

**Adult Cardiac Surgery Database
Data Collection Form
Version 2.73**

1. PATIENT INFORMATION

Medical Record Number: _____

Last Name: _____ First Name: _____ Patient M.I.: _____

Social Security (or National Patient ID) Number: _____ [Optionally Harvested](#)

Race (Choose all that apply): White Black Asian Native American/Native Alaskan
Native Hawaiian/Pacific Islander Other

Hispanic Ethnicity: Yes No

Gender: Male Female Date of Birth (mm/dd/yyyy): ___/___/___

Patient's Address:

Street Address: _____ City: _____

Region: _____ Zip: _____ Country: _____

Is This Patient's Permanent Address: Yes No

[If No, → Patient's Permanent Address:](#)

Street Address: _____ City: _____

Region: _____ Zip: _____ Country: _____

Insurance Company (Choose all that apply): Medicare⁴³⁰; Medicaid; Military Health Care; State-Specific Plan;
Indian Health Insurance; Commercial Health Insurance;
Correctional Facility; Health Maintenance Organization;
Non-US Insurance; Non/Self

Medicare Fee for Service: Yes No

HIC: _____

Patient Stay

Arrival Date: ___/___/___ (mm/dd/yyyy) Arrival Time: ___/___/___ (mm/dd/yyyy)

Date of Admission: ___/___/___ (mm/dd/yyyy)

2. RISK FACTORS

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

Cigarette Smoker: Yes No

Current Smoker: Yes No

Other Tobacco: Yes No

Family History of CAD: Yes No

Hematocrit: _____

HIT Antibodies: Yes No Not Applicable

Infectious Endocarditis: Yes No [If Yes, → Infectious Endocarditis Type:](#) Treated Active

Infectious Endocarditis Culture:

Culture negative Staphylococcus aureus Streptococcus species
Coagulase negative staphylococcus Enterococcus species Fungal

Other

Cerebrovascular Disease: Yes No If Yes, → CVA: Yes No

If Yes, → CVA When: Recent (<=2 wk.) Remote (>2 wk.)

TIA: YesNo

Carotid Stenosis Side¹⁰⁷⁰ Both Left None: Right :

If Right or Both, → Severity of stenosis on the right carotid artery: 80 – 99% 100%

If Right or Both, → Severity of stenosis on the left carotid artery: 80 – 99% 100%

Prior Carotid Surgery Yes No

Pre-op Creatinine: _____

WBC: _____

Platelets: _____

Normalized Ratio: _____

Bilirubin: _____

MELD Score: _____

Chronic Lung Disease: No Mild Moderate Severe

Pulmonary Function Test Done: Yes No If Yes, → FEV1 % Predicted⁸⁹⁰: _____

DLCO Test Performed: Yes No If Yes, → DLCO % Predicted⁸⁹³: _____

Illicit Drug Use: Yes No

Alcohol Use: <=1 drink/week 2-7 drinks/week >=8 drinks/week

Pneumonia: No Recent Remote

Mediastinal Radiation: Yes No

Cancer Within 5: Yes No

Arterial Blood Gas Performed: Yes No

If Yes, → pO2 : _____ pCO2: _____

Diabetes: Yes No If Yes, select one: → Diabetes Control: None Diet Oral Insulin Other

HbA1c: _____

Albumin: Yes No

Dyslipidemia: Yes No

Dialysis: Yes No

Hypertension: Yes No

Home Oxygen: Yes No

Inhaled Medication: Yes No

Sleep Apnea: Yes No

Liver Disease: Yes No

Immunocompromise Present: Yes No

PVD: Yes No

Unresponsive Neuro State: Yes No

Syncope: Yes No

Five Meter Walk Test Done: Yes No

If Yes, → Time 1: _____(secs)

Time 2: _____(secs)

Time 3: _____(secs)

3. PREVIOUS CARDIAC INTERVENTIONS

Previous CV Interventions: Yes No [If Yes, complete the rest of this section ↓](#)

 Prior CABG: Yes No

Previous Valvular Surgery: Yes No [If Yes, complete the rest of this section ↓](#)

 Previous Aortic Valve Replacement - Surgical: Yes No

 Previous Aortic Valve Repair - Surgical : Yes No

 Previous Aortic Valve Balloon Valvuloplasty: Yes No

 Previous Mitral Valve Replacement - Surgical: Yes No

 Previous Mitral Valve Repair - Surgical: Yes No

 Previous Mitral Valve Balloon Valvuloplasty: Yes No

 Previous Tricuspid Valve Replacement - Surgical: Yes No

 Previous Tricuspid Valve Repair - Surgical: Yes No

 Previous Pulmonic Valve Repair / Replacement - Surgical: Yes No

 Previous Transcatheter Valve Replacement: Yes No

 Previous Percutaneous Valve Repair: Yes No

Indication for Reoperation: Structural Prosthetic Valve Deterioration
 Non-structural prosthetic valve dysfunction
[If Non -structural prosthetic](#) → Primary type:

- Paravalvular Leak
- Hemolysis
- Entrapment by pannus, tissue, or suture
- Sizing or positioning issue
- Other

- Prosthetic Valve Endocarditis
- Valve Thrombosis
- Failed Repair
- Repeat valve procedure on a different valve
- Other

Exact Date of Previous Valve Procedure Known: Yes No

[If Yes,](#) → Date of Previous Valve Procedure: ___ / ___ / _____

[If No,](#) → Estimate Number of Months Since Previous Valve Procedure: _____

Previous Other Cardiac: Yes No

[If Yes,](#) → Previous Arrhythmia Surgery: Yes No

Previous Congenital: Yes No

Previous ICD (Implantable Cardioverter/Defibrillator): Yes No

Previous Pacemaker: Yes No

Previous PCI (Percutaneous Cardiac Intervention): Yes No

[If Yes,](#) → PCI Performed Within This Episode Of Care:

