The Society of Thoracic Surgeons

Adult Cardiac Surgery Database

Data Collection Form Version 2.81

April 23, 2015

A. Administrative

Participant ID:	Record ID: (software generated)	STS Cost Link:

Patient ID: (software generated)

Patient participating in STS-related clinical trial:

☐ None ☐ Trial 1 ☐ Trial 2 ☐ Trial 3 ☐ Trial 4 ☐ Trial 5 ☐ Trial 6 (If not "None" →) Clinical trial patient ID: _____

B. Demographics

Patient Last Name:	Patient First Name:	Patient Middle Name:
Date of Birth: __ __/__ __/__ __ __ __ (mm/dd/yyyy)	Patient Age: _____	Sex: ☐ Male ☐ Female
Social Security Number: __ __ __ - __ __ - __ __ __ __	Medical Record Number:	
Street Address:	City:	
Region:	ZIP Code:	Country:

Is This Patient's Permanent Address: ☐ Yes ☐ No ☐ Unknown

Is the Patient's Race Documented? ☐ Yes ☐ No ☐ Pt. Declined to Disclose

(If Yes →) Race : (Select all that apply→)

White:	☐ Yes ☐ No	Am Indian/Alaskan:	☐ Yes ☐ No
Black/African American:	☐ Yes ☐ No	Hawaiian/Pacific Islander:	☐ Yes ☐ No
Asian:	☐ Yes ☐ No	Other:	☐ Yes ☐ No

Hispanic, Latino or Spanish Ethnicity: ☐ Yes ☐ No ☐ Not Documented

C. Hospitalization

Hospital Name: _____ (If Not Missing →) Hospital ZIP Code: Hospital Region:

Hospital National Provider Identifier: _____

Payor – (Select all that apply↓)

Government Health Insurance: ☐ Yes ☐ No (If Yes, select all that apply ↓)

Medicare: ☐ Yes ☐ No (If Yes →) Medicare Fee For Service: ☐ Yes ☐ No

Medicaid: ☐ Yes ☐ No Military Health Care: ☐ Yes ☐ No State-Specific Plan: ☐ Yes ☐ No

Indian Health Service: ☐ Yes ☐ No Correctional Facility: ☐ Yes ☐ No Other Gov't. Plan: ☐ Yes ☐ No

Commercial Health Insurance: ☐ Yes ☐ No Health Maintenance Organization: ☐ Yes ☐ No

Non-U.S. Insurance: ☐ Yes ☐ No None / Self: ☐ Yes ☐ No

Admit Date: __ __/__ __/__ __ __ __ (mm/dd/yyyy)	Date of Surgery: __ __/__ __/__ __ ____ (mm/dd/yyyy)	Date of Discharge: __ __/__ __/__ __ ____ (mm/dd/yyyy)

Admit Source: ☐ Elective Admission ☐ Emergency Department ☐ Transfer in from another hospital/acute care facility ☐ Other

(If Transfer →) Other Hospital Performs Cardiac Surgery ☐ Yes ☐ No

D. Risk Factors "Unknown" should only be selected if Patient / Family unable to provide history

Height (cm): _____ Weight (kg): _____

Family History of Premature Coronary Artery Disease: ☐ Yes ☐ No ☐ Unknown

Diabetes: ☐ Yes ☐ No ☐ Unknown (If Yes →) Diabetes-Control: ☐ None ☐ Diet only ☐ Oral ☐ Insulin ☐ Other subq ☐ Other ☐ Unknown

Dyslipidemia: ☐ Yes ☐ No ☐ Unknown Dialysis: ☐ Yes ☐ No ☐ Unknown Hypertension: ☐ Yes ☐ No ☐ Unknown

Endocarditis: ☐ Yes ☐ No (If Yes→) Endocarditis Type: ☐ Treated ☐ Active

(If Yes→) Endocarditis Culture: ☐ Culture negative ☐ Staph aureus ☐ Strep species ☐ Coagulase negative staph ☐ Enterococcus species ☐ Fungal ☐ Other ☐Unknown

Tobacco use:

☐ Never smoker
☐ Current every day smoker
☐ Current some day smoker
☐ Smoker, current status (frequency) unknown
☐ Former smoker
☐ Smoking status unknown

Lung Disease: ☐ No ☐ Mild ☐ Moderate ☐ Severe ☐ Lung disease documented, severity unknown ☐ Unknown

(If Mild, Moderate or Severe→) Type: ☐ Obstructive ☐ Reactive ☐ Interstitial Fibrosis ☐ Other ☐ Multiple ☐ Not Documented

Pulmonary Function Test Done: ☐ Yes ☐ No

(If Yes →) FEV1 % Predicted: _____ DLCO Test Performed: ☐ Yes ☐ No (If Yes →) DLCO % Predicted: _____

Room Air ABG Performed: ☐ Yes ☐ No (If Yes →) Carbon Dioxide Level:_____ Oxygen Level : _____

Home Oxygen: ☐ Yes, PRN ☐ Yes, oxygen dependent ☐ No ☐ Unknown	Inhaled Medication or Oral Bronchodilator Therapy: ☐ Yes ☐ No ☐ Unknown
Sleep Apnea: ☐ Yes ☐ No ☐ Unknown	Pneumonia: ☐ Recent ☐ Remote ☐ No ☐ Unknown
Illicit Drug Use: ☐ Recent ☐ Remote ☐ No ☐ Unknown	Depression ☐ Yes ☐ No ☐ Unknown
Alcohol Use: ☐ <=1 drink/week ☐ 2- 7 drinks/week ☐ >=8 drinks/week ☐ None ☐ Unknown	
Liver Disease: ☐ Yes ☐ No ☐ Unknown	Immunocompromise Present: ☐ Yes ☐ No ☐ Unknown
Mediastinal Radiation: ☐ Yes ☐ No ☐ Unknown	Cancer Within 5 Years: ☐ Yes ☐ No ☐ Unknown
Peripheral Artery Disease: ☐ Yes ☐ No ☐ Unknown	Thoracic Aorta Disease: ☐ Yes ☐ No ☐ Unknown
Syncope: ☐ Yes ☐ No ☐ Unknown	Unresponsive State: ☐ Yes ☐ No ☐ Unknown

Cerebrovascular Disease: ☐ Yes ☐ No ☐ Unknown

(If Yes→) Prior CVA: ☐ Yes ☐ No ☐ Unknown (If Yes →) Prior CVA-When: ☐ <= 30 days ☐ > 30 days

CVD TIA: ☐ Yes ☐ No ☐ Unknown

CVD Carotid stenosis: ☐ Right ☐ Left ☐ Both ☐ None

(If "Right" or "Both" →) Severity of stenosis on the right carotid artery: ☐ 50-79% ☐ 80 – 99% ☐ 100% ☐ Not documented

(If "Left" or "Both" →) Severity of stenosis on the left carotid artery: ☐ 50-79% ☐ 80 – 99% ☐ 100% ☐ Not documented

History of previous carotid artery surgery and/or stenting: ☐ Yes ☐ No

Enter available lab results below. Not all tests are expected or appropriate for all patients. Data Quality Report will only flag missing Creatinine or if both Hemoglobin & Hematocrit are missing

WBC Count: _____	Hemoglobin: _____	Hematocrit: _____	Platelet Count: _____
Last Creatinine Level: _____	Total Albumin:_____	Total Bilirubin: _____	A1c Level: _____
HIT Antibodies ☐ Yes ☐ No ☐ Not Applicable		INR: _____	MELD Score: _____ (System Calculation)
BNP _____	NTproBNP _____	hsTNT _____	hsCRP _____ GDF-15 _____

Five Meter Walk Test Done: ☐ Yes ☐ No ☐ Non-ambulatory patient

(If Yes →) Time 1: _____ (seconds) Time 2: _____(seconds) Time 3 : _____ (seconds)

E. Previous Cardiac Interventions

Previous Cardiac Interventions: ☐ Yes ☐ No ☐ Unknown

(If Yes →) Previous coronary artery bypass (CAB): ☐ Yes ☐ No

Previous valve procedure: ☐ Yes ☐ No If PrValve Yes, Enter at least one previous valve procedure and up to 5 ↓

	#1	#2	#3	#4	#5
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

(If Yes →) PCI Performed Within This Episode Of Care: ☐ Yes, at this facility ☐ Yes, at some other acute care facility ☐ No

Indication for Surgery: ☐ PCI Complication ☐ PCI Failure without Clinical Deterioration ☐ PCI Failure with Clinical Deterioration ☐ PCI/Surgery Staged (not STEMI) ☐ PCI for STEMI, multivessel disease ☐ Other

