

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



**STS National Database™**  
 Trusted. Transformed. Real-Time.

Add/Change to Field \*\*Risk Variable ++NQF Updates 06292020

<b>A. Administrative</b>	
Participant ID: _____	Record ID: (software generated)
Patient ID: (software generated)	
Patient participating in STS-related clinical trial:	
<input type="checkbox"/> None <input type="checkbox"/> Trial 1 <input type="checkbox"/> Trial 2 <input type="checkbox"/> Trial 3 <input type="checkbox"/> Trial 4 <input type="checkbox"/> Trial 5 <input type="checkbox"/> Trial 6 (If not None →)	Clinical Trial Patient ID: _____

<b>B. Demographics</b>		
Patient Last Name: _____	Patient First Name: _____	Patient Middle Name: _____
Date of Birth: ___/___/___ (mm/dd/yyyy)	Patient Age: ** _____	Sex: ** <input type="checkbox"/> Male <input type="checkbox"/> Female
National Identification (Social Security) Number Known: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Refused (If Yes →)		National ID Number: _____
Medical Record Number: _____		
Permanent Street Address: _____	City: _____	
Region: _____	ZIP Code: _____	Country: _____
Race Documented: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Pt. Declined to Disclose		
Race: (If Yes, select all that apply →)	<input type="checkbox"/> White: <input type="checkbox"/> Black/African American: ** <input type="checkbox"/> Asian: **	<input type="checkbox"/> Am Indian/Alaskan: <input type="checkbox"/> Hawaiian/Pacific Islander <input type="checkbox"/> Other:
Hispanic, Latino or Spanish Ethnicity: **	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Documented	

<b>C. Hospitalization</b>	
Hospital Name: _____ (If Not Missing →)	Hospital ZIP Code: _____ Hospital Region: _____
Hospital National Provider Identifier: _____	Hospital CMS Certification Number: _____
Primary Payor: ** (Choose one ↓)	(If Primary Payor <>None/Self ↓) Secondary Payor: ** (Choose one)
<input type="checkbox"/> None/Self	<input type="checkbox"/> None/Self
<input type="checkbox"/> Medicare (includes commercially managed options)	<input type="checkbox"/> Medicare (includes commercially managed options)
(If Medicare →) Commercially Managed Medicare Plan	(If Medicare →) Commercially Managed Medicare Plan
<input type="checkbox"/> Yes <input type="checkbox"/> No (If No ↓)	<input type="checkbox"/> Yes <input type="checkbox"/> No (If No ↓)
HICN/MBI Known	HICN/MBI Known
<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)
HICN/MBI: _____	HICN/MBI: _____
Primary Payor Medicare Part B: <input type="checkbox"/> Yes <input type="checkbox"/> No	Secondary Payor Medicare Part B: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Medicaid (includes commercially managed options)	<input type="checkbox"/> Medicaid (includes commercially managed options)
<input type="checkbox"/> Commercial Health Insurance	<input type="checkbox"/> Commercial Health Insurance
<input type="checkbox"/> Health Maintenance Organization	<input type="checkbox"/> Health Maintenance Organization
<input type="checkbox"/> Military	<input type="checkbox"/> Military
<input type="checkbox"/> Non -U.S. Plan	<input type="checkbox"/> Non -U.S. Plan
<input checked="" type="checkbox"/> Other	<input checked="" type="checkbox"/> Other
Admit Date: ___/___/___ (mm/dd/yyyy)	Date of Surgery: ** ___/___/___ (mm/dd/yyyy)
Admit Source: <input type="checkbox"/> Elective Admission <input type="checkbox"/> Emergency Department <input type="checkbox"/> Transfer in from another hospital/acute care facility <input type="checkbox"/> Other	
(If Transfer →) Other Hospital Performs Cardiac Surgery <input type="checkbox"/> Yes <input type="checkbox"/> No	

<b>D. Risk Factors</b>		
Height (cm): **	Weight (kg): **	Calculated BMI (system calculation)

Family History of Premature Coronary Artery Disease: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown				
Diabetes: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown (If Yes →)		Diabetes-Control: ** <input type="checkbox"/> None <input type="checkbox"/> Diet only <input type="checkbox"/> Oral <input type="checkbox"/> Insulin <input type="checkbox"/> Other SubQ <input type="checkbox"/> Other <input type="checkbox"/> Unknown		
Dialysis: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		Hypertension: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		
Endocarditis: ** <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →) Endocarditis Type: ** <input type="checkbox"/> Treated <input type="checkbox"/> Active				
(If Endocarditis Yes →)	Endocarditis Culture:	<input type="checkbox"/> Culture negative <input type="checkbox"/> Strep species <input type="checkbox"/> MRSA <input type="checkbox"/> MSSA <input type="checkbox"/> Coagulase negative staph <input type="checkbox"/> Enterococcus species <input type="checkbox"/> Gram negative species <input type="checkbox"/> Polymicrobial <input type="checkbox"/> Mycobacterium (chimera) <input type="checkbox"/> Fungal <input type="checkbox"/> Other <input type="checkbox"/> Unknown		
Tobacco use: **		<input type="checkbox"/> Never smoker <input type="checkbox"/> Current every day smoker <input type="checkbox"/> Current some day smoker <input type="checkbox"/> Smoker, current status (frequency) unknown <input type="checkbox"/> Former smoker <input type="checkbox"/> Smoking status unknown		
Chronic Lung Disease: ** <input type="checkbox"/> No <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Lung disease documented, severity unknown <input type="checkbox"/> Unknown				
(If Mild, Moderate or Severe →)	Type:	<input type="checkbox"/> Obstructive <input type="checkbox"/> Reactive <input type="checkbox"/> Interstitial Fibrosis <input type="checkbox"/> Restrictive <input type="checkbox"/> Other <input type="checkbox"/> Multiple <input type="checkbox"/> Not Documented		
Pulmonary Function Test Done: <input type="checkbox"/> Yes <input type="checkbox"/> No				
(If Yes →)	FEV1 % Predicted: _____	DLCO Test Performed: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →)	DLCO % Predicted: _____	
Room Air ABG Performed: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →)		Carbon Dioxide Level: _____	Oxygen Level : _____	
Home Oxygen: ** <input type="checkbox"/> Yes, PRN <input type="checkbox"/> Yes, oxygen dependent <input type="checkbox"/> No <input type="checkbox"/> Unknown		Inhaled Medication or Oral Bronchodilator Therapy: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		
Sleep Apnea: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		Pneumonia: ** <input type="checkbox"/> Recent <input type="checkbox"/> Remote <input type="checkbox"/> No <input type="checkbox"/> Unknown		
Illicit Drug Use within One Year: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		<b>If Illicit Drug Use = Yes →</b>	Intravenous Drug Use within One Year: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
			Drug use with 30 days of procedure? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
Alcohol Use: ** <input type="checkbox"/> <=1 drink/week <input type="checkbox"/> 2-7 drinks/week <input type="checkbox"/> >=8 drinks/week <input type="checkbox"/> None <input type="checkbox"/> Unknown				
Liver Disease: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		Liver Cirrhosis <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		
		(If Liver Cirrhosis = Yes →)	Child –Pugh Class <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> Unknown	
Immunocompromised Present: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		Mediastinal Radiation: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		
Cancer Within 5 Years: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		Peripheral Artery Disease: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		
Unresponsive State: ** <input type="checkbox"/> Yes <input type="checkbox"/> No		Syncope: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		
Cerebrovascular Disease: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown				
(If Yes →)	Prior CVA: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown (If Yes →)		Prior CVA-When: ** <input type="checkbox"/> <= 30 days <input type="checkbox"/> > 30 days	
	CVD TIA: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown			
	CVD Carotid Stenosis: <input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Both <input type="checkbox"/> None <input type="checkbox"/> Not Documented			
	(If Right or Both →)	Severity of stenosis on the right carotid artery: ** <input type="checkbox"/> 50-79% <input type="checkbox"/> 80 – 99% <input type="checkbox"/> 100% <input type="checkbox"/> Not documented		
	(If Left or Both →)	Severity of stenosis on the left carotid artery: ** <input type="checkbox"/> 50-79% <input type="checkbox"/> 80 – 99% <input type="checkbox"/> 100% <input type="checkbox"/> Not documented		
History of previous carotid artery surgery and/or stenting: ** <input type="checkbox"/> Yes <input type="checkbox"/> 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 <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable		MELD Score: (System Calculation)		
Five Meter Walk Test Done: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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? <input type="checkbox"/> No (Harvest Code 10) <input type="checkbox"/> Yes, prior to hospitalization for this surgery (Harvest Code 11) <input type="checkbox"/> Yes, in hospital prior to surgery (Harvest Code 12) <input type="checkbox"/> Yes, in hospital after surgery (Harvest Code 13) <input type="checkbox"/> 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: ** <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown					
(If Yes →) Previous Coronary Artery Bypass (CAB): ** <input type="checkbox"/> Yes <input type="checkbox"/> No					
Previous Valve Procedure: ** <input type="checkbox"/> Yes <input type="checkbox"/> 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: ** <input type="checkbox"/> Yes <input type="checkbox"/> No							
(If Yes →)	PCI Performed Within This Episode Of Care: ** <input type="checkbox"/> Yes, at this facility <input type="checkbox"/> Yes, at some other acute care facility <input type="checkbox"/> No (If Yes, at this facility or Yes, at some other acute care facility ↓)						
	Indication for Surgery: <input type="checkbox"/> PCI Complication <input type="checkbox"/> PCI Failure without Clinical Deterioration <input type="checkbox"/> PCI Failure with Clinical Deterioration <input type="checkbox"/> PCI/Surgery Staged (not STEMI) <input type="checkbox"/> PCI for STEMI, multivessel disease <input type="checkbox"/> Other						
	PCI Stent: <input type="checkbox"/> Yes <input type="checkbox"/> No    PCI Interval: ** <input type="checkbox"/> ≤ 6 Hours <input type="checkbox"/> > 6 Hours						
Other Previous Cardiac Interventions: ** <input type="checkbox"/> Yes <input type="checkbox"/> 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: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown (If Yes ↓)						
MI When: ** <input type="checkbox"/> ≤6 Hrs. <input type="checkbox"/> >6 Hrs. but <24 Hrs. <input type="checkbox"/> 1 to 7 Days <input type="checkbox"/> 8 to 21 Days <input type="checkbox"/> >21 Days						
Primary Coronary Symptom for Surgery: **	<input type="checkbox"/> No Coronary Symptoms		<input type="checkbox"/> Angina Equivalent			
	<input type="checkbox"/> Stable Angina		<input type="checkbox"/> Unstable Angina			
	<input type="checkbox"/> ST Elevation MI (STEMI)		<input type="checkbox"/> Non-ST Elevation MI (Non-STEMI)			
	<input type="checkbox"/> Other					
Heart Failure: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown (If Yes →)			Timing: ** <input type="checkbox"/> Acute <input type="checkbox"/> Chronic <input type="checkbox"/> Both		Type: <input type="checkbox"/> Systolic <input type="checkbox"/> Diastolic <input type="checkbox"/> Both <input type="checkbox"/> Unavailable	
Classification-NYHA: ** <input type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Class IV <input type="checkbox"/> Not Documented						
Cardiogenic Shock: ** <input type="checkbox"/> Yes, at the time of the procedure <input type="checkbox"/> Yes, not at the time of the procedure but within prior 24 hours <input type="checkbox"/> No						
Resuscitation: ** <input type="checkbox"/> Yes - Within 1 hour of the start of the procedure <input type="checkbox"/> Yes - More than 1 hour but less than 24 hours of the start of the procedure <input type="checkbox"/> No						
Cardiac Arrhythmia: <input type="checkbox"/> Yes <input type="checkbox"/> No						
(If Arrhythmia = Yes →) Permanently Paced Rhythm: <input type="checkbox"/> Yes <input type="checkbox"/> 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: <input type="checkbox"/> Paroxysmal <input type="checkbox"/> Persistent **						
(If AFibrillation = Recent →) Was patient in A-fib at OR Entry? <input type="checkbox"/> Yes <input type="checkbox"/> No						

### G. Preoperative Medications

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

	Thrombolytics	Within 24 hours	<input type="checkbox"/> Yes <input type="checkbox"/> No
Inotropic, Intravenous **		Within 48 hours	<input type="checkbox"/> Yes <input type="checkbox"/> No
Lipid Lowering		Within 24 hours	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Contraindicated <input type="checkbox"/> Unknown
			(If Yes →) Medication Type : <input type="checkbox"/> Statin <input type="checkbox"/> Statin + Other <input type="checkbox"/> Non-statin/Other
Steroids **		Within 24 hours	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Contraindicated <input type="checkbox"/> Unknown

## H. Hemodynamics/Cath/Echo

Cardiac Catheterization Performed : <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →)		Cardiac Catheterization Date: ___/___/_____	
Coronary Anatomy/Disease known: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)			
Number Diseased Vessels ** (If one, two or three vessel disease ↓)			
<input type="checkbox"/> None <input type="checkbox"/> One <input type="checkbox"/> Two <input type="checkbox"/> Three			
** Left Main stenosis ≥ 50% known <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
(If Yes →) Is location of stenosis known: <input type="checkbox"/> Yes <input type="checkbox"/> No			
		(If Yes select all that apply →) <input type="checkbox"/> Native Artery Stenosis <input type="checkbox"/> Stenotic Graft <input type="checkbox"/> Stenotic Stent	
** LAD distribution stenosis ≥ 50% known <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
(If Yes →) <input type="checkbox"/> 50-69% <input type="checkbox"/> ≥ 70%			
(If Yes →) Is location of stenosis known: <input type="checkbox"/> Yes <input type="checkbox"/> No			
		(If Yes select all that apply →) <input type="checkbox"/> Native Artery Stenosis <input type="checkbox"/> Stenotic Graft <input type="checkbox"/> Stenotic Stent	
Ramus stenosis ≥ 50% known <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
(If Yes →) <input type="checkbox"/> 50-69% <input type="checkbox"/> ≥ 70%			
(If Yes →) Is location of stenosis known: <input type="checkbox"/> Yes <input type="checkbox"/> No			
		(If Yes select all that apply →) <input type="checkbox"/> Native Artery Stenosis <input type="checkbox"/> Stenotic Graft <input type="checkbox"/> Stenotic Stent	
Circumflex distribution stenosis ≥ 50% known <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
(If Yes →) <input type="checkbox"/> 50-69% <input type="checkbox"/> ≥ 70%			
(If Yes →) Is location of stenosis known: <input type="checkbox"/> Yes <input type="checkbox"/> No			
		(If Yes select all that apply →) <input type="checkbox"/> Native Artery Stenosis <input type="checkbox"/> Stenotic Graft <input type="checkbox"/> Stenotic Stent	
RCA distribution stenosis ≥ 50% known <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
(If Yes →) <input type="checkbox"/> 50-69% <input type="checkbox"/> ≥ 70%			
(If Yes →) Is location of stenosis known: <input type="checkbox"/> Yes <input type="checkbox"/> No			
		(If Yes select all that apply →) <input type="checkbox"/> Native Artery Stenosis <input type="checkbox"/> Stenotic Graft <input type="checkbox"/> Stenotic Stent	
Ejection Fraction Done: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →)		Ejection Fraction: ** _____ (%)	
Dimensions Available: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →)		LV End-Systolic Dimension: _____ (mm)	LV End-Diastolic Dimension: _____ (mm)
PA Systolic Pressure Measured: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →)		PA Systolic Pressure: _____ mmHg	
<b>Aortic Valve</b>			
Aortic Valve Regurgitation: <input type="checkbox"/> Yes <input type="checkbox"/> No			
(If Yes →) Aortic Valve Regurgitation: ** <input type="checkbox"/> Trivial/Trace <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Not Documented			
Aortic Valve Stenosis: ** <input type="checkbox"/> Yes <input type="checkbox"/> No			
(If Yes →) Aortic Valve Stenosis: <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Not Documented			
(If Yes →) Hemodynamic/Echo Data Available: <input type="checkbox"/> Yes <input type="checkbox"/> No			
(If Yes →)		Aortic Valve Area: _____ cm <sup>2</sup>	
(If Yes →)		Mean Gradient: _____ mmHg	
(If Yes →)		Aortic Jet Velocity (V <sub>max</sub> ): _____ m/s	
Aortic Valve Disease: <input type="checkbox"/> Yes <input type="checkbox"/> No			
(If Aortic Valve Disease, Yes →)		AV Disease Etiology: ** Choose PRIMARY Etiology (one)	

<input type="checkbox"/> Bicuspid valve disease	<input type="checkbox"/> Primary Aortic Disease, Atherosclerotic Aneurysm
<input type="checkbox"/> <b>Unicuspid valve disease</b>	<input type="checkbox"/> Primary Aortic Disease, Ehlers-Danlos Syndrome
<input type="checkbox"/> <b>Quadricuspid valve disease</b>	<input type="checkbox"/> Primary Aortic Disease, Hypertensive Aneurysm
<input type="checkbox"/> Congenital (other than Bicuspid, Unicuspid, or Quadricuspid)	<input type="checkbox"/> Primary Aortic Disease, Idiopathic Root Dilatation
<input type="checkbox"/> Degenerative- Calcified	<input type="checkbox"/> Primary Aortic Disease, Inflammatory
<input type="checkbox"/> Degenerative- Leaflet prolapse with or without annular dilation	<input type="checkbox"/> Primary Aortic Disease, Loeys-Dietz Syndrome
<input type="checkbox"/> Degenerative- Pure annular dilatation without leaflet prolapse	<input type="checkbox"/> Primary Aortic Disease, Marfan Syndrome
<input type="checkbox"/> Degenerative- Commissural rupture	<input type="checkbox"/> Primary Aortic Disease, Other Connective tissue disorder
<input type="checkbox"/> Degenerative- Extensive fenestration	<input checked="" type="checkbox"/> <b>Radiation induced heart disease</b>
<input type="checkbox"/> Degenerative- Leaflet perforation/hole	<input type="checkbox"/> Reoperation-Failure of previous AV repair or replacement
<input type="checkbox"/> Endocarditis, <b>native valve</b> with root abscess	<input type="checkbox"/> Rheumatic
<input type="checkbox"/> Endocarditis, <b>native valve</b> without root abscess	<input type="checkbox"/> Supravalvular Aortic Stenosis
<input checked="" type="checkbox"/> <b>Endocarditis, prosthetic valve with root abscess</b>	<input type="checkbox"/> Trauma
<input checked="" type="checkbox"/> <b>Endocarditis, prosthetic valve without root abscess</b>	<input type="checkbox"/> Carcinoid
<input type="checkbox"/> LV Outflow Tract Pathology, HOCM	<input type="checkbox"/> Tumor, Myxoma
<input type="checkbox"/> LV Outflow Tract Pathology, Sub-aortic membrane	<input type="checkbox"/> Tumor, Papillary Fibroelastoma
<input type="checkbox"/> LV Outflow Tract Pathology, Sub-aortic tunnel	<input type="checkbox"/> Tumor, Other
<input type="checkbox"/> LV Outflow Tract Pathology, Other	<input type="checkbox"/> Mixed Etiology
<input type="checkbox"/> Primary Aortic Disease, Aortic Dissection	<input type="checkbox"/> 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<sup>2</sup>  
Mean Gradient: \_\_\_\_\_ mmHg

Mitral Valve Disease:  Yes  No

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

<input type="checkbox"/> <b>Class I – Normal Leaflet Mobility (If Class I →)</b>	<input type="checkbox"/> Pure Annular Dilatation <input type="checkbox"/> Endocarditis, Native Valve <input type="checkbox"/> Other/ Unknown/Not Available
<input type="checkbox"/> <b>Class II – Increased Leaflet Mobility (If Class II →)</b>	<input type="checkbox"/> Myxomatous degenerative prolapse/flail <input type="checkbox"/> Endocarditis <input type="checkbox"/> Other/Unknown/Not Available  <input type="checkbox"/> (If Myxomatous →) <input type="checkbox"/> Posterior Leaflet <input type="checkbox"/> Anterior Leaflet <input type="checkbox"/> Both
<input type="checkbox"/> <b>Class III A– Restricted Leaflet Mobility (systole and diastole) (If Class III A →)</b>	<input type="checkbox"/> Rheumatic <input type="checkbox"/> Tumor (Carcinoid or Other) <input type="checkbox"/> Radiation Induced Heart Disease <input type="checkbox"/> MAC <input type="checkbox"/> Congenital <input type="checkbox"/> Other/Unknown/Not Available
<input type="checkbox"/> <b>Class III B – Restricted Leaflet Mobility (systole only) (If Class III B →)</b>	<input type="checkbox"/> Ischemic (acute/chronic) <input type="checkbox"/> Non-ischemic Cardiomyopathy <input type="checkbox"/> HCM <input type="checkbox"/> Other/Unknown/Not Available
<input type="checkbox"/> <b>Mixed Lesion (Type II and Type IIIA) (If Mixed Lesion →)</b>	<input type="checkbox"/> Mixed leaflet lesion (prolapse/flail and restriction) <input type="checkbox"/> Congenital <input type="checkbox"/> MAC <input type="checkbox"/> Other/Unknown/Not Available
<input type="checkbox"/> <b>Acute Papillary muscle rupture</b>	
<input type="checkbox"/> <b>Reoperative-Failure of previous MV repair or replacement</b>	
<input type="checkbox"/> <b>Other/Unknown/Not Available</b>	

**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:

<input type="checkbox"/> Functional/ secondary	<input type="checkbox"/> Rheumatic
<input type="checkbox"/> Endocarditis, <b>Native Valve</b>	<input type="checkbox"/> Tumor
<input type="checkbox"/> <b>Endocarditis, Prosthetic Valve</b>	<input type="checkbox"/> <b>Radiation induced heart disease</b>
<input type="checkbox"/> Carcinoid	<input type="checkbox"/> Trauma

<input type="checkbox"/>	Congenital	<input type="checkbox"/>	Reoperation-Failure of previous TV repair or replacement
<input type="checkbox"/>	Degenerative	<input type="checkbox"/>	Mixed etiology
<input type="checkbox"/>	Pacing wire/catheter induced dysfunction	<input type="checkbox"/>	Not Documented
<b>Pulmonic Valve</b>			
Pulmonic Valve Regurgitation: <input type="checkbox"/> Yes <input type="checkbox"/> No			
(If Yes→)	Pulmonic Valve Regurgitation: <input type="checkbox"/> Trivial/Trace <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Not Documented		
Pulmonic Valve Stenosis: <input type="checkbox"/> Yes <input type="checkbox"/> No			
(If Yes→)	Pulmonic Valve Stenosis: <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Not Documented		
	Hemodynamic /Echo data available: <input type="checkbox"/> Yes <input type="checkbox"/> No		
	(If Yes→)	Mean Gradient : _____ mmHg	
Pulmonic Valve Disease: <input type="checkbox"/> Yes <input type="checkbox"/> No			
(If Pulmonic Valve Disease, Yes→)		Etiology: (choose one)	
<input type="checkbox"/>	Acquired	<input type="checkbox"/>	Endocarditis
<input type="checkbox"/>	Radiation induced heart disease	<input type="checkbox"/>	Endocarditis, Prosthetic valve
<input type="checkbox"/>	Congenital, s/p Tetralogy of Fallot (TOF) repair	<input type="checkbox"/>	Mixed etiology
<input type="checkbox"/>	Congenital, no prior Tetralogy of Fallot (TOF) repair	<input checked="" type="checkbox"/>	Other
<input type="checkbox"/>	Reoperation-Failure of previous PV repair or replacement	<input type="checkbox"/>	Not Documented

