

**The Society of Thoracic Surgeons**

**Adult Cardiac Surgery Database**

**Data Collection Form Version 4.20.2**



\*\*Risk Variable ++NQF Updated 6/29/2020

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| **A.** **Administrative** |
| Participant ID: ParticID (25) | Record ID:(software generated) RecordID (30) |
| Patient ID:(software generated) PatID (40) |  |
| Patient participating in STS-related clinical trial: ClinTrial (45) None  Trial 1  Trial 2  Trial 3  Trial 4  Trial 5  Trial 6 (If not None →) | Clinical Trial Patient ID: \_\_\_\_\_\_\_\_\_\_ ClinTrialPatID (46) |

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| **B. Demographics** |
| Patient Last Name: PatLName (50) | Patient First Name: PatFName (55) | Patient Middle Name: PatMName (60) |
| Date of Birth: \_\_ \_\_/\_\_ \_\_/\_\_ \_\_ \_\_ \_\_ (mm/dd/yyyy) DOB (65) | Patient Age: \*\* \_\_\_\_\_\_ Age (70) | Sex: \*\*  Male  Female Gender (75) |
| National Identification (Social Security) Number Known:  Yes  No  Refused (If Yes →) SSNKnown (76)  | National ID Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ SSN (80) |
| Medical Record Number: MedRecN (85) |
| Permanent Street Address: PatAddr (90) | City: PatCity (95) |
| Region: PatRegion (100) | ZIP Code: PatZIP (105) | Country: PatientCountry (115) |
| Race Documented: RaceDocumented (150) |  Yes No Pt. Declined to Disclose |
| Race: (If Yes, select all that apply) RaceMulti (151) |  White:  |  Am Indian/Alaskan:  |
|  Black/African American: \*\* |  Hawaiian/Pacific Islander:  |
|  Asian: \*\* |  Other:  |
| Hispanic, Latino or Spanish Ethnicity: \*\*Ethnicity (185) |  Yes  No  Not Documented  |

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| **C. Hospitalization** |
| Hospital Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (If Not Missing ) HospName (205) | Hospital ZIP Code: HospZIP (210) | Hospital Region: HospStat (215) |
| Hospital National Provider Identifier: HospNPI (220) | Hospital CMS Certification Number: \_ \_ \_ \_ \_ \_ HospCMSCert (221) |
| Primary Payor: \*\* (Choose one↓) PayorPrim (291)  | (If Primary Payor <>None/Self ↓) Secondary Payor: \*\* (Choose one)  PayorSecond (298)  |
|   | None/Self |   | None/Self |
|   | Medicare (includes commercially managed options) |   | Medicare (includes commercially managed options)  |
| (If Medicare →) | Commercially Managed Medicare PlanComMngMedPlnPrim (292) Yes  No (If No ↓) | (If Medicare →) | Commercially Managed Medicare PlanComMngMedPlnSec (299)Yes  No (If No ↓) |
|  | HICN/MBI KnownHICNMBIKnown (293) Yes  No (If Yes ↓) |  |  |  | HICN/MBI KnownHICNMBIKnownSec (300) Yes  No(If Yes ↓) |
|  |  | HICN/MBI: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_HICNMBI (294) |  |  | HICN/MBI: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_HICNMBINumberSec (301) |
|  | Primary Payor Medicare Part B: Yes  No PrimMCareFFS (295) |  |  | Secondary Payor Medicare Part B:  Yes  No SecondMCareFFS (302) |
|   | Medicaid (includes commercially managed options) |   | Medicaid (includes commercially managed options) |
|   | Commercial Health Insurance |   | Commercial Health Insurance |
|   | Health Maintenance Organization |   | Health Maintenance Organization |
|  | Military |  | Military |
|  | Non -U.S. Plan |   | Non -U.S. Plan |
|  | Other |  | Other |
| Admit Date: \_\_ \_\_/\_\_ \_\_/\_\_ \_\_ \_\_ \_\_ (mm/dd/yyyy) AdmitDt (305) | Date of Surgery: \*\* \_\_ \_\_/\_\_ \_\_/\_\_ \_\_ \_\_\_\_ (mm/dd/yyyy) SSurgDt (310) |
| Admit Source: AdmitSrc (320) |  Elective Admission  Emergency Department  Transfer in from another hospital/acute care facility Other  |
|  |  (If Transfer )  | Other Hospital Performs Cardiac Surgery  Yes  No  OthHosCS (325) |

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| **D. Risk Factors**  |
| Height (cm): \*\* HeightCm (330)  | Weight (kg): \*\* WeightKg (335)  | Calculated BMI CalculatedBMI (336)(system calculation) |
| Family History of Premature Coronary Artery Disease: \*\*  Yes  No  Unknown FHCAD (355)  |
| Diabetes: \*\*  Yes  No  Unknown (If Yes →) Diabetes (360)  | Diabetes-Control: \*\*  None  Diet only  Oral  Insulin  Other SubQ DiabCtrl (365)  Other  Unknown  |
| Dialysis: \*\*  Yes  No  Unknown Dialysis (375)  | Hypertension: \*\*  Yes  No  Unknown Hypertn (380) |
| Endocarditis: \*\*  Yes  No (If Yes→) Endocarditis Type: \*\*  Treated  Active InfEndo (385) InfEndTy (390)  |
| (If Endocarditis Yes→)  | Endocarditis Culture: InfEndCult (395) |  Culture negative  Strep species  MRSA  MSSA  Coagulase negative staph  Enterococcus species  Gram negative species  Polymicrobial Mycobacterium (chimera) Fungal  Other Unknown |
| Tobacco use: \*\* TobaccoUse (400)  |  Never smoker Current every day smoker Current some day smoker Smoker, current status (frequency) unknown Former smoker Smoking status unknown  |
| Chronic Lung Disease: \*\*  No  Mild  Moderate  Severe  Lung disease documented, severity unknown  Unknown ChrLungD (405)  |
| (If Mild, Moderate or Severe→) | Type: ChrLungDType (410) |  Obstructive  Reactive  Interstitial Fibrosis  Restrictive  Other  Multiple  Not Documented |
| Pulmonary Function Test Done:  Yes  No PFT (415) |
| (If Yes ) | FEV1 % Predicted: \_\_\_\_\_\_\_\_ FEV1 (420) | DLCO Test Performed:  Yes  No (If Yes ) DLCO (425) | DLCO % Predicted: \_\_\_\_\_ DLCOPred (430) |
| Room Air ABG Performed:  Yes  No (If Yes →) ABG (435) | Carbon Dioxide Level:\_\_\_\_\_\_\_\_ PCO2 (440) | Oxygen Level : \_\_\_\_\_\_\_ PO2 (445) |
| Home Oxygen: \*\*  Yes, PRN  Yes, oxygen dependent   No  Unknown HmO2 (450)  | Inhaled Medication or Oral Bronchodilator Therapy:  Yes  No  UnknownBDTx (455) |
| Sleep Apnea: \*\*  Yes  No  Unknown SlpApn (460) | Pneumonia: \*\*  Recent  Remote  No  Unknown Pneumonia (465)  |
| Illicit Drug Use within One Year: \*\* Yes  No  Unknown IVDrugAb (470)  |  (If Ilicit Drug Use = Yes→) | Intravenous Drug Use within One Year: Yes No  UnknownIVDrugUse1Yr (471) |
| Drug use with 30 days of procedure?  Yes  No  UnknownDrugUse30D (472) |
| Alcohol Use: \*\*  <=1 drink/week  2- 7 drinks/week  >=8 drinks/week  None  Unknown Alcohol (480)  |
| Liver Disease: \*\*  Yes  No  UnknownLiverDis (485)  | Liver Cirrhosis  Yes  No  UnknownLiverCirrhosis (486)  |
| (If Liver Cirrhosis = Yes→) |  Child –Pugh Class  A  B  C  Unknown  LiverChildPugh (488) |
| Immunocompromised Present: \*\*  Yes  No  Unknown ImmSupp (492)  | Mediastinal Radiation: \*\*  Yes  No  Unknown MediastRad (495)  |
| Cancer Within 5 Years: \*\*  Yes  No  Unknown Cancer (500)  | Peripheral Artery Disease: \*\*  Yes  No  Unknown PVD (505)  |
| Unresponsive State: \*\*  Yes  No UnrespStat (512)  | Syncope: \*\*  Yes  No  Unknown Syncope (515)  |
| Cerebrovascular Disease: \*\*  Yes  No  Unknown CVD (525)  |
| (If Yes→) | Prior CVA: \*\*  Yes  No  Unknown (If Yes →) CVA (530)  | Prior CVA-When: \*\*  <= 30 days  > 30 days CVAWhen (535)  |
| CVD TIA: \*\*  Yes  No  Unknown CVDTIA (540)  |
| CVD Carotid Stenosis:  Right  Left  Both  None  Not Documented CVDCarSten (545) |
| (If Right or Both →) | Severity of stenosis on the right carotid artery: \*\*  50-79%  80 – 99%  100%  Not documented CVDStenRt (550) |
|  (If Left or Both →) | Severity of stenosis on the left carotid artery: \*\*  50-79%  80 – 99%  100%  Not documented CVDStenLft (555) |
| History of previous carotid artery surgery and/or stenting: \*\*  Yes  No CVDPCarSurg (560)  |
| Enter available lab results below. Not all tests are expected or appropriate for all patients. Data Quality Report will flag missing Creatinine or if both Hemoglobin & Hematocrit are missing. if Liver disease is present, Sodium, Creatinine, Bilirubin and INR are expected |
| WBC Count: \*\* WBC (565) | Hemoglobin: RFHemoglobin (570) | Hematocrit: \*\*Hct (575) | Platelet Count: \*\* Platelets (580) |
| Total Albumin:TotAlbumin (585) | A1C Level: A1cLvl (590) | BNP BNP (595) |
| Sodium: Sodium (600) | Last Creatinine Level \*\*: CreatLst (605) | Total Bilirubin: TotBlrbn (610) | INR: INR (615) |
| HIT Antibodies  Yes  No  Not Applicable HITAnti (620) | MELD Score: (System Calculation) MELDScr (625) |
| Five Meter Walk Test Done:  Yes  No  Non-ambulatory patient FiveMWalkTest (645) |
|  (If Yes →) | Time 1: \_ \_ \_.\_ \_ (seconds)FiveMWalk1 (650) | Time 2: \_ \_ \_.\_ \_ (seconds) FiveMWalk2 (655) | Time 3 : \_ \_ \_.\_ \_ (seconds) FiveMWalk3 (660) |
| Did the patient have a laboratory confirmed diagnosis of Covid-19? 🞎 No (Harvest Code 10)TempCode (7230) 🞎 Yes, prior to hospitalization for this surgery (Harvest Code 11) 🞎 Yes, in hospital prior to surgery (Harvest Code 12) 🞎 Yes, in hospital after surgery (Harvest Code 13) 🞎 Yes, after discharge within 30 days of surgery (Harvest Code 14) |
| Date of Positive Covid-19 Test (closest to OR date) \_\_\_\_\_\_\_/\_\_\_\_\_\_\_\_/\_\_\_\_\_\_\_ (mm/dd/yyyy)TempDt (7225)  |

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| **E. Previous Cardiac Interventions**  |
| Previous Cardiac Interventions: \*\*  Yes  No  Unknown PrCVInt (665)  |
| (If Yes → ) | Previous Coronary Artery Bypass (CAB): \*\*  Yes  No PrCAB (670)  |
|  | Previous Valve Procedure: \*\*  Yes  No (If PrValve Yes, Enter at least one previous valve procedure and up to 5 ↓)PrValve (675)  |
|  |  | #1\*\* PrValveProc1 (695)  | #2\*\*PrValveProc2 (700)  | #3\*\* PrValveProc3 (705)  | #4\*\* PrValveProc4 (710)  | #5\*\* PrValveProc5 (715)  |
|  | No additional valve procedure(s) |  |  |  |  |  |
|  | Aortic valve balloon valvotomy/valvuloplasty |  |  |  |  |  |
|  | Aortic valve repair, surgical |  |  |  |  |  |
|  | Aortic valve replacement, surgical |  |  |  |  |  |
|  | Aortic valve replacement, transcatheter |  |  |  |  |  |
|  | Mitral valve balloon valvotomy/valvuloplasty |  |  |  |  |  |
|  | Mitral valve commissurotomy, surgical |  |  |  |  |  |
|  | Mitral valve repair, percutaneous |  |  |  |  |  |
|  | Mitral valve repair, surgical |  |  |  |  |  |
|  | Mitral valve replacement, surgical |  |  |  |  |  |
|  | Mitral valve replacement, transcatheter |  |  |  |  |  |
|  | Tricuspid valve balloon valvotomy/valvuloplasty |  |  |  |  |  |
|  | Tricuspid valve repair, percutaneous |  |  |  |  |  |
|  | Tricuspid valve repair, surgical |  |  |  |  |  |
|  | Tricuspid valve replacement, surgical |  |  |  |  |  |
|  | Tricuspid valve replacement, transcatheter |  |  |  |  |  |
|  | Tricuspid valvectomy |  |  |  |  |  |
|  | Pulmonary valve balloon valvotomy/valvuloplasty |  |  |  |  |  |
|  | Pulmonary valve repair, surgical |  |  |  |  |  |
|  | Pulmonary valve replacement, surgical |  |  |  |  |  |
|  | Pulmonary valve replacement, transcatheter |  |  |  |  |  |
|  | Pulmonary valvectomy |  |  |  |  |  |
|  | Other valve procedure |  |  |  |  |  |
|  | Previous PCI: \*\*  Yes  No POCPCI (775)  |
|  | (If Yes →) | PCI Performed Within This Episode Of Care: \*\*  Yes, at this facility  Yes, at some other acute care facility  No POCPCIWhen (780) (If Yes, at this facility or Yes, at some other acute care facility ↓) |
|  |  |  | Indication for Surgery: |  PCI Complication  |  PCI Failure without Clinical Deterioration |
|  |  |  | POCPCIndSurg (785) |  PCI Failure with Clinical Deterioration |  PCI/Surgery Staged (not STEMI) |
|  |  |  PCI for STEMI, multivessel disease |  Other |
|  |  | PCI Stent:  Yes  No POCPCISt (790) | PCI Interval: \*\*  <= 6 Hours  > 6 HoursPOCPCIIn (800)  |
|  | Other Previous Cardiac Interventions: \*\*  Yes  No (If Yes, Enter at least one previous other cardiac procedure and up to 7 ↓) POC (805)  |
|  |  | #1\*\* POCInt1 (810)  | #2\*\* POCInt2 (815)  | #3\*\* POCInt3 (820)  | #4\*\* POCInt4 (825)  | #5\*\* POCInt5 (830)  | #6\*\* POCInt6 (835)  | #7\*\* POCInt7 (840)  |
|  | No additional interventions  |  |  |  |  |  |  |  |
|  | Ablation, catheter, atrial arrhythmia |  |  |  |  |  |  |  |
|  | Ablation, catheter, other or unknown |  |  |  |  |  |  |  |
|  | Ablation, catheter, ventricular arrhythmia |  |  |  |  |  |  |  |
|  | Ablation, surgical, atrial arrhythmia |  |  |  |  |  |  |  |
|  | Ablation, surgical, other or unknown |  |  |  |  |  |  |  |
|  | Aneurysmectomy, LV |  |  |  |  |  |  |  |
|  | Aortic procedure, arch |  |  |  |  |  |  |  |
|  | Aortic procedure, ascending |  |  |  |  |  |  |  |
|  | Aortic procedure, descending |  |  |  |  |  |  |  |
|  | Aortic procedure, root |  |  |  |  |  |  |  |
|  | Aortic procedure, thoracoabdominal |  |  |  |  |  |  |  |
|  | Aortic Procedure, TEVAR |  |  |  |  |  |  |  |
|  | Aortic root procedure, valve sparing |  |  |  |  |  |  |  |
|  | Atrial appendage obliteration, left, surgical  |  |  |  |  |  |  |  |
|  | Atrial appendage obliteration, left, transcatheter |  |  |  |  |  |  |  |
|  | Cardiac Tumor |  |  |  |  |  |  |  |
|  | Cardioversion(s) |  |  |  |  |  |  |  |
|  | Closure device, atrial septal defect |  |  |  |  |  |  |  |
|  | Closure device, ventricular septal defect |  |  |  |  |  |  |  |
|  | Congenital cardiac repair, surgical |  |  |  |  |  |  |  |
|  | ECMO |  |  |  |  |  |  |  |
|  | Implantable Cardioverter Defibrillator (ICD) with or without pacemaker |  |  |  |  |  |  |  |
|  | Myectomy (not congenital) |  |  |  |  |  |  |  |
|  | Permanent Pacemaker |  |  |  |  |  |  |  |
|  | Pericardial window/Pericardiocentesis |  |  |  |  |  |  |  |
|  | Pericardiectomy |  |  |  |  |  |  |  |
|  | Pulmonary Thromboembolectomy |  |  |  |  |  |  |  |
|  | Total Artificial Heart (TAH) |  |  |  |  |  |  |  |
|  | Transmyocardial Laser Revascularization (TMR) |  |  |  |  |  |  |  |
|  | Transplant heart & lung |  |  |  |  |  |  |  |
|  | Transplant, heart |  |  |  |  |  |  |  |
|  | Transplant, lung(s) |  |  |  |  |  |  |  |
|  | Ventricular Assist Device (VAD), BiVAD |  |  |  |  |  |  |  |
|  | Ventricular Assist Device (VAD), left |  |  |  |  |  |  |  |
|  | Ventricular Assist Device (VAD), right |  |  |  |  |  |  |  |
|  | Other Cardiac Intervention (not listed) |  |  |  |  |  |  |  |