PCI Stent: ☐ Yes ☐ No (If Yes →) Stent Type: ☐ Bare metal ☐ Drug-eluting ☐ Bioresorbable ☐Multiple ☐Unknown

PCI Interval: ☐ <= 6 Hours ☐ > 6 Hours

Other Previous Cardiac Interventions: ☐ Yes ☐ No (If Yes, Enter at least one previous other cardiac procedure and up to 7 ↓)							
	#1	#2	#3	#4	#5	#6	#7
No additional interventions							
Ablation, catheter, atrial fibrillation							
Ablation, catheter, other or unknown							
Ablation, catheter, ventricular							
Ablation, surgical, atrial fibrillation							
Ablation, surgical, other or unknown							
Aneurysmectomy, LV							
Aortic procedure, arch							
Aortic procedure, ascending							
Aortic procedure, descending							
Aortic procedure, root							
Aortic procedure, thoracoabdominal							
Aortic Procedure, TEVAR							
Aortic root procedure, valve sparing							
Atrial appendage obliteration, Left, surgical							
Atrial appendage obliteration, Left, transcatheter							
Atrial appendage obliteration, Right, surgical							
Atrial appendage obliteration, Right, transcatheter							
Cardiac Tumor							
Cardioversion(s)							
Closure device, atrial septal defect							
Closure device, ventricular septal defect							
Congenital cardiac repair, surgical							
Implantable Cardioverter Defibrillator (ICD) with or without pacer							
Pacemaker							
Pericardiectomy							
Pulmonary thrombectomy							
Total Artificial Heart (TAH)							
Transmyocardial Laser Revascularization (TMR)							
Transplant heart & lung							
Transplant, heart							
Transplant, lung(s)							
Ventricular Assist Device (VAD), BiVAD							
Ventricular Assist Device (VAD), left							
Ventricular Assist Device (VAD), right							
Other Cardiac Intervention (not listed)							

F. Preoperative Cardiac Status

Prior Myocardial Infarction: ☐ Yes ☐ No ☐ Unknown (If Yes ↓)
MI When: ☐ <=6 Hrs. ☐ >6 Hrs. but <24 Hrs. ☐ 1 to 7 Days ☐ 8 to 21 Days ☐ >21 Days

Cardiac Presentation/Symptoms: (Choose one from the list below for each column↓)

	At time of this admission:	At time of surgery:
No Symptoms		
Stable Angina		
Unstable Angina		
Non-ST Elevation MI (Non-STEMI)		
ST Elevation MI (STEMI)		
Angina Equivalent		
Other		

Anginal Classification Within 2 weeks: ☐ CCS Class 0 ☐ CCS Class I ☐ CCS Class II ☐ CCS Class III ☐ CCS Class IV

Heart Failure Within 2 weeks : ☐ Yes ☐ No ☐ Unknown (If Yes→) Classification-NYHA: ☐ Class I ☐ Class II ☐ Class III ☐ Class IV

Prior Heart failure: ☐ Yes ☐ No ☐ Unknown

Cardiogenic Shock : ☐ Yes, at the time of the procedure ☐ Yes, not at the time of the procedure but within prior 24 hours ☐ No

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

Arrhythmia: ☐ Yes ☐ No ☐ Unknown

(If Yes →)	(Choose one response for each rhythm below ↓)				
	VTach/VFib	Sick Sinus Syndrome	AFlutter	Second Degree Heart Block	Third Degree Heart Block
None					
Remote (> 30 days preop)					
Recent (<= 30 days preop)					

(If Yes →)	Permanently Paced Rhythm: ☐ Yes ☐ No Atrial Fibrillation: ☐ None ☐ Paroxysmal ☐ Continuous/Persistent If Continuous/persistent→ Indicate duration ☐ ≤ one year ☐ > one year ☐ unknown

G. Preoperative Medications

Medication	Timeframe	Administration
ACE or ARB	Within 48 hours	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown
ADP Inhibitor	Within 5 days	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown (If Yes→)ADP Inhibitors Discontinuation: _____ (# days prior to surgery)
Amiodarone	Prior to surgery	☐ Yes, on home therapy ☐ Yes, therapy started this admission ☐ No ☐ Unknown
Anticoagulants	Within 48 hours	☐ Yes ☐ No (If Yes→)Medication: ☐ Heparin (Unfractionated) ☐ Heparin (Low Molecular) ☐ Other
Antiplatelets	Within 5 days	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown
Aspirin	Within 5 days	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown
Beta Blocker*	Within 24 hours	☐ Yes ☐ No ☐ Contraindicated*
Beta Blocker	On therapy for ≥ 2 weeks prior to surgery	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown
Calcium Channel Blocker	On therapy for ≥ 2 weeks prior to surgery	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown
Coumadin	Within 24 hours	☐ Yes ☐ No ☐ Unknown
Factor Xa inhibitors	Within 24 hours	☐ Yes ☐ No ☐ Unknown
Glycoprotein IIb/IIIa	Within 24 hours	☐ Yes ☐ No ☐ Unknown (If Yes→)Medication Name: ☐ Abciximab (ReoPro) ☐ Eptifibatide (Integrilin) ☐ Tirofiban (Aggrastat) ☐ Other
Inotropic, intravenous	Within 48 hours	☐ Yes ☐ No
Lipid lowering	Within 24 hours	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown (If Yes→)Medication Type : ☐ Statin ☐ Non-statin ☐ Other ☐ Combination
Long-acting Nitrate	On therapy for ≥ 2 weeks prior to surgery	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown
Nitrates, intravenous	Within 24 hours	☐ Yes ☐ No
Other Antianginal Medication	On therapy for ≥ 2 weeks prior to surgery	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown
Steroids	Within 24 hours	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown
Thrombin Inhibitors	Within 24 hours	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown
Thrombolytics	Within 48 hours	☐ Yes ☐ No

NQF Measure included in composite score for CABG

H. Hemodynamics/Cath/Echo

Cardiac Catheterization Performed : ☐ Yes ☐ No (If Yes→)
Cardiac Catheterization Date: __ __/ __ __/__ __ __ __

Coronary Anatomy/Disease known: ☐ Yes ☐ No (If Yes↓)

Dominance: ☐ Left ☐ Right ☐ Co-dominant ☐ Not Documented

Source(s) used to quantify stenosis : ☐ Angiogram ☐ CT ☐ IVUS ☐ Progress/OP Note ☐ Other ☐ Multiple

Number Diseased Vessels : ☐ None ☐ One ☐ Two ☐ Three

(If one, two or three vessel disease ↓)

Each Column with a "yes" response below must have documentation on at least one vessel

Coronary (Last known value pre-op)	**Native Artery** % Stenosis Known: ☐ Yes ☐ No (If yes↓)	**Graft(s)** Graft(s) Present: ☐ Yes ☐ No (If yes↓)	**Stent(s)** Stent(s) Present: ☐ Yes ☐ No (If yes↓)	**Fractional Flow Reserve (FFR)** FFR Performed: ☐Yes ☐No (If yes↓)
Left Main	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____
Proximal LAD	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____
Mid LAD	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____
Distal LAD	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____

Diagonal 1	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____
Diagonal 2	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____
Diagonal 3	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____
Circumflex	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____
Obtuse Marginal1	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____
Obtuse Marginal2	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____
Obtuse Marginal3	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____
Ramus	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____
RCA	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____
Acute Marginal (AM)	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____
Posterior Descending (PDA)	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____
Posterolateral (PLB)	_____%	☐ Patent ☐ Stenosis >=50% ☐ 100% occlusion ☐ Not Documented	☐ Patent ☐ Stenosis >=50% ☐ Not Documented	_____

Syntax Score Known: ☐ Yes ☐ No (If Yes→) Syntax Score: _____

Stress Test: ☐ Yes ☐ No (If Yes ↓)
Result: ☐ Normal ☐ Abnormal ☐ Unavailable
Risk/Extent of ischemia: ☐ Low Risk ☐ Intermediate Risk ☐ High Risk ☐ Unavailable

Ejection Fraction Done: ☐ Yes ☐ No (If Yes→) Ejection Fraction: _____ (%)

Dimensions Available: ☐ Yes ☐ No (If Yes↓)
LV End-Systolic Dimension: _____ (mm) LV End-Diastolic Dimension: _____ (mm)

PA Systolic Pressure Measured: ☐ Yes ☐ No (If Yes→) PA Systolic Pressure: _____ mmHg