 Yes, at this facility Yes, at some other acute care facility No

[If Yes,](#) → Indication for Surgery:

- PCI Complication
- PCI Failure without Clinical Deterioration

PCI/CABG Hybrid Procedure

PCI Stent: Yes No

If Yes, → Stent Type: Bare metal Drug-eluting Unknown

PCI Interval: ≤ 6 Hours > 6 Hours

Other Previous Cardiovascular Intervention: Yes No

4. PRE-OPERATIVE CARDIAC STATUS

Previous MI: Yes No

If Yes, → When: ≤ 6 hours > 6 hours but <24 hours 1 - 7 days 8 - 21 days > 21 days

Anginal Classification Within 2 weeks: No Symptoms, No Angina CCA I CCA II CCA III CCA IV

Prior Heart Failure: Yes No

Congestive Heart Failure: Yes No

If Yes, → NYHA: Class I Class II Class III Class IV

Cardiogenic Shock: Yes No

Admission Cardiac Presentation: No Symptoms or Angina Symptoms unlikely to be Ischemia Stable Angina
Unstable Angina Non-ST Elevation MI (Non-STEMI) ST Elevation MI (STEMI)

Resuscitation: Yes No

Pre-Op Arrhythmia: None Recent Remote

If Yes, → Vtach/Vib: Yes No 2nd HB: Yes No

Sick Sinus Syndrome: Yes No 3rd HB: Yes No

AFib/Flutter: Yes No

If Yes, → Type: Paroxysmal Continuous/Persistent

5. PREOPERATIVE MEDICATIONS

Beta Blockers: Yes No Contraindicated/Not Indicated

ACE Inhibitors: Yes No

Nitrates I.V.: Yes No

Anticoagulants: Yes No

If Yes, → Anticoagulants Medication Name: Heparin (Unfractionated) Heparin (Low Molecular) Thrombin Inhibitors
Other

Pre-op Antiarrhythmics: Yes No

Coumadin: Yes No

Inotropes: Yes No

Steroids: Yes No

Aspirin: Yes No

Lipid-Lowering: Yes No

If Yes, → Lipid Lowering Medication Name: Statin Non statin Both

ADP Inhibitors within 5 Days: Yes No

If Yes, → ADP Discontinuation (indicate number of days): _____

Antiplatelets within 5 Days: Yes No

Glycoprotein IIb/IIIa Inhibitor: Yes No

If Yes, → Glycoprotein IIb/IIIa Inhibitor Medication Name: Abciximab (ReoPro), Eptifibatid (Integrilin), Tirofiban (Aggrastat)

Thrombolytics within 48 hrs: Yes No

6. HEMODYNAMICS/CATH/ECHO

Cardiac Catheterization Performed : Yes No **If Yes, →** Cardiac Catheterization Date: ___/___/_____

Number Diseased Vessels: None One Two Three

Ejection Fraction Done: Yes No **If Yes, ↓**

Ejection Fraction: _____ (%)

Ejection Fraction Method: LV Gram Radionuclide Estimate ECHO MRI/CT Other

Left Main Disease >= 50%: Yes No

Proximal LAD >= 70%: Yes No

LV Systolic Dimension: _____ (mm)

LV End-Diastolic Dimension: _____ (mm)

PA Systolic Pressure Measured: Yes No (If Yes→) PA Systolic Pressure: _____ mmHg(highest prior to surgery)

AORTIC

Aortic Valve Disease: Yes No **If Yes, ↓**

Aortic Etiology: Degenerative (senile)

Endocarditis: **(If Endocarditis→)** Root Abscess: Yes No

Congenital: **(If Congenital→)** Type: Bicuspid Other

Rheumatic

Primary Aortic Disease: **(If PAD→)**Type: Marfans Other Connective tissue disorder

Atherosclerotic Aneurysm Inflammatory

Aortic Dissection Idiopathic Root Dilation

LV Outflow Tract Obstruction: **(If LV outflow tract obstruction↓)**

Type: HOCM Sub-aortic membrane Sub-aortic Tunnel

Supravalvular Aortic Stenosis

Tumor: **(If Tumor→)** Type: Myxoma Papillary fibroelastoma Carcinoid Other

Trauma

Other

Aortic Stenosis: Yes No N/A **If Yes, ↓**

Smallest Aortic Valve Area: _____ cm²

Highest Mean Gradient: _____ mmHg

Aortic Insufficiency: 0=None 1=Trivial 2=Mild 3= Moderate 4= Severe N/A

Mitral

Mitral Valve Disease: Yes No **If Yes, ↓**

Mitral Etiology: Annular or Degenerative Disease **(If Annular or Degenerative Disease↓)**

Location: Posterior Leaflet Anterior Leaflet Bileaflet

Type: Pure Annular Dilation Mitral Annular Calcification

Endocarditis: **(If Endocarditis→)** Root Abscess: Yes No

Rheumatic

Ischemic **(If Ischemic→)** Type: Acute **(If acute →)** Papillary Muscle Rupture²²²⁰: Yes No

Chronic

Congenital

Hypertrophic Obstructive Cardiomyopathy (HOCM)