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| **F. Preoperative Cardiac Status** |
| Prior Myocardial Infarction:  Yes  No  Unknown (If Yes ↓) PrevMI (885) |
|  | MI When:\*\*  <=6 Hrs.  >6 Hrs. but <24 Hrs.  1 to 7 Days  8 to 21 Days  >21 Days MIWhen (890)  |
| Primary Coronary Symptom for Surgery:\*\* CardSympTimeOfAdm (895)  |  No Coronary Symptoms  Angina Equivalent  Stable Angina  Unstable Angina  ST Elevation MI (STEMI)  Non-ST Elevation MI (Non-STEMI) Other |
| Heart Failure: Yes  No  Unknown (If Yes→)HeartFail (911) | Timing:\*\*  Acute  Chronic  Both HeartFailTmg (912)  | Type:  Systolic  Diastolic  Both  Unavailable HeartFailType (913) |
| Classification-NYHA:\*\*  Class I  Class II  Class III  Class IV  Not Documented ClassNYH (915)  |
| Cardiogenic Shock :\*\*  Yes, at the time of the procedure  Yes, not at the time of the procedure but within prior 24 hours  No CarShock (930)  |
| Resuscitation:\*\*  Yes - Within 1 hour of the start of the procedure  Yes - More than 1 hour but less than 24 hours of the start of the procedure  No Resusc (935)  |
| Cardiac Arrhythmia:  Yes  No Arrhythmia (945) |
| (If Arrhythmia = Yes →) | Permanently Paced Rhythm:  Yes  No ArrhythPPaced (947) |
| (If Arrhythmia = Yes , choose one response below for each rhythm →) | VTach/VFib\*\* ArrhythVV (950)  | Sick Sinus Syndrome\*\*ArrhythSSS (955)  | AFlutter\*\* ArrhythAFlutter (960)  | AFibrillation\*\* ArrhythAtrFib (961)  | Second Degree Heart Block\*\* ArrhythSecond (965)  | Third Degree Heart Block\*\* ArrhythThird (970)  |
| None |  |  |  |  |  |  |
| Remote (> 30 days preop) |  |  |  |  |  |  |
| Recent (<= 30 days preop) |  |  |  |  |  |  |
| (If AFibrillation is not None →) | Atrial Fibrillation Type:  Paroxysmal  Persistent ArrhythAFib (971) \*\* |
| (If AFibrillation = Recent →) | Was patient in A-fib at OR Entry? Yes  NoAFibRecOREntry (972)  |

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| **G. Preoperative Medications** |
| **Medication** | **Timeframe** | **Administration** |
| ACE or ARB \*\*MedACEI48 (1020) | Within 48 hours |  Yes  No  Contraindicated  Unknown |
| Amiodarone MedAmiodarone (1025) | Prior to surgery |  Yes, on home therapy  Yes, therapy started this admission  No  Unknown |
| Antianginal | Beta Blocker ++MedBeta (1030) | Within 24 hours |  Yes  No  Contraindicated  |
| Beta Blocker MedBetaTher (1035) | On therapy for ≥ 2 weeks prior to surgery |  Yes  No  Contraindicated  Unknown |
| Calcium Channel Blocker MedCChanTher (1040) | On therapy for ≥ 2 weeks prior to surgery |  Yes  No  Contraindicated  Unknown |
| Long-acting Nitrate MedLongActNit (1045) | On therapy for ≥ 2 weeks prior to surgery |  Yes  No  Contraindicated  Unknown |
| Nitrates, intravenous MedNitIV (1050) | Within 24 hours |  Yes  No  |
| Other Antianginal MedOthAntiang (1055) | On therapy for ≥ 2 weeks prior to surgery |  Yes  No  Contraindicated  Unknown |
| Antiplatelet | ADP Inhibitor \*\*(includes P2Y12) MedADP5Days (1060) | Within 5 days |  Yes  No  Contraindicated  Unknown |
| (If Yes→) | ADP Inhibitors Discontinuation: \*\* \_\_\_\_\_\_\_ (# days prior to surgery) MedADPIDis (1065)  |
| Aspirin MedASA (1070) | Within 5 days |  Yes  No  Contraindicated  Unknown |
| (If Yes→) | Aspirin Discontinuation: \_\_\_\_\_\_\_ (# days prior to surgery) MedASADis (1071) |
| Aspirin one time dose:  Yes  No MedASAOnce (1072) |
| Glycoprotein IIb/IIIa \*\*MedGP (1073)  | Within 24 hours |  Yes  No  |
| Anticoagulant | Anticoagulants (Intravenous/ SubQ) MedACoag (1075) | Within 48 hours |  Yes  No MedACMN (1080)  |
|  |  | (If Yes →) |  Heparin (Unfractionated)  Heparin (Low Molecular)  BothOther  |
| Warfarin (Coumadin) MedCoum5Days (1091) | Within 5 days |  Yes  No  Unknown |
| (If Yes→) | Coumadin Discontinuation: \_\_\_\_\_\_\_ (# days prior to surgery) MedCoum5Dis (1092) |
| Direct Oral Anticoagulant (DOAC)MedDOAC (1093)  | Within 5 days |  Yes  No  Unknown  |
| (If Yes→)  | DOAC Discontinuation: \_\_\_\_\_\_\_\_\_ (# days prior to surgery)MedDOAC5Dis (1094) |
|  | Thrombolytics MedThrom (1125) | Within 24 hours |  Yes  No |
| Inotropic, Intravenous \*\*MedInotr (1130) | Within 48 hours |  Yes  No  |
| Lipid Lowering MedLipid (1135) | Within 24 hours |  Yes  No  Contraindicated  Unknown |
| (If Yes→) | Medication Type :  Statin  Statin + Other  Non-statin/Other MedLipType (1141) |
| Steroids \*\*MedSter (1143) | Within 24 hours |  Yes  No  Contraindicated  Unknown |

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| **H. Hemodynamics/Cath/Echo**  |
| Cardiac Catheterization Performed :  Yes  No (If Yes→) CarCathPer (1145) | Cardiac Catheterization Date: \_\_ \_\_/ \_\_ \_\_/\_\_ \_\_ \_\_ \_\_ CarCathDt (1150) |
| Coronary Anatomy/Disease known:  Yes  No (If Yes ↓) CorAnatDisKnown (1155) |
|  | Number Diseased Vessels : \*\*NumDisV (1170) (If one, two or three vessel disease ↓) |  None  One  Two  Three |
|  | \*\*Left Main stenosis ≥ 50% known  Yes  No  N/ AStenLeftMain (1174) |
|  | (If Yes→) | Is location of stenosis known:  Yes  NoStenLeftMainLctnKn (1176) |
|  | (If Yes select all that apply→)  |  Native Artery Stenosis  Stenotic Graft  Stenotic StentStenLeftMainLctn (1177) |
|  | \*\*LAD distribution stenosis ≥ 50% known  Yes  No  N/ALADDistSten (1178) |
|  | (If Yes→) |  50-69%  ≥ 70%LADDistStenPercent (1179) |
|  | Is location of stenosis known:  Yes  NoLADDistStenCurRevLocK (1180) |
|  |  | (If Yes select all that apply→)  |  Native Artery Stenosis  Stenotic Graft  Stenotic StentLADDistStenCurRev (1181)  |
|  | Ramus stenosis ≥ 50% known  Yes  No  N/ARamusSten (1182)  |
|  | (If Yes→) |  50-69%  ≥ 70%RamusStenPercent (1183) |
|  | Is location of stenosis known:  Yes  NoRamusStenCurRevLocK (1184) |
|  |  | (If Yes select all that apply→)  |  Native Artery Stenosis  Stenotic Graft  Stenotic StentRamusStenCurRev (1185)  |
|  | Circumflex distribution stenosis ≥ 50% known  Yes  No  N/ACircDistSten (1186)  |
|  | (If Yes→) |  50-69%  ≥ 70%CircDistStenPercent (1187) |
|  | Is location of stenosis known:  Yes  NoCircDistStenCurRevLocK (1188) |
|  |  | (If Yes select all that apply→)  |  Native Artery Stenosis  Stenotic Graft  Stenotic StentCircDistStenCurRev (1189) |
|  | RCA distribution stenosis ≥ 50% known  Yes  No  N/ARCADistSten (1190)  |
|  | (If Yes→) |  50-69%  ≥ 70%RCADistStenPercent (1191) |
|  | Is location of stenosis known:  Yes  NoRCADistStenCurRevLocK (1192) |
|  |  | (If Yes select all that apply→)  |  Native Artery Stenosis  Stenotic Graft  Stenotic Stent RCADistStenCurRev (1193)  |
| Ejection Fraction Done:  Yes  No (If Yes→) HDEFD (1540) | Ejection Fraction: \*\* \_\_\_\_\_\_\_\_\_ (%)HDEF (1545)  |
| Dimensions Available:  Yes  No (If Yes→) DimAvail (1555) | LV End-Systolic Dimension: \_\_\_\_\_\_\_\_ (mm) LVSD (1560) | LV End-Diastolic Dimension: \_\_\_\_\_\_\_ (mm) LVEDD (1565) |
| PA Systolic Pressure Measured:  Yes  No (If Yes→) PASYSMeas (1570) | PA Systolic Pressure: \_\_\_\_\_\_\_\_ mmHg PASYS (1575) |
| **Aortic Valve** |
| Aortic Valve Regurgitation:  Yes  NoAorticValveRegurg (1585) |
| (If Yes →) | Aortic Valve Regurgitation: \*\* Trivial/Trace  Mild  Moderate  Severe  Not DocumentedVDInsufA (1590)  |
| Aortic Valve Stenosis: \*\*  Yes  NoVDStenA (1600)  |
| (If Yes →) | Aortic Valve Stenosis:  Mild  Moderate  Severe  Not DocumentedAVStenosis (1601) |
|  (If Yes →)  | Hemodynamic/Echo Data Available:  Yes  No  AoHemoDatAvail (1605) |
| (If Yes →) | Aortic Valve Area: \_\_\_\_\_\_\_\_ cm2 VDAoVA (1610) |
| Mean Gradient: \_\_\_\_\_\_\_\_ mmHg VDGradA (1615) |
| Aortic Jet Velocity (Vmax): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_m/s VDVMax (1616) |
| Aortic Valve Disease:  Yes  No VDAort (1617) |
|  (If Aortic Valve Disease, Yes→)  | AV Disease Etiology: \*\* Choose PRIMARY Etiology (one) VDAoPrimEt (1646)  |
|  | Bicuspid valve disease |  | Primary Aortic Disease, Atherosclerotic Aneurysm |
|  | Unicuspid valve disease |  | Primary Aortic Disease, Ehlers-Danlos Syndrome |
|  | Quadricuspid valve disease |  | Primary Aortic Disease, Hypertensive Aneurysm |
|  | Congenital (other than Bicuspid, Unicuspid, or Quadricuspid) |  | Primary Aortic Disease, Idiopathic Root Dilatation |
|  | Degenerative- Calcified |  | Primary Aortic Disease, Inflammatory |
|  | Degenerative- Leaflet prolapse with or without annular dilation |  | Primary Aortic Disease, Loeys-Dietz Syndrome |
|  | Degenerative- Pure annular dilatation without leaflet prolapse |  | Primary Aortic Disease, Marfan Syndrome |
|  | Degenerative- Commissural rupture |  | Primary Aortic Disease, Other Connective tissue disorder |
|  | Degenerative- Extensive fenestration |  | Radiation induced heart disease |
|  | Degenerative- Leaflet perforation/hole |  | Reoperation-Failure of previous AV repair or replacement |
|  | Endocarditis, native valve with root abscess |  | Rheumatic |
|  | Endocarditis, native valve without root abscess |  | Supravalvular Aortic Stenosis |
|  | Endocarditis, prosthetic valve with root abscess |  | Trauma |
|  | Endocarditis, prosthetic valve without root abscess |  | Carcinoid |
|  | LV Outflow Tract Pathology, HOCM |  | Tumor, Myxoma |
|  | LV Outflow Tract Pathology, Sub-aortic membrane |  | Tumor, Papillary Fibroelastoma |
|  | LV Outflow Tract Pathology, Sub-aortic tunnel |  | Tumor, Other |
|  | LV Outflow Tract Pathology, Other |  | Mixed Etiology |
|  | Primary Aortic Disease, Aortic Dissection |  | Not Documented |
| **Mitral Valve** |
| Mitral Valve Regurgitation: Yes  NoMVRegurg (1679) |
| (If Yes →)  | Mitral Regurgitation: \*\* Trivial/Trace Mild  Moderate  Severe  Not Documented VDInsufM (1680)  |
| Mitral Valve Stenosis: \*\*  Yes  No VDStenM (1690)  |
| (If Yes →)  | Mitral Valve Stenosis:  Mild  Moderate  Severe  Not DocumentedMVStenDeg (1691)  |
| Hemodynamic/ Echo data available:  Yes  No MiHemoDatAvail (1695) |
| (If Yes →) | Valve Area: \_\_\_\_\_\_\_\_ cm2VDMVA (1700) |
| Mean Gradient: \_\_\_\_\_\_\_\_ mmHg VDGradM (1705) |
| Mitral Valve Disease:  Yes  No VDMit (1710) |
| Choose PRIMARY Lesion (one): VDMitDis (1711) (If Mitral Valve Disease, Yes ↓) |
|  |  Class I – Normal Leaflet Mobility (If Class I →)VDMitDisClsITy (1712)  | Pure Annular Dilatation Endocarditis, Native ValveOther/ Unknown/Not Available |
|  Class II – Increased Leaflet Mobility (If Class II →)VDMitDisClsIITy (1713) | Myxomatous degenerative prolapse/flail Endocarditis Other/Unknown/Not Available |
| (If Myxomatous→)VDMitDisClsIIMyo (1714) | Posterior Leaflet Anterior Leaflet Both |
|  Class III A– Restricted Leaflet Mobility (systole and diastole) (If Class III A →)VDMitDisClsIIIATy (1715) | RheumaticTumor (Carcinoid or Other) Radiation Induced Heart DiseaseMACCongenitalOther/Unknown/Not Available |
|  Class III B – Restricted Leaflet Mobility (systole only) (If Class III B →)VDMitDisClsIIIBTy (1716) | Ischemic (acute/chronic)Non-ischemic CardiomyopathyHCMOther/Unknown/Not Available |
|  Mixed Lesion (Type II and Type IIIA) (If Mixed Lesion →)VDMitDisMixedTy (1717)  | Mixed leaflet lesion (prolapse/flail and restriction)CongenitalMACOther/Unknown/Not Available |
|  Acute Papillary muscle rupture |
| Reoperative-Failure of previous MV repair or replacement |
|  Other/Unknown/Not Available |
| **Tricuspid Valve** |
| Tricuspid Valve Regurgitation:  Yes  NoTricuspidVRegurg (1774)  |
| (If Yes→)  | Tricuspid Regurgitation: \*\* Trivial/Trace  Mild  Moderate  Severe  Not Documented VDInsufT (1775)  |
| Tricuspid Valve Stenosis: Yes  No VDStenT (1776) |
| (If Yes→)  |  Tricuspid Valve Stenosis:  Mild  Moderate  Severe  Not DocumentedTricuspidValveSten (1777) |
| Tricuspid Valve Disease:  Yes  No VDTr (1778) |
| (If Tricuspid Disease, Yes →) | Tricuspid Annular Echo Measurement Available:  Yes  No (If Yes→)DTrAnnMeas (1779) | Tricuspid Diameter: \_\_\_\_\_\_\_ cm VDTrAnnSize (1780) |
| (If Tricuspid Disease, Yes ↓) | TV Etiology: Choose ONE PRIMARY Etiology: VDTrPrimEt (1811)) |
|  | Functional/ secondary |  | Rheumatic |
|  | Endocarditis, Native Valve |  | Tumor |
|  | Endocarditis, Prosthetic Valve |  | Radiation induced heart disease |
|  | Carcinoid |  | Trauma |
|  | Congenital |  | Reoperation-Failure of previous TV repair or replacement |
|  | Degenerative |  | Mixed etiology |
|  | Pacing wire/catheter induced dysfunction |  | Not Documented |
| **Pulmonic Valve** |
| Pulmonic Valve Regurgitation:  Yes  NoPulmonicValveRegurg (1812) |
| (If Yes→)  | Pulmonic Valve Regurgitation:  Trivial/Trace  Mild  Moderate  Severe  Not Documented VDInsufP (1820) |
| Pulmonic Valve Stenosis:  Yes  No VDStenP (1822) |
| (If Yes→)  | Pulmonic Valve Stenosis:  Mild  Moderate  Severe  Not DocumentedPulmValveSten (1823) |
| Hemodynamic /Echo data available:  Yes  NoPuHemoDatAvail (1824) |
|  | (If Yes→)  | Mean Gradient : \_\_\_\_\_\_\_mmHg VDGradP (1825) |
| Pulmonic Valve Disease:  Yes  No VDPulm (1828) |
| (If Pulmonic Valve Disease, Yes→) | Etiology: (choose one) VDPuEt (1855) |
|  | Acquired |  | Endocarditis |
|  | Radiation induced heart disease |  | Endocarditis, Prosthetic valve |
|  | Congenital, s/p Tetralogy of Fallot (TOF) repair |  | Mixed etiology |
|  | Congenital, no prior Tetralogy of Fallot (TOF) repair |  | Other |
|  | Reoperation-Failure of previous PV repair or replacement |  | Not Documented |

