NCDR® Data Collection Form v2.0.1 IMPACT Registry®

A. Demographics

Last Name[2000]:	**First Name**[2010]:	**Middle Name**[2020]:
SSN[2030]: ☐ SSN N/A[2031]	**Patient ID**[2040]:	**Other ID**[2045]:
Birth Date[2050]: mm / dd / yyyy	**Sex**[2060]: O Male O Female	**Patient Zip Code**[3005]: ☐ Zip Code N/A[3006]

Race: (check all that apply)
☐ White[2070] ☐ Black/African American[2071] ☐ American Indian/Alaskan Native[2073]
☐ Asian[2072] → **If** Yes, ☐ Asian Indian[2080] ☐ Chinese[2081] ☐ Filipino[2082] ☐ Japanese[2083] ☐ Korean[2084] ☐ Vietnamese[2085] ☐ Other[2086]
☐ Native Hawaiian/Pacific Islander[2074] → **If** Yes, ☐ Native Hawaiian[2090] ☐ Guamanian or Chamorro[2091] ☐ Samoan[2092] ☐ Other Island[2093]

Hispanic or Latino Ethnicity[2076]: O No O Yes → **If** Yes, **Ethnicity Type:** (check all that apply)
☐ Mexican, Mexican-American, Chicano[2100] ☐ Puerto Rican[2101] ☐ Cuban[2102] ☐ Other Hispanic, Latino or Spanish Origin[2103]

B. Episode of Care

Arrival Date[3000]: mm / dd / yyyy

Insurance Payors: (check all that apply)
☐ Private Health Insurance[3020] ☐ Medicare[3021] ☐ Medicaid[3022] ☐ Military Health Care[3023]
☐ State-Specific Plan (non-Medicaid)[3024] ☐ Indian Health Service[3025] ☐ Non-US Insurance[3026] ☐ None[3027]

HIC[3030]:	**Premature Birth**[3065]: (if < 1yr old) O No O Yes
Fundamental Diagnosis Code[3031]: _____	**Birth Weight**[3070]: (if < 30 days old) _____ kg
Prior Cardiac Catheterization[3045]: O No O Yes	**Gestational Age**[3075]: (if < 1yr old) _____ weeks
→**If** Yes, **Number of Prior Catheterizations**[3050]: _____	**Prior Cardiac Surgery**[3080]: O No O Yes
→**If** Yes, **Date of Last Catheterization**[3055]: mm / dd / yyyy	→**If** Yes, **Number of Prior Cardiac Surgeries**[3085]: _____
→**If** Yes, **Most Recent Procedure(s)**[3060]: _____ , _____ , _____	→**If** Yes, **Date of Last Cardiac Surgery**[3090]: mm / dd / yyyy
Research Study[3096]: O No O Yes	→**If** Yes, **Most Recent Cardiac Surgery(s)**[3095]: _____ , _____ , _____
→ **If** Yes, **Study Name**[3097], **Patient ID**[3098]: _____, _____	☐ **Patient Restriction**[3099]

Genetic/Congenital Conditions (Diagnosed prior to or during this episode of care)

22q11Deletion (DiGeorge Syndrome)[3100]:	O No	O Yes	**Noonan Syndrome**[3130]:	O No	O Yes
Alagille Syndrome[3105]:	O No	O Yes	**Rubella**[3135]:	O No	O Yes
Congenital Diaphragmatic Hernia[3110]:	O No	O Yes	**Trisomy-13**[3140]:	O No	O Yes
Down Syndrome[3115]:	O No	O Yes	**Trisomy-18**[3145]:	O No	O Yes
Heterotaxy[3120]:	O No	O Yes	**Turner Syndrome**[3150]:	O No	O Yes
Marfan Syndrome[3125]:	O No	O Yes	**Williams-Beuren Syndrome**[3155]:	O No	O Yes

History & Risk Factors

Arrhythmia[3160]: O No O Yes

→**If** Yes, **Arrhythmia History**[3161]: (check all that apply)

☐ Atrial Fibrillation
☐ AV conduction disturbance
☐ Inappropriate sinus tachycardia
☐ Macro re-entrant atrial tachycardia
☐ Supraventricular tachycardia
☐ Wolff-Parkinson-White syndrome
☐ Atrial premature complexes
☐ AV re-entrant tachycardia
☐ Isolated ventricular pre-excitation
☐ Permanent junctional reciprocating tachycardia
☐ Sinus node dysfunction
☐ Wide complex tachycardia
☐ AV node re-entry
☐ Focal atrial tachycardia
☐ Junctional tachycardia
☐ Premature ventricular complexes
☐ Ventricular tachycardia

B. Episode of Care (Cont.)

History & Risk Factors

Cardiomyopathy[3170]: O No O Yes

→**If** Yes, **Cardiomyopathy History**[3175]:

O Arrhythmogenic right ventricular cardiomyopathy O Dilated cardiomyopathy (DCM) O Hypertrophic cardiomyopathy (HCM)
O Noncompaction of the ventricular myocardium O Restrictive cardiomyopathy (RCM) O Tachycardia-induced cardiomyopathy