Tumor: (If Tumor→) Type: Myxoma Papillary fibroelastoma Carcinoid Other

Trauma

Non-ischemic cardiomyopathy

Other

Mitral Valve Disease Functional Class: Type I Type II Type IIIa Type IIIb

Mitral Stenosis: Yes No N/A If Yes, ↓

Smallest Mitral Valve Area: _____ cm²

Highest Mean Gradient: _____ mmHg

Mitral Insufficiency: None Trace/trivial Mild Moderate Severe

Tricuspid

Tricuspid Valve Disease: Yes No If Yes, ↓

Tricuspid Etiology: Functional
Endocarditis
Congenital
Tumor
Trauma
Other

Tricuspid Stenosis: Yes No N/A

Tricuspid Insufficiency: None Trace/trivial Mild Moderate Severe

Pulmonic

Pulmonic Valve Disease: Yes No

Pulmonic Stenosis: Yes No N/A

Pulmonic Insufficiency: None Trace/trivial Mild Moderate Severe

Number of Diseased Coronary Vessels: None One Two Three

Left Main Disease >= 50%: Yes No

Ejection Fraction Done?: Yes No

If Yes, → Ejection Fraction %: _____

Method: LV gram Radionucleotide Estimate ECHO MRI/CT Other

Pulmonary Artery Mean Pressure Done?: Yes No If Yes, → Pulmonary Artery Mean Pressure: _____

7. Operative Information

Hospital Name: _____ Date of Surgery: __/__/____

Incidence: First CV Surgery First Re-op CV Surgery Second Re-op CV Surgery Third Re-op CV Surgery
Fourth or More Re-op Surgery

Status

Status of the procedure: ↓

Elective

Urgent (If Urgent↓)

Reason: AMI IABP Worsening CP CHF Anatomy USA Rest Angina
Valve Dysfunction Aortic Dissection Angiographic Accident Cardiac Trauma

Infected Device

Syncope

PCI/CABG Hybrid

PCI Failure w/out clinical deterioration

Emergent (If Emergent ↓)

Reason	Shock	Circ Support	Shock	No Circ Support	Pulmonary Edema	AEMI
	Ongoing Ischemia		Valve Dysfunction		Aortic Dissection	
	Angiographic Accident		Cardiac Trauma		Infected Device	Syncope
	PCI/CABG Hybrid		Anatomy			

Emergent Salvage

Cost Link: _____

Surgeon's Name: _____

Referring Physician's Name: _____ Not Harvested

Referring Cardiologist's Name: _____ Not Harvested

Previously Canceled This Admission: Yes No If Yes, → Date: ___/___/___ (mm/dd/yyyy)

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

Reason previous case was canceled: Anesthesiology event Cardiac arrest Equipment/supply issue
 Unanticipated tumor Other

Planned previous procedure:

CABG	Yes	No	Valve	Yes	No
Mech Assist Device	Yes	No	Other Cardiac	Yes	No
Other Non-cardiac	Yes	No			

Current Procedure Canceled: Yes No If Yes, ↓

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

Canceled Reason: Anesthesiology event Cardiac arrest Equipment/supply issue
 Unanticipated tumor Other

Planned procedure:

CABG	Yes	No	Valve	Yes	No
Mech Assist Device	Yes	No	Other Cardiac	Yes	No
Other Non-cardiac	Yes	No			

Operative Approach: Full conventional sternotomy Partial sternotomy Right or left parasternal incision
 Left Thoracotomy Right Thoracotomy Transverse sternotomy (includes clamshell)
 Minimally invasive

Robotic Technology Assisted: Yes No

Unplanned Procedure: No
 Yes, unsuspected patient disease or anatomy
 Yes, surgical complication
 (If Yes ↓)

Unplanned CABG:	Yes	No
Unplanned Aortic Valve Procedure:	Yes	No
Unplanned Mitral Valve Procedure:	Yes	No

Unplanned Aorta Procedure: Yes No
Unplanned VAD Insertion: Yes No
Unplanned Other Procedure: Yes No

Dates & Times

OR Entry Date And Time: __/__/__: __ mm/dd/yyyy hh:mm - 24 hr clock)
OR Exit Date And Time: __/__/__: __ (mm/dd/yyyy hh:mm - 24 hr clock)
Initial Intubation Date and Time: __/__/__: __ (mm/dd/yyyy hh:mm - 24 hr clock)
Initial Extubation Date and Time: __/__/__: __ (mm/dd/yyyy hh:mm - 24 hr clock)
Skin Incision Start Date and Time: __/__/__: __ (mm/dd/yyyy hh:mm - 24 hr clock)
Skin Incision Stop Date and Time: __/__/__: __ (mm/dd/yyyy hh:mm - 24 hr clock)

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. ____

Antibiotics

Appropriate Antibiotic Selection: Yes No Exclusion
Appropriate Antibiotic Administration Timing: Yes No Exclusion
Appropriate Antibiotic Discontinuation: Yes No Exclusion

Cannulation

Aortic Occlusion: None
Aortic Crossclamp
Balloon Occlusion
Partial Crossclamp
→ If Aortic Crossclamp or Balloon Occlusion fill in Cross Clamp Time: _____ (min)

CPB Utilization: None Combination Full
If Combination, → Combination Plan: Planned Unplanned
If Unplanned, → Unplanned Combination Reason: Exposure/visualization Bleeding
Inadequate size and/or diffuse disease of distal vessel
Hemodynamic Instability Conduit quality and/or trauma
Other
Total CPB: _____ (min)
Lowest Temperature (o C): _____
Lowest Hematocrit : _____

Arterial Site

Aortic: Yes No Femoral: Yes No Axillary: Yes No Other: Yes No

Venous Site

Femoral: Yes No Right Atrial: Yes No Pulmonary Vein: Yes No Other: Yes No
Jugular: Yes No Left Atrial: Yes No Caval/Bicaval: Yes No

Circulatory Arrest

Circulatory Arrest: Yes No

If Yes, → Circulatory Arrest Time: _____

Circulatory Arrest With Cerebral Perfusion: Yes No

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

Cerebral Perfusion Type: Antegrade Retrograde Both antegrade and retrograde

Calcification

Concentric Calcification: Yes No

Echo Assessment of Ascending Aorta/Arch: Yes No (If Yes ↓)