<b>I. Operative</b>																															
Surgeon: _____	Surgeon NPI: _____																														
Taxpayer Identification Number: _____																															
Indicate whether the STS Risk Calculator score was discussed with the patient/family prior to surgery. ++																															
<input type="checkbox"/> Yes, STS risk calculator score was calculated and discussed with the patient/family prior to surgery as documented in the medical record <input type="checkbox"/> 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 <input type="checkbox"/> NA, Not applicable (emergent or salvage case, or no risk model available for this procedure)																															
Incidence: **	<input type="checkbox"/> First cardiovascular surgery <input type="checkbox"/> First re-op cardiovascular surgery <input type="checkbox"/> Second re-op cardiovascular surgery <input type="checkbox"/> Third re-op cardiovascular surgery <input type="checkbox"/> Fourth or more re-op cardiovascular surgery <input type="checkbox"/> NA- not a cardiovascular surgery																														
Status: **	<input type="checkbox"/> Elective <input type="checkbox"/> Urgent <input type="checkbox"/> Emergent <input type="checkbox"/> Emergent Salvage (If Urgent or Emergent or Emergent Salvage choose the most pressing reason↓) Urgent / Emergent/ Emergent Salvage reason: <table border="0" style="width: 100%;"> <tr> <td><input type="checkbox"/> AMI</td> <td><input type="checkbox"/> PCI Incomplete without clinical deterioration</td> </tr> <tr> <td><input type="checkbox"/> Anatomy</td> <td><input type="checkbox"/> PCI or attempted PCI with clinical deterioration</td> </tr> <tr> <td><input type="checkbox"/> Aortic Aneurysm</td> <td><input type="checkbox"/> Pulmonary Edema</td> </tr> <tr> <td><input type="checkbox"/> Aortic Dissection</td> <td><input type="checkbox"/> Pulmonary Embolus</td> </tr> <tr> <td><input type="checkbox"/> CHF</td> <td><input type="checkbox"/> Rest Angina</td> </tr> <tr> <td><input type="checkbox"/> Device Failure</td> <td><input type="checkbox"/> Shock, Circulatory Support</td> </tr> <tr> <td><input type="checkbox"/> Diagnostic/Interventional Procedure Complication</td> <td><input type="checkbox"/> Shock, No Circulatory Support</td> </tr> <tr> <td><input type="checkbox"/> Endocarditis</td> <td><input type="checkbox"/> Syncope</td> </tr> <tr> <td><input type="checkbox"/> Failed Transcatheter Valve Therapy , acute annular disruption</td> <td><input type="checkbox"/> Transplant</td> </tr> <tr> <td><input type="checkbox"/> Failed Transcatheter Valve Therapy , acute device malposition</td> <td><input type="checkbox"/> Trauma</td> </tr> <tr> <td><input type="checkbox"/> Failed Transcatheter Valve Therapy , subacute device dysfunction</td> <td><input type="checkbox"/> USA</td> </tr> <tr> <td><input type="checkbox"/> IABP</td> <td><input type="checkbox"/> Valve Dysfunction</td> </tr> <tr> <td><input type="checkbox"/> Infected Device</td> <td><input type="checkbox"/> Worsening CP</td> </tr> <tr> <td><input type="checkbox"/> Intracardiac mass or thrombus</td> <td><input type="checkbox"/> Other</td> </tr> <tr> <td><input type="checkbox"/> Ongoing Ischemia</td> <td></td> </tr> </table>	<input type="checkbox"/> AMI	<input type="checkbox"/> PCI Incomplete without clinical deterioration	<input type="checkbox"/> Anatomy	<input type="checkbox"/> PCI or attempted PCI with clinical deterioration	<input type="checkbox"/> Aortic Aneurysm	<input type="checkbox"/> Pulmonary Edema	<input type="checkbox"/> Aortic Dissection	<input type="checkbox"/> Pulmonary Embolus	<input type="checkbox"/> CHF	<input type="checkbox"/> Rest Angina	<input type="checkbox"/> Device Failure	<input type="checkbox"/> Shock, Circulatory Support	<input type="checkbox"/> Diagnostic/Interventional Procedure Complication	<input type="checkbox"/> Shock, No Circulatory Support	<input type="checkbox"/> Endocarditis	<input type="checkbox"/> Syncope	<input type="checkbox"/> Failed Transcatheter Valve Therapy , acute annular disruption	<input type="checkbox"/> Transplant	<input type="checkbox"/> Failed Transcatheter Valve Therapy , acute device malposition	<input type="checkbox"/> Trauma	<input type="checkbox"/> Failed Transcatheter Valve Therapy , subacute device dysfunction	<input type="checkbox"/> USA	<input type="checkbox"/> IABP	<input type="checkbox"/> Valve Dysfunction	<input type="checkbox"/> Infected Device	<input type="checkbox"/> Worsening CP	<input type="checkbox"/> Intracardiac mass or thrombus	<input type="checkbox"/> Other	<input type="checkbox"/> Ongoing Ischemia	
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<input type="checkbox"/> Ongoing Ischemia																															
Initial Operative Approach:	<input type="checkbox"/> Full conventional sternotomy <input type="checkbox"/> Partial sternotomy <input type="checkbox"/> Sub-xiphoid <input checked="" type="checkbox"/> Thoracotomy <input type="checkbox"/> Thoracoabdominal Incision <input type="checkbox"/> Percutaneous <input type="checkbox"/> Port Access <input type="checkbox"/> Other																														
Approach converted during procedure: <input type="checkbox"/> Yes <input type="checkbox"/> No																															
Robot Used: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →) <input type="checkbox"/> Used for entire operation <input type="checkbox"/> Used for part of the operation																															
Coronary Artery Bypass Procedure Performed:	<input type="checkbox"/> Yes, planned <input type="checkbox"/> Yes, unplanned due to surgical complication <input type="checkbox"/> Yes, unplanned due to unsuspected disease or anatomy <input type="checkbox"/> No (If Yes complete Section J)																														
Aorta Procedure Performed:	<input type="checkbox"/> Yes, <b>planned</b>																														

	<input type="checkbox"/> Yes, unplanned due to surgical complication <input type="checkbox"/> Yes, unplanned due to unsuspected disease or anatomy <input type="checkbox"/> No (If Yes complete Section M 2) (If Aorta Procedure performed →) Did the surgeon provide input for aortic surgery data abstraction? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Valve Procedure Performed:	<input type="checkbox"/> Yes <input type="checkbox"/> No  (If Yes →)	
	Was a valve explanted: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes complete Section K)	
	Aortic Valve Procedure performed:	<input type="checkbox"/> Yes, planned <input type="checkbox"/> Yes, unplanned due to surgical complication <input type="checkbox"/> Yes, unplanned due to unsuspected disease or anatomy <input type="checkbox"/> No
	(If Yes →)	Was a procedure performed on the Aorta? <input type="checkbox"/> Yes <input type="checkbox"/> No (If 'Yes' complete M2; If 'No' complete K1)
	Mitral Valve Procedure performed:	<input type="checkbox"/> Yes, planned <input type="checkbox"/> Yes, unplanned due to surgical complication <input type="checkbox"/> Yes, unplanned due to unsuspected disease or anatomy <input type="checkbox"/> No (If Yes complete K2)
	Tricuspid Valve Procedure performed:	<input type="checkbox"/> Yes, planned <input type="checkbox"/> Yes, unplanned due to surgical complication <input type="checkbox"/> Yes, unplanned due to unsuspected disease or anatomy <input type="checkbox"/> No (If Yes complete K3)
	Pulmonic Valve Procedure performed:	<input type="checkbox"/> Yes, planned <input type="checkbox"/> Yes, unplanned due to surgical complication <input type="checkbox"/> Yes, unplanned due to unsuspected disease or anatomy <input type="checkbox"/> No (If 'Yes' complete K4)
	Did the surgeon provide input for valve surgery data abstraction? <input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>Mechanical Assist Device/Ventricular Assist Device: <input type="checkbox"/> Yes <input type="checkbox"/> No (If 'Yes' complete section L)</b> (Present on Admission/Implanted/Explanted)		
Other Cardiac Procedure, except Afib: <input type="checkbox"/> Yes, planned <input type="checkbox"/> Yes, unplanned due to surgical complication <input type="checkbox"/> Yes, unplanned due to unsuspected disease or anatomy <input type="checkbox"/> No (If Yes, Complete Section M)		
Afib Procedure : <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, Complete Section M 1)		
	(If Yes →)	Did the surgeon provide input for Afib data abstraction? <input type="checkbox"/> Yes <input type="checkbox"/> No
Other Cardiac Procedure, Congenital Procedure (Except <b>Unicuspid</b> , Bicuspid, <b>Quadricuspid</b> Valve): <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, Complete Section M 3)		
Other Non-Cardiac Procedure: <input type="checkbox"/> Yes <input type="checkbox"/> 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: <input type="checkbox"/> Yes <input type="checkbox"/> No (If General Anesthesia No →)		Procedural Sedation : <input type="checkbox"/> Yes <input type="checkbox"/> No
(If General Anesthesia Yes →)		Intubation: <input type="checkbox"/> Yes, prior to entering OR for this procedure <input type="checkbox"/> Yes, in OR for this procedure <input type="checkbox"/> 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: ++ <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Exclusion		Appropriate Antibiotic Administration Timing: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Exclusion
Appropriate Antibiotic Discontinuation: ++ <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Exclusion		
Temperature Measured: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →) Lowest Temperature (°C): _____ Temperature Source:		
<input type="checkbox"/> Esophageal <input type="checkbox"/> CBP venous return <input type="checkbox"/> Bladder <input type="checkbox"/> Nasopharyngeal <input type="checkbox"/> Tympanic <input type="checkbox"/> Rectal <input type="checkbox"/> <b>Jugular-Venous</b> <input type="checkbox"/> <b>Oxygenator arterial outlet blood (CBP Arterial blood)</b> <input type="checkbox"/> <b>Pulmonary Artery</b> <input type="checkbox"/> Other <input type="checkbox"/> Unknown		
Lowest Intra-op Hemoglobin : _____	Lowest Intra-op Hematocrit : _____	Highest Intra-op Glucose: _____
<b>Perfusion Strategy</b>	<input type="checkbox"/> None <input type="checkbox"/> <b>Left Heart Bypass</b>	



<input type="checkbox"/> Combination	(If Combination→) Combination Plan: <input type="checkbox"/> Planned <input type="checkbox"/> Unplanned (If Unplanned↓) Unplanned Reason: <input type="checkbox"/> Exposure/visualization <input type="checkbox"/> Bleeding <input type="checkbox"/> Inadequate size/ diffuse disease of distal vessel <input type="checkbox"/> Hemodynamic instability (hypotension/arrhythmias) <input type="checkbox"/> Conduit quality and/or trauma <input type="checkbox"/> Other
<input type="checkbox"/> Full	(If <b>Left Heart Bypass</b> , Combination or Full ↓) <b>Arterial Cannulation Insertion Site: (Select all that apply ↓)</b> <input type="checkbox"/> Aortic <input type="checkbox"/> Axillary <input type="checkbox"/> Femoral <input type="checkbox"/> Innominate <input type="checkbox"/> Other <b>Venous Cannulation Insertion Site: (Select all that apply ↓)</b> <input type="checkbox"/> Femoral <input type="checkbox"/> Pulmonary Vein <input type="checkbox"/> Jugular <input checked="" type="checkbox"/> SVC <input type="checkbox"/> Rt. Atrial <input type="checkbox"/> Lt. Atrial <input type="checkbox"/> Other Cardiopulmonary Bypass Time (minutes): _____

Circulatory Arrest:  Yes  No

(If Circulatory Arrest = Yes→)	<b>Lowest Hematocrit during CPB: _____</b> Circulatory Arrest Without Cerebral Perfusion Time: _____ (min) Circulatory Arrest With Cerebral Perfusion: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Circ Arrest w/ Cerebral Perfusion = Yes →) Cerebral Perfusion Time: _____ (min) Cerebral Perfusion Type: <input type="checkbox"/> Antegrade <input type="checkbox"/> Retrograde <input type="checkbox"/> Both antegrade and retrograde Total Circulatory Arrest Time: _____ (System Calculation) <b>Cooling Time prior to Circ Arrest: _____ mins</b>
--------------------------------	---

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: _____	<b>Platelet Dose Pack:</b> _____
	Fresh Frozen Plasma/ <b>Plasma</b> 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 →)	<b>Intraop Antifibrinolytic Medication (select all that apply):</b> <input type="checkbox"/> Epsilon Amino-Caproic Acid <input type="checkbox"/> Tranexamic Acid <input checked="" type="checkbox"/> Aprotinin
------------	--

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

Highest level aortic insufficiency found: <input type="checkbox"/> None <input type="checkbox"/> Trivial/Trace <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Not Documented
Mean Aortic Gradient: _____
Aortic Paravalvular leak: <input checked="" type="checkbox"/> <b>No Prosthetic Valve</b> <input type="checkbox"/> None <input type="checkbox"/> Trivial/Trace <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Not Documented
Highest level Mitral insufficiency found: <input type="checkbox"/> None <input type="checkbox"/> Trivial/Trace <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Not Documented
Mean Mitral Gradient: _____
Mitral Paravalvular leak: <input checked="" type="checkbox"/> <b>No Prosthetic Valve</b> <input type="checkbox"/> None <input type="checkbox"/> Trivial/Trace <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Not Documented
Highest level Tricuspid insufficiency found: <input type="checkbox"/> None <input type="checkbox"/> Trivial/Trace <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Not Documented
Mean Tricuspid Gradient: _____
Tricuspid Paravalvular leak: <input checked="" type="checkbox"/> <b>No Prosthetic Valve</b> <input type="checkbox"/> None <input type="checkbox"/> Trivial/Trace <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Not Documented
Ejection Fraction Measured post procedure: <input type="checkbox"/> Yes <input type="checkbox"/> 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: <input type="checkbox"/> Yes, pedicle <input type="checkbox"/> Yes, skeletonized <input type="checkbox"/> No/NA									
(If Yes→)	Right IMA: <input type="checkbox"/> Yes, pedicle <input type="checkbox"/> Yes, skeletonized <input type="checkbox"/> No/NA									
(If No→)	Reason for no IMA: <table style="width:100%; border: none;"> <tr> <td style="width:33%;"><input type="checkbox"/> Subclavian stenosis</td> <td style="width:33%;"><input type="checkbox"/> Previous mediastinal radiation</td> <td style="width:33%;"><input type="checkbox"/> No (bypassable) LAD disease</td> </tr> <tr> <td><input type="checkbox"/> Previous cardiac or thoracic surgery</td> <td><input type="checkbox"/> Emergent or salvage procedure</td> <td><input type="checkbox"/> Other- acceptable STS provided exclusion (See Training Manual)</td> </tr> <tr> <td colspan="2"></td> <td><input type="checkbox"/> Other not acceptable STS exclusion (See Training Manual)</td> </tr> </table>	<input type="checkbox"/> Subclavian stenosis	<input type="checkbox"/> Previous mediastinal radiation	<input type="checkbox"/> No (bypassable) LAD disease	<input type="checkbox"/> Previous cardiac or thoracic surgery	<input type="checkbox"/> Emergent or salvage procedure	<input type="checkbox"/> Other- acceptable STS provided exclusion (See Training Manual)			<input type="checkbox"/> Other not acceptable STS exclusion (See Training Manual)
<input type="checkbox"/> Subclavian stenosis	<input type="checkbox"/> Previous mediastinal radiation	<input type="checkbox"/> No (bypassable) LAD disease								
<input type="checkbox"/> Previous cardiac or thoracic surgery	<input type="checkbox"/> Emergent or salvage procedure	<input type="checkbox"/> Other- acceptable STS provided exclusion (See Training Manual)								
		<input type="checkbox"/> 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) <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes→)	Total Number of Distal Anastomoses with radial artery conduits: _____
		Radial Artery Harvest and Prep Time: _____ (minutes)

(If Yes→)	Distal Anastomoses with Venous Conduit(s) used: <input type="checkbox"/> Yes <input type="checkbox"/> No	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)**

<b>Proximal Site:</b>	1=Aorta 2=T graft off artery 3=T graft off vein 4=In-situ IMA 5=Other
<b>Distal Site:</b>	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
<b>Distal Anastomosis Conduit:</b>	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	<input type="checkbox"/> Side to Side <input type="checkbox"/> End to Side	<input type="checkbox"/> Yes <input type="checkbox"/> No
#2 <input type="checkbox"/> Additional Grafts <input type="checkbox"/> No Additional Grafts	1-5	1-11	1-5	<input type="checkbox"/> Side to Side <input type="checkbox"/> End to Side	<input type="checkbox"/> Yes <input type="checkbox"/> No
#3 <input type="checkbox"/> Additional Grafts <input type="checkbox"/> No Additional Grafts	1-5	1-11	1-5	<input type="checkbox"/> Side to Side <input type="checkbox"/> End to Side	<input type="checkbox"/> Yes <input type="checkbox"/> No
#4 <input type="checkbox"/> Additional Grafts <input type="checkbox"/> No Additional Grafts	1-5	1-11	1-5	<input type="checkbox"/> Side to Side <input type="checkbox"/> End to Side	<input type="checkbox"/> Yes <input type="checkbox"/> No
#5 <input type="checkbox"/> Additional Grafts <input type="checkbox"/> No Additional Grafts	1-5	1-11	1-5	<input type="checkbox"/> Side to Side <input type="checkbox"/> End to Side	<input type="checkbox"/> Yes <input type="checkbox"/> No
#6 <input type="checkbox"/> Additional Grafts <input type="checkbox"/> No Additional Grafts	1-5	1-11	1-5	<input type="checkbox"/> Side to Side <input type="checkbox"/> End to Side	<input type="checkbox"/> Yes <input type="checkbox"/> No
#7 <input type="checkbox"/> Additional Grafts <input type="checkbox"/> No Additional Grafts	1-5	1-11	1-5	<input type="checkbox"/> Side to Side <input type="checkbox"/> End to Side	<input type="checkbox"/> Yes <input type="checkbox"/> No
#8 <input type="checkbox"/> Additional Grafts <input type="checkbox"/> No Additional Grafts	1-5	1-11	1-5	<input type="checkbox"/> Side to Side <input type="checkbox"/> End to Side	<input type="checkbox"/> Yes <input type="checkbox"/> No
#9 <input type="checkbox"/> Additional Grafts	1-5	1-11	1-5	<input type="checkbox"/> Side to Side <input type="checkbox"/> End to Side	<input type="checkbox"/> Yes <input type="checkbox"/> No

<input type="checkbox"/> No Additional Grafts					
#10 <input type="checkbox"/> Additional Grafts <input type="checkbox"/> No Additional Grafts	1-5	1-11	1-5	<input type="checkbox"/> Side to Side <input type="checkbox"/> End to Side	<input type="checkbox"/> Yes <input type="checkbox"/> No

**K. Valve Surgery Explant**

(If Valve Explanted (ValExp) is Yes ↓)  
**First Valve Prosthesis Explant:**

Explant Position:	<input type="checkbox"/> Aortic	<input type="checkbox"/> Mitral	<input type="checkbox"/> Tricuspid	<input type="checkbox"/> Pulmonic
Explant Type:	<input type="checkbox"/> Mechanical Valve	<input type="checkbox"/> Bioprosthetic Valve	<input type="checkbox"/> Homograft	<input type="checkbox"/> Autograft
	<input type="checkbox"/> Annuloplasty Device	<input type="checkbox"/> Leaflet Clip	<input type="checkbox"/> Transcatheter Valve	<input type="checkbox"/> Transcatheter Valve in Valve with prosthetic valve
	<input type="checkbox"/> Other	<input type="checkbox"/> Unknown		
Explant Etiology:	<input type="checkbox"/> Endocarditis	<input type="checkbox"/> Incompetence	<input type="checkbox"/> Prosthetic Deterioration	<input type="checkbox"/> Thrombus
	<input type="checkbox"/> Failed Repair	<input type="checkbox"/> Pannus	<input type="checkbox"/> Sizing/Positioning issue	<input type="checkbox"/> Other
	<input type="checkbox"/> Hemolysis	<input type="checkbox"/> Paravalvular leak	<input type="checkbox"/> Stenosis	<input type="checkbox"/> Unknown
Explant Device known:	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes→)		Explant model#:	Unique Device Identifier (UDI):
Year of Implant Known:	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes→)		Year:	

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

Explant Position:	<input type="checkbox"/> Aortic	<input type="checkbox"/> Mitral	<input type="checkbox"/> Tricuspid	<input type="checkbox"/> Pulmonic
Explant Type:	<input type="checkbox"/> Mechanical Valve	<input type="checkbox"/> Bioprosthetic Valve	<input type="checkbox"/> Homograft	<input type="checkbox"/> Autograft
	<input type="checkbox"/> Annuloplasty Device	<input type="checkbox"/> Leaflet Clip	<input type="checkbox"/> Transcatheter Valve	<input type="checkbox"/> Transcatheter Valve in Valve with prosthetic valve
	<input type="checkbox"/> Other	<input type="checkbox"/> Unknown		
Explant Etiology:	<input type="checkbox"/> Endocarditis	<input type="checkbox"/> Incompetence	<input type="checkbox"/> Prosthetic Deterioration	<input type="checkbox"/> Thrombus
	<input type="checkbox"/> Failed Repair	<input type="checkbox"/> Pannus	<input type="checkbox"/> Sizing/Positioning issue	<input type="checkbox"/> Other
	<input type="checkbox"/> Hemolysis	<input type="checkbox"/> Paravalvular leak	<input type="checkbox"/> Stenosis	<input type="checkbox"/> Unknown
Explant Device known:	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes→)		Explant model#:	Unique Device Identifier (UDI):
Year of Implant Known:	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes→)		Year:	

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

Explant Positioning	<input type="checkbox"/> Aortic	<input type="checkbox"/> Mitral	<input type="checkbox"/> Tricuspid	<input type="checkbox"/> Pulmonic
Explant Type:	<input type="checkbox"/> Mechanical Valve	<input type="checkbox"/> Bioprosthetic Valve	<input type="checkbox"/> Homograft	<input type="checkbox"/> Autograft
	<input type="checkbox"/> Annuloplasty Device	<input type="checkbox"/> Leaflet Clip	<input type="checkbox"/> Transcatheter Valve	<input type="checkbox"/> Transcatheter Valve in Valve with prosthetic valve
	<input type="checkbox"/> Other	<input type="checkbox"/> Unknown		
Explant Etiology	<input type="checkbox"/> Endocarditis	<input type="checkbox"/> Incompetence	<input type="checkbox"/> Prosthetic Deterioration	<input type="checkbox"/> Thrombus
	<input type="checkbox"/> Failed Repair	<input type="checkbox"/> Pannus	<input type="checkbox"/> Sizing/Positioning issue	<input type="checkbox"/> Other
	<input type="checkbox"/> Hemolysis	<input type="checkbox"/> Paravalvular leak	<input type="checkbox"/> Stenosis	<input type="checkbox"/> Unknown
Explant Device known:	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes→)		Explant model#:	Unique Device Identifier (UDI):
Year of Implant Known:	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes→)		Year:	

**K. 1. Aortic Valve without concomitant Aorta Procedure**

(If AVAortaProcPerf = No ↓)

Procedure Performed:

Replacement: (If Replacement↓)

Transcatheter Valve Replacement:	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)
Approach:	<input type="checkbox"/> Transapical <input type="checkbox"/> Transaxillary <input type="checkbox"/> Transfemoral <input type="checkbox"/> Transaortic <input type="checkbox"/> Subclavian <input type="checkbox"/> Transiliac <input type="checkbox"/> Transeptal <input type="checkbox"/> Transcarotid <input type="checkbox"/> Transcaval <input type="checkbox"/> Other
Surgical valve Replacement:	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)
Device type:	<input type="checkbox"/> Mechanical <input type="checkbox"/> Bioprosthetic <input type="checkbox"/> Surgeon fashioned pericardium (Ozaki) <input type="checkbox"/> Other

	(If Bioprosthetic→)	Valve type: <input type="checkbox"/> Stented <input type="checkbox"/> Stentless sub coronary valve only <input type="checkbox"/> Sutureless/rapid deployment	
<input type="checkbox"/> Repair/Reconstruction (If Repair/Reconstruction, select all that apply ↓)			
<b>Repair Type (Select all that apply):</b>			
<input type="checkbox"/> Commissural suture annuloplasty		<input type="checkbox"/> Nodular release	<input type="checkbox"/> Leaflet resection suture
<input type="checkbox"/> Leaflet plication		<input type="checkbox"/> Leaflet shaving	<input type="checkbox"/> Leaflet pericardial patch
<input type="checkbox"/> Leaflet commissural resuspension suture		<input type="checkbox"/> Leaflet debridement	<input type="checkbox"/> Division of fused leaflet raphe
<input type="checkbox"/> Leaflet free edge reinforcement		<input type="checkbox"/> Ring annuloplastyexternal ring	<input type="checkbox"/> Ring annuloplasty internal ring
<input type="checkbox"/> External suture annuloplasty		<input type="checkbox"/> Pannus/Thrombus Removal (Native Valve)	
<input type="checkbox"/> Surgical Prosthetic Valve Intervention (Not Explant of Valve): (Select All That Apply ↓)			
Type of Intervention: <input type="checkbox"/> Repair of periprosthetic leak <input type="checkbox"/> Removal of pannus <input type="checkbox"/> Removal of clot <input type="checkbox"/> Other			
Aortic annular enlargement: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)			
Technique: <input type="checkbox"/> Nicks-Nunez <input type="checkbox"/> Manougian <input type="checkbox"/> Konno <input type="checkbox"/> Other <input type="checkbox"/> Unknown			
Replacement of non-coronary sinus (Modified Wheat/Modified Yacoub) <input type="checkbox"/> Yes <input type="checkbox"/> No			
Aortic Valve or Valve Repair Device Implant: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)			
Implant Model Number: _____		Implant Size: _____	
Unique Device identifier (UDI): _____			
<b>K. 2. Mitral Valve Procedure</b>			
(If Mitral Valve Procedure Performed = Yes ↓)			
Procedure Performed:			
<input type="checkbox"/> Repair (If Repair↓)			
Repair Approach: <input type="checkbox"/> Surgical <input type="checkbox"/> Transcatheter			
If <b>Surgical (Select all that apply ↓)</b>			
<input type="checkbox"/> Annuloplasty		<input type="checkbox"/> Leaflet resection	<input type="checkbox"/> Neochords (PTFE) <input type="checkbox"/> Chordal transfer
<input type="checkbox"/> Annular decalcification/ debridement		<input type="checkbox"/> Leaflet extension/replacement patch	<input type="checkbox"/> Edge to edge repair <input type="checkbox"/> Leaflet plication
<input type="checkbox"/> Mitral commissurotomy		<input type="checkbox"/> Mitral commissuroplasty	<input type="checkbox"/> Mitral cleft repair: (scallop closure): <input type="checkbox"/> Pannus/Thrombus removal (native valve)
(If Leaflet Resection →)		Resection Location(s): <input type="checkbox"/> Anterior Resection <input type="checkbox"/> Posterior Resection <input type="checkbox"/> Both	
		Resection Method (select all that apply):	
		<input type="checkbox"/> Triangular Alone <input type="checkbox"/> Quadrangular Alone	
		<input type="checkbox"/> Resection with Sliding Valvuloplasty	
		<input type="checkbox"/> Resection with Folding Valvuloplasty <input type="checkbox"/> Other	
(If Neochords (PTFE) →)		<input type="checkbox"/> Anterior <input type="checkbox"/> Posterior <input type="checkbox"/> Both <input type="checkbox"/> Not Documented	
(If Chordal Transfer) →)		<input type="checkbox"/> Anterior Chordal transfer <input type="checkbox"/> Posterior Chordal transfer <input type="checkbox"/> Not Documented	
(If Leaflet extension/replacement patch →)		Patch Location: <input type="checkbox"/> Anterior <input type="checkbox"/> Posterior <input type="checkbox"/> Both <input type="checkbox"/> Not Documented	
<input type="checkbox"/> Replacement (If Replacement ↓)			
Mitral repair attempted prior to replacement: <input type="checkbox"/> Yes <input type="checkbox"/> No			
Mitral chords preserved: <input type="checkbox"/> Anterior <input type="checkbox"/> Posterior <input type="checkbox"/> Both <input type="checkbox"/> None			
Transcatheter replacement: <input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> Surgical Prosthetic Valve Intervention (Not Explant of Valve): (Select All That Apply ↓)			
Type of Intervention: <input type="checkbox"/> Repair of periprosthetic leak <input type="checkbox"/> Removal of Pannus <input type="checkbox"/> Removal of Clot <input type="checkbox"/> Other			
Implant: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)			
Implant type:	<input type="checkbox"/> Mechanical valve		<input type="checkbox"/> Transcatheter device implanted open heart
	<input type="checkbox"/> Bioprosthetic valve <input type="checkbox"/> Annuloplasty Ring Surgical		<input type="checkbox"/> Transcatheter Replacement Device (Transapical)
	<input type="checkbox"/> Annuloplasty without ring (pericardial or suture)		<input type="checkbox"/> Transcatheter Replacement Device (Trans-septal)
			<input type="checkbox"/> Annuloplasty Ring Transcatheter
			<input type="checkbox"/> Mitral Leaflet clip
			<input type="checkbox"/> Other
(If Mitral Leaflet Clip→) Number implanted: _____ (enter 1-3)			
Implant Model Number: _____		Implant Size: _____	
Unique Device identifier (UDI): _____			
<b>K.3. Tricuspid Valve Procedure</b>			

(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    Transcatheter Valve    Other

Transcatheter device implanted open heart

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:  Venovenous    Venovenous arterial    Venovenous arterial (VVA)    Venovenous 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? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)	3rd Device implanted? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)
Timing			
Indication			
Type			
Device			
Implant Date	__/__/____	__/__/____	__/__/____
UDI	_____	_____	_____
	<b>Initial explant</b>	<b>2nd device explanted?</b>	<b>3rd Device explanted</b>
VAD Explant(s)	<input type="checkbox"/> Yes, not during this procedure <input type="checkbox"/> Yes, during this procedure <input type="checkbox"/> No	<input type="checkbox"/> Yes, not during this procedure <input type="checkbox"/> Yes, during this procedure <input type="checkbox"/> No	<input type="checkbox"/> Yes, not during this procedure <input type="checkbox"/> Yes, during this procedure <input type="checkbox"/> 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 Thromboembolism:  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 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 ↓)

<b>Left Atrial</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, select all that apply →)	<input type="checkbox"/> Pulmonary Vein Isolation <input type="checkbox"/> Posterior Box Lesion <input type="checkbox"/> Mitral Line <input type="checkbox"/> Left atrial appendage line <input type="checkbox"/> Epicardial Coronary Sinus Lesion <input type="checkbox"/> Epicardial Posterior Wall Other (i.e. Convergent procedure) <input type="checkbox"/> Other
<b>Right Atrial</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, select all that apply →)	<input type="checkbox"/> SVC Line <input type="checkbox"/> IVC Line <input type="checkbox"/> Tricuspid Completion Line <input type="checkbox"/> Verticle Right Atrial Line <input type="checkbox"/> Right Atrial Appendage Line <input type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Open <input type="checkbox"/> Endovascular <input type="checkbox"/> Hybrid	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Ascending (Zone 0 – B&C)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Open <input type="checkbox"/> Endovascular <input type="checkbox"/> Hybrid	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Arch (Zones 1,2,3)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Open <input type="checkbox"/> Endovascular <input type="checkbox"/> Hybrid	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Descending (Zones 4,5)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Open <input type="checkbox"/> Endovascular <input type="checkbox"/> Hybrid	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Suprarenal abdominal (Zones 6,7)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Open <input type="checkbox"/> Endovascular <input type="checkbox"/> Hybrid	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Infrarenal abdominal (Zone 8,9,10,11)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Open <input type="checkbox"/> Endovascular <input type="checkbox"/> Hybrid	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Current Procedure with Endoleak involvement:  Yes  No

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

	<b>If Neuro Deficit →</b>	<input type="checkbox"/> Stroke <input type="checkbox"/> Limb numbness <input type="checkbox"/> Paralysis <input type="checkbox"/> Hoarseness ( <b>acute</b> vocal cord dysfunction)
Primary Indication:	<input type="checkbox"/> Aneurysm <input type="checkbox"/> Dissection <input type="checkbox"/> Other	
(if Aneurysm →)	Etiology:	<input type="checkbox"/> Atherosclerosis <input type="checkbox"/> Infection <input type="checkbox"/> Inflammatory <input type="checkbox"/> Connective Tissue/ <b>Syndromic</b> Disorder <input type="checkbox"/> <b>Ulcerative Plaque</b> /Penetrating Ulcer <input type="checkbox"/> Pseudoaneurysm <input type="checkbox"/> Mycotic <input type="checkbox"/> Traumatic transection <input type="checkbox"/> Intercostal visceral patch <input type="checkbox"/> Anastomotic site <input type="checkbox"/> <b>Aortic Valve Morphology</b> <input type="checkbox"/> <b>Chronic Dissection</b> <input type="checkbox"/> Unknown
	Type:	<input type="checkbox"/> Fusiform <input type="checkbox"/> Saccular <input type="checkbox"/> Unknown
	Rupture:	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →) Contained rupture: <input type="checkbox"/> Yes <input type="checkbox"/> No
	Location of Maximum Diameter:	<input type="checkbox"/> Below STJ <input type="checkbox"/> STJ-midascending <input type="checkbox"/> Midascending to distal ascending <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4 <input type="checkbox"/> Zone 5 <input type="checkbox"/> Zone 6 <input type="checkbox"/> Zone 7 <input type="checkbox"/> Zone 8 <input type="checkbox"/> Zone 9 <input type="checkbox"/> Zone 10 <input type="checkbox"/> Zone 11
(if Dissection →)	Timing:	<input type="checkbox"/> Hyperacute (<24 hrs) <input type="checkbox"/> Acute ( <b>24</b> hrs-<2weeks) <input type="checkbox"/> Subacute (2weeks-<90 days) <input type="checkbox"/> Chronic (90 days or more) <input type="checkbox"/> Acute on Chronic <input type="checkbox"/> Unknown
	Dissection onset date known	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →) Date of onset: _/_/_-_-_-
	Primary tear location:	<input type="checkbox"/> Below STJ <input type="checkbox"/> STJ-midascending <input type="checkbox"/> Midascending to distal ascending <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4 <input type="checkbox"/> Zone 5 <input type="checkbox"/> Zone 6 <input type="checkbox"/> Zone 7 <input type="checkbox"/> Zone 8 <input type="checkbox"/> Zone 9 <input type="checkbox"/> Zone 10 <input type="checkbox"/> Zone 11
	Proximal Dissection Extent Known:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
	(If Yes →) Most Proximal Dissection Location:	<input type="checkbox"/> Below STJ <input type="checkbox"/> STJ-midascending <input type="checkbox"/> Midascending to distal ascending <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4
	Distal Dissection Extent Known:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
	(If Yes →) Distal <b>Dissection</b> Extension Location:	<input type="checkbox"/> Below STJ <input type="checkbox"/> STJ-midascending <input type="checkbox"/> Midascending to distal ascending <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4 <input type="checkbox"/> Zone 5 <input type="checkbox"/> Zone 6 <input type="checkbox"/> Zone 7 <input type="checkbox"/> Zone 8 <input type="checkbox"/> Zone 9 <input type="checkbox"/> Zone 10 <input type="checkbox"/> Zone 11
	<b>Stanford Classification:</b>	<input type="checkbox"/> Type A <input type="checkbox"/> Type B <input type="checkbox"/> Unknown <input type="checkbox"/> Other
	Retrograde dissection caused by Aortic Stent Graft (Post TEVAR):	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<b>Patient within 30 days post TAVR</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
<b>Patient within 30 days Post Other Cath Procedure</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
Malperfusion:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
<b>If Yes →</b>	Malperfusion Type: (select all that apply): <input type="checkbox"/> Coronary <input type="checkbox"/> Superior Mesenteric <input type="checkbox"/> Right Subclavia <input type="checkbox"/> Renal, left <input type="checkbox"/> Right Common Carotid <input type="checkbox"/> Renal, right <input type="checkbox"/> Left Common Carotid <input type="checkbox"/> Iliofemoral <input type="checkbox"/> Left Subclavian <input type="checkbox"/> Spinal <input type="checkbox"/> Celiac	
Lower Extremity Motor Function:	<input type="checkbox"/> No deficit <input type="checkbox"/> Weakness <input type="checkbox"/> Paralysis <input type="checkbox"/> Unknown	
Lower Extremity Sensory Deficit:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
Rupture:	<input type="checkbox"/> Yes <input type="checkbox"/> No	
(If Yes →)	Contained rupture:	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Rupture Location:	<input type="checkbox"/> Below STJ <input type="checkbox"/> STJ-midascending <input type="checkbox"/> Midascending to distal ascending <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4 <input type="checkbox"/> Zone 5 <input type="checkbox"/> Zone 6 <input type="checkbox"/> Zone 7 <input type="checkbox"/> Zone 8 <input type="checkbox"/> Zone 9 <input type="checkbox"/> Zone 10 <input type="checkbox"/> Zone 11
(if Other →)	<input type="checkbox"/> Valvular Dysfunction <input type="checkbox"/> <b>Stenosis/Obstruction</b> <input type="checkbox"/> Intramural Hematoma <input type="checkbox"/> Coarctation <input type="checkbox"/> <b>Endoleak</b> <input type="checkbox"/> <b>Infection</b> <input type="checkbox"/> <b>Injury related to Surgical Complication/Perforation</b> <input type="checkbox"/> <b>Trauma</b>	
<b>Additional Anatomical Information</b>		
Root	Aorto-annular ectasia: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
	Asymmetric Root Dilatation:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown (If Yes →) Dilatation Location: <input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Non-coronary
	Sinus of Valsalva aneurysm: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown (If Yes →)	SV Aneurysm Location (select all that apply) : <input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Non-coronary
Arch Anomalies	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)	
	<b>Arch Anomalies Type(s): select all that apply</b>	
	<input type="checkbox"/> Arch Type Right <input type="checkbox"/> Aberrant Right Subclavian <input type="checkbox"/> Kommerell/ <b>Ductus Bulge</b>	
	<input type="checkbox"/> Variant vertebral origin <input type="checkbox"/> Aberrant Left Subclavian: <input type="checkbox"/> Bovine:	
Patent internal mammary artery bypass graft:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> <b>N/A</b>	
Ascending	Asymmetric Dilatation: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
	Proximal coronary bypass grafts: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	



Measurements (Largest Diameter)	
Treated Zone with the Largest Diameter:	<input type="checkbox"/> Below STJ <input type="checkbox"/> STJ-midascending <input type="checkbox"/> Midascending-distal ascending <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4 <input type="checkbox"/> Zone 5 <input type="checkbox"/> Zone 6 <input type="checkbox"/> Zone 7 <input type="checkbox"/> Zone 8 <input type="checkbox"/> Zone 9 <input type="checkbox"/> Zone 10 <input type="checkbox"/> Zone 11
Measurement:	_____ mm
Method Obtained:	<input type="checkbox"/> 3D or 4D Reconstruction <input type="checkbox"/> PreOp CT <input type="checkbox"/> PreOp MRI <input type="checkbox"/> PreOp Echo <input type="checkbox"/> Intra Operatively
Proximal to Treated Zone(s) (Largest Diameter) Available: <input type="checkbox"/> Yes <input type="checkbox"/> No	Location: <input type="checkbox"/> Below STJ <input type="checkbox"/> STJ-midascending <input type="checkbox"/> Midascending-distal ascending <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4 <input type="checkbox"/> Zone 5 <input type="checkbox"/> Zone 6 <input type="checkbox"/> Zone 7 <input type="checkbox"/> Zone 8 <input type="checkbox"/> Zone 9 <input type="checkbox"/> Zone 10 <input type="checkbox"/> Zone 11
(If Yes →)	Measurement: _____ mm
	Method Obtained: <input type="checkbox"/> 3D or 4D Reconstruction <input type="checkbox"/> PreOp CT <input type="checkbox"/> PreOp MRI <input type="checkbox"/> PreOp Echo <input type="checkbox"/> Intra Operatively
Distal to Treated Zone(s) (Largest Diameter) Available: <input type="checkbox"/> Yes <input type="checkbox"/> No	Location: <input type="checkbox"/> Below STJ <input type="checkbox"/> STJ-midascending <input type="checkbox"/> Midascending-distal ascending <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4 <input type="checkbox"/> Zone 5 <input type="checkbox"/> Zone 6 <input type="checkbox"/> Zone 7 <input type="checkbox"/> Zone 8 <input type="checkbox"/> Zone 9 <input type="checkbox"/> Zone 10 <input type="checkbox"/> Zone 11
(If Yes →)	Measurement: _____ mm
	Method Obtained: <input type="checkbox"/> 3D or 4D Reconstruction <input type="checkbox"/> PreOp CT <input type="checkbox"/> PreOp MRI <input type="checkbox"/> PreOp Echo <input type="checkbox"/> Intra Operatively
Intervention	
(If Aorta Procedure Performed = Yes ↓)	
Aortic Valve or Root Procedure Performed:	<input type="checkbox"/> Yes, planned <input type="checkbox"/> Yes, unplanned due to surgical complication <input type="checkbox"/> Yes, unplanned due to unsuspected disease or anatomy <input type="checkbox"/> No (If Yes ↓)
Procedure Performed:	
<input type="checkbox"/> Replacement (If Replacement ↓)	
Transcatheter Valve Replacement: <input type="checkbox"/> Yes <input type="checkbox"/> No	
(If Yes →)	Approach: <input type="checkbox"/> Transapical <input type="checkbox"/> Transaxillary <input type="checkbox"/> Transfemoral <input type="checkbox"/> Transaortic <input type="checkbox"/> Subclavian <input type="checkbox"/> Other <input type="checkbox"/> Transiliac <input type="checkbox"/> Transeptal <input type="checkbox"/> Transcarotid. <input type="checkbox"/> Transcaval
Surgical valve Replacement: <input type="checkbox"/> Yes <input type="checkbox"/> No	
(If Yes →)	Device type: <input type="checkbox"/> Mechanical <input type="checkbox"/> Bioprosthetic <input type="checkbox"/> Surgeon fashioned pericardium (Ozaki) <input type="checkbox"/> Other
(If Bioprosthetic →)	Valve type: <input type="checkbox"/> Stented <input type="checkbox"/> Stentless sub coronary valve only <input type="checkbox"/> Sutureless/rapid deployment
<input type="checkbox"/> Repair/Reconstruction (If Repair/Reconstruction ↓)	
<b>Repair Type (Select all that apply)</b>	
<input type="checkbox"/> Commissural suture annuloplasty	<input type="checkbox"/> Nodular Release
<input type="checkbox"/> Leaflet plication	<input type="checkbox"/> Leaflet Shaving
<input type="checkbox"/> Leaflet commissural resuspension suture	<input type="checkbox"/> Leaflet debridement
<input type="checkbox"/> Leaflet free edge reinforcement (PTFE)	<input type="checkbox"/> Ring annuloplasty external ring
<input type="checkbox"/> External Suture Annuloplasty	<input type="checkbox"/> Pannus/Thrombus removal (native valve)
<input type="checkbox"/> Leaflet resection suture	<input type="checkbox"/> Leaflet pericardial patch
<input type="checkbox"/> Division of fused leaflet raphe	<input type="checkbox"/> Ring annuloplasty internal ring
<input type="checkbox"/> Surgical Prosthetic Valve Intervention: (Not Explant of Valve) : (If Surgical Prosthetic Valve Intervention, Select All That Apply ↓)	
Type of Intervention: <input type="checkbox"/> Repair of periprosthetic leak <input type="checkbox"/> Removal of pannus <input type="checkbox"/> Removal of clot <input type="checkbox"/> Other	
Aortic annular enlargement <input type="checkbox"/> Yes <input type="checkbox"/> No	
(If Yes →)	Technique: <input type="checkbox"/> Nicks-Nunez <input type="checkbox"/> Manougian <input type="checkbox"/> Konno <input type="checkbox"/> Other <input type="checkbox"/> Unknown
Replacement of non-coronary sinus (Modified Wheat/Modified Yacoub) <input type="checkbox"/> Yes <input type="checkbox"/> No	
Root Procedure: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)	
Root Replacement with coronary Ostial Reimplantation <input type="checkbox"/> Yes <input type="checkbox"/> No	
(If Yes →)	<input type="checkbox"/> Composite Valve Conduit <input type="checkbox"/> Valve Sparing Root
(If Composite Valve Conduit →)	<input type="checkbox"/> Mechanical <input type="checkbox"/> Bioprosthetic <input type="checkbox"/> Homograft Root Replacement <input type="checkbox"/> Autograft with Native Pulmonary Valve (Ross)

		(If Bioprosthetic →)	<input type="checkbox"/> Stented Valve Conduit	<input type="checkbox"/> Stentless Valve Conduit
			<input type="checkbox"/> Stentless Biologic Full Root	
		(If Valve Sparing Root →)	<input type="checkbox"/> Valve sparing root reimplantation (David) <input type="checkbox"/> Valve sparing root remodeling (Yacoub) <input type="checkbox"/> Valve sparing root reconstruction (Florida Sleeve)	
	<b>Coronary Reimplantation:</b>	<input type="checkbox"/> No	<input type="checkbox"/> Direct to Root Prosthesis (Button) <input type="checkbox"/> With Vein Graft Extension (SVG Cabrol) <input type="checkbox"/> With Dacron Graft Extension (Classic Cabrol)	
	Major root reconstruction/ debridement without coronary ostial reimplantation			
	<input type="checkbox"/> Yes <input type="checkbox"/> No			
(If AortProc = Yes ↓)				
<b>Surgical Ascending/Arch Procedure</b> <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)				
	Proximal Location: <input type="checkbox"/> STJ-midascending <input type="checkbox"/> Midascending to distal ascending <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3			
	Distal Technique: <input type="checkbox"/> Open/Unclamped <input type="checkbox"/> Clamped			
	Distal Site: <input type="checkbox"/> Ascending Aorta <input type="checkbox"/> Hemiarch <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4			
	Distal Extention: <input type="checkbox"/> Elephant trunk <input type="checkbox"/> Frozen Elephant trunk <input type="checkbox"/> No			
	Arch Branch Reimplantation: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓ - select all that apply)			
	<b>Arch Branch Location:</b>	<input type="checkbox"/> Innominate	<input type="checkbox"/> Right Subclavian	<input type="checkbox"/> Right Common Carotid
		<input type="checkbox"/> Left Subclavian	<input type="checkbox"/> Left Vertebral	<input type="checkbox"/> Other
Open <b>Surgical</b> Descending Thoracic Aorta or Thoracoabdominal Procedure (If Yes ↓): <input type="checkbox"/> Yes <input type="checkbox"/> No				
	Proximal Location: <input type="checkbox"/> Reverse Hemiarch <input type="checkbox"/> Zone 0 <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4 <input type="checkbox"/> Zone 5 <input type="checkbox"/> Zone 6 <input type="checkbox"/> Zone 7 <input type="checkbox"/> Zone 8 <input type="checkbox"/> Zone 9			
	Intercostal Reimplantation: <input type="checkbox"/> Yes <input type="checkbox"/> No			
	Distal Location: <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4 <input type="checkbox"/> Zone 5 <input type="checkbox"/> Zone 6 <input type="checkbox"/> Zone 7 <input type="checkbox"/> Zone 8 <input type="checkbox"/> Zone 9 <input type="checkbox"/> Zone 10 <input type="checkbox"/> Zone 11			
	Visceral vessel intervention: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)			
	Celiac:	<input type="checkbox"/> Reimplantation <input type="checkbox"/> Branch Graft <input type="checkbox"/> None		
	Superior mesenteric:	<input type="checkbox"/> Reimplantation <input type="checkbox"/> Branch Graft <input type="checkbox"/> None		
	Right Renal:	<input type="checkbox"/> Reimplantation <input type="checkbox"/> Branch Graft <input type="checkbox"/> None		
	Left Renal:	<input type="checkbox"/> Reimplantation <input type="checkbox"/> Branch Graft <input type="checkbox"/> None		
Endovascular Procedure(s) : <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)				
	Access:	<input type="checkbox"/> Femoral <input type="checkbox"/> Iliac <input type="checkbox"/> Abdominal Aorta <input type="checkbox"/> Lt. Subclavian/Axila <input type="checkbox"/> Rt. Subclavian/Axila <input type="checkbox"/> Ascending Aorta <input type="checkbox"/> Carotid <input type="checkbox"/> LV Apex		
	Percutaneous Access: <input type="checkbox"/> Yes <input type="checkbox"/> No			
	Proximal landing zone:	<input type="checkbox"/> Below STJ <input type="checkbox"/> STJ-midascending <input type="checkbox"/> Midascending to distal ascending <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4 <input type="checkbox"/> Zone 5 <input type="checkbox"/> Zone 6 <input type="checkbox"/> Zone 7 <input type="checkbox"/> Zone 8 <input type="checkbox"/> Zone 9 <input type="checkbox"/> Zone 10 <input type="checkbox"/> Zone 11		
	Distal landing zone:	<input type="checkbox"/> Below STJ <input type="checkbox"/> STJ-midascending <input type="checkbox"/> Midascending to distal ascending <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4 <input type="checkbox"/> Zone 5 <input type="checkbox"/> Zone 6 <input type="checkbox"/> Zone 7 <input type="checkbox"/> Zone 8 <input type="checkbox"/> Zone 9 <input type="checkbox"/> Zone 10 <input type="checkbox"/> Zone 11		
	Ascending TEVAR : <input type="checkbox"/> Dedicated IDE <input type="checkbox"/> Off Label Stent <input type="checkbox"/> No			
<b>Arch Vessel management</b>				
	Innominate:	<input type="checkbox"/> Native Flow <input type="checkbox"/> Endovascular Branch Graft <input type="checkbox"/> Endovascular Parallel Graft <input type="checkbox"/> Extra-anatomic Bypass <input type="checkbox"/> Fenestrated <input type="checkbox"/> No Flow Restored		
		(If Extra-anatomic bypass (select all that apply)→)	<b>Location:</b> <input type="checkbox"/> Aorta-Innominate <input type="checkbox"/> Aorta-right carotid <input type="checkbox"/> Aorta- right subclavian <input type="checkbox"/> Right Carotid- Right subclavian <input type="checkbox"/> Other	
	Left Carotid:	<input type="checkbox"/> Native Flow <input type="checkbox"/> Endovascular Branch Graft <input type="checkbox"/> Endovascular Parallel Graft <input type="checkbox"/> Extra-anatomic Bypass <input type="checkbox"/> Fenestrated <input type="checkbox"/> No Flow Restored		
		(If Extra-anatomic bypass (select all that apply)→)	<b>Location:</b> <input type="checkbox"/> Aorta- left carotid <input type="checkbox"/> Innominate- left carotid <input type="checkbox"/> Right carotid- Left carotid <input type="checkbox"/> Other	
	Left Subclavian:	<input type="checkbox"/> Native Flow <input type="checkbox"/> Endovascular Branch Graft <input type="checkbox"/> Endovascular Parallel Graft <input type="checkbox"/> Extra-anatomic Bypass <input type="checkbox"/> Fenestrated <input type="checkbox"/> No Flow Restored		