Chronic Lung Disease[3200]:	O No	O Yes	**Heart Transplant**[3224]:	O No	O Yes
Coagulation Disorder[3205]:	O No	O Yes	**Hepatic Disease**[3225]:	O No	O Yes
→**If** Yes, **Hypercoagulable State**[3210]:	O No	O Yes	**Ischemic Heart Disease**[3226]:	O No	O Yes
→**If** Yes, **Hypocoagulable State**[3215]:	O No	O Yes	**Kawasaki Disease**[3227]:	O No	O Yes
Diabetes Mellitus[3220]:	O No	O Yes	**Renal Insufficiency**[3230]:	O No	O Yes
Endocarditis[3221]:	O No	O Yes	**Rheumatic Heart Disease**[3231]:	O No	O Yes
Heart Failure[3222]: (w/in 1 month)	O No	O Yes	**Seizure Disorder**[3235]:	O No	O Yes
→**If** Yes, **NYHA Class**[3223]:			**Sickle Cell Anemia**[3240]:	O No	O Yes
O Class I O Class II O Class III O Class IV			**Stroke**[3250]: (prior to arrival)	O No	O Yes

C. Cath Lab Visit (Complete for each cath lab visit)

Clinical Evaluation Leading to the Procedure

Pre-Procedure Diagnosis Code(s)[4000]: _____ , _____ , _____ **Height**[4005]: cm **Weight**[4010]: kg

Pre-Procedure Labs: **Hemoglobin**[4015]: _____ g/dL ☐ Not Drawn[4016] **Creatinine**[4020]: _____ mg/mL ☐ Not Drawn[4021]

O_2 Sat[4025]: _____ %

Pre-Procedure Conditions:

Single Ventricle[4026]:	O No	O Yes
Necrotizing Enterocolitis[4030]: (if < 30 days old)	O No	O Yes
Sepsis[4035]:	O No	O Yes
If Sex[2060] is 'Female', **Pregnant**[4040]:	O No	O Yes

Pre-Procedure Medications[4041]: O No O Yes

→**If** Yes, (check all that apply) ☐ Antiarrhythmics[4045] ☐ Anticoagulants[4046] ☐ Antihypertensives[4047] ☐ Antiplatelets[4048] ☐ Beta Blockers[4049]
☐ Diuretics[4050] ☐ Prostaglandins[4051] ☐ Vasodilators[4053]

Pre-Procedure Rhythms: (check all that apply)
☐ Sinus Rhythm[4060] ☐ Atrial Ectopic Tachycardia (AET)[4061] ☐ Supraventricular Tachycardia (SVT)[4062]
☐ AFib/Flutter[4063] ☐ Junctional Rhythm[4064] ☐ Idioventricular Rhythm[4065]
☐ Second Degree AV Block[4066] ☐ Third Degree AV Block[4067] ☐ Paced[4068]

D. Procedure Information (Complete for each cath lab visit)

Procedure(s) Performed: (check all that apply)
☐ Diagnostic Cath[5000] ☐ ASD Closure[5001] ☐ Coarctation Procedure[5002] ☐ Aortic Valvuloplasty[5003]
☐ Pulmonary Valvuloplasty[5004] ☐ PDA Closure[5005] ☐ Proximal PA Stenting[5006]
☐ Electrophysiology Cath[5007] ☐ Electrophysiology Ablation Procedure[5008]
☐ Transcatheter Pulmonary Valve Replacement (TPVR)[5009]

Specific Procedure(s)[5010]: _____ , _____ , _____

Hospital Status[5015]: O Outpatient O Admit to inpatient floor O Admit to inpatient ICU
O 23 Hour obs outpatient O Return to inpatient floor O Return to inpatient ICU

Procedure Status[5020]: O Elective O Urgent O Emergency O Salvage

D. PROCEDURE INFORMATION (COMPLETE FOR EACH CATH LAB VISIT) (CONT.)

Operator's Name[5030, 5031, 5032]: **Operator's NPI**[5035]:

Trainee participating in the Procedure[5036]: O No O Yes **Second Attending participating in the Procedure**[5037]: O No O Yes

Procedure Start Date/Time[5047, 5048]: mm / dd / yyyy HH:MM **Procedure End Date/Time**[5057, 5058]: (break scrub at end of case) mm / dd / yyyy HH:MM

Anesthesiologist Present[5060]: (start of case) O No O Yes

→**If** No, **Anesthesiologist Called In**[5065]: (due to escalation of care) O No O Yes

Sedation Method[5070]: O General Anesthesia O Epidural O Caudal O IV O IM O Oral/Intranasal O None

Airway Management[5071]: O No O Yes

→**If** Yes, (check all that apply) ☐ Laryngeal mask airway[5076] ☐ Tracheostomy[5077] ☐ Bag mask ventilation[5078] ☐ CPAP[5079] ☐ Elective intubation[5080] ☐ Previously intubated[5081]

Access Location[5085]: O Venous O Arterial O Both

→**If** Venous or Both, **Venous Access Site**[5090]: (check location for largest sheath used)

O Left brachial O Left femoral O Left jugular O Left subclavian O Hepatic O Umbilical
O Right brachial O Right femoral O Right jugular O Right subclavian O Transthoracic O Other

→**If** Venous or Both, **Venous Sheath Size**[5095]: _____ French (largest)

→**If** Venous or Both, **Venous Closure Method(s)**[5100]:

1	2	3

☐ Method Not Documented[5105]

→**If** Arterial or Both, