The Society of Thoracic Surgeons
Adult Cardiac Surgery Database
Data Collection Form Version 4.20.2

STS National Database
Trusted. Transformed. Real-Time.

**Risk Variable ++NQF

Updated 6/29/2020

A. Administrative

Participant ID:	Record ID: (software generated)
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
National Identification (Social Security) Number Known: ☐ Yes ☐ No ☐ Refused (If Yes →)		National ID Number: _____
Medical Record Number:		
Permanent Street Address:	City:	
Region:	ZIP Code:	Country:
Race Documented: ☐Yes ☐No ☐Pt. Declined to Disclose		
Race: (If Yes, select all that apply→)	☐ White: ☐ Black/African American: ** ☐ Asian: **	☐ Am Indian/Alaskan: ☐ Hawaiian/Pacific Islander ☐ Other:
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:	Hospital CMS Certification Number: _ _ _ _ _ _

Primary Payor: ** (Choose one↓)	Secondary Payor: ** (Choose one) (If Primary Payor <>None/Self ↓)
☐ None/Self	☐ None/Self
☐ Medicare (includes commercially managed options)	☐ Medicare (includes commercially managed options)
(If Medicare →) Commercially Managed Medicare Plan ☐Yes ☐ No (If No ↓)	(If Medicare →) Commercially Managed Medicare Plan ☐Yes ☐ No (If No ↓)
HICN/MBI Known ☐ Yes ☐ No (If Yes ↓)	HICN/MBI Known ☐ Yes ☐ No (If Yes ↓)
HICN/MBI: _____	HICN/MBI: _____
Primary Payor Medicare Part B: ☐Yes ☐ No	Secondary Payor Medicare Part B: ☐ Yes ☐ No
☐ 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)	Date of Surgery: ** __ __/__ __/__ __ ____ (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

Height (cm): **	Weight (kg): **	Calculated BMI (system calculation)

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

Dialysis: ** ☐ Yes ☐ No ☐ Unknown | Hypertension: ** ☐ Yes ☐ No ☐ Unknown

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

(If Endocarditis Yes→) Endocarditis Culture: ☐ Culture negative ☐ Strep species ☐ MRSA ☐ MSSA ☐ Coagulase negative staph ☐ Enterococcus species ☐ Gram negative species ☐ Polymicrobial ☐ Mycobacterium (chimera) ☐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

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

(If Mild, Moderate or Severe→) Type: ☐ Obstructive ☐ Reactive ☐ Interstitial Fibrosis ☐ Restrictive ☐ 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 within One Year: ** ☐Yes ☐ No ☐ Unknown | (If Ilicit Drug Use = Yes→) Intravenous Drug Use within One Year: ☐Yes ☐No ☐ Unknown | Drug use with 30 days of procedure? ☐ Yes ☐ No ☐ Unknown

Alcohol Use: ** ☐ <=1 drink/week ☐ 2- 7 drinks/week ☐ >=8 drinks/week ☐ None ☐ Unknown

Liver Disease: ** ☐ Yes ☐ No ☐ Unknown | Liver Cirrhosis ☐ Yes ☐ No ☐ Unknown | (If Liver Cirrhosis = Yes→) Child –Pugh Class ☐ A ☐ B ☐ C ☐ Unknown

Immunocompromised Present: ** ☐ Yes ☐ No ☐ Unknown | Mediastinal Radiation: ** ☐ Yes ☐ No ☐ Unknown

Cancer Within 5 Years: ** ☐ Yes ☐ No ☐ Unknown | Peripheral Artery Disease: ** ☐ Yes ☐ No ☐ Unknown

Unresponsive State: ** ☐ Yes ☐ No | Syncope: ** ☐ 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 ☐ Not Documented
- (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 flag missing Creatinine or if both Hemoglobin & Hematocrit are missing. if Liver disease is present, Sodium, Creatinine, Bilirubin and INR are expected

WBC Count: **	Hemoglobin:	Hematocrit: **	Platelet Count: **
Total Albumin:	A1C Level:	BNP	
Sodium:	Last Creatinine Level **:	Total Bilirubin:	INR:
HIT Antibodies ☐ Yes ☐ No ☐ Not Applicable		MELD Score: (System Calculation)	

Five Meter Walk Test Done: ☐ Yes ☐ No ☐ Non-ambulatory patient
(If Yes →) Time 1: _ _ _._ _ (seconds) Time 2: _ _ _._ _ (seconds) Time 3 : _ _ _._ _ (seconds)

Did the patient have a laboratory confirmed diagnosis of Covid-19? ☐ No (Harvest Code 10)
☐ 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)

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

(If Yes, at this facility or Yes, at some other acute care facility ↓)

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 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 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)							

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					
Primary Coronary Symptom for Surgery:**	☐ 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→)	Timing:** ☐ Acute ☐ Chronic ☐ Both	Type: ☐ Systolic ☐ Diastolic ☐ Both ☐ Unavailable				
Classification-NYHA:** ☐ Class I ☐ Class II ☐ Class III ☐ Class IV ☐ Not Documented						
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						
Cardiac Arrhythmia: ☐ Yes ☐ No						
(If Arrhythmia = Yes →) Permanently Paced Rhythm: ☐ Yes ☐ No						

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

(If AFibrillation is not None →)	Atrial Fibrillation Type: ☐ Paroxysmal ☐ Persistent **
(If AFibrillation = Recent →)	Was patient in A-fib at OR Entry? ☐ Yes ☐ No

G. Preoperative Medications

Medication		Timeframe	Administration
ACE or ARB **		Within 48 hours	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown
Amiodarone		Prior to surgery	☐ Yes, on home therapy ☐ Yes, therapy started this admission ☐ No ☐ Unknown
Antianginal	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
	Long-acting Nitrate	On therapy for ≥ 2 weeks prior to surgery	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown
	Nitrates, intravenous	Within 24 hours	☐ Yes ☐ No
	Other Antianginal	On therapy for ≥ 2 weeks prior to surgery	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown
Antiplatelet	ADP Inhibitor ** (includes P2Y12)	Within 5 days	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown (If Yes→) ADP Inhibitors Discontinuation: ** _____ (# days prior to surgery)
	Aspirin	Within 5 days	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown (If Yes→) Aspirin Discontinuation: _____ (# days prior to surgery) Aspirin one time dose: ☐ Yes ☐ No
	Glycoprotein IIb/IIIa **	Within 24 hours	☐ Yes ☐ No
Anticoagulant	Anticoagulants (Intravenous/ SubQ)	Within 48 hours	☐ Yes ☐ No (If Yes →) ☐ Heparin (Unfractionated) ☐ Heparin (Low Molecular) ☐ Both ☐Other
	Warfarin (Coumadin)	Within 5 days	☐ Yes ☐ No ☐ Unknown (If Yes→) Coumadin Discontinuation: _____ (# days prior to surgery)
	Direct Oral Anticoagulant (DOAC)	Within 5 days	☐ Yes ☐ No ☐ Unknown (If Yes→) DOAC Discontinuation: _____ (# days prior to surgery)

	Thrombolytics	Within 24 hours	☐ Yes ☐ No
Inotropic, Intravenous **		Within 48 hours	☐ Yes ☐ No
Lipid Lowering		Within 24 hours	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown
			(If Yes→) Medication Type : ☐ Statin ☐ Statin + Other ☐ Non-statin/Other
Steroids **		Within 24 hours	☐ Yes ☐ No ☐ Contraindicated ☐ Unknown

H. Hemodynamics/Cath/Echo

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

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

Number Diseased Vessels **(If one, two or three vessel disease ↓) ☐ None ☐ One ☐ Two ☐ Three

**Left Main stenosis ≥ 50% known ☐ Yes ☐ No ☐ N/ A

(If Yes→) Is location of stenosis known: ☐ Yes ☐ No

(If Yes select all that apply→) ☐ Native Artery Stenosis ☐ Stenotic Graft ☐ Stenotic Stent

**LAD distribution stenosis ≥ 50% known ☐ Yes ☐ No ☐ N/A

(If Yes→) ☐ 50-69% ☐ ≥ 70%

Is location of stenosis known: ☐ Yes ☐ No

(If Yes select all that apply→) ☐ Native Artery Stenosis ☐ Stenotic Graft ☐ Stenotic Stent

Ramus stenosis ≥ 50% known ☐ Yes ☐ No ☐ N/A

(If Yes→) ☐ 50-69% ☐ ≥ 70%

Is location of stenosis known: ☐ Yes ☐ No

(If Yes select all that apply→) ☐ Native Artery Stenosis ☐ Stenotic Graft ☐ Stenotic Stent

Circumflex distribution stenosis ≥ 50% known ☐ Yes ☐ No ☐ N/A

(If Yes→) ☐ 50-69% ☐ ≥ 70%

Is location of stenosis known: ☐ Yes ☐ No

(If Yes select all that apply→) ☐ Native Artery Stenosis ☐ Stenotic Graft ☐ Stenotic Stent

RCA distribution stenosis ≥ 50% known ☐ Yes ☐ No ☐ N/A

(If Yes→) ☐ 50-69% ☐ ≥ 70%

Is location of stenosis known: ☐ Yes ☐ No

(If Yes select all that apply→) ☐ Native Artery Stenosis ☐ Stenotic Graft ☐ Stenotic Stent

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 Valve Regurgitation: ☐ Yes ☐ No

(If Yes →) Aortic Valve Regurgitation: ** ☐Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

Aortic Valve Stenosis: ** ☐ Yes ☐ No

(If Yes →) Aortic Valve Stenosis: ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

(If Yes →) Hemodynamic/Echo Data Available: ☐ Yes ☐ No

(If Yes →) Aortic Valve Area: _____ cm^2

Mean Gradient: _____ mmHg

Aortic Jet Velocity (V_{max}): _____m/s

Aortic Valve Disease: ☐ Yes ☐ No

(If Aortic Valve Disease, Yes→) AV Disease Etiology: ** Choose PRIMARY Etiology (one)

☐	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 ☐ No

(If Yes →) Mitral Regurgitation: ** ☐ Trivial/Trace ☐Mild ☐ Moderate ☐ Severe ☐ Not Documented

Mitral Valve Stenosis: ** ☐ Yes ☐ No

(If Yes →) Mitral Valve Stenosis: ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

Hemodynamic/ Echo data available: ☐ Yes ☐ No

(If Yes →) Valve Area: _____ cm^2

Mean Gradient: _____ mmHg

Mitral Valve Disease: ☐ Yes ☐ No

Choose PRIMARY Lesion (one): (If Mitral Valve Disease, Yes ↓)

☐ Class I – Normal Leaflet Mobility (If Class I →)	☐Pure Annular Dilatation ☐Endocarditis, Native Valve ☐Other/ Unknown/Not Available
☐ Class II – Increased Leaflet Mobility (If Class II →)	☐Myxomatous degenerative prolapse/flail ☐Endocarditis ☐Other/Unknown/Not Available
(If Myxomatous→)	☐Posterior Leaflet ☐Anterior Leaflet ☐Both
☐ Class III A– Restricted Leaflet Mobility (systole and diastole) (If Class III A →)	☐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 →)	☐Ischemic (acute/chronic) ☐Non-ischemic Cardiomyopathy ☐HCM ☐Other/Unknown/Not Available
☐ Mixed Lesion (Type II and Type IIIA) (If Mixed Lesion →)	☐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 ☐ No

(If Yes→) Tricuspid Regurgitation: ** ☐Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

Tricuspid Valve Stenosis: Yes ☐ No ☐

(If Yes→) Tricuspid Valve Stenosis: ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

Tricuspid Valve Disease: ☐ Yes ☐ No

(If Tricuspid Disease, Yes →) Tricuspid Annular Echo Measurement Available: ☐ Yes ☐ No (If Yes→) Tricuspid Diameter: _____ cm

(If Tricuspid Disease, Yes ↓) TV Etiology: Choose ONE PRIMARY Etiology:

☐	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 ☐ No

(If Yes→) Pulmonic Valve Regurgitation: ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

Pulmonic Valve Stenosis: ☐ Yes ☐ No

(If Yes→) Pulmonic Valve Stenosis: ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

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

(If Yes→) Mean Gradient : _____mmHg

Pulmonic Valve Disease: ☐ Yes ☐ No

(If Pulmonic Valve Disease, Yes→) Etiology: (choose one)

☐	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

I. Operative

Surgeon: _____ Surgeon NPI: _____

Taxpayer Identification Number: _____

Indicate whether the STS Risk Calculator score was discussed with the patient/family prior to surgery. ++

☐ 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: **

☐ 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
☐ NA- not a cardiovascular surgery

Status: ** ☐ Elective ☐ Urgent ☐ Emergent ☐ Emergent Salvage

(If Urgent or Emergent or Emergent Salvage choose the most pressing reason↓)

Urgent / Emergent/ Emergent Salvage reason:

☐ AMI
☐ Anatomy
☐ Aortic Aneurysm
☐ Aortic Dissection
☐ CHF
☐ Device Failure
☐ Diagnostic/Interventional Procedure Complication
☐ Endocarditis
☐ Failed Transcatheter Valve Therapy , acute annular disruption
☐ Failed Transcatheter Valve Therapy , acute device malposition
☐ Failed Transcatheter Valve Therapy , subacute device dysfunction
☐ 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

Initial Operative Approach:

☐ Full conventional sternotomy
☐ Partial sternotomy
☐ Sub-xiphoid
☐ Thoracotomy
☐ Thoracoabdominal Incision
☐ Percutaneous
☐ Port Access
☐ Other

Approach converted during procedure: ☐ Yes ☐ No

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

Coronary Artery Bypass Procedure Performed:	☐ 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:	☐ 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

Valve Procedure Performed: ☐ Yes ☐ No

(If Yes →)

Was a valve explanted: ☐ Yes ☐ No
(If Yes complete Section K)

Aortic Valve Procedure performed:	☐ 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 ☐ No (If 'Yes' complete M2; If 'No' complete K1)
Mitral Valve Procedure performed:	☐ 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:	☐ 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:	☐ 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

Mechanical Assist Device/Ventricular Assist Device: ☐ Yes ☐ No (If 'Yes" complete section L)
(Present on Admission/Implanted/Explanted)

Other Cardiac Procedure, except Afib: ☐ Yes, planned
☐ 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)

(If Yes →) Did the surgeon provide input for Afib data abstraction? ☐ Yes ☐ No

Other Cardiac Procedure, Congenital Procedure (Except Unicuspid, Bicuspid, Quadricuspid Valve):☐ Yes ☐ No (If Yes, Complete Section M 3)

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)

General Anesthesia: ☐ Yes ☐ No (If General Anesthesia No→) Procedural Sedation : ☐ Yes ☐ No

(If General Anesthesia Yes →) Intubation: ☐ 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)

Skin Incision Stop 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

Temperature Measured: ☐ Yes ☐ No

(If Yes→) Lowest Temperature (° C): _____ Temperature Source: ☐ 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 : _____ | Lowest Intra-op Hematocrit : _____ | Highest Intra-op Glucose: _____

Perfusion Strategy ☐ None ☐ Left Heart Bypass

	☐ 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 Left Heart Bypass, Combination or Full ↓)
		Arterial Cannulation Insertion Site: (Select all that apply↓) ☐ Aortic ☐ Axillary ☐ Femoral ☐ Innominate ☐ Other
		Venous Cannulation Insertion Site: (Select all that apply↓) ☐ Femoral ☐ Pulmonary Vein ☐ Jugular ☐ SVC ☐ Rt. Atrial ☐ Lt. Atrial ☐ Other
		Cardiopulmonary Bypass Time (minutes): _____

Circulatory Arrest: ☐ Yes ☐ No		
(If Circulatory Arrest = Yes→)	Lowest Hematocrit during CPB: _____ Circulatory Arrest Without Cerebral Perfusion Time: _____ (min) Circulatory Arrest With Cerebral Perfusion: ☐ Yes ☐ No	
	(If Circ Arrest w/ Cerebral Perfusion = Yes →)	Cerebral Perfusion Time: _____ (min) Cerebral Perfusion Type: ☐ Antegrade ☐ Retrograde ☐ Both antegrade and retrograde
	Total Circulatory Arrest Time: _____(System Calculation) Cooling Time prior to Circ Arrest: _____mins	
Aortic Occlusion: ☐ None – beating heart ☐ Aortic Cross clamp ☐ None – fibrillating heart ☐ Balloon Occlusion		
	(If Aortic cross clamp 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		
Intraop Blood Products: ☐ Yes ☐ No, Not Given ☐Patient Refused		
(If Yes →)	Red Blood Cell Units: _____	Platelet Dose Pack: _____
	Fresh Frozen Plasma/Plasma Units: _____	Cryoprecipitate Units: _____
Intraop Clotting Factors : ☐ Yes, Factor VIIa ☐ Yes, Factor VIII ☐ Yes, FEIBA ☐ Yes, Composite ☐ No		
Intraop Prothrombin Complex concentrate: ☐ Yes ☐ No		
Was intraop Antifibrinolytic Medication given: ☐ Yes ☐ No		
(If Yes →)	Intraop Antifibrinolytic Medication (select all that apply): ☐ Epsilon Amino-Caproic Acid ☐ Tranexamic Acid ☐ Aprotinin	
Intraoperative TEE Performed post procedure: ☐ Yes ☐ No (If Yes ↓)		
	Highest level aortic insufficiency found: ☐ None ☐Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented	
	Mean Aortic Gradient:_____	
	Aortic Paravalvular leak: ☐No Prosthetic Valve ☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented	
	Highest level Mitral insufficiency found: ☐ None ☐Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented	
	Mean Mitral Gradient:_____	
	Mitral Paravalvular leak: ☐No Prosthetic Valve ☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented	
	Highest level Tricuspid insufficiency found: ☐ None ☐Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented	
	Mean Tricuspid Gradient:_____	
	Tricuspid Paravalvular leak: ☐No Prosthetic Valve ☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented	
	Ejection Fraction Measured post procedure: ☐ Yes ☐ No (If Yes →) Ejection Fraction:_____	
Surgery followed by a planned PCI: ☐ Yes ☐ No		

J. Coronary Bypass

(If Coronary Artery Bypass = Yes ↓)

Internal Mammary Artery (arteries) used: ++ ☐ Yes ☐ No

(If Yes→) Left IMA: ☐ Yes, pedicle ☐ Yes, skeletonized ☐ No/NA

(If Yes→) Right IMA: ☐ Yes, pedicle ☐ Yes, skeletonized ☐ No/NA

(If No→) Reason for no IMA:
☐ Subclavian stenosis
☐ Previous cardiac or thoracic surgery
☐ Previous mediastinal radiation
☐ Emergent or salvage procedure
☐ No (bypassable) LAD disease
☐ Other- acceptable STS provided exclusion (See Training Manual)
☐ Other not acceptable STS exclusion (See Training Manual)

Distal Anastomoses with Arterial Conduit(s) ☐ Yes ☐ No

(If Yes→) Total Number of Distal Anastomoses with Arterial Conduits: _____

Distal Anastomoses with Radial Artery Conduit(s) ☐ Yes ☐ No (If Yes→)
Total Number of Distal Anastomoses with radial artery conduits: _____
Radial Artery Harvest and Prep Time: _____ (minutes)

Distal Anastomoses with Venous Conduit(s) used: ☐ Yes ☐ No (If Yes→)
Total Number of Distal Anastomoses with venous conduits: _____
Saphenous Vein Harvest and Prep Time: _____ (minutes)

Proximal Technique: ☐ Single Cross Clamp ☐ Partial Occlusion Clamp ☐ Anastomotic Assist Device ☐ None

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)	1-11	1-5	☐ Side to Side ☐ End to Side	☐ Yes ☐No
#2 ☐Additional Grafts ☐ No Additional Grafts	1-5	1-11	1-5	☐ Side to Side ☐ End to Side	☐ Yes ☐No
#3 ☐Additional Grafts ☐ No Additional Grafts	1-5	1-11	1-5	☐ Side to Side ☐ End to Side	☐ Yes ☐No
#4 ☐Additional Grafts ☐ No Additional Grafts	1-5	1-11	1-5	☐ Side to Side ☐ End to Side	☐ Yes ☐No
#5 ☐Additional Grafts ☐ No Additional Grafts	1-5	1-11	1-5	☐ Side to Side ☐ End to Side	☐ Yes ☐No
#6 ☐Additional Grafts ☐ No Additional Grafts	1-5	1-11	1-5	☐ Side to Side ☐ End to Side	☐ Yes ☐No
#7 ☐Additional Grafts ☐ No Additional Grafts	1-5	1-11	1-5	☐ Side to Side ☐ End to Side	☐ Yes ☐No
#8 ☐Additional Grafts ☐ No Additional Grafts	1-5	1-11	1-5	☐ Side to Side ☐ End to Side	☐ Yes ☐No
#9 ☐Additional Grafts	1-5	1-11	1-5	☐ Side to Side ☐ End to Side	☐ Yes ☐No

☐ No Additional Grafts					
#10 ☐Additional Grafts ☐ No Additional Grafts	1-5	1-11	1-5	☐ Side to Side ☐ End to Side	☐ Yes ☐No

K. Valve Surgery Explant

(If Valve Explanted (ValExp) is Yes ↓)

First Valve Prosthesis Explant:

Explant Position: ☐ Aortic ☐ Mitral ☐ Tricuspid ☐ Pulmonic

Explant Type: ☐ Mechanical Valve ☐ Bioprosthetic Valve ☐ Homograft ☐ Autograft ☐ Annuloplasty Device ☐ Leaflet Clip ☐ Transcatheter Valve ☐ Transcatheter Valve in Valve with prosthetic valve ☐ Other ☐ Unknown

Explant Etiology: ☐ Endocarditis ☐ Incompetence ☐ Prosthetic Deterioration ☐ Thrombus ☐ Failed Repair ☐ Pannus ☐ Sizing/Positioning issue ☐ Other ☐ Hemolysis ☐ Paravalvular leak ☐ Stenosis ☐ Unknown

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

Year of Implant Known: ☐ Yes ☐ No (If Yes→) Year: _____

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

Explant Position: ☐ Aortic ☐ Mitral ☐ Tricuspid ☐ Pulmonic

Explant Type: ☐ Mechanical Valve ☐ Bioprosthetic Valve ☐ Homograft ☐ Autograft ☐ Annuloplasty Device ☐ Leaflet Clip ☐ Transcatheter Valve ☐ Transcatheter Valve in Valve with prosthetic valve ☐ Other ☐ Unknown

Explant Etiology: ☐ Endocarditis ☐ Incompetence ☐ Prosthetic Deterioration ☐ Thrombus ☐ Failed Repair ☐ Pannus ☐ Sizing/Positioning issue ☐ Other ☐ Hemolysis ☐ Paravalvular leak ☐ Stenosis ☐ Unknown

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

Year of Implant Known: ☐ Yes ☐ No (If Yes→) Year: _____

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

Explant Positing ☐ Aortic ☐ Mitral ☐ Tricuspid ☐ Pulmonic

Explant Type: ☐ Mechanical Valve ☐ Bioprosthetic Valve ☐ Homograft ☐ Autograft ☐ Annuloplasty Device ☐ Leaflet Clip ☐ Transcatheter Valve ☐ Transcatheter Valve in Valve with prosthetic valve ☐ Other ☐ Unknown

Explant Etiology ☐ Endocarditis ☐ Incompetence ☐ Prosthetic Deterioration ☐ Thrombus ☐ Failed Repair ☐ Pannus ☐ Sizing/Positioning issue ☐ Other ☐ Hemolysis ☐ Paravalvular leak ☐ Stenosis ☐ Unknown

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

Year of Implant Known: ☐ Yes ☐ No (If Yes→) Year: _____

K. 1. Aortic Valve without concomitant Aorta Procedure

(If AVAortaProcPerf = No ↓)

Procedure Performed:

☐Replacement: (If Replacement↓)

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

Approach: ☐ Transapical ☐ Transaxillary ☐ Transfemoral ☐ Transaortic ☐ Subclavian ☐ Transiliac ☐ Transeptal ☐ Transcarotid ☐ Transcaval☐ Other

Surgical valve Replacement: ☐ Yes ☐ No (If Yes ↓)

Device type: ☐ Mechanical ☐ Bioprosthetic ☐ Surgeon fashioned pericardium (Ozaki) ☐ Other

(If Bioprosthetic→) Valve type: ☐ Stented ☐ Stentless sub coronary valve only ☐ Sutureless/rapid deployment

☐ Repair/Reconstruction (If Repair/Reconstruction, select all that apply ↓)

Repair Type (Select all that apply)+

☐ 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 annuloplastyexternal 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 ☐Other

Aortic annular enlargement: ☐ Yes ☐ No (If Yes ↓)

Technique: ☐ Nicks-Nunez ☐ Manougian ☐ Konno ☐ Other ☐ Unknown

Replacement of non-coronary sinus (Modified Wheat/Modified Yacoub) ☐ Yes ☐ No

Aortic Valve or Valve Repair Device Implant: ☐ Yes ☐ No (If Yes ↓)

Implant Model Number: _____ Implant Size: _____

Unique Device identifier (UDI): _____

K. 2. Mitral Valve Procedure

(If Mitral Valve Procedure Performed = Yes ↓)

Procedure Performed:

☐ Repair (If Repair↓)

Repair Approach: ☐ Surgical ☐ Transcatheter

If Surgical (Select all that apply↓)

☐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☐ Both

Resection Method (select all that apply):
☐ Triangular Alone ☐ Quadrangular Alone
☐ Resection with Sliding Valvuloplasty
☐ Resection with Folding Valvuloplasty ☐ Other

(If Neochords (PTFE) →) ☐ Anterior ☐ Posterior ☐ Both ☐ Not Documented

(If Chordal Transfer) →) ☐ Anterior Chordal transfer ☐ Posterior Chordal transfer ☐Not Documented

(If Leaflet extension/replacement patch→) Patch Location: ☐ Anterior ☐ Posterior ☐ Both ☐ Not Documented

☐ Replacement (If Replacement ↓)

Mitral repair attempted prior to replacement: ☐ Yes ☐ No

Mitral chords preserved: ☐ Anterior ☐ Posterior ☐ Both ☐ None

Transcatheter replacement: ☐ Yes ☐ No

☐ 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 ☐Other

Implant: ☐ Yes ☐ No (If Yes ↓)

Implant type:

☐ Mechanical valve	☐ Transcatheter device implanted open heart
☐ Bioprosthetic valve ☐ Annuloplasty Ring Surgical	☐ Transcatheter Replacement Device (Transapical)
☐ Annuloplasty without ring (pericardial or suture)	☐ Transcatheter Replacement Device (Trans-septal)
	☐ Annuloplasty Ring Transcatheter
	☐ Mitral Leaflet clip
	☐ Other

(If Mitral Leaflet Clip→) Number implanted: _____ (enter 1-3)

Implant Model Number: _____ Implant Size: _____

Unique Device identifier (UDI): _____

K.3. Tricuspid Valve Procedure

(If Tricuspid Valve Procedure Performed Yes ↓)

Tricuspid Procedure Performed

☐ Repair : (If Repair, select all that apply↓) **

☐Annuloplasty	☐Transcatheter Clip/Device	☐Leaflet Resection:	☐ Pannus/Thrombus Removal (Native Valve)
(If Annuloplasty→)	Type of Annuloplasty: ☐ Pericardium ☐Suture ☐ Prosthetic Ring ☐ Prosthetic Band ☐ Other		

☐ Replacement: (If Yes↓)

Transcatheter Replacement: ☐ Yes ☐ No

☐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 ☐Other

Implant: ☐ Yes ☐ No (If Yes ↓)

Implant Type: ☐ Mechanical Valve ☐ Annuloplasty device ☐ Bioprosthetic Valve ☐ Homograft ☐Transcatheter device implanted open heart ☐ Transcatheter Valve ☐ Other

Implant Model Number: _____ Size: _____

Unique Device Identifier (UDI): _____

Valvectomy: ☐ Yes ☐ No

K. 4. Pulmonic Valve Procedure

(If Pulmonic Valve Procedure Performed = Yes ↓)

Procedure Performed:

☐ Repair/Leaflet Reconstruction
☐ Pannus or Thrombus removal
☐ Replacement (If Replacement→) Transcatheter Replacement: ☐ Yes ☐ No
☐ Valvectomy

Implant: ☐ Yes ☐ No (If Yes ↓)

Implant Type:	☐Surgeon Fashioned ☐Commercially Supplied	
(If Surgeon Fashioned →)	Material: ☐ PTFE (Gore-Tex) ☐ Pericardium ☐ Other	
(If Commercially Supplied →	Device Type:	☐ Mechanical Valve ☐ Annuloplasty Device ☐ Bioprosthetic Valve ☐ Homograft ☐ Transcatheter Valve ☐ Other ☐Transcatheter device implanted open heart

Implant Model Number: _____ Size: _____

Unique Device Identifier (UDI): _____

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 ☐ No

Intra-Aortic Balloon Pump (IABP): ☐ Yes ☐ No (If Yes ↓)

IABP Insertion: ** ☐ Preop ☐ Intraop ☐ Postop

ECMO: ☐ Yes ☐ No (If Yes ↓)

ECMO Mode: ☐ Veno-venous ☐ Veno-arterial ☐ Veno-Arterial Venous (VAV) ☐ Veno-venous arterial (VVA)
ECMO Initiated: ** ☐ Preop ☐ Intraop ☐ Postop ☐ Non-operative

Temporary Assist Device Used: ☐ Yes ☐ No (If Yes ↓)

Position: ☐ Open ☐ Catheter Based

Type: ☐ RV ☐ LV ☐ BiV

When Inserted: ** ☐ Preop ☐ Intraop ☐ Postop

Was patient admitted with VAD ☐ Yes ☐ No (If Yes ↓)

Insertion date: __/__/____

Device Model Number: _____ UDI: _____

Previous VAD Explanted During This Admission: ☐ Yes, not during this procedure ☐ Yes, during this procedure ☐ No

Ventricular Assist Device Implanted during this hospitalization ☐ Yes ☐ No

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

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)- planned
4. In conjunction with CV surgical procedure (same trip to the OR)- unplanned
5. Post-Operative (after surgical procedure during reoperation)

VAD Implant Indication:
1. Bridge to Transplantation
2. Bridge to Recovery
3. Destination
4. Post cardiotomy 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)

VAD Explant 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

(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	_____	_____	_____
	Initial explant	**2nd device explanted?**	**3rd Device explanted**
VAD Explant(s)	☐ 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
(If Yes, not during this procedure or Yes, during this procedure →) Reason			
(If Yes, not during this procedure →) Date	__/__/____	__/__/____	__/__/____

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 ☐ No

Pulmonary Thromboembolectomy ☐ Acute ☐ Chronic ☐ No

Myocardial Stem Cell Therapy: ☐ Yes ☐ No

LV Aneurysm Repair: ☐ Yes ☐ No

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

Lead Insertion: ☐ Yes ☐ No

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

Transmyocardial revascularization (TMR): ☐ Yes ☐ No

Tumor: ☐ Myxoma ☐ Fibroelastoma ☐ Other ☐ No

Transplant, Cardiac : ☐ Yes ☐ No

Trauma, Cardiac : ☐ Yes ☐ No

Acquired VSD Repair: ☐ Yes ☐ No

Other Cardiac Procedure ☐ Yes ☐ No

ASD Repair ☐ Yes ☐ No (If Yes →) | ASD Repair Type: ☐ Congenital (secundum) ☐ Acquired

PFO Repair : ☐ Yes ☐ No

M.1. Atrial Fibrillation Procedures

(If If Afib Procedure = Yes ↓)

Left Atrial Appendage Obliteration ☐ Epicardially applied occlusion device ☐ Epicardial Staple ☐ Epicardial Suture ☐ Endocardial Suture ☐ Prior Transcatheter Device In Existence ☐ Other ☐No

(If Epicardial applied occlusion device →) UDI: _____

Left Atrial Appendage Amputation: ☐ Yes ☐ No

Lesion location: ☐ Epicardial ☐ Intracardiac ☐ Both ☐ None

(if not None, select all that apply) → ☐ Radiofrequency ☐ Cut-and-sew ☐ Cryo

(If Radiofrequency→) Bipolar: ☐ Yes ☐ No ☐Not Documented

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

Left Atrial	☐ Yes ☐ No (If Yes, select all that apply →)	☐ 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 Atrial	☐ Yes ☐ No (If Yes, select all that apply →)	☐ 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:	☐ Aneurysm ☐ Dissection ☐ Both Aneurysm and Dissection ☐ Sudden Death ☐ Unknown☐ None
Patient's genetic history:	☐ Marfan ☐ Ehlers-Danlos ☐ Loeys-Dietz ☐ Non-Specific familial thoracic aortic syndrome ☐ Aortic Valve Morphology ☐ Turner syndrome ☐ Other- ☐ Unknown ☐ None

Prior aortic intervention: ☐ 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	☐ Open ☐ Endovascular ☐ Hybrid	☐ Yes ☐ No	☐ Yes ☐ No
Ascending (Zone 0 – B&C)	☐ Yes ☐ No	☐ Open ☐ Endovascular ☐ Hybrid	☐ Yes ☐ No	☐ Yes ☐ No
Arch (Zones 1,2,3)	☐ Yes ☐ No	☐ Open ☐ Endovascular ☐ Hybrid	☐ Yes ☐ No	☐ Yes ☐ No
Descending (Zones 4,5)	☐ Yes ☐ No	☐ Open ☐ Endovascular ☐ Hybrid	☐ Yes ☐ No	☐ Yes ☐ No
Suprarenal abdominal (Zones 6,7)	☐ Yes ☐ No	☐ Open ☐ Endovascular ☐ Hybrid	☐ Yes ☐ No	☐ Yes ☐ No
Infrarenal abdominal (Zone 8,9,10,11)	☐ Yes ☐ No	☐ Open ☐ Endovascular ☐ Hybrid	☐ Yes ☐ No	☐ Yes ☐ No

Current Procedure with Endoleak involvement: ☐ Yes ☐ No

(If Yes →)