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| **I. Operative** |
| Surgeon: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Surgeon (1955) | Surgeon NPI: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ SurgNPI (1960) |
| Taxpayer Identification Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TIN (1965) |
|  Indicate whether the STS Risk Calculator score was discussed with the patient/family prior to surgery. ++ RiskDiscussed (1966)  |
|  |   Yes, STS risk calculator score was calculated and discussed with the patient/family prior to surgery as documented in the medical record |
|  No, STS risk calculator score was available for scheduled procedure but not discussed with the patient/family prior to surgery or the discussion was not documented |
|   NA, Not applicable (emergent or salvage case, or no risk model available for this procedure) |
| Incidence: \*\* Incidenc (1970)  |  First cardiovascular surgery  |  Third re-op cardiovascular surgery |
|  First re-op cardiovascular surgery |  Fourth or more re-op cardiovascular surgery |
|  Second re-op cardiovascular surgery |  NA- not a cardiovascular surgery |
| Status: \*\*Status (1975)  |  Elective  |  Urgent |  Emergent |  Emergent Salvage  |
|  | (If Urgent or Emergent or Emergent Salvage choose the most pressing reason↓) Urgent / Emergent/ Emergent Salvage reason: UrgEmergRsn (1990) |
|  |  | AMI |  | PCI Incomplete without clinical deterioration |
|  |  | Anatomy  |  | PCI or attempted PCI with clinical deterioration |
|  |  | Aortic Aneurysm  |  | Pulmonary Edema  |
|  |  | Aortic Dissection  |  | Pulmonary Embolus  |
|  |  | CHF  |  | Rest Angina |
|  |  | Device Failure  |  | Shock, Circulatory Support  |
|  |  | Diagnostic/Interventional Procedure Complication  |  | Shock, No Circulatory Support  |
|  |  | Endocarditis  |  | Syncope  |
|  |  | Failed Transcatheter Valve Therapy , acute annular disruption  |  | Transplant |
|  |  | Failed Transcatheter Valve Therapy , acute device malposition |  | Trauma  |
|  |  | Failed Transcatheter Valve Therapy , subacute device dysfunction  |  | USA  |
|  |  | IABP  |  | Valve Dysfunction  |
|  |  | Infected Device  |  | Worsening CP  |
|  |  | Intracardiac mass or thrombus |  | Other |
|  |  | Ongoing Ischemia  |  |  |
| Initial Operative Approach: OPApp (2100) |  Full conventional sternotomy Partial sternotomy  Sub-xiphoid Thoracotomy | Thoracoabdominal Incision Percutaneous  Port Access Other |
| Approach converted during procedure:  Yes  No ApproachCon (2105) |
| Robot Used:  Yes  No (If Yes →) Robotic (2110) |  Used for entire operation  Used for part of the operation RobotTim (2115) |
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| Coronary Artery Bypass Procedure Performed: OpCAB (2120) |  Yes, planned  Yes, unplanned due to surgical complication  Yes, unplanned due to unsuspected disease or anatomy  No (If Yes complete Section J) |
| Aorta Procedure Performed: AortProc (2123) |  Yes, planned  Yes, unplanned due to surgical complication  Yes, unplanned due to unsuspected disease or anatomy  No (If Yes complete Section M 2) |
| (If Aorta Procedure performed →) | Did the surgeon provide input for aortic surgery data abstraction?  Yes  No AortProcSurgInput (2124) |
| Valve Procedure Performed: OpValve (2129) |  Yes  No  |
| (If Yes →) | Was a valve explanted:  Yes  No ValExp (2130) (If Yes complete Section K) |
| Aortic Valve Procedure performed:VSAV (2131) |  Yes, planned  Yes, unplanned due to surgical complication  Yes, unplanned due to unsuspected disease or anatomy  No |
|  | (If Yes →) | Was a procedure performed on the Aorta?  Yes  NoAVAortaProcPerf (2132) (If ‘Yes’ complete M2; If ‘No’ complete K1)  |
| Mitral Valve Procedure performed: VSMV (2133) |  Yes, planned  Yes, unplanned due to surgical complication  Yes, unplanned due to unsuspected disease or anatomy  No (If Yes complete K2)  |
| Tricuspid Valve Procedure performed: VSTV (2134) |  Yes, planned  Yes, unplanned due to surgical complication  Yes, unplanned due to unsuspected disease or anatomy  No(If Yes complete K3) |
| Pulmonic Valve Procedure performed: VSPV (2135) |  Yes, planned  Yes, unplanned due to surgical complication  Yes, unplanned due to unsuspected disease or anatomy  No(If ‘Yes’ complete K4) |
| Did the surgeon provide input for valve surgery data abstraction?  Yes  No OpValSurgInput (2136) |

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| Mechanical Assist Device/Ventricular Assist Device: (Present on Admission/Implanted/Explanted)MechVentAssistDevice (2137) |  Yes  No (If ‘Yes” complete section L)  |
| Other Cardiac Procedure, except Afib:  Yes, planned OpOCard (2140)  Yes, unplanned due to surgical complication   Yes, unplanned due to unsuspected disease or anatomy   No (If Yes, Complete Section M) |
| Afib Procedure :  Yes  No (If Yes, Complete Section M 1) AFibProc (2145) |
| (If Yes →)  | Did the surgeon provide input for Afib data abstraction?  Yes  NoAFibProcSurgInput (2146) |
| Other Cardiac Procedure, Congenital Procedure (Except Unicuspid, Bicuspid, Quadricuspid Valve): Yes  No (If Yes, Complete Section M 3)OCarCong (2150) |
| Other Non-Cardiac Procedure:  Yes  No (If Yes, Complete Section N)OpONCard (2155) |
| Enter up to 10 CPT-1 Codes pertaining to the surgery for which the data collection form was initiated: |
| 1. \_\_\_\_\_ CPT1Code1 (2195) | 2. \_\_\_\_\_\_ CPT1Code2 (2200) | 3. \_\_\_\_\_\_ CPT1Code3 (2205) | 4. \_\_\_\_\_\_\_ CPT1Code4 (2210) | 5. \_\_\_\_\_\_\_ CPT1Code5 (2215) |
| 6. \_\_\_\_\_\_ CPT1Code6 (2220) | 7. \_\_\_\_\_\_ CPT1Code7 (2225) | 8. \_\_\_\_\_\_ CPT1Code8 (2230) | 9. \_\_\_\_\_\_\_ CPT1Code9 (2235) | 10. \_\_\_\_\_\_ CPT1Code10 (2240) |
| OR Entry Date And Time: \_\_ \_\_/\_\_ \_\_/\_\_ \_\_ \_\_ \_\_ \_\_ \_\_: \_\_ \_\_ (mm/dd/yyyy hh:mm - 24 hr clock) OREntryDT (2245) |
| OR Exit Date And Time: ++ \_\_ \_\_/\_\_ \_\_/\_\_ \_\_ \_\_ \_\_ \_\_ \_\_:\_\_ \_\_ (mm/dd/yyyy hh:mm - 24 hr clock) ORExitDT (2250)  |
| General Anesthesia:  Yes  No (If General Anesthesia No→) GenAnes (2251) | Procedural Sedation :  Yes  NoProcSed (2252) |
| (If General Anesthesia Yes →)  | Intubation: Intubate (2253)  |  Yes, prior to entering OR for this procedure Yes, in OR for this procedure No  |
| Skin Incision Start Date and Time: \_\_ \_\_/\_\_ \_\_/\_\_ \_\_ \_\_ \_\_ \_\_ \_\_: \_\_ \_\_ (mm/dd/yyyy hh:mm - 24 hr clock) SIStartDT (2265) |
| Skin Incision Stop Date and Time: \_\_ \_\_/\_\_ \_\_/\_\_ \_\_ \_\_ \_\_ \_\_ \_\_: \_\_ \_\_ (mm/dd/yyyy hh:mm - 24 hr clock) SIStopDT (2270) |
| Appropriate Antibiotic Selection: ++ AbxSelect (2280)  Yes  No  Exclusion | Appropriate Antibiotic Administration Timing: AbxTiming (2285) Yes  No  Exclusion | Appropriate Antibiotic Discontinuation: ++AbxDisc (2290)  Yes  No  Exclusion |
| Temperature Measured:  Yes  No TempMeas (2296) |  |
| (If Yes→) | Lowest Temperature (o C): \_\_\_\_\_\_\_\_\_\_ LwstTemp (2300) | Temperature Source: LwstTempSrc (2305) |  Esophageal  CBP venous return  Bladder  Nasopharyngeal  Tympanic  Rectal Jugular-Venous Oxygenator arterial outlet blood (CBP Arterial blood)Pulmonary Artery  Other  Unknown |
| Lowest Intra-op Hemoglobin : \_\_\_\_\_\_\_\_\_\_ LwstIntraHemo (2310) | Lowest Intra-op Hematocrit : \_\_\_\_\_\_\_\_ LwstHct (2315) | Highest Intra-op Glucose: \_\_\_\_\_\_\_\_\_\_ HighIntraGlu (2320) |
| Perfusion Strategy CPBUtil (2325) |  None |  |
|  Left Heart Bypass |  |
|  Combination | (If Combination→)  | Combination Plan:  Planned  Unplanned (If Unplanned↓) CPBCmb (2330) |
|  |  |  | Unplanned Reason: CPBCmbR (2335) |  Exposure/visualization  Bleeding  Inadequate size/ diffuse disease of distal vessel  Hemodynamic instability (hypotension/arrhythmias)  Conduit quality and/or trauma  Other  |
|  |  Full |  |
|  |  | (If Left Heart Bypass, Combination or Full ↓) |
|  |  | Arterial Cannulation Insertion Site: (Select all that apply↓)ArtCannInsertSite (2336) |
|  |  |  Aortic  |  Axillary |  Femoral  |  Innominate |  Other  |
|  |  | Venous Cannulation Insertion Site: (Select all that apply↓)VenCannInsertSite (2361)  |
|  |  |  Femoral  |  Pulmonary Vein |  Jugular |  SVC |
|  |  |  Rt. Atrial |  Lt. Atrial  |  Other |  |
|  |  | Cardiopulmonary Bypass Time (minutes): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ PerfusTm (2400) |
| Circulatory Arrest:  Yes  No CircArr (2405) |  |
| (If Circulatory Arrest = Yes→) | Lowest Hematocrit during CPB: \_\_\_\_\_\_\_LowestHematocritCPB (2406) |
| Circulatory Arrest Without Cerebral Perfusion Time: \_\_\_\_\_\_\_\_\_\_\_ (min) DHCATm (2410) |
| Circulatory Arrest With Cerebral Perfusion:  Yes  No CPerfUtil (2415) |
|  | (If Circ Arrest w/ Cerebral Perfusion = Yes →) | Cerebral Perfusion Time: \_\_\_\_\_\_\_\_\_\_\_ (min) CPerfTime (2420) |
|  | Cerebral Perfusion Type:  Antegrade  Retrograde  Both antegrade and retrograde CPerfTyp (2425) |
|  | Total Circulatory Arrest Time: \_\_\_\_\_\_\_\_\_\_(System Calculation) TotCircArrTm (2426) |
|  | Cooling Time prior to Circ Arrest: \_\_\_\_\_\_\_\_minsCoolingTimePriorCircArr (2427) |
| Aortic Occlusion:AortOccl (2430) |  None – beating heart |  Aortic Cross clamp |
|  None – fibrillating heart |  Balloon Occlusion |
|  | (If Aortic cross clamp or Balloon occlusion →):  | Cross Clamp Time: \_\_\_\_\_\_\_\_\_\_\_ (min) XClampTm (2435) |
| Cardioplegia Delivery: CplegiaDeliv (2440)  None  Antegrade  Retrograde  Both |
|  | (If Antegrade, Retrograde or Both→) Type of Cardioplegia used:  Blood  Crystalloid  Both  Other  CplegiaType (2445) |
| Cerebral Oximetry Used:  Yes  No CerOxUsed (2450) |
| Intraop Blood Products:  Yes  No, Not Given Patient RefusedIBldProd (2515) |
| (If Yes →)  | Red Blood Cell Units: \_\_\_\_\_\_ IBdRBCU (2520) | Platelet Dose Pack: \_\_\_\_\_\_\_\_\_IBdPlatDosePk (2521) |
|  | Fresh Frozen Plasma/Plasma Units: \_\_\_\_\_\_\_ IBdFFPU (2525) | Cryoprecipitate Units: \_\_\_\_\_\_\_\_ IBdCryoU (2535) |
| Intraop Clotting Factors :  Yes, Factor VIIa  Yes, Factor VIII  Yes, FEIBA  Yes, Composite  No IntraClotFact (2545) |
| Intraop Prothrombin Complex concentrate:  Yes  No IntraopProComCon (2546) |
| Was intraop Antifibrinolytic Medication given:  Yes  NoIAntifibMedGiven (2556) |
| (If Yes →) | Intraop Antifibrinolytic Medication (select all that apply):  Epsilon Amino-Caproic Acid  Tranexamic Acid  AprotininIAntifibMed (2557)  |
| Intraoperative TEE Performed post procedure:  Yes  No (If Yes ↓) InOpTEE (2560) |
|  | Highest level aortic insufficiency found: PRepAR (2565) |
|  |  None Trivial/Trace  Mild  Moderate  Severe  Not Documented  |
|  | Mean Aortic Gradient:\_\_\_\_\_ PRepAGradM (2566) |
|  | Aortic Paravalvular leak: PRepAPVL (2567) |
|  | No Prosthetic Valve  None  Trivial/Trace  Mild  Moderate  Severe  Not Documented  |
|  | Highest level Mitral insufficiency found: PRepMR (2570) |
|  |  None Trivial/Trace  Mild  Moderate  Severe  Not Documented  |
|  | Mean Mitral Gradient:\_\_\_\_\_\_\_ PRepMGradM (2571) |
|  | Mitral Paravalvular leak: PRepMPVL (2572) |
|  | No Prosthetic Valve  None  Trivial/Trace  Mild  Moderate  Severe  Not Documented  |
|  | Highest level Tricuspid insufficiency found: PRepTR (2575) |
|  |  None Trivial/Trace  Mild  Moderate  Severe  Not Documented  |
|  | Mean Tricuspid Gradient:\_\_\_\_\_\_\_ PRepTGradM (2576) |
|  | Tricuspid Paravalvular leak: PRepTPVL (2577) |
|  | No Prosthetic Valve  None  Trivial/Trace  Mild  Moderate  Severe  Not Documented |
|  | Ejection Fraction Measured post procedure:  Yes  No (If Yes →) Ejection Fraction:\_\_\_\_\_ PPEFMeas (2581) PPEF (2582) |
| Surgery followed by a planned PCI:  Yes  No PPPlanedPCI (2606) |

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| **J. Coronary Bypass**  |
| (If Coronary Artery Bypass = Yes ↓)  |
| Internal Mammary Artery (arteries) used: ++  Yes  No IMAUsed (2626)  |
| (If Yes→) | Left IMA:  Yes, pedicle  Yes, skeletonized  No/NA LeftIMA (2627) |
| (If Yes→) | Right IMA:  Yes, pedicle  Yes, skeletonized  No/NA RightIMA (2628) |
| (If No→) | Reason for no IMA: NoIMARsn (2629) |  Subclavian stenosis |  Previous mediastinal radiation |  No (bypassable) LAD disease |  |
|  |  |  Previous cardiac or thoracic surgery |  Emergent or salvage procedure |  Other- acceptable STS provided exclusion(See Training Manual) |  Other not acceptable STS exclusion(See Training Manual) |
| Distal Anastomoses with Arterial Conduit(s)  Yes  NoDistAnastArtCond (2630)  |
| (If Yes→)  | Total Number of Distal Anastomoses with Arterial Conduits: \_\_\_\_\_\_\_\_\_TotalNoDistAnastArtCond (2631) |
| Distal Anastomoses with Radial Artery Conduit(s)  Yes  No (If Yes→)RadialArtUsed (2633) | Total Number of Distal Anastomoses with radial artery conduits: \_\_\_\_\_\_\_\_\_ NumRadDA (2634) |
| Radial Artery Harvest and Prep Time: \_\_\_\_\_\_\_\_\_\_\_ (minutes) RadHarvPrepTm (2636) |
| Distal Anastomoses with Venous Conduit(s) used:  Yes  No (If Yes→)VenousCondUsed (2637) | Total Number of Distal Anastomoses with venous conduits: \_\_\_\_\_\_\_ DistVein (2638) |
| Saphenous Vein Harvest and Prep Time: \_\_\_\_\_\_\_\_\_ (minutes) SaphHarPrepTm (2640) |
| Proximal Technique:  Single Cross Clamp  Partial Occlusion Clamp  Anastomotic Assist Device  None ProxTech (2710) |
| **CABG Grid Key:** (Refer to Data Specifications for Harvest Codes) |
| **Proximal Site**:  | 1=Aorta 2=T graft off artery 3=T graft off vein 4=In-situ IMA 5=Other |
| **Distal Site:**   | 1=Left Main Coronary Artery (LMCA) 2=LAD 3= Diagonal 4=Ramus Intermedius 5=Circumflex 6=Obtuse Marginal 7= RCA 8=PDA 9=Posterior Lateral 10=Acute Marginal ~~11=None~~  |
| **Distal Anastomosis Conduit:**  | 1=In-situ IMA 2=Free IMA 3=Vein 4=Radial artery 5=Other |
| Please use the key above and enter one  |
| Graft Number | Proximal Site | Distal Site  | Conduit | Distal Position | Endarterectomy |  |
| #1 | 1-5 (drop downs)CABProximalSite01 (2730) | 1-11CABDistSite01 (2740) | 1-5CABConduit01 (2750) |  Side to Side  End to SideCABDistPos01 (2755) |  Yes NoCABEndArt01 (2760) |
| #2Additional Grafts No Additional GraftsCAB02 (2770) | 1-5CABProximalSite02 (2790) | 1-11CABDistSite02 (2800) | 1-5CABConduit02 (2810) |  Side to Side  End to SideCABDistPos02 (2815) |  Yes NoCABEndArt02 (2820) |
| #3Additional Grafts No Additional GraftsCAB03 (2830) | 1-5CABProximalSite03 (2850) | 1-11CABDistSite03 (2860) | 1-5CABConduit03 (2870) |  Side to Side  End to SideCABDistPos03 (2875) |  Yes NoCABEndArt03 (2880) |
| #4Additional Grafts No Additional GraftsCAB04 (2890) | 1-5CABProximalSite04 (2910) | 1-11CABDistSite04 (2920) | 1-5CABConduit04 (2930) |  Side to Side  End to SideCABDistPos04 (2935) |  Yes NoCABEndArt04 (2940) |
| #5Additional Grafts No Additional GraftsCAB05 (2950) | 1-5CABProximalSite05 (2970) | 1-11CABDistSite05 (2980) | 1-5CABConduit05 (2990) |  Side to Side  End to SideCABDistPos05 (2995) |  Yes NoCABEndArt05 (3000) |
| #6Additional Grafts No Additional GraftsCAB06 (3010) | 1-5CABProximalSite06 (3030) | 1-11CABDistSite06 (3040) | 1-5CABConduit06 (3050) |  Side to Side  End to SideCABDistPos06 (3055) |  Yes NoCABEndArt06 (3060) |
| #7Additional Grafts No Additional GraftsCAB07 (3070) | 1-5CABProximalSite07 (3090) | 1-11CABDistSite07 (3100) | 1-5CABConduit07 (3110) |  Side to Side  End to SideCABDistPos07 (3115) |  Yes NoCABEndArt07 (3120) |
| #8Additional Grafts No Additional GraftsCAB08 (3130) | 1-5CABProximalSite08 (3150) | 1-11CABDistSite08 (3160) | 1-5CABConduit08 (3170) |  Side to Side  End to SideCABDistPos08 (3175) |  Yes NoCABEndArt08 (3180) |
| #9Additional Grafts No Additional GraftsCAB09 (3190) | 1-5CABProximalSite09 (3210) | 1-11CABDistSite09 (3220) | 1-5CABConduit09 (3230) |  Side to Side  End to SideCABDistPos09 (3235) |  Yes NoCABEndArt09 (3240) |
| #10Additional Grafts No Additional GraftsCAB10 (3250) | 1-5CABProximalSite10 (3270) | 1-11CABDistSite10 (3280) | 1-5CABConduit10 (3290) |  Side to Side  End to SideCABDistPos10 (3295) |  Yes NoCABEndArt10 (3300) |
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| **K. Valve Surgery Explant**  |  |
| (If Valve Explanted (ValExp) is Yes ↓) |  |
|  | First Valve Prosthesis Explant: |  |
|  | Explant Position:ValExpPos (3315) |  Aortic  Mitral  Tricuspid  Pulmonic  |  |
|  | Explant Type: ValExpTyp (3320) |  Mechanical Valve |  Bioprosthetic Valve |  Homograft |  Autograft |  |
|  |  Annuloplasty Device |  Leaflet Clip |  Transcatheter Valve  |  Transcatheter Valve in Valve with prosthetic valve |  |
|  |  Other |  Unknown |  |  |  |
|  | Explant Etiology: ValExpEt (3325) |  Endocarditis |  Incompetence |  Prosthetic Deterioration |  Thrombus |  |
|  |  Failed Repair |  Pannus |  Sizing/Positioning issue |  Other |  |
|  |  |  Hemolysis |  Paravalvular leak |  Stenosis |  Unknown |  |
|  |  |  |  |  |  |  |
|  | Explant Device known:  Yes  No (If Yes→)ValExpDevKnown (3330)  | Explant model#:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ValExpDev (3335) | Unique Device Identifier (UDI):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ValExpUDI (3340) |  |
|  | Year of Implant Known:  Yes  No (If Yes→) Year: \_\_\_\_\_\_\_\_\_ValExpYrKn (3341) ValExpYr (3342) |  |
|  | Second Valve Prosthesis Explant:  Yes  No (If Yes↓) ValExp2 (3350) |  |
|  | Explant Position: ValExpPos2 (3355) |  Aortic  Mitral  Tricuspid  Pulmonic |  |
| Explant Type: ValExpTyp2 (3360) |  Mechanical Valve |  Bioprosthetic Valve |  Homograft |  Autograft |  |
|  Annuloplasty Device |  Leaflet Clip |  Transcatheter Valve  |  Transcatheter Valve in Valve with prosthetic valve |  |
|  |  Other |  Unknown |  |  |  |
|  | Explant Etiology: ValExpEt2 (3365) |  Endocarditis Failed Repair Hemolysis |  Incompetence Pannus  Paravalvular leak |  Prosthetic Deterioration Sizing/Positioning issue Stenosis |  Thrombus Other Unknown |  |
|  |  |
|  |  |  |
|  | Explant Device known:  Yes  No (If Yes→) ValExpDevKnown2 (3370)  | Explant model#:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ValExpDev2 (3375) | Unique Device Identifier (UDI):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ValExpDevUDI (3380) |  |
| Year of Implant Known:  Yes  No (If Yes→) ValExp2YrImplantKn (3381) | Year: \_\_\_\_\_\_\_\_\_ ValExp2ImplantYr (3382) |  |
|  | Third Valve Prosthesis Explant:  Yes  No (If Yes↓)ValExp3 (3385)  |  |
|  | Explant PositingValExpPos3 (3386) |  Aortic  Mitral  Tricuspid  Pulmonic |  |
|  | Explant Type:ValExpTyp3 (3387) |  Mechanical Valve |  Bioprosthetic Valve |  Homograft |  Autograft |  |
|  |  Annuloplasty Device |  Leaflet Clip |  Transcatheter Valve  |  Transcatheter Valve in Valve with prosthetic valve |  |
|  |  Other |  Unknown |  |  |  |
|  | Explant EtiologyValExpEt3 (3388) |  Endocarditis Failed Repair Hemolysis |  Incompetence Pannus  Paravalvular leak |  Prosthetic Deterioration Sizing/Positioning issue Stenosis |  Thrombus Other Unknown |  |
|  | Explant Device known:  Yes  No (If Yes→) ValExpDevKnown3 (3389)  | Explant model#:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ValExpDev3 (3390) | Unique Device Identifier (UDI):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ValExpDev3UDI (3391) |  |
|  | Year of Implant Known:  Yes  No (If Yes→) Year: \_\_\_\_\_\_\_\_\_ValExp3YrImplantKn (3392) ValExp3ImplantYr (3393) |  |

**K. 1. Aortic Valve without concomitant Aorta Procedure**  |
| (If AVAortaProcPerf = No ↓) |
| Procedure Performed:VSAVPr (3395) |
|  | Replacement: (If Replacement↓)  |
|  |  | Transcatheter Valve Replacement:  Yes  No (If Yes ↓) VSTCV (3400) |
|  |  |  | Approach:  Transapical  Transaxillary  Transfemoral  Transaortic  Subclavian VSTCVR (3401)  Transiliac  Transeptal  Transcarotid  Transcaval  Other |
|  |  | Surgical valve Replacement:  Yes  No (If Yes ↓)VSAVSurgRep (3402) |
|  |  |  | Device type:  Mechanical  Bioprosthetic  Surgeon fashioned pericardium (Ozaki)  Other VSAVSurgType (3403) |
|  |  |  | (If Bioprosthetic→) | Valve type:  Stented  Stentless sub coronary valve only  Sutureless/rapid deployment  VSAVSurgBioT (3404) |
|  |  Repair/Reconstruction (If Repair/Reconstruction, select all that apply ↓)  |
|  |  | Repair Type (Select all that apply)+AVProcRepType (3424) |
|  |  |  |  Commissural suture annuloplasty  |  Nodular release  |  Leaflet resection suture  |
|  |  |  |  Leaflet plication  |  Leaflet shaving |  Leaflet pericardial patch  |
|  |  |  |  Leaflet commissural resuspension suture  |  Leaflet debridement  |  Division of fused leaflet raphe  |
|  |  |  |  Leaflet free edge reinforcement |  Ring annuloplasty external ring |  Ring annuloplasty internal ring |
|  |  |  |  External suture annuloplasty |  Pannus/Thrombus Removal (Native Valve) |
|  | Surgical Prosthetic Valve Intervention (Not Explant of Valve): (Select All That Apply ↓) |
|  |  | Type of Intervention: Repair of periprosthetic leak  Removal of pannus  Removal of clot OtherAVSurgProsthValInt (3425) |
| Aortic annular enlargement:  Yes  No (If Yes ↓)AnlrEnl (3460) |
|  |  | Technique:  Nicks-Nunez  Manougian  Konno  Other  Unknown AnlrEnlTech (3461) |
| Replacement of non-coronary sinus (Modified Wheat/Modified Yacoub) Yes  NoAVReplNonCorSin (3471) |
| Aortic Valve or Valve Repair Device Implant:  Yes  No (If Yes ↓) AorticImplant (3472) |
|  | Implant Model Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ VSAoIm (3480) | Implant Size: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ VSAoImSz (3485) |
|  | Unique Device identifier (UDI): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ VSAoImUDI (3490) |
| **K. 2. Mitral Valve Procedure** |
| (If Mitral Valve Procedure Performed = Yes ↓) |
| Procedure Performed: VSMVPr (3500) |
|  |  Repair (If Repair↓)  |
|  |  | Repair Approach:  Surgical  Transcatheter VSMVRepApp (3501) |
|  |  | If Surgical (Select all that apply↓)VSMVRepAppSurg (3502) |
|  |  |  | Annuloplasty  | Leaflet resection  | Neochords (PTFE)  | Chordal transfer |
|  |  |  | Annular decalcification/ debridement | Leaflet extension/replacement patch  | Edge to edge repair | Leaflet plication |
|  |  |  | Mitral commissurotomy | Mitral commissuroplasty | Mitral cleft repair: (scallop closure): |  Pannus/Thrombus removal (native valve) |
|  |  |  |  (If Leaflet Resection →)  | Resection Location(s): Anterior Resection Posterior Resection  BothVSMVResLoc (3503) |
|  |  |  |  | Resection Method (select all that apply): VSLeafResTypMult (3510)  Triangular Alone  Quadrangular Alone   Resection with Sliding Valvuloplasty   Resection with Folding Valvuloplasty  Other |
|  |  |  | (If Neochords (PTFE) →)VSNeochordLoc (3511) |  Anterior  Posterior  Both  Not Documented |
|  |  |  | (If Chordal Transfer) →)VSChordalTransLoc (3512) |  Anterior Chordal transfer  Posterior Chordal transfer Not Documented  |
|  |  |  | (If Leaflet extension/replacement patch→)VSMitRLeafERPLoc (3513)  | Patch Location:  Anterior  Posterior  Both  Not Documented  |
|  |  Replacement (If Replacement ↓)  |
|  |  | Mitral repair attempted prior to replacement:  Yes  No MitralIntent (3600) |
|  |  | Mitral chords preserved:  Anterior  Posterior  Both  None VSChorPres (3605) |
|  |  | Transcatheter replacement:  Yes  No VSTCVMit (3610) |
|  | Surgical Prosthetic Valve Intervention (Not Explant of Valve): (Select All That Apply ↓) |
|  |  | Type of Intervention:  Repair of periprosthetic leak  Removal of Pannus  Removal of Clot OtherSurgProsValInt (3612)  |
| Implant:  Yes  No (If Yes ↓) MitralImplant (3615) |
|  | Implant type: MitralImplantTy (3620) |  Mechanical valve  Bioprosthetic valve  Annuloplasty Ring Surgical   Annuloplasty without ring (pericardial or suture)  |  Transcatheter device implanted open heart  Transcatheter Replacement Device (Transapical)  Transcatheter Replacement Device (Trans-septal)  Annuloplasty Ring Transcatheter  Mitral Leaflet clip  Other |
|  | (If Mitral Leaflet Clip→) Number implanted: \_\_\_\_\_\_\_\_\_\_\_\_ (enter 1-3)MitralLeafletClipNum (3621) |
|  | Implant Model Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ VSMiIm (3625) | Implant Size: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ VSMiImSz (3630) |
|  | Unique Device identifier (UDI): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ VSMiImUDI (3634) |
| **K.3. Tricuspid Valve Procedure** |
| (If Tricuspid Valve Procedure Performed Yes ↓) |
| Tricuspid Procedure PerformedVSTrPr (3636) |
|  |  Repair : (If Repair, select all that apply↓) VSTSRepairType (3637)\*\*  |
|  |  | Annuloplasty  | Transcatheter Clip/Device  | Leaflet Resection:  |  Pannus/Thrombus Removal (Native Valve) |
|  |  | (If Annuloplasty→) | Type of Annuloplasty:  Pericardium Suture  Prosthetic Ring  Prosthetic Band  Other OpTricusAnTy (3638) |
|  |   Replacement: (If Yes↓) |
|  |  | Transcatheter Replacement:  Yes  No VSTCVTri (3652) |
|  | Surgical Prosthetic Valve Intervention (Not Explant of Valve): (Select All That Apply ↓)VSTVSurgProsthValIntType (3653) |
|  |  | Type of Intervention:  Repair of periprosthetic leak  Removal of Pannus  Removal of Clot Other  |
| Implant:  Yes  No (If Yes ↓) TricuspidImplant (3660) |
|  | Implant Type: TricusImplantTy (3665) |  Mechanical Valve |  Annuloplasty device |  Bioprosthetic Valve  |  Homograft |
|  |  | Transcatheter device implanted open heart |  Transcatheter Valve  |  Other |
|  | Implant Model Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ VSTrIm (3670) | Size: \_\_\_\_\_\_\_\_\_\_\_ VSTrImSz (3675) |
|  | Unique Device Identifier (UDI): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ VSTrImUDI (3680) |
| Valvectomy:  Yes  No VSTrValvec (3683) |
| **K. 4. Pulmonic Valve Procedure** |
| (If Pulmonic Valve Procedure Performed = Yes ↓) |
| Procedure Performed: OpPulm (3690) |
|  |  Repair/Leaflet Reconstruction  |
|  |  Pannus or Thrombus removal |
|  |  Replacement  | (If Replacement→) | Transcatheter Replacement:  Yes  No VSTCVPu (3695) |
|  |  Valvectomy |
| Implant:  Yes  No (If Yes ↓) PulmonicImplant (3700) |
|  | Implant Type: VSPuTypeImp (3701) | Surgeon Fashioned Commercially Supplied |
|  | (If Surgeon Fashioned →)  | Material:  PTFE (Gore-Tex)  Pericardium  Other VSPuImpMat (3702) |
|  | (If Commercially Supplied →) | Device Type: PulmonicImplantTy (3705) |  Mechanical Valve |  Annuloplasty Device |
|  Bioprosthetic Valve  |  Homograft |
|  Transcatheter Valve  |  Other |
|  |  |  | Transcatheter device implanted open heart |
|  | Implant Model Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ VSPuIm (3710) | Size: \_\_\_\_\_\_\_\_\_\_\_ VSPuImSz (3715) |
|  | Unique Device Identifier (UDI): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ VSPuImUDI (3720) |

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| **L. Mechanical Cardiac Assist Devices** |
| Planned and consented **insertion of a device that can deliver a minimum of 5.0 L of flow** using an open surgical approach (transaxillary or transaortic) during the index cardiac procedure.  Yes  NoTempYN1  |
| Intra-Aortic Balloon Pump (IABP):  Yes  No (If Yes ↓)IABP (3725) |
|  | IABP Insertion: \*\*  Preop  Intraop  Postop IABPWhen (3730)  |
|  ECMO:  Yes  No (If Yes ↓) MCADECMO (3766) |
|  | ECMO Mode:  Veno-venous  Veno-arterial  Veno-Arterial Venous (VAV)  Veno-venous arterial (VVA)ECMO (3776) |
|  | ECMO Initiated: \*\*  Preop  Intraop  Postop  Non-operative ECMOWhen (3780)  |
| Temporary Assist Device Used:  Yes  No (If Yes ↓) CathBasAssist (3786) |
|  | Position:  Open Catheter BasedTempAssistDevPos (3787) |
|  | Type:  RV  LV  BiV CathBasAssistTy (3788) |
|  | When Inserted: \*\*  Preop  Intraop  Postop CathBasAssistWhen (3789)  |
| Was patient admitted with VAD  Yes  No (If Yes ↓)PrevVAD (3790) |
|  | Insertion date: \_\_/\_\_/\_\_\_\_ PrevVADD (3800) |
| Device Model Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_PrevVADDevice (3815) | UDI: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ PrevVADUDI (3820) |
| Previous VAD Explanted During This Admission: PrevVADExp (3825) |  Yes, not during this procedure Yes, during this procedure No |
| Ventricular Assist Device Implanted during this hospitalization  Yes  No VADImp (3840) |
| (Use Key to complete table below -will be dropdown lists in software) |
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| **Timing:**  | 1. Pre-Operative (during same hospitalization and prior to OR trip for CV surgical procedure) 2. Stand-alone VAD procedure (Not in conjunction with a CV Procedure)3. In conjunction with CV surgical procedure (same trip to the OR)- planned4. In conjunction with CV surgical procedure (same trip to the OR)- unplanned5. Post-Operative (after surgical procedure during reoperation) |
| **VAD Implant Indication:** | 1. Bridge to Transplantation

2. Bridge to Recovery3. Destination4. Post cardiotomy Ventricular Failure 5. Device Malfunction6. End of (device) Life  | **Type:**  | 1. Right VAD (RVAD)2. Left VAD (LVAD)3. Biventricular VAD (BiVAD) 4. Total Artificial Heart (TAH)  | **VAD Explant Reason:** | 1. Cardiac Transplant 2. Recovery 3. Device Transfer4. Device-Related Infection5. Device Malfunction 6. End of (device) Life |
|  | 7. Salvage |  |  |  |  |
| **Device:** | See VAD list |  |  |  |  |

(If Yes, provide data on up to 3 separate devices implanted ↓) |
| **VAD IMPLANT(s)**  | **Initial implant** | **2nd device implanted?**VImp2 (3895) Yes  No (If Yes ↓) | **3rd Device implanted?** VImp3 (3950) Yes  No (If Yes ↓) |
| Timing  | VADImpTmg (3845) | VADImpTmg2 (3900) | VADImpTmg3 (3955) |
| Indication  | VADInd (3850) | VADInd2 (3905) | VADInd3 (3960) |
| Type  | VImpTy (3855) | VImpTy2 (3910) | VImpTy3 (3965) |
| Device  | VProdTy (3860) | VProdTy2 (3915) | VProdTy3 (3970) |
| Implant Date  | \_\_/\_\_/\_\_\_\_ VImpDt (3865) | \_\_/\_\_/\_\_\_\_ VImpDt2 (3920) | \_\_/\_\_/\_\_\_\_ VImpDt3 (3975) |
| UDI  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ VImpUDI (3870) | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ VImpUDI2 (3925) | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ VImpUDI3 (3980) |
|  | **Initial explant** | **2nd device explanted?** | **3rd Device explanted** |
| **VAD Explant(s)**  |  Yes, not during this procedure Yes, during this procedure No VExp (3875) |  Yes, not during this procedure Yes, during this procedure No VExp2 (3930) |  Yes, not during this procedure Yes, during this procedure No VExp3 (3985) |
|  (If Yes, not during this procedure or Yes, during this procedure →) Reason  | VExpRsn (3880) | VExpRsn2 (3935) | VExpRsn3 (3990) |
|  (If Yes, not during this procedure →) Date  | \_\_/\_\_/\_\_\_\_VExpDt (3885) | \_\_/\_\_/\_\_\_\_ VExpDt2 (3940) | \_\_/\_\_/\_\_\_\_ VExpDt3 (3995) |

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| **M. Other Cardiac Procedures**   |
| (If Other Cardiac Procedure, Except Afib = Yes ↓) See Proc ID Table to determine whether these procedures impact isolate procedure categories |
| Subaortic Stenosis Resection:  Muscle  Membrane  Other  Not Documented  NoOCarSubaStenResTy (4051) |
|  Pulmonary Thromboembolectomy  Acute  Chronic  No OCPulThromDis (4052) |
|  Myocardial Stem Cell Therapy:  Yes  No OCarStemCell (4053) | LV Aneurysm Repair:  Yes  NoOCarLVA (4054) |
|  Arrhythmia Device: Pacemaker  Pacemaker with CRT  ICD  ICD with CRT  Implantable Recorder  NoneOCarACD (4055) |
|  Lead Insertion:  Yes  No OCarLeadInsert (4060) |
|  Lead Extraction:  Yes, planned  Yes, unplanned due to surgical complication  Yes, unplanned due to unsuspected disease or anatomy  No OCarACDLE (4065) |
| Transmyocardial revascularization (TMR):  Yes  NoOCarLasr (4110) |
|  Tumor: Myxoma  Fibroelastoma  Other  NoOCTumor (4115) |
| Transplant, Cardiac :  Yes  NoOCarCrTx (4120) |
| Trauma, Cardiac :  Yes  No OCarTrma (4125) |
| Acquired VSD Repair:  Yes  NoOCarAcqVSD (4131) |
| Other Cardiac Procedure:  Yes  NoOCarOthr (4135) |
| ASD Repair  Yes  No (If Yes →)OCardASDRep (4136) | ASD Repair Type:  Congenital (secundum)  AcquiredOCardASDRepTyp (4137) |
| PFO Repair :  Yes  NoOCardPFORep (4138)  |

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| **M.1. Atrial Fibrillation Procedures**  |
| (If If Afib Procedure = Yes ↓) |
| Left Atrial Appendage Obliteration  Epicardially applied occlusion device  Epicardial Staple  Epicardial Suture  Endocardial Suture OCarAAMeth (4139) Prior Transcatheter Device In Existence  Other No |
|  | (If Epicardial applied occlusion device →) | UDI: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ OCarAAUDI (4141) |
| Left Atrial Appendage Amputation:  Yes  No OCarAAppAmp (4142) |
| Lesion location:  Epicardial  Intracardiac  Both  NoneOCarAFibLesLoc (4191) |
|  | (if not None, select all that apply) →AFibLesMeth (4201) |  Radiofrequency  Cut-and-sew  Cryo |
|  | (If Radiofrequency→) | OCarAFibMethRadBi (4205) | Bipolar:  Yes  No Not Documented |
| Lesions Documented:  Yes  No (If Yes ↓) OCarLesDoc (4240) |
| Left AtrialAFibLeftAtrialLes (4242) |  Yes  No (If Yes, select all that apply →)AFibLeftAtrialLesMeth (4244) |  Pulmonary Vein Isolation  Posterior Box Lesion  Mitral Line  Left atrial appendage line  Epicardial Coronary Sinus Lesion  Epicardial Posterior Wall Other (i.e. Convergent procedure)  Other  |
| Right AtrialAFibRtAtrialLes (4246) |  Yes  No (If Yes, select all that apply →)AFibRtAtrialLesMeth (4248)  |  SVC Line  IVC Line  Tricuspid Completion Line  Verticle Right Atrial Line  Right Atrial Appendage Line  Other |
| **M.2. Aorta And Aortic Root Procedures**  |
| (If AortProc = Yes ↓) |
| Family history of disease of aorta:FamHistAorta (4500)  |  Aneurysm  Dissection  Both Aneurysm and Dissection  Sudden Death  Unknown  None  |
| Patient’s genetic history:PatGenHist (4505)  |  Marfan  Ehlers-Danlos  Loeys-Dietz  Non-Specific familial thoracic aortic syndrome Aortic Valve Morphology  Turner syndrome  Other  Unknown  None  |
| Prior aortic intervention: PriorAorta (4510) |  Yes  No  Unknown (If Yes ↓) |
| Location | Previous repair location(s) | Repair Type | Repair failure(If Yes ↓) | Disease progression(If Yes ↓) |
|  | Select all that apply | Select all that apply | Select all that apply | Select all that apply |
| Root (Zone 0 –A) |  Yes  No PriorRepRoot (4520) |  Open  Endovascular  Hybrid PriorRepTyRoot (4521) |  Yes  No PriorFailRoot (4522) |  Yes  No PriorProgRoot (4523) |
| Ascending (Zone 0 – B&C) |  Yes  No PriorRepAsc (4525) |  Open  Endovascular  Hybrid PriorRepTyAsc (4526) |  Yes  No PriorFailAsc (4527) |  Yes  No PriorProgAsc (4528) |
| Arch (Zones 1,2,3) |  Yes  No PriorRepArch (4530) |  Open  Endovascular  Hybrid PriorRepTyArch (4531) |  Yes  No PriorFailArch (4532) |  Yes  No PriorProgArch (4533) |
| Descending (Zones 4,5) |  Yes  No PriorRepDesc (4535) |  Open  Endovascular  Hybrid PriorRepTyDesc (4536) |  Yes  No PriorFailDesc (4537) |  Yes  No PriorProgDesc (4538) |
| Suprarenal abdominal(Zones 6,7) |  Yes  No PriorRepSupraAb (4540) |  Open  Endovascular  Hybrid PriorRepTySupraAb (4541) |  Yes  No PriorFailSupraAb (4542) |  Yes  No PriorProgSupraAb (4543) |
| Infrarenal abdominal(Zone 8,9,10,11) |  Yes  No PriorRepInfraAb (4545) |  Open  Endovascular  Hybrid PriorRepTyInfraAb (4546) |  Yes  No PriorFailInfraAb (4547) |  Yes  No PriorProgInfraAb (4548) |
| Current Procedure with Endoleak involvement: Endoleak (4620) |  Yes  No |
| (If Yes →)  |

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| Type I: leak at graft attachment site:  Yes  No EndoleakTypeI (4625) |
|  | (If Yes →) | Type I location:  Ia-proximal  Ib -distal  Ic- iliac occluder EndoleakTyILoc (4630) |
| Type II: aneurysm sac filling via branch vessel:  Yes  No EndoleakTypeII (4635) |
|  | (If Yes →) | Number of vessels:  IIa: single vessel  IIb: two vessels or more EndoleakVessNum (4640) |
| Type III: leak through defect in graft:  Yes  No EndoleakTypeIII (4645) |
|  | (If Yes →) | Graft defect type:  IIIa: junctional separation of modular components  IIIb: endograft fractures or holes EndoleakType (4650) |
| Type IV: leak through graft fabric – porosity:  Yes  No EndoleakTypeIV (4655) |
| Type V: endotension - expansion aneurysm sac without leak:  Yes  No EndoleakTypeV (4660) |

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| Current Procedure with Aorta Infection: Infection (4665) |  Yes  No |
|  (If Yes →)  | Aorta Infection Type: InfecType (4670) Graft infection  Valvular endocarditis  Nonvalvular endocarditis  Native aorta Multiple infection types |
| Current Procedure with Trauma: Trauma (4675) |  Yes  No |
| (If Yes, select all that apply →)AorticTraumaLoc (4676)  |  Root  Ascending  Arch  Descending  Thoracoabdominal  Abdominal  |
| Presenting Symptom: Presentation (4710) |  Pain  CHF  Cardiac Arrest  Syncope  Infection  Asymptomatic  Injury related to Surgical Complication Neuro Deficit  Other  Unknown  |
| (If Neuro Deficit→)AortPresNeuroDef (4711)  |  Stroke  Limb numbness  Paralysis  Hoarseness (acute vocal cord dysfunction) |
| Primary Indication: PrimIndic (4712) |  Aneurysm  Dissection  Other  |
| (if Aneurysm →) | Etiology: AnEtilogy (4720) |  Atherosclerosis  Infection  Inflammatory  Connective Tissue/Syndromic Dissorder  Ulcerative Plaque/Penetrating Ulcer  Pseudoaneurysm  Mycotic  Traumatic transection  Intercostal visceral patch  Anastomotic site  Aortic Valve Morphology Chronic Dissection  Unknown  |
| Type: AnType (4725) |  Fusiform  Saccular  Unknown |
| Rupture: AnRupt (4730) |  Yes  No (If Yes →) Contained rupture:  Yes  No  AnRuptCon (4735) |
| Location of Maximum Diameter: AnLoc (4740) |  Below STJ  STJ-midascending  Midascending to distal ascending Zone 1  Zone 2  Zone 3  Zone 4  Zone 5  Zone 6  Zone 7  Zone 8  Zone 9  Zone 10  Zone 11 |
| (if Dissection →) | Timing: DisTiming (4745) |  Hyperacute (<24 hrs)  Acute (24hrs-<2weeks)  Subacute (2weeks -<90 days)  Chronic (90 days or more)  Acute on Chronic  Unknown |
| Dissection onset date known  Yes  No (If Yes →) DisOnsetDtKnown (4746) | Date of onset:\_ \_/\_ \_/\_ \_ \_ \_ DisOnsetDt (4747) |
| Primary tear location: DisTearLoc (4750) |  Below STJ  STJ-midascending  Midascending to distal ascending Zone 1  Zone 2  Zone 3  Zone 4  Zone 5  Zone 6  Zone 7  Zone 8  Zone 9  Zone 10  Zone 11 |
| Proximal Dissection Extent Known:  Yes  No  Unknown DisRetExt (4760) |
| (If Yes →) | Most Proximal Dissection Location: DisRetLoc (4765) |  Below STJ  STJ-midascending  Midascending to distal ascending Zone 1  Zone 2  Zone 3  Zone 4 |
| Distal Dissection Extent Known:  Yes  No  Unknown DistalExt (4775) |
| (If Yes →) | Distal Dissection Extension Location: DistalExtLoc (4780) |  Below STJ  STJ-midascending  Midascending to distal ascending Zone 1  Zone 2  Zone 3  Zone 4  Zone 5  Zone 6  Zone 7  Zone 8  Zone 9  Zone 10  Zone 11 |
| Stanford Classification:  Type A  Type B  Unknown  OtherStanfordClass (4781) |
| Retrograde dissection caused by Aortic Stent Graft (Post TEVAR): Yes  NoDisPosTEVAR (4782) |
| Patient within 30 days post TAVR Yes  No  UnknownPtLess30PostTAVR (4783) |
| Patient within 30 days Post Other Cath Procedure Yes  No  UnknownPtLess30PostOthCath (4784) |
| Malperfusion:  Yes  No  Unknown DisMal (4785) |
| (If Yes →) | Malperfusion Type: (select all that apply): DisMalType (4786) |
|  | Coronary | Superior Mesenteric  | Right Subclavia | Renal, left  |
|  | Right Common Carotid | Renal. right  | Left Common Carotid | Iliofemoral  |
|  | Left Subclavian | Spinal  | Celiac |  |
| Lower Extremity Motor Function:  No deficit  Weakness  Paralysis  Unknown DisLowMotFun (4836) |
| Lower Extremity Sensory Deficit:  Yes  No  Unknown DisLowSenDef (4837) |
| Rupture:  Yes  No DisRupt (4840) |
| (If Yes →) | Contained rupture: DisRuptCon (4845) |  Yes  No |
|  | Rupture Location: DisRuptLoc (4850) |  Below STJ  STJ-midascending  Midascending to distal ascending Zone 1  Zone 2  Zone 3  Zone 4  Zone 5  Zone 6  Zone 7  Zone 8  Zone 9  Zone 10  Zone 11 |
| (If Other →)PrimIndicOther (4851) |  Valvular Dysfunction  Stenosis/Obstruction  Intramural Hematoma Coarctation  Endoleak Infection   Injury related to Surgical Complication/Perforation  Trauma  |
| **Additional Anatomical Information** |
| Root | Aorto-annular ectasia:  Yes  No  Unknown RootAAnnEctasia (4855) |
| Asymmetric Root Dilation:  Yes  No  Unknown (If Yes →) Dilation Location:  Right  Left  Non-coronaryRootDilaAsym (4870) RoottDilaAsym (4875) |
| Sinus of Valsalva aneurysm: RootSinus (4878) |  Yes  No  Unknown (If Yes →)  | SV Aneurysm Location (select all that apply) :  Right  Left  Non-coronary  RootSinusLocMult (4880) |
| Arch Anomalies YesNo ( If Yes ↓)ArchAnom (4881) |
|  | Arch Anomalies Type(s): select all that applyArchAnomTy (4882) |
|  | Arch Type Right | Aberrant Right Subclavian | Kommerell/Ductus Bulge |
|  | Variant vertebral origin  | Aberrant Left Subclavian:  | Bovine:  |
|  Patent internal mammary artery bypass graft:ArchPatIMA (4889) |  Yes  No  N/A |
| Ascending | Asymmetric Dilatation:  Yes  No  Unknown AscAsymDil (4891)  |
| Proximal coronary bypass grafts:  Yes  No  Unknown AscProxGr (4892) |
| **Measurements (Largest Diameter)** |
| Treated Zone with the Largest Diameter:TrtZnLrgDiam (4926) |  Below STJ  STJ-midascending  Midascending-distal ascending Zone 1  Zone 2  Zone 3  Zone 4  Zone 5  Zone 6  Zone 7  Zone 8  Zone 9  Zone 10  Zone 11 |
| Measurement:TrtZnLrgDiamMeas (4927) | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_mm |
| Method Obtained:TrtZnLrgDiamMeasMeth (4928) |  3D or 4D Reconstruction  PreOp CT  PreOp MRI  PreOp Echo  Intra Operatively |
| Proximal to Treated Zone(s) (Largest Diameter) Available: Yes No ProxTreatZoneAvail (4929)(If Yes →) | Location:ProxTreatZoneAvailLoc (4930) Below STJ  STJ-midascending  Midascending-distal ascending Zone 1  Zone 2  Zone 3  Zone 4  Zone 5  Zone 6  Zone 7  Zone 8  Zone 9  Zone 10  Zone 11  |
| Measurement:ProxTreatZoneAvailMeas (4931) | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_mm |
| Method Obtained:ProxTreatZoneAvailMeth (4932) |  3D or 4D Reconstruction  PreOp CT  PreOp MRI  PreOp Echo  Intra Operatively |
| Distal to Treated Zone(s) (Largest Diameter) Available: Yes No DistTreatZoneAvail (4933)(If Yes →) | Location:DistTreatZoneAvailLoc (4934) Below STJ  STJ-midascending  Midascending-distal ascending Zone 1  Zone 2  Zone 3  Zone 4  Zone 5  Zone 6  Zone 7  Zone 8  Zone 9  Zone 10  Zone 11 |
| Measurement:DistTreatZoneAvailMeas (4935) | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_mm |
| Method Obtained:DistTreatZoneAvailMeth (4936) |  3D or 4D Reconstruction  PreOp CT  PreOp MRI  PreOp Echo  Intra Operatively |

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| **Intervention**  |
|  (If Aorta Procedure Performed = Yes ↓)  |

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| Aortic Valve or Root Procedure Performed: VSAVAo (4951) |  Yes, planned  Yes, unplanned due to surgical complication  Yes, unplanned due to unsuspected disease or anatomy  No (If Yes ↓) |
|  | Procedure Performed:VSAVPrAo (4952) |
|  |  Replacement (If Replacement↓) |
|  | Transcatheter Valve Replacement:  Yes  No  VSTCVAo (4953) |
|  | (If Yes →) | Approach:VSTCVRAo (4954) Transapical  Transaxillary  Transfemoral  Transaortic  Subclavian  Other  Transiliac  Transeptal  Transcarotid.  Transcaval  |
|  | Surgical valve Replacement:  Yes  No VSAVSurgRepAo (4955)  |
|  | (If Yes →) | Device type:  Mechanical  Bioprosthetic  Surgeon fashioned pericardium (Ozaki)  OtherVSAVSurgTypeAo (4956) |
|  |  | (If Bioprosthetic→) | Valve type:  Stented  Stentless sub coronary valve only  Sutureless/rapid deployment  VSAVSurgBioTAo (4957)  |
|  |  Repair/Reconstruction (If Repair/Reconstruction ↓) |
|  |  | Repair Type (Select all that apply)AVProcRepTypeAo (4958) |
|  |  |  |  Commissural suture annuloplasty  | Nodular Release | Leaflet resection suture  |
|  |  |  | Leaflet plication  | Leaflet Shaving | Leaflet pericardial patch |
|  |  |  | Leaflet commissural resuspension suture | Leaflet debridement | Division of fused leaflet raphe  |
|  |  |  | Leaflet free edge reinforcement (PTFE) | Ring annuloplasty external ring | Ring annuloplasty internal ring |
|  |  |  | External Suture Annuloplasty | Pannus/Thrombus removal (native valve)  |
|  | Surgical Prosthetic Valve Intervention: (Not Explant of Valve) : (If Surgical Prosthetic Valve Intervention,.Select All That Apply↓)AVSurgProsthValIntAo (4959) |
|  |  | Type of Intervention: Repair of periprosthetic leak  Removal of pannus  Removal of clot Other  |
|  | Aortic annular enlargement  Yes  No AnlrEnlAo (4960) |
|  | (If Yes →) | Technique:  Nicks-Nunez  Manougian  Konno  Other  UnknownAnlrEnlTechAo (4961) |
|  | Replacement of non-coronary sinus (Modified Wheat/Modified Yacoub) Yes  NoAVReplNonCorSinAo (4962) |
|  | Root Procedure:  Yes  No (If Yes↓)VSAVRoot (4963) |
|  |  | Root Replacement with coronary Ostial Reimplantation  Yes  No VSAVRootOReimp (4964) |
|  | (If Yes →)VSAVRootOReimpType (4965) |  Composite Valve Conduit  Valve Sparing Root |
|  |  | (If Composite Valve Conduit →)VSAVRootOReimpTy (4966) |  Mechanical  Bioprosthetic  Homograft Root Replacement Autograft with Native Pulmonary Valve (Ross)  |
|  |  |  | (If Bioprosthetic →)VSAVRepBioTy (4967)  | Stented Valve Conduit Stentless Valve Conduit Stentless Biologic Full Root |
|  |  | (If Valve Sparing Root →)VSAVSparRtOp (4968) |  Valve sparing root reimplantation (David) |
|  |  Valve sparing root remodeling (Yacoub) |
|  |  Valve sparing root reconstruction (Florida Sleeve) |
|  | Coronary Reimplantation: VSAVCorReimp (4969)  | NoDirect to Root Prosthesis (Button)With Vein Graft Extension (SVG Cabrol)With Dacron Graft Extension (Classic Cabrol) |
|  | Major root reconstruction/ debridement without coronary ostial reimplantation VSAVRootRecon (4970)  Yes  No  |

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|  (If AortProc = Yes ↓) |
|  Surgical Ascending/Arch Procedure  Yes  No (If Yes ↓) ArchProc (4975) |
|  | Proximal Location:  STJ-midascending  Midascending to distal ascending  Zone 1  Zone 2  Zone 3ArchProxLoc (4976) |
|  | Distal Technique:  Open/Unclamped  Clamped ArchDisTech (4980) |
|  | Distal Site:  Ascending Aorta  Hemiarch  Zone 1  Zone 2  Zone 3  Zone 4 ArchDiscSite (4985) |
|  | Distal Extention:  Elephant trunk  Frozen Elephant trunk  No ArchDisExt (4990) |
|  | Arch Branch Reimplantation:  Yes  No (If Yes ↓ - select all that apply) ArchBranReimp (4995) |
|  |  | Arch Branch Location:ArchBranReimpLoc (4996) | Innominate | Right Subclavian | Right Common Carotid  | Left Common Carotid  |
| Left Subclavian  | Left Vertebral  | Other  |  |
|  Open Surgical Descending Thoracic Aorta or Thoracoabdominal Procedure (If Yes ↓):  Yes  No DescAortaProc (5015) |
|  | Proximal Location:  Reverse Hemiarch  Zone 0  Zone 1  Zone 2  Zone 3  Zone 4  Zone 5 DescAortaLoc (5020)  Zone 6  Zone 7  Zone 8  Zone 9 |
|  | Intercostal Reimplantation: AortaInterReimp (5030)  Yes  No  |
|  | Distal Location: AortaDisZone (5035) |  Zone 3  Zone 4  Zone 5  Zone 6  Zone 7  Zone 8  Zone 9  Zone 10  Zone 11 |
|  | Visceral vessel intervention:  Yes  No (If Yes ↓) AortaVisceral (5045) |
|  |  | Celiac:  Reimplantation  Branch Graft  None AortaViscCel (5050) |
|  |  | Superior mesenteric:  Reimplantation  Branch Graft  None AortaViscSup (5055) |
|  |  | Right Renal:  Reimplantation  Branch Graft  None AortaViscRenR (5060) |
|  |  | Left Renal:  Reimplantation  Branch Graft  None AortaViscRenL (5065) |
| Endovascular Procedure(s) :  Yes  No (If Yes ↓) EndovasProc (5066) |
|  | Access:  Femoral  Iliac  Abdominal Aorta  Lt. Subclavian/Axila  Rt. Subclavian/Axila  Ascending Aorta EndovasAccess (5067) Carotid LV Apex  |
|  | Percutaneous Access:  Yes  No EndovasPercAcc (5068) |
|  | Proximal landing zone: EndoProxZone (5070) |  Below STJ  STJ-midascending  Midascending to distal ascending Zone 1  Zone 2  Zone 3  Zone 4  Zone 5  Zone 6  Zone 7  Zone 8  Zone 9  Zone 10  Zone 11 |
|  | Distal landing zone: EndoDistalZone (5080) |  Below STJ  STJ-midascending  Midascending to distal ascending Zone 1  Zone 2  Zone 3  Zone 4  Zone 5  Zone 6  Zone 7  Zone 8  Zone 9  Zone 10  Zone 11 |
|  | Ascending TEVAR :  Dedicated IDE  Off Label Stent  No EndovasTEVAR (5095) |
| **Arch Vessel management** |
|  | Innominate: Innominate (5100) |  Native Flow  Endovascular Branch Graft  Endovascular Parallel Graft  Extra-anatomic Bypass  Fenestrated  No Flow Restored |
|  | (If Extra-anatomic bypass (select all that apply)→) | Location:InExtraAnatBypLoc (5101) |
|  | Aorta-Innominate  | Aorta-right carotid | Aorta- right subclavian  |
|  |  | Right Carotid- Right subclavian  | Other  |
|  | Left Carotid: LeftCarotid (5140) |  Native Flow  Endovascular Branch Graft  Endovascular Parallel Graft  Extra-anatomic Bypass  Fenestrated  No Flow Restored |
|  | (If Extra-anatomic bypass (select all that apply)→) | Location:LeftCarotidExtraAnatByp (5141) |
|  | Aorta- left carotid  |  Innominate- left carotid  |
|  |  | Right carotid- Left carotid  | Other  |
|  | Left Subclavian: LeftSubclavian (5180) |  Native Flow  Endovascular Branch Graft  Endovascular Parallel Graft  Extra-anatomic Bypass  Fenestrated  No Flow Restored |
|  | (If Extra-anatomic bypass (select all that apply)→) | Location:LeftSubclavExtraAnatByp (5181) |
|  | Aorta- left subclavian  | Left carotid- left subclavian  | Other |
| **Visceral Vessel management** |
|  | Celiac: Celiac (5220) |  Native Flow  Endovascular Branch Graft  Endovascular Parallel Graft  Extra-anatomic Bypass  Fenestrated  No Flow Restored |
|  | (If Extra-anatomic bypass (select all that apply)→) | Location:CeliacExtraAnatByp (5221) |
|  | Aorta- celiac  | Iliac-celiac  | Other  |
|  | Superior mesenteric: SupMesenteric (5270) |  Native Flow  Endovascular Branch Graft  Endovascular Parallel Graft  Extra-anatomic Bypass  Fenestrated  No Flow Restored |
|  | (If Extra-anatomic bypass (select all that apply)→) | Location:SupMesExtraAnatByp (5271) |
|  |  Aorta- superior mesenteric  | Iliac- superior mesenteric  | Other  |
|  | Right renal: RightRenal (5320) |  Native Flow  Endovascular Branch Graft  Endovascular Parallel Graft  Extra-anatomic Bypass  Fenestrated  No Flow Restored |
|  | (If Extra-anatomic bypass (select all that apply)→) | Location:RightRenalExtraAnatByp (5321) |
|  |  Aorta- right renal  | Iliac- right renal  | Other  |
|  | Left renal: LeftRenal (5360) |  Native Flow  Endovascular Branch Graft  Endovascular Parallel Graft  Extra-anatomic Bypass  Fenestrated  No Flow Restored |
|  | (If Extra-anatomic bypass (select all that apply) →) | Location:LeftRenalExtraAnatByp (5361) |
|  | Aorta- left renal  | Iliac – left renal  | Other  |
|  | Right Iliac: RightIliac (5378) |  Native Flow  Bifurcated Graft  Extra-anatomic Bypass  No Flow Restored |
|  | (If Extra-anatomic bypass (select all that apply)→) | Location:RightIliacExtraAnatByp (5379) |
|  |  Femoral- Femoral  | Other  |
|  | Left Iliac: LeftIliac (5382) |  Native Flow  Bifurcated Graft  Extra-anatomic Bypass  No Flow Restored |
|  | (If Extra-anatomic bypass (select all that apply) →) | Location:LeftIliacExtraAnatByp (5383) |
|  |  Femoral- Femoral  |  Other  |
|  | Internal Iliac Preserved:  Right Iliac only  Left Iliac only  Both  No IntIliacPres (5386) |
|  | Other Visceral Vessel(s) Extra-anatomic Bypass:  Yes  No OthVisVes (5387) |
|  | (If Yes (select all that apply) →) | Location:OthVisVesExtraAnatBypLoc (5388) |
|  | Aorta-other  | Iliac-other  | Other  |
|  | Planned Staged Hybrid:  Yes  No PlanStagHybrid (5400) |
| **Other Endovascular Procedural Information** |
|  |  Dissection proximal entry tear covered:  Yes  No DisProxTearCov (5401)  |
|  | Endoleak at end of procedure:  Yes  No (If Yes →) EndoEndProc (5402) | Type:  Ia  Ib  II  III  IV  V EndoEndProcTy (5403) |
|  |  Conversion to open:  Yes  No (If Yes →) ConvToOpen (5404) | Conversion reason:ConvToOpenRes (5405) Deployment failure  Endoleak  Rupture  Occlusion/loss of branch  |
|  | Intraop Dissection Extension:  None  Antegrade  Retrograde  Both IntDisExten (5406) |
|  | Unintentional rupture of dissection septum:Yes No (If Yes →)UnintRup (5407)   | Location:UnintRupLoc (5408) Below STJ  STJ-midascending  Midascending-distal ascending Zone 1  Zone 2  Zone 3  Zone 4  Zone 5  Zone 6  Zone 7  Zone 8  Zone 9  Zone 10  Zone 11 |
| **Additional Procedural Information** |
| Spinal Drain Placement:  Pre- aortic procedure  Post- aortic procedure  None SpinalDrain (5420) |
| IntraOp Motor Evoked Potential:  Yes  No MotorEvoke (5425) | (If Yes →) Documented MEP abnormality  Yes  No  Unknown  MotorEvokeAb (5426) |
| IntraOp Somatosensory Evoked Potential:  Yes  No SomatEvoke (5430) | (If Yes →) Documented SEP abnormality  Yes  No  Unknown  SomatEvokeAb (5431) |
| IntraOp EEG:  Yes  No IntraOpEEG (5432) | (If Yes →) Documented EEG abnormality  Yes  No  Unknown  IntraOpEEGAb (5433) |
| IntraOp Intravascular Ultrasound(IVUS):  Yes  No IntraOpIVUS (5434) |  |
| IntraOp Transcutaneous Doppler:  Yes  No TransDoppler (5435) |  |
| Intraoperative Angiogram:  Yes  No (If Yes →)IntraOpAng (5436) | Volume of contrast: \_\_\_\_\_ml IntraOpAngVol (5437) | Fluoroscopy time:\_\_\_\_\_ min IntraOpAngFlTm (5438) |
| Endovascular Balloon Fenestration of the Dissection Flap: PreOp IntraOp PostOp  N/AEndoBalFenDisFlap (5439) |
| **Devices** |
| Device(s) Inserted:  Yes  No (If Yes, list aorta proximal to distal using device key ↓)ADevIns (5440) |
|  | Aortic Valve or Aortic Valve Composite Graft Implanted  Yes  No (If Yes↓)AVAVCompGraftImplAo (5441) |
|  | Implant Model Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ AVAVCompGrImplModelAo (5442)Implant Size: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ AVAVCompGrImplSizeAo (5443)Unique Device identifier (UDI): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ AVAVCompGrImplUDIAo (5444) |
| **Aorta Devices** |
|  **Location :** C.B.A. |  | X.A.B.C.D.E.F.G.H.I. J.K.L.M.N.  | No additional devices inserted (only for locations 2 – 15)Below sinotubular junctionSinotubular junction to mid ascendingMid ascending to distal ascendingZone 1 (between innominate and left carotid)Zone 2 (between left carotid and left subclavian)Zone 3 (first 2 cm. distal to left subclavian)Zone 4 (end of zone 3 to mid descending aorta ~ T6)Zone 5 (mid descending aorta to celiac)Zone 6 (celiac to superior mesenteric)Zone 7 (superior mesenteric to renals)Zone 8 (renal to infra-renal abdominal aorta)Zone 9 (infrarenal abdominal aorta)Zone 10 (common iliac)Zone 11 (external iliacs)(Refer to Data Specifications for Harvest Codes) |
| **For devices other than aortic valves and aortic valve composite grafts:** |
| **Implant Method:**  | 1=Open Surgical 2= Endovascular |
| **Outcome:** | 1= Unsucessfully implanted/maldeployed 2= Implanted/deployed and removed 3= Successfully implanted/deployed |
| **Model Number:** | Enter device model number |
| **UDI:** | Enter unique device identifier (not serial number) |
| **Location (Letter)** | **Implant Method** | **Outcome**  | **Model Number** | **UDI** |
| ADevLoc01 (5450) | ADevDelMeth01 (5455) | ADevOut01 (5460) | ADevModel01 (5465) | ADevUDI01 (5470) |
| ADevLoc02 (5475) | ADevDelMeth02 (5480) | ADevOut02 (5485) | ADevModel02 (5490) | ADevUDI02 (5495) |
| ADevLoc03 (5500) | ADevDelMeth03 (5505) | ADevOut03 (5510) | ADevModel03 (5515) | ADevUDI03 (5520) |
| ADevLoc04 (5525) | ADevDelMeth04 (5530) | ADevOut04 (5535) | ADevModel04 (5540) | ADevUDI04 (5545) |
| ADevLoc05 (5550) | ADevDelMeth05 (5555) | ADevOut05 (5560) | ADevModel05 (5565) | ADevUDI05 (5570) |
| ADevLoc06 (5575) | ADevDelMeth06 (5580) | ADevOut06 (5585) | ADevModel06 (5590) | ADevUDI06 (5595) |
| ADevLoc07 (5600) | ADevDelMeth07 (5605) | ADevOut07 (5610) | ADevModel07 (5615) | ADevUDI07 (5620) |
| ADevLoc08 (5625) | ADevDelMeth08 (5630) | ADevOut08 (5635) | ADevModel08 (5640) | ADevUDI08 (5645) |
| ADevLoc09 (5650) | ADevDelMeth09 (5655) | ADevOut09 (5660) | ADevModel09 (5665) | ADevUDI09 (5670) |
| ADevLoc10 (5675) | ADevDelMeth10 (5680) | ADevOut10 (5685) | ADevModel10 (5690) | ADevUDI10 (5695) |
| ADevLoc11 (5700) | ADevDelMeth11 (5705) | ADevOut11 (5710) | ADevModel11 (5715) | ADevUDI11 (5720) |
| ADevLoc12 (5725) | ADevDelMeth12 (5730) | ADevOut12 (5735) | ADevModel12 (5740) | ADevUDI12 (5745) |
| ADevLoc13 (5750) | ADevDelMeth13 (5755) | ADevOut13 (5760) | ADevModel13 (5765) | ADevUDI13 (5770) |
| ADevLoc14 (5775) | ADevDelMeth14 (5780) | ADevOut14 (5785) | ADevModel14 (5790) | ADevUDI14 (5795) |
| ADevLoc15 (5800) | ADevDelMeth15 (5805) | ADevOut15 (5810) | ADevModel15 (5815) | ADevUDI15 (5820) |

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| **M.3. Congenital Defect Repair (other thanASD – Secundum, PFO, or Unicuspid, Bicuspid or Quadricuspid valve)** |
| Congenital Diagnoses: Select up to three most significant diagnoses: (refer to “Congenital Diagnoses/Procedures List” document)Diagnosis 1: \_\_\_\_\_\_ Diagnosis 2: \_\_\_\_\_\_ (If not No Other Congenital→) Diagnosis 3: \_\_\_\_\_\_\_\_\_ OCarCongDiag1 (6500) OCarCongDiag2 (6505) OCarCongDiag3 (6510) |
| Congenital Procedures: Select up to three most significant: (refer to “Congenital Diagnoses/Procedures List” document)Procedure 1: \_\_\_\_\_\_ Procedure 2: \_\_\_\_\_\_ (If not No Other Congenital→) Procedure 3: \_\_\_\_\_\_\_\_OCarCongProc1 (6515) OCarCongProc2 (6520) OCarCongProc3 (6525) |

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| **N. Other Non-Cardiac Procedures** (If Other Non-Cardiac Procedure = Yes ↓) |
| Carotid Endarterectomy: ONCCarEn (6530)  Yes, planned  Yes, unplanned due to surgical complication  Yes, unplanned due to unsuspected disease or anatomy  No  |
| Other Vascular: ONCOVasc (6535)  Yes, planned  Yes, unplanned due to surgical complication  Yes, unplanned due to unsuspected disease or anatomy  No  |
| Other Thoracic: ONCOThor (6540)  Yes, planned  Yes, unplanned due to surgical complication  Yes, unplanned due to unsuspected disease or anatomy  No  |
| Other: ONCOther (6545)  Yes, planned  Yes, unplanned due to surgical complication  Yes, unplanned due to unsuspected disease or anatomy  No  |

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| **O. Post-Operative** |
| Patient expired in OR.  Yes  No (If No ↓)ExpiredInOR (6546)  |
| Peak Postoperative Creatinine Level within 48 hours of OR Exit:PeakPostCreat48Hrs (6550)\_\_\_\_\_\_\_\_\_\_\_\_ | Peak Postoperative Creatinine Level prior to discharge: \_\_\_\_\_\_\_\_\_\_\_\_ PostCreat (6555) | Discharge Hemoglobin: \_\_\_\_\_\_\_\_\_\_\_ PostopHemoglobin (6556) | Discharge Hematocrit: \_\_\_\_\_\_\_\_\_\_\_\_ PostopHct (6557) |
| Blood Products Used Postoperatively:  Yes  No (If Yes ↓) BldProd (6560) |
|  | Red Blood Cell Units: \_\_\_\_\_\_ BdRBCU (6565) | Fresh Frozen Plasma/Plasma Units: \_\_\_\_\_\_ BdFFPU (6570) | Cryoprecipitate Units: \_\_\_\_\_\_ BdCryoU (6575) | Platelet Dose Pack: \_\_\_\_\_\_ BdPlatDosePk (6581) |
| Extubated in OR:  Yes  No  N/A (not intubated) ExtubOR (6585) |
| (If “No” or “N/A”→) | Initial Extubation Date and Time: \_\_ \_\_/\_\_ \_\_/\_\_ \_\_ \_\_ \_\_ \_\_ \_\_: \_\_ \_\_ (mm/dd/yyyy hh:mm - 24 hr clock) (for N/A leave this field blank)ExtubateDT (6586)++ |
|  | Total post-op initial vent hour \_\_\_\_\_\_\_\_ (system calculation)TotalPOInitVentHr (6587) |
| Re-intubated /or intubated Post Op During Hospital Stay:  Yes  No (If yes →) Additional Hours Ventilated: ++ \_\_\_\_\_\_\_\_\_\_\_\_ PostopIntub (6591) VentHrsA (6595)  |
| Total post-operative ventilation hours: ++\_\_\_\_\_ (System Calculation) VentHrsTot (6600)  |
| ICU Visit:  Yes  No (If Yes →) Initial ICU Hours: \_\_\_\_\_\_\_\_ ICUVisit (6605) ICUInHrs (6610) |
| Readmission to ICU:  Yes  No (If Yes →) Additional ICU Hours: \_\_\_\_\_\_\_\_\_\_ ICUReadm (6615) ICUAdHrs (6620) |
| Post Op Echo Performed to evaluate valve(s):  Yes  No (If Yes ↓) POpTTEch (6625) |
|  | Level aortic insufficiency found: POpTTAR (6630) None  Trivial/Trace  Mild  Moderate  Severe  Not Documented |
|  | Aortic Paravalvular leak: POpAortParaLk (6631) |
|  |  None  Trivial/Trace  Mild  Moderate  Severe  Not Documented  N/A |
|  | Level mitral insufficiency found: POpTTMR (6635) None  Trivial/Trace  Mild  Moderate  Severe  Not Documented |
|  | Mitral Paravalvular leak: POpMitParaLk (6636) |
|  |  None  Trivial/Trace  Mild  Moderate  Severe  Not Documented  N/A |
|  | Level tricuspid insufficiency found: POpTTTR (6640) None  Trivial/Trace  Mild  Moderate  Severe  Not Documented |
|  | Level pulmonic insufficiency found: POpTTPu (6645) None  Trivial/Trace  Mild  Moderate  Severe  Not Documented |
| Post Op Ejection Fraction:  Yes  No (If Yes →) POpEFD (6650) | Post Op Ejection Fraction: \_\_\_\_\_\_\_\_\_ (%) POpEF (6655) |

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| **P. Postoperative Events** |
| (If Expired in OR = No↓) |
| Surgical Site Complications during postoperative period up to 30 days or during initial hospitalization:SurSInf (6690)  Yes, Infectious  Yes, Non-Infectious  Yes, Both  No  |
| (If Yes, Infectious or Yes, Both →)  | Superficial Sternal Wound: CSternalSupInf (6695) |  Yes, within 30 days of procedure  Yes, >30 days after procedure but during hospitalization for surgery No  |
| Deep Sternal: ~~++~~  DeepSternInf (6700)  | Yes, within 30 days of procedureYes, greater than 30 days but during initial hospitalizationNo  |
|  | (If either Yes value →) Diagnosis Date: \_\_ \_\_/ \_\_ \_\_/ \_\_ \_\_ \_\_ \_\_ (mm/dd/yyyy)  DeepSternInfDt (6705) |
|  Thoracotomy (within 30 days or initial hospitalization):  Yes No CIThor30 (6711) |
| Conduit Harvest (within 30 days or initial hospitalization):  Yes NoConduitHarv (6715) |
| Cannulation Site (within 30 days or initial hospitalization):  Yes  No CanSite (6720) |
| (If Yes, Non-Infectious or Yes, Both→) | Non-Infective Surgical Wound Dehiscence (includes non-infective sterile wound):  Sternal Superficial  Deep SternalNonInfSurgWndDeh (6748)  |
| Is there evidence that the patient had a deep sternal wound infection within 90 days of the procedure: □ Yes □ No □ UnknownDeepSternalInf90 (6749) |
| Other In Hospital Postoperative Event Occurred:  Yes  No (If Yes ↓) Complics (6750) |
| **Operative** |
| ReOp for Bleeding /Tamponade: ++  Yes  No COpReBld (6755) | (If Yes →) Bleed Timing:  Acute  Late COpReBldTim (6760) |
| ReOp for Valvular Dysfunction: ++  Yes, surgical  Yes, transcatheter  No COpReVlv (6765)  |
| Unplanned Coronary Artery Intervention: ++  Yes  No CReintMI (6771)  |
|  | (If Yes →) Vessel:  Native coronary  Graft  Both Intervention Type:  Surgery  PCI  Both  CReintMIVes (6772) CReintMIIntTy (6773) |
| Aortic Reintervention: ++  Yes  NoCAortReint (6774) | (If yes→)Type:  Open  Endovascular CAortReintTy (6775) |
| ReOp for Other Cardiac Reasons: ++  Yes  No COpReOth (6778)  |
| Returned to the OR for Other Non-Cardiac Reasons:  Yes  No COpReNon (6780) |
| Open chest with planned delayed sternal closure:  Yes  No COpPlndDelay (6785) |
| **Infection**  |
|  Sepsis:  Yes  No CSepsis (6800) |
| **Neurologic, Central** |
|  Postoperative Stroke: ++  Yes  No CNStrokP (6810)  |
| Encephalopathy:  Yes  NoCNEnceph (6821) |
| **Neurologic, Peripheral** |
| Lower Extremity Paralysis >24 Hours: Yes  No CNParal (6825) |
| Paresis >24 hours:  Yes  No CNParesis (6829) |
| Recurrent Laryngeal Nerve Injury:  Yes  No RecLarynNrvInj (6833) |
| **Pulmonary** |
| Prolonged Ventilation:  Yes  No (OR exit time until initial extubation, plus any additional reintubation hours) CPVntLng (6835) |
|  (If Yes →)  | Tracheostomy Required after OR Exit  Yes  NoCPVntLngTrachReq (6838)  |
| Pneumonia:  Yes  No CPPneum (6840) |
| Pulmonary Thromboembolism:  Yes  No PulmEmb (6850) |
| Pleural Effusion Requiring Drainage:  Yes  No CPlEff (6860) |
| Pneumothorax Requiring Intervention:  Yes  No PostOpPneumo (6865) |
| **Renal** |
| Renal Failure: ++  Yes  No CRenFail (6870)  |
| (If Yes →)  | Dialysis (Newly Required):  Yes  No CRenDial (6875) | (If Yes →) Required after Hospital Discharge:  Yes  No  DialDur (6880) |
| **Vascular** |
| Iliac/Femoral Dissection:  Yes  No CVaIlFem (6888) |
| Acute Limb Ischemia:  Yes  No CVaLbIsc (6889) |
| Deep Venous Thrombosis:  Yes  No DVT (6891) |
| **Mechanical assist device related complication** :  Yes  No (If Yes ↓) CMAD (6892) |
|  | Type of Complication: (select all that apply)CMADEvents (6893) Cannula/Insertion site issue  Hemorrhagic Thrombotic/Embolic Hemolytic Infection Other mechanical assist device related complication |
| **Other** |
| Rhythm Disturbance Requiring Permanent Pacemaker:  Yes  No NewRhythmDis (6901) |
| Cardiac Arrest:  Yes  No COtArrst (6905) |
| **Aortic Complication**  Yes  No (If Yes ↓)AorticComp (6907)  |
|  | Aortic Dissection:  Yes  No CVaAoDis (6909) |
| Post Op Aortic Endoleak:  Yes  No COtAortEndo (6921) | (If Yes→) Type: Ia  Ib  II  III  IV  V  COtAortEndoTy (6922) |
| Aortic Side Branch malperfusion:  Yes  No COtAortSide (6926) |
| Aortic stent graft induced entry tear:  Yes  No COtAortTear (6927) |
| Anticoagulant Bleeding Event:  Yes  No COtCoag (6929) |
| (If Yes→)AnticoagBleedEvntType (6930)  |   Intracerebral  Subdural  Gastrointestinal |
| Heparin Induced Thrombocytopenia (HIT)  Yes  NoHIT (6931)  | (If Yes→) Heparin Induced Thrombocytopenia Thrombosis (HITT) Yes  No HITT (6932)  |
| Pericardiocentesis::  Yes  No COtTamp (6933) |
| Gastro-Intestinal Event:  Yes  NoCOtGI (6935)(If Yes, select all that apply→)  | Ischemic Bowel  Gastrointestinal Bleed Pancreatitis Cholecystitis Liver Dysfunction/Liver Failure Ileus Other GIEventType (6936)  |
| Atrial Fibrillation:  Yes  No COtAFib (6945) |

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| **Q. Discharge / Mortality** |
| Status at 30 days After Surgery (either discharged or in-hospital): ++  Alive  Dead  Unknown Mt30Stat (7001)  |
| Did the patient transfer to another acute care hospital after this procedure during same stay:  Yes  No (If Yes →) Date Transferred: \_\_\_/\_\_\_\_/\_\_\_\_\_\_\_DischMtPtTrnfAcuteHosp (7003) DischMtPtTrnfAcuteHospDt (7004) |
| Is the patient still in the Acute Care Hospital Setting:  Yes  No (If No ↓)DischMtPtAcuteHospStill (7005) |
|  | Hospital Discharge Date \_\_ \_\_/\_\_ \_\_/\_\_ \_\_ \_\_ \_\_ (mm/dd/yyyy) DischDt (7006) |
|  | Status at Hospital Discharge++DischMortStat (7007)  |   Discharged Alive, last known status alive (other than Hospice)   Discharged Alive, died after discharge  Discharged to Hospice   Died in hospital   |
|  | (If Discharge Alive, last known status alive OR Discharged Alive, died after discharge →) | Discharge Location:  Home Extended Care/Transitional Care Unit/Rehab  Nursing Home  Left AMA  Other DisLoctn (7010)  |
|  |  | (If Discharge Location = Extended Care/Transitional Care Unit/Rehab→) DisLExtCareTCURehabTy (7011) | Acute/Short-term Rehab Long-term Rehab Unknown |
|  | (If Discharge Location is NOT Left AMA→) | Cardiac Rehabilitation Referral: CardRef (7015) |  Yes  No  Not Applicable  |
| Substance Use Screening and Counseling Performed (NQF 2597):SubsUseScrnCounPerf (7016) |  Yes  No  Not Applicable  |
| **Medications Prescribed at Discharge** |
| Antiplatelet++ | Aspirin DCASA (7060) |  Yes  No  Contraindicated  |
| ADP Inhibitor DCADP (7070) |  Yes  No  Contraindicated  |
| Other Antiplatelet DCOthAntiplat (7075) |  Yes  No  Contraindicated  |
| Anticoagulant | Direct Oral AnticoagulantDCDirOralAnticoag (7081) |  Yes  No  Contraindicated  |
| Warfarin (Coumadin) DCCoum (7085) |  Yes  No  Contraindicated  |
| Other Anticoagulant DCOthAnticoag (7095) |  Yes  No  Contraindicated  |
|  ACE or ARB  DCACE (7100) |  Yes  No  Contraindicated Not Indicated (see Training Manual) |
|  Amiodarone  DCAmiodarone (7103) |  Yes  No  Contraindicated  |
|  Beta Blocker ++ DCBeta (7105) |  Yes  No  Contraindicated  |
|  Lipid Lowering - Statin ++ DCLipLowStat (7115) |  Yes  No  Contraindicated  |
|  Lipid Lowering - Other  DCLipLowNonStat (7120) |  Yes  No  Contraindicated  |
|  | (If Status at Hospital Discharge is ‘Discharged Alive, Died after discharge’ OR ‘Discharged to Hospice’→ ) | Mortality - Date++ \_\_ \_\_/\_\_ \_\_/\_\_ \_\_ \_\_ \_\_ (mm/dd/yyyy) MtDate (7121)  |
|  | (If Status at Hospital Discharge is ‘discharged alive, died after discharge’ OR ‘Discharged to Hospice’→ ) | Operative Mortality: ++  Yes  No MtOpD (7124)  |
|  | (If Status at Hospital Discharge is ‘Discharged to Hospice’ OR ‘Discharged Alive, died after discharge’→ ) | Post Discharge death location: PostDisDthLoc (7125) |  Home  Extended Care Facility  Hospice  Acute Rehabilitation  Hospital during readmission  Other  Unknown |
|  | (If Died in Hospital→) → | Primary Cause of Death (select only one) MtCause (7126) Cardiac  Neurologic  Renal  Vascular  Infection  Pulmonary  Unknown  Other |

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| **R. Readmission**  |
| (If Status at Hospital Discharge = Discharged alive, last know status = alive or Discharged alive, died after discharge ↓) |
| Readmit : ++  Yes  No  Unknown (If Yes ↓) Readmit (7140)  |
|  | Readmit Date: \_\_ \_\_/\_\_ \_\_/\_\_ \_\_ \_\_ \_\_ (mm/dd/yyyy) ReadmitDt (7145) |
|   | Readmit Primary Reason: ReadmRsn (7160) |
|  |  Angina Anticoagulation Complication - Pharmacological  Anticoagulation Complication – Valvular Aortic Complication Arrhythmia or Heart Block Blood Pressure (hyper or hypotension) Chest pain, noncardiac Congestive Heart Failure  Coronary Artery/Graft Dysfunction Depression/psychiatric issue  DVT Electrolyte imbalance Endocarditis Failure to thrive GI issue Infection, Conduit Harvest Site  Infection, Deep Sternum / Mediastinitis Mental status changes Myocardial Infarction  PE |  Pericardial Effusion and/or Tamponade  Pericarditis/Post Cardiotomy Syndrome Pleural effusion requiring intervention  Pneumonia  Renal Failure  Renal Insufficiency Respiratory complication, Other Sepsis Stroke TIA Transfusion Transplant Rejection VAD Complication Valve Dysfunction  Vascular Complication, acute Wound , other (drainage, cellulitis, ) Wound, Sternal dehiscence not related to infection Other – Related Readmission Other – Nonrelated Readmission Other – Planned Readmission Unknown |
|  | Readmit Primary Procedure: ReadmPro (7165) |  |
|  |  No Procedure Performed Cath lab for Valve Intervention Cath lab for Coronary Intervention (PCI) Dialysis OR for Bleeding OR for Coronary Artery Intervention OR for Sternal Debridement / Muscle Flap OR for Valve Intervention |  OR for Vascular Procedure OR for Aorta Intervention Pacemaker Insertion / AICD  Pericardiotomy / Pericardiocentesis Planned noncardiac procedure Thoracentesis/ Chest tube insertion Wound vac Other Procedure Unknown |
|  |  (If OR for Aorta intervention→) | Type:  Open  Endovascular ReadmAortIntTy (7166) |
|  |  | Indication:  Rupture  Endoleak  Infection  Dissection  Expansion  Loss of side branch patency  Other ReadmAortIntInd (7167) |

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| **Adult Cardiac Anesthesiology**  (for sites participating in the optional anesthesiology component) |
| Organization participates in the Adult Anesthesia Section:  Yes  NoOrgPartAdAnesthSect (7300) |
| Primary Anesthesiologist Name:  PrimAnesName (7310) | Primary Anesthesiologist National Provider Number:  PrimAnesNPI (7315) |
| Anesthesiology Care Team Model:  AnesCareTeamMod (7320) |  |
|  |  Anesthesiologist working alone |   |
|  Attending anesthesiologist teaching/medically directing fellow |  |
|  Attending anesthesiologist teaching/medically directing house staff |  |
|  Attending anesthesiologist medically directing CRNA  | (If Attending anesthesiologist medically directing CRNA ↓)Ratio:  1:1  1:2.  1:3  1:4.  1:5  N/AAnesCareTeamModCRNARatio (7321) |
|  Attending anesthesiologist medically directing AA  | (If Attending anesthesiologist medically directing AA ↓)Ratio:  1:1  1:2.  1:3  1:4.  1:5  N/A AnesCareTeamModAARatio (7322) |
|  Surgeon medically directing CRNA |  |
|  CRNA practicing independently |  |
| Pain Score Baseline:  0  1  2  3  4  5  6  7  8  9  10  Not RecordedPainScorePre (7325) |
| Pre Induction Systolic BP:\_\_\_\_\_\_\_\_\_PreAnesthBPSys (7326) | Pre Induction Diastolic BP: \_\_\_\_\_\_\_\_\_\_\_\_\_\_PreAnesthBPDia (7327) |
| Pre Induction Heart Rate: \_\_\_\_\_\_\_\_\_PreAnesthHR (7328) | Pulmonary Artery Catheter Used: PACIntra (7329) |  Yes  No |
| Algorithm used to Guide Transfusion:  Yes  NoTransfAlg (7330) |
| **Anticoagulation Prior to CPB** |
| Heparin prior to CPB  Yes NoHepPriorCPB (7335)(If Yes ) | Heparin Dose: \_\_\_\_\_\_\_\_units  TotHep (7340) | Heparin Management: HepMgmt (7345) |  Heparin titration based on activated clotting time (ACT) Heparin titration based on heparin concentration (Hepcon) Other method |
|  Fresh Frozen Plasma prior to CPB  Yes  No (If yes →)FFPPriorCPB (7346) | Total Dose: \_\_\_\_\_\_\_\_\_\_\_\_units FFPPriorCPBUnits (7347) |
| Antithrombin III prior to CBP  Yes  No (If yes )AntithromPriorCPB (7348) | Total Dose: \_\_\_\_\_\_\_\_\_\_\_\_International Unit/mL AntithromDose (7351) |
| Bivalirudin  Yes  No AnticoagPriorCPBBival (7352) |
| Argatroban Yes  NoAnticoagPriorCPBArg (7353) |
| Viscoelastic Testing Used Intraop:  Yes  No IntraViscoTest (7360) |
| Volatile Agent Used:  Yes  No  VolAgentUsed (7365) |
| (If Yes →) | Volatile Agent(s) used:VolatileAgentUsedTy (7370)(select all that apply→) |  Isoflurane  Desflurane  Sevoflurane  Other  |
| Volatile Agent(s) timing VolAgentTiming (7377)(select all that apply→) |   Pre CPB  During CPB  Post CPB  Maintenance (if no CPB)  |
| Intraop Midazolam:  Yes  NoIntraopMidaz (7398) | (If Yes→) Dose\_\_\_\_\_\_\_\_\_\_mgs MidazIntra (7400) | Intraop Fentanyl Yes  NoIntraFent (7402) | (If Yes→)Dose \_\_\_\_\_\_\_\_\_mcgsIntraFentDose (7404) |
| Intraop Sufentanil  Yes  No IntraopSufent (7406)  | (If Yes→) Dose \_\_\_\_\_\_\_\_\_mcgsIntraopSufentDose (7408) | Intraop Remifentanil Yes  NoIntraopRemifent (7410)  | (If Yes→) Dose \_\_\_\_\_\_\_\_ mcgsIntraopRemifentDose (7412) |
|  Multimodal Analgesics (OR Entry to 24h post OR Exit)  Yes  No (If Yes, select all that apply→)MultimodAnalgesGiven (7413)  |  Ketamine (IV)  Local/Regional Anesthesia  Lidocaine Infusion (not bolus)  Acetaminophen (IV or PO)  Cox-2 inhibitor/non-steroidal anti-inflammatory (PO)  Dexmedetomidine (IV) MultimodAnalges (7414) |
| Core Temperature Source in OR:  CoreTempSrc (7435) |  Esophageal Bladder Nasopharyngeal PA Catheter  Thermistor |  Tympanic Rectal CPB venous return Jugular-Venous |  Oxygenator arterial outlet blood (CPB Arterial Blood) Other Unknown | Core Temp Max during rewarming: \_\_\_\_\_\_\_°C CoreTempMax (7440) |
| Crystalloid given by AnesthesiaCrystGivenAnesth (7448)  |  Yes  No(If Yes) | Anesth. Total Crystalloid: \_\_\_\_\_\_\_\_mL TotCrystAnesth (7450) |
| Type: 0.9 Sodium Chloride  Normosol  Ringer’s Lactate  PlasmalyteCrystGivenAnesthTy (7451) |
| Was 5% Albumin given by AnesthesiaAlbAnesth5Pct (7452) |  Yes  No (If Yes)  | Anesthesiology Total 5% Albumin \_\_\_\_\_\_\_\_\_\_mLAnesthTot5PctAlb (7453) |
| Was 25% Albumin give by AnesthesiaAlbAnesth25Pct (7454) |  Yes  No (If Yes) | Anesthesiology Total 25% Albumin \_\_\_\_\_\_\_\_\_mLAnesthTot25PctAlb (7455) |
| Autologous Normovolemic Hemodilution (ANH)ANH (7456) |  Yes  No (If Yes →) | ANH Volume: \_\_\_\_\_\_\_\_\_\_\_\_\_mLANHVol (7457) |
| Intraop Inhaled Vasodilator: InhalVaso (7462) |  Yes  No | Intraop IV Vasodilators Used:  Yes  NoVasodilIntraop (7463) |
| Intraop Glucose Trough:  Yes  No (If Yes →)IntraopGlucTrough (7464) | \_\_\_\_\_\_\_\_\_\_\_\_\_ mg/dL GlucTroughIntraop (7465) |  |
| Intraop Insulin Given:  Yes  No (If Yes →) IntraInsul (7473)  | Intraop Insulin Total Dose \_\_\_\_\_\_\_ units TotInsuIntra (7474) |  |
| Intraoperative Processed EEG (BIS):  Yes  No IntraProcEEG (7476) |
| Intraop Post-Induction/Pre-Incision Transesophageal Echo (TEE):  Yes  NoIntraOpPreTEE (7480) |
| (IfPost-Induction/Pre-Incision TEE is Yes) | LVEF Measured or Estimated:  PreLVEFMeas (7485) |  Yes  No (If Yes) | LVEF: PreLVEF (7490) | \_\_\_\_\_\_\_\_\_\_\_\_\_\_%   |
|  | Left Atrial Size  Yes  No (If Yes)LtAtrSz (7491) | Left Atrial Superior-Inferior \_\_\_\_\_\_\_cmLtAtrSupInfSz (7492)Left Atrial Medial-Lateral \_\_\_\_\_\_\_\_cmLtAtrMedLatSz (7493) |
|  | RV Function: PreRVFx (7495) |  Normal Mild Dysfunction |  Moderate Dysfunction Severe Dysfunction |  Not Assessed |
|  | Mitral Regurgitation: PreMR (7500) |  None Trace/trivial Mild Moderate Severe Not assessed |
|  | Patent Foramen Ovale: PrePFO (7535) |  Yes  No  Not assessed |
|  | Ascending Aorta Assessed AscAoAssessed (7540) |   Yes  No |
|  | (If Yes) | Maximal Ascending Aorta Diameter:  MxAscAo (7545) | \_\_\_\_\_\_\_\_\_\_\_\_\_cm |
|  | Maximal Ascending Aorta Atheroma Thickness:  MxAscAoThick (7550) | \_\_\_\_\_\_\_\_\_\_\_\_\_\_mm |
|  | Ascending Aorta Atheroma Mobility:  AsAthMo (7555) |  Yes  No |
|  | Aortic Arch Visualized: AoArcVis (7560) |  Yes  No  |
|  | (If Yes) | Maximal Aortic Arch Atheroma Thickness:  MxArcAth (7565) | \_\_\_\_\_\_\_\_\_\_\_\_\_\_mm |
|  | Aortic Arch Atheroma Mobility:  ArcAthMo (7570) |  Yes  No |
| Cardiopulmonary Bypass Used:  Yes  No  CPBUsed (7575) |
| (If CPB Use is Yes) | ABG Management during coolingABGMgmtDurCool (7576) |  Alpha-Stat |  pH-Stat |  Unknown |
| ABG Management during rewarmingABGMgmtDurRewarm (7577) | Alpha-Stat |  pH-Stat |  Unknown |
| Arterial Outflow Temperature MeasuredArtOutTempMeas (7578) |  Yes  No | (If Yes) | Highest Arterial Outflow Temperature: \_\_\_\_\_\_\_°CHighArtOutTemp (7579) |
| Retrograde Autologous Priming of CPB Circuit:  Yes  NoRetrAutolPrim (7580) |
| Total Crystalloid Administered by Perfusion Team: \_\_\_\_\_\_\_\_\_\_\_\_\_mLTotCrystPerf (7585) |
|  | (If mL >0 select all that apply)CrystPerfTy (7586) |   0.9 Sodium Chloride  Normosol  Ringer’s Lactate  Plasmalyte |
| Total 5% Albumin Administered by Perfusion Team: \_\_\_\_\_\_\_\_\_\_\_\_\_\_mLTotAlbumPerf (7595) |
| Total 25% Albumin Administered by Perfusion Team: \_\_\_\_\_\_\_\_\_\_\_\_\_\_mLTot25AlbumPerf (7596) |
| Hemofiltration Volume Removed by Perfusion Team: \_\_\_\_\_\_\_\_\_\_\_\_\_\_mLHemofilPerf (7600) |
| Inotropes used to wean from CPB:  Yes  No  InotropWeanCPB (7605) |
|  | Vasopressors used to wean from CPB:  Yes  No  VasopWeanCPB (7610) |
| Cell Saver Volume: \_\_\_\_\_\_\_\_\_\_\_\_\_\_mL CellSavVol (7612) | Protamine Total Dose : \_\_\_\_\_\_\_\_\_\_mgsTotProt (7614) |
| Post-Procedure Use Of Intraoperative TEE:  Yes  NoIntraOpPostTEE (7615) |
| (If Post Proc TEE is Yes) | Systolic Anterior Motion of Mitral Valve:  PostSAM (7620) |  Yes  No  Not assessed |
|  | Return to CPB for Echo Related Diagnosis:  RetCPBEch (7625) | Yes  No  |
|  | (If Yes →) | Reason for return to CPB: RetCPBRsn (7626) |  New Wall Motion Abnormality  Residual Valvular Leak  Systolic Anterior Motion (SAM)  Paravalvular Leak  Ventricular Failure  Other  Unknown |
|  |  | (If Ventricular Failure →)RetCPBRsnVentFailTy (7627) |  Left Ventricular Failure Right Ventricular Failure Bi-Ventricular Failure Unknown  |
|  | Post-Procedure LVEF Measured:  PostLVEFMeas (7630) |  Yes  No  | (If Yes) | Post-Procedure LVEF:  PostLVEF (7635) |  % |
|  | Post-Procedure RV Function:  PostRVFx (7640) |  Normal Mild Dysfunction |  Moderate Dysfunction Severe Dysfunction |  Not Assessed |
| Patient Died in the OR:  Yes  No  ORDeath (7645) |
| (If Died in OR is No) | Core Temp Measured upon Entry to ICU/PACU:  Yes  No  PostTempMeas (7650) |
|  | (If Yes)  | Post Op Core Temp:  PostCoreTemp (7655) | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_°C |
|  | Post-Op INR Measured upon admission to post op care location (PACU, ICU):  PostINRMeas (7660) |  Yes  No  |
|  | (If Yes)  | INR: \_\_\_\_\_\_\_\_\_\_\_\_\_  PostINR (7665) |
|  | WBC Measured upon admission to post op care location (PACU, ICU):  PostWBCMeas (7670) |  Yes  No  |
|  | (If Yes)  | WBC : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ /µL  PostWBC (7675) |  |
|  | Platelets Measured upon admission to post op care location (PACU, ICU):  PostPltMeas (7680) |  Yes  No  |
|  | (If Yes)  | Platelet Count: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/µL PostPlt (7685) |  |
|  | Hemoglobin Measured upon admission to post op care location (PACU, ICU):PostHemMeas (7686) |  Yes  No  |
|  | (If Yes)  | Hemoglobin:\_\_\_\_\_\_\_\_\_\_\_/gm/dLPostHem (7687) |  |
|  | Hematocrit Measured upon admission to post op care location (PACU, ICU):  PostHCTMeas (7690) |  Yes  No  |
|  | (If Yes)  | Hematocrit: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_% PostHCT (7695) |  |
|  | Fibrinogen Measured upon admission to post op care location (PACU, ICU):  PostFibrinMeas (7696) |  Yes  No  |
|  | (If Yes)  | Fibrinogen \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_mg/dL PostFibrin (7697) |  |
|  | Lactate Measured upon admission to post op care location (PACU, ICU):  PostLactMeas (7700) |  Yes  No  |
|  | (If Yes)  | Lactate: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ mg/dL PostLact (7705) |  |
|  | Peak Glucose between within18-24 hours after OR Exit Time:\_\_\_\_\_\_\_\_\_ PostOpPeakGlu (7708) |
|  | Post Op Propofol:  Yes  No PropPost (7715) |
| Post Op Other Sedation:  Yes  No PostOthSed (7716) |
| Post Op Delirium:  Yes  No PostopDel (7720) |
|  | Pain Score POD #3: PainScorePOD3 (7730) |  |
|  |  0  1  2  3  4  5  6  7  8  9  10  Not recorded  NA |
|  | Pain Score Discharge: PainScoreDisch (7735) |
|  |  0  1  2  3  4  5  6  7  8  9  10  Not recorded  NA |