DQRs, we will work with DCRI to only report blanks if the entire column is blank after the parent question (stenosis known) is coded Yes**.**

FAQ: How do you code the percent stenosis for intracoronary thrombus? Fresh clot usually means 100% occlusion.

FAQ 07/2016: For number of diseased vessels (1170) and the coronary artery grid (1195, 1200, 1205), I've received answers in the past that if the report mentions "severe" stenosis, we should interpret this as 90%. I would like to confirm that it is still true in version 2.81 that we capture "severe stenosis" as 90%.
Answer: ~~That is true for the coronary arteries.~~ To use a numeric value you must first discuss and record the values associated with terms such as critical, severe, moderate with your surgeon/cardiologist and once documented for your reference, they can be used in your coding. For example, critical equals 99%.

FAQ 01/2016: How do you code the percent stenosis for intracoronary thrombus? Fresh clot usually means 100% occlusion.

FAQ 01/16: A patient had CABG due to Left Main aneurysm. No stenosis. The patient was having angina. All other coronaries arteries had non-obstructive disease. How do I capture the left main disease, so it doesn't appear in the database that the patient had CABG for non-obstructive disease and affect this patient's risk adjusted mortality?

Answer: Code that there is 2 vessel disease and leave the % stenosis blank. There is no mechanism in the current specification and this will addressed in the next upgrade.

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.

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

Seq. #: 1195, 1215, 1235, 1255, 1275, 1295, 1315, 1335, 1355, 1375, 1395, 1415, 1435, 1455, 1475, 1495
Long Name: Percent Stenosis - Left Main, Proximal LAD, Mid LAD, Distal LAD, Diagonal 1, Diagonal 3, Circumflex, Obtuse Marginal 1, Obtuse Marginal 2, Obtuse Marginal 3, Ramus, Right (RCA), Acute Marginal, Posterior Descending (PDA), Posterolateral (PLB)
Definition: Indicate the highest percent stenosis in this vessel at the time of this surgery.

Intent/Clarification:
Notes: 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%.
Note: If multiple sources are available, select surgeon's documentation degree of stenosis. This is the degree

of stenosis (s)he used to develop the operative plan.

FAQ 01/2016: A patient had CABG due to Left Main aneurysm. No stenosis. The patient was having angina. All other coronaries arteries had non-obstructive disease. How do I capture the left main disease, so it doesn't appear in the database that the patient had CABG for non-obstructive disease and affect this patient's risk adjusted mortality?
Answer: Code that there is 2 vessel disease and leave the % stenosis blank. There is no mechanism in the current specification and this will addressed in the next upgrade.

FAQ 07/2016: Question: For number of diseased vessels (1170) and the coronary artery grid (1195, 1200, 1205), I've received answers in the past that if the report mentions "severe" stenosis, we should interpret this as 90%. I would like to confirm that it is still true in version 2.81 that we capture "severe stenosis" as 90%.
Answer: That is true for the coronary arteries. To use a numeric value you must first discuss and record the values associated with terms such as critical, severe, moderate with your surgeon/cardiologist and once documented for your reference, they can be used in your coding. For example, critical equals 99%.

FAQ 05/2017: Documentation in the medical record is "100% In-Stent Restenosis" of mid LAD. Should I only key information under "Stents" (seq. 1245) or should I ALSO key that native mid LAD is also 100% occluded (seq. 1235) since the stent is within the native vessel?
Answer: The native vessel should be coded 100% occluded. The stent should be coded stenosis >=50%.

Seq. #: 1200,1220, 1240, 1260, 1280, 1300, 1320, 1340, 1360, 1380, 1400, 1420, 1440, 1460, 1480, 1500
Long Name: Graft Stenosis - Left Main, Proximal LAD, Mid LAD, Distal LAD, Diagonal 1, Diagonal 3, Circumflex, Obtuse Marginal 1, Obtuse Marginal 2, Obtuse Marginal 3, Ramus, Right (RCA), Acute Marginal, Posterior Descending (PDA), Posterolateral (PLB) **Short Name:** GrftStenLMain
Definition: Indicate the highest percent stenosis in this graft at the time of this surgery.

Intent/Clarification:
Notes: If no stenosis, or no documentation of graft stenosis, leave blank. In instances where multiple lesions are present, enter the single highest percent stenosis noted in that graft When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

If the graft has a 40% stenosis in mid graft, how is that coded? Code as patent.

Seq. #: 1205, 1225, 1245, 1265, 1285, 1305, 1325, 1345, 1365, 1385, 1405, 1425, 1445, 1465, 1485, 1505
Long Name: Stent Stenosis - Left Main, Proximal LAD, Mid LAD, Distal LAD, Diagonal 1, Diagonal 3, Circumflex, Obtuse Marginal 1, Obtuse Marginal 2, Obtuse Marginal 3, Ramus, Right (RCA), Acute Marginal, Posterior Descending (PDA), Posterolateral (PLB)
Short Name: StntStenLMain
Definition: Indicate the highest percent of stent stenosis at the time of this surgery.

Intent/Clarification:
Notes: If no stenosis, or no documentation of stent stenosis, leave blank. In instances where multiple lesions are present, enter the single highest percent stenosis noted in that stent When ranges are reported, such as 45- 50% for stenosis, **report as the highest percent in range, in this case 50%.**

Note: if multpile sources are available, select surgeon's documentation of degree of stenosis. This is the degree of stenosis (s)he used to develop the operative plan.

FAQ 05/2017: Documentation in the medical record is "100% In-Stent Restenosis" of mid LAD. Should I only key information under "Stents" (seq. 1245) or should I ALSO key that native mid LAD is also 100% occluded (seq. 1235) since the stent is within the native vessel?
Answer: The native vessel should be coded 100% occluded. The stent should be coded stenosis >=50%.

Seq. #: 1210, 1230, 1250, 1270, 1290, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510
Long Name: Fractional Flow Reserve (FFR) - Left Main, Proximal LAD, Mid LAD, Distal LAD, Diagonal 1, Diagonal 3, Circumflex, Obtuse Marginal 1, Obtuse Marginal 2, Obtuse Marginal 3, Ramus, Right (RCA), Acute Marginal, Posterior Descending (PDA), Posterolateral (PLB); **Short Name:** FFRLMain
Definition: Indicate the FFR in this vessel.

Intent/Clarification:
Fractional flow reserve is a lesion-specific index of stenosis severity. **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. #: 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. When the syntax score is reported in a range, code the highest value.
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).

Sianos G, Morel MA, Kappetein AP, et al. The SYNTAX score: an angiographic tool grading the complexity of CAD. EuroInterv 2005; 1: 219-227

FAQ 01/2016: When the Syntax score is reported in a range, code the highest value.

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. #: 1530
Long Name: Stress Test Result; **Short Name:** StressTstRes
Definition: Indicate the stress test result.

Intent/Clarification: Choices are:
- **Normal**: A stress test is negative (normal) 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.
- **Abnormal**: A stress test is positive (abnormal) 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.
- **Unavailable**: The results of the stress test are not available.

Note: If patient has stress test done with results indeterminate or equivocal, this should be coded as stress test done "yes" (seq # 1525) and results will be "abnormal" (seq 1530) and risk or extent of ischemia will be

"unavailable" (seq # 1535).

FAQ 01/2017: Can data that is 7 months old be used for patients being worked up for LVAD/Transplant?
Answer: No, information should be from studies done within 6 months of the procedure.

Seq. #: 1535
Long Name: Risk / Extent Of Ischemia; **Short Name:** RiskIschemia
Definition: Indicate the risk of ischemia documented on a stress test prior to this surgery.

Intent/Clarification:
It is not the role of the abstractor to determine/diagnose the Imaging Results. This is a subjective element that reflects the physician's interpretation based on the entire stress test experience and result. **If the risk of ischemia is not documented,** then code unavailable. The following information is intended to provide education- *data managers are not expected to interpret stress test results.*

Risk/Extent of Ischemia Standard Stress Test:

Low Risk
- Low-risk treadmill score (score >=5).
- Low risk equates with a less than 1% annual mortality rate.
- Normal stress echocardiographic wall motion or no change of limiting resting wall motion abnormalities during stress*.
- Normal or small myocardial perfusion defect at rest or with stress.*

*Although the published data are limited, patients with these findings will probably not be at low risk in the presence of either a high-risk treadmill score or severe resting left ventricular dysfunction (LVEF <35%).

Intermediate Risk
- Intermediate-risk treadmill score (-11 < score < 5)
- Intermediate risk equates with a 1%-3% annual mortality rate.
- Mild/moderate resting left ventricular dysfunction (LVEF=35% to 49%)
- Limited stress echocardiographic ischemia with a wall motion abnormality only at higher doses of dobutamine involving less than or equal to two segments.
- Stress-induced moderate perfusion defect without LV dilation or increased lung intake (thallium-201)
- Intermediate risk equates with a 1%-3% annual mortality rate.

High Risk
- Severe resting left ventricular dysfunction (exercise LVEF <35%)
- High-risk treadmill score (score <= - 11)
- Severe exercise left ventricular dysfunction (exercise LVEF <35%)
- Stress-induced large perfusion defect (particularly if anterior)
- Stress-induced multiple perfusion defects of moderate size
- Large, fixed perfusion defect with LV dilation or increased lung update (thallium-201)
- Stress-induced moderate perfusion defect with LV dilation or increased lung uptake (thallium-201)
- High risk equates with a greater than 3% annual mortality rate.

Unavailable
- The results of the study were not available.

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.
Note: 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.

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 percentage range is reported, report a whole number using the "mean" (i.e., 50-55% is reported as 53%).

- 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. ACCF/AHA 2013

Intent/Clarification:
Time Frame: Collect the last value closest to incision, not greater than 6 months.

Use the most recent determination ~~prior to incision~~ prior to the induction of anesthesia documented on a diagnostic report, regardless of the diagnostic procedure to obtain it.

Note: If no diagnostic report specifying an EF is in the medical record, a value documented in the progress record is acceptable.
Note: 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.

FAQ: You have two EF % values, one from the cardiologist and one from the surgeon. Which do you take?
Answer: Take the surgeons value, this is the estimation (s)he used to plan operative care. If two studies report differing values, then take the one closest to surgery.

FAQ 02/2017: If an EF is proven to be less than 10%, should an EF of 10% be entered into the database? As per risk modeling, an EF of less than 10% would be considered a data entry error and be considered a missing value. Therefore, to reflect the most accurate risk do we enter an EF of 10%?
Answer: Code 10% for ejection fraction.

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.
Note: Convert cm to mm by multiplying x10 if your dimensions are reported in cm.

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 (LVIDd)

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.

Seq. #: 1570
Long Name: Hemo-PA Systolic Pressure Measured; **Short Name:** PASYSMeas
Definition: Indicate whether the PA systolic pressure was measured prior to ~~incision~~ **the induction of anesthesia.**

Intent/Clarification:
Elevated pulmonary artery pressures are indicative of pulmonary hypertension, mitral valve disease and other pulmonary/cardiac diseases. Normal mean pulmonary artery pressure readings are between 9-17mm 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.

Seq. #: 1575
Long Name: Hemo-PA Systolic Pressure; **Short Name:** PASYS
Definition: Capture highest PA systolic pressure recorded prior to ~~incision~~ INDUCTION. (updated 04/2015)

Intent/Clarification:
Elevated pulmonary artery pressures are indicative of pulmonary hypertension, mitral valve disease and other pulmonary/cardiac diseases. Normal mean pulmonary artery pressure readings are between 9-17mm 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.

FAQ: Clarify coding of valve disease from echocardiograms.

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.

EF: Code the ejection fraction from the TEE prior to the induction of anesthesia if you do not have a preoperative value.

Seq. #: 1590
Long Name: VD-Insuff-Aortic; **Short Name:** VDInsufA
Definition: Indicate whether there is evidence of Aortic valve insufficiency/regurgitation. Enter the level of valve function associated with highest risk (i.e., worst performance). Enter the highest level recorded in the chart. "Moderately severe" should be coded as "Severe".

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

FAQ 01/2016: If valve regurgitation is dictated from echocardiogram as "NO SIGNIFICANT REGURGITATION" do we code as "None" or "Trivial/Trace"? Questioning because the MD has not stated "no regurgitation".
Answer: Code none

FAQ 01/2017: Can valve data be obtained from Cardiac MRI reports?
Answer: Yes, if the information is included in the MRI dictation it can be used to document valve disease.

FAQ 01/2017: Can data that is 7 months old be used for patients being worked up for LVAD/Transplant?
Answer: No, information should be from studies done within 6 months of the procedure.

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.

When insufficiency is noted in the valve, at what level should the valve be considered diseased? The valve should be coded as being diseased if there is mild, moderate or severe insufficiency.

FAQ 06/2017: If the patient has had a prior AVR which is functioning normally and is now having surgery on the aorta, is the prosthetic aortic valve considered diseased?

Answer: Code only if there is evidence documented in the medical record that the prosthetic valve is diseased.

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.

Time Frame: **Collect the last value closest to incision, not greater than 6 months**.
Capture any degree of aortic valve stenosis present, even if the patient is not scheduled for valve replacement, record if available.

Seq. #: 1605
Long Name: VD-Aortic Hemodynamic Data Available; **Short Name:** AoHemoDatAvail
Definition: Indicate whether aortic valve hemodynamic measurements are available.

Intent/Clarification:
Time Frame: Collect the last value closest to incision, not greater than 6 months.

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. If more than one aortic valve area is reported, choose the SMALLEST.

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.

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

Seq. #: 1625
Long Name: VD-Aortic Valve Disease Etiology 1 **Short Name:** VDAoEt1

Definition: Indicate etiology of aortic valve disease if known. Choose unknown if not documented.

Intent/Clarification:
There is no hierarchy, choose all reported etiologies.

FAQ: How do you capture aortic etiology for the patient who has had an AV conduit for bicuspid aortic valve who now presents with a calcified homograft?
Answer: Code: Previous Aortic intervention, bicuspid, degenerative calcified.

FAQ 01/2016: On my pre-op TEE: "Prominent Lambl's excrescence of the aortic valve. No aortic stenosis or regurgitation. Severe mid septal hypertrophy. Mild to moderate LV outflow tract obstruction at rest." Is this an "Other Tumor"?
Answer: Yes.

Seq. #: 1630
Long Name: VD-Aortic Valve Disease Etiology 2 **Short Name:** VDAoEt2
Definition: Indicate additional etiology of aortic valve disease if any, otherwise choose no additional etiology.

Intent/Clarification:
Choosing 'no additional etiology' will grey out subsequent etiology fields.

Seq. #: 1635
Long Name: VD-Aortic Valve Disease Etiology 3 **Short Name:** VDAoEt3
Definition: Indicate additional etiology of aortic valve disease if any, otherwise choose no additional etiology.
Intent/Clarification: Choosing 'no additional etiology' will grey out subsequent etiology fields.

Seq. #: 1640
Long Name: VD-Aortic Valve Disease Etiology 4 **Short Name:** VDAoEt4
Definition: Indicate additional etiology of aortic valve disease if any, otherwise choose no additional etiology.
Intent/Clarification: Choosing 'no additional etiology' will grey out subsequent etiology fields.

Seq. #: 1645
Long Name: VD-Aortic Valve Disease Etiology 5 **Short Name:** VDAoEt5
Definition: Indicate additional etiology of aortic valve disease if any, otherwise choose no additional etiology.
Intent/Clarification: Choosing 'no additional etiology' will grey out subsequent etiology fields.

Seq. #: 1680
Long Name: VD-Insuff-Mitral
Short Name: VDInsufM
Definition: Indicate whether there is evidence of Mitral valve insufficiency/regurgitation. Enter the level of valve function associated with highest risk (i.e., worst performance). Enter the highest level recorded in the chart. "Moderately severe" should be coded as "Severe".

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 heart beat). 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.

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.

FAQ 01/2017: Can valve data be obtained from MRI reports?
Answer: Yes, if the information is included in the MRI dictation it can be used to document valve disease.

FAQ 01/2017: Can data that is 7 months old be used for patients being worked up for LVAD/Transplant?
Answer: No, information should be from studies done within 6 months of the procedure.

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.

When insufficiency is noted in the valve, at what level should the valve be considered diseased? The valve should be coded as being diseased if there is mild, moderate or severe insufficiency.

Seq. #: 1690
Long Name: VD-Stenosis-Mitra;l **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.

Seq. #: 1695
Long Name: VD-Mitral Hemodynamic Data Available; **Short Name:** MiHemoDatAvail
Definition: Indicate whether mitral valve hemodynamic measurements are available.

Intent/Clarification: Time Frame: Collect the last value closest to incision, not greater than 6 months.

Seq. #: 1700
Long Name: VD-Smallest Mitral Valve Area; **Short Name:** VDMVA

Definition: Indicate the **smallest** documented Mitral Valve Area.

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.
Document the smallest valve area in square centimeters. If the cardiac cath indicates a valve area of 2.0 and the echo report indicates 1.8, code 1.8.

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). If more than one gradient is documented in the record, capture the HIGHEST one.

Seq. #: 1715
Long Name: VD-Carpentier Mitral Leaflet Motion Classification; **Short Name:** VDMitFC
Definition: Indicate the Carpentier mitral leaflet motion classification, if documented.

Intent/Clarification:
- Type I –Normal leaflet motion. N1= Type I -Normal leaflet motion.
- Type II -Excess Leaflet Motion. Prolapse & Flail = Type II -Excess Leaflet Motion
- Type IIIa -Restricted leaflet motion systolic and diastolic
- Type IIIb -Restricted leaflet motion systolic

Leave blank for prosthetic valves, this classification is meant for native valves.

FAQ 01/2016: If the echo states "normal leaflet motion", can this be coded as Type I?
Answer: Yes.

Seq. #: 1720
Long Name: VD-Mitral Valve Disease Etiology 1; **Short Name:** VDMiEt1
Definition: Indicate the etiology of the mitral valve disease if known

Intent/Clarification: Choosing 'no additional etiology' will grey out subsequent etiology fields.

Seq. #: 1725
Long Name: VD-Mitral Valve Disease Etiology 2; **Short Name:** VDMiEt2
Definition: Indicate additional etiology of mitral valve disease if any, otherwise choose no additional etiology.

Intent/Clarification: Choosing 'no additional etiology' will grey out subsequent etiology fields.

Seq. #: 1730

Long Name: VD-Mitral Valve Disease Etiology 3; **Short Name:** VDMiEt3
Definition: Indicate additional etiology of mitral valve disease if any, otherwise choose no additional etiology.

Intent/Clarification: choosing 'no additional etiology' will grey out subsequent etiology fields.

Seq. #: 1735
Long Name: VD-Mitral Valve Lesion 1; **Short Name:** VDMiLes1
Definition: Indicate the first mitral valve lesion type or choose unknown.

Intent/Clarification: Choosing 'no additional etiology' will grey out subsequent fields.

Seq. #: 1740
Long Name: VD-Mitral Valve Lesion 2; **Short Name:** VDMiLes2
Definition: Indicate the second mitral valve lesion if there is one, or choose no additional lesions.

Intent/Clarification: Choosing 'no additional etiology' will grey out subsequent fields.

Seq. #: 1745
Long Name: VD-Mitral Valve Lesion 3; **Short Name:** VDMiLes3
Definition: Indicate the third mitral valve lesion if there is one, or choose no additional lesions.

Intent/Clarification: Choosing 'no additional etiology' will grey out subsequent fields.

Seq. #: 1775
Long Name: VD-Insuff-Tricuspid; **Short Name:** VDInsufT
Definition: Indicate whether there is evidence of Tricuspid valve insufficiency/regurgitation. Enter the level of valve function associated with highest risk (i.e., worst performance). Enter the highest level recorded in the chart. "Moderately severe" should be coded as "Severe".

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

FAQ 01/2017: Can valve data be obtained from MRI reports?
Answer: Yes, if the information is included in the MRI dictation it can be used to document valve disease.

FAQ 01/2017: Can data that is 7 months old be used for patients being worked up for LVAD/Transplant?

Answer: No, information should be from studies done within 6 months of the procedure.

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.
When insufficiency is noted in the valve, at what level should the valve be considered diseased? The valve should be coded as being diseased if there is mild, moderate or severe insufficiency.

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 atria, 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.

Seq. #: 1790
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.

Seq. #: 1795
Long Name: VD-Tricuspid Annulus Size; **Short Name:** VDTrAnnSize
Definition: Indicate tricuspid annular diameter in cm. **Intent/Clarification:**
Normal values for Tricuspid annular diameter: 2-4 (cm^2)
Note: Convert mm to cm by dividing by 10 if your dimensions are reported in mm.

Seq. #: 1800
Long Name: VD-Tricuspid Valve Disease Etiology 1; **Short Name:** VDTrEt1
Definition: Indicate the etiology of the tricuspid valve disease if known.

Intent/Clarification:

Choose unknown if appropriate. No hierarchy is necessary, choose all that apply. Choosing 'no additional etiology' will grey out subsequent etiology fields.

Seq. #: 1805
Long Name: VD-Tricuspid Valve Disease Etiology 2; **Short Name:** VDTrEt2
Definition: Indicate additional etiology of tricuspid valve disease if any, otherwise choose no additional etiology.

Intent/Clarification: Choosing 'no additional etiology' will grey out subsequent etiology fields.

Seq. #: 1810
Long Name: VD-Tricuspid Valve Disease Etiology 3; **Short Name:** VDTrEt3
Definition: Indicate additional etiology of tricuspid valve disease if any, otherwise choose no additional etiology.

Intent/Clarification: Choosing 'no additional etiology' will grey out subsequent etiology fields.

Seq. #: 1820
Long Name: VD-Insuff-Pulmonic; **Short Name:** VDInsufP
Definition: Indicate whether there is evidence of Pulmonic valve insufficiency/regurgitation. 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".

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.

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

FAQ 01/2017: Can valve data be obtained from MRI reports?
Answer: Yes, if the information is included in the MRI dictation it can be used to document valve disease.

FAQ 01/2017: Can data that is 7 months old be used for patients being worked up for LVAD/Transplant?
Answer: No, information should be from studies done within 6 months of the procedure.

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.

When insufficiency is noted in the valve, at what level should the valve be considered diseased? The valve should be coded as being diseased if there is mild, moderate or severe insufficiency.

Seq. #: 1830
Long Name: VD-Pulmonic-RVEDD Known; **Short Name:** RVEDDKnown
Definition: Indicate whether the Right Ventricular End-Diastolic Dimension (RVEDD) is available.

Time Frame: Collect the last value closest to incision, not greater than 6 months.

Seq. #: 1835
Long Name: VD-Pulmonic-RVEDD Indexed To BSA; **Short Name:** RVEDD
Definition: Indicate (in cm squared) the RV End Diastolic Dimension indexed to BSA.

Intent/Clarification: RVEDD may be called RVDD

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.

Time Frame: Collect the last value closest to incision, not greater than 6 months.

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.

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.

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.

Seq. #: 1855
Long Name: VD-Pulmonic Valve Disease Etiology **Short Name:** VDPuEt
Definition: Indicate the etiology of pulmonary valve disease if known.

Intent/Clarification: Choose one, if more than one etiology is indicated, check with surgeon on the primary etiology.

Seq. #: 1860

Long Name: Disease Of The Aorta; **Short Name:** AortaDisease
Definition: Indicate whether there is a documented disease or lesion of the aorta above the diaphragm.
Intent/Clarification: Code trauma as a lesion

FAQ: There is a fusiform ascending thoracic aneurysm measuring 4.3 cm in the mid ascending portion by CT scan. The patient is asymptomatic. Should this be coded as disease of the aorta?
Answer: Yes, code ascending aortic disease; this size is more likely to dissect when the aortic crossclamp is applied.

FAQ 01/2016: Is there a standard measurement of aorta dilation that is considered an aneurysm? Example: Echo reports ascending aorta is mildly dilated at 43 mm and mid ascending aorta measures 33.4mm. The cardiologist does not specify an aneurysm, yet the aorta is dilated. Are we to say yes to disease of the aorta or do we need the cardiologist to specifically say “diseased aorta” or "aneurysm" in his dictation?
Answer: You should have a diagnosis of aneurysm. Most surgical disease is ≥ 5.0 cm

FAQ 01/2016: Our surgeon was completing the pre-op valve data for a re-do AVR. The patient had a history of a previous Bentall. How should the aorta be coded in this case with a prior graft? Do you code anything about aorta?
Answer: No.

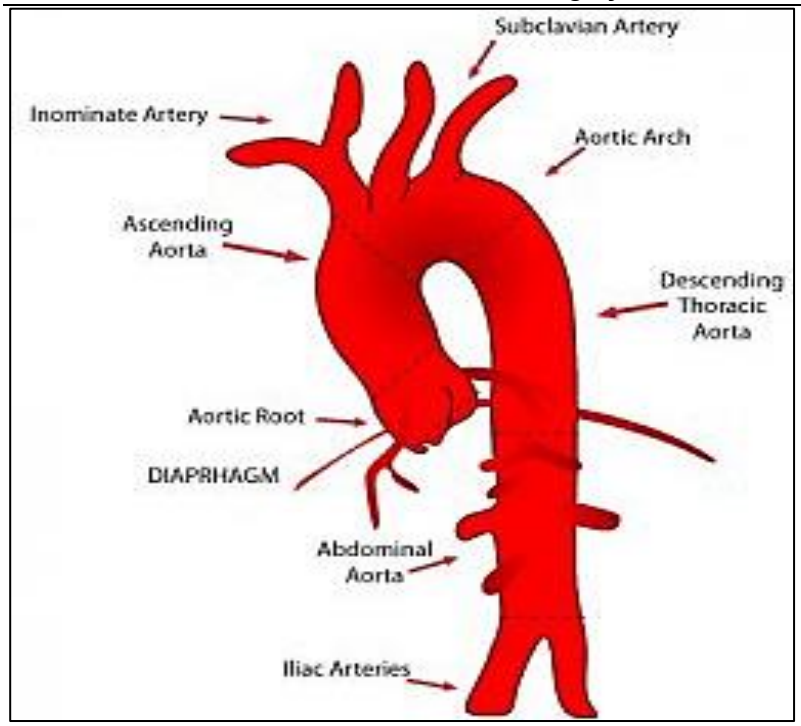
Seq. #: 1865
Long Name: Disease Of The Aorta - Presentation; **Short Name:** ADPres
Definition: Indicate the patient’s aortic disease presentation.

Intent/Clarification:
- Asymptomatic
- Symptomatic, hemodynamics stable
- Symptomatic, hemodynamics unstable

Record the most severe presentation within the last 6 months and prior to incision.