- Type I: leak at graft attachment site: ☐ Yes ☐ No
  - (If Yes →) Type I location: ☐ Ia-proximal ☐ Ib -distal ☐ Ic- iliac occluder
- Type II: aneurysm sac filling via branch vessel: ☐ Yes ☐ No
  - (If Yes →) Number of vessels: ☐ IIa: single vessel ☐ IIb: two vessels or more
- Type III: leak through defect in graft: ☐ Yes ☐ No
  - (If Yes →) Graft defect type: ☐ IIIa: junctional separation of modular components ☐ IIIb: endograft fractures or holes
- Type IV: leak through graft fabric – porosity: ☐ Yes ☐ No
- Type V: endotension - expansion aneurysm sac without leak: ☐ Yes ☐ No

Current Procedure with Aorta Infection: ☐ Yes ☐ No

(If Yes →) Aorta Infection Type:
☐ Graft infection ☐ Valvular endocarditis ☐ Nonvalvular endocarditis ☐ Native aorta ☐Multiple infection types

Current Procedure with Trauma: ☐ Yes ☐ No

(If Yes, select all that apply →)
☐ Root
☐ Ascending
☐ Arch
☐ Descending ☐ Thoracoabdominal
☐ Abdominal

Presenting Symptom: ☐ Pain ☐ CHF ☐ Cardiac Arrest ☐ Syncope ☐ Infection ☐ Asymptomatic ☐ Injury related to Surgical Complication ☐Neuro Deficit ☐ Other ☐ Unknown

	(If Neuro Deficit→)	☐ Stroke ☐ Limb numbness ☐ Paralysis ☐ Hoarseness (acute vocal cord dysfunction)
Primary Indication:	☐ Aneurysm ☐ Dissection ☐ Other	

(if Aneurysm →)	Etiology:	☐ 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:	☐ Fusiform ☐ Saccular ☐ Unknown
	Rupture:	☐ Yes ☐ No (If Yes →) Contained rupture: ☐ Yes ☐ No
	Location of Maximum Diameter:	☐ 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:	☐ 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 →)	Date of onset:_ _/_ _/_ _ _ _	
	Primary tear location:	☐ 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		
	(If Yes →)	Most Proximal Dissection Location:	☐ Below STJ ☐ STJ-midascending ☐ Midascending to distal ascending ☐ Zone 1 ☐ Zone 2 ☐ Zone 3 ☐ Zone 4
	Distal Dissection Extent Known: ☐ Yes ☐ No ☐ Unknown		
	(If Yes →)	Distal Dissection Extension Location:	☐ 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 ☐ Other		
	Retrograde dissection caused by Aortic Stent Graft (Post TEVAR): ☐Yes ☐ No		
	Patient within 30 days post TAVR ☐Yes ☐ No ☐ Unknown		
	Patient within 30 days Post Other Cath Procedure ☐Yes ☐ No ☐ Unknown		
	Malperfusion: ☐ Yes ☐ No ☐ Unknown		
	(If Yes →)	Malperfusion Type: (select all that apply):	☐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		
	Lower Extremity Sensory Deficit: ☐ Yes ☐ No ☐ Unknown		
	Rupture: ☐ Yes ☐ No		
	(If Yes →)	Contained rupture:	☐ Yes ☐ No
		Rupture Location:	☐ 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 →)	☐ 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	
	Asymmetric Root Dilation: ☐ Yes ☐ No ☐ Unknown (If Yes →)	Dilation Location: ☐ Right ☐ Left ☐ Non-coronary
	Sinus of Valsalva aneurysm: ☐ Yes ☐ No ☐ Unknown (If Yes →)	SV Aneurysm Location (select all that apply) : ☐ Right ☐ Left ☐ Non-coronary
Arch Anomalies ☐Yes ☐No (If Yes ↓)		
	Arch Anomalies Type(s): select all that apply	☐Arch Type Right ☐Aberrant Right Subclavian ☐Kommerell/Ductus Bulge ☐Variant vertebral origin ☐Aberrant Left Subclavian: ☐Bovine:
Patent internal mammary artery bypass graft:	☐ Yes ☐ No ☐ N/A	
Ascending	Asymmetric Dilatation: ☐ Yes ☐ No ☐ Unknown	
	Proximal coronary bypass grafts: ☐ Yes ☐ No ☐ Unknown	

Measurements (Largest Diameter)

Treated Zone with the Largest Diameter:	☐ 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:	_____mm
Method Obtained:	☐ 3D or 4D Reconstruction ☐ PreOp CT ☐ PreOp MRI ☐ PreOp Echo ☐ Intra Operatively

Proximal to Treated Zone(s) (Largest Diameter) Available: ☐Yes ☐No	Location:	☐ 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
(If Yes →)	Measurement:	_____mm
	Method Obtained:	☐ 3D or 4D Reconstruction ☐ PreOp CT ☐ PreOp MRI ☐ PreOp Echo ☐ Intra Operatively
Distal to Treated Zone(s) (Largest Diameter) Available: ☐Yes ☐No	Location:	☐ 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
(If Yes →)	Measurement:	_____mm
	Method Obtained:	☐ 3D or 4D Reconstruction ☐ PreOp CT ☐ PreOp MRI ☐ PreOp Echo ☐ Intra Operatively

Intervention

(If Aorta Procedure Performed = Yes ↓)

Aortic Valve or Root 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 Valve Replacement: ☐ Yes ☐ No

(If Yes →) Approach: ☐ Transapical ☐ Transaxillary ☐ Transfemoral ☐ Transaortic ☐ Subclavian ☐ Other ☐ Transiliac ☐ Transeptal ☐ Transcarotid. ☐ Transcaval

Surgical valve Replacement: ☐ Yes ☐ No

(If Yes →) Device type: ☐ Mechanical ☐ Bioprosthetic ☐ Surgeon fashioned pericardium (Ozaki) ☐ Other

(If Bioprosthetic→) Valve type: ☐ Stented ☐ Stentless sub coronary valve only ☐ Sutureless/rapid deployment

☐ Repair/Reconstruction (If Repair/Reconstruction ↓)

Repair Type (Select all that apply)

☐ 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↓)

Type of Intervention: ☐Repair of periprosthetic leak ☐ Removal of pannus ☐ Removal of clot ☐Other

Aortic annular enlargement ☐ Yes ☐ No

(If Yes →) Technique: ☐ Nicks-Nunez ☐ Manougian ☐ Konno ☐ Other ☐ Unknown

Replacement of non-coronary sinus (Modified Wheat/Modified Yacoub) ☐Yes ☐ No

Root Procedure: ☐ Yes ☐ No (If Yes↓)

Root Replacement with coronary Ostial Reimplantation ☐ Yes ☐ No

(If Yes →) ☐ Composite Valve Conduit ☐ Valve Sparing Root

(If Composite Valve Conduit →) ☐ Mechanical ☐ Bioprosthetic ☐ Homograft Root Replacement ☐ Autograft with Native Pulmonary Valve (Ross)

		(If Bioprosthetic →)	☐Stented Valve Conduit ☐Stentless Valve Conduit ☐Stentless Biologic Full Root
		(If Valve Sparing Root →)	☐ Valve sparing root reimplantation (David) ☐ Valve sparing root remodeling (Yacoub) ☐ Valve sparing root reconstruction (Florida Sleeve)
	Coronary Reimplantation:	☐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 ☐ Yes ☐ No		

(If AortProc = Yes ↓)

Surgical Ascending/Arch Procedure ☐ Yes ☐ No (If Yes ↓)

Proximal Location: ☐ STJ-midascending ☐ Midascending to distal ascending ☐ Zone 1 ☐ Zone 2 ☐ Zone 3

Distal Technique: ☐ Open/Unclamped ☐ Clamped

Distal Site: ☐ Ascending Aorta ☐ Hemiarch ☐ Zone 1 ☐ Zone 2 ☐ Zone 3 ☐ Zone 4

Distal Extention: ☐ Elephant trunk ☐ Frozen Elephant trunk ☐ No

Arch Branch Reimplantation: ☐ Yes ☐ No (If Yes ↓ - select all that apply)

Arch Branch Location:	☐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

Proximal Location: ☐ Reverse Hemiarch ☐ Zone 0 ☐ Zone 1 ☐ Zone 2 ☐ Zone 3 ☐ Zone 4 ☐ Zone 5 ☐ Zone 6 ☐ Zone 7 ☐ Zone 8 ☐ Zone 9

Intercostal Reimplantation: ☐ Yes ☐ No

Distal Location: ☐ 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 ↓)

Celiac: ☐ Reimplantation ☐ Branch Graft ☐ None

Superior mesenteric: ☐ Reimplantation ☐ Branch Graft ☐ None

Right Renal: ☐ Reimplantation ☐ Branch Graft ☐ None

Left Renal: ☐ Reimplantation ☐ Branch Graft ☐ None

Endovascular Procedure(s) : ☐ Yes ☐ No (If Yes ↓)

Access: ☐ Femoral ☐ Iliac ☐ Abdominal Aorta ☐ Lt. Subclavian/Axila ☐ Rt. Subclavian/Axila ☐ Ascending Aorta ☐Carotid ☐ LV Apex

Percutaneous Access: ☐ Yes ☐ No

Proximal landing zone: ☐ 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: ☐ 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

Arch Vessel management

Innominate:	☐ Native Flow ☐ Endovascular Branch Graft ☐ Endovascular Parallel Graft ☐ Extra-anatomic Bypass ☐ Fenestrated ☐ No Flow Restored	
	(If Extra-anatomic bypass (select all that apply)→)	Location: ☐Aorta-Innominate ☐Aorta-right carotid ☐Aorta- right subclavian ☐Right Carotid- Right subclavian ☐Other
Left Carotid:	☐ Native Flow ☐ Endovascular Branch Graft ☐ Endovascular Parallel Graft ☐ Extra-anatomic Bypass ☐ Fenestrated ☐ No Flow Restored	
	(If Extra-anatomic bypass (select all that apply)→)	Location: ☐Aorta- left carotid ☐ Innominate- left carotid ☐Right carotid- Left carotid ☐Other
Left Subclavian:	☐ Native Flow ☐ Endovascular Branch Graft ☐ Endovascular Parallel Graft ☐ Extra-anatomic Bypass ☐ Fenestrated ☐ No Flow Restored	

	(If Extra-anatomic bypass (select all that apply)→)	Location: ☐Aorta- left subclavian ☐Left carotid- left subclavian ☐Other

Visceral Vessel management

Celiac:	☐ Native Flow ☐ Endovascular Branch Graft ☐ Endovascular Parallel Graft ☐ Extra-anatomic Bypass ☐ Fenestrated ☐ No Flow Restored	
	(If Extra-anatomic bypass (select all that apply)→)	Location: ☐Aorta- celiac ☐Iliac-celiac ☐Other
Superior mesenteric:	☐ Native Flow ☐ Endovascular Branch Graft ☐ Endovascular Parallel Graft ☐ Extra-anatomic Bypass ☐ Fenestrated ☐ No Flow Restored	
	(If Extra-anatomic bypass (select all that apply)→)	Location: ☐Aorta- superior mesenteric ☐Iliac- superior mesenteric ☐Other
Right renal:	☐ Native Flow ☐ Endovascular Branch Graft ☐ Endovascular Parallel Graft ☐ Extra-anatomic Bypass ☐ Fenestrated ☐ No Flow Restored	
	(If Extra-anatomic bypass (select all that apply)→)	Location: ☐ Aorta- right renal ☐Iliac- right renal ☐Other
Left renal:	☐ Native Flow ☐ Endovascular Branch Graft ☐ Endovascular Parallel Graft ☐ Extra-anatomic Bypass ☐ Fenestrated ☐ No Flow Restored	
	(If Extra-anatomic bypass (select all that apply) →)	Location: ☐Aorta- left renal ☐Iliac – left renal ☐Other
Right Iliac:	☐ Native Flow ☐ Bifurcated Graft ☐ Extra-anatomic Bypass ☐ No Flow Restored	
	(If Extra-anatomic bypass (select all that apply)→)	Location: ☐Femoral- Femoral ☐Other
Left Iliac:	☐ Native Flow ☐ Bifurcated Graft ☐ Extra-anatomic Bypass ☐ No Flow Restored	
	(If Extra-anatomic bypass (select all that apply) →)	Location: ☐Femoral- Femoral ☐Other
Internal Iliac Preserved: ☐ Right Iliac only ☐ Left Iliac only ☐ Both ☐ No		
Other Visceral Vessel(s) Extra-anatomic Bypass: ☐ Yes ☐ No		
	(If Yes (select all that apply) →)	Location: ☐Aorta-other ☐Iliac-other ☐Other
Planned Staged Hybrid: ☐ Yes ☐ No		

Other Endovascular Procedural Information

Dissection proximal entry tear covered: ☐ Yes ☐ No	
Endoleak at end of procedure: ☐ Yes ☐ No (If Yes →)	Type: ☐ Ia ☐ Ib ☐ II ☐ III ☐ IV ☐ V
Conversion to open: ☐ Yes ☐ No (If Yes →)	Conversion reason: ☐ Deployment failure ☐ Endoleak ☐ Rupture ☐ Occlusion/loss of branch
Intraop Dissection Extension: ☐ None ☐ Antegrade ☐ Retrograde ☐ Both	
Unintentional rupture of dissection septum: ☐Yes ☐No (If Yes →)	Location: ☐ 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		
IntraOp Motor Evoked Potential: ☐ Yes ☐ No	(If Yes →) Documented MEP abnormality ☐ Yes ☐ No ☐ Unknown	
IntraOp Somatosensory Evoked Potential: ☐ Yes ☐ No	(If Yes →) Documented SEP abnormality ☐ Yes ☐ No ☐ Unknown	
IntraOp EEG: ☐ Yes ☐ No	(If Yes →) Documented EEG abnormality ☐ Yes ☐ No ☐ Unknown	
IntraOp Intravascular Ultrasound(IVUS): ☐ Yes ☐ No		
IntraOp Transcutaneous Doppler: ☐ Yes ☐ No		
Intraoperative Angiogram: ☐ Yes ☐ No (If Yes →)	Volume of contrast: _____ml	Fluoroscopy time:_____ min
Endovascular Balloon Fenestration of the Dissection Flap: ☐PreOp ☐IntraOp ☐PostOp ☐ N/A		

Devices

Device(s) Inserted: ☐ Yes ☐ No (If Yes, list aorta proximal to distal using device key ↓)

Aortic Valve or Aortic Valve Composite Graft Implanted ☐ Yes ☐ No (If Yes↓)

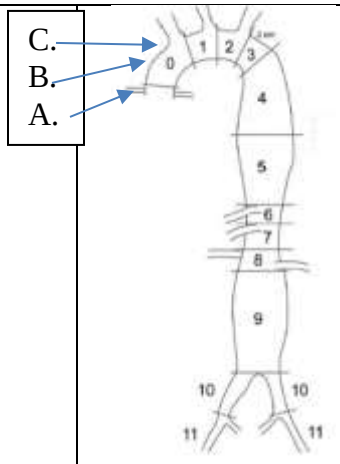
Implant Model Number: _____

Implant Size: _____

Unique Device identifier (UDI): _____

Aorta Devices

Location :



X.	No additional devices inserted (only for locations 2 – 15)
A.	Below sinotubular junction
B.	Sinotubular junction to mid ascending
C.	Mid ascending to distal ascending
D.	Zone 1 (between innominate and left carotid)
E.	Zone 2 (between left carotid and left subclavian)
F.	Zone 3 (first 2 cm. distal to left subclavian)
G.	Zone 4 (end of zone 3 to mid descending aorta ~ T6)
H.	Zone 5 (mid descending aorta to celiac)
I.	Zone 6 (celiac to superior mesenteric)
J.	Zone 7 (superior mesenteric to renals)
K.	Zone 8 (renal to infra-renal abdominal aorta)
L.	Zone 9 (infrarenal abdominal aorta)
M.	Zone 10 (common iliac)
N.	Zone 11 (external iliacs)

(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

M.3. Congenital Defect Repair (other than-ASD – 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: _____

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: _____

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

Patient expired in OR. ☐ Yes ☐ No (If No ↓)

Peak Postoperative Creatinine Level within 48 hours of OR Exit: _____	Peak Postoperative Creatinine Level prior to discharge: _____	Discharge Hemoglobin: _____	Discharge Hematocrit: _____

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

Red Blood Cell Units: _____ Fresh Frozen Plasma/Plasma Units: _____ Cryoprecipitate Units: _____ Platelet Dose Pack: _____

Extubated in OR: ☐ Yes ☐ No ☐ N/A (not intubated)

(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)++

Total post-op initial vent hour _____ (system calculation)

Re-intubated /or intubated Post Op 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 ↓)

Level aortic insufficiency found: ☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

Aortic Paravalvular leak:
☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented ☐ N/A

Level mitral insufficiency found: ☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

Mitral Paravalvular leak:
☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented ☐ N/A

Level tricuspid insufficiency found: ☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

Level pulmonic insufficiency found: ☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

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

P. Postoperative Events

(If Expired in OR = No↓)

Surgical Site Complications during postoperative period up to 30 days or during initial hospitalization: ☐ Yes, Infectious ☐ Yes, Non-Infectious ☐ Yes, Both ☐ No

(If Yes, Infectious or Yes, Both →)