Assessment of Aorta Disease:	Normal Aorta
	Extensive intimal thickening
	Protruding Atheroma < 5 mm
	Protruding Atheroma >= 5 mm
	Mobile plaques
	Not documented
Assessment Altered Plan:	Yes No

Oxygen Saturation

Cerebral Oximetry Used: Yes No

Cerebral Oximeter Provided: Yes No

Left Pre-Induction O2 Sat.: _____ Right Pre-Induction O2 Sat.: _____

Left Cumulative Sat.: _____ Right Cumulative Sat.: _____

Left Closure O2 Sat.: _____ Right Closure O2 Sat.: _____

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

Highest Insufficiency

Highest level aortic insufficiency found: None Trace/trivial Mild Moderate Severe

Highest level mitral insufficiency found: None Trace/trivial Mild Moderate Severe

Highest level tricuspid insufficiency found: None Trace/trivial Mild Moderate Severe

Cardioplegia Delivery: None Antegrade Retrograde Both

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

Blood Products

Intraop Blood Products Used: Yes No (If No →) Intraop Blood Products Refused: Yes No

(If Yes →) Red Blood Cell Units: _____ Fresh Frozen Plasma Units: _____

Cryoprecipitate Units: _____ Platelet Units: _____ Factor VIIa: _____

Intra-Op Meds

Epsilon Amino-Caproic Acid: Yes No Tranexamic Acid: Yes No

8. CABG

CABG: Yes No (If OpCAB = Yes ↓)

Hybrid Procedure CAB and PCI Performed: Yes No (If Yes ↓)

Status: Planned - concurrent Planned - staged Unplanned

PCI Procedure Performed: Angioplasty Stent

Number of Distal Anastomoses with Arterial Conduits: _____

Number of Distal Anastomoses with Venous Conduits: _____ (If >0 ↓)

Vein Harvest Technique: Endoscopic Direct Vision (open) Both Cryopreserved

(If "Endoscopic", "Direct Vision (open)" or "Both"→) Saphenous Vein Harvest Time: _____ (minutes)

Saphenous Vein Preparation Time: _____ (minutes)

Internal Mammary Artery used for Grafts: Left IMA Right IMA Both IMAs No IMA

(If No IMA→) Indicate Primary Reason: The IMA is not a suitable conduit due to size or flow

Subclavian stenosis

Previous cardiac or thoracic surgery

Previous mediastinal radiation

Emergent or salvage procedure

No LAD disease

(If Left, Right or Both IMAs→) Total # of Distal Anastomoses done using IMA grafts: _____

IMA Harvest Technique: Direct Vision (open) Thoracoscopy Combination Robotic Assist

Number of Radial Arteries Used for Grafts: _____ (If >0 ↓)

Number of Radial Artery Distal Anastomoses: _____

Radial Distal Anastomoses Harvest Technique: Endoscopic Direct Vision (open) Both

Radial Artery Harvest Time: _____ (minutes)

Radial Artery Preparation Time: _____ (minutes)

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

9. VALVE SURGERY

Valve Surgery: Yes No (If Yes↓)

Valve Prosthesis Explant: Yes No (If Yes↓)

Explant Position: Aortic Mitral Tricuspid Pulmonic

Explant Type:

Unknown Mechanical Valve Bioprosthetic Valve

Annuloplasty Device Mitral Clip Transcatheter Device

Device Manufacturer:

None (Homograft or Pulmonary Autograft) ATS Baxter Biocore

Björk-Shiley CarboMedics Carpentier-Edwards Cosgrove-Edwards

Cryolife Cryolife O'Brien Edwards Genesee

Hancock Ionescu-Shiley Labcor LifeNet

Lillehei-Kaster MCRI Medtronic Medtronic Colvin Galloway

Medtronic-Duran Medtronic-Hall Mitroflow OmniCarbon

OmniScience Sorin Sorin-Puig St. Jude Medical

St. Jude Tailor Starr-Edwards Ultracor Unknown

Other

Explant Device: _____ (Refer to Explant Device Key below)

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

Explant Position: Aortic Mitral Tricuspid Pulmonic

Explant Type:

Unknown Mechanical Valve Bioprosthetic Valve
Annuloplasty Device Mitral Clip Transcatheter Device

Device Manufacturer:

None (Homograft or Pulmonary Autograft)	ATS	Baxter	Biocore
Björk-Shiley	CarboMedics	Carpentier-Edwards	Cosgrove-Edwards
Cryolife	Cryolife O'Brien	Edwards	Genesee
Hancock	Ionescu-Shiley	Labcor	LifeNet
Lillehei-Kaster	MCRI	Medtronic	Medtronic Colvin Galloway
Medtronic-Duran	Medtronic-Hall	Mitroflow	OmniCarbon
OmniScience	Sorin	Sorin-Puig	St. Jude Medical
St. Jude Tailor	Starr-Edwards	Ultracor	Unknown
Other			

Explant Device: _____ (Refer to [Explant Device Key](#) below)

Explant Device Key (Note this list is different from the implant list used below).

Mechanical

2 = ATS Mechanical Prosthesis
3 = Björk-Shiley Convex-Concave Mechanical Prosthesis
4 = Björk-Shiley Monostrut Mechanical Prosthesis
6 = CarboMedics Mechanical Prosthesis
57 = CarboMedics Carbo-Seal Ascending Aortic Valved Conduit Prosthesis
58 = CarboMedics Carbo-Seal Valsalva Ascending Aortic Valved Conduit Prosthesis
59 = CarboMedics Reduced Cuff Aortic Valve
60 = CarboMedics Standard Aortic Valve
61 = CarboMedics Top-Hat Supra-annular Aortic Valve
62 = CarboMedics OptiForm Mitral Valve
63 = CarboMedics Standard Mitral Valve
64 = CarboMedics Orbis Universal Valve
65 = CarboMedics Small Adult Aortic and Mitral Valves
53 = Lillehei-Kaster Mechanical Prosthesis
10 = MCRI On-X Mechanical Prosthesis
8 = Medtronic-Hall/Hall Easy-Fit Mechanical Prosthesis

66 = Medtronic ADVANTAGE Mechanical Prosthesis
9 = OmniCarbon Mechanical Prosthesis
54 = OmniScience Mechanical Prosthesis
11 = Sorin Bicarbon (Baxter Mira) Mechanical Prosthesis
12 = Sorin Monoleaflet Allcarbon Mechanical Prosthesis
13 = St. Jude Medical Mechanical Heart Valve
67 = St. Jude Medical Masters Series Mechanical Heart Valve
68 = St. Jude Medical Masters Series Aortic Valve Graft Prosthesis
69 = St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
70 = St. Jude Medical Masters Series Hemodynamic Plus Valve with FlexCuff Sewing Ring
71 = St. Jude Medical Regent Valve
14 = Starr-Edwards Caged-Ball Prosthesis
15 = Ultracor Mechanical Prosthesis
133 = Medtronic Hall Conduit

Bioprostheses

108 = ATS 3f Aortic Bioprostheses
72 = Edwards Prima Stentless Porcine Bioprostheses - Subcoronary
73 = Edwards Prima Stentless Porcine Bioprostheses - Root
19 = Biocor Porcine Bioprostheses
74 = Biocor Stentless Porcine Bioprostheses - Subcoronary
75 = Biocor Stentless Porcine Bioprostheses - Root
21 = CarboMedics PhotoFix Pericardial Bioprostheses
76 = Carpentier-Edwards Porcine Bioprostheses
77 = Edwards Prima Plus Stentless Porcine Bioprostheses - Subcoronary
78 = Edwards Prima Plus Stentless Porcine Bioprostheses - Root
22 = Carpentier-Edwards PERIMOUNT Pericardial Bioprostheses
103 = Carpentier-Edwards PERIMOUNT Pericardial Magna Bioprostheses
23 = Carpentier-Edwards Standard Porcine Bioprostheses
25 = Carpentier-Edwards Supra-Annular Aortic Porcine Bioprostheses
79 = Cryolife O'Brien Stentless Porcine Bioprostheses - Subcoronary
80 = Cryolife O'Brien Stentless Porcine Bioprostheses - Root
55 = Hancock Standard Porcine Bioprostheses
28 = Hancock II Porcine Bioprostheses
29 = Hancock Modified Orifice Porcine Bioprostheses
30 = Ionescu-Shiley Pericardial Bioprostheses
31 = Labcor Stented Porcine Bioprostheses
81 = Labcor Stentless Porcine Bioprostheses - Subcoronary
82 = Labcor Stentless Porcine Bioprostheses - Root
83 = Medtronic Freestyle Stentless Porcine Bioprostheses - Subcoronary
84 = Medtronic Freestyle Stentless Porcine Bioprostheses - Root
35 = Medtronic Intact Porcine Bioprostheses
36 = Medtronic Mosaic Porcine Bioprostheses

85 = Medtronic Contegra Bovine Jugular Bioprostheses
37 = Mitroflow Pericardial Bioprostheses
39 = St. Jude Medical Toronto SPV Stentless Porcine Bioprostheses
40 = St. Jude Medical-Bioimplant Porcine Bioprostheses
86 = St. Jude Medical Biocor Stented Tissue Valve
87 = St. Jude Medical Epic Stented Porcine Bioprostheses
88 = St. Jude Medical Toronto Root Stentless Porcine Bioprostheses
38 = Sorin Pericarbon Stentless Pericardial Bioprostheses
111 = Carpentier-Edwards PERIMOUNT MAGNA Pericardial Bioprostheses with Carpentier-Edwards Therafix Tissue Process
112 = Carpentier-Edwards PERIMOUNT Theon RSR Pericardial Bioprostheses
113 = Carpentier-Edwards PERIMOUNT RSR Pericardial Bioprostheses
114 = Carpentier-Edwards PERIMOUNT Theon Pericardial Bioprostheses
115 = Carpentier-Edwards S.A.V. Porcine Bioprostheses
116 = Edwards Prima Plus Stentless Bioprostheses
117 = Carpentier-Edwards PERIMOUNT Plus Pericardial Bioprostheses with Tricentrix Holder
118 = Carpentier-Edwards Duraflex Low Pressure Porcine Bioprostheses
119 = Carpentier-Edwards Duraflex Low Pressure ESR Porcine Bioprostheses
120 = Carpentier-Edwards PERIMOUNT Theon Pericardial Bioprostheses with Tricentrix Holder.
121 = St. Jude Medical Biocor Supra Stented Porcine Bioprostheses
122 = St. Jude Medical Epic Supra Stented Porcine Bioprostheses.
134 = Carpentier Edwards Physio II
135 = Carpentier Edwards Perimount Magna Mitral Valve

Homograft

89 = CryoLife Aortic Homograft
90 = CryoLife Pulmonary Homograft
91 = CryoLife CryoValve SG(Decellularized)Aortic Homograft
92 = CryoLife CryoValve SG Pulmonary Homograft

42 = Homograft Aortic - Root
43 = Homograft Mitral
44 = Homograft Pulmonic Root
93 = LifeNet CV Allografts

41 = Homograft Aortic - Subcoronary

Autograft

45 = Pulmonary Autograft to aortic root (Ross Procedure)

Ring-Annuloplasty

- 109 = ATS Stimulus Flex-O Ring
- 94 = CarboMedics AnnuloFlo Ring
- 95 = CarboMedics AnnuloFlex Ring
- 96 = CarboMedics CardioFix Bovine Pericardium with PhotoFix Technology
- 46 = Carpentier-Edwards Classic Annuloplasty Ring
- 104 = Carpentier-Edwards Geofom Ring
- 105 = Carpentier-Edwards IMR Etlogix Ring
- 47 = Carpentier-Edwards Physio Annuloplasty System Ring
- 48 = Cosgrove-Edwards Annuloplasty System Ring
- 97 = Edwards MC³ Tricuspid Annuloplasty System
- 98 = Genesee Sculptor Annuloplasty Ring
- 49 = Medtronic Sculptor Ring
- 50 = Medtronic-Duran AnCore Ring
- 51 = Sorin-Puig-Messana Ring

- 52 = St. Jude Medical Séguin Annuloplasty Ring.
- 106 = St. Jude Medical Rigid Saddle Ring
- 99 = St. Jude Medical Tailor Annuloplasty Ring
- 123 = ATS Stimulus Flexible Annuloplasty ring.
- 124 = ATS Stimulus Semi-Rigid Annuloplasty ring
- 125 = Carpentier-Edwards Classic Annuloplasty Ring with Duraflo Treatment
- 126 = Carpentier-Edwards Physio Annuloplasty Ring with Duraflo Treatment
- 127 = Cosgrove-Edwards Annuloplasty System with Duraflo Treatment
- 128 = Myxo Etlogix Annuloplasty Ring
- 131 = Sorin Memo 3D Ring
- 132 = UNIRING, Universal Annuloplasty System
- 137 = Medtronic Colvin Galloway Future Ring
- 138 = Medtronic Profile 3D Ring

Band-Annuloplasty

- 100 = Medtronic Colvin Galloway Future Band
- 101 = Medtronic Duran Band
- 102 = Medtronic Duran - Ancore Band

- 107 = St. Jude Medical Tailor Annuloplasty Band
- 110 = ATS Stimulus Flex-C Band

Other

777 = Other

Aortic Valve Procedure Performed: Yes No

(If Yes.)

Procedure Performed:

Replacement

Repair / Reconstruction

(If Repair / Reconstruction ↓)

Primary Repair Type: (Select all that apply)

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

Root Reconstruction with valved conduit

Replacement and insertion aortic non-valved conduit

Resuspension AV without replacement of ascending aorta

Resuspension AV with replacement of ascending aorta

Apico-aortic conduit (Aortic valve bypass)

Autograft with pulmonary valve-Ross procedure

Homograft

Valve sparing root reimplantation (David)

Valve sparing root remodeling (Yacoub)

Transcatheter Valve Replacement: Yes No

(If Yes →) Replacement approach: Transapical Transaxillary Transfemoral

Aortic Annular Enlargement: Yes No

Resection of sub-aortic stenosis: Yes No

Implant Model Number: _____ Size: _____

Mitral Valve Procedure Performed: Yes No

(If Yes ↓)

Procedure Performed:

Repair

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

Annuloplasty Yes No

Leaflet Resection Yes No (If Yes↓)

Resection Type: Triangular Quadrangular Other

Location: Anterior Posterior Both Anterior and Posterior

Sliding Plast Yes No

Annular decalcification Yes No

Neochords (PTFE) Yes No (If Yes ↓)

Number of neochords inserted: _____

Chordal /Leaflet transfer Yes No

Leaflet extension/replacement/patch Yes No

Edge to Edge Repair Yes No

Mitral commissurotomy Yes No

Replacement (If Replacement→) Repair attempted prior to Mitral Valve Replacement: Yes No

Mitral Chords Preserved: None Anterior Posterior Both

Implant Model Number: _____ Size: _____

Tricuspid Valve Procedure Performed:

No

Annuloplasty only (If "Annuloplasty only" OR "Reconstruction with Annuloplasty"↓)

Replacement Type of Annuloplasty: Pericardium Suture Prosthetic Ring

Reconstruction with Annuloplasty

Reconstruction without Annuloplasty

Valvectomy

Implant Model Number: _____ Size: _____

Pulmonic Valve Procedure Performed:

No

Replacement Reconstruction

Valvectomy

Implant Model Number: _____ Size: _____

10. MECHANICAL CARDIAC ASSIST DEVICES

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

IABP Insertion: Preop Intraop Postop

Primary Reason for Insertion: Hemodynamic Instability PTCA Support Unstable Angina

CPB Weaning Failure Prophylactic

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

Extracorporeal Membrane Oxygenation (ECMO): Yes No (If Yes ↓)

ECMO Initiated: Preop Intraop Postop Non-operative
 Placement: Cardiac Failure Respiratory Failure Hypothermia Rescue/salvage
 Catheter Based Assist Device Used: Yes No (If Yes ↓)
 Device: Impella Tandem Heart Other
 When Inserted: Preop Intraop Postop
 Primary Reason for Insertion: Hemodynamic instability CPB weaning failure PCI failure Other
 Date Device Removed: ___/___/___ (mm/dd/yyyy)

11. OTHER CARDIAC PROCEDURES

Other Cardiac Procedure: Yes No [If Yes, complete the rest of this section.](#)

Yes No Left Ventricular Aneurysm Repair

Yes No Ventricular Septal Defect Repair

Yes No Atrial Septal Defect Repair

(If Yes →) ASD Type: Secundum Sinus Venosus PFO

Yes No Congenital Defect Repair

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

Diagnosis 1: _____

Diagnosis 2: _____

Diagnosis 3: _____

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

Procedure 1: _____

Procedure 2: _____

Procedure 3: _____

Yes No Transmyocard Laser Revasc

Yes No Cardiac Trauma

Yes No Cardiac Transplant

Arrhythmia Correction Surgery: None

Permanent Pacemaker

Permanent Pacemaker with Cardiac Resynchronization Therapy (CRT)