Seq. #: 1870
Long Name: Disease Of The Aorta - Location - Root; **Short Name:** ADLocRoot
Definition: Indicate whether the aortic disease/lesion is present in the aortic root.

Intent/Clarification:
The aortic root is the portion of the ascending aorta beginning at the aortic annulus and extending to the sinotubular junction, includes area between each commissure of the aortic valve and opposite the cusps of the aortic valve, three small dilatations called the aortic sinuses. The sinotubular junction is the point in the ascending aorta where the aortic sinuses end and the aorta becomes a tubular structure.



Seq. #: 1875
Long Name: Disease Of The Aorta - Location - Ascending; **Short Name:** ADLocAsc
Definition: Indicate whether the aortic disease/lesion is present in the ascending aorta.

Intent/Clarification:
The ascending aorta begins at the aortic annulus and ends at the origin of the innominate artery where the aorta continues as the transverse arch.
If the preoperative echo notes that there is aortic root dilatation should aortic disease be coded? No, do not code aortic disease.

Seq. #: 1880
Long Name: Disease Of The Aorta - Location - Arch;**Short Name:** ADLocArch
Definition: Indicate whether the aortic disease/lesion is present in the aortic arch.

Intent/Clarification:
The arch begins at the origin of the innominate artery and ends beneath the left subclavian artery. It is the portion of the aorta at the top of the heart that gives off three important blood vessels; the innominate artery, left carotid artery and the left subclavian artery.

Seq. #: 1885
Long Name: Disease Of The Aorta - Location - Descending Thoracic; **Short Name:** ADLocDesThor
Definition: Indicate whether the aortic disease/lesion is present in the descending aorta.

Intent/Clarification:
The descending aorta is the portion of the aorta between the arch and the abdomen

Seq. #: 1890
Long Name: Disease Of The Aorta - Location - Thoracoabdominal; **Short Name:** ADLocThora
Definition: Indicate whether the aortic disease/lesion is present in the thoracoabdominal aorta.

Intent/Clarification:
The thoracoabdominal aorta is from the origin of the left subclavian artery to the aortic bifurcation and can

involve one or more segments of the abdominal aorta.

Seq. #: 1895
Long Name: Disease Of The Aorta - Lesion Type - Aneurysm; **Short Name:** ADLesTAneur
Definition: Indicate whether the aortic lesion is an aneurysm.

Intent/Clarification:
An **aortic aneurysm** is a general term for an enlargement (dilation) of the aorta to greater than 1.5 times normal size. While the cause of an aneurysm may be multifactorial, the end result is an underlying weakness in the wall of the aorta at that location. The aneurysm may occasionally cause pain, which is a sign of impending rupture. When rupture occurs, massive internal hemorrhage results, and, unless treated immediately, shock and death can occur within minutes to hours.

Seq. #: 1900
Long Name: Disease Of The Aorta - Lesion Type - Coarctation/Narrowing; **Short Name:** ADLesTCoarcNar
Definition: Indicate whether the aortic lesion is a coarctation or narrowing.

Intent/Clarification:
Coarctation of the aorta — or aortic coarctation — is a narrowing of the aorta, the large blood vessel that branches off the heart and delivers oxygen-rich blood to your body. When this occurs, your heart must pump harder to force blood through the narrow part of your aorta. Coarctation of the aorta is generally present at birth (congenital). Coarctation of the aorta may range from mild to severe, and may not be detected until adulthood, depending on how narrowed the aorta is.

Seq. #: 1905
Long Name: Disease Of The Aorta - Lesion Type - Rupture; **Short Name:** ADLesTRup
Definition: Indicate whether the aortic lesion is an aortic rupture.
Intent/Clarification:

Seq. #: 1910
Long Name: Disease Of The Aorta - Lesion Type - Pseudoaneurysm; **Short Name:** ADLesTPseudo
Definition: Indicate whether the aortic lesion is a pseudoaneurysm.

Intent/Clarification:
A pseudoaneurysm, also known as a false aneurysm, is a hematoma that forms as the result of a leaking hole in an artery. Note that the hematoma forms outside the arterial wall, so it is contained by the surrounding tissues. Also it must continue to communicate with the artery to be considered a pseudoaneurysm. This must be distinguished from a true aneurysm which is a localized dilatation of an artery including all the layers of the wall. A pseudoaneurysm is also different from an arterial dissection, which is a separation of the layers of the arterial wall, and may be associated with later aneurysm formation. Distinctively, in a pseudoaneurysm, the hole in the arterial wall is generally the consequence of a vascular injury. By opposition, true aneurysms and dissections are usually the consequence of an arterial wall congenital or acquired deficiency, for example by means of atherosclerosis.

Seq. #: 1915
Long Name: Disease Of The Aorta - Lesion Type - Penetrating Ulcer; **Short Name:** ADLesTPenUlcer
Definition: Indicate whether the aortic lesion is a penetrating ulcer.
Intent/Clarification:

Seq. #: 1920
Long Name: Disease Of The Aorta - Lesion Type - Intramural Hematoma; **Short Name:** ADLesTIntraHema
Definition: Indicate whether the aortic lesion is an intramural hematoma.

Intent/Clarification:
May occur as a primary event in hypertensive patients in whom there is spontaneous bleeding from vasa vasorum into the media or may be caused by a penetrating atherosclerotic ulcer. Intramural hematoma may also develop as a result of blunt chest trauma with aortic wall injury. Thought to begin with the rupture of the vasa vasorum, the blood vessels that penetrate the outer half of the aortic media from the adventitia and arborize within the media to supply the aortic wall. The hematoma propagates along the media layer of the aorta. Consequently, intramural hematoma weakens the aorta and may progress to outward rupture of the aortic wall or to inward disruption of the intima, the latter leading to communicating aortic dissection. Unlike aortic dissection, no intimal flap is present. ***If it involves the ascending aorta, treatment is surgical to prevent rupture or progression to a classic aortic dissection.

Seq. #: 1925
Long Name: Disease Of The Aorta - Lesion Type - Dissection; **Short Name:** ADLesTDis
Definition: Indicate whether the aortic lesion is a dissection.

Intent/Clarification:
Aortic dissection occurs when a tear in the inner wall of the aorta causes blood to flow between the layers of the wall of the aorta, forcing the layers apart. In most cases this is associated with severe characteristic chest or abdominal pain described as "tearing" in character, and often with other symptoms that result from decreased blood supply to other organs. Aortic dissection is a medical emergency and can quickly lead to death, even with optimal treatment, as a result of decreased blood supply to other organs, cardiac failure, and sometimes rupture of the aorta. Aortic dissection is more common in those with a history of high blood pressure, a known thoracic aortic aneurysm, and in a number of conditions that affect blood vessel wall integrity such as Marfan syndrome and the vascular subtype of Ehlers–Danlos syndrome.

Seq. #: 1930
Long Name: Disease Of The Aorta - Lesion Type - Dissection Timing; **Short Name:** ADLesTDisTmg
Definition: Indicate dissection timing.
Intent/Clarification:

- **Acute** - Symptoms or dissection occurring within the last 14 days
- **Chronic**- Symptoms or dissection occurring after the 14th day
- **Acute on chronic** – extension of a chronic aneurysm
- **Not documented**

Risk of death if untreated aortic dissection: 25% in 1st 24 hrs 50% in 1st 48 hrs 75% in1st week 90% in 1st month

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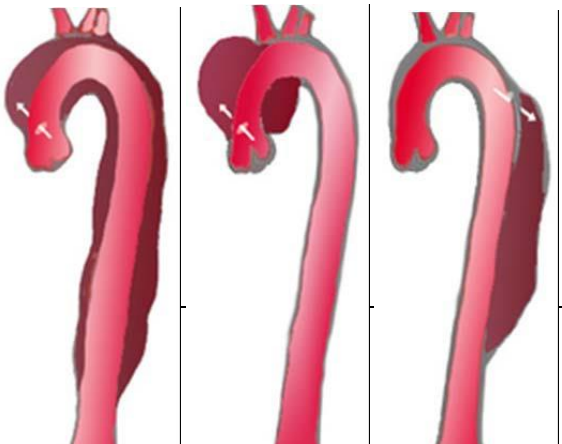
Seq. #: 1935
Long Name: Disease Of The Aorta - Lesion Type - Dissection Type; **Short Name:** ADLesTDisTy
Definition: Indicate the type of aortic dissection.

Intent/Clarification:
Stanford Type A extends proximal to the left subclavian artery. Stanford Type B extends distal to the left subclavian artery
Classification of aortic dissection



Percenta	60%	10–15%	25–30%
Type	DeBakey I	DeBakey II	DeBakey III
	Stanford A (Proximal)		Stanford B (Distal)

DeBakey
The DeBakey system, named after surgeon and aortic dissection sufferer Michael E. DeBakey, is an anatomical description of the aortic dissection. It categorizes the dissection based on where the original intimal tear is located and the extent of the dissection (localized to either the ascending aorta or descending aorta, or involves both the ascending and descending aorta
Type I – Originates in ascending aorta, propagates at least to the aortic arch and often beyond it distally. It is most often seen in patients less than 65 years of age and is the most lethal form of the disease.
Type II – Originates in ascending aorta and is confined to the ascending aorta.
Type III – Originates in descending aorta, rarely extends proximally but will extend distally. It most often occurs in elderly patients with atherosclerosis and hypertension.

Stanford
The Stanford classification is divided into two groups; A and B depending on whether the ascending aorta is involved.
Type A – Involves the ascending aorta and/or aortic arch, and possibly the descending aorta. The tear can originate in the ascending aorta, the aortic arch, or, more rarely, in the descending aorta. It includes DeBakey types I and II.
Type B – Involves the descending aorta or the arch (distal to the left subclavian artery), without involvement of the ascending aorta. It includes DeBakey type III.

The Stanford classification is useful as it follows clinical practice, as type A ascending aortic dissections generally require primary surgical treatment whereas type B dissections generally are treated medically as initial treatment with surgery reserved for any complications.

The reason for surgical repair of Type A dissections is that ascending aortic dissections often involve the aortic valve, which, having lost its suspensory support, telescopes down into the aortic root, resulting in aortic incompetence. This needs resuspending to reseat the valve and repair / prevent coronary artery injury. Also the area of dissection is removed and replaced with a Dacron graft to prevent further dissection from occurring. However type B dissections are not improved, from a mortality point of view, by operation, unless there is leaking, rupture or compromise to other organs, e.g. kidneys.

Seq. #: 1940
Long Name: Aorta Etiology 1; **Short Name:** ADEt1
Definition: Indicate the etiology of aortic disease/lesion if known.

Intent/Clarification: There is no hierarchy, choose up to three**.** Choosing 'no additional etiology' will grey out subsequent etiology fields.

FAQ 08/06/2015: Question: A pt was transferred with a Type A aortic dissection. While no etiology is definitively identified and documented by an MD, it is mentioned throughout his chart that he has a history of hypertension but had not taken his medication for > 5 months and was "markedly hypertensive" upon arrival at transferring facility. Should etiology be marked as 'hypertensive aneurysm' or 'unknown'?
Answer: You can code hypertensive; it would be important for you to discuss the etiology with your surgeon.

Seq. #: 1945
Long Name: Aorta Etiology 2; **Short Name:** ADEt2
Definition: Indicate additional etiology of aortic disease/lesion if any, otherwise choose no additional etiology.

Intent/Clarification: There is no hierarchy, choose up to three**.** Choosing 'no additional etiology' will grey out subsequent etiology fields.

Seq. #: 1950
Long Name: Aorta Etiology 3; **Short Name:** ADEt3
Definition: Indicate additional etiology of aortic disease/lesion if any, otherwise choose no additional etiology.

Intent/Clarification: There is no hierarchy, choose up to three**.** Choosing 'no additional etiology' will grey out subsequent etiology fields.

I. 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/NPPES/NPIRegistryHome.do

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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. #: 1970
Long Name: Incidence; **Short Name:** Incidence
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

Surgery is defined as cardiothoracic operations (heart or great vessels) surgical procedures performed with or without cardiopulmonary bypass (CPB). Also include lung procedures utilizing CPB or tracheal procedures utilizing CPB. Reoperation increases risk due to the presence of scar tissue and adhesions.

Intent/Clarification:
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.

FAQ 01/2016: The patient had a coarctation of the aorta corrected at age 33. He returns 15 years later (now) for an AVR. Is the AVR the first CV surgery or the first Re-do?
Answer: First Reoperation.

FAQ 01/2016: If a patient has a Convergent A. Fib ablation procedure in the cath lab by a cardiothoracic surgeon and followed by and EPS and Cryo ablation by a cardiologist (the patient has never had a heart procedure done before), would I capture this as First Cardiovascular Surgery or do I leave it blank?
Answer: Yes, first CV surgery.

FAQ 01/2016: Pt with a history of subxyphoid pericardial window (no cardiopulmonary bypass required), returns for CAB. Should the window be considered the first operation, with the CAB as First ReDo?
Answer: No, the CAB is the first surgery.

FAQ 10/2016: The patient has an angioplasty followed by emergent CAB for acute MI. Following the CAB the patient is transferred to another hospital for heart failure care and on post operative day #8 a LVAD is implanted as a bridge to transplant. The patient is discharged and returns 6 months later for cardiac transplant. How is incidence coded for these cases?
Answer: The CAB is first cardiovascular surgery.
The VAD is first reop cardiovascular surgery.
The transplant is second reop cardiovascular surgery.

FAQ 12/16: How should this scenario be coded - admitted with endocarditis; after 2 wks, goes to OR with general anesthesia for a Tricuspid valve vegetation removal using AngioVAC system. No CPB, femoral and IJ access. Then 2 wks later returned to OR (after Blood negative cultures) for

Tricuspid valve replacement. If I am to code the first procedure as the primary surgery - what option do I select for the valve procedure?
Answer: TVR is first procedure. Code AngioVAC as a previous CV intervention-other.

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, 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 longer a hierarchy - choose the primary reason the procedure is urgent.** ~~There is a hierarchy of importance when coding this variable. The hierarchy of importance relates to the primary or underlying cause of what follows in condition or treatment. Example: If a patient has both an AMI and an IABP, the AMI would be the appropriate code since it carries weight by being in the risk models.~~
  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.

FAQ: The patient went to OR electively for TAVR, which was converted to an open sternotomy emergently; what is the status of open AVR?

Answer: Code as Emergent AVR.

Emergent/Salvage - The patient is undergoing CPR en route to the OR or prior to anesthesia induction or has ongoing ECMO to maintain life.

FAQ: 01/2016: Pt underwent TEVAR for known Type B dissection. 90 minutes post procedure pt. had chest pain and CT showed Type A dissection extending to the root. As OR readied, pt had hematochezia, lost mental status, intubated, and CPR performed for Vfib. Pt. subsequently underwent emergent repair of Type A Dissection with Ascending Aortic Replacement, Transverse Arch and resuspension of aortic valve. Pt to ICU, noted to blown pupil POD 2. CT head showed extended dissection to carotid c/b R cerebral infarct with cerebral edema and herniation. Pt. deceased. How do I accurately reflect the TEVAR aspect of procedure as it was performed by vascular only?
Answer: This case would be an emergency; the risk for the patient would be captured in unresponsive neurologic state, cardiogenic shock and recent VF.

FAQ 01/2016: If the patient is not a prescheduled elective case, and there is no documentation to support whether surgery this admission is medically necessary or scheduled for convenience, what is the best way to capture this element: elective or urgent? Answer: For the purposes of being consistent the STS decided that if the patient remains in the hospital prior to the surgery and the surgery is not an emergency then it is urgent. Elective cases are scheduled as such.

FAQ 08/2016 If the patient is admitted to have an IABP inserted preoperatively is the case status elective or urgent. Urgent/Emergent reasons include IABP.
Code this case as an elective case. While the Urgent/Emergent reasons include IABP, the patient was stable and at home prior to entering the hospital.

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.

Seq. #: 1995
Long Name: Previously Attempted Case Canceled; **Short Name:** PCancCase
Definition: Indicate whether this case was previously attempted during this admission and canceled or aborted after patient entered the operating room.

Intent/Clarification:
Example# 1: A patient comes to the O.R. for a CABG; during line insertion the carotid artery is inadvertently accessed. The case is postponed a few days to allow the puncture to heal prior to heparinization. No DCF is completed for that trip to the O.R. but the event is captured here (2415~~-2423~~-2000-2040) when the patient returns to have the scheduled surgery a few days later during the same hospital admission. Answer: Yes

Example #2: A patient comes to the O.R for a valve replacement, during the time out, it is discovered that the device needed is not available. The patient is discharged and readmitted 2 days later. This patient will have 2 DCFs, the first will capture the first admission canceled case data in fields 2050-2095 ~~2424-2~~431, and the second DCF (the second admission) will capture the valve replacement. Answer: No

FAQ 05/2017: Two different reporting surgeons performed a staged case over two consecutive days. The first day, due to extensive adhesions from prior surgery, they elected to stop after "meticulous dissection to free up the mediastinum" knowing that it was going to be a very long operation. The next day, the second surgeon took that patient back and completed the actual AVR/Asc Ao replacement. Should the first case be entered as a cancelled case and then the second trip to the OR documented as the actual surgery? It wasn't really a cancelled case, it was electively staged.
Answer: The first case should be coded as a previously attempted during this admission, but cancelled.

Seq. #: 2000
Long Name: Previously Attempted Canceled Case Date; **Short Name:** PCancCaseDt
Definition: Enter date previously attempted case was canceled.

Intent/Clarification:
Date must be during this hospital admission.

Seq. #: 2005
Long Name: Previously Attempted Canceled Case Timing; **Short Name:** PCancCaseTmg
Definition: Indicate at what point previously attempted case was canceled or aborted.

Intent/Clarification:
- Prior to Induction of Anesthesia
- After Induction, Prior to Incision
- After Incision Made

FAQ 05/2017: Two different reporting surgeons performed a staged case over two consecutive days. The first day, due to extensive adhesions from prior surgery, they elected to stop after "meticulous dissection to free up the mediastinum" knowing that it was going to be a very long operation. The next day, the second surgeon took that patient back and completed the actual AVR/Asc Ao replacement. If the first case is cancelled how should the timing be coded?
Answer: Since the first case is coded as a previously attempted during this admission, but cancelled: code timing as 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 canceled or aborted.

Intent/Clarification:
- 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

FAQ 05/2017: Two different reporting surgeons performed a staged case over two consecutive days. The first day, due to extensive adhesions from prior surgery, they elected to stop after "meticulous dissection to free up the mediastinum" knowing that it was going to be a very long operation. The next day, the second

surgeon took that patient back and completed the actual AVR/Asc Ao replacement. If the first case is cancelled how should the reason be coded?
Answer: Since the first case is coded as a previously attempted during this admission, but cancelled: code the reason for cancelling as "Other".

Seq. #: 2015
Long Name: Previously Attempted Canceled Case Procedure - CABG; **Short Name:** PCancCaseCAB
Definition: Indicate whether the plan for the previously attempted procedure included coronary artery bypass grafting. **Intent/Clarification:**

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:

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:

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:**

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:**

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:**

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:
Example #1: Our perfusionists start the case. Do you want the preop form completed in addition to the mortality data (if applicable), if a pt. is cancelled and does not return to the OR? - If a patient enters the OR and the case is cancelled and the patient does not return to the OR during that admission, complete all

preop and postop information.

Example #2: The case was cancelled in the preop holding area due to high potassium level and rescheduled for the next day. – Do not code this as a cancelled case since the patient never entered the operating room.

FAQ 01/2016: Our patient was a redo CABG and taken to the OR for surgery. After the incision was made it was found that scar tissue had adhered to the ventricle and the ventricle was incised. An emergency attempt was made to place the patient on bypass, which was eventually successful, but it was then determined that the patient had a retroperitoneal bleed. One thing after another occurred and the patient did not survive the surgery prior to any anastomoses being performed. My question is how would I code the procedure? My thoughts are was current procedure cancelled "yes"; Time of Cancellation "After incision"; Reason For Cancellation "Other".
Answer: This is not a re-do CAB, as CAB was not performed. This is coded as “other-cardiac-other”. This is not a cancelled case.

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:

- 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:

- **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

FAQ: The patient undergoes an emergent salvage CAB. The patient is taken from the OR to another facility following the procedure for IMPELLA, how do you capture the initial extubation date and time?
Answer: Code the date and time the patient left your hospital.

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:
Example# 1: A patient comes to the O.R. for a CABG; during line insertion the carotid artery is inadvertently accessed. The case is postponed a few days to allow the puncture to heal prior to heparinization. No DCF is

completed for that trip to the O.R. but the event is captured here (2050-2095) when the patient returns to have the scheduled surgery a few days later during the same hospital admission. Answer: Yes

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:

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:
Example #1: In the OR the conduits were found to be unusable. The case was cancelled and the patient was transferred to another facility. Code as Other Non-Cardiac

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:
Example #2: A patient comes to the O.R for a valve replacement, during the time out, it is discovered that the device needed is not available. The patient is discharged and readmitted 2 days later. This patient will have 2 DCFs, the first will capture the first admission canceled case data in fields 2424-2431, and the second DCF (the second admission) will capture the valve replacement.

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:
Example: Patient was scheduled for TAVR and enters the suite. The TAVR is aborted and only valvuloplasty is done. Capture the TAVR as a canceled case

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:

Seq. #: 2100
Long Name: Operative Approach **Short Name:** OPApp
Definition: Indicate the ***initial*** operative approach.

Intent/Clarification:
- 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

FAQ 01/2016: I have a case that began as a TAVR. However, during the procedure the left ventricle was perforated and they ended up opening up the pt, placing the pt on CPB and repairing the disruption. Two questions regarding this case: (1) Should the OR entry time be the time she entered the OR for the TAVR or when she became an STS case and went on bypass? and (2) Should the Initial Operative Approach be the percutaneous incision for the TAVR or the initial sub-xiphoid for the STS portion of the case?
Answer: Code the time the patient came in the room for the TAVR. Code percutaneous.

Seq. #: 2105
Long Name: Operative Approach Converted; **Short Name:** ApproachCon
Definition: Indicate whether the operative approach was converted during the procedure.

Intent/Clarification:
- 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:
- Yes
- No

Seq. #: 2115
Long Name: Robot Use Time Frame **Short Name:** RobotTim
Definition: Indicate the time frame of robotic use.

Intent/Clarification:
- 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:
- Yes, planned*
- Yes, unplanned due to surgical complication*
- Yes, unplanned due to unsuspected disease or anatomy*
- No

*If yes, complete Section J

FAQ: We have a patient that had aortic aneurysm repair. A Cabrol procedure was done to perfuse around the aortic root using two venous conduits. Do we answer yes to CAB and fill out all information in the CAB procedure section including the CAB worksheet?
Answer: Do not code the Cabrol procedure as a CAB.

FAQ: Procedure TEVAR 10/6, then post had AMI and proceeded to have CAB 10-8-2014. Is the main DCF completed for the TEVAR and the CAB is considered a re-op? If so what data element should be coded? Or, can I code the primary procedure as the CAB and code the TEVAR as a previous procedure? All happen in the same episode of care.
Answer: The TEVAR is the primary procedure and the CAB is a post-operative event. You will not be able to capture data related to the CAB.

FAQ 01/2016: Shall I consider this a CAB or "Other cardiac"? Preoperative diagnosis: Bilateral innominate vein obstruction. (CT scan showed the right subclavian came into the right internal jugular and then was occluded with collaterals. Also, his left innominate vein was occluded, and left IJ went to the heart via collaterals to the azygos.) Postoperative diagnosis: same.
Procedure performed:1. Right mini thoracotomy. 2. Right mini upper sternotomy and spiral vein graft bypass from right innominate to right atrial appendage.
Excerpts: "We took a piece of vein from the patient's left thigh. It was an excellent vein and we made a spiral vein graft about 10-12 cm"... "We put a partial clamp and surgically made a spiral vein graft. We opened it and sewed this with a 5-0 Prolene and then we allowed it to flow and it had excellent flow. We then cut the tip of the right atrial appendage and then sewed it end-to-side with single sutures of 5-0 Prolene."
Answer: Code “Other Cardiac”

FAQ 01/2016: I had a patient go to the OR for MV Replacement for severe mitral regurgitation. This was a first reop. There was difficulty in opening sternum and during that time the right coronary bypass vein graft was torn. The artery was fixed with a vein patch angioplasty with success. The MVR was cancelled. I have captured this as a canceled procedure. Do I capture the vein graft repair under CABG surgery as unplanned or under other cardiac procedure? The patient had a stent of the protected left main 11 days later to improve blood and to help with the mitral regurg. Do I capture this under combined cardiac surgery and PCI performed?
Answer: No, this is not a CAB. Do not code combined PCI. Just code the cancelled case.

FAQ 09/2016: During an attempted stenting of a saphenous vein graft, the saphenous vein was ruptured. The patient was taken to the operating room where the stent was removed and the saphenous vein graft was repaired with a vein graft that was constructed between the two ends of the ruptured graft. Is this coded as a CAB?
No, code this case as Other Cardiac Other.

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:
- Yes*
- No

*If yes, complete Section K

Example #2: How do you code a transcatheter aortic valve? Do you include the balloon valvuloplasty? - Code as an AVR and enter appropriate data in field 4295. Balloon valvuloplasty is considered part of the transcatheter deployment, do not code as a separate procedure when done in the same setting.
FAQ 08/2016: Should mitral clip procedures be included in the adult cardiac surgery database?
Answer: Yes, they can be included for the purposes of counting procedures but will be excluded from analysis.

FAQ 07/17: How would I collect removal of a previous mitral annuloplasty ring without reimplantation of another device? Should any mitral valve procedure be coded?
Answer: Code yes to valve surgery in sequence number 2125 to open the related field (3310) and then simply code the explant. Code no for all other valve fields.

Seq. #: 2130
Long Name: VAD Implanted or Removed; **Short Name:** VADProc
Definition: Indicate whether a VAD was implanted or removed during this hospitalization.

Intent/Clarification:
- 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:

- Yes*
- No

*If yes, complete Section M

Do not code isolated ECMO, Impella or IABP insertions here

FAQ: How do you code the resection of left atrial vegetation?
Answer: If no culture to suggest Endocarditis and no pathology report indicates tumor, code “Other Cardiac Other”

FAQ: How do you code subtotal pericardiectomy, on pump?
Answer: “Other Cardiac Other”

FAQ 01/2016: Shall I consider this a CAB or "Other cardiac"? Preoperative diagnosis: Bilateral innominate vein obstruction. (CT scan showed the right subclavian came into the right internal jugular and then was occluded with collaterals. Also, his left innominate vein was occluded, and left IJ went to the heart via collaterals to the azygos.) Postoperative diagnosis: same.
Procedure performed:1. Right mini thoracotomy. 2. Right mini upper sternotomy and spiral vein graft bypass from right innominate to right atrial appendage.
Excerpts: "We took a piece of vein from the patient's left thigh. It was an excellent vein and we made a spiral vein graft about 10-12 cm"... "We put a partial clamp and surgically made a spiral vein graft. We opened it and sewed this with a 5-0 Prolene and then we allowed it to flow and it had excellent flow. We then cut the tip of the right atrial appendage and then sewed it end-to-side with single sutures of 5-0 Prolene."
Answer: Code “Other Cardiac”

FAQ 01/2016: How do you code the resection of left atrial vegetation? If no culture to suggest endocarditis and no pathology report indicates tumor, code “Other Cardiac Other”

FAQ 01/2016: How do you code subtotal pericardiectomy, on pump? ”Other Cardiac Other”

FAQ 01/2016: There has been confusion regarding AAA stenting/repair. Generally the first “A” means “abdominal”, but sometimes it means “ascending”.

- Only aortic procedures involving the aorta above the diaphragm (thoracic aorta) are captured, unless done in conjunction with another STS-qualifying procedure, such as AVR.
- If an abdominal aortic aneurysm repair is the only procedure performed, it is not collected.
- If an abdominal aortic aneurysm procedure is *done in conjunction with an STS procedure*, it is collected.
- If “AAA” is referencing an ascending aortic aneurysm, it is captured.
- This applies to dissections and other aortic interventions, as well.

FAQ 01/2016: Aortic thrombectomy using the AngioVac system is not collected, unless done in conjunction with an STS qualifying procedure, such as CAB or AVR.

FAQ 07/2016

Coding epicardial PVI and LAA should include coding yes in sequence numbers 2140 Other Cardiac Procedures, 2145 Other Cardiac Procedures-AFib, 4070 AFib Epicardial lesions, 4080 Atrial Appendage procedure-LAA, 4191 Lesion location-primarily epicardial, 4250 Pulmonary Vein Isolation, and 4285 LAA Ligation/Removal.

FAQ 09/2016: During an attempted stenting of a saphenous vein graft, the saphenous vein was ruptured. The patient was taken to the operating room where the stent was removed and the saphenous vein graft was repaired with a vein graft that was constructed between the two ends of the ruptured graft. Is this coded as a CAB?
No, code this case as Other Cardiac Other.

FAQ 09/2016: Should this be coded as reop other non cardiac?
We have a patient who required an external iliac stent graft due to left peritoneal hemorrhage after IABP removal. Would this be documented as a postop event and, if so, where would be the best place to document this. I do not see them state that patient had dissection or limb ischemia. The discharge summary states: It was determined that she should have IABP placed by cardiology that evening. This was maintained until postop day 2 at which point her pressor and inotropic support was back to off sufficiently as to wean the balloon pump and ultimately remove it. Following this she had a significant drop in blood pressure and some decreased mental status. There was concern for bleeding at the removal site and vascular surgery was consulted who repaired the common iliac vessel rent with left EIA stent graft."

FAQ 11/2016: Should the unroofing of LAD myocardial bridge be coded as other cardiac.
Answer: No, this is not an other procedure.

FAQ 02/2017: The surgeon, in the OR, typically performs an ablation of the entire posterior left atrial wall from the right sided pulmonary veins to the left sided pulmonary veins. Sometimes he also does pericardial reflections superiorly to the coronary sinus and extensive ablation onto the anterior portion of a left or right pulmonary vein. The patient then is wheeled out of the OR directly to the cath lab, still intubated for an EP study and further radiofrequency ablation if needed for isolation. I've noticed also noticed that 3/5 of these convergent mazes that I have abstracted have involved repair of the diaphragm and laparoscopy in the OR prior to going to the cath lab. Do I capture the ablations done in the cath lab anywhere?
ANSWER: Intracardiac lesions done in surgery are captured but lesions done in CCL are not captured as an “Other” procedure.

FAQ 05/2017: The patient had an AVR and an endarterectomy of the ascending aorta, should the endarterectomy be captured as an “other cardiac” procedure?
Answer: This is dependent on the extent of the endarterectomy. If there is no aortic wall resection and no patch, the case should remain an isolated AVR.

FAQ 06/2017: Pt with LAA tear secondary to lariat procedure performed in the Cath lab; rushed to surgery. Per OP note the following occurred: CPB via L femoral arterial and R venous cannulation switched to aortic cannulation after sternotomy laparotomy and evacuation of retroperitoneal hematoma repair of LAA tear which occurred during a lariat procedure primary repair of left femoral arterial puncture site. How is the LAA procedure coded?
Answer: Code other cardiac procedure, atrial appendage procedure only.

Seq. #: 2145
Long Name: Atrial Fibrillation Procedure Performed; **Short Name:** AFibProc
Definition: Indicate whether an atrial fibrillation procedure was performed.

Intent/Clarification:
- Yes*
- No

*If yes, complete Section M-1

FAQ 07/2016
Coding epicardial PVI and LAA should include coding yes in sequence numbers 2140 Other Cardiac Procedures, 2145 Other Cardiac Procedures-AFib, 4070 AFib Epicardial lesions, 4080 Atrial Appendage procedure-LAA, 4191 Lesion location-primarily epicardial, 4250 Pulmonary Vein Isolation, and 4285 LAA Ligation/Removal.

FAQ 01/2017: A patient underwent intracardiac and epicardial cryo ablation due to ventricular arrhythmias related to an LV aneurysm which was also repaired during the case. Should field 2145 be "yes" in order to be able to document the ablations even though this was not for atrial fib?
Answer: LVA + Other-cardiac-other. Do not capture this under the afib section.

Seq. #: 2150
Long Name: Aortic Procedure Performed; **Short Name:** AortProc
Definition: Indicate whether a procedure was performed on the aorta.

Intent/Clarification:
- Yes, planned*
- Yes, unplanned due to surgical complication*
- Yes, unplanned due to unsuspected disease or anatomy*
- No

*If yes, complete Section M-2

FAQ 01/2016: A patient had her AV replaced and her ascending aorta was wrapped (sleeve reduction) and an aortoplasty with a 30mm gel weave graft for a 3.8cm aorta. Would I code that as aorta surgery of the ascending aorta with a synthetic graft?
Answer: Do not code as an ascending aorta replacement with graft, keep isolated AVR.

FAQ 01/2016: As a result of a PCI attempt complication, an "Iatrogenic right coronary artery dissection extending into the right coronary sinus", the patient was taken to OR for bypass of the RCA +/- repair of any dissection. Assessed Intraoperatively..."We could see that at the Right Coronary Ostium...an intimal hematoma had filled a little bit, but again there was no evidence of any intraluminal defect or tear. I decided to reinforce this area by performing what would normally be done to resuspend an actual dissected coronary sinus" (pledgeted sutures from inside the aorta....out through the aorta...then plegeted the outside and tied these down). Do I code as Other Cardiac--Other ??
Answer: Code as aortic dissection repair, root.

Seq. #: 2155
Long Name: Other Non Card **Short Name:** OpONCard
Definition: Indicate whether a non-cardiac procedure was done.

Intent/Clarification:

- Yes*
- No

*If yes, complete Section N

FAQ: A patient with a gunshot wound to the chest. The cardiothoracic surgeon took him to surgery and did: 1) Exploratory left thoracotomy, 2) Exploratory median sternotomy, 3) Repair of lacerations of the upper lobe and left lower lobe with wedge resection, 4) Repair of the left pulmonary vein and lung injuries on cardiopulmonary bypass. Do we count this as a patient in the data base as "other non-cardiac procedure" for the adult cardiac surgery database since he was done on cardiopulmonary bypass?
Answer: Code yes, and then yes to Trauma (4153)

FAQ 01/2016: A patient has a CAB and planned pectoral muscle flap closure (for index surgery). Do we list pectoralis muscle flap in this area or is this just considered a closing method? There was mention of the "patient's young age, muscular status and desire to continue heavy lifting and vigorous physical activity in order to reduce the chance of sternal fracture or malunion."
Answer: It is a primary closure method in this case.

FAQ 01/2016: This patient had a cystosocpy, dilatation, and placement of a Foley prior to incision for CAB. It was planned since it related to a prior gender reassignment procedure many years ago. Will this count as an "other Non-Cardiac" procedure? Would it make a difference if it was a suprapubic catheter?
Answer: No, it does not count, regardless of prior gender reassignment surgery, or location of catheter.

FAQ 11/2016: While the patient was still in the operating room, he was noted to have a cold right arm while taking off the drapes. The patient required mechanical thrombectomy and repair of the radial artery. Is this an additional procedure or is it coded as a complication?
Answer: It is not a complication as the patient was still in the operating room. The patient did require an additional procedure but it is considered a surgical complication and should be coded as Op Other-Non Cardiac – Vascular due to surgical complication.

FAQ 02/2017: The surgeon, in the OR, typically performs an ablation of the entire posterior left atrial wall from the right sided pulmonary veins to the left sided pulmonary veins. Sometimes he also does pericardial reflections superiorly to the coronary sinus and extensive ablation onto the anterior portion of a left or right pulmonary vein. The patient then is wheeled out of the OR directly to the cath lab, still intubated for an EP study and further radiofrequency ablation if needed for isolation. I've noticed also noticed that 3/5 of these convergent mazes that I have abstracted have involved repair of the diaphragm and laparoscopy in the OR prior to going to the cath lab. Do I capture the repair of the diaphragm and exploratory laparoscopy anywhere?
Answer: No, the repair of the diaphragm is part of the procedure.

FAQ 03/2017: A patient had a CABG and a ureteral stent inserted during the same OR stay. He could have gone home several days ago but is waiting for a lithotripsy procedure later this week. How should that information be coded? Will it be excluded from the isolated CABG data?
Answer: The insertion of a ureteral stent is not coded as an other non-cardiac procedure. This will remain an isolated CAB case.

Seq. #: 2195, 2200, 2205, 2210, 2215, 2220, 2225, 2230, 2235, 2240
Long Name: CPT Code # 1-Code #10 **Short Name:** CPT Code1-10
Definition: Indicate up to 10 CPT procedure code(s) (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.

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:
For emergency procedures done outside the OR, this may be an estimated time.

FAQ 01/2016: I have a case that began as a TAVR. However, during the procedure the left ventricle was perforated and they ended up opening up the pt, placing the pt on CPB and repairing the disruption. Two questions regarding this case: (1)Should the OR entry time be the time she entered the OR for the TAVR or when she became an STS case and went on bypass? and (2) Should the Initial Operative Approach be the percutaneous incision for the TAVR or the initial sub-xiphoid for the STS portion of the case?
Answer: Code the time the patient came in the room for the TAVR. Code percutaneous.

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:
This is the field that begins the calculation to determine post-operative vent time, and therefore prolonged ventilation.
FAQ 02/2017: The surgeon, in the OR, typically performs an ablation of the entire posterior left atrial wall from the right sided pulmonary veins to the left sided pulmonary veins. Sometimes he also does pericardial reflections superiorly to the coronary sinus and extensive ablation onto the anterior portion of a left or right pulmonary vein. The pt then is wheeled out of the OR directly to the cath lab, still intubated for an EP study and further radiofrequency ablation if needed for isolation. I've noticed also noticed that 3/5 of these convergent mazes that I have abstracted have involved repair of the diaphragm and laparoscopy in the OR prior to going to the cath lab. How is OR exit date and time captured?
Answer: Code the date and the time the patient physically leaves the operating room. In a hybrid suite, the time would be inclusive of both.

Seq. #: 2255
Long Name: Initial Intubation Date And Time; **Short Name:** IntubateDT
Definition: Indicate the date (mm/dd/yyyy) and time (hh:mm) (24 hr clock) ventilatory support started. The following guidelines apply:

Intent/Clarification:
1. 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.
2. 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.

3. If the patient was admitted with a tracheostomy in place without ventilatory support, capture the date and time closest to the surgical start time that ventilatory support was initiated.
4. If the patient was admitted with a tracheostomy in place receiving chronic ventilatory support, capture admission date and time.
5. If the intubation date and time is otherwise unknown, enter the date and time the patient entered the operating room.
6. Do not alter the previously established date and time that ventilatory support was initiated for scenarios including, but not limited to, interruptions in ventilatory support due to accidental extubation/de-cannulation, elective tube change etc.

Seq. #: 2260
Long Name: Initial Extubation Date And Time; **Short Name:** ExtubateDT
Definition: Indicate the date (mm/dd/yyyy) and time (hh:mm) (24 hour clock) ventilatory support initially ceased after surgery. The following guidelines apply:

Intent/Clarification:
1. Capture the extubation closest to the surgical stop time.
2. 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.
3. If the patient expires while intubated or cannulated and on the ventilator, capture the date and time of expiration.
4. If patient is discharged on chronic ventilatory support, capture the date and time of discharge.

FAQ: The patient undergoes an emergent salvage CAB. The patient is taken from the OR to another facility following the procedure for IMPELLA, how do you capture the initial extubation date and time?
Answer: Code the date and time the patient left your hospital.

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:
FAQ: When the patient has carotid surgery what incision time is used to code skin incision start date and time?
Answer: Use the first incision, regardless of where for the skin incision date and time.

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 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:
FAQ 01/2016: Pt has CABG in a traditional cardiac OR suite. He eventually comes off CPB with an IABP/pressors, but in cardiogenic shock, with biventricular failure. He moves across the hall into our hybrid OR for an angiogram to evaluate the new grafts. (Does not go to ICU in between). His chest is left open, with an Esmarch stapled to his chest to keep sterility intact. There is no interruption in surgeon attendance or anesthesia. The OR crew scrubs out, and the cath lab crew scrubs in. The OR crew and perfusion remain in the room on standby, with full capability and

prepared to continue operating if needed. Extensive angiograms are completed, a graft PCI fails. With no other options, an Impella is placed via the femoral artery. Then, the patient is transferred to ICU. Prior to our hybrid OR, we would have transported the patient to our Cath Lab, then back to OR if needed.
When is the surgical end time? At the time the patient changed OR rooms, or the patient went to ICU?
Answer: When the patient went to ICU.

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:
This field will be referenced for selecting the peak post op glucose (4550) Anesthesia end time should be captured from the anesthesia record.

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: NQF measure
Example #1: Pt with preop nonhealing wound ulcers was placed on antibiotics. MD ordered Vancomycin for 1 hr. pre-op and to be dc'd per protocol. ID changed to Cleocin and pt. was kept on Cleocin > 48 hrs. due to potential infection from leg ulcers. Should this be captured as exclusion for all areas of antibiotics or may I choose Yes for choice and timing (was given within 1 hr.) and choose exclusion for discontinued?- code yes for all 3 – the measures for choice, timing and discontinuation were all met in this case.

Example #2: Is Cleocin an acceptable alternative selection for antibiotics? - Cleocin is not typically considered a therapeutic substitution, however if there are patient specific reasons for using Cleocin as a pre op abx documented in the record, it is acceptable.

Example #3: The choices for the quality measures are yes, no and exclusion. When do you mark exclusion? If there are medical reasons (such as ongoing infection using other antibiotics), patient reasons (patient refuses, is under age 18) or system reasons (medication unavailable)

FAQ 10/2016: How do you code antibiotic selection for the patient who has sepsis and valvular endocarditis positive for staph who is receiving Vancomycin q 12 hours preoperatively.
Answer: Code exclusion.

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).

Intent/Clarification:
The surgical incision time is the time of the first incision, regardless of location.

Example #1: Is it considered an antibiotic timing complication if a 30 minute antibiotic infusion is hung 1 hour and 14 minutes prior to procedure start time? More than half the antibiotics will be running after the 1 hour pre-procedure mark. – The antibiotic start time must be with 1 hour of the incision. The measure is not met in this case.

Example #2: I have 2 patients who began to receive antibiotics slightly more than 1 hr. before incision (7 min and 14 min for a 30 min infusion). The bulk of the Abx went in within one hour but it was started just before. Comment: to receive the large majority of Abx within 1 hr. certainly meets the spirit of the measure and I would respectfully request a different interpretation. If the majority of the Abx is given during 1 hr. preceding incision, it should not be a fall out. The measure required that the administration of antibiotics must be started within an hour of incision. These cases fail to meet the measure.
FAQ 08/2016: Can you clarify whether antibiotics must be administered PRIOR to the surgical incision or if the administration can be given within 60 minutes prior to or after incision.
The administration of the antibiotic MUST be administered PRIOR to the surgical incision; within 60 minutes prior to incision for cephalosporins and within 120 minutes prior to incision for vancomycin.

FAQ 10/2016: How do you code antibiotic timing for the patient who has sepsis and valvular endocarditis positive for staph who is receiving Vancomycin q 12 hours preoperatively. The patient receives a Vancomycin dose at 03:55 and the incision is at 09:55.
Answer: Code exclusion.

FAQ 04/2017: In a TEVAR case, the patient received vancomycin at 1107, spinal drain inserted at 1227 and surgical incision at 1355. Should this be coded as appropriate timing for the insertion of the drain or should it be the surgical incision time?
Answer: The antibiotic should be given within the appropriate time based on the surgical incision, not the insertion of the drain.

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.

Intent/Clarification:
Determining the timeframe (within 48 hours) begins at the "surgical end time" – the time the patient leaves the operating room.
Example #1: How do you code antibiotic discontinue time when the patient returns to the OR in the acute phase? – This should be coded as an exclusion.

Example #2: The patient is allergic to penicillin and is given vancomycin appropriately before and after surgery. Standing orders are followed to dc the vancomycin but the surgeon restarts it to treat endocarditis. Do I code yes for discontinued? - Yes, the prophylactic antibiotic was discontinued. If it was continued without stopping you would mark exclusion as noted in measure exclusions above.

FAQ 10/2016: How do you code antibiotic discontinuation for the patient who has sepsis and valvular endocarditis positive for staph who is receiving Vancomycin q 12 hours preoperatively and is continued postoperatively.
Answer: Code exclusion.

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: During prolonged cases, the physician my elect to give an additional dose of antibiotic prophylactically.

FAQ: When the patient receives a continuous infusion of Ancef for 18 hours following the initial dose, is that considered an additional dose of prophylactic antibiotics? No

FAQ: Patient entered OR room at 0845 and received a dose of cefuroxime at 0853. However, the surgeon was delayed and skin incision was not until 1012 so the patient received another dose of cefuroxime at 0917 to ensure that the pt received a dose within an hour of incision time. Question: Because the pt received two doses of the antibiotic in the OR does the second dose count as an additional dose? Or does the second dose really count as the first dose and I should not count it as an additional dose?
Answer: No, the secondary dose should be administered at least 4 hours after incision.

Seq. #: 2300
Long Name: Lowest Temperature **Short Name:** LwstTemp
Definition: Record the patient's lowest temperature in the operating room in degrees centigrade.
Intent/Clarification:
The intent is to capture the lowest documented temperature, this may be Esophageal, CPB venous return, Bladder, Nasopharyngeal, Tympanic, Rectal, Other, or Unknown.

FAQ: 01/2016: We capture bladder, arterial & venous CPB temps on every patient. Do we take the lowest of all three sources, or lowest bladder temp?
Answer: Many use the bladder temperature; use the same value consistently for all your cases.

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. Bladder temperatures are the most accurate for the whole body temperature.
Example #1: The op note has one temperature, the anesthesia record has another. Which do I use? – Use a consistent source document, preferably the perfusion record for lowest temperature.

Example #2: If the CAB was done off pump, do I still need to record the lowest temperature? – Yes, lowest temp is no longer a child field of CPB.

FAQ: 01/2016: We capture bladder, arterial & venous CPB temps on every patient. Do we take the lowest of all three sources, or lowest bladder temp?
Answer: Many use the bladder temperature; use the same value consistently for all your cases.

Seq. #: 2310
Long Name: Lowest Intra-op Hemoglobin; **Short Name:** LwstIntraHemo
Definition: Enter the lowest measured hemoglobin recorded in the operating room.

Intent/Clarification:
If you do not have measured values you may use calculated values.

Seq. #: 2315
Long Name: Lowest Hematocrit; **Short Name:** LwstHct
Definition: Enter the lowest measured hematocrit recorded in the operating room.

Intent/Clarification:
If you do not have measured values you may use calculated values.

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

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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

---

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 and/or coronary perfusion to complete the operation
- Exposure/visualization
- Bleeding
- Inadequate size and/or diffuse disease of distal vessel
- Hemodynamic instability (hypotension/arrhythmias)
- Conduit quality and/or trauma
- Other

Seq. #: 2340
Long Name: Cannulation - Arterial Cannulation Site - Aortic; **Short Name:** CanArtStAort
Definition: Indicate whether the arterial cannulation site included the aorta.
Intent/Clarification:

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:

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:

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:

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: Example: Cannulating side arm of aortic tube graft is “Other”

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:

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:

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:

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:

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:

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:

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:

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 arrestall the CPB periods will equal the total number of CPB minutes.
Intent/Clarification:

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. 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

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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

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Seq. #: 2420
Long Name: Cerebral Perfusion Time; **Short Name:** CPerfTime
Definition: Indicate the total number of minutes 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:
- 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

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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.

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.

- None if not used
- Antegrade
- Retrograde
- Both

FAQ 05/2017: When a pt gets cardioplegia down the SVG our perfusionist and surgeon confirm it is antegrade cardioplegia since the SVG is anastomosed to the coronary artery and flow is antegrade. When our data abstractor googled it she said it says technically coronary cardioplegia goes both ways and she thinks it should be coded as both antegrade and retrograde. How should this be coded?
Answer: Code according to the surgeon and perfusionist documentation.

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

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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.

Example #1: Do you capture descending calcification? What if it is only mentioned as root calcification?
Answer: Do not capture descending calcification. The concern is for 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.

Seq. #: 2495
Long Name: Echo 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. #: 2500
Long Name: Assessment of Aorta Disease;**Short Name:** AsmtAoDx
Definition: Indicate highest grade of atheroma or plaque in the ascending aorta indicated on epiaortic ultrasound or TEE.

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

Reference: Katz ES, Tunick PA, Rusinek H, Ribakove G, Spencer FC, Kronzon I. Protruding aortic atheromas predict stroke in elderly patients undergoing cardiopulmonary bypass: experience with intraoperative transesophageal echocardiography. J Am Coll Cardiol (1992) 20:70–7.

Example #1: If a surgeon's documentation of Ao disease is: "At operation, the epiaortic ultrasound demonstrated severe calcification, and therefore, manipulation of the ascending aorta with a partial occlusion clamp or by cardiopulmonary artery bypass was contraindicated" and available references state that "severe" atherosclerosis is defined as "An area of thickening of > 5mm with one or more of : marked calcification or protruding or mobile atheroma", would it be acceptable to code #4 protruding atheroma ≥mm with the above noted documentation?
Answer: Mark yes to concentric calcification and whether the assessment altered the plan. Do not mark protruding atheroma if it is not documented.

FAQ 10/2016: An epi-aortic ultrasound is done and revealed the ascending aortic wall was thickened (not calcified), how is highest grade of atheroma or plaque coded?
Answer: Code extensive intimal thickening.

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: 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:
Sequence number 2515 is the parent field to sequence numbers 2520, 2525, 2530, and 2535.
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.

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.

FAQ 07/17: Two units of RBCs were used to prime the pump but cardiopulmonary bypass was not used because the procedure was aborted after the sternotomy related to porcelain aorta. The Perfusionist told me the prime was probably sent to cell saver and from there would be spun into cells, washed and returned to patient. Do I code that patient received two units RBCs intraoperatively?
Answer: Yes, code that the patient received 2 units intraoperative PRBCs.

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:

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).Following is a guideline for assessing platelet utilization across multiple medical centers.

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:

Seq. #: 2545
Long Name: Intraop Clotting Factors; **Short Name:** IntraClotFact
Definition: Indicate whether clotting factors were administered intraoperatively.

Intent/Clarification:
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 (Platelet-rich Plasma)
- No

FAQ: How is K-Centra coded?
Answer: Code yes, composite.

FAQ 01/2016: Does Thrombate/Anti-thrombin III fall into this element? If so, is it composite?
Answer: No

FAQ 10/2016: How should intraop clotting factors be coded if both Factor VIIa and K-Centra are given intraoperatively?
Answer: Code Factor VIIa.

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:
Epsilon-Aminocaproic acid (Amicar) is indicated for use in the reduction of blood product requirements during surgery.

FAQ 01/2016: If the bypass machine is primed with Amicar or any of the other antifibrinolytic medications, does this element get selected as "Yes?"
Answer: Yes, it is not uncommon for Amicar to be in the pump prime.

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:
Tranexamic Acid (TXA) is indicated for use in the reduction of blood product requirements during surgery.

Seq. #: 2560
Long Name: Intraop TEE post procedure; **Short Name:** InOpTEE
Definition: Indicate whether intraoperative TEE was performed following procedure.

Intent/Clarification:
This is intended to capture TEE done in the O.R. following the procedure

FAQ 01/2016: Our intraop postop procedure TEE often just describes LV function and does not address each valve, how should I answer? Answer: State “yes” for seq. #2560 & answer “not reported” for seq. #’s 2565-2580. If TEE post procedure does not address any valve, code “No”. If the TEE post procedure addresses one or more valves, code “Yes”, answer seq. # 2565- 2580 if possible and “Not Reported” when information is missing.

FAQ 01/2016: If a post-procedure intra-op TEE is performed, regardless if there is documentation to describe valve insufficiency and EF, does the abstractor mark "Yes?"
Answer: Yes, code if the TEE is performed even if the valves are not described.

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:
- None
- Trace/trivial
- Mild
- Moderate
- Severe
- Not Reported

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:
- None
- Trace/trivial
- Mild
- Moderate
- Severe

- Not Reported

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:
- None
- Trace/trivial
- Mild
- Moderate
- Severe
- Not Reported

Seq. #: 2580
Long Name: Post Repair Ejection Fraction; **Short Name:** PRepEF
Definition: Indicate the postoperative ejection fraction.

Intent/Clarification:
A qualitative assessment of the LVEF intraop but following repair. Response should reflect the last assessment of LVEF before leaving the operating room.
Choose one of following:
- Unchanged
- Increased
- Decreased
- Not Reported

Choose “not reported” for transplants. Do not compare EF of transplanted heart to patient’s preoperative EF.

FAQ 01/2016: Are we comparing the intraop TEE post-procedure EF to the intraop TEE pre-procedure, OR the most recent EF obtained prior to entering the OR (Seq. 1540)?
Answer: Compare the intra operative PRE and POST values for EF.

Seq. #: 2585
Long Name: Combined Cardiac Surgery and PCI Performed; **Short Name:** CombCardPCI
Definition: Indicate whether a cardiac surgical procedure was performed in addition to a PCI during this hospitalization.

Intent/Clarification:
This includes planned and unplanned combinations of cardiac surgery procedures and percutaneous coronary interventions.

FAQ 05/2017: We have a case that was having a TAVR performed and developed severe hypotension. It was decided to perform a cath at that time in the hybrid OR. A complete diagnostic cath was performed and showed 3-vessel disease. They proceeded with a PTCA of the circ. The prior cath 3 mos earlier only showed 1 vessel disease.
1) How should the # disease vessels be coded - 1 or 3 vessel?
2) And which source should I use to code the native stenosis?
3) How should the PTCA be captured - Other cardiac other?
Answer: Code single vessel disease as identified from the cardiac catheterization that was performed 3

months earlier. Code the PCI as combined cardiac surgery and PCI performed, PCI + Valve, concurrent-same setting.

Seq. #: 2590
Long Name: Combined Cardiac and PCI Procedures Performed; **Short Name:** CombProcs
Definition: Indicate which procedures were performed during this hospitalization.

Intent/Clarification:

- PCI + CAB
- PCI + Valve
- PCI + Aortic
- PCI + Other

FAQ 01/2016: I had a patient go to the OR for MV Replacement for severe mitral regurgitation. This was a first reop. There was difficulty in opening sternum and during that time the right coronary bypass vein graft was torn. The artery was fixed with a vein patch angioplasty with success. The MVR was cancelled. I have captured this as a canceled procedure. Do I capture the vein graft repair under CABG surgery as unplanned or under other cardiac procedure? The patient had a stent of the protected left main 11 days later to improve blood and to help with the mital regurg. Do I capture this under combined cardiac surgery and PCI performed?
Answer: No, this is not a CAB. Do not code combined PCI. Just code the cancelled case.

FAQ 02/2017: Our surgeon did an isolated CABG (11/23) on a high risk patient and planned to do a TAVR (12/6) after the CABG as a staged procedure during the same admission. Do I code the TAVR as a reop for valve dysfunction?
Answer: The current data specification does not provide for collection of CAB + TAVR as a combined procedure.

Seq. #: 2595
Long Name: Combined Cardiac Surgery and PCI Procedure Status; **Short Name:** CombProcsStatus
Definition: Indicate whether the procedures were performed concurrently or staged.

Intent/Clarification:

- Concurrent - same setting
- Staged - PCI followed by surgery
- Staged - surgery followed by PCI

FAQ 07/17: A patient had a CABG performed in the OR and immediately after bypass the surgeon requested interventional cardiology to stent his proximal RCA to provide adequate blood flow to his inferior wall. This patient was CABG + PCI in concurrent-same setting. Is this "combined cardiac surgery and PCI performed" considered an isolated procedure?
Answer: Code surgery followed by PCI, this will remain an isolated CAB.

Seq. #: 2600

Long Name: Combined Cardiac Surgery and PCI Procedures; **Short Name:** CombProcsPCI
Definition: Indicate the PCI performed.

Intent/Clarification:
- Angioplasty
- Stent
- Angioplasty and stent
- Attempted PCI

Seq. #: 2605
Long Name: Combined Cardiac Surgery and PCI Procedures - Stent Type; **Short Name:** CombProcsStentTy
Definition: Indicate the type of stent deployed during PCI.

Intent/Clarification:
- Bare metal
- Drug-eluting
- Bioresorbable
- Multiple
- Not documented

J. Coronary Bypass

Seq. #: 2625
Long Name: Dist Anast - Art #; **Short Name:** DistArt
Definition: Indicate the total number of distal anastomoses with arterial conduits, whether IMA, GEPA, radial artery, etc.

Intent/Clarification:
Distal anastomosis refers to the connection between the bypass graft (conduit) and coronary artery. Record the total number of arterial anastomoses constructed using an arterial conduit connection to a coronary artery. Multiple distals can be constructed from any conduit. Capture each distal anastomosis.

Example: LIMA to LAD jumped to the diagonal equals two distal anastomoses. Proximal anastomosis refers to the connection between graft and aorta, or graft and another graft.

Seq. #: 2630
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. #: 2635
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) = standard method; through full or partial vein harvest
- Combination = 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. #: 2650
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. #: 2655
Long Name: IMA Artery Used; **Short Name:** IMAArtUs
Definition: Indicate which, if any, Internal Mammary Artery (ies) (IMA) were used for grafts.

Intent/Clarification:
To collect which IMA was used to construct grafts: LIMA, RIMA or both or none. IMA may be used as a free graft or pedicle, in situ, graft. A pedicle graft remains connected at its proximal origin (in situ) and requires only a distal anastomosis; i.e. the internal mammary artery.

FAQ 01/2017: If patient has no coronary artery disease and is having CAB for an anomalous LAD, is this case included in the Isolated CAB category? Is this counted in use of LIMA if there is technically no LAD disease to bypass?
Answer: If only anomalous vessel CABG, then this should be congenital procedure, not ISOCAB. If in conjunction with other atherosclerotic vessels, then it is an ISOCAB only. IMA exclusion would be due to no LAD disease.

Seq. #: 2660
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 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: How should exclusion be coded for the patient with AV fistula in the left arm for dialysis? Code subclavian stenosis.

FAQ: The physician did not use an IMA because of paralysis of the right hemi diaphragm. This does not fit into any of the category choices. What do you suggest I do and will this count against us?
Answer: Code as "other", and it is not an acceptable exclusion for IMA usage.

FAQ: How should trauma to the IMA be coded in the exclusions?
Answer: This should be coded as "other".
Other is not an acceptable exclusion in the NQF endorsed measure and will have a negative impact on the star rating.

FAQ 07/2016 ~~FAQ 01/2016~~: My surgeons want a response from a physician. They feel strongly that the STAR rating penalizes them for not using a less than adequate vessel when the options for non-use of the IMA doesn't take into account the examples listed below. I was told there used to be an option, "IMA unusable", why was the "IMA unusable" option removed? I was told that it was a NQF endorsed exclusion.
Answer: The National Quality Forum does not recognize size and flow as an acceptable exclusion, code other.

FAQ 01/2017: If patient has no coronary artery disease and is having CAB for an anomalous LAD, is this case included in the Isolated CAB category? Is this counted in use of LIMA if there is technically no LAD disease to bypass?
Answer: If only anomalous vessel CABG, then this should be congenital procedure, not ISOCAB. If in conjunction with other atherosclerotic vessels, then it is an ISOCAB only. IMA exclusion would be due to no LAD disease.

FAQ 04/2017: If there is a 70% stenosis of the LM should the reason for no IMA be coded as "no LAD disease"?
Answer: No, when there is a greater than 50% stenosis of the LM it is counted as 2 vessel disease, one of those vessels being the LAD. Therefore, according to the definition if no IMA is used it should be coded as "other".

Seq. #: 2665
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. #: 2670
Long Name: IMA Harvest Technique; **Short Name:** IMATechn
Definition: Indicate the technique of IMA harvest.

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. #: 2675
Long Name: Number of Radial Arteries Used; **Short Name:** NumRadArtUs
Definition: Indicate the number of radial artery(ies) that were used for grafts.

Intent/Clarification:
Enter 0, 1 or 2

Seq. #: 2680
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 anastomoses constructed using a radial artery. More than one anastomosis can be constructed from each radial artery.

Seq. #: 2685
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. #: 2700

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. #: 2705
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:
Example: Inferior epigastric artery

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.

FAQ: If only in situ mammary graft(s) used and there is no proximal anastomosis, leave this field blank

FAQ 01/2016: So, is this field looking for the cross clamp level used when the surgeon is connecting the SVG to the aorta? Answer: YES

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

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

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. #: 2770
Long Name: CAB 02; **Short Name:** CAB02
Definition: Indicate whether a second Coronary Artery Bypass graft was done.

Seq. #: 2790
Long Name: CAB Distal Site 02; **Short Name:** CABDistSite02
Definition: Indicate distal insertion site of bypass.

Seq. #: 2800
Long Name: CAB Proximal Site 02; **Short Name:** CABProximalSite02
Definition: Indicate proximal site of the bypass graft.

Seq. #: 2810
Long Name: CAB Conduit 02; **Short Name:** CABConduit02
Definition: Indicate the conduit type used.

Seq. #: 2815
Long Name: CAB Distal Position 02; **Short Name:** CABDistPos02
Definition: Indicate anastomotic position.

Seq. #: 2820
Long Name: CAB Endarterectomy 02; **Short Name:** CABEndArt02
Definition: Indicate whether endarterectomy was performed.

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. **I**

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. #: 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. #: 2925
Long Name: CAB Proximal Technique 04; **Short Name:** CABProxTech04
Definition: Indicate technique used for proximal anastomosis.

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. #: 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. #: 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. #: 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. #: 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. #: 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. #: 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.

K. 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 due to the fact the valve did not work or fit.

FAQ 01/2016: The patient had a Ross procedure 6/15/15. She was readmitted 6/22/15 with afib rvr, found by echo to have severe aortic valve regurgitation. She returned to OR 6/24/15 for a redo AVR with homograft. So, in section K, "Valve Prosthesis Explant" does the previous pulmonic valve now in the aortic valve position qualify for this section, or is it not a prosthesis in the strict sense? If it does, how would I code 3320, 3325, 3330, and the rest of this particular section?
Answer: Explant type: Other

FAQ 04/2017: How do you capture the surgical removal of a mitral clip?
Answer: Code valve prosthesis explant – yes.

FAQ 07/17: How would I collect removal of a previous mitral annuloplasty ring without reimplantation of another device? Should any mitral valve procedure be coded?
Answer: Simply code the valve explant and code no in all no other valve fields.

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

FAQ 04/2017: How do you capture the surgical removal of a mitral clip?
Answer: Code valve prosthesis explant position – Mitral.

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 01/2016: The patient had a Ross procedure 6/15/15. She was readmitted 6/22/15 with afib rvr, found by echo to have severe aortic valve regurgitation. She returned to OR 6/24/15 for a redo AVR with homograft. So, in section K, "Valve Prosthesis Explant" does the previous pulmonic valve now in the aortic valve position qualify for this section, or is it not a prosthesis in the strict sense? If it does, how would I code 3320, 3325, 3330, and the rest of this particular section?
Answer: Explant type: Other

FAQ 04/2017: How do you capture the surgical removal of a mitral clip?
Answer: Code valve prosthesis explant type – Leaflet Clip.

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.

Seq. #: 3330
Long Name: Valve Explant Device Known; **Short Name:** ValExpDevKnown
Definition: Indicate whether the type of explanted valve device is known.

Intent/Clarification:

Seq. #: 3335
Long Name: Valve Explant Device; **Short Name:** ValExpDev
Definition: Indicate the model number of the first prosthesis explanted.

Intent/Clarification:
See 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.

http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_source=Members-Only+Updates&utm_campaign=c7c1e8c870-Proposed_Rules_7_5_2012&utm_medium=email

FAQ 09/2016: Is the UDI the same as the serial number on the valve?
No, this is a unique number for each valve.

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, you can capture both. 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.

Seq. #: 3355
Long Name: Second Valve Prosthesis Explant Postion; **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

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 is having 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:

Seq. #: 3375
Long Name: Second Valve Explant Device; **Short Name:** ValExpDev2
Definition: Indicate the model number of the second prosthesis explanted.

Intent/Clarification:
See 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.
http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_source=Members-Only+Updates&utm_campaign=c7c1e8c870-Proposed_Rules_7_5_2012&utm_medium=email

FAQ 09/2016: Is the UDI the same as the serial number on the valve?
No, this is a unique number for each valve.

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

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)
- Replacement AV and insertion aortic non-valved conduit in supra-coronary position
- Replacement AV and major root reconstruction/debridement with valved conduit
- Resuspension AV without replacement of ascending aorta
- Resuspension AV with replacement of ascending aorta
- Apico-aortic conduit (Aortic valve bypass)
- Autograft with pulmonary valve (Ross procedure)
- Homograft Root Replacement
- Valve sparing root reimplantation (David)
- Valve sparing root remodeling (Yacoub)
- Valve Sparing root reconstruction (Florida Sleeve)

FAQ: We have a surgeon that completes the majority of his AVR cases using a Medtronic Freestyle bioprosthetic aortic valve with root. If coded as a Bentall, they are not counted as AVRs.
Answer: Code these as isolated AVRs if reimplantation of the coronaries was not involved. These are sometimes called “inclusion roots.”

FAQ 02/2017: A patient with severe endocarditis with aortic root, ventricle septal and right ventricle free wall abscesses. He had an AVR, aortic root replacement with reconstruction of RV and LV outflow tract with a RV free wall patch. How would I capture these procedures?
ANSWER: Replacement AV and major root reconstruction/debridement with valved conduit and capture other cardiac other.

FAQ 03/2017: My surgeon occasionally places an Intuity valve device in the aortic position through a median sternotomy during an open AVR. When entering data, I do not check Seq. 3400 and I do leave it unchecked to indicate it was not a transcatheter valve replacement. However, these cases were kicked out of the open AVR analysis in the current harvest period; I am assuming that is because of the device used. Please advise how I am to enter the device type. These are open AVRs, not TAVRs, and the data entry indicates that.
Answer: Intuity is a rapid deployment valve and NOT a transcatheter valve. Code no to transcatheter valve replacement.

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.

FAQ 03/2017: My surgeon occasionally places an Intuity valve device in the aortic position through a median sternotomy during an open AVR. When entering data, I do not check Seq. 3400 and I do

leave it unchecked to indicate it was not a transcatheter valve replacement. However, these cases were kicked out of the open AVR analysis in the current harvest period; I am assuming that is because of the device used. Please advise how I am to enter the device type. These are open AVRs, not TAVRs, and the data entry indicates that.
Answer: Intuity is a rapid deployment valve and NOT a transcatheter valve. Code no to transcatheter valve replacement.

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. #: 3410
Long Name: VS-Aortic Valve Repair - Commissural Annuloplasty; **Short Name:** VSAVRComA
Definition: Indicate whether the aortic valve repair procedure included a commissural annuloplasty.

Intent/Clarification:
http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection

See valve presentation in training manual appendices.

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: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

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: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

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: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

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:
http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection
See valve presentation in training manual appendices.

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:
http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection
See valve presentation in training manual appendices.

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:
http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection
See valve presentation in training manual appendices.

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:
http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection
See valve presentation in training manual appendices.

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:
http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection
See valve presentation in training manual appendices.

Seq. #: 3455
Long Name: VS-Aortic Valve Repair - Repair of Periprosthetic Leak; **Short Name:** VSAVRPeriLeak
Definition: Indicate whether the aortic valve repair procedure included repair of a Periprosthetic leak.

Intent/Clarification:
http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection

See valve presentation in training manual appendices.
FAQ 03/2017: An occluder device was previously used to repair an Aortic valve replacement perivalvular leak. It was not successful and pt came in to have it removed. During the surgical procedure the Aortic valve itself was fine and only required a localized repair with suture but the

occluder device was removed. I captured the valve repair in Field 3395 and Field 3455, but would I capture the removal of the occluder device in Field 4160 as an Other Card-Other? If not, how best to capture this?
Answer: Code suture repair of the perivalvular leak only.

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 Manouguian, 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.
Reference: http://ats.ctsnetjournals.org/cgi/content/full/83/6/2044
http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

Seq. #: 3470
Long Name: VS-Aortic Implant; **Short Name:** AorticImplant
Definition: Indicate whether an aortic valve or valve device was implanted.
Intent/Clarification:

Seq. #: 3475
Long Name: VS-Aortic Implant - Type; **Short Name:** AorticImplantTy
Definition: Indicate the type of aortic valve or valve device implanted.

Intent/Clarification:
- Mechanical valve
- Annuloplasty device
- Bioprosthetic valve
- Transcatheter device
- Homograft
- Other
- Autograft (Ross)

FAQ 03/2017: My surgeon occasionally places an Intuity valve device in the aortic position through a median sternotomy during an open AVR. When entering data, I do not check Seq. 3400 and I do leave it unchecked to indicate it was not a transcatheter valve replacement. However, these cases were kicked out of the open AVR analysis in the current harvest period; I am assuming that is because of the device used. Please advise how I am to enter the device type. These are open AVRs, not TAVRs, and the data entry indicates that.
Answer: Code Bioprosthetic for the Intuity valve.

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: A Ross procedure moves the patient's native pulmonic valve to the aortic position, so there is no model number.

FAQ 03/2017: My surgeon occasionally places an Intuity valve device in the aortic position through a median sternotomy during an open AVR. When entering data, I do not check Seq. 3400 and I do leave it unchecked to indicate it was not a transcatheter valve replacement. However, these cases were kicked out of the open AVR analysis in the current harvest period; I am assuming that is because of the device used. Please advise how I am to enter the device type. These are open AVRs, not TAVRs, and the data entry indicates that.
Answer: Code 777, "Other US FDA Approved Device" for the Intuity valve.

Seq. #: 3485
Long Name: VS-Aortic Proc-Imp-Size; **Short Name:** VSAoImSz
Definition: Indicate the Aortic implant size.
Intent/Clarification:

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 device. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.
http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_source=Members-Only+Updates&utm_campaign=c7c1e8c870-Proposed_Rules_7_5_2012&utm_medium=email

FAQ 09/2016: Is the UDI the same as the serial number on the valve?
No, this is a unique number for each valve.

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

FAQ 01/2016: If during elective AVR, the surgeon discovers extensive calcification extending down to MV leaflets and then performs a decalcification of the MV leaflets as well as the AVR, do we also capture the decalcification under 3530? If so, is it unplanned due to patient anatomy?
Answer: Removing plaque from the leaflet is not significant enough to code anything additional; your surgeon is correct leave as an isolated AVR.
FAQ 08/2016: Should mitral clip procedures be included in the adult cardiac surgery database?
Answer: Yes, they can be included for the purposes of counting procedures but will be excluded from analysis.

FAQ 04/2017: How do you capture the planned surgical removal of a mitral clip?
Answer: Code Yes, planned.

FAQ 07/17: How would I collect removal of a previous mitral annuloplasty ring without reimplantation of another device? Should any mitral valve procedure be coded?
Answer: Simply code the valve explant and code no in all no other valve fields.

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

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:

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: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

Seq. #: 3515
Long Name: VS-Mitral Leaflet Resection Type; **Short Name:** VSLeafResTyp
Intent/Clarification:

- Triangular
- Quadrangular
- Other

Seq. #: 3520
Long Name: VS-Mitral Repair Location; **Short Name:** VSLeafRepLoc
Definition: Indicate whether the repair involved the anterior, posterior, or both leaflets. Commissural closure stitches do not make a bileaflet repair.
A commissurotomy is a bileaflet repair.

Intent/Clarification:

- Anterior
- Posterior
- Both Anterior and Posterior

Seq. #: 3525
Long Name: VS-Mitral Valve Repair - Leaflet Plication; **Short Name:** VSMitRLeafPlic
Definition: Indicate whether the mitral valve repair procedure included leaflet plication.

Intent/Clarification: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

Seq. #: 3530
Long Name: VS-Mitral Valve Repair - Leaflet Debridement; **Short Name:** VSMitRLeafDeb
Definition: Indicate whether the mitral valve repair procedure included leaflet debridement.

Intent/Clarification: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

Seq. #: 3535
Long Name: VS-Mitral Valve Repair - Folding Plasty; **Short Name:** VSMitRFold
Definition: Indicate whether the mitral valve repair procedure included folding plasty.

Intent/Clarification: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

Seq. #: 3540
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: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

Seq. #: 3545
Long Name: VS-Mitral Valve Repair - Annular Decalcification; **Short Name:** VSMitRADecalc
Definition: Indicate whether the mitral valve repair procedure included an annular decalcification.

Intent/Clarification: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

Seq. #: 3550
Long Name: VS-Mitral Valve Repair - Neochords (PTFE); **Short Name:** VSMitRPTFE
Definition: Indicate whether the mitral valve repair procedure included neochords (PTFE).

Intent/Clarification: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

Seq. #: 3555
Long Name: VS-Mitral Neochord Number; **Short Name:** VSNeoChNum
Definition: Indicate the number of neochords inserted - 1 neochord is created from 1 double arm suture.

Intent/Clarification:

Seq. #: 3560
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: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

Seq. #: 3565
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: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

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. #: 3575
Long Name: VS-Mitral Valve Repair - Mitral Leaflet Clip; **Short Name:** VSMitRMLeafClip
Definition: Indicate whether the mitral valve procedure included leaflet clip(s).

Intent/Clarification: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

FAQ 08/2016: We understand that Mitral Leaflet Clips can be included in the Adult Cardiac Surgery Database but they would not be included in risk analysis. Our mitral clip procedures are generating a risk score, should that happen and does that mean they are being counted with our mitral repair procedure? The decision to remove the mitral clip procedures from the analysis as Isolate MV Repair procedures was made with direction from the STS by DCRI. Your software does not reflect that change, it should be addressed in the next data specification upgrade.

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: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

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: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

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: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection See valve presentation in training manual appendices.

Seq. #: 3595
Long Name: VS-Mitral Valve Repair - Other Mitral Repair; **Short Name:** VSMitRMitOth

Definition: Indicate whether the mitral valve repair involved a technique not listed above.
Intent/Clarification:

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: This must involve an actual repair attempt, not just inspection of the valve.

Seq. #: 3605
Long Name: VS-Mitral Chordal Preservation; **Short Name:** VSChorPres
Definition: Indicate whether native chords were preserved.

Intent/Clarification: Chordal preservation helps preserve ventricular anatomy and physiology when MV Replacement is performed.

- Anterior
- Posterior
- Both
- None

FAQ: This field is for native valves only. Do not code if replacing a prosthetic valve.

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:

Seq. #: 3615
Long Name: VS-Mitral Implant; **Short Name:** MitralImplant
Definition: Indicate whether a mitral valve or valve device was implanted.
Intent/Clarification:
FAQ 08/2016: Should mitral clip procedures be included in the adult cardiac surgery database?
Answer: Yes, they can be included for the purposes of counting procedures but will be excluded from analysis.

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
- Mitral leaflet clip
- Bioprosthetic valve
- Transcatheter device
- Annuloplasty device
- Other

FAQ 08/2016: Should mitral clip procedures be included in the adult cardiac surgery database?
Answer: Yes, they can be included for the purposes of counting procedures but will be excluded from analysis.

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:

Seq. #: 3630
Long Name: VS-Mitral Proc-Imp-Size; **Short Name:** VSMiImSz
Definition: Indicate the Mitral implant size.
Intent/Clarification:

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.
http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_source=Members-Only+Updates&utm_campaign=c7c1e8c870-Proposed_Rules_7_5_2012&utm_medium=email

FAQ 09/2016: Is the UDI the same as the serial number on the valve?
No, this is a unique number for each valve.

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. #: 3645
Long Name: VS-Tricuspid Proc-Procedure; **Short Name:** OpTricus
Definition: Indicate the type of procedure that was performed on the tricuspid valve.

Intent/Clarification:
- Annuloplasty Only
- Replacement
- Reconstruction with Annuloplasty
- Reconstruction without Annuloplasty
- Valvectomy

FAQ 04/2017: Is this“procedure considered a tricuspid repair? “The posterior leaflet was closed using large 2-0 ethibond sutures X2. The second suture was placed slightly on the anterior leaflet side of the antero-posterior commissure, and on the septal leaflet side on the septal posterior commissure, essentially creating bicuspidization.”
Answer: This is considered tricuspid reconstruction with or without annuloplasty.

FAQ 05/2017: Pt had prior Tricuspid valve replacement for Endocarditis. Came back in with vegetation on new valve. Pt to OR where prior bioprosthetic valve was explanted and surgeon created and implanted a new "valve" he created using core matrix. From Op Note" Prior to incision a tube was created out of cor matrix for reconstruction of the valve over a 29 mm sizer using 5-0 Prolene suture creating a 4 cm length tube with a sewing cuff. This was then incorporated as a tricuspid valve using a cor matrix pledgeted 4-0 Prolene sutures 120° apart on the ventricular end of the tube into existing papillary muscle heads. The core matrix sewing cuff was then approximated with 4-0 Prolene sutures pledgeted with core matrix at 120° intervals on the
tricuspid annulus and then sewn to each other to complete the annular anastomosis". How do I capture?
Answer: Code as replacement, code implant “other”, leave the model blank and code the size as 29mm.

Seq. #: 3650
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:

Seq. #: 3655
Long Name: VS-Tricuspid Annuloplasty Type; **Short Name:** OpTricusAnTy
Definition: Indicate type of annuloplasty procedure.

Intent/Clarification:
- Pericardium
- Suture
- Prosthetic ring
- Prosthetic band
- Other

Seq. #: 3660
Long Name: VS-Tricuspid Implant; **Short Name:** TricuspidImplant
Definition: Indicate whether a tricuspid valve or device was implanted
Intent/Clarification:

Seq. #: 3665
Long Name: VS-Tricuspid Implant - Type; S**hort 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

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:

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.
http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_source=Members-Only+Updates&utm_campaign=c7c1e8c870-Proposed_Rules_7_5_2012&utm_medium=email

FAQ 09/2016: Is the UDI the same as the serial number on the valve?
No, this is a unique number for each valve.

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

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

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

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

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:

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.

http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_source=Members-Only+Updates&utm_campaign=c7c1e8c870-Proposed_Rules_7_5_2012&utm_medium=email

FAQ 09/2016: Is the UDI the same as the serial number on the valve?
No, this is a unique number for each valve.

L. 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.
- **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.

FAQ 03/2017: Patient had IABP during CABG, which was removed in ICU same day, the patient deteriorated and returned to the OR the following day for insertion of IABP/TEE under general anesthesia; how is this captured?
Answer: There is nothing additional to capture for the insertion of the IABP on two separate occasions during the hospitalization. The only IABP to be capture is the one that was inserted during the surgical procedure.

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: The patient undergoes an emergent salvage CAB. The patient is taken from the OR to another facility following the procedure for IMPELLA, do I also code the IMPELLA in the current adult cardiac record? No

FAQ 01/2016: Can you provide clarification on the Tandem Heart Device? One of the other Data Managers and I are in disagreement over whether to call it a Catheter Based Device or a VAD. Answer: This is a subject of current discussion, and will be discussed with surgeons nationwide. We are looking at Impellas as well. Unsure if decision will be made regarding where the device is placed (cath lab vs. OR), or reason for implant (short term/long term support).

Seq. #: 3755
Long Name: Catheter Based Assist Type; **Short Name:** CathBasAssistTy
Definition: Indicate the type of catheter based assist device.

Intent/Clarification:
Choose one of the following:

- 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

FAQ 07/17: Does the size of the Impella change whether it is a mechanical assist device or a VAD?
Answer: No, all Impellas are catheter based assist devices regardless of size.

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)

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.

08/2016 FAQ: The patient has an isolated CAB and returns to the OR for VA ECMO via sternotomy 3 days later. Should this be coded as postoperative mechanical assist device or is it just reop other cardiac?
Answer: Code mechanical assist device inserted postop and DO NOT code reop other cardiac.

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
- Rescue/salvage
- Other

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:
Date in the 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 from 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 VAD. It may not be available immediately. If not available leave blank.
http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_s

our ce=Members-Only+Updates&utm_campaign=c7c1e8c870-Proposed_Rules_7_5_2012&utm_medium=email

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:
- Yes, not during this procedure
- Yes, during this procedure
- No

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:
- **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: T**he 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. #: 3835
Long Name: Previous VAD Explanted During This Admission - Date; **Short Name:** PrevVADExpDt
Definition: Indicate date of explant.

Intent/Clarification:
Date in the format mm/dd/yyyy

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:
If a VAD insertion and subsequent CV surgery such as a heart transplant occur during the same admission, code the heart transplant as the PRIMARY case even if it occurred AFTER the VAD insertion. Code yes here and capture as pre op VAD.
- Yes
- No

Seq. #: 3845
Long Name: VAD-Implant Timing; **Short Name:** VADImpTmg
Definition: Indicate timing of VAD insertion.

Intent/Clarification:

- **Pre-Operative** -during same hospitalization but not same OR trip as CV surgical procedure
- **Stand-alone VAD procedure** -this was the only CV procedure done.
- **In conjunction With CV surgical procedure(same trip to the OR) –planned**, In conjunction with a CV surgical procedure and planned before surgery, consent in chart
- **In conjunction With CV surgical procedure (same trip to the OR) – unplanned** ,In conjunction with a CV surgical procedure and not planned before surgery
- **Post-Operative** (After 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, 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

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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:
See device list

Seq. #: 3865
Long Name: VAD-Implant Date; **Short Name:** VImpDt
Definition: Indicate the date the VAD was implanted.

Intent/Clarification:

Date in the 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 VAD. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.

http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_source=Members-Only+Updates&utm_campaign=c7c1e8c870-Proposed_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:
Date in the 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:
If a VAD insertion and heart transplant occur during the same admission, code the heart transplant as the PRIMARY case even if it occurred AFTER the VAD insertion.

Seq. #: 3900
Long Name: VAD-Implant Timing #2; **Short Name:** VADImpTmg2
Definition: Indicate timing of VAD #2 insertion.

Intent/Clarification:
- Pre-Operative – (during same hospitalization but not same OR trip as CV surgical procedure)
- Stand Alone VAD procedure – this was the only CV procedure done
- In conjunction With CV surgical procedure (same trip to the OR) –planned, In conjunction with a CV surgical procedure and planned before surgery, consent present in medical record
- In conjunction With CV surgical procedure (same trip to the OR) – unplanned, In conjunction with a CV surgical procedure and not planned before surgery
- Post-Operative (After 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, postcardiotomy syndromes, 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

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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:

See device list

Seq. #: 3920
Long Name: VAD-Implant Date #2; **Short Name:** VImpDt2
Definition: Indicate the date the VAD #2 was implanted.

Intent/Clarification:
Date in the 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 VAD. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.
http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_source=Members-Only+Updates&utm_campaign=c7c1e8c870-Proposed_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:

Date in the 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:
If a VAD insertion and other CV surgery such as heart transplant occur during the same admission, code the heart transplant as the PRIMARY case even if it occurred AFTER the VAD insertion.

Seq. #: 3955
Long Name: VAD-Implant Timing #3; **Short Name:** VADImpTmg3
Definition: Indicate timing of VAD #3 insertion.

Intent/Clarification:
- **Pre-Operative** (during same hospitalization but not same OR trip as CV surgical procedure)
- **Stand Alone VAD** procedure
- **In conjunction With CV surgical procedure (same trip to the OR) – planned**, In conjunction with a CV surgical procedure and planned before surgery
- **In conjunction With CV surgical procedure (same trip to the OR) – unplanned**, In conjunction with a CV surgical procedure and not planned before surgery
- **Post-Operative** (After 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, 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. #: 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:
See device list

Seq. #: 3975
Long Name: VAD-Implant Date #3; **Short Name:** VImpDt3
Definition: Indicate the date the VAD #3 was implanted.

Intent/Clarification:
Date in the 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 VAD. It may not be available immediately. If not available leave blank. Please refer to the FDA web site for detailed explanation of UDI.
http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/default.htm?utm_source=Members-Only+Updates&utm_campaign=c7c1e8c870-Proposed_Rules_7_5_2012&utm_medium=email

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Seq. #: 3985
Long Name: VAD-Explant #3; **Short Name:** VExp3
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 never explanted.

Seq. #: 3995

Long Name: VAD-Explant Date #3; **Short Name:** VExpDt3
Definition: Indicate the date the VAD #3 was explanted.

Intent/Clarification:
Date in the format mm/dd/yyyy

Seq. #: 4010
Long Name: Complications Related To Mechanical Assist Device(s); **Short Name:** CompMAD
Definition: Indicate whether complications resulted from mechanical assist device(s).

Intent/Clarification:
Indicate which mechanical assist device caused the complication (i.e. IABP, CBAD, ECMO, VAD, multiple devices). Complications may relate to any Cardiac Assist Device.

- No
- Yes, IABP
- Yes, CBAD (Catheter-based Assist Device)
- Yes, ECMO
- Yes, VAD
- Yes, multiple devices

Seq. #: 4015
Long Name: Complications Related To Mechanical Assist Device(s) #1; **Short Name:** CompMAD1
Definition: Indicate complication related to mechanical assist device(s).

Intent/Clarification:
Choose up to 3 or choose No additional complications to grey out subsequent choices. Choose complications likely to be related to the device

- **Cannula/Insertion site issue**: may include bleeding, infection
- **Cardiac**: patient develops cardiac complication requiring intervention. Ex. Right heart failure, Arrhythmias, Aortic Insufficiency
- **GI**: abdominal placement of VAD hardware places patients at risk for the development of serious abdominal complications due to hardware adhering to the intestines. Ex. Bowel obstruction, viscous perforation, GI Bleed
- **Hemorrhagic**: patient is an increased risk of bleeding due to anticoagulation and anti-platelet therapy, nonpulsatile blood flow leading to blood vessel malformation, and changes in blood-clotting factors.
- **Hemolytic**: patient experienced 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.
- **Infection**: Ex. Driveline/cannula infection, pump pocket infection, VAD endocarditis, Sternal infection, Sepsis
- **Metabolic**: Renal or hepatic dysfunction
- **Neurologic**: patient is at a higher risk of stroke due to blood blots leaving the pump and high blood pressure. Ex. CVA, TIA, Other neurologic event other than CVA or TIA, Hemorrhagic stroke
- **Pulmonary**: Respiratory failure with prolong intubation or reintubation and/or tracheostomy
- **Other**: Ex. Device malfunctions, VAD thrombus, Psychiatric episode

FAQ 09/2016: We have a patient who required an external iliac stent graft due to left peritoneal hemorrhage after IABP removal. Would this be documented as a postop event and, if so, where would be the best place to document this. I
do not see them state that patient had dissection or limb ischemia. The discharge summary states: It was determined that she should have IABP placed by cardiology that evening. This was maintained until postop day 2 at which point her pressor and inotropic support was back to off

sufficiently as to wean the balloon pump and ultimately remove it. Following this she had a significant drop in blood pressure and some decreased mental status. There was concern for bleeding at the removal site and vascular surgery was consulted who repaired the common iliac vessel rent with left EIA stent graft."
Should this be coded as reop other non cardiac?
Code Reop other non-cardiac and the complications related to Mechanical Assist Devices – Cannula/Insertion site issue.

Seq. #: 4020
Long Name: Complications Related To Mechanical Assist Device(s) #2; **Short Name:** CompMAD2
Definition: Indicate additional complication or choose no additional complications.

Intent/Clarification:
Choose up to 3 or choose No additional complications to grey out subsequent choices. Choose complications likely to be related to the device

- **Cannula/Insertion site issue**: may include bleeding, infection
- **Cardiac**: patient develops cardiac complication requiring intervention. Ex. Right heart failure, Arrhythmias, Aortic Insufficiency
- **GI**: abdominal placement of VAD hardware places patients at risk for the development of serious abdominal complications due to hardware adhering to the intestines. Ex. Bowel obstruction, viscous perforation, GI Bleed
- **Hemorrhagic**: patient is an increased risk of bleeding due to anticoagulation and anti-platelet therapy, nonpulsatile blood flow leading to blood vessel malformation, and changes in blood-clotting factors.
- **Hemolytic**: patient experienced 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.
- **Infection**: Ex. Driveline/cannula infection, pump pocket infection, VAD endocarditis, Sternal infection, Sepsis
- **Metabolic**: Renal or hepatic dysfunction
- **Neurologic**: patient is at a higher risk of stroke due to blood blots leaving the pump and high blood pressure. Ex. CVA, TIA, Other neurologic event other than CVA or TIA, Hemorrhagic stroke
- **Pulmonary**: Respiratory failure with prolong intubation or reintubation and/or tracheostomy
- **Other**: Ex. Device malfunctions, VAD thrombus, Psychiatric episode

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Seq. #: 4025
Long Name: Complications Related To Mechanical Assist Device(s) #3; **Short Name:** CompMAD3
Definition: Indicate additional complication or choose no additional complications.

Intent/Clarification:
Choose up to 3 or choose No additional complications to grey out subsequent choices. Choose complications likely to be related to the device

- **Cannula/Insertion site issue:** may include bleeding, infection
- **Cardiac**: patient develops cardiac complication requiring intervention. Ex. Right heart failure, Arrhythmias, Aortic Insufficiency
- **GI**: abdominal placement of VAD hardware places patients at risk for the development of serious abdominal complications due to hardware adhering to the intestines. Ex. Bowel obstruction, viscous perforation, GI Bleed
- **Hemorrhagic**: patient is an increased risk of bleeding due to anticoagulation and anti-platelet therapy, nonpulsatile blood flow leading to blood vessel malformation, and changes in blood-clotting factors.
- **Hemolytic**: patient experienced 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.

- **Infection**: Ex. Driveline/cannula infection, pump pocket infection, VAD endocarditis, Sternal infection, Sepsis
- **Metabolic:** Renal or hepatic dysfunction
- **Neurologic**: patient is at a higher risk of stroke due to blood blots leaving the pump and high blood pressure. Ex. CVA, TIA, Other neurologic event other than CVA or TIA, Hemorrhagic stroke
- **Pulmonary**: Respiratory failure with prolong intubation or reintubation and/or tracheostomy
- **Other**: Ex. Device malfunctions, VAD thrombus, Psychiatric episode

M. Other Cardiac Procedures

Seq. #: 4070
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:
FAQ: If the surgeon performs thorocoscopic epicardial lesions in the OR and then 2-3 days later the EP physician does catheter ablation, how is that captured? Do not include the catheter ablation and it is not a complication.

FAQ 07/2016 ~~FAQ 01/2016~~: I answered the elements in Section M.1 (Complete for Epicardial and intracardiac Atrial Fibrillation Procedures) for PVI/LAA clip, but am uncertain if I am to also select "Yes" in Section M (Other Cardiac Procedure) regarding "AFib Epicardial lesions".
Answer: ~~Only code M-1 for epicardial lesions and LAA.~~
FAQ 07/2016
Coding epicardial PVI and LAA should include coding yes in sequence numbers 2140 Other Cardiac Procedures, 2145 Other Cardiac Procedures-AFib, 4070 AFib Epicardial lesions, 4080 Atrial Appendage procedure-LAA, 4191 Lesion location-primarily epicardial, 4250 Pulmonary Vein Isolation, and 4285 LAA Ligation/Removal.

FAQ 01/2016: The patient that had a large clot removed from their left atrium and the clot extended into all pulmonary veins. Do I capture this as Pulmonary Thromboembolectomy-Chronic (4130) and do I capture the clot removal from the left atrium under other cardiac (4160) procedure?
Answer: Code the clot removal as “other cardiac”; this is not pulmonary thromboembolectomy

FAQ 01/2016: How would you code a repair of Fossa Ovalis ASD, repair of sub arterial VSD and repair of double chambered right ventricle?
Answer: For repairs of congenital disease (except bicuspid aortic valve and PFO), please remember to use the “Congenital Diagnoses Procedure Lists” on the website: http://www.sts.org/sts-national-database/database-managers/adult-cardiac-surgery-database/data-collection . It is about eleven lines down on the linked page. You may require surgeon assistance if you are not familiar with congenital heart disease.

Seq. #: 4075
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 closes before birth, but if it does not, the child is born with a hole between the left and right atria 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 11/2016: The patient required resection of an aneurysm of the interatrial septum and patch repair at the foramen ovale. How is this coded?
Answer: This should be captured as a PFO.

Seq. #: 4080
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 07/2016
Coding epicardial PVI and LAA should include coding yes in sequence numbers 2140 Other Cardiac Procedures, 2145 Other Cardiac Procedures-AFib, 4070 AFib Epicardial lesions, 4080 Atrial Appendage procedure-LAA, 4191 Lesion location-primarily epicardial, 4250 Pulmonary Vein Isolation, and 4285 LAA Ligation/Removal.

Correction
FAQ 10/2016: The patient is scheduled for Maze and LAA procedures in conjunction with CAB. The Maze procedure was aborted, how is the LAA coded?
Answer: Code only the LAA, do not code any additional atrial fib procedures.

FAQ 06/2017: Pt with LAA tear secondary to lariat procedure performed in the Cath lab; rushed to surgery. Per OP note the following occurred: CPB via L femoral arterial and R venous cannulation switched to aortic cannulation after sternotomy laparotomy and evacuation of retroperitoneal hematoma repair of LAA tear which occurred during a lariat procedure primary repair of left femoral arterial puncture site. How is the LAA procedure coded?
Answer: Code other cardiac procedure; atrial appendage procedure, LAA only.

Seq. #: 4085
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**

FAQ: My surgeon places an epicardial lead via a mini thoracotomy in the OR when the electrophysiologist cannot place it during the generator change. How do I pick up this procedure done by my surgeon? He did NOT do the generator change. I have to mark arrhythmia correction surgery to open lead insertion, but he did not implant the defibrillator or PPM.
Answer: Code "No" for seq. # 4085 and "Yes" for seq. # 4090 if you capture these. It is not mandatory to capture stand-alone lead insertion.

FAQ 01/2017: Should isolated pacemakers or pacemaker revisions be included in the adult cardiac database?
Answer: No, include pacemakers only when inserted in conjunction with other cardiac procedures.

Seq. #: 4090
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.

FAQ: Our surgeon performed a left thoracotomy and epicardial lead placement for a pre -existing ICD. Does this get entered into the database? If so, how is it coded - as a Cardiac "Other" Procedure?
Answer: Yes – include case, seq. #4090, select left thoracotomy in seq. #2100, if you choose to collect these. **It is not mandatory to capture stand-alone lead insertion.**

Seq. #: 4095
Long Name: Other Card-Myocardial Stem Cell Therapy; **Short Name:** OCarStemCell
Definition: Indicate whether myocardial stem cell procedure was performed.
Intent/Clarification:

FAQ: If fat is suctioned from the abdomen for biobanking and stem cell harvesting should it be coded here?
Answer: No

Seq. #: 4100
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. #: 4105
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 inside the heart carry a higher risk than epicardial lesions and take the case out

of isolated risk models.

FAQ: Is there a specific number of lesion sets that qualifies the ablation as intracardiac?
Answer: 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. #: 4110
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:
(ASD) Defect of the atrial septum 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; its 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 venoatrial 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.

FAQ 01/2016: The patient had a VAD implanted. The ASD was not listed as a procedure on op. consent. So is this a "stand alone VAD" or "in conjunction with CV surg proc (same trip to OR) - unplanned"? Also, should we capture the ASD in section M. (training manual says when mitral valve proc is performed via trans-septal incision the closure of septum should not be coded as an ASD repair). Would this rule be applicable here (a subsequent admission)?
Answer: Code the unplanned procedure due to unsuspected disease or anatomy which will make it “Other”

Seq. #: 4120
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:
These include leads for pacemakers, implantable defibrillators or combination devices. Only capture lead extractions performed by a surgeon participating in the STS National Database. Do not capture if performed by a cardiologist. Lead extraction carries higher risk than insertion. It should be captured, even if it is a stand-alone procedure. If done in conjunction with another procedure, it will take the case out of isolated risk models.

- Yes, planned
- Yes, unplanned due to surgical complication
- Yes, unplanned due to unsuspected disease or anatomy
- No

Seq. #: 4125
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:

Seq. #: 4130
Long Name: Other Card-Pulmonary Thromboembolectomy; **Short Name:** OCPulThromDis
Definition: Indicate whether the patient had surgery for pulmonary thromboembolic disease.

Intent/Clarification:
Embolectomy and endarterectomy

- Yes, Acute
- Yes, Chronic
- No

FAQ: Is there a timeframe that differentiates acute and chronic thromboembolic disease?
Answer: Thromboembolectomy is usually performed for acute thromboembolic disease and thromboendarterectomy for chronic disease.

FAQ 01/2016: The patient that had a large clot removed from their left atrium and the clot extended into all pulmonary veins. Do I capture this as Pulmonary Thromboembolectomy-Chronic(4130) and do I capture the clot removal from the left atrium under other cardiac (4160) procedure?
Answer: Code the clot removal as other cardiac; this is not pulmonary thromboembolectomy.

Seq. #: 4135
Long Name: Other Card-Subaortic Stenosis Resection; **Short Name:** OCarSubaStenRes
Definition: Indicate whether resection of subaortic stenosis was performed.

Intent/Clarification: This is sometimes called 'septal myectomy'
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.

FAQ: Patient with hypertrophic obstructive cardiomyopathy had resection of hypertrophic septum. How is this coded?
Answer: Other cardiac procedure-subaortic stenosis resection.

FAQ: How is surgery on the LVOT coded?
Answer: Code subaortic stenosis resection.

Seq. #: 4140
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. #: 4145

Long Name: Other Card-Surgical Ventricular Restoration; **Short Name:** OCarSVR
Definition: Indicate whether the patient had a Surgical Ventricular Restoration (SVR) 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:

Seq. #: 4150
Long Name: Other Card-Tumor; **Short Name:** OCTumor
Definition: Indicate whether the patient had resection of an intracardiac tumor.

Intent/Clarification:
- Myxoma
- Fibroelastoma
- Hypernephroma
- Sarcoma
- Other
- No

FAQ: How should the excision of fibrous strands from the aortic valve described as fibroelastoma be coded?
Answer: Code as resection fibroelastoma only. Fibroelastoma can occur in other parts of the heart.

FAQ 07/2016: On my pre-op TEE: "Prominent Lambl's excrescence of the aortic valve. No aortic stenosis or regurgitation. Severe mid septal hypertrophy. Mild to moderate LV outflow tract obstruction at rest." Is this an “Other Tumor”?
Answer: Yes

Seq. #: 4152
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. #: 4153
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.

FAQ: Procedure-Redo median sternotomy, repair of stab wound to the right ventricle. The CV surgeon was not called in and the patient was not on bypass. The trauma surgeon did the case and the pt. coded and died during the procedure. Should I code this case in the adult cardiac surgery database?

Answer: Do not include case, the surgeon must be a participant in the Database to have cases included.

FAQ: Patient with a gunshot wound came through the ER and then to surgery. Gunshot was to the chest/abdomen hit the lung, diaphragm. They repaired the pericardium. “Pericardium was repaired with a suture”. Should this be in the database as other Cardiac or Other Non-cardiac?
Answer: Do not enter this case.

Seq. #: 4155
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. #: 4160
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: A patient was had a redo sternotomy with insertion of right atrial tunnel catheter for dialysis. Should this be included?
Answer: Yes, code other cardiac other.

FAQ: How do you code the insertion of a bare metal stent when the left main is obstructed by the Sapien TAVI?
Answer: Code as other cardiac other.

FAQ: Do we include lipoaspiration/stem cell harvest and mini-thoracotomy with intramyocardial stem cell transplant? –
Answer: No – Code in seq #4095.

FAQ: The patient had an emergency ascending aorta to left common carotid bypass and removal of foreign bodies (arterial stent and arterial filter) from the aortic arch and proximal left common carotid artery. How is this coded?
Answer: Code as other cardiac other.

FAQ: Is the patient with an upper sternotomy, aorto-innominate artery bypass for carotid stenosis included in the adult cardiac database?
Answer: These cases will not be analyzed but can be included for the purposes of tracking cases for your

surgeons.

FAQ 01/2016: During valve replacement, the surgeon experienced a re-entry injury to the SGV to the RCA, which was plastered to the posterior sternum crossing midline. Does unexpected repair of the RCA SGV count as an other cardiac procedure?
Answer: No, this is not other cardiac.

FAQ 01/2016: The patient had a large clot removed from the left atrium and the clot extended into all pulmonary veins. Do I capture this as Pulmonary Thromboembolectomy-Chronic (4130), and do I capture the clot removal from the left atrium under Other Cardiac (4160) procedure?
Answer: Code the clot removal as other cardiac; this is not pulmonary thromboembolectomy.

FAQ 01/2016: As a result of a PCI attempt complication, an "Iatrogenic right coronary artery dissection extending into the right coronary sinus", the patient was taken to OR for bypass of the RCA +/- repair of any dissection. Assessed Intraoperatively..."We could see that at the Right Coronary Ostium...an intimal hematoma had filled a little bit, but again there was no evidence of any intraluminal defect or tear. I decided to reinforce this area by performing what would normally be done to resuspend an actual dissected coronary sinus" (pledgeted sutures from inside the aorta....out through the aorta...then plegeted the outside and tied these down). Do I code as Other Cardiac--Other ??
Answer: Code as aortic dissection repair, root.

FAQ 09/2016: During an attempted stenting of a saphenous vein graft, the saphenous vein was ruptured. The patient was taken to the operating room where the stent was removed and the saphenous vein graft was repaired with a vein graft that was constructed between the two ends of the ruptured graft. Is this coded as a CAB?
No, code this case as Other Cardiac Other.

FAQ 10/2016: The patient has had a previous AVR and CAB presents with prosthetic valve dysfunction and new ascending and arch aneurysm. During the procedure, 2 previous vein graft proximals had to be moved in order to replace the ascending aorta. Is the re-implantation of the vein graft proximals considered an other cardiac procedure?
Answer: No, this re-implantation of the proximals is considered part of the procedure to replace the ascending aorta.

FAQ 01/2017: A CAB and muscle biopsy of right ventricle was performed. Is this other cardiac procedure?
Answer: No, this is an isolated CAB.

FAQ 01/2017: A patient underwent intracardiac and epicardial cryo ablation due to ventricular arrhythmias related to an LV aneurysm which was also repaired during the case. Should field 2145 be "yes" in order to be able to document the ablations even though this was not for atrial fib?
Answer: LVA + Other-cardiac-other. Do not capture this under the afib section.

FAQ 02/2017: A patient with severe endocarditis with aortic root, ventricle septal and right ventricle free wall abscesses. He had an AVR, aortic root replacement with reconstruction of RV and LV outflow tract with a RV free wall patch. How would I capture these procedures?
Answer: Replacement AV and major root reconstruction/debridement with valved conduit and capture other cardiac other.

FAQ 03/2017: An occluder device was previously used to repair an Aortic valve replacement perivalvular leak. It was not successful and pt came in to have it removed. On reop the Aortic valve itself was fine and only required a localized repair with suture but the occluder device was

removed. I captured the valve repair in Field 3395 and Field 3455, but would I capture the removal of the occluder device in sequence number 4160 as an Other Card-Other? If not, how best to capture this?
Answer: Do not code other cardiac other, code suture repair of the perivalvular leak only.

Seq. #: 4162
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:
Repair of cardiac defect or anomaly of a congenital nature present since birth.

Do not include bicuspid Aortic valve, PFO, ASD, or VSD as these are recorded elsewhere.

M1. Epicardial and Intracardiac Atrial Fibrillation Procedures

Seq. #: 4191
Long Name: Other Card-AFib Lesion Location; **Short Name:** OCarAFibLesLoc
Definition: Indicate the location of the majority of lesions created to treat atrial fibrillation.

Intent/Clarification:

- **Primarily epicardial**: (on the outside surface of the heart) procedure e.g., pulmonary vein isolation with or without connection to left atrial appendage.
- **Primarily intracardiac**: (inside the heart) e.g., Maze procedures; lesions to mitral annulus; etc. The intracardiac procedure carries a higher risk and when done in conjunction with CABG surgery would remove the patient from analysis as an "Isolated CABG".

FAQ: When the surgeon only documents Cox IV Maze, how should the lesions be documented?
Answer: Discuss with your surgeon and prepare a document on how the surgeon routinely performs the Maze and use that as the method for coding the lesions when your surgeon documents only Cox IV Maze.

FAQ 07/2016
Coding epicardial PVI and LAA should include coding yes in sequence numbers 2140 Other Cardiac Procedures, 2145 Other Cardiac Procedures-AFib, 4070 AFib Epicardial lesions, 4080 Atrial Appendage procedure-LAA, 4191 Lesion location-primarily epicardial, 4250 Pulmonary Vein Isolation, and 4285 LAA Ligation/Removal.

FAQ 06/2017: Is there a specific number of lesion sets that qualifies the ablation as intracardiac?
Answer: 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. #: 4195
Long Name: Other Card-Lesions Documented; **Short Name:** OCarLesDoc
Definition: Indicate whether the lesions created during the atrial fibrillation surgery are documented.

Intent/Clarification:

- Yes – there is documentation of lesion lines
- No – documentation is not available for the lesion lines used in the ablation procedure. By entering "no" you cannot enter information in seq. #s 4200-4215.

Seq. #: 4200
Long Name: Other Card-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 AF pathways. These probes can be applied to either endocardial or epicardial heart surfaces to create transmural linear lesions that block atrial conduction.

Seq. #: 4205
Long Name: Other Card-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:**

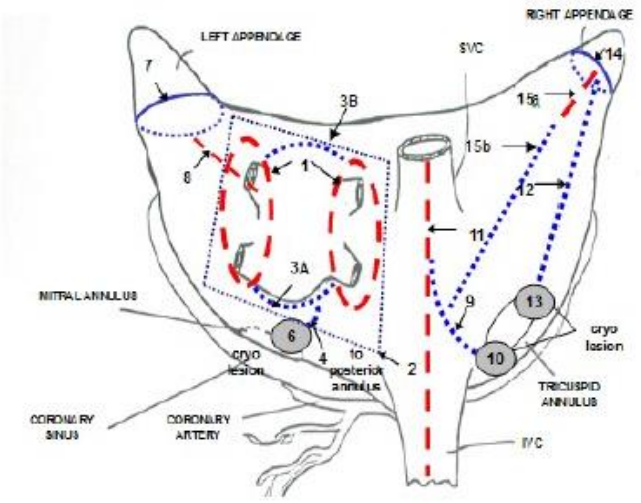
Seq. #: 4210
Long Name: Other Card-Atrial Fibrillation Surgical Procedure-Method of Lesion Creation - Cut-And-Sew;
Short Name: OCarAFibMethCAS

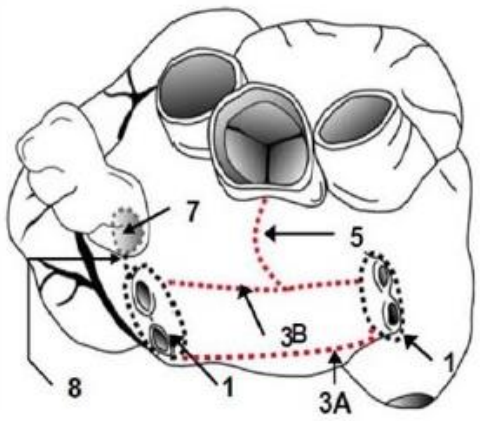
Definition: Indicate whether the method used to create the lesion(s) for the AFib ablation procedure included cut-and-sew.

Intent/Clarification:
Incisions are made in heart tissue with a scalpel and repaired with suture. The resulting scar tissue leads to conduction block.

Seq. #: 4215
Long Name: Other Card-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 AFib ablation procedure included cryoablation.

Intent/Clarification:
Cryoablation is performed with a nitrous oxide cooled probe that when applied to atrial tissue, produces transmural lesions that block atrial conduction.





Lesions: (check all that apply ↓)

☐	1	Pulmonary Vein Isolation AFibLes1 (4250)	☐	9	Intercaval Line to Tricuspid Annulus ("T" lesion) AFibLes9 (4295)
☐	2	Box Lesion AFibLes2 (4255)	☐	10	Tricuspid Cryo Lesion, Medial AFibLes10 (4300)
☐	3a	Inferior Pulmonary Vein Connecting Lesion AFibLes3a (4260)	☐	11	Intercaval Line AFibLes11 (4305)
☐	3b	Superior Pulmonary Vein Connecting Lesion AFibLes3b (4265)	☐	12	Tricuspid Annular Line to RAA AFibLes12 (4310)
☐	4	Posterior Mitral Annular Line AFibLes4 (4270)	☐	13	Tricuspid Cryo Lesion AFibLes13 (4315)
☐	5	Pulmonary Vein Connecting Lesion to Anterior Mitral Annulus AFibLes5 (4275)	☐	14	RAA Ligation/Removal AFibLes14 (4320)
☐	6	Mitral Valve Cryo Lesion AFibLes6 (4280)	☐	15a	RAA Lateral Wall (Short) AFibLes15a (4325)
☐	7	LAA Ligation/Removal AFibLes7 (4285)	☐	15b	RAA Lateral Wall to "T" Lesion AFibLes15b (4330)
☐	8	Pulmonary Vein to LAA AFibLes8 (4290)	☐	16	Other AFibLes16 (4335)

Seq. #: 4250
Long Name: AFib Lesion Location - Pulmonary Vein Isolation; **Short Name:** AFibLes1
Definition: Indicate whether the afib lesion was pulmonary vein isolation.

FAQ 07/2016
Coding epicardial PVI and LAA should include coding yes in sequence numbers 2140 Other Cardiac Procedures, 2145 Other Cardiac Procedures-AFib, 4070 AFib Epicardial lesions, 4080 Atrial Appendage procedure-LAA, 4191 Lesion location-primarily epicardial, 4250 Pulmonary Vein Isolation, and 4285 LAA Ligation/Removal.

Seq. #: 4255
Long Name: AFib Lesion Location - Box Lesion; **Short Name:** AFibLes2
Definition: Indicate whether the afib lesion was a box lesion

Intent/Clarification: See pictures above, numbers correspond with number in the short name.

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: See pictures above, numbers correspond with number in the short name.

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: See pictures above, numbers correspond with number in the short name.

Seq. #: 4270
Long Name: AFib Lesion Location - Posterior Mitral Annular Line; **Short Name:** AFibLes4
Definition: Indicate whether the afib lesion was a Posterior Mitral Annular Line

Intent/Clarification: See pictures above, numbers correspond with number in the short name.

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: See pictures above, numbers correspond with number in the short name.

Seq. #: 4280
Long Name: AFib Lesion Location - Mitral Valve Cryo Lesion; **Short Name:** AFibLes6
Definition: Indicate whether the afib lesion was a Mitral Valve Cryo Lesion

Seq. #: 4285
Long Name: AFib Lesion Location - LAA Ligation/Removal
Short Name: AFibLes7
Definition: Indicate whether the left Atrial Appendage was ligated or removed

Intent/Clarification: See pictures above, numbers correspond with number in the short name.

FAQ 07/2016
Coding epicardial PVI and LAA should include coding yes in sequence numbers 2140 Other Cardiac Procedures, 2145 Other Cardiac Procedures-AFib, 4070 AFib Epicardial lesions, 4080 Atrial Appendage procedure-LAA, 4191 Lesion location-primarily epicardial, 4250 Pulmonary Vein Isolation, and 4285 LAA Ligation/Removal.

Correction
FAQ 10/2016: The patient is scheduled for Maze and LAA procedures in conjunction with CAB. The Maze procedure was aborted, how is the LAA coded?
Answer: Code only the LAA, do not code any additional atrial fib procedures.

Seq. #: 4290
Long Name: AFib Lesion Location - Pulmonary Vein to LAA; **Short Name:** AFibLes8
Definition: Indicate whether the afib lesion was a Pulmonary Vein to LAA lesion

Intent/Clarification: See pictures above, numbers correspond with number in the short name.

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: See pictures above, numbers correspond with number in the short name**.**

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: See pictures above, numbers correspond with number in the short name.

Seq. #: 4305
Long Name: AFib Lesion Location - Intercaval Line; **Short Name:** AFibLes11
Definition: Indicate whether the afib lesion was an Intercaval Line

Intent/Clarification: See pictures above, numbers correspond with number in the short name.

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: See pictures above, numbers correspond with number in the short name.

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: See pictures above, numbers correspond with number in the short name.

Seq. #: 4320
Long Name: AFib Lesion Location - RAA Ligation/Removal; **Short Name:** AFibLes14
Definition: Indicate whether the Right Atrial Appendage was ligated or removed

Intent/Clarification: See pictures above, numbers correspond with number in the short name.

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: See pictures above, numbers correspond with number in the short name.

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: See pictures above, numbers correspond with number in the short name.

Seq. #: 4335
Long Name: AFib Lesion Location - Other; **Short Name:** AFibLes16
Definition: Indicate whether the afib lesion was a lesion other than those previously described

Intent/Clarification: See pictures above, numbers correspond with number in the short name.

M2. Aortic Procedures

Seq. #: 4340
Long Name: Aortic Procedure Location - Root; **Short Name:** AortProcRoot
Definition: Indicate whether the aortic procedure location involved the aortic root.

Intent/Clarification:
The aortic root is the portion of the ascending aorta beginning at the aortic annulus and extending to the sinotubular junction, includes area between each commissure of the aortic valve and opposite the cusps of the aortic valve, three small dilatations called the aortic sinuses. The sinotubular junction is the point in the ascending aorta where the aortic sinuses end and the aorta becomes a tubular structure.

FAQ: AVR + Primary Closure of Aortic Root Abscess. Should the closure of the abscess be collected as Ao Procedure: Root: Other Aortic Surgery?
Answer: This should be kept as an isolated AVR.

Seq. #: 4345
Long Name: Aortic Procedure Location - Ascending
Short Name: AortProcAsc
Definition: Indicate whether the aortic procedure location involved the ascending aorta.

Intent/Clarification:
This includes the area between the sinotubular junction and the origin of the innominate artery. This also includes a "hemiarch" replacement, a Wheat procedure, valve-sparing root reimplantation and remodeling operations.
If the ascending aorta was replaced with a Dacron or gel weave graft, record as "yes" and also go to AVR section and record device model, size, etc.

Seq. #: 4350
Long Name: Aortic Procedure Location - Hemi-Arch
Short Name: AortProcHemi
Definition: Indicate whether the aortic procedure location involved the hemi arch
Intent/Clarification:

Seq. #: 4355
Long Name: Aortic Procedure Location - Total Arch
Short Name: AortProcTotArch
Definition: Indicate whether the aortic procedure location involved the total arch
Intent/Clarification:

Seq. #: 4360
Long Name: Aortic Procedure Location - Descending - Proximal
Short Name: AortProcDesProx
Definition: Indicate whether the aortic procedure location involved the proximal descending aorta.
Intent/Clarification:

Seq. #: 4365
Long Name: Aortic Procedure Location - Descending - Mid
Short Name: AortProcDesMid
Definition: Indicate whether the aortic procedure location involved the mid descending aorta.

Intent/Clarification:

Seq. #: 4370
Long Name: Aortic Procedure Location - Descending - Distal

Short Name: AortProcDesDist
Definition: Indicate whether the aortic procedure location involved the distal descending aorta.
Intent/Clarification:

Seq. #: 4375
Long Name: Aortic Procedure Location - Thoracoabdominal
Short Name: AortProcThora
Definition: Indicate whether the aortic procedure location involved the thoracoabdominal aorta.

Intent/Clarification: Thoracoabdominal aneurysms can involve the entire thoracoabdominal aorta from the origin of the left subclavian artery to the aortic bifurcation or can involve one or more segments of the abdominal aorta.

Seq. #: 4380
Long Name: Aortic Procedure Synthetic Graft Used **Short Name:** SynthGft
Definition: Indicate whether a synthetic graft was used in the aortic procedure.

Intent/Clarification:
Repair of thoracoabdominal aneurysms involves replacement of sections of the aorta with grafts.

FAQ: Is TEVAR always a synthetic graft?
Answer: No, code TEVAR only; do not code synthetic graft.

Seq. #: 4385
Long Name: Aortic Procedure Synthetic Graft Type - Intercostal Vessels Re-implanted
Short Name: SynthGftInter
Definition: Indicate whether intercostal vessels were reimplanted in conjunction with use of the synthetic graft.

Intent/Clarification:
Repair of thoracoabdominal aneurysms involves replacement of the aorta in those segments where major arterial branches supply vital organs. Thus, very specialized techniques are required in order to protect those organs during repair, including distal aortic perfusion and intercostal artery reimplantation.

Seq. #: 4390
Long Name: Aortic Procedure Synthetic Graft Type - CSF Drainage Utilized
Short Name: SynthGftCSF
Definition: Indicate whether Cerebrospinal fluid drainage was utilized in conjunction with use of the synthetic graft.

Intent/Clarification:

Seq. #: 4395
Long Name: Aortic Procedure Synthetic Graft Type - Elephant Trunk
Short Name: SynthGftEleph
Definition: Indicate whether an ‘elephant trunk’ synthetic graft was utilized.

Intent/Clarification:

Seq. #: 4400
Long Name: Coil Embolization of Aortic False Lumen; **Short Name:** AortProcCoil
Definition: Indicate whether a coil embolization of the false lumen was performed.

Intent/Clarification:

Seq. #: 4405
Long Name: Aortic Procedure TEVAR; **Short Name:** AortProcTEVAR
Definition: Indicate whether the aortic procedure was a thoracic endovascular aneurysm repair (TEVAR).

Intent/Clarification:

- Yes, with debranching
- Yes, without debranching
- No

References: http://circ.ahajournals.org/cgi/content/full/117/17/2288 ,
http://findarticles.com/p/articles/mi_7453/is_200701/ai_n32215305/

FAQ: The patient had a carotid-subclavian bypass the day before an endovascular repair of the arch & thoracoabdominal aorta. How do I code this?
Answer: The endovascular procedure is the primary case to capture; the initial procedure is part of the TEVAR and does not get coded separately or as a previous CV intervention or cerebrovascular disease.

Seq. #: 4410
Long Name: Aortic Procedure - Other; **Short Name:** AortProcOther
Definition: Indicate whether the aortic procedure was a procedure other that those previously described.

Intent/Clarification:

M3. Congenital Defect Repair

Seq. #: 4500
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:
http://www.sts.org/sites/default/files/documents/STSCongenitalDiagnosesProceduresLists_V2_73_0.pdf

FAQ: The patient was found to have cor triatriatum in the OR, which was resected. How is this captured?
Answer: This is coded as other cardiac congenital; diagnosis 1, code 250.

FAQ 01/2017: If patient has no coronary artery disease and is having CAB for an anomalous LAD, is this case included in the Isolated CAB category? Is this counted in use of LIMA if there is technically no LAD disease to bypass?
Answer: If only anomalous vessel CABG, then this should be congenital procedure, not ISOCAB.

If in conjunction with other atherosclerotic vessels, then it is an ISOCAB only. IMA exclusion would be due to no LAD disease.

Seq. #: 4505
Long Name: Other Card-Congenital Diagnosis 2; **Short Name:** OCarCongDiag2
Definition: Indicate the second of the three most significant congenital diagnoses.

A comprehensive list of diagnoses is available at:
http://www.sts.org/sites/default/files/documents/STSCongenitalDiagnosesProceduresLists_V2_73_0.pdf

Seq. #: 4510
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:
http://www.sts.org/sites/default/files/documents/STSCongenitalDiagnosesProceduresLists_V2_73_0.pdf

Seq. #: 4515
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:
http://www.sts.org/sites/default/files/documents/STSCongenitalDiagnosesProceduresLists_V2_73_0.pdf

Seq. #: 4520
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:
http://www.sts.org/sites/default/files/documents/STSCongenitalDiagnosesProceduresLists_V2_73_0.pdf

Seq. #: 4525
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:
http://www.sts.org/sites/default/files/documents/STSCongenitalDiagnosesProceduresLists_V2_73_0.pdf

N. Other Non-Cardiac Procedures

Seq. #: 4530
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. 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

Example: If a planned carotid endarterectomy is done in the same OR session as a CABG, code the procedure as a CABG + Planned Carotid Endarterectomy (CABG + Other Non-Cardiac-Carotid

Endarterectomy).

Seq. #: 4535

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 IABP insertion would not fall into this category. It would be recorded in the Mechanical Cardiac Assist Device section (L2).

- Yes, planned
- Yes, unplanned due to surgical complication
- Yes, unplanned due to unsuspected disease or anatomy
- No

FAQ: Would a plication of pulmonary artery aneurysm be considered Other Non-Cardiac: Other Vascular?

Answer: No, code this as Other, Cardiac, Other which includes the heart and great vessels.

FAQ: During a CAB they did a percutaneous insertion of a left femoral intra-aortic balloon pump and repair of the (previous) right femoral artery intra-aortic balloon pump site. The previous IABP was removed three days prior to OR. Is this a non-cardiac procedure/other vascular? Is this coded as an unplanned procedure?
Answer: No, code this as an isolated CAB with IABP insertion.

FAQ: When the patient has a vascular procedure done at the same time as a cardiac procedure but is performed by a vascular surgeon, is it included as part of the procedure?
Answer: Yes, include the vascular procedure.

FAQ 11/2016: While the patient was still in the operating room, he was noted to have a cold right arm while taking off the drapes. The patient required mechanical thrombectomy and repair of the radial artery. Is this an additional procedure or is it coded as a complication?
Answer: It is not a complication as the patient was still in the operating room. The patient did require an additional procedure but it is considered a surgical complication and should be coded as Op Other-Non Cardiac – Vascular due to surgical complication. This case will remain an isolated procedure.

FAQ 05/2017: Patient underwent CAB x 1 to RCA and Innominate Artery bypass grafting w/ Dacron Hemashield tube graft for innominate stenosis...what field is the Innominate bypass captured in?
Answer: Code the innominate bypass as other non-cardiac vascular.

Seq. #: 4540

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 bio~~psy, lung resection, mediastinal mass and/or lung dissection.

Intent/Clarification:

This includes, but is not limited to, ~~open lung bi~~opsy, lung resection, mediastinal mass and/or lung dissection.

- Yes, planned
- Yes, unplanned due to surgical complication
- Yes, unplanned due to unsuspected disease or anatomy

- No

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

FAQ 03/2017: How would I code resection of mediastinal mass with total Thymectomy, done in conjunction with CAB? Path reported Castleman Disease, mass seemed to originate in L Thymus. Would I code in "Other Non Card-Other Thor" as well as "Other Card-Tumor” done in conjunction with a CAB?
Answer: While removing the thymus might add some time to the procedure, it should not be coded as an "Other Non Card-Other Thor" procedure, nor should it be coded as “Other Card – Tumor”. This should remain an isolated CAB.

Seq. #: 4545
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

Example: A surgeon performs an open reduction internally fixation of the sternum with sternal plating and CABG: Do not code as “Other Non-Cardiac: Other”; -this should be coded as an isolated CAB. The sternal fixation does not impact the patient’s outcome.

O. Post-Operative

Seq. #: 4550
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.

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 in 18 – 24 hours of **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. #: 4555

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:

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: http://ccforum.com/content/8/4/R204

Seq. #: 4560

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 reoperative surgery.

Intent/Clarification:

To track postoperative blood utilization. Blood products refer to, RBC (includes whole blood), FFP, Cryo, and Platelets.

Do NOT include:

- Pre-donated autologous blood
- Cell saver blood
- Pump residual blood
- Chest tube re-circulated blood

Example: Blood products given during Any Reoperation should be included in the Postoperative section.
A patient is admitted for hip replacement after a fall and is found to have had an MI and requires a CAB prior to the hip surgery: Count all the blood products the patient receives during the postoperative hospitalization.

Seq. #: 4565
Long Name: Blood Prod - RBC Units; **Short Name:** BdRBCU
Definition: Indicate the number of units of packed red blood cells (includes whole blood) that were transfused any time postoperatively.
Do not include autologous, cell-saver or chest tube recirculated blood.

Intent/Clarification:
To track postoperative blood utilization.

Seq. #: 4570
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:
To track postoperative blood product utilization

Seq. #: 4575
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:
To track postoperative blood product utilization. One bag of cryo = one unit.
The number of units is not volume dependent.

Seq. #: 4580
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:
To track postoperative blood product utilization.

Single Donor Platelets (SDP) or Platelet Pheresis: Count as one unit. One unit is comprised of platelets derived from a single donor. The number of units coded is not volume dependent. Pooled platelets or dose packs are counted as one unit.

Seq. #: 4585
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

Seq. #: 4590

Long Name: Re-intubated During Hospital Stay; **Short Name:** ReIntub

Definition: Indicate whether the patient was reintubated during the hospital stay after the initial extubation. This may include patients who have been extubated in the OR and require intubation in the postoperative period.

Intent/Clarification:

Example #1: ICU patient extubated, returned to the OR, was intubated and extubated in the OR. Do not count this OR Reop intubation as a re-intubation since this was procedural and not due to respiratory failure.

Example # 2: ICU patient extubated, returned to the OR, was intubated, returned to the ICU intubated. Code this as "yes" re-intubated since the need for intubation extended beyond the procedure.

Example # 3: Patient self-extubated but is immediately re-intubated. Do not code as re-intubation during hospital stay.

FAQ 12/16: Pt self-extubated and then must be re-intubated. What is the time cutoff for the "immediate?" For instance, 20 mins?
Answer: Can technically code either way, but make sure to remove the 20 mins from the total time.

Seq. #: 4595

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 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.

If reintubated during the current hospital stay, this value is used in the calculation to determine prolonged ventilation.

FAQ 01/2016: Post op: Pt extubated, reintubated, then trached. Once trached, she changes multiple times between assist-control ventilation, and CPAP mode. We use the vent for CPAP, rather than having two machines in the room. Do we only count hours on AC mode, or do we also include hours on CPAP?
Answer: Count all the hours the patient requires mechanical ventilation.

Seq. #: 4600

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 + 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.

Total hours ventilated is not connected to the field prolonged ventilation. The site is responsible to confirm the total number of hours ventilated at the site prior to coding prolonged ventilation. Do not assume that the total hours are valid.

FAQ: (This was discussed at AQO 2014- the calculation is for site use). STS wants data managers to continue counting hours manually, and use our count, not the rounded count in this field).

Seq. #: 4605
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 unit and other similar critical care environments. Do not include PACU if only used for Phase I recovery, do include PACU if used as a critical care unit when ICU bed not available.

Use the time the patient physically leaves the ICU. Using the time of transfer orders misrepresents actual ICU time.

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. ICU hours begin when the patient arrives in the ICU or your institutions equivalent to an ICU and end when they leave.

Seq. #: 4610
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:
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. ICU hours begin when the patient arrives in the ICU or your institutions equivalent to an ICU and end when they leave. If patient expires, use the date/time on the death certificate (time pronounced dead).

THE ONLY WAY TO OBJECTIVELY COUNT ICU TIME IS TO COUNT THE ACTUAL TIME THE PATIENT LEAVES THE ICU.

This time will be calculated from the OR Exit Date and Time.

Seq. #: 4615
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 for single stay units.

Intent/Clarification:
The intent is to capture episodes of patient deterioration necessitating a higher level of care.

Seq. #: 4620
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.

Seq. #: 4625
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 echos performed after the patient leaves the operating room but prior to hospital discharge. Code the exam closest to discharge.

Seq. #: 4630
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 echo exams 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 = 0
- Trace/trivial = 1+
- Mild = 2+
- Moderate = 3+
- Severe = 4+
- Not Reported

Seq. #: 4635
Long Name: Postop Echo Mitral Insufficiency; **Short Name:** POpTTMR
Definition: Indicate the highest 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 echo exams 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 = 0
- Trace/trivial = 1+

- Mild = 2+
- Moderate = 3+
- Severe = 4+
- Not Reported

Seq. #: 4640
Long Name: Postop Echo Tricuspid Insufficiency; **Short Name:** POpTTTR
Definition: Indicate the highest 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 echo exams 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 = 0
- Trace/trivial = 1+
- Mild = 2+
- Moderate = 3+
- Severe = 4+
- Not Reported

Seq. #: 4645
Long Name: Postop Echo Pulmonic Insufficiency; **Short Name:** POpTTPu
Definition: Indicate the highest 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 echo exams 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 = 0
- Trace/trivial = 1+
- Mild = 2+
- Moderate = 3+
- Severe = 4+
- Not Reported

Seq. #: 4650
Long Name: Postop EF Done; **Short Name:** POpEFD
Definition: Indicate whether the Ejection Fraction was measured postoperatively.

Intent/Clarification:
Not all patients are expected to have post-operative EF performed.

Seq. #: 4655
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.
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%).

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%). The following guideline is to be used when the EF is not documented as a

percentage; but rather, the EF is documented using a word descriptor:

- Normal = 60%
- Good function = 50%
- Mildly reduced = 45%
- Fair function = 40%
- Moderately reduced = 35%
- Poor function = 25%
- Severely reduced = 20%

Note: If no diagnostic report specifying an EF is in the medical record, a value documented in the progress record is acceptable.

Seq. #: 4660

Long Name: Postop Cardiac Enzymes Drawn; **Short Name:** POpEnzDrawn
Definition: Indicate whether Cardiac Enzymes (biomarkers) were drawn post procedure.

Intent/Clarification:
Capture 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. #: 4665
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.

Seq. #: 4670
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.

Seq. #: 4675
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.

Seq. #: 4680
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 Pathological Q Wave or LBBB
- New STEMI
- Other
- NA (no pre-op EKG for comparison, transplant) Arrhythmias are not captured here.

FAQ: How should a new RBBB be coded?
Answer: Code “other” as this could be from cannulation, trauma or inadequate protection of the right side of the heart.

FAQ: Should EKG findings on a transplanted heart be coded?
Answer: No- code as NA

FAQ 01/2016: Pre op EKG 8/25: "A. fib. Abnormal EKG". EKG prior to DC: "Possible inferior infarct, age undetermined. Anterior infarct (cited on/before 8/25). Abnormal EKG. When compared with EKG 8/25, sinus rhythm has replaced A. fib".
Do I code this as "New ST-T changes" or "Other"?
Answer: Neither. You do not have concrete evidence of MI.

Seq. #: 4685
Long Name: Postop Imaging Study; **Short Name:** POpImagStdy
Definition: Indicate the post procedure imaging study findings, if performed.

Intent/Clarification:
This does not imply that post op imaging is expected to be performed on all patients; the intent is to capture results if an exam was performed. Studies may include echo, cardiac cath, CT, MRI (does not include CXR). If more than one study is done following surgery, capture the last one done prior to discharge.

- Not performed
- Angiographic evidence of new thrombus or occlusion of graft or native coronary vessel
- Imaging evidence of new loss of viable myocardium
- No evidence of new myocardial injury
- Other

FAQ 01/2016: The verbiage on the data collection form states "Imaging Study for Myocardial Injury." This content is not present in the definition. Are we abstracting this element only if there is suspicion of an MI post op and that is why the imaging is ordered? Or is this element capturing imaging, regardless of reason?
Answer: Regardless of the reason.

P. Post-Operative Events

FAQ: The patient undergoes an emergent salvage CAB. The patient is taken from the OR to another facility following the procedure for IMPELLA, how do you capture post operative events?
Answer: Code NO

Seq. #: 4690
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 or any time during the hospitalization for surgery. Refer to the most current CDC definition for SSI which can be found in the training manual
Intent/Clarification:
See definitions below for each SSI type.

Superficial Incisional SSI

Must meet the following criteria:

1) Infection occurs ≤ 30 days, **and** involves only skin/subcutaneous tissue of the incision, **and** patient has ≥ one of the following:
   a) purulent drainage from the superficial incision.
   b) organisms isolated from an aseptically-obtained culture of fluid or tissue from the superficial incision.
   c) 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:
      i) pain or tenderness;
      ii) localized swelling;
      iii) redness;
      iv) or heat.
      v) A culture negative finding does not meet this criterion.
   d) diagnosis of a superficial incisional SSI by the surgeon or attending physician or other designee. There are two specific types of superficial incisional SSIs:
      i.) 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)
      ii.) 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:

1) 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:
   a) purulent drainage from the deep incision.
2) 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:
   a) fever (>38°C);
   b) localized pain or tenderness.
   c) A culture- negative finding does not meet this criterion.
   d) 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.
3) There are two specific types of deep incisional SSIs:
   a) 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)
   b) 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:

1) 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:
   a) purulent drainage from a drain that is placed into the organ/space
   b) organisms isolated from an aseptically-obtained culture of fluid or tissue in the organ/space

c) 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

1) Mediastinitis must meet at least *1* of the following criteria:
   a) Patient has organisms cultured from mediastinal tissue or fluid obtained during an invasive procedure.
   b) Patient has evidence of mediastinitis seen during an invasive procedure or histopathologic examination.
   c) Patient has **at least 1** of the following signs or symptoms:
      i) fever (>38°C),
      ii) chest pain*,
      iii) sternal instability*

      and at least 1 of the following:
         (1) purulent discharge from mediastinal area
         (2) organisms cultured from blood or discharge from mediastinal area
         (3) 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 01/2016: When the patient is discharged to an Other Acute Care Hospital for higher level of care capture infections that occur within 30 days of surgery.

FAQ 08/2016: The patient was discharged on 6/14/16 following an uneventful hospital stay. On 6/26/16 he was admitted to a local hospital with left sided weakness and visual changes, diagnosed as a TIA. On 6/27/16 serosanguinous drainage was noted from the sternal wound, culture positive for staph. He was transferred to the hospital where the index procedure was performed for intervention. Is the readmission reason TIA or sternal wound infection?
Code the readmission reason as TIA, that is the reason the patient returned to the hospital; you must also code the infection as a surgical site infection within 30 days in sequence number 4690 and any additional infection fields that may apply.

Seq. #: 4695
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. #: 4700
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:
The STS Composite scores weigh deep sternal wound infection and mediastinitis the same.

Seq. #: 4705
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:

Seq. #: 4710
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:

Seq. #: 4715
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.

Seq. #: 4720
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. These are considered secondary surgical site infections since they do not involve the primary surgical incision. Follow CDC criteria above.

Seq. #: 4725
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.
Time Frame: within 30 days following procedure

Seq. #: 4730
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. #: 4735
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:
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; granulation tissue formation; and wound closure.

Seq. #: 4740
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:

Seq. #: 4745
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:

Seq. #: 4750
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”.

Seq. #: 4755
Long Name: Post-Op-ReOp Bleed; **Short Name**: COpReBld
Definition: Indicate whether the patient was reexplored 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.

~~Please note that all other reop fields do require a return to an OR suite to capture as a complication.~~

Seq. #: 4760
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

FAQ 01/2016: The patient returned to the OR for postoperative mediastinal exploration for bleeding < 24 hrs postoperative, and then again > 24 hrs postoperative. On the second postoperative exploration a massive R hemothorax was evacuated. Do I code the "Bleeding time" sequence #4760 as Acute or Late? Would I also code Reop for Other Non-Cardiac Reasons "Yes" for the massive R hemothorax that was evacuated on the 2nd exploration?
Answer: Code reop for bleeding only once and acute. Do not code the second reoperation to evacuate the hemothorax.

Seq. #: 4765
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

Example: We had a Transfemoral TAVR case of a Sapien Valve. The patient later developed worsening of his perivalvular leak and was taken back to the Hybrid OR by our surgeon and cardiologist team for balloon valvuloplasty of his aortic valve; this only improved the severe leak to a moderate leak. Should this be coded as an Other Cardiac Reop or Reop for Valvular Dysfunction given it was only a BAV?
Answer: Code reoperation for valvular dysfunction.

Seq. #: 4770
Long Name: Post-Op-Reintervention-Graft Occlusion; **Short Name:** COpReGft
Definition: Indicate whether the patient returned to the operating room or the cath lab for intervention of coronary graft occlusion due to acute closure, thrombosis, technical or embolic origin.

Intent/Clarification:
Only capture surgical or cath lab interventions that occur during the hospitalization.

- Yes, surgical
- Yes, PCI
- No

FAQ: Previously, only returns to the OR were counted as reoperation. Are cath lab procedures for graft occlusion now counted?
Answer: Yes, if PCI was performed for graft occlusion due to thrombosis, acute closure, emboli or technical issues.

This also applies to native artery or graft occlusion as a complication of valve surgery. It's not just a CABG complication.

FAQ: The patient after a CAB requires a return to the cath lab for an intervention in the *native* coronary artery, is this coded as Reop graft occlusion?
Answer: NO, this should be coded as Reop Other Cardiac. If a *native* vessel requires intervention or reintervention post op, code as Reop Other Cardiac, since this is different from graft occlusion.

FAQ 03/2017: We have a patient who went to the cath lab emergently after CABG (within a couple hours) d/t STEMI. It was found that both of the patient's bypass grafts were occluded and the patient underwent PCI. There was also an occlusion within the native artery and distal to the LAD graft that had occluded and PCI was performed there as well. I have coded BOTH Re-op Graft Occlusion and Re-Op Other Cardiac Reason.
Answer: You can only choose one, choose the reason that seems most significant.

Seq. #: 4775
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.

FAQ: The patient had cardiac arrest and returned to the OR for a re-exploration, cardiac massage, and cardioversion. There was no active hemorrhage present. Once pulse was restored the patient left the OR with open chest. Two days later he returned for delayed sternal closure. Do I code the delayed sternal closure if it wasn't after the initial surgery? How do I code the return to OR, re op other cardiac reason?
Answer: Do not code delayed sternal closure since it followed the re- exploration. Code re-op Other Cardiac reasons

FAQ 07/2016 FAQ: The patient has an isolated CAB and returns to the OR for VA ECMO via sternotomy 3 days later. Should this be coded as postoperative mechanical assist device or is it just reop other cardiac?
Answer: Code mechanical assist device ECMO initiated postop in sequence number 3780. Do not code reop other cardiac.

FAQ: The patient after a CAB requires a return to the cath lab for an intervention in the native coronary artery, is this coded as reop graft occlusion?
Answer: NO, this should be coded as reop other cardiac.
FAQ: Is a trip to the cath lab for percutaneous PFO closure to be collected as Reop Other Cardiac?
Answer: No.

CORRECTION
FAQ 10/2016: Following surgery the patient is reintubated due to respiratory distress TEE bubble test shows right to left shunt. The patient is taken to the cath lab for percutaneous closure of PFO; how is this captured in post operative events?
Answer: Code reop other cardiac.

FAQ: Is a trip to the cath lab for SVC syndrome angioplasty considered a return to the OR?
Answer: No.

FAQ 07/2016 If the patient returns to the operating room for the removal of an IABP is that at reoperation other cardiac?
No, do not code reop other cardiac.

FAQ 09/2016: Should a return to the cath lab for Afib ablation be coded as a reoperation other cardiac?
No code only as post operative event atrial fibrillation.

FAQ 03/2017: We have a patient who went to the cath lab emergently after CABG (within a couple hours) d/t STEMI. It was found that both of the patient's bypass grafts were occluded and the patient underwent PCI. There was also an occlusion within the native artery and distal to the LAD graft that had occluded and PCI was performed there as well. I have coded BOTH Re-op Graft Occlusion and Re-Op Other Cardiac Reason.
Answer: You can only choose one, choose the reason that seems most significant.

FAQ 05/2017: Should return to the OR for the removal of a Swan Ganz catheter that was sewn in during the cannulation be coded as reop other cardiac or reop other non-cardiac?
Answer: Code reop other cardiac.

Seq. #: 4780
Long Name: Post-Op-ReOp Other Non Card; **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:

Events captured here are not included in the reop measure of the composite score.
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.

A patient who is scheduled for lower extremity vascular surgery requires a CAB prior to the scheduled vascular procedure: Code “No”; this is a plan, not a complication, coding it as a complication misrepresents the outcome of the surgery.

FAQ: The patient self-extubates and due to difficulty reintubating the patient returns to the OR . Does this count as Reop Other Non-cardiac?
Answer: No, do not code as a reoperation.

FAQ 09/2016: How is the dehiscence of a mini thoracotomy incision coded? The patient returned to the operating room when the incision dehisced while coughing.
Do not code as sternal dehiscence, code as Re-Op for Other Non Cardiac Reasons.

FAQ 09/2016: On POD# 1 the patient has a large pleural effusion/hemothorax for which a chest tube was inserted with no improvement. The patient was taken to the OR on POD #6 for a VATS procedure and drainage of the hemothorax. How should this be coded?
Code ReOp for Other Non-Cardiac Reasons. Also code pleural effusion requiring drainage.

FAQ 09/2016: We have a patient who required an external iliac stent graft due to left peritoneal hemorrhage after IABP removal. Would this be documented as a postop event and, if so, where would be the best place to document this. I do not see them state that patient had dissection or limb ischemia. The discharge summary states: It was determined that she should have IABP placed by cardiology that evening. This was maintained until postop day 2 at which point her pressor and inotropic support was back to off sufficiently as to wean the balloon pump and ultimately remove it. Following this she had a significant drop in blood pressure and some decreased mental status. There was concern for bleeding at the removal site and vascular surgery was consulted who repaired the common iliac vessel rent with left EIA stent graft."
Should this be coded as reop other non cardiac?
Code Reop other non-cardiac and the complications related to Mechanical Assist Devices – Cannula/Insertion site issue.

FAQ 02/2017: Do I code as reop other when patient goes back to cath lab following a TEVAR for a repair of an endo leak distal to the previous TEVAR?
Answer: Code reop other non cardiac for the repair of the endo leak.

FAQ 04/2017: The original procedure was the repair of ascending aortic pseudoaneurysm, replacement of ascending aorta, total aortic arch replacement with reimplantation of the innominate, left common carotid and left subclavian arteries. The MD writes in his op notes that due to the amount of time, he elected to not place an elephant trunk rather a distal septectomy was done. They did the thoracic endograft 6 days later. Is this just coded as TEVAR or should it be reop other non-cardiac?
Answer: Code as reop-other-non-cardiac.

FAQ 05/2017: Should return to the OR for the removal of a Swan Ganz catheter that was sewn in during the cannulation be coded as reop other cardiac or reop other non-cardiac?
Answer: Code reop other cardiac.

FAQ 05/2017: Patient had an AVR and CAB x 1. Several days post op the patient was having abdominal pain and CT scan showed a very large retroperitoneal bleed. The patient required massive blood transfusion. The patient then underwent in the cath lab an angio embolization of the left T11 intercostal artery. How do I code this procedure?
Answer: Code this as a reop other non cardiac.

Seq. #: 4785
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: A patient whose sternum was closed at the time of the index procedure returns to the OR for bleeding. At the time of the second procedure the sternum is left open. Is this coded as delayed sterna closure?

Answer: Do not code delayed sternal closure since it followed the re-exploration.

FAQ 01/2017: A left thoracotomy was performed for an aortic aneurysm repair and was left open due to coagulopathy. It was closed 24 hrs later. Where is this documented?
Answer**:** In keeping with the spirit of the field and due to emerging technologies, code delayed sternal closure.

Seq. #: 4790
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 within 30 days of procedure. Any condition requiring operative intervention involving the sternotomy should be coded YES

Seq. #: 4795
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.

FAQ 09/2016: How is the dehiscence of a mini thoracotomy incision coded? The patient returned to the operating room when the incision dehisced while coughing.
Do not code as sternal dehiscence, code as Re-Op for Other Non Cardiac Reasons.

Seq. #: 4800
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 postprocedural 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 postprocedural 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 ~~within 30 days of surgery~~ during initial hospitalization. 05/15

Seq. #: 4805
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:
Staph epi is considered a skin contaminant and not a pathogen.

Seq. #: 4810
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. 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; or sudden severe headache with no known cause. There are two forms of stroke: *ischemic* - blockage of a blood vessel supplying the brain, and *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: http://www.ninds.nih.gov/disorders/stroke/stroke.htm
Example # 1: A patient had a Coronary Artery Bypass (CAB) and Carotid Artery Endarterectomy (CEA) done by a cardiac surgeon and a vascular surgeon. The patient had a stroke, and it was documented in the notes that it was from the CEA. The stroke is coded as a post-operative event.

Example # 2: The patient was being sedated, but stopped withdrawing to painful stimuli on one side. A neuro consult suggested a CVA on the left side and ordered a CT Scan. The patient expired later on the same day as the consult before the test could be performed to determine if a CVA has occurred. This neurologic deficit would be coded as Stroke Permanent.

- Yes, hemorrhagic
- Yes, embolic
- Yes, undetermined type
- No

05/15 Code “ischemic stroke” as undetermined.

Seq. #: 4815
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 only a few minutes. 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: http://www.ninds.nih.gov/disorders/stroke/stroke.htm

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Seq. #: 4820
Long Name: Post-Op-Neuro-Coma/Encephalopathy; **Short Name:** CNComaEnceph
Definition: Indicate whether the patient developed a postoperative coma and/or encephalopathy.

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.
Encephalopathy is a term for any diffuse disease of the brain that alters brain function or structure. 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, or lack of oxygen or blood flow to the brain. The hallmark of encephalopathy is an altered mental state. 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, and 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, and loss of ability to swallow or speak. Blood tests, spinal fluid examination, imaging studies, electroencephalograms, and similar diagnostic studies may be used to differentiate the various causes of encephalopathy.

If multiple causes, choose first event. Reference**:** http://www.ninds.nih.gov/disorders/stroke/stroke.htm

- None
- Anoxic
- Embolic
- Drug
- Metabolic
- Intracranial Bleeding
- Other
- Unknown

FAQ: Do not code post-operative delirium as encephalopathy

FAQ 08/2016: Would we code yes to encephalopathy related to alcohol withdrawal, which immediately resolved with a beer. The neuro consultant stated the confusion was probably due to DTs/alcohol. Code none, based on the expert neuro consultant opinion that this is confusion.

Seq. #: 4825
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).

FAQ: Do we code yes to paralysis if it is the result of a stroke as well as coding yes to stroke?
Answer: No, this is for paralysis related to the spinal cord.

Seq. #: 4830
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:

- **Transient** - is non-lasting and of short (< 24 hours) duration.
- **Permanent** - is enduring, lasting, or without change for more than 24 hours.

Seq. #: 4835
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.

Example # 1: A patient is ventilated prior to cardiac surgery: Do not code as a complication unless the hours ventilated post-op are > 24 hours.

Example # 2: A patient has been long-term ventilator dependent PRIOR to his CABG. Six months prior to the current hospitalization, the patient suffered multiple complications, including a tracheostomy, from disease processes and non-cardiac surgery: Due to the language in the definition (...any patient requiring mechanical ventilation > 24 hours postoperatively) and for consistent coding, you will need to code the prolonged ventilation field for this patient as "Yes." Hopefully, the acuity of this patient will be captured in the co-morbidities/risk factors.

Example # 3: A patient is extubated five hours after surgery and reintubated during the same hospital stay for an additional 20 hours. Count a total of 24 hours, including initial and additional hours of mechanical ventilation. For this example code “Yes” to Prolonged Ventilation.

Example #4: The patient if ventilated to continue nitric oxide and remains ventilated longer than 24 hours. Is this considered prolonged ventilation? Yes, code all the hours the patient is ventilated.

Seq. #: 4840
Long Name: Post-Op-Pulm-Pneumonia; **Short Name:** CPPneum
Definition: Indicate whether the patient had pneumonia according to the CDC definition.

Intent/Clarification:
See CDC definition below

Specific Site Algorithms for Clinically-Defined Pneumonia (PNU1)

Radiology	Signs/Symptoms/Laboratory
Two or more serial chest radiographs with at least **one** of the following[1,2]: • New or progressive and persistent infiltrate • Consolidation • Cavitation 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 chest radiograph is acceptable.[1]	FOR ANY PATIENT, at least **one** of the following: • Fever (>38°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., $PaO_2/FiO_2 \leq 240$)[7], increased oxygen requirements, or increased ventilator demand)

FAQ: 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.

FAQ: One of our patients received bilateral lung transplant and CABG at the same time. A culture was done on the donor lungs at the time of the actual transplantation and the results indicated MRSA, Klebsiella Pneumonia and H Influenza. Because these were microorganisms obtained on the donor lungs in surgery, it is my thought that I should not have to take credit for post-op Pneumonia on this patient. Please correct me if I am wrong.
Answer: No, it should not be coded as post op pneumonia.

Seq. #: 4845
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.

FAQ 08/2016: The training manual states that venous thrombosis can be coded for upper and lower extremities, does that include a right internal jugular thrombosis?
Code yes, thrombosis of the internal jugular veins are included in venous thromboembolic events; also code yes in sequence 4855.

Seq. #: 4850
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. #: 4855
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.

FAQ 08/2016: The training manual states that venous thrombosis can be coded for upper and lower extremities, does that include a right internal jugular thrombosis?
Code yes, thrombosis of the internal jugular veins are included in venous thromboembolic events.

Seq. #: 4860
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:
Postoperative effusions are common and can often be treated medically. This field is intended to capture patients with effusions requiring an intervention, such as a chest tube or thoracentesis or pleural tap.

FAQ 09/2016: On POD# 1 the patient has a large pleural effusion/hemothorax for which a chest tube was inserted with no improvement. The patient was taken to the OR on POD #6 for a VATS procedure and drainage of the hemothorax. How should this be coded?
Code ReOp for Other Non-Cardiac Reasons. Also code pleural effusion requiring drainage.

Seq. #: 4865
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. #: 4870
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

EITHER of the following:

- Increase in serum creatinine level 3.0 x greater than baseline, or serum creatinine level ≥ 4 mg/dL. The acute rise must be at least 0.5 mg/dl.
- A new requirement for dialysis postoperatively.

Intent/Clarification: Renal failure criteria is highlighted below

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 values to analyze post op renal function.~~ **See highlighted 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

Failure (F) - Increase in serum creatinine level X 3.0, or serum creatinine level ≥4 mg/dL 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

FAQ: Should renal failure be coded for a patient with a pre-op creatinine of 4.1 who has a post op creatinine of 4.7? (no dialysis)

Answer: No, this pt meets the preop definition of renal failure so it cannot be coded as a post op event unless there is a new requirement for dialysis or the creatinine triples.

FAQ: If the preop creatinine is 3.8 and increases to 4.5 but the patient doesn't require dialysis, is this coded as renal failure?

Answer: Yes, per the definition above: serum creatinine level ≥ 4 mg/dL with at least a 0.5 mg/dl rise

FAQ 01/2016: The analysis exclusion criteria for renal failure excludes those with preop dialysis or preop creatinine ≥ 4.0.

FAQ 10/2016: Patient had initially normal creatinine, had MI with cardiogenic shock, shock liver, and ARF requiring HD preoperatively. Had perma-cath placed with HD. Preop creatinine peaked at 4.76. Two weeks later creatinine down to 1.05. Then had CAB. Post op creatinine tripled and received one dialysis session. Would this patient be considered as renal failure postoperatively?

Answer: Because the patient was not undergoing dialysis at the time of hospitalization for the index procedure and the preoperative creatinine was normal (1.05), code yes, the patient does have renal failure postoperatively with a creatinine 3X baseline (4.76) and dialysis.

CLARIFICATION: If dialysis (375) equal to no and if postoperative creatinine level (4555) is greater than or equal to 3X last creatinine level (585) or postoperative creatinine(4555) is greater than or equal to 4.0 with a 0.5mg/dl rise or new postoperatived dialysis (4875) then, renal failure (4870) equals Yes.

FAQ 04/2017: Should aquapheresis be coded as renal failure – new dialysis?

Answer: No, aquapheresis is not dialysis.

Seq. #: 4875
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 onetime 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.
Continuous Veno-Venous Hemofiltration) (CVVH, CVVH-D) and Continuous Renal Replacement Therapy (CRRT) should be coded here as "Yes." (Code Ultra filtration as "No", it is captured in a separate field)

FAQ 01/2016: If preoperative dialysis = "yes", you may automatically code post op renal failure and dialysis 'no".

Seq. #: 4880
Long Name: Post-Op-Dialysis Duration; **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. #: 4885
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.

Seq. #: 4890

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. #: 4895
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 emboli resulted in a necrotic great toe: Code "Yes" for acute limb ischemia.

Seq. #: 4900
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 01/2016: All ICDs have a built-in pacemaker. Do I choose “Pacemaker/ICD” for all ICD implants?
Answer: Yes, that is correct.

Seq. #: 4905
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/tach or asystole and 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.

Example # 1: A patient has a Do Not Resuscitate (DNR) status and is expected to arrest and then expire: This field is to capture those events that are sudden or acute in occurrence. Based on this, do not capture an arrest on a DNR patient.

Example # 2: A patient had runs of NSVT which required EP study, resulting in inducible ventricular fibrillation, which then required ICD placement: The intent of this field is to capture those events that are sudden or acute in occurrence. Based on this language, do not capture ventricular fibrillation that is induced in a controlled environment resulting in ICD placement.

FAQ 10/2016: Patient had an ICD placed several years prior to surgery. Post-Op, pt. experienced a witnessed event of "sustained pulseless Torsade, terminated with patient's internal ICD shock while external defibrillation was being
readied". Would this be captured as post op cardiac arrest?
Answer: No, do not code cardiac arrest.

Seq. #: 4910
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 be to reduce post-operative platelet counts as much as 50% within 24 hours.

Example # 1: A patient is on Heparin and has a significantly elevated PTT, and at the same time, drops their platelet count; then has a bleed resulting in a leg hematoma with Incision & Drainage. A Heparin Assay and D-Dimer are not performed: This is not an anticoagulation complication.

Example # 2: A patient has diagnosis of HIT but does not experience bleeding, hemorrhage and/or embolic events along with the diagnosis: Code the anticoagulation complication with or without the bleeding, hemorrhage and/or embolic events.

Seq. #: 4915
Long Name: Post-Op-Other-Tamponade Non-Surgical Intervention; **Short Name:** COtTamp
Definition: Indicate whether the patient had fluid in the pericardial space compromising cardiac filling, and requiring intervention other than returning to the operating room, such as pericardiocentesis.
This should be documented by either:

- Echo showing pericardial fluid and signs of tamponade such as right heart compromise, or
- Systemic hypotension due to pericardial fluid compromising cardiac function

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. #: 4920
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. 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.

Example # 1: A patient has a placement of a Percutaneous Endoscopic Gastrostomy (PEG). Patients that receive PEG's are generally very sick patients that require long term nutritional support because of multiple postoperative complications and the inability to eat. If a PEG is placed in the stomach, it means that the stomach is working well enough to support the nutritional support that the PEG feedings are providing. Do

not code a GI complication in this situation.

Example # 2: 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.

Example # 3: A patient has elevated liver enzymes postoperatively: A transient rise in the patient's liver enzymes does not represent a GI complication.

Seq. #: 4925
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.

Example # 1: A patient that continues to be sustained by dialysis does not have end stage renal disease, because they continue to live with mechanical assistance and represents a single organ system.

Example # 2: A patient with prolonged ventilation time resulting in the patient's inability to be weaned, resulting in ventilator dependency is not end-stage respiratory, because they continue to live with mechanical assistance, and this is a single organ system.

Example # 3: A patient has renal failure/prolonged vent/pneumonia. One patient can have multiple complications. In the case of MSOF, the patient develops deterioration of one system, i.e. pulmonary, then another and then another.

Seq. #: 4930
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 AFib lasting longer than one hour and/or requiring treatment. Capture event(s) in all patients who were not in AFib at the start of surgery.

Example # 1: A patient is on beta blockers post-op and is titrating each day to give higher doses. The second post-op day the patient has a two hour run of A Fib. During this run of AFib, the beta blocker is increased or an extra dose of beta blocker is given. This is considered a post-op A Fib event.

Example # 2: A patient is on a protocol preoperatively; the patient then goes in to atrial fibrillation (AF) post-operatively and the protocol is not adjusted: If the patient was in sinus rhythm and then develops AF postoperatively, this should be coded "Yes" as a post op event.

FAQ 07/2016 ~~FAQ 01/2016~~: Prior to admission, pt is in NSR. In the operative report section, "Findings at Operation: Paroxysmal afib. The pt developed afib intraoperatively." This is noted after CPB was commenced and the pt was observed to have a large LAA. Consent is for AVR only, but a modified MAZE (LAA and PVI) is also performed unexpectedly.

1. Is it best to capture the afib post op or pre op? Intraop Afib wouldn't be in either the preop or postop section. The patient was in NSR preop.

2. Modified MAZE was unexpected. Does this get captured somewhere? If so, then which element?
Answer: Unless the patient has atrial fibrillation post operatively, it is neither preoperative nor postoperative complication. You do not need to code the LAA as an unexpected procedure. Code the modified maze for the PVI and also code the LAA.
This is NOT postop Afib.

FAQ 09/2016: Should a return to the cath lab for Afib ablation be coded as a reoperation other cardiac?
No code only as post operative event atrial fibrillation.

FAQ 12/2016: If a donor has Afib PRE-operatively and that diseased heart is transplanted into a new patient and POST-operatively that new patient has Afib, is that coded as a postoperative complication?

Answer: Code yes to post operative atrial fibrillation.

Seq. #: 4935
Long Name: Post-Op-Ao Dissect; **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. #: 4940
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. #: 4945
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. #: 4950
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: Patient develops a pseudoaneurysm post op in the brachial artery from his cath, requiring a thrombin injection. Is #4950 "yes"? Answer: No, do not code other complication for this pseudoaneurysm.

FAQ 01/2016: During post-op events, the patient experiences severe deconditioning that is documented by a couple of physicians that extends the patient's time in the ICU and hospitalization. Does this situation account for "other" as a post-op complication?
Answer: No, many patients are deconditioned by the surgical process.

FAQ 01/2016: Does a patient POD 4 from CABG experiencing ETOH withdrawal (hallucinations, disorientation and confusion, nonsense speech, etc.) and requiring a precedex gtt for his withdrawal symptoms meet definition of "Other" for "In Hospital Postoperative Event Occurred"? Because pharmacological interventions were initiated due to his severe ETOH withdrawal symptoms, requiring additional monitoring in the ICU, would this be considered an "event" during his hospitalization that would extend his length of stay and should be captured in sequence 4950?
Answer: Yes, you can code comps-other-other.

FAQ 08/2016: The patient had prior radiation for prostate CA, post operatively he had hematuria and required cystoscopy; what is the appropriate way to code this post operative event?
Code this as Comps-Other-Other.

FAQ 04/2017: If the patient currently has a permanent pacemaker and following surgery he returns to the EP lab for repositioning of leads that were disrupted during the surgery, does it get captured as a reoperation or PPM?
Answer: Code as complication other-other.

Q. Mortality

Seq. #: 5005

Long Name: Mort-Mortality; **Short Name:** Mortalty

Definition: Indicate whether the patient has been declared dead within this hospitalization (admission to acute care discharge, even if transferred to another hospital) or any time after discharge from this hospitalization. This includes all causes of death, including those causes clearly unrelated to the operation.

Intent/Clarification:

Allows for those sites with longitudinal follow-up programs to record a patient's death that has occurred beyond the procedure admission or 30 day window.

The mortality field is to be coded "Yes" when the patient is identified as a death. This could be while the patient is in the hospital for the current procedure, within 30 days of the procedure or "long term" meaning whenever the patient dies in the future. This could be six months, five years, or anytime in the future.

Seq. #: 5010

Long Name: Mort-DC Status; **Short Name:** MtDCStat

Definition: Indicate whether the patient was alive or dead at discharge from the hospitalization in which surgery occurred. Include patients who died after transfer to another acute care hospital**.**

Intent/Clarification:
Indicate if the patient was "alive" or "dead" at the time of discharge.
The intent is to capture all patient deaths occurring within the acute care hospitalization following surgery. This includes patients transferred to another acute care facility. Do not capture patients discharged to hospice, rehab, SNF, psych or long term care.

Example: A patient undergoes CABG at hospital A and five days later is transferred to hospital B for an LVAD. The patient dies 40 days later. Code "dead" since this patient died during the acute care hospitalization.

Seq. #: 5015
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:
Use the 30th calendar date after the Date of Surgery to determine mortality status ['Alive' / 'Dead' / 'Unknown']. This is your 30-day post-surgery death, regardless of location.
FAQ 01/2016: When the discharge location is Other Acute Care Hospital for a higher level of care, 30 day mortality status should be captured.

FAQ 01/2016: If patient dies on the 30th day after surgery, is it a "yes" for 30 day mortality?
Answer: Yes.

FAQ 02/2017: Are "cancelled cases" included in the 30 day follow up threshold?
Answer: No, these cases are not included in analysis or the 30 day follow up thresholds.

FAQ 03/2017: Patient had surgery 11/1/2016, was discharged AMA 11/19/16 and killed in a car crash 11/28/16. Is this an operative mortality and will it count as part of our mortality data for 2016?
Answer: Yes, this is an operative mortality.

Seq. #: 5020
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:
Indicate primary method used to verify mortality status:
- Phone call to patient or family
- Letter from medical provider
- Evidence of life (or death) in medical record (lab tests, cardiac rehab visits, death note, etc.)
- Office visit to surgeon more than 30 days after procedure
- Social Security Death Master File / NDI. (SSDMF is not currently accessible online but may be reactivated.)
- Other

Seq. #: 5025

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:

FAQ: If the patient has a CAB and is transferred to another hospital and has a liver transplant but dies within the hospital stay is that still an operative mortality even when the patient stays in the hospital for 6 months? It seems unfair that the patient survived the CAB and the index facility gets bad marks for the mortality.
Answer: These circumstances happen infrequently and this should be coded as a mortality.

FAQ 01/2016: Patient had procedure at Hospital A on 7/9/2014 and was discharged to LTAC on postop day 28. Expired at LTAC on postop day 43. Is this an operative mortality for Hospital A?
Answer: No, death at an LTAC > 30 days after surgery is not an op mortality.

Seq. #: 5030
Long Name: Mort-Date; **Short Name:** MtDate
Definition: Indicate the date the patient was declared dead.

Intent/Clarification:
Record the date of death regardless of its time interval from the surgical procedure. Use the date shown on the Death Certificate, if available.
Note: Date of Discharge [DischDt (315)] cannot be later than the MtDate. For patients declared dead and become organ donors, use the date that the patient was declared brain dead as the mortality date and the discharge date, even if organs are not harvested until a later date.
Note: Online obituary sites are a good source of information. However, be sure to confirm identity of the deceased by comparing Date of Birth, Middle Name, Spouse's or Child's Name to information in the medical record!

Seq. #: 5035
Long Name: Mort-Location; **Short Name:** MtLocatn
Definition: Indicate the patient's location at time of death.

Intent/Clarification:
- Operating Room (OR) During Initial Surgery
- Hospital (Other Than Operating Room)
- Home
- Extended Care Facility (05/2015 This includes Long Term Acute Care - LTACs)
- Hospice
- Acute Rehabilitation
- Operating Room (OR) During Reoperation
- Unknown
- Other

Do not assume that a discharged patient died at home in the absence of specific information.

Seq. #: 5040
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:

- Cardiac
- Neurologic
- Renal
- Vascular
- Infection
- Pulmonary
- Unknown
- Other

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.

Example #1: Patient had a massive stroke 24 hours after surgery and never woke up, developed new renal failure with dialysis, pneumonia and ventilator dependence (unable to be extubated) and gangrenous bowel secondary to multiple emboli with sepsis. Cause of death would be Neurologic.

Example #2: Patient suffers cardiac arrest which results in anoxic brain injury, coma, and eventual death. Cause of death would be Cardiac.

FAQ: The patient underwent TEVAR for known Type B dissection. 90 minutes post procedure the patient had chest pain and CT showed Type A dissection extending to the root. As OR readied, the patient had hematochezia, lost mental status, intubated, and CPR performed for Vfib. The patient subsequently underwent emergent repair of Type A Dissection with Ascending Aortic Replacement, Transverse Arch and resuspension of aortic valve. The patient was transferred to the ICU, noted to have blown pupils POD 2. CT head showed extended dissection to carotid c/w R cerebral infarct with cerebral edema and herniation. The patient died.
Is the cause of death vascular?
Answer: No, the cause of death is cardiac.

R. Discharge

Seq. #: 5045
Long 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**

If the patient resided in a nursing home before surgery and is discharged to a nursing home, code as "Nursing Home" even though it is considered the patient's "home".

'Other' can include a Guest House (for transplant patients who live too far from the transplant hospital) or a Correctional Facility.

Seq. #: 5050

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". **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".

FAQ: A patient refuses to go for cardiac rehabilitation: The intent is to capture patients that receive a referral. The intent is NOT to capture patients that may refuse, never attend, or did not complete a program. If the referral is made, code as "Yes".

FAQ: If the patient is clinically, mentally or emotionally inappropriate for a referral, identify as "Not Applicable" Example: Patient discharged to Hospice.

If the surgery was of Non-Cardiac nature (See Section N), code as "Not Applicable".

FAQ 01/2016: What is the best way to capture this element (Cardiac Rehab referral) for the patients in Alaska, who live in remote areas with very little medical access in general including cardiac rehab?
Answer: Code "no".

FAQ 07/2016 ~~FAQ 2016~~: In order to capture "Yes" for Cardiac Rehabilitation Referral, does the medical record need to state referral for a Cardiac Rehab phase II program specifically or can the item be answered "yes" if patient's medical record only references referral to an "OT/PT" program after discharge or transfer?
Answer: The patient who is referred to a facility for OT/PT or has OT/PT at home is not the same, the referral should be for outpatient cardiac rehabilitation.
Documentation at discharge should include that the patient was given instructions to participate in an outpatient cardiac rehabilitation program (which may include referral to Phase II cardiac rehabilitation).

Seq. #: 5055

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. 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 is clinically, mentally or emotionally inappropriate for a referral, select "Not Applicable".

FAQ: Clarify when smoking education should be given.
Answer: Smoking education should be given for the patient who has smoked within the last year.

Discharge Medications - General

FAQ: In the past if a patient went to rehab or nursing home we could use the last in-patient MAR as the discharge medication list. Answer: Yes, you can still use the last in-patient MAR as the discharge medication list.

FAQ: If the patient signs out of the hospital AMA and refuses medications, how do we collect medications?
Answer: Code "No"

FAQ: Are these patients excluded from the medication bundle for the composite?
Answer: No. The discharge location for these patients is AMA. These patients are still counted in the medication portion of the composite and in the NQF endorsed measures. The only exclusions for discharge meds are "in hospital mortality" and "contraindication". This information is noted in the report overview.

FAQ: The exclusion for AMA and hospice discharges applies to the medication portion of the composite, not to mortality if it occurs within 30 days of surgery

FAQ: The patient undergoes an emergent salvage CAB. The patient is taken from the OR to another facility following the procedure for IMPELLA, how do you capture discharge medications?
Answer: For all medications in this scenario code NO.

FAQ 01/2016: NP documented that patient should be on statin, however patient refuses because of potential side effects. How should I code this?
Answer: Code refusal to take the medication as no.

Seq. #: 5060
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

Seq. #: 5065
Long Name: P2Y12 - Discharge; **Short Name:** DCP2Y12
Definition: Indicate whether or not the patient was discharged from facility on a P2Y12 antagonist, 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:
Some examples: Clopidogrel, Prasugrel, Ticagrelor, Cangrelor, Elinogrel. This receptor is involved in platelet

aggregation, and may be used for the treatment of thromboembolism and other clotting disorders. These are a subset of ADP inhibitors

- **Yes**: Capture those who receive an order for a P2Y12 at discharge
- **No**: Patient did not receive a P2Y12 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: Should Clopidogrel and Prasugrel be coded as ADP Inhibitors or P2Y12?
Answer: Code P2Y12

FAQ: Will P2Y12 antiplatelets be included in the process measures?
Answer: Yes, the measure includes aspirin, ADP inhibitors, (including P2Y12), and excludes in-hospital mortalities.

FAQ 11/2016: How is Cangrelor coded?
Answer: This medication is a coded as a P2Y12.

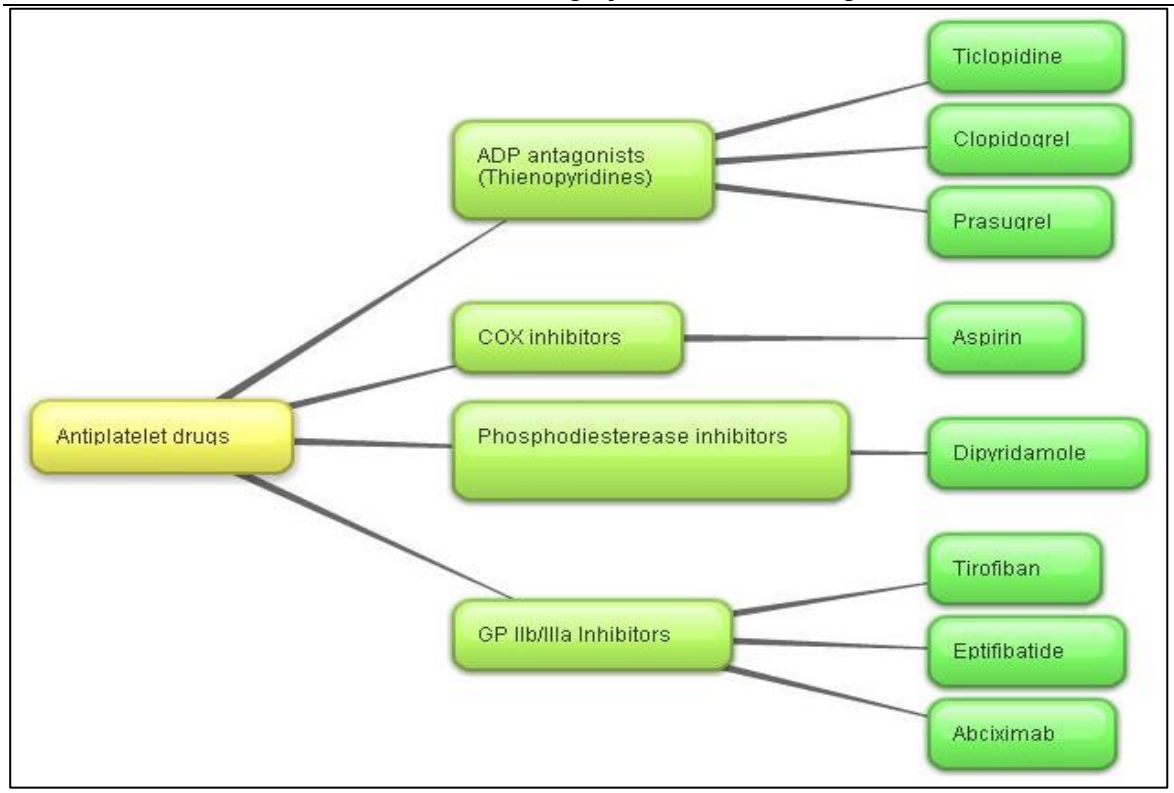
Seq. #: 5070
Long Name: ADP Inhibitors - Discharge; **Short Name:** DCADP
Definition: Indicate whether or not the patient was discharged from facility on an ADP inhibitor, or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist 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 at discharge
- **No**: Patient did not receive an ADP 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: Should Clopidogrel and Prasugrel be coded as ADP Inhibitors or P2Y12?
Answer: Code as P2Y12**.**

Seq. #: 5075
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 an other antiplatelet medication at discharge.
- **No** – Patient did not receive another 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. #: 5080
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
- Hirudin
- 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. #: 5085
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

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Seq. #: 5090
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 an Xa inhibitor medication at discharge.
- **No**: Patient did not receive an 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

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Seq. #: 5095
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 an other anticoagulant medication at discharge.
- **No:** Patient did not receive another 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

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Seq. #: 5100
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 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
- **Not indicated** (no hx CHF or EF > 40%)

Seq. #: 5105
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

FAQ: Can the data managers correct discharge beta blockers within 30 days of the patients discharge by documenting an addendum?
Answer: Auditors are allowed to accept amendments to the medical record for up to 30 days if the

documentation is included as part of the legal medical record.

Seq. #: 5110

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.

- **Yes** - Capture those who receive an order for Amiodarone at discharge.
- **No** – Patient did not receive an Amiodarone 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

FAQ: Should other antiarrhythmics such as flecainide or sotalol be captured or just Amiodarone?
Answer: Only Amiodarone should be captured in this field.

FAQ: Should Multaq be coded here?
Answer: Yes, you can code Multaq (dronedarone) in Amiodarone.

Seq. #: 5115

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. See the STS medication list for help in distinguishing statin drugs from non-statin medications (including fish oils). Do not capture nonstatins 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

Seq. #: 5120

Long Name: Lipid Lowering Non-Statin - Discharge; **Short Name:** DCLipLowNonStat

Definition: Indicate whether or not the patient was discharged from facility on a Non-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 medications prescribed at DC 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

FAQ 11/2016: How is the lipid lowering medication Praluent coded?
Answer: Code non-Statin.

S. Readmission

Seq. #: 5140

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 (see below) or admission to a skilled facility or nursing home.

Intent/Clarification:

This is not part of the composite score. It is understood that some readmissions are planned; these are still counted as readmissions. Readmission does not need to be at same institution as surgical procedure. Obtain information as close to 30 days from date of discharge as possible. Do not include Emergency dept. visits or observation unless the ED visits lead to admission.

The intent is to capture inpatient readmissions to acute care and primary care institutions only.
~~CMS considers inpatient admission after 2 midnights have passed, even if the patient is not in an inpatient bed.~~ If a patient is readmitted to an inpatient rehabilitation hospital, code “No”.
FAQ: To align with CMS, 30 day readmission should not be coded for patients who remain in observation units, no matter the duration. Code readmission only for those patients who have inpatient admissions to short term acute care facilities.

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.

Example # 1: A patient is re-admitted to the hospital after a CABG for reasons that were planned (ex, colon resection or cholecystectomy). Code these readmissions "Yes".

Example # 2: A patient is readmitted as an ambulatory surgery observation patient, (not an inpatient) and was in the hospital for 3 days and had an insertion of a PleurX catheter: Code this "NO" (only inpatient admissions count).

Example # 3: A patient was admitted to the hospital for a CABG and had complications, which required a BiVAD. The patient was transferred to another acute hospital for continuing care because of the BiVAD. The transfer was immediate from one facility to the other. No- this is an extension of the same acute care admission.

Example # 4: A patient underwent an ascending aortic dissection repair on 2/2 and was discharged home on 2/9 and was readmitted on 2/29 and had a repeat repair of the ascending aorta: Two data collection forms would be needed. On the first form, code "Yes" for Readmit ≤ 30 days from date of discharge. All outcomes from the second procedure would need to be captured on a second data collection form.

Example # 5: A patient is transferred to your facility from a hospital that does not do cardiac surgery. A mitral valve replacement is performed, secondary to infectious endocarditis. Once stabilized the patient is transferred back to the original hospital for the conclusion of a six-week course of IV antibiotics: Code "No" for a readmission, this is an extension of the acute care hospital stay.

FAQ: The patient undergoes an emergent salvage CAB. The patient is taken from the OR to another facility following the procedure for IMPELLA, how do you capture readmission? Code NO to readmission, this is an extension of the acute care hospital stay.

FAQ 01/2016: If the patient goes to an LTAC at discharge, is it considered a readmit?
Answer: NO, it is considered a discharge.

FAQ09/2016: The patient is transferred to a tertiary care center following CAB for a procedure which was unavailable at the site where the index procedure was performed. The patient was then returned to the original facility without being discharged to home or a rehab facility. Does this get coded as a readmission following CAB or is this a continuation of care?
No, this is not a readmission; this is considered a continuation of care.

FAQ 12/16: The patient was discharged home first, presented to the ED and was then admitted to IP Psych. Is this considered a readmission?
Answer: Yes, this is considered a readmission.

FAQ 02/2017: A patient had a CAB on 11/1/2016 and 2 weeks later returns to the hospital but remains in observation status. The patient then expires. I know the mortality counts but does the readmission count also?
Answer: Code yes to mortality but this is not considered a readmission.

FAQ 02/2017: Patient has a history of PAD with necrotic toes. Has a cardiac workup followed by CAB. He is readmitted 2 weeks after discharge for amputation of toes. Does this still count as a readmission?
Answer: Yes, code other planned readmission.

FAQ 02/2017: If the patient comes to the ED and dies, does that count as a readmission?
Answer: No, this is not a readmission.

Seq. #: 5145
Long Name: Date of Readmission; **Short Name:** ReadmitDt
Definition: Indicate the date the patient was readmitted.

Intent/Clarification:
If there are multiple readmissions within 30 days of the date of discharge, code the earliest date of readmission, and the Reason/Procedure for that specific readmission.

Example: A patient is readmitted 11 days post op for pleura/pericardial effusion and has a thoracentesis. The patient is then readmitted 17 days post op and has pericardiocentesis: Collect the information for the first readmission to the hospital and the reason/procedure for that admission

Seq. #: 5160
Long Name: Readmit Reason; **Short Name:** ReadmRsn
Definition: Indicate the primary reason that the patient was readmitted as an inpatient.

Intent/Clarification:
If the readmission reason was different than discharge reason, capture the discharge diagnosis. Example: patient was admitted with "angina" but at discharge it was "Ruled Out" and diagnosed as "Chest wall pain". Therefore, coding the admission diagnosis would misrepresent the readmission reason. Interest is in conditions that have a physiological relationship to cardiothoracic surgery.

Readmit Reason must be completed if known.

- **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.
- **Arrhythmia / Heart Block**: Patient admitted due to rhythm irregularities that may have required pharmacological, non- invasive, or invasive treatment.
- **Congestive Heart Failure**: May be manifested as pulmonary edema or only identified as "heart failure".
- **Coronary Artery / Graft Dysfunction**: This may include native vessels and/or conduit restenosis, spasm or dissection.
- **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.
- **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.
- **Infection- Conduit Harvest Site**: Use CDC definitions.
- **Infection- Deep Sternum / Mediastinitis:** Use CDC definitions. May or may not require surgical intervention.
- **Myocardial Infarction and/or Recurrent Angina**: MI diagnosis and/or angina diagnosed by the criteria listed in the definition. Prior to coding as MI or recurrent angina, verify with discharge diagnosis to assure that the MI was 'ruled in' or that the patient 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
- **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.
- **Respiratory Complication, Other:** Include acute respiratory failure (often requiring emergent intubation or ECMO cannulation), hypoxemia, pulmonary edema, respiratory acidosis. Pneumonia is separately captured.
- **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.
- **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 VAD. Some physiologic complications, such as hemorrhagic stroke, hemolysis, or GI bleeds and be related to VAD complications. See discussion of SeqNo 4015 for further details.
- **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.
- **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, gastrointestinal, 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: How should readmit reason be coded for the patient readmitted with a Type A aortic dissection within 30 days of AVR+CAB and has repair of ascending aorta?
Answer: Code other related readmission and other procedure for the repair. This is not considered a vascular repair.

FAQ 01/2016: The patient had a repair of the descending thoracic aortic aneurysm and returned to the hospital 2 days later with c/o severe abd pain caused by constipation. Does this admission fall under other-related readmission because the constipation is related to the narcotics for pain management? Or does this admission fall under other - nonrelated readmission because a readmission due to constipation without major treatment?
Answer: "Other related"

FAQ 08/2016: The patient was discharged on 6/14/16 following an uneventful hospital stay. On 6/26/16 he was admitted to a local hospital with left sided weakness and visual changes, diagnosed as a TIA. On 6/27/16 serosanguinous drainage was noted from the sternal wound, culture positive for staph. He was transferred to the hospital where the index procedure was performed for intervention. Is the readmission reason TIA or sternal wound infection?
Code the readmission reason as TIA, that is the reason the patient returned to the hospital; you must **also** code the infection as a surgical site infection within 30 days in sequence number 4690 and any additional infection fields that may apply.

FAQ 10/2016: The patient is readmitted with pericardial effusion and has a pericardial window. While in the hospital following the pericardial window the patient suffers a stroke. Should the stroke be captured?
No, the field intent is to capture the primary reason the patient was readmitted to the hospital, code pericardial effusion.

FAQ 04/2017: A 67 year old pt. is readmitted 10 days post CABG with wound dehiscence, serous drainage, chest tenderness along sternal incision, hypotension and extreme forceful cough. Pt returns to surgery for sternal rewire, WOUND VAC placement to close a defect, left sided chest tube which drains 600-700 ml serous fluid upon insertion. As per the op report no purulence noted, no infection encountered. Multiple cultures sent to micro. Date of CABG 2/6/2017 date of discharge 2/11/2017 date of readmit 2/15/2017 date of return to OR 2/16/2017, what do I code this as?
Answer: Code as other related admission.

Seq. #: 5165
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:

- **No Procedure Performed**: There was no invasive or 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.)

- **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.
- **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.

FAQ 01/2016: The patient was readmitted for drainage from the groin incision and underwent a surgical evacuation of a groin lymphocele. Would this be considered "OR for vascular procedure" or "other procedure"?
Answer: Reop Other

FAQ 09/2016: A patient has a CABG and is sent home. He is readmitted within 30 days for mediastinal hematoma. He was taken to surgery for evacuation of hematoma. The bleeding source was found to be at the coronary button therefore a stitch was placed. How is the readmission procedure coded?
Code the readmission primary procedure as OR for bleeding.

FAQ 04/2017: A 67 year old pt. is readmitted 10 days post cabg with wound dehiscence, serous drainage, chest tenderness along sternal incision, hypotension and extreme forceful cough. Pt returns to surgery for sternal rewire, WOUND VAC placement to close a defect, left sided chest tube which drains 600-700 ml serous fluid upon insertion. As per the op report no purulence noted, no infection encountered. Multiple cultures sent to micro. Date of cabg 2/6/2017 date of discharge 2/11/2017 date of readmit 2/15/2017 date of return to OR 2/16/2017, what do I code this as?
Answer: Code readmit other procedure.

Seq. #: 5170
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. #: 5175
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. #: 5180
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. #: 5185
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. #: 5190
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. #: 5195
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. #: 5200
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. #: 5205
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. #: 5210
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 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. See field 5230 below for instructions.

Seq. #: 5215
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

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Seq. #: 5220
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

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Seq. #: 5225
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

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Seq. #: 5230
Long Name: Temporary Coded Field; **Short Name:** TempCode
Definition: Indicate whether the STS Risk Calculator score was discussed with the patient/family prior to surgery.
Harvest Codes:

- **Yes** – An STS risk calculator score was calculated and discussed with the patient/family prior to surgery as documented in the medical record
- **No** – A risk calculator score was calculated but was not discussed with the patient/family prior to surgery or discussion was not documented (or if risk score available for the procedure but not calculated)
- **NA** – Not applicable (emergent or salvage case, or no STS risk score is supported for this procedure)

Intent/Clarification: To meet this measure, discussion should take place between the surgeon and patient/family and be documented. **Effective 04/22/2015.**

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.

Example: “STS CABG risk calculated and discussed with the patient.”

This field demonstrates “Patient and family engagement”, one of the National Quality Domains and can be used for Physician Quality Reporting (PQRS).

It is important that all data in field 5230 be cleaned out back to January 1, 2015 prior to using this field for its intended purposes. If these data are not removed then the DCRI could retain incorrect values for these

records. These incorrect values could impact PQRS measure results and any future non-PQRS reporting that uses this field.

Q: Can my surgeon use the Euroscore 2?
A: No, this measure refers to the STS score

Q: Will the risk scores be used in further reporting?
A: Will not be publically reported

Q: Is the surgeon supposed to use the actual score in the discussion with the patient? Can it be coded as a range?
A; Yes, and yes, it can be documented a range

Q: What if the procedure does not generate a score?
A: Code N/A

Q: Will there be financial penalty if we don't complete the scores for the first quarter?
A: This is one of 16 measures being reported by STS on behalf of physicians participating in PQRS. As long as 50% is achieved in 9 measures across 3 domains, there will not be a financial penalty.

Q: Will there be consequences if this field is not documented?
A: It will be reported missing on the DQR and could potentially impact physician reimbursement if surgeon submits via STS and does not meet the threshold described above.

Q: Is it mandatory to go back to 01/01/2015?
A: It is mandatory to clear any data in this field if it was used for another purpose. It is not mandatory to populate the field prior to April 22, 2015

Please see STS PQRS for additional information

Seq. #: 5235
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 nt add custom field here

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