Superficial Sternal Wound:	☐ Yes, within 30 days of procedure ☐ Yes, >30 days after procedure but during hospitalization for surgery ☐ No
Deep Sternal: ++	☐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)
Thoracotomy (within 30 days or initial hospitalization): ☐ Yes No	
Conduit Harvest (within 30 days or initial hospitalization): ☐ Yes-☐ No	
Cannulation Site (within 30 days or initial hospitalization): ☐ Yes ☐ No	

(If Yes, Non-Infectious or Yes, Both→)	Non-Infective Surgical Wound Dehiscence (includes non-infective sterile wound): ☐ Sternal Superficial ☐ Deep Sternal

Is there evidence that the patient had a deep sternal wound infection within 90 days of the procedure: ☐ Yes ☐ No ☐ Unknown

Other <u>In Hospital</u> Postoperative Event Occurred: ☐ Yes ☐ No (If Yes ↓)

<u>Operative</u>

ReOp for Bleeding /Tamponade: ++ ☐ Yes ☐ No	(If Yes →) Bleed Timing: ☐ Acute ☐ Late
ReOp for Valvular Dysfunction: ++ ☐ Yes, surgical ☐ Yes, transcatheter ☐ No	
Unplanned Coronary Artery Intervention: ++ ☐ Yes ☐ No	
(If Yes →) Vessel: ☐ Native coronary ☐ Graft ☐ Both	Intervention Type: ☐ Surgery ☐ PCI ☐ Both
Aortic Reintervention: ++ ☐ Yes ☐ No	(If yes→) Type: ☐ Open ☐ Endovascular

ReOp for Other Cardiac Reasons: ++ ☐ Yes ☐ No
Returned to the OR for Other Non-Cardiac Reasons: ☐ Yes ☐ No
Open chest with planned delayed sternal closure: ☐ Yes ☐ No

<u>Infection</u>

Sepsis: ☐ Yes ☐ No

<u>Neurologic, Central</u>

Postoperative Stroke: ++ ☐ Yes ☐ No
Encephalopathy: ☐ Yes ☐ No

<u>Neurologic, Peripheral</u>

Lower Extremity Paralysis >24 Hours: Yes ☐ No
Paresis >24 hours: ☐ Yes ☐ No
Recurrent Laryngeal Nerve Injury: ☐ Yes ☐ No

<u>Pulmonary</u>

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

(If Yes →)	Tracheostomy Required after OR Exit ☐ Yes ☐ No

Pneumonia: ☐ Yes ☐ No
Pulmonary Thromboembolism: ☐ Yes ☐ No
Pleural Effusion Requiring Drainage: ☐ Yes ☐ No
Pneumothorax Requiring Intervention: ☐ Yes ☐ No

<u>Renal</u>

Renal Failure: ++ ☐ Yes ☐ No

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

<u>Vascular</u>

Iliac/Femoral Dissection: ☐ Yes ☐ No
Acute Limb Ischemia: ☐ Yes ☐ No
Deep Venous Thrombosis: ☐ Yes ☐ No

<u>Mechanical assist device related complication</u> : ☐ Yes ☐ No (If Yes ↓)

	Type of Complication: (select all that apply) ☐ Cannula/Insertion site issue ☐ Hemorrhagic ☐ Thrombotic/Embolic ☐ Hemolytic ☐ Infection ☐ Other mechanical assist device related complication

<u>Other</u>

Rhythm Disturbance Requiring Permanent Pacemaker: ☐ Yes ☐ No
Cardiac Arrest: ☐ Yes ☐ No

<u>Aortic Complication</u> ☐ Yes ☐ No (If Yes ↓)

	Aortic Dissection: ☐ Yes ☐ No	
	Post Op Aortic Endoleak: ☐ Yes ☐ No	(If Yes→) Type: ☐ Ia ☐ Ib ☐ II ☐ III ☐ IV ☐ V
	Aortic Side Branch malperfusion: ☐ Yes ☐ No	
	Aortic stent graft induced entry tear: ☐ Yes ☐ No	

Anticoagulant Bleeding Event: ☐ Yes ☐ No

(If Yes→)	☐ Intracerebral ☐ Subdural ☐ Gastrointestinal

Heparin Induced Thrombocytopenia (HIT) ☐ Yes ☐ No	(If Yes→) Heparin Induced Thrombocytopenia Thrombosis (HITT)☐ Yes ☐ No

Pericardiocentesis:: ☐ Yes ☐ No

Gastro-Intestinal Event: ☐ Yes ☐ No (If Yes, select all that apply→)	☐Ischemic Bowel ☐ Gastrointestinal Bleed ☐Pancreatitis ☐Cholecystitis ☐Liver Dysfunction/Liver Failure ☐Ileus ☐Other

Atrial Fibrillation: ☐ Yes ☐ No

Q. Discharge / Mortality

Status at 30 days After Surgery (either discharged or in-hospital): ++ ☐ Alive ☐ Dead ☐ Unknown

Did the patient transfer to another acute care hospital after this procedure during same stay: ☐ Yes ☐ No (If Yes →) Date Transferred: ___/____/_____

Is the patient still in the Acute Care Hospital Setting: ☐ Yes ☐ No (If No ↓)

Hospital Discharge Date __ __/__ __/__ __ __ __ (mm/dd/yyyy)

Status at Hospital Discharge++
- ☐ 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

(If Discharge Location = Extended Care/Transitional Care Unit/Rehab→)

☐Acute/Short-term Rehab ☐Long-term Rehab ☐Unknown

(If Discharge Location is NOT Left AMA→)

Cardiac Rehabilitation Referral:		☐ Yes ☐ No ☐ Not Applicable
Substance Use Screening and Counseling Performed (NQF 2597):		☐ Yes ☐ No ☐ Not Applicable
Medications Prescribed at Discharge		
Antiplatelet++	Aspirin	☐ Yes ☐ No ☐ Contraindicated
	ADP Inhibitor	☐ Yes ☐ No ☐ Contraindicated
	Other Antiplatelet	☐ Yes ☐ No ☐ Contraindicated
Anticoagulant	Direct Oral Anticoagulant	☐ Yes ☐ No ☐ Contraindicated
	Warfarin (Coumadin)	☐ Yes ☐ No ☐ Contraindicated
	Other Anticoagulant	☐ Yes ☐ No ☐ Contraindicated
ACE or ARB		☐ Yes ☐ No ☐ Contraindicated ☐ Not Indicated (see Training Manual)
Amiodarone		☐ Yes ☐ No ☐ Contraindicated
Beta Blocker ++		☐ Yes ☐ No ☐ Contraindicated
Lipid Lowering - Statin ++		☐ Yes ☐ No ☐ Contraindicated
Lipid Lowering - Other		☐ Yes ☐ No ☐ Contraindicated

(If Status at Hospital Discharge is 'Discharged Alive, Died after discharge' OR 'Discharged to Hospice'→)

Mortality - Date++ __ __/__ __/__ __ __ __ (mm/dd/yyyy)

(If Status at Hospital Discharge is 'discharged alive, died after discharge' OR 'Discharged to Hospice'→)

Operative Mortality: ++ ☐ Yes ☐ No

(If Status at Hospital Discharge is 'Discharged to Hospice' OR 'Discharged Alive, died after discharge'→)

Post Discharge death location: ☐ Home ☐ Extended Care Facility ☐ Hospice ☐ Acute Rehabilitation ☐ Hospital during readmission ☐ Other ☐ Unknown

(If Died in Hospital→)

Primary Cause of Death (select only one) ☐ Cardiac ☐ Neurologic ☐ Renal ☐ Vascular ☐ Infection ☐ Pulmonary ☐ Unknown ☐ Other

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

Readmit Primary Reason:

- ☐ Angina
- ☐ Anticoagulation Complication - Pharmacological
- ☐ Anticoagulation Complication – Valvular
- ☐ Aortic Complication
- ☐ Pericardial Effusion and/or Tamponade
- ☐ Pericarditis/Post Cardiotomy Syndrome
- ☐ Pleural effusion requiring intervention
- ☐ Pneumonia

☐ 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
☐ 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:

☐ 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
	Indication: ☐ Rupture ☐ Endoleak ☐ Infection ☐ Dissection ☐ Expansion ☐ Loss of side branch patency ☐ Other

Adult Cardiac Anesthesiology
(for sites participating in the optional anesthesiology component)

Organization participates in the Adult Anesthesia Section: ☐ Yes ☐ No

Primary Anesthesiologist Name:	Primary Anesthesiologist National Provider Number:

Anesthesiology Care Team Model:

- ☐ 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/A
- ☐ Attending anesthesiologist medically directing AA
  (If Attending anesthesiologist medically directing AA ↓)
  Ratio: ☐ 1:1 ☐ 1:2. ☐ 1:3 ☐ 1:4. ☐ 1:5 ☐ N/A
- ☐ Surgeon medically directing CRNA
- ☐ CRNA practicing independently