Aortic Valve

Aortic Insufficiency: ☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

Aortic Valve Disease: ☐ Yes ☐ No

(If Yes→) Aortic Stenosis: ☐ Yes ☐ No (If Yes→) Hemodynamic/Echo data available: ☐ Yes ☐ No (If Yes ↓)

Smallest Aortic Valve Area: _____ cm^2

(If Yes↓) Highest Mean Gradient: _____ mmHg

Etiology: (Choose at least one and up to 5 etiologies)	#1	#2	#3	#4	#5
Unknown					
No additional etiology					
Bicuspid valve disease					
Congenital (other than bicuspid)					
Degenerative- Calcified					
Degenerative- Leaflet prolapse with or without annular dilation					
Degenerative- Pure annular dilation without leaflet prolapse					
Endocarditis with root abscess					
Endocarditis without root abscess					
LV Outflow Tract Pathology, HOCM					
LV Outflow Tract Pathology, Sub-aortic membrane					
LV Outflow Tract Pathology, Sub-aortic Tunnel					
LV Outflow Tract Pathology, Other					
Primary Aortic Disease, Aortic Dissection					
Primary Aortic Disease, Atherosclerotic Aneurysm					
Primary Aortic Disease, Ehler-Danlos Syndrome					
Primary Aortic Disease, Hypertensive Aneurysm					
Primary Aortic Disease, Idiopathic Root Dilation					
Primary Aortic Disease, Inflammatory					
Primary Aortic Disease, Loeys-Dietz Syndrome					
Primary Aortic Disease, Marfan Syndrome					
Primary Aortic Disease, Other Connective tissue disorder					
Prior Aortic Intervention, Etiology Unknown					
Rheumatic					
Supravalvular Aortic Stenosis					
Trauma					
Tumor, Carcinoid					
Tumor, Myxoma					
Tumor, Papillary Fibroelastoma					
Tumor, Other					
Other					

Mitral Valve

Mitral Insufficiency: ☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

Mitral Valve Disease: ☐ Yes ☐ No

(If Yes→) Mitral Stenosis: ☐ Yes ☐ No (If Yes→) Hemodynamic/ Echo data available: ☐ Yes ☐ No (If Yes ↓)

Smallest Valve Area: _____ cm^2

Highest Mean Gradient: _____mmHg

(If Yes→) Carpentier Mitral leaflet motion classification: ☐ Type I ☐ Type II ☐ Type IIIa ☐ Type IIIb ☐ Not Documented

(If Yes↓)

MV Disease Etiology: (Choose at least one and up to 3 etiologies↓)	#1	#2	#3
Unknown			
No additional etiology			
Degenerative			
Rheumatic			
Ischemic- acute, post infarction			
Ischemic- chronic			
Non-ischemic Cardiomyopathy			
Endocarditis			
Hypertrophic Obstructive Cardiomyopathy (HOCM)			
Tumor, Carcinoid			
Tumor, Myxoma			
Tumor, Papillary fibroelastoma			
Tumor, Other			
Carcinoid			
Trauma			
Congenital			
Prior Mitral Valve Intervention, Etiology Unknown			
Other			

MV Lesion(s): (Choose at least one and up to 3 lesions↓)	#1	#2	#3
Unknown			
No additional lesions			
Leaflet prolapse, posterior			
Leaflet prolapse, bileaflet			
Leaflet prolapse, anterior			
Elongated/ruptured chord(s)			
Annular dilation			
Leaflet calcification			
Mitral annular calcification			
Papillary muscle elongation			
Papillary muscle rupture			
Leaflet thickening/retraction			
Chordal tethering			
Chordal thickening/retraction/fusion			
Commissural fusion			
Other			

Tricuspid Valve

Tricuspid Insufficiency: ☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

Tricuspid Valve Disease: ☐ Yes ☐ No

(If Yes→) Tricuspid Stenosis: ☐ Yes ☐ No

(If Yes→) Tricuspid Annular Echo Measurement Available: ☐ Yes ☐ No (If Yes→) Tricuspid Annulus Size: _____ cm

(If Yes↓)

TV Etiology: (Choose at least one and up to 3 etiologies↓)	#1	#2	#3
Unknown			
No additional etiology			
Functional			
Endocarditis			
Carcinoid			
Congenital			
Degenerative			
Pacing wire/catheter induced dysfunction			
Rheumatic			
Tumor			
Trauma			
Prior TV intervention, Etiology Unknown			
Other			

Pulmonic Valve

Pulmonic Insufficiency: ☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

Pulmonic Valve Disease: ☐ Yes ☐ No

(If Yes →) RVEDD Known: ☐ Yes ☐ No (If Yes →) RVEDD Indexed to BSA: _____ cm^2

(If Yes →) Pulmonic Stenosis: ☐ Yes ☐ No (If Yes→) Hemodynamic /Echo data available: ☐ Yes ☐ No (If Yes ↓)

Highest Mean Gradient : _____mmHg

(If Yes→) Etiology: (choose one)

☐ Acquired
☐ Congenital, s/p Tetralogy of Fallot (TOF) repair
☐ Congenital, no prior Tetralogy of Fallot (TOF) repair
☐ Prior Pulmonic Valve Intervention, Etiology Unknown
☐ Other
☐ Unknown

Aortic Disease

Disease of aorta: ☐ Yes ☐ No

(If Yes→) Presentation: ☐ Asymptomatic ☐ Symptomatic, hemodynamics stable ☐ Symptomatic, hemodynamics unstable

(If Yes→) Location:

Root	☐ Yes ☐ No	Descending Thoracic	☐ Yes ☐ No
Ascending	☐ Yes ☐ No	Thoracoabdominal	☐ Yes ☐ No
Arch	☐ Yes ☐ No		

(If Yes→) Lesion Type:

Aneurysm	☐ Yes ☐ No	Pseudoaneurysm	☐ Yes ☐ No
Coarctation/Narrowing	☐ Yes ☐ No	Penetrating Ulcer	☐ Yes ☐ No
Rupture	☐ Yes ☐ No	Intramural Hematoma	☐ Yes ☐ No
Dissection	☐ Yes ☐ No		

(If Dissection →) Dissection Timing: ☐ Acute ☐ Chronic ☐ Acute on chronic ☐ Not Documented

Dissection Type: ☐ Stanford Type A ☐ Stanford Type B

(If Yes→)Etiology (choose at least one and up to 3)	#1	#2	#3
Unknown			
No additional etiologies			
Aberrant Subclavian artery			
Atherosclerosis			
Bicuspid aortic valve syndrome			
Ehler-Danlos syndrome			
Endocarditis			
Hypertensive aneurysm			
Inflammatory			
Loeys-Dietz Syndrome			
Marfan Syndrome			
Trauma			
Other Congenital Disorder			
Other Connective Tissue Disorder			
Other			

I. Operative

Surgeon: _____ Surgeon NPI: _____

Taxpayer Identification Number: _____

Incidence:
- ☐ First cardiovascular surgery
- ☐ First re-op cardiovascular surgery
- ☐ Second re-op cardiovascular surgery
- ☐ Third re-op cardiovascular surgery
- ☐ Fourth or more re-op cardiovascular surgery

Status: ☐ Elective ☐ Urgent ☐ Emergent ☐ Emergent Salvage

(If Urgent or Emergent choose one reason↓)

Urgent / Emergent reason:

- ☐ AMI
- ☐ Anatomy
- ☐ Aortic Aneurysm
- ☐ Aortic Dissection
- ☐ CHF
- ☐ Device Failure
- ☐ Diagnostic/Interventional Procedure Complication
- ☐ Endocarditis
- ☐ Failed Transcatheter Valve Therapy
- ☐ IABP
- ☐ Infected Device
- ☐ Intracardiac mass or thrombus
- ☐ Ongoing Ischemia
- ☐ PCI Incomplete without clinical deterioration
- ☐ PCI or attempted PCI with Clinical Deterioration
- ☐ Pulmonary Edema
- ☐ Pulmonary Embolus
- ☐ Rest Angina
- ☐ Shock Circulatory Support
- ☐ Shock No Circulatory Support
- ☐ Syncope
- ☐ Transplant
- ☐ Trauma
- ☐ USA
- ☐ Valve Dysfunction
- ☐ Worsening CP
- ☐ Other

Was case previously attempted during this admission, but canceled: ☐ Yes ☐ No

(If Yes→) Date of previous case: __ __/__ __/__ __ __ __ (mm/dd/yyyy)

Timing of previous case: ☐ Prior to induction of anesthesia ☐ After induction, prior to incision ☐ After incision made

Reason previous case was canceled: ☐ Anesthesiology event ☐ Cardiac arrest ☐ Equipment/supply issue ☐ Access Issue ☐ Unanticipated tumor ☐ Donor Organ Unacceptable ☐ Abnormal Labs ☐ Other

Planned previous procedure:

CABG	☐ Yes ☐ No	Valve, Surgical	☐ Yes ☐ No
Mechanical Assist Device	☐ Yes ☐ No	Valve, Transcatheter	☐ Yes ☐ No
Other Non-cardiac	☐ Yes ☐ No	Other Cardiac	☐ Yes ☐ No

Was the current procedure canceled: ☐ Yes ☐ No

(If Yes→) Canceled Timing: ☐ Prior to induction of anesthesia ☐ After induction, prior to incision ☐ After incision made

Canceled Reason: ☐ Anesthesiology event ☐ Cardiac arrest ☐ Equipment/supply issue ☐ Access Issue ☐ Unanticipated tumor ☐ Donor Organ Unacceptable ☐ Abnormal Labs ☐ Other

Planned procedure:

CABG	☐ Yes ☐ No	Valve, Surgical	☐ Yes ☐ No
Mechanical Assist Device	☐ Yes ☐ No	Valve, Transcatheter	☐ Yes ☐ No
Other Non-cardiac	☐ Yes ☐ No	Other Cardiac	☐ Yes ☐ No

Initial Operative Approach:
- ☐ Full conventional sternotomy
- ☐ Partial sternotomy
- ☐ Transverse sternotomy
- ☐ Right or left parasternal incision
- ☐ Sub-xiphoid
- ☐ Sub-Costal
- ☐ Left Thoracotomy
- ☐ Right Thoracotomy
- ☐ Bilateral Thoracotomy
- ☐ Limited (mini) Thoracotomy , right
- ☐ Limited (mini) Thoracotomy , left
- ☐ Limited (mini) Thoracotomy , bilateral
- ☐ Thoracoabdominal Incision
- ☐ Percutaneous
- ☐ Port Access
- ☐ Other
- ☐ None (canceled case)

Approach converted during procedure: ☐ Yes, planned ☐ Yes, unplanned ☐ No

Robot Used: ☐ Yes ☐ No (If Yes →) ☐ Used for entire operation ☐ Used for part of the operation

Coronary Artery Bypass: ☐ Yes, planned ☐ Yes, unplanned due to surgical complication ☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No (If "Yes" complete Section J)

Valve Surgery: ☐ Yes ☐ No (If "Yes" complete Section K)

VAD Implanted or Removed: ☐ Yes ☐ No

Other Cardiac Procedure: ☐ Yes ☐ No (If "Yes" complete Section M)

Other Cardiac Procedure, AFib:☐ Yes ☐ No (If "Yes" complete Section M-1)

Other Cardiac Procedure, Aortic: ☐ Yes, planned ☐ Yes, unplanned due to surgical complication
☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No (If "Yes" complete Section M-2)

Other Non-Cardiac Procedure: ☐ Yes ☐ No (If "Yes" complete Section N)

Enter up to 10 CPT-1 Codes pertaining to the surgery for which the data collection form was initiated:

1. _____	2. _____	3. _____	4. _____	5. _____
6. _____	7. _____	8. _____	9. _____	10. _____

OR Entry Date And Time: ___/___/_____ _____:_____ mm/dd/yyyy hh:mm - 24 hr clock)

OR Exit Date And Time: ___/___/_____ _____:_____ (mm/dd/yyyy hh:mm - 24 hr clock)

Initial Intubation Date and Time: ___/___/_____ _____:_____ (mm/dd/yyyy hh:mm - 24 hr clock)

Initial Extubation Date and Time: ___/___/_____ _____:_____ (mm/dd/yyyy hh:mm - 24 hr clock)

Skin Incision Start Date and Time: ___/___/_____ _____:_____ (mm/dd/yyyy hh:mm - 24 hr clock)

Skin Incision Stop Date and Time: ___/___/_____ _____:_____ (mm/dd/yyyy hh:mm - 24 hr clock)

Anesthesia End Date and Time: ___/___/_____ _____:_____ (mm/dd/yyyy hh:mm - 24 hr clock)

Appropriate Antibiotic Selection:☐ Yes ☐ No ☐ Exclusion

Appropriate Antibiotic Administration Timing: ☐ Yes ☐ No ☐ Exclusion

Appropriate Antibiotic Discontinuation: ☐ Yes ☐ No ☐ Exclusion

Additional intraoperative prophylactic antibiotic dose given : ☐ Yes ☐ No

Lowest Temperature (°C): _____

Temperature Source: ☐ Esophageal ☐ CPB venous return ☐ Bladder ☐ Nasopharyngeal ☐ Tympanic ☐ Rectal ☐ Other ☐ Unknown

Lowest Intra-op Hemoglobin : _____

Lowest Intra-op Hematocrit : _____

Highest Intra-op Glucose: _____

CPB Utilization: ☐ None ☐ Combination (If Combination→) Combination Plan: ☐ Planned ☐ Unplanned (If Unplanned↓)

Unplanned Reason: ☐ Exposure/visualization ☐ Bleeding ☐ Inadequate size/ diffuse disease of distal vessel ☐ Hemodynamic instability(hypotension/arrhythmias) ☐ Conduit quality and/or trauma ☐ Other

☐ Full (If "Combination" or "Full"↓)

Arterial Cannulation Insertion Site: (Select all that apply↓)

Aortic	☐ Yes ☐ No	Axillary	☐ Yes ☐ No	Other ☐ Yes ☐ No
Femoral	☐ Yes ☐ No	Innominate	☐ Yes ☐ No	

Venous Cannulation Insertion Site: (Select all that apply↓)

Femoral	☐ Yes ☐ No	Pulmonary Vein	☐ Yes ☐ No
Jugular	☐ Yes ☐ No	Caval/Bicaval	☐ Yes ☐ No
Rt Atrial	☐ Yes ☐ No	Other	☐ Yes ☐ No
Lt Atrial	☐ Yes ☐ No		

Cardiopulmonary Bypass Time (minutes): _____

Circulatory Arrest: ☐ Yes ☐ No (If Yes↓)

Circulatory Arrest Without Cerebral Perfusion Time: _____ (min)

Circulatory Arrest With Cerebral Perfusion: ☐ Yes ☐ No

(If Yes →) Cerebral Perfusion Time: _____ (min)

Cerebral Perfusion Type: ☐ Antegrade ☐ Retrograde ☐ Both antegrade and retrograde

Total Circulatory Arrest Time: _____(System Calculation)

Aortic Occlusion: ☐ None – beating heart ☐ Aortic Crossclamp ☐ None – fibrillating heart ☐ Balloon Occlusion

(If "Aortic crossclamp" or "Balloon occlusion" →): Cross Clamp Time: _____ (min)

Cardioplegia Delivery: ☐ None ☐ Antegrade ☐ Retrograde ☐Both

(If "Antegrade", "Retrograde" or "Both"→) Type of cardioplegia used: ☐ Blood ☐ Crystalloid ☐ Both ☐ Other

Cerebral Oximetry Used: ☐ Yes ☐ No

Diffuse Aortic Calcification (Porcelain Aorta) : ☐ Yes ☐ No

Assessment of Ascending Aorta/Arch for atheroma/plaque: ☐ Yes ☐ No ☐ Not Reported (If Yes ↓)

Assessment of Aorta Disease:
☐ Normal Aorta/No or minimal plaque
☐ Extensive intimal thickening
☐ Protruding Atheroma < 5 mm
☐ Protruding Atheroma >= 5 mm
☐ Mobile plaques
☐ Not documented

Aortic Condition Altered Plan: ☐ Yes ☐ No

Intraop Blood Products Refused: ☐ Yes ☐ No

(If No →) Intraop Blood Products: ☐ Yes ☐ No

(If Yes →) Red Blood Cell Units: _____ Platelet Units: _____

Fresh Frozen Plasma Units: _____ Cryoprecipitate Units: _____

Intraop Clotting Factors : ☐ Yes, Factor VIIa ☐ Yes, FEIBA ☐ Yes, Composite ☐ No

Intraop Antifibrinolytic Medications: Epsilon Amino-Caproic Acid: ☐ Yes ☐ No Tranexamic Acid: ☐ Yes ☐ No

Intraoperative TEE Performed post procedure: ☐ Yes ☐ No (If Yes ↓)

Highest level aortic insufficiency found: ☐ None ☐ Trace/trivial ☐ Mild ☐ Moderate ☐ Severe ☐ Not Reported