Implanted Cardioverter Defibrillator (ICD)

ICD with CRT

(If not None ↓)

Arrhythmia Correction Surgery – Lead Placement: Yes No

Yes No Arrhythmia Correction Surgery Lead Extraction

Yes No Atrial Fibrillation Surgical Procedure

(If Yes →) Surgical Procedure Location: Batrial Left atrial only Right atrial only

Left Atrial Appendage Obliterated Yes No

Method of Lesion Creation: [\(Select all that apply.\)](#)

Radio frequency Yes No Cryo Yes No

Laser Yes No Ultrasound Yes No

Microwave Yes No Cut-and-sew Yes No

Atrial Fibrillation Ablation Procedure:

Primarily epicardial procedure (e.g., pulmonary vein isolation with or without connection to left atrial appendage).

Primarily intracardiac procedure (e.g., Maze procedures; lesions to mitral annulus; etc.)

Aneurysm

Aortic Procedure Type:

None

Aneurysm (If Aneurysm ↓)

Aortic Root: Yes No

(If Yes →) Dacron graft used: Yes No

Repair of ascending aortic aneurysm: Yes No

Repair of aneurysm in the arch of the aorta: Yes No

(If Yes →) Extent of repair: Hemi-arch Total arch

Repair of a descending aortic aneurysm: Yes No

Repair of a thoracoabdominal aneurysm: Yes No

(If Yes →) Graft replacement used: Yes No

(If Yes →) Intercostal vessels re-implanted: Yes No

CSF drainage utilized: Yes No

Extent of descending aorta replacement:

Proximal	Mid	Distal
Proximal – Mid	Proximal - Mid – Distal	Mid - Dista

Dissection (including intramural hematoma) (If Dissection ↓)

Aortic dissection is acute: Yes No

Dissection type: Stanford Type A Stanford Type B

Trauma (If Trauma →) Aortic Trauma type: Blunt Penetrating

Coarctation

Other

Endovascular Procedure (TEVAR): Yes No

(If Yes →) Endovascular Debranching: Yes No

Tumor Resection: None Myxoma Fibroelastoma Hypernephroma Sarcoma Other

Pulmonary Thromboembolism: None Yes, Acute Yes, Chronic

Other: Yes No

12. OTHER NONCARDIAC PROCEDURES

NonCardiac Procedures: Yes No

If Yes, → Carotid Endarterectomy: Yes No Other Vascular: Yes No

Other Thoracic: Yes No Other Non Cardiac: Yes No

13. VAD

Hemodynamics Pre VAD [May be obtained Prior to induction in the OR, or in an ICU immediately prior to OR](#)

Previous VAD: Yes No

VAD at another Facility: Yes No

Please note that future references to "initial VAD" refer to the initial VAD for this hospitalization, not a VAD placed during a previous hospitalization.

Prev VAD Insertion Date: ___ / ___ / ___ (mm/dd/yyyy)

Prev VAD Indication:

Bridge to Transplantation Bridge to Recovery Destination Post Cardiotomy Ventricular failure
Device Malfunction End of Life

Prev VAD Type: RVAD LVAD BiVAD TAH

Prev VAD Device: _____(refer to current "On-Demand Device Lists" document)

VAD Implanted or Removed: No Yes, implanted Yes, explanted Yes, implanted and explanted

Indication for this VAD: Bridge to Transplantation Bridge to Recovery Destination
Postcardiotomy Ventricular Failure Device Malfunction End of Life

(If VAD Implanted or Removed↓)

References to "Initial VAD" refer to the initial VAD for this hospitalization, not a VAD placed during a previous hospitalization.

VAD Implant Type: Right VAD (RVAD) Left VAD (LVAD)
Biventricular VAD (BiVAD) Total Artificial Heart (TAH)

VAD Device: (refer to current "On-Demand Device Lists" document)

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

Initial Implant Data

Implant Type Product Type Implant Date Explant Explant Date Explant Reason
_____ _____ ___ / ___ / ___ Y N ___ / ___ / ___ _____

Transplant Date

___ / ___ / ___

Additional Implant Data #2

Implant Type Product Type Implant Date Explant Explant Date Explant Reason
_____ _____ ___ / ___ / ___ Y N ___ / ___ / ___ _____

Transplant Date

___ / ___ / ___

Additional Implant Data #3

Implant Type Product Type Implant Date Explant Explant Date Explant Reason
_____ _____ ___ / ___ / ___ Y N ___ / ___ / ___ _____

Transplant Date

___ / ___ / ___

VAD Complications:

VAD Endocarditis:	Yes	No	Pump Pocket Infection:	Yes	No
Intracranial Bleed:	Yes	No	Device Malfunction:	Yes	No
Embolic Stroke:	Yes	No	Driveline/Cannula Infection:	Yes	No
Bowel Obstruction:	Yes	No	Hemlysis	Yes	No

14. POST OPERATION

Times

Extubated in OR: Yes No

ICU Visit: Yes No **If Yes, →** Initial ICU Hours: _____

Readmission to ICU: Yes No **If Yes, →** Additional ICU Hours _____

Re-Intubated During Hosp Stay: Yes No **If Yes, →** Additional Hours Intubated: _____

Intubation Date: ___/___/___ (mm/dd/yyyy) Intubation Time: ___:___

Extubation Date: ___/___/___ (mm/dd/yyyy) Extubation Time: ___:___

Blood Products

Post Op Creatinine: _____

Blood Products Used Postoperatively: Yes No **→ If Yes,**

Red Blood Cell Units _____

Fresh Frozen Plasma Units _____

Cryoprecipitate Units _____

Platelet Units _____

Post Op Echo Performed: Yes No **(If Yes ↓)**

Highest level aortic insufficiency found:	None	Trace/trivial	Mild	Moderate	Severe
Highest level mitral insufficiency found	None	Trace/trivial	Mild	Moderate	Severe
Highest level tricuspid insufficiency found	None	Trace/trivial	Mild	Moderate	Severe

Post Op Ejection Fraction Done: Yes No **(If Yes ↓)**

Post Op Ejection Fraction: _____ (%)

Cardiac Enzymes (biomarkers) Drawn: Yes No

(If Yes →) Peak CKMB: _____ Peak Troponin I _____ Peak Troponin T _____

12-Lead EKG Findings: Not performed No significant changes New Pathological Q-wave or LBBB

Imaging Study Findings:

Not performed

Angiographic evidence of new thrombosis or occlusion of graft or native coronary

Imaging evidence of new loss of viable myocardium

No evidence of new myocardial injury

15. POST OPERATION COMPLICATIONS

In Hospital Complications: Yes No

Reoperative Reason:

Bleeding Tamponade: Yes No
(If Yes →) Bleed Timing: Acute Late

Graft Occlusion: Yes No

Other Cardiac Problem: Yes No

Valvular Dysfunction: Yes No

Other Non Cardiac Problem: Yes No

Open chest with planned delayed sternal closure: Yes No

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

Infection:

Sternum Superficial Wound: Yes No

Sites of Infection:

Sternum Superficial Wound: Yes No

Sternum Deep: Yes No

Mediastinitis: Yes No (If Yes ↓)

Diagnosis Date⁵⁸⁸⁰: __ __ / __ __ / __ __ __ __ (mm/dd/yyyy)

Open with Packing/Irrigation: Yes No

Wound Vac: Yes No

Muscle Flap: Yes No

Omental Flap: Yes No

Thoracotomy: Yes No

Conduit Harvest or Cannulation Site: Yes No

Wound Intervention – Open with Packing/Irrigation: Yes No

Wound Intervention – Wound Vac: Yes No

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

Neurologic:

Neurologic Deficit >24 hours: Yes No

TIA: Yes No

Encephalopathy: None Anoxic Embolic Drug Metabolic Intracranial Bleeding Other

Continuous Coma >=24Hrs: Yes No

Paralysis: Yes No If Yes, → Paralysis Type: Transient Permanent

Pulmonary:

Prolonged Ventilation: Yes No

Pneumonia: Yes No

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

Pulmonary Thromboembolism: Yes No

Deep Venous Thrombosis: Yes No

Pleural Effusion Requiring Drainage: Yes No

Renal Failure:

Renal Failure: Yes No (If Yes ↓)

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

Ultra Filtration Required: Yes No

Vascular:

Lower Limb Ischemia: Yes No

Iliac/Femoral Dissection: Yes No

Other:

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

Cardiac Arrest: Yes No New Atrial Fibrillation/Flutter: Yes No

Anticoagulant Complication: Yes No Aortic Dissection: Yes No

Tamponade: Yes No Recurrent Laryngeal Nerve Injury: Yes No

Gastro-Intestinal Complication: Yes No Phrenic Nerve Injury: Yes No

Multi-System Failure: Yes No Other: Yes No

16. DISCHARGE

Date Left Service: ___/___/_____

Mortality: Yes No If Yes, ↓

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

Date ___/___/_____

Location of Death: OR during initial surgery Hospital Home Other Care Facility Hospice
Acute Rehabilitation OR during re-operation Unknown Other

Operative Mortality: Yes No

30 Day Status: Alive Dead Unknown

Primary method used to verify 30-day status:

Phone call to patient or family Letter from medical provider Evidence of life in medical record
Office visit to surgeon >= 30 days after procedure Social Security Death Master File Other

VAD Discharge Status: With VAD Without VAD Expired in Hospital

Discharge Status: Alive Dead

If Alive, → Discharge Location: Home Extended Care/TCU/Rehab Other Hospital Nursing Home Hospice Other

Ace-Inhibitors: Yes No, contraindicated No, not Indicated

Lipid Lowering: Yes No Contraindicated If Yes, ↓

Lipid Lowering Type⁶⁵⁰⁰: Statin Non statin Both Other

Aspirin: Yes No Contraindicated

Beta Blockers: Yes No Contraindicated

ADP Inhibitors: Yes No

Antiarrhythmics: Yes No

Thrombin Inhibitors: Yes No

Coumadin: Yes No

Cardiac Rehabilitation Referral: Yes No Not Applicable

Smoking Cessation Counseling: Yes No Not Applicable

Readmission: Yes No [If Yes, ↓](#)

Readmission Reason: Anticoagulation Complication – Valvular; Anticoagulation Complication – Pharmacological; Arrhythmias/Heart Block; Congestive Heart Failure; Myocardial Infarction and/or Recurrent Angina; Pericardial Effusion and/or Tamponade; Pneumonia or other Respiratory Complication; Coronary Artery Dysfunction; Valve Dysfunction; Infection – Deep Sternum; Infection – Conduit Harvest Site; Renal Failure; TIA; Permanent CVA; Acute Vascular Complication; Subacute Endocarditis; VAD Complication; Transplant Rejection; PE; DVT; Other – Related Readmission; Other – Nonrelated Readmission

Readmission Procedure: Dialysis; No Procedure Performed; OR for Bleeding; OR for Coronary Arteries OR for Sternal Debridement/Muscle Flap; OR for Valve; OR for Vascular; Other Procedure; Pacemaker Insertion/AICD; PCI; Pericardiotomy/Pericardiocentesis; Unknown