	(If Extra-anatomic bypass (select all that apply)→)	<b>Location:</b> <input type="checkbox"/> Aorta- left subclavian <input type="checkbox"/> Left carotid- left subclavian <input type="checkbox"/> Other
<b>Visceral Vessel management</b>		
Celiac:	<input type="checkbox"/> Native Flow <input type="checkbox"/> Endovascular Branch Graft <input type="checkbox"/> Endovascular Parallel Graft <input type="checkbox"/> Extra-anatomic Bypass <input type="checkbox"/> Fenestrated <input type="checkbox"/> No Flow Restored	
	(If Extra-anatomic bypass (select all that apply)→)	<b>Location:</b> <input type="checkbox"/> Aorta- celiac <input type="checkbox"/> Iliac-celiac <input type="checkbox"/> Other
Superior mesenteric:	<input type="checkbox"/> Native Flow <input type="checkbox"/> Endovascular Branch Graft <input type="checkbox"/> Endovascular Parallel Graft <input type="checkbox"/> Extra-anatomic Bypass <input type="checkbox"/> Fenestrated <input type="checkbox"/> No Flow Restored	
	(If Extra-anatomic bypass (select all that apply)→)	<b>Location:</b> <input type="checkbox"/> Aorta- superior mesenteric <input type="checkbox"/> Iliac- superior mesenteric <input type="checkbox"/> Other
Right renal:	<input type="checkbox"/> Native Flow <input type="checkbox"/> Endovascular Branch Graft <input type="checkbox"/> Endovascular Parallel Graft <input type="checkbox"/> Extra-anatomic Bypass <input type="checkbox"/> Fenestrated <input type="checkbox"/> No Flow Restored	
	(If Extra-anatomic bypass (select all that apply)→)	<b>Location:</b> <input type="checkbox"/> Aorta- right renal <input type="checkbox"/> Iliac- right renal <input type="checkbox"/> Other
Left renal:	<input type="checkbox"/> Native Flow <input type="checkbox"/> Endovascular Branch Graft <input type="checkbox"/> Endovascular Parallel Graft <input type="checkbox"/> Extra-anatomic Bypass <input type="checkbox"/> Fenestrated <input type="checkbox"/> No Flow Restored	
	(If Extra-anatomic bypass (select all that apply) →)	<b>Location:</b> <input type="checkbox"/> Aorta- left renal <input type="checkbox"/> Iliac – left renal <input type="checkbox"/> Other
Right Iliac:	<input type="checkbox"/> Native Flow <input type="checkbox"/> Bifurcated Graft <input type="checkbox"/> Extra-anatomic Bypass <input type="checkbox"/> No Flow Restored	
	(If Extra-anatomic bypass (select all that apply)→)	<b>Location:</b> <input type="checkbox"/> Femoral- Femoral <input type="checkbox"/> Other
Left Iliac:	<input type="checkbox"/> Native Flow <input type="checkbox"/> Bifurcated Graft <input type="checkbox"/> Extra-anatomic Bypass <input type="checkbox"/> No Flow Restored	
	(If Extra-anatomic bypass (select all that apply) →)	<b>Location:</b> <input type="checkbox"/> Femoral- Femoral <input type="checkbox"/> Other
Internal Iliac Preserved:	<input type="checkbox"/> Right Iliac only <input type="checkbox"/> Left Iliac only <input type="checkbox"/> Both <input type="checkbox"/> No	
Other Visceral Vessel(s) Extra-anatomic Bypass:	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	(If Yes (select all that apply) →)	<b>Location:</b> <input type="checkbox"/> Aorta-other <input type="checkbox"/> Iliac-other <input type="checkbox"/> Other
Planned Staged Hybrid:	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>Other Endovascular Procedural Information</b>		
Dissection proximal entry tear covered:	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Endoleak at end of procedure:	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →)	Type: <input type="checkbox"/> Ia <input type="checkbox"/> Ib <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> V
Conversion to open:	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →)	Conversion reason: <input type="checkbox"/> Deployment failure <input type="checkbox"/> Endoleak <input type="checkbox"/> Rupture <input type="checkbox"/> Occlusion/loss of branch
Intraop Dissection Extension:	<input type="checkbox"/> None <input type="checkbox"/> Antegrade <input type="checkbox"/> Retrograde <input type="checkbox"/> Both	
Unintentional rupture of dissection septum:	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →)	<b>Location:</b> <input type="checkbox"/> Below STJ <input type="checkbox"/> STJ-midascending <input type="checkbox"/> Midascending-distal ascending <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input type="checkbox"/> Zone 3 <input type="checkbox"/> Zone 4 <input type="checkbox"/> Zone 5 <input type="checkbox"/> Zone 6 <input type="checkbox"/> Zone 7 <input type="checkbox"/> Zone 8 <input type="checkbox"/> Zone 9 <input type="checkbox"/> Zone 10 <input type="checkbox"/> Zone 11
<b>Additional Procedural Information</b>		
Spinal Drain Placement:	<input type="checkbox"/> Pre- aortic procedure <input type="checkbox"/> Post- aortic procedure <input type="checkbox"/> None	
IntraOp Motor Evoked Potential:	<input type="checkbox"/> Yes <input type="checkbox"/> No	(If Yes →) Documented MEP abnormality <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
IntraOp Somatosensory Evoked Potential:	<input type="checkbox"/> Yes <input type="checkbox"/> No	(If Yes →) Documented SEP abnormality <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
IntraOp EEG:	<input type="checkbox"/> Yes <input type="checkbox"/> No	(If Yes →) Documented EEG abnormality <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
IntraOp Intravascular Ultrasound(IVUS):	<input type="checkbox"/> Yes <input type="checkbox"/> No	
IntraOp Transcutaneous Doppler:	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Intraoperative Angiogram:	<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →)	Volume of contrast: _____ml      Fluoroscopy time:_____ min
<b>Endovascular Balloon Fenestration of the Dissection Flap:</b> <input type="checkbox"/> PreOp <input type="checkbox"/> IntraOp <input type="checkbox"/> PostOp <input type="checkbox"/> 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**

<b>Location :</b>		<p>X. No additional devices inserted (only for locations 2 – 15)</p> <p>A. Below sinotubular junction</p> <p>B. Sinotubular junction to mid ascending</p> <p>C. Mid ascending to distal ascending</p> <p>D. Zone 1 (between innominate and left carotid)</p> <p>E. Zone 2 (between left carotid and left subclavian)</p> <p>F. Zone 3 (first 2 cm. distal to left subclavian)</p> <p>G. Zone 4 (end of zone 3 to mid descending aorta ~ T6)</p> <p>H. Zone 5 (mid descending aorta to celiac)</p> <p>I. Zone 6 (celiac to superior mesenteric)</p> <p>J. Zone 7 (superior mesenteric to renals)</p> <p>K. Zone 8 (renal to infra-renal abdominal aorta)</p> <p>L. Zone 9 (infra-renal abdominal aorta)</p> <p>M. Zone 10 (common iliac)</p> <p>N. Zone 11 (external iliacs)</p> <p>(Refer to Data Specifications for Harvest Codes)</p>
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**For devices other than aortic valves and aortic valve composite grafts:**

**Implant Method:** 1=Open **Surgical** 2= Endovascular

**Outcome:** 1= **Unsuccessfully 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: _____
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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:	<input type="checkbox"/> Yes, within 30 days of procedure <input type="checkbox"/> Yes, >30 days after procedure but during hospitalization for surgery <input type="checkbox"/> No
	Deep Sternal: ++	<input type="checkbox"/> Yes, within 30 days of procedure <input type="checkbox"/> Yes, greater than 30 days but during initial hospitalization <input type="checkbox"/> No
		(If either Yes value →) Diagnosis Date: ____/____/____ (mm/dd/yyyy)
	Thoracotomy (within 30 days or initial hospitalization):	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Conduit Harvest (within 30 days or initial hospitalization):	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Cannulation Site (within 30 days or initial hospitalization):	<input type="checkbox"/> Yes <input type="checkbox"/> No

<b>(If Yes, Non-Infectious or Yes, Both→)</b>	Non-Infective Surgical Wound Dehiscence (includes non-infective sterile wound): <input type="checkbox"/> Sternal Superficial <input type="checkbox"/> Deep Sternal	
Is there evidence that the patient had a deep sternal wound infection within 90 days of the procedure: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		
Other In Hospital Postoperative Event Occurred: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)		
<b>Operative</b>		
ReOp for Bleeding/Tamponade: ++ <input type="checkbox"/> Yes <input type="checkbox"/> No		(If Yes →) Bleed Timing: <input type="checkbox"/> Acute <input type="checkbox"/> Late
ReOp for Valvular Dysfunction: ++ <input type="checkbox"/> Yes, surgical <input type="checkbox"/> Yes, transcatheter <input type="checkbox"/> No		
Unplanned Coronary Artery Intervention: ++ <input type="checkbox"/> Yes <input type="checkbox"/> No		
(If Yes →) Vessel: <input type="checkbox"/> Native coronary <input type="checkbox"/> Graft <input type="checkbox"/> Both		Intervention Type: <input type="checkbox"/> Surgery <input type="checkbox"/> PCI <input type="checkbox"/> Both
Aortic Reintervention: ++ <input type="checkbox"/> Yes <input type="checkbox"/> No		(If yes→) Type: <input type="checkbox"/> Open <input type="checkbox"/> Endovascular
ReOp for Other Cardiac Reasons: ++ <input type="checkbox"/> Yes <input type="checkbox"/> No		
Returned to the OR for Other Non-Cardiac Reasons: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Open chest with planned delayed sternal closure: <input type="checkbox"/> Yes <input type="checkbox"/> No		
<b>Infection</b>		
Sepsis: <input type="checkbox"/> Yes <input type="checkbox"/> No		
<b>Neurologic, Central</b>		
Postoperative Stroke: ++ <input type="checkbox"/> Yes <input type="checkbox"/> No		
Encephalopathy: <input type="checkbox"/> Yes <input type="checkbox"/> No		
<b>Neurologic, Peripheral</b>		
Lower Extremity Paralysis >24 Hours: Yes <input type="checkbox"/> No		
Paresis >24 hours: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Recurrent Laryngeal Nerve Injury: <input type="checkbox"/> Yes <input type="checkbox"/> No		
<b>Pulmonary</b>		
Prolonged Ventilation: <input type="checkbox"/> Yes <input type="checkbox"/> No (OR exit time until initial extubation, plus any additional reintubation hours)		
(If Yes →)	Tracheostomy Required after OR Exit <input type="checkbox"/> Yes <input type="checkbox"/> No	
Pneumonia: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Pulmonary Thromboembolism: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Pleural Effusion Requiring Drainage: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Pneumothorax Requiring Intervention: <input type="checkbox"/> Yes <input type="checkbox"/> No		
<b>Renal</b>		
Renal Failure: ++ <input type="checkbox"/> Yes <input type="checkbox"/> No		
(If Yes →)	Dialysis (Newly Required): <input type="checkbox"/> Yes <input type="checkbox"/> No	(If Yes →) Required after Hospital Discharge: <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Vascular</b>		
Iliac/Femoral Dissection: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Acute Limb Ischemia: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Deep Venous Thrombosis: <input type="checkbox"/> Yes <input type="checkbox"/> No		
<b>Mechanical assist device related complication</b> : <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)		
Type of Complication: (select all that apply)		
<input type="checkbox"/> Cannula/Insertion site issue <input type="checkbox"/> Hemorrhagic		
<input type="checkbox"/> Thrombotic/Embolic		
<input type="checkbox"/> Hemolytic		
<input type="checkbox"/> Infection		
<input type="checkbox"/> Other mechanical assist device related complication		
<b>Other</b>		
Rhythm Disturbance Requiring Permanent Pacemaker: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Cardiac Arrest: <input type="checkbox"/> Yes <input type="checkbox"/> No		
<b>Aortic Complication</b> <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓)		
Aortic Dissection: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Post Op Aortic Endoleak: <input type="checkbox"/> Yes <input type="checkbox"/> No		(If Yes→) Type: <input type="checkbox"/> Ia <input type="checkbox"/> Ib <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> V
Aortic Side Branch malperfusion: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Aortic stent graft induced entry tear: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Anticoagulant Bleeding Event: <input type="checkbox"/> Yes <input type="checkbox"/> No		
(If Yes→)	<input type="checkbox"/> Intracerebral <input type="checkbox"/> Subdural <input type="checkbox"/> Gastrointestinal	
Heparin Induced Thrombocytopenia (HIT) <input type="checkbox"/> Yes <input type="checkbox"/> No		(If Yes→) Heparin Induced Thrombocytopenia Thrombosis (HITT) <input type="checkbox"/> Yes <input type="checkbox"/> No
Pericardiocentesis: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Gastro-Intestinal Event: <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Ischemic Bowel <input type="checkbox"/> Gastrointestinal Bleed <input type="checkbox"/> Pancreatitis <input type="checkbox"/> Cholecystitis
(If Yes, select all that apply→)		<input type="checkbox"/> Liver Dysfunction/Liver Failure <input type="checkbox"/> Ileus <input type="checkbox"/> Other

Atrial Fibrillation:  Yes  No

Q. Discharge / Mortality	
Status at 30 days After Surgery (either discharged or in-hospital): ++ <input type="checkbox"/> Alive <input type="checkbox"/> Dead <input type="checkbox"/> Unknown	
Did the patient transfer to another acute care hospital after this procedure during same stay: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes →) Date Transferred: ___/___/_____	
Is the patient still in the Acute Care Hospital Setting: <input type="checkbox"/> Yes <input type="checkbox"/> No (If No ↓)	
Hospital Discharge Date ___/___/____ (mm/dd/yyyy)	
<b>Status at Hospital Discharge++</b> <input type="checkbox"/> Discharged Alive, last known status alive (other than Hospice) <input type="checkbox"/> Discharged Alive, died after discharge <input type="checkbox"/> Discharged to Hospice <input type="checkbox"/> Died in hospital	
(If Discharge Alive, last known status alive OR Discharged Alive, died after discharge →)	Discharge Location: <input type="checkbox"/> Home <input type="checkbox"/> Extended Care/Transitional Care Unit/Rehab <input type="checkbox"/> Nursing Home <input type="checkbox"/> Left AMA <input type="checkbox"/> Other
(If Discharge Location = Extended Care/Transitional Care Unit/Rehab →)	<input type="checkbox"/> Acute/Short-term Rehab <input type="checkbox"/> Long-term Rehab <input type="checkbox"/> Unknown
(If Discharge Location is NOT Left AMA →)	Cardiac Rehabilitation Referral: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable
	Substance Use Screening and Counseling Performed (NQF 2597): <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable
<b>Medications Prescribed at Discharge</b>	
Antiplatelet++	Aspirin <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Contraindicated
	ADP Inhibitor <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Contraindicated
	Other Antiplatelet <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Contraindicated
Anticoagulant	<b>Direct Oral Anticoagulant</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Contraindicated
	Warfarin (Coumadin) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Contraindicated
	Other Anticoagulant <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Contraindicated
ACE or ARB	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Contraindicated <input type="checkbox"/> Not Indicated (see Training Manual)
Amiodarone	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Contraindicated
Beta Blocker ++	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Contraindicated
Lipid Lowering - Statin ++	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Contraindicated
Lipid Lowering - Other	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Contraindicated
(If Status at Hospital Discharge is 'Discharged Alive, Died after discharge' OR 'Discharged to Hospice' →)	<b>Mortality - Date++</b> ___/___/____ (mm/dd/yyyy)
(If Status at Hospital Discharge is 'discharged alive, died after discharge' OR 'Discharged to Hospice' →)	<b>Operative Mortality: ++</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
(If Status at Hospital Discharge is 'Discharged to Hospice' OR 'Discharged Alive, died after discharge' →)	Post Discharge death location: <input type="checkbox"/> Home <input type="checkbox"/> Extended Care Facility <input type="checkbox"/> Hospice <input type="checkbox"/> Acute Rehabilitation <input type="checkbox"/> Hospital during readmission <input type="checkbox"/> Other <input type="checkbox"/> Unknown
(If Died in Hospital →)	Primary Cause of Death (select only one) <input type="checkbox"/> Cardiac <input type="checkbox"/> Neurologic <input type="checkbox"/> Renal <input type="checkbox"/> Vascular <input type="checkbox"/> Infection <input type="checkbox"/> Pulmonary <input type="checkbox"/> Unknown <input type="checkbox"/> Other

R. Readmission	
(If Status at Hospital Discharge = Discharged alive, last know status = alive or Discharged alive, died after discharge ↓)	
Readmit : ++ <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown (If Yes ↓)	
Readmit Date: ___/___/____ (mm/dd/yyyy)	
Readmit <b>Primary</b> Reason:	
<input type="checkbox"/> Angina	<input type="checkbox"/> Pericardial Effusion and/or Tamponade
<input type="checkbox"/> Anticoagulation Complication - Pharmacological	<input type="checkbox"/> Pericarditis/Post Cardiotomy Syndrome
<input type="checkbox"/> Anticoagulation Complication – Valvular	<input type="checkbox"/> Pleural effusion requiring intervention
<input type="checkbox"/> Aortic Complication	<input type="checkbox"/> 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:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> No Procedure Performed</li> <li><input type="checkbox"/> Cath lab for Valve Intervention</li> <li><input type="checkbox"/> Cath lab for Coronary Intervention (PCI)</li> <li><input type="checkbox"/> Dialysis</li> <li><input type="checkbox"/> OR for Bleeding</li> <li><input type="checkbox"/> OR for Coronary Artery Intervention</li> <li><input type="checkbox"/> OR for Sternal Debridement / Muscle Flap</li> <li><input type="checkbox"/> OR for Valve Intervention</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> OR for Vascular Procedure</li> <li><input type="checkbox"/> OR for Aorta Intervention</li> <li><input type="checkbox"/> Pacemaker Insertion / AICD</li> <li><input type="checkbox"/> Pericardiectomy / Pericardiocentesis</li> <li><input type="checkbox"/> Planned noncardiac procedure</li> <li><input type="checkbox"/> Thoracentesis/ Chest tube insertion</li> <li><input type="checkbox"/> Wound vac</li> <li><input type="checkbox"/> Other Procedure</li> <li><input type="checkbox"/> Unknown</li> </ul> |
|--|---|

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

Attending anesthesiologist medically directing AA

- Surgeon medically directing CRNA
- CRNA practicing independently

If Attending anesthesiologist medically directing CRNA ↓  
Ratio:  1:1  1:2  1:3  1:4  1:5  N/A

If Attending anesthesiologist medically directing AA ↓  
Ratio:  1:1  1:2  1:3  1:4  1:5  N/A

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 CPB  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:

- Isoflurane  Desflurane  Sevoflurane  Other

(select all that apply →)

Volatile Agent(s) timing

- Pre CPB  During CPB  Post CPB  Maintenance (if no CPB)

(select all that apply →)

Intraop Midazolam:  Yes  No

If Yes → Dose \_\_\_\_\_ mcgs

Intraop Fentanyl  Yes  No

If Yes → Dose \_\_\_\_\_ mcgs

Intraop Sufentanil  Yes  No

If Yes → Dose \_\_\_\_\_ mcgs

Intraop Remifentanyl  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  Jugular-Venous
- Thermistor

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 <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes→)		Anesthesiology Total 25% Albumin _____ mL
Autologous Normovolemic Hemodilution (ANH) <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes→)	ANH Volume: _____ mL	
Intraop Inhaled Vasodilator: <input type="checkbox"/> Yes <input type="checkbox"/> No	Intraop IV Vasodilators Used: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Intraop Glucose Trough: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes→)	_____ mg/dL	
Intraop Insulin Given: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes→)	Intraop Insulin Total Dose _____ units	
Intraoperative Processed EEG (BIS): <input type="checkbox"/> Yes <input type="checkbox"/> No		
Intraop Post-Induction/Pre-Incision Transesophageal Echo (TEE): <input type="checkbox"/> Yes <input type="checkbox"/> No		
(If Post-Induction/Pre-Incision TEE is Yes→)	LVEF Measured or Estimated: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes→)	LVEF: _____ %
	Left Atrial Size <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes→)	Left Atrial Superior-Inferior _____ cm
		Left Atrial Medial-Lateral _____ cm
	RV Function:	<input type="checkbox"/> Normal <input type="checkbox"/> Moderate Dysfunction <input type="checkbox"/> Not Assessed <input type="checkbox"/> Mild Dysfunction <input type="checkbox"/> Severe Dysfunction
	Mitral Regurgitation:	<input type="checkbox"/> None <input type="checkbox"/> Trace/trivial <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/> Not assessed
	Patent Foramen Ovale:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed
	Ascending Aorta Assessed <input type="checkbox"/> Yes <input type="checkbox"/> No	
	(If Yes→)	Maximal Ascending Aorta Diameter: _____ cm Maximal Ascending Aorta Atheroma Thickness: _____ mm Ascending Aorta Atheroma Mobility: <input type="checkbox"/> Yes <input type="checkbox"/> No
	Aortic Arch Visualized: <input type="checkbox"/> Yes <input type="checkbox"/> No	
	(If Yes→)	Maximal Aortic Arch Atheroma Thickness: _____ mm Aortic Arch Atheroma Mobility: <input type="checkbox"/> Yes <input type="checkbox"/> No
Cardiopulmonary Bypass Used: <input type="checkbox"/> Yes <input type="checkbox"/> No		
(If CPB Use is Yes→)	ABG Management during cooling <input type="checkbox"/> Alpha-Stat <input type="checkbox"/> pH-Stat <input type="checkbox"/> Unknown	
	ABG Management during rewarming <input type="checkbox"/> Alpha-Stat <input type="checkbox"/> pH-Stat <input type="checkbox"/> Unknown	
	Arterial Outflow Temperature Measured <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes→)	Highest Arterial Outflow Temperature: _____ °C
	Retrograde Autologous Priming of CPB Circuit: <input type="checkbox"/> Yes <input type="checkbox"/> No	
	Total Crystalloid Administered by Perfusion Team: _____ mL	
	(If mL >0 select all that apply) <input type="checkbox"/> 0.9 Sodium Chloride <input type="checkbox"/> Normosol <input type="checkbox"/> Ringer's Lactate <input type="checkbox"/> 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: <input type="checkbox"/> Yes <input type="checkbox"/> No	
	Vasopressors used to wean from CPB: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Cell Saver Volume: _____ mL	Protamine Total Dose : _____ mgs	
Post-Procedure Use Of Intraoperative TEE: <input type="checkbox"/> Yes <input type="checkbox"/> No		
(If Post Proc TEE is Yes→)	Systolic Anterior Motion of Mitral Valve: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	
	Return to CPB for Echo Related Diagnosis: <input type="checkbox"/> Yes <input type="checkbox"/> No	
	(If Yes →)	Reason for return to CPB: <input type="checkbox"/> New Wall Motion Abnormality <input type="checkbox"/> Residual Valvular Leak <input type="checkbox"/> Systolic Anterior Motion (SAM) <input type="checkbox"/> Paravalvular Leak <input type="checkbox"/> Ventricular Failure <input type="checkbox"/> Other <input type="checkbox"/> Unknown
		(If Ventricular Failure →) <input type="checkbox"/> Left Ventricular Failure <input type="checkbox"/> Right Ventricular Failure <input type="checkbox"/> Bi-Ventricular Failure <input type="checkbox"/> Unknown
	Post-Procedure LVEF Measured: <input type="checkbox"/> Yes <input type="checkbox"/> No	(If Yes→) Post-Procedure LVEF: _____ %
	Post-Procedure RV Function: <input type="checkbox"/> Normal <input type="checkbox"/> Moderate Dysfunction <input type="checkbox"/> Not Assessed <input type="checkbox"/> Mild Dysfunction <input type="checkbox"/> Severe Dysfunction	
Patient Died in the OR: <input type="checkbox"/> Yes <input type="checkbox"/> No		
(If Died in OR is No→)	Core Temp Measured upon Entry to ICU/PACU: <input type="checkbox"/> Yes <input type="checkbox"/> No	
	(If Yes→)	Post Op Core Temp: _____ °C
	Post-Op INR Measured upon admission to post op care location (PACU, ICU): <input type="checkbox"/> Yes <input type="checkbox"/> No	
	(If Yes→)	INR: _____
	WBC Measured upon admission to post op care location (PACU, ICU): <input type="checkbox"/> Yes <input type="checkbox"/> No	
	(If Yes→)	WBC : _____ / $\mu$ L
	Platelets Measured upon admission to post op care location (PACU, ICU): <input type="checkbox"/> Yes <input type="checkbox"/> No	
	(If Yes→)	Platelet Count: _____ / $\mu$ L
	Hemoglobin Measured upon admission to post op care location (PACU, ICU): <input type="checkbox"/> Yes <input type="checkbox"/> No	
	(If Yes→)	Hemoglobin: _____ /gm/dL
	Hematocrit Measured upon admission to post op care location (PACU, ICU): <input type="checkbox"/> Yes <input type="checkbox"/> No	
	(If Yes→)	Hematocrit: _____ %
	Fibrinogen Measured upon admission to post op care location (PACU, ICU): <input type="checkbox"/> Yes <input type="checkbox"/> No	
	(If Yes→)	Fibrinogen _____ mg/dL
	Lactate Measured upon admission to post op care location (PACU, ICU): <input type="checkbox"/> Yes <input type="checkbox"/> No	
	(If Yes→)	Lactate: _____ mg/dL
	Peak Glucose between within 18-24 hours after OR Exit Time: _____	
	Post Op Propofol: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Post Op Other Sedation: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Post Op Delirium: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Pain Score POD #3: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> Not recorded <input type="checkbox"/> NA		
Pain Score Discharge: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> Not recorded <input type="checkbox"/> NA		