Highest level mitral insufficiency found: ☐ None ☐ Trace/trivial ☐ Mild ☐ Moderate ☐ Severe ☐ Not Reported

Highest level tricuspid insufficiency found: ☐ None ☐ Trace/trivial ☐ Mild ☐ Moderate ☐ Severe ☐ Not Reported

Ejection Fraction post procedure: ☐ Unchanged ☐ Increased ☐ Decreased ☐ Not Reported

Combined cardiac surgery and PCI Performed: ☐ Yes ☐ No (If Yes ↓)
Procedures: ☐ PCI + CAB ☐ PCI + Valve ☐ PCI + Aortic ☐ PCI + Other
Status: ☐ Concurrent- same setting ☐ Staged - PCI followed by surgery ☐ Staged - Surgery followed by PCI
PCI Procedure: ☐ Angioplasty ☐ Stent ☐ Angioplasty and Stent ☐ Attempted PCI
(If Stent or Angioplasty & Stent→) Stent Type: ☐ Bare metal ☐ Drug-eluting ☐ Bioresorbable ☐ Multiple ☐ Not documented

J. Coronary Bypass (If Coronary Artery Bypass = Yes ↓)

Number of Distal Anastomoses with Arterial Conduits: _____

Number of Distal Anastomoses with Venous Conduits: _____(If >0 ↓)
Vein Harvest Technique: ☐ Endoscopic ☐ Direct Vision (open) ☐ Both ☐ Cryopreserved
(If "Endoscopic", "Direct Vision (open)" or "Both"→) Vein Harvest and Prep Time: _____ (minutes)

Internal Mammary Artery used for Grafts: ☐ Left IMA ☐ Right IMA ☐ Both IMAs ☐ No IMA
(If No IMA→) Indicate **Primary** Reason: ☐ Subclavian stenosis ☐ Emergent or salvage procedure
☐ Previous cardiac or thoracic surgery ☐ No (bypassable) LAD disease
☐ Previous mediastinal radiation ☐ Other
(If Left, Right or Both IMAs→) Total # of Distal Anastomoses done using IMA grafts: _____
IMA Harvest Technique: ☐ Direct Vision (open) ☐ Thoracoscopy ☐ Combination ☐ Robotic Assist

Number of Radial Arteries Used for Grafts: _____ (If >0 ↓)
Number of Radial Artery Distal Anastomoses : _____
Radial Distal Anastomoses Harvest Technique: ☐ Endoscopic ☐ Direct Vision (open) ☐ Both
Radial Artery Harvest and Prep Time: _____ (minutes)

Number Other Arterial Distal Anastomoses Used (other than radial or IMA): _____

Proximal Technique: ☐ Single Cross Clamp ☐ Partial Occlusion Clamp ☐ Anastomotic Assist Device

CABG NUMBER (one column per distal insertion)		1	2	3	4	5	6	7	8	9	10
GRAFT	Yes	NA									
	No										
DISTAL INSERTION SITE	Left Main										
	Proximal LAD										
	Mid LAD										
	Distal LAD										
	Diagonal 1										
	Diagonal 2										
	Diagonal 3										
	Circumflex										
	Obtuse Marginal 1										
	Obtuse Marginal 2										
	Obtuse Marginal 3										
	Ramus										
	RCA										
	Acute Marginal (AM)										
	Posterior Descending (PDA)										
	Posterolateral (PLB)										
	Other										
PROXIMAL SITE	In Situ Mammary										
	Ascending aorta										
	Descending aorta										
	Subclavian artery										
	Innominate artery										
	T-graft off SVG										
	T-graft off Radial										
	T-graft off LIMA										
	T-graft off RIMA										
	Natural Y vein graft										
	Other										
CONDUIT	Vein graft										
	In Situ LIMA										
	In Situ RIMA										
	Free IMA										
	Radial artery										
	Other arteries, homograft										
	Synthetic graft										
DISTAL POSITION	End to Side										
	Sequential (side to side)										
ENDARTERECTOMY	Yes										
	No										

K. Valve Surgery (If Valve Surgery=Yes ↓)

Valve Prosthesis Explant: ☐ Yes ☐ No (If Yes ↓)

Explant Position: ☐ Aortic ☐ Mitral ☐ Tricuspid ☐ Pulmonic

Explant Type: ☐ Mechanical Valve ☐ Bioprosthetic Valve ☐ Homograft ☐ Annuloplasty Device ☐ Leaflet Clip ☐ Transcatheter Device ☐ Other ☐ Unknown

Explant Etiology: ☐ Endocarditis ☐ Incompetence ☐ Prosthetic Deterioration ☐ Thrombosis ☐ Failed Repair ☐ Pannus ☐ Sizing/Positioning issue ☐ Other ☐ Hemolysis ☐ Para-valvular leak ☐ Stenosis ☐ Unknown

Explant Device known: ☐ Yes ☐ No (If Yes→) Explant model#:_____ Unique Device Identifier (UDI):_____

Second Valve Prosthesis Explant: ☐ Yes ☐ No (If Yes↓)

Explant Position: ☐ Aortic ☐ Mitral ☐ Tricuspid ☐ Pulmonic

Explant Type: ☐ Mechanical Valve ☐ Bioprosthetic Valve ☐ Homograft ☐ Annuloplasty Device ☐ Leaflet Clip ☐ Transcatheter Device ☐ Other ☐ Unknown

Explant Etiology: ☐ Endocarditis ☐ Incompetence ☐ Prosthetic Deterioration ☐ Thrombosis ☐ Failed Repair ☐ Pannus Formation ☐ Sizing/Positioning issue ☐ Other ☐ Hemolysis ☐ Para-valvular leak ☐ Stenosis ☐ Unknown

Explant Device known: ☐ Yes ☐ No (If Yes→) Explant model#:_____ Unique Device Identifier (UDI):_____

Aortic Valve Procedure Performed: ☐ Yes, planned ☐ Yes, unplanned due to surgical complication ☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No (If Yes ↓)

Procedure Performed:

☐ Replacement (If Yes ↓)

Transcatheter Valve Replacement: ☐ Yes ☐ No (If Yes ↓)

Approach: ☐ Transapical ☐ Transaxillary ☐ Transfemoral ☐ Transaortic ☐ Subclavian ☐ Other

☐ Repair / Reconstruction If Repair / Reconstruction ↓)

Primary Repair Type: (Select all that apply)

Commissural Annuloplasty	☐ Yes ☐ No	Ring Annuloplasty	☐ Yes ☐ No
Leaflet plication	☐ Yes ☐ No	Leaflet resection suture	☐ Yes ☐ No
Leaflet free edge reinforcement (PTFE)	☐ Yes ☐ No	Leaflet pericardial patch	☐ Yes ☐ No
Leaflet commissural resuspension suture	☐ Yes ☐ No	Leaflet debridement	☐ Yes ☐ No
Division of fused leaflet raphe	☐ Yes ☐ No	Repair of Periprosthetic Leak	☐ Yes ☐ No

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

Aortic Annular Enlargement: ☐ Yes ☐ No

Implant: ☐ Yes ☐ No (If Yes ↓)

Implant Type: ☐ Mechanical Valve ☐ Bioprosthetic Valve ☐ Homograft ☐ Autograft (Ross) ☐ Annuloplasty Device ☐ Transcatheter Device ☐ Other

Implant Model Number : _____ Size: _____

Unique Device Identifier (UDI): _____

Mitral Valve Procedure Performed: ☐ Yes, planned ☐ Yes, unplanned due to surgical complication ☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No (If Yes ↓)

Procedure Performed:

☐ Repair

(If Repair→) Repair Type: (Select all that apply↓)

Annuloplasty	☐ Yes ☐ No	
Leaflet Resection	☐ Yes ☐ No	(If Yes↓) Resection Type: ☐ Triangular ☐ Quadrangular ☐ Other Location: ☐ Anterior ☐ Posterior ☐ Both Anterior and Posterior
Leaflet Plication	☐ Yes ☐ No	
Leaflet Debridement	☐ Yes ☐ No	
Folding Plasty	☐ Yes ☐ No	
Sliding Plasty	☐ Yes ☐ No	
Annular decalcification/debridement	☐ Yes ☐ No	
Neochords (PTFE)	☐ Yes ☐ No	(If Yes→) # of neochords inserted: _____
Chordal /Leaflet transfer	☐ Yes ☐ No	
Leaflet extension/replacement/patch	☐ Yes ☐ No	
Edge to Edge Repair	☐ Yes ☐ No	
Mitral leaflet clip	☐ Yes ☐ No	