Pain Score Baseline: ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ Not Recorded

Pre Induction Systolic BP:_____	Pre Induction Diastolic BP: _____
Pre Induction Heart Rate: _____	Pulmonary Artery Catheter Used: ☐ Yes ☐ No

Algorithm used to Guide Transfusion: ☐ Yes ☐ No

Anticoagulation Prior to CPB

Heparin prior to CPB ☐ Yes☐ No (If Yes →)

Heparin Dose: _____units	Heparin Management:	☐ 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 →)		Total Dose: _____units
Antithrombin III prior to CBP ☐ Yes ☐ No (If yes →)		Total Dose: _____International Unit/mL

Bivalirudin ☐ Yes ☐ No

Argatroban ☐Yes ☐ No

Viscoelastic Testing Used Intraop: ☐ Yes ☐ No

Volatile Agent Used: ☐ Yes ☐ No

(If Yes →)	Volatile Agent(s) used: (select all that apply→)	☐ Isoflurane ☐ Desflurane ☐ Sevoflurane ☐ Other
	Volatile Agent(s) timing (select all that apply→)	☐ Pre CPB ☐ During CPB ☐ Post CPB ☐ Maintenance (if no CPB)

Intraop Midazolam: ☐ Yes ☐ No	(If Yes→) Dose_____mgs	Intraop Fentanyl☐ Yes ☐ No	(If Yes→)Dose _____mcgs
Intraop Sufentanil ☐ Yes ☐ No	(If Yes→) Dose _____mcgs	Intraop Remifentanil☐ Yes ☐ No	(If Yes→) Dose _____ mcgs

Multimodal Analgesics (OR Entry to 24h post OR Exit) ☐ Yes ☐ No (If Yes, select all that apply→)
☐ Ketamine (IV) ☐ Local/Regional Anesthesia ☐ Lidocaine Infusion (not bolus)
☐ Acetaminophen (IV or PO) ☐ Cox-2 inhibitor/non-steroidal anti-inflammatory (PO)
☐ Dexmedetomidine (IV)

Core Temperature Source in OR:
☐ Esophageal ☐ Tympanic ☐ Oxygenator arterial outlet blood (CPB Arterial Blood)
☐ Bladder ☐ Rectal ☐ Other
☐ Nasopharyngeal ☐ CPB venous return ☐ Unknown
☐ PA Catheter Thermistor ☐ Jugular-Venous

Core Temp Max during rewarming: _____°C

Crystalloid given by Anesthesia ☐ Yes ☐ No (If Yes→)

Anesth. Total Crystalloid: _____mL

Type:☐ 0.9 Sodium Chloride ☐ Normosol ☐ Ringer's Lactate ☐ Plasmalyte

Was 5% Albumin given by Anesthesia ☐ Yes ☐ No (If Yes→)

Anesthesiology Total 5% Albumin _____mL

Was 25% Albumin give by Anesthesia ☐ Yes ☐ No (If Yes→)		Anesthesiology Total 25% Albumin _____mL
Autologous Normovolemic Hemodilution (ANH) ☐ Yes ☐ No (If Yes →)		ANH Volume: _____mL
Intraop Inhaled Vasodilator: ☐ Yes ☐ No		Intraop IV Vasodilators Used: ☐ Yes ☐ No
Intraop Glucose Trough: ☐ Yes ☐ No (If Yes →)		_____ mg/dL
Intraop Insulin Given: ☐ Yes ☐ No (If Yes →)		Intraop Insulin Total Dose _____ units
Intraoperative Processed EEG (BIS): ☐ Yes ☐ No		
Intraop Post-Induction/Pre-Incision Transesophageal Echo (TEE): ☐ Yes ☐ No		
(If-Post-Induction/Pre-Incision TEE is Yes→)	LVEF Measured or Estimated: ☐ Yes ☐ No (If Yes→)	LVEF: _____%
	Left Atrial Size ☐ Yes ☐ No (If Yes→)	Left Atrial Superior-Inferior _____cm Left Atrial Medial-Lateral _____cm
	RV Function:	☐ Normal ☐ Moderate Dysfunction ☐ Not Assessed ☐ Mild Dysfunction ☐ Severe Dysfunction
	Mitral Regurgitation:	☐ None ☐ Trace/trivial ☐ Mild ☐ Moderate ☐ Severe ☐ Not assessed
	Patent Foramen Ovale:	☐ Yes ☐ No ☐ Not assessed
	Ascending Aorta Assessed ☐ Yes ☐ No	
	(If Yes→)	Maximal Ascending Aorta Diameter: _____cm Maximal Ascending Aorta Atheroma Thickness: _____mm Ascending Aorta Atheroma Mobility: ☐ Yes ☐ No
	Aortic Arch Visualized: ☐ Yes ☐ No	
	(If Yes→)	Maximal Aortic Arch Atheroma Thickness: _____mm Aortic Arch Atheroma Mobility: ☐ Yes ☐ No
Cardiopulmonary Bypass Used: ☐ Yes ☐ No		
(If CPB Use is Yes→)	ABG Management during cooling ☐ Alpha-Stat ☐ pH-Stat ☐ Unknown	
	ABG Management during rewarming ☐Alpha-Stat ☐ pH-Stat ☐ Unknown	
	Arterial Outflow Temperature Measured ☐ Yes ☐ No (If Yes→)	Highest Arterial Outflow Temperature: _____°C
	Retrograde Autologous Priming of CPB Circuit: ☐ Yes ☐ No	
	Total Crystalloid Administered by Perfusion Team: _____mL	
	(If mL >0 select all that apply) ☐ 0.9 Sodium Chloride ☐ Normosol ☐ Ringer's Lactate ☐ Plasmalyte	
	Total 5% Albumin Administered by Perfusion Team: _____mL	
	Total 25% Albumin Administered by Perfusion Team: _____mL	
	Hemofiltration Volume Removed by Perfusion Team: _____mL	

Inotropes used to wean from CPB: ☐ Yes ☐ No

Vasopressors used to wean from CPB: ☐ Yes ☐ No

Cell Saver Volume: _____mL

Protamine Total Dose : _____mgs

Post-Procedure Use Of Intraoperative TEE: ☐ Yes ☐ No

(If Post Proc TEE is Yes→)

Systolic Anterior Motion of Mitral Valve: ☐ Yes ☐ No ☐ Not assessed

Return to CPB for Echo Related Diagnosis: ☐Yes ☐ No

(If Yes →)

Reason for return to CPB: ☐ New Wall Motion Abnormality ☐ Residual Valvular Leak ☐ Systolic Anterior Motion (SAM) ☐ Paravalvular Leak ☐ Ventricular Failure ☐ Other ☐ Unknown

(If Ventricular Failure →) ☐ Left Ventricular Failure ☐ Right Ventricular Failure ☐ Bi-Ventricular Failure ☐ Unknown

Post-Procedure LVEF Measured: ☐ Yes ☐ No (If Yes→) Post-Procedure LVEF: %

Post-Procedure RV Function: ☐ Normal ☐ Moderate Dysfunction ☐ Not Assessed ☐ Mild Dysfunction ☐ Severe Dysfunction

Patient Died in the OR: ☐ Yes ☐ No

(If Died in OR is No→)

Core Temp Measured upon Entry to ICU/PACU: ☐ Yes ☐ No

(If Yes→) Post Op Core Temp: _____°C

Post-Op INR Measured upon admission to post op care location (PACU, ICU): ☐ Yes ☐ No

(If Yes→) INR: _____

WBC Measured upon admission to post op care location (PACU, ICU): ☐ Yes ☐ No

(If Yes→) WBC : _____ /µL

Platelets Measured upon admission to post op care location (PACU, ICU): ☐ Yes ☐ No

(If Yes→) Platelet Count: _____/µL

Hemoglobin Measured upon admission to post op care location (PACU, ICU): ☐ Yes ☐ No

(If Yes→) Hemoglobin:_____/gm/dL

Hematocrit Measured upon admission to post op care location (PACU, ICU): ☐ Yes ☐ No

(If Yes→) Hematocrit: _____%

Fibrinogen Measured upon admission to post op care location (PACU, ICU): ☐ Yes ☐ No

(If Yes→) Fibrinogen _____mg/dL

Lactate Measured upon admission to post op care location (PACU, ICU): ☐ Yes ☐ No

(If Yes→) Lactate: _____ mg/dL

Peak Glucose between within18-24 hours after OR Exit Time:_____

Post Op Propofol: ☐ Yes ☐ No

Post Op Other Sedation: ☐ Yes ☐ No

Post Op Delirium: ☐ Yes ☐ No

Pain Score POD #3:
☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ Not recorded ☐ NA

Pain Score Discharge:
☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ Not recorded ☐ NA