Mitral commissurotomy ☐ Yes ☐ No
Mitral commissuroplasty ☐ Yes ☐ No
Mitral Cleft repair (scallop closure) ☐ Yes ☐ No
Other repair ☐ Yes ☐ No

☐ Replacement (If Replacement↓)
Repair attempted prior to Mitral Valve Replacement: ☐ Yes ☐ No
Mitral Chords Preserved: ☐Anterior ☐ Posterior ☐ Both ☐ None
Transcatheter Replacement: ☐ Yes ☐ No

Implant: ☐ Yes ☐ No (If Yes ↓)
Implant Type: ☐ Mechanical Valve ☐ Bioprosthetic Valve ☐ Annuloplasty Device
☐ Mitral Leaflet Clip ☐ Transcatheter Device ☐ Other
Implant Model Number: _____ Size: _____
Unique Device Identifier (UDI): _____

Tricuspid Valve Procedure Performed: ☐ Yes, planned ☐ Yes, unplanned due to surgical complication
☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No (If Yes ↓)

Procedure Performed:
☐ Annuloplasty only
☐ Replacement (If Replacement→) Transcatheter Replacement: ☐ Yes ☐ No
☐ Reconstruction with Annuloplasty
☐ Reconstruction without Annuloplasty
(If "Annuloplasty only" OR "Reconstruction with Annuloplasty" →) Type of Annuloplasty:
☐ Pericardium ☐Suture ☐ Prosthetic Ring ☐ Prosthetic Band
☐ Other
☐ Valvectomy
Implant: ☐ Yes ☐ No (If Yes ↓)
Implant Type: ☐ Mechanical Valve ☐ Bioprosthetic Valve ☐ Homograft
☐ Annuloplasty Device ☐ Transcatheter Device ☐ Other
Implant Model Number:_____ Size: _____
Unique Device Identifier (UDI): _____

Pulmonic Valve Procedure Performed: ☐ Yes, planned ☐ Yes, unplanned due to surgical complication
☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No (If Yes ↓)

Procedure Performed:
☐ Replacement (If Replacement→) Transcatheter Replacement: ☐ Yes ☐ No
☐ Reconstruction
☐ Valvectomy
Implant: ☐ Yes ☐ No (If Yes ↓)
Implant Type: ☐ Mechanical Valve ☐ Bioprosthetic Valve ☐ Homograft
☐ Annuloplasty Device ☐ Transcatheter Device ☐ Other
Implant Model Number:_____ Size: _____
Unique Device Identifier (UDI): _____

L. Mechanical Cardiac Assist Devices

Intra-Aortic Balloon Pump (IABP): ☐ Yes ☐ No (If Yes ↓)
IABP Insertion: ☐ Preop ☐ Intraop ☐ Postop
Primary Reason for Insertion: ☐ Hemodynamic Instability ☐ Procedural Support ☐ Unstable Angina
☐ CPB Weaning Failure ☐ Prophylactic ☐ Other

Catheter Based Assist Device Used: ☐ Yes ☐ No (If Yes ↓)
Type: ☐ RV ☐ LV ☐ BiV
When Inserted: ☐ Preop ☐ Intraop ☐ Postop ☐ Non-operative
Primary Reason for Insertion: ☐ Hemodynamic instability ☐ CPB weaning failure ☐ PCI failure ☐ Procedural support ☐Other

ECMO: ☐ Veno-venous ☐ Veno-arterial ☐ Veno-venous converted to Veno-arterial ☐ No (If Yes ↓)
ECMO Initiated: ☐ Preop ☐ Intraop ☐ Postop ☐ Non-operative
Clinical Indication for ECMO: ☐ Cardiac Failure ☐ Respiratory Failure ☐ Hypothermia ☐ Rescue/salvage ☐ Other

L.2 Ventricular Assist Devices

(Use Key to complete table below -will be dropdown lists in software)

Timing:
1. Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)
2. Stand-alone VAD procedure
3. In conjunction with CV surgical procedure (same trip to the OR)- planned
4. In conjunction with CV surgical procedure (same trip to the OR)- unplanned
5. Post-Operative (after surgical procedure during reoperation)

Indication:
1. Bridge to Transplantation
2. Bridge to Recovery
3. Destination
4. Postcardiotomy Ventricular Failure
5. Device Malfunction
6. End of (device) Life
7. Salvage

Type:
1. Right VAD (RVAD)
2. Left VAD (LVAD)
3. Biventricular VAD (BiVAD)
4. Total Artificial Heart (TAH)

Reason:
1. Cardiac Transplant
2. Recovery
3. Device Transfer
4. Device-Related Infection
5. Device Malfunction
6. End of (device) Life

Device: See VAD list

Was patient admitted with VAD ☐ Yes ☐ No

(If Yes →)

Previous VAD implanted at another facility ☐ Yes ☐ No
Insertion date: __/__/____
Indication:
Type:
Device Model Number:
UDI: _____

Previous VAD Explanted During This Admission:	☐ Yes, not during this procedure ☐ Yes, during this procedure ☐ No
(If "Yes, not during this procedure" or "Yes, during this procedure" →)	Reason:
(If "Yes, not during this procedure" →)	Date: __/__/____

Ventricular Assist Device Implanted during this hospitalization ☐ Yes ☐ No

(If Yes, provide data on up to 3 separate devices implanted ↓)

VAD IMPLANT(s)	**Initial implant**	**2nd device implanted?** ☐ Yes ☐ No (If Yes ↓)	**3rd Device implanted?** ☐ Yes ☐ No (If Yes ↓)
Timing			
Indication			
Type			
Device			
Implant Date	__/__/____	__/__/____	__/__/____
UDI			
VAD was explanted	☐ Yes, not during this procedure ☐ Yes, during this procedure ☐ No	☐ Yes, not during this procedure ☐ Yes, during this procedure ☐ No	☐ Yes, not during this procedure ☐ Yes, during this procedure ☐ No
Reason (If "Yes, not during this procedure" or "Yes, during this procedure" →)			
Date (If "Yes, not during this procedure" →)	__/__/____	__/__/____	__/__/____

Complications related to Mechanical Assist Device(s):
☐ No ☐ Yes, IABP ☐ Yes, CBAD ☐ Yes, ECMO ☐ Yes, VAD ☐ Yes, Multiple devices

(If Yes, select up to 3 complications →)	**1st complication**	**2nd complication**	**3rd complication**
No additional complications			
Cannula/Insertion site issue			
Cardiac			
GI			
Hemorrhagic			
Hemolytic			
Infection			
Metabolic			
Neurologic			
Pulmonary			
Other			

M. Other Cardiac Procedure (If Other Cardiac Procedure = Yes ↓)

These procedures do not impact isolated category

AFib Epicardial lesions (complete M-1) ☐ Yes ☐ No

ASD repair- PFO type ☐ Yes ☐ No

Atrial Appendage procedure: ☐ RAA ☐LAA ☐ Both ☐ No

Arrhythmia Device:
☐ Pacemaker ☐ Pacemaker with CRT
☐ ICD ☐ ICD with CRT ☐ Implantable Recorder ☐ None

Lead Insertion ☐ Yes ☐ No

Myocardial Stem Cell Therapy ☐ Yes ☐ No

TMR ☐ Yes ☐ No

These procedures move the case out of isolated category

AFib Intracardiac lesions (complete M-1) ☐ Yes ☐ No

ASD Repair- secundum or sinus venosus ☐ Yes ☐ No

Lead Extraction ☐ Yes, planned
☐ Yes, unplanned due to surgical complication
☐ Yes, unplanned due to unsuspected disease or anatomy
☐ No

LV Aneurysm Repair: ☐ Yes ☐ No

Pulmonary Thromboembolectomy: ☐ Yes, Acute ☐ Yes, Chronic ☐ No

Subaortic Stenosis Resection ☐ Yes ☐ No
(If Yes ↓)
Type : ☐ Muscle ☐ Ring ☐ Membrane ☐ Web ☐ Not Reported

Surgical Ventricular Restoration: ☐ Yes ☐ No

Tumor: ☐ Myxoma ☐Fibroelastoma ☐ Hypernephroma ☐ Sarcoma
☐ Other ☐ No

Cardiac Transplant: ☐ Yes ☐ No

Cardiac Trauma: ☐ Yes ☐ No

VSD Repair: ☐ Yes-congenital ☐ Yes-acquired ☐ No

Other Cardiac Procedure: ☐ Yes ☐ No

This procedures can sometimes (but not always) impact isolated category:

Congenital Defect Repair (complete M-3) ☐ Yes ☐ No

M.1. Complete for Epicardial and Intracardiac Atrial Fibrillation Procedures (If Other Cardiac Procedure, AFib = Yes ↓)

Lesion location: ☐ Primarily epicardial ☐ Primarily Intracardiac

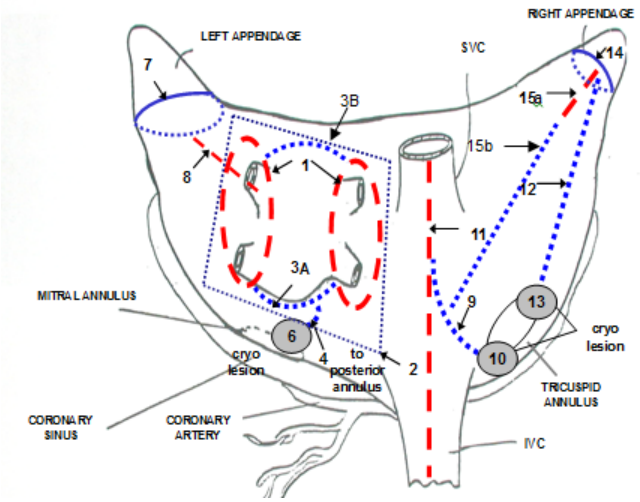
Lesions Documented: ☐ Yes ☐ No (If Yes ↓)

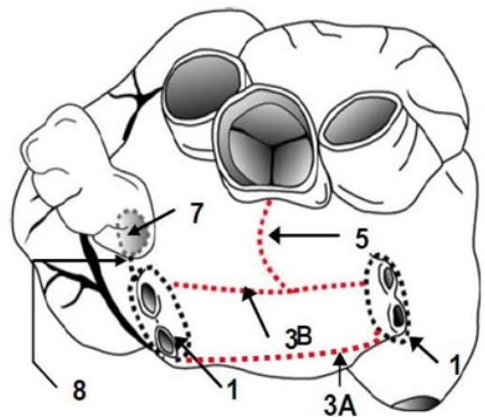
Method of Lesion Creation: (Select all that apply↓)

Radiofrequency ☐ Yes ☐ No (If Yes →) Bipolar ☐ Yes ☐ No

Cut-and-sew ☐ Yes ☐ No

Cryo ☐ Yes ☐ No





Lesions: (check all that apply ↓)

☐	1	Pulmonary Vein Isolation	☐	9	Intercaval Line to Tricuspid Annulus (“T” lesion)
☐	2	Box Lesion	☐	10	Tricuspid Cryo Lesion, Medial
☐	3a	Inferior Pulmonary Vein Connecting Lesion	☐	11	Intercaval Line
☐	3b	Superior Pulmonary Vein Connecting Lesion	☐	12	Tricuspid Annular Line to RAA
☐	4	Posterior Mitral Annular Line	☐	13	Tricuspid Cryo Lesion
☐	5	Pulmonary Vein Connecting Lesion to Anterior Mitral Annulus	☐	14	RAA Ligation/Removal
☐	6	Mitral Valve Cryo Lesion	☐	15a	RAA Lateral Wall (Short)
☐	7	LAA Ligation/Removal	☐	15b	RAA Lateral Wall to “T” Lesion
☐	8	Pulmonary Vein to LAA	☐	16	Other

M.2. Complete for Aortic Procedures (If Other Cardiac Procedure , Aortic = Yes ↓)

Procedure Location: (Choose all that apply)

Root	☐ Yes ☐ No
Ascending	☐ Yes ☐ No
Hemi- Arch	☐ Yes ☐ No
Total Arch	☐ Yes ☐ No
Descending - Proximal	☐ Yes ☐ No
Descending - Mid	☐ Yes ☐ No
Descending - Distal	☐ Yes ☐ No
Thoracoabdominal	☐ Yes ☐ No

Synthetic Graft used: ☐ Yes ☐ No (If Yes →) Intercostal vessels re-implanted: ☐ Yes ☐ No

CSF drainage utilized: ☐ Yes ☐ No

Elephant Trunk: ☐ Yes ☐ No

Coil Embolization of aortic false lumen: ☐ Yes ☐ No

TEVAR: ☐ Yes with debranching ☐ Yes without debranching ☐ No

Other Aortic Surgery: ☐ Yes ☐ No

M.3. Complete for Congenital Defect Repair (other than ASD, VSD or Bicuspid valve)

Congenital Diagnoses: Select up to three most significant diagnoses: (refer to "Congenital Diagnoses/Procedures List" document)

Diagnosis 1: _____ Diagnosis 2: _____ Diagnosis 3: _____

Congenital Procedures: Select up to three most significant: (refer to "Congenital Diagnoses/Procedures List" document)

Procedure 1: _____ Procedure 2: _____ Procedure 3: _____

N. Other Non-Cardiac Procedures (If Other Non-Cardiac Procedure = Yes ↓)

Carotid Endarterectomy: ☐ Yes, planned ☐ Yes, unplanned due to surgical complication ☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No

Other Vascular: ☐ Yes, planned ☐ Yes, unplanned due to surgical complication ☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No

Other Thoracic: ☐ Yes, planned ☐ Yes, unplanned due to surgical complication ☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No

Other: ☐ Yes, planned ☐ Yes, unplanned due to surgical complication ☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No

O. Post-Operative

Peak Glucose within18-24 hours of anesthesia end time:_____

Postoperative Creatinine Level: _____

Blood Products Used Postoperatively: ☐ Yes ☐ No (If Yes ↓)

Red Blood Cell Units: _____ Fresh Frozen Plasma Units: _____ Cryoprecipitate Units: _____ Platelet Units: _____

Extubated in OR: ☐ Yes ☐ No

Re-intubated During Hospital Stay: ☐ Yes ☐ No (If yes →) Additional Hours Ventilated: _____

Total post-operative ventilation hours _____ (System Calculation)

ICU Visit: ☐ Yes ☐ No (If Yes →) Initial ICU Hours: _____

Readmission to ICU: ☐ Yes ☐ No (If Yes →) Additional ICU Hours: _____

Post Op Echo Performed to evaluate valve(s): ☐ Yes ☐ No (If Yes ↓)

Highest level aortic insufficiency found:	☐ None	☐ Trace/trivial	☐ Mild	☐ Moderate	☐ Severe	☐ Not Reported
Highest level mitral insufficiency found:	☐ None	☐ Trace/trivial	☐ Mild	☐ Moderate	☐ Severe	☐ Not Reported
Highest level tricuspid insufficiency found:	☐ None	☐ Trace/trivial	☐ Mild	☐ Moderate	☐ Severe	☐ Not Reported
Highest level pulmonic insufficiency found:	☐ None	☐ Trace/trivial	☐ Mild	☐ Moderate	☐ Severe	☐ Not Reported

Post Op Ejection Fraction: ☐ Yes ☐ No (If Yes →) Post Op Ejection Fraction: _____ (%)

Cardiac Enzymes (biomarkers) Drawn: ☐ Yes ☐ No (If Yes →) Peak CKMB: _____ Peak Troponin I _____ Peak Troponin T _____

12-Lead EKG Findings: ☐ Not performed ☐ No ischemic changes ☐ New ST changes ☐ New Pathological Q-wave or LBBB ☐ New STEMI ☐ Other ☐ NA (no pre-op EKG for comparison, transplant)

Imaging Study for Myocardial Injury :

☐ Not performed
☐ Angiographic evidence of new thrombosis or occlusion of graft or native coronary
☐ Imaging evidence of new loss of viable myocardium
☐ No evidence of new myocardial injury
☐ Other

P. Postoperative Events

Surgical Site Infection within 30 days of operation: ☐ Yes ☐ No (If Yes ↓)

Sternal Superficial Wound Infection: ☐ Yes, within 30 days of procedure ☐ Yes, >30 days after procedure but during hosp. for surgery ☐ No

Deep Sternal Infection/ Mediastinitis:

☐ Yes, within 30 days of procedure ☐ Yes, >30 days after procedure but during hosp. for surgery ☐ No

(If either Yes value →) Diagnosis Date: __ __/ __ __/ __ __ __ __ (mm/dd/yyyy)

Thoracotomy: ☐ Yes, within 30 days of procedure ☐ Yes, >30 days after procedure but during hosp. for surgery ☐ No

Conduit Harvest : ☐ Yes, within 30 days of procedure ☐ Yes, >30 days after procedure but during hosp. for surgery ☐ No

Cannulation Site: ☐ Yes, within 30 days of procedure ☐ Yes, >30 days after procedure but during hosp. for surgery ☐ No

Wound Intervention/Procedure: ☐ Yes ☐ No (If Yes ↓)

Wound Intervention – Open with Packing/Irrigation: ☐ Yes, primary incision ☐ Yes, secondary incision ☐ Both ☐No

Wound Intervention – Wound Vac: ☐ Yes, primary incision ☐ Yes, secondary incision ☐ Both ☐ No

Secondary Procedure Muscle Flap: ☐ Yes, primary incision ☐ Yes, secondary incision ☐ Both ☐ No

Secondary Procedure Omental Flap: ☐ Yes ☐ No

Other In Hospital Postoperative Event Occurred: ☐ Yes ☐ No (If Yes ↓)

Operative

ReOp for Bleeding /Tamponade: ☐ Yes ☐ No (If Yes →) Bleed Timing: ☐ Acute ☐ Late

ReOp for Valvular Dysfunction: ☐ Yes, surgical ☐ Yes, transcatheter ☐ No

ReOp for Graft Occlusion: ☐ Yes, surgical ☐ Yes, PCI ☐ No

ReOp for Other Cardiac Reasons: ☐ Yes ☐ No

ReOp for Other Non-Cardiac Reasons: ☐ Yes ☐ No

Open chest with planned delayed sternal closure: ☐ Yes ☐ No

Sternotomy Issue: ☐ Yes ☐ No (If Yes →) Sternal instability/dehiscence (sterile): ☐ Yes ☐ No

Infection

Sepsis: ☐ Yes ☐ No (If Yes →) Positive Blood Cultures: ☐ Yes ☐ No

Neurologic

Postoperative Stroke: ☐ Yes, hemorrhagic ☐ Yes, embolic ☐ Yes, undetermined type ☐ No

Transient Ischemic Attack (TIA): ☐ Yes ☐ No

Encephalopathy: ☐ None ☐ Anoxic ☐ Embolic ☐ Drug ☐ Metabolic ☐ Intracranial Bleeding ☐ Other ☐ Unknown

Paralysis: ☐ Yes ☐ No (If Yes →) Paralysis Type: ☐ Transient ☐ Permanent

Pulmonary

Prolonged Ventilation: ☐ Yes ☐ No (OR exit time until initial extubation, plus any additional reintubation hours)

Pneumonia: ☐ Yes ☐ No

Venous Thromboembolism – VTE: ☐ Yes ☐ No (If Yes ↓)

Pulmonary Thromboembolism: ☐ Yes ☐ No

Deep Venous Thrombosis: ☐ Yes ☐ No

Pleural Effusion Requiring Drainage: ☐ Yes ☐ No

Pneumothorax Requiring Intervention: ☐ Yes ☐ No

Renal

Renal Failure: ☐ Yes ☐ No (If Yes ↓)

Dialysis (Newly Required): ☐ Yes ☐ No (If Yes →) Required after Hospital Discharge: ☐ Yes ☐ No

Ultra Filtration Required: ☐ Yes ☐ No

Vascular

Iliac/Femoral Dissection: ☐ Yes ☐ No

Acute Limb Ischemia: ☐ Yes ☐ No

Other

Rhythm Disturbance Requiring Permanent Device: ☐ Pacemaker ☐ ICD ☐ Pacemaker/ICD ☐ Other ☐None

Cardiac Arrest: ☐ Yes ☐ No

Anticoagulant Event: ☐ Yes ☐ No

Tamponade (Non-Surgical Intervention): ☐ Yes ☐ No

Gastro-Intestinal Event: ☐ Yes ☐ No

Multi-System Failure: ☐ Yes ☐ No

Atrial Fibrillation: ☐ Yes ☐ No

Aortic Dissection: ☐ Yes ☐ No

Recurrent Laryngeal Nerve Injury: ☐ Yes ☐ No

Phrenic Nerve Injury: ☐ Yes ☐ No

Other: ☐ Yes ☐ No

Q. Mortality

Mortality: ☐ Yes ☐ No Discharge Status: ☐ Alive ☐ Dead Status at 30 days After Surgery: ☐ Alive ☐ Dead ☐ Unknown

Primary method used to verify 30-day status:

☐ Phone call to patient or family ☐ Medical record ☐ Social Security Death Master File /NDI

☐ Letter from medical provider ☐ Office visit >= 30 days after procedure ☐ Other

(If Mortality = Yes ↓)

Operative Death: ☐ Yes ☐ No Mortality - Date __ __/__ __/__ __ __ __ (mm/dd/yyyy)

Location of Death: ☐ OR During Initial Surgery ☐ Hospital (Other than OR) ☐ Home ☐ Extended Care Facility

☐ Hospice ☐ Acute Rehabilitation ☐ OR During Reoperation ☐ Unknown ☐ Other

Primary Cause of Death (select only one)

☐ Cardiac ☐ Neurologic ☐ Renal ☐ Vascular ☐ Infection ☐ Pulmonary ☐ Unknown ☐ Other

R. Discharge (If Discharge Status = Alive↓)

Discharge Location: ☐ Home ☐ Extended Care/Transitional Care Unit/Rehab ☐ Other Acute Care Hospital ☐ Nursing Home ☐ Hospice ☐ Left AMA ☐ Other

Cardiac Rehabilitation Referral: ☐ Yes ☐ No ☐ Not Applicable

Smoking Cessation Counseling: ☐ Yes ☐ No ☐ Not Applicable

Medication(s) Prescribed:

Antiplatelets	Aspirin	☐ Yes ☐ No ☐ Contraindicated
	P2Y12 Antagonists	☐ Yes ☐ No ☐ Contraindicated
	ADP Inhibitor	☐ Yes ☐ No ☐ Contraindicated
	Other Antiplatelet	☐ Yes ☐ No ☐ Contraindicated
Anticoagulants	Thrombin Inhibitors	☐ Yes ☐ No ☐ Contraindicated
	Warfarin (Coumadin)	☐ Yes ☐ No ☐ Contraindicated
	Factor Xa inhibitors	☐ Yes ☐ No ☐ Contraindicated
	Other Anticoagulant	☐ Yes ☐ No ☐ Contraindicated
ACE or ARB		☐ Yes ☐ No ☐ Contraindicated ☐ Not indicated (no hx CHF or EF>40%)
Beta Blocker		☐ Yes ☐ No ☐ Contraindicated
Amiodarone		☐ Yes ☐ No ☐ Contraindicated
Lipid lowering Statin		☐ Yes ☐ No ☐ Contraindicated
Lipid lowering non-Statin		☐ Yes ☐ No ☐ Contraindicated

S. Readmission

(If Discharge Status = Alive↓)

Readmit : ☐ Yes ☐ No ☐ Unknown (If Yes ↓)

Readmit Date: __ __/__ __/__ __ __ __ (mm/dd/yyyy)

Readmit Primary Reason:

- ☐ Anticoagulation Complication - Pharmacological
- ☐ Anticoagulation Complication – Valvular
- ☐ Arrhythmia/Heart Block
- ☐ Congestive Heart Failure
- ☐ Coronary Artery/Graft Dysfunction
- ☐ DVT
- ☐ Endocarditis
- ☐ Infection, Conduit Harvest Site
- ☐ Infection, Deep Sternum / Mediastinitis
- ☐ Myocardial Infarction and/or Recurrent Angina
- ☐ PE
- ☐ Pericardial Effusion and/or Tamponade
- ☐ Pleural effusion requiring intervention
- ☐ Pneumonia
- ☐ Renal Failure
- ☐ Respiratory complication, Other
- ☐ Stroke
- ☐ TIA
- ☐ Transplant Rejection
- ☐ VAD Complication
- ☐ Valve Dysfunction
- ☐ Vascular Complication, acute
- ☐ Other – Related Readmission
- ☐ Other – Nonrelated Readmission
- ☐ Other – Planned Readmission
- ☐ Unknown

Readmit Primary Procedure:

- ☐ 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
- ☐ Pacemaker Insertion / AICD
- ☐ Pericardiotomy / Pericardiocentesis
- ☐ Thoracentesis/ Chest tube insertion
- ☐ Wound vac
- ☐ Other Procedure
- ☐ Unknown

Temporary Coded Field: Indicate whether the STS Risk Calculator score was discussed with the patient/family prior to surgery.

1 Yes – A risk calculator score was calculated and discussed with the patient/family prior to surgery as documented in the medical record

2 No – A risk calculator score was calculated but not discussed with the patient/family prior to surgery or discussion was not documented

3 NA – Not applicable (emergent or salvage case, or no risk score calculated for this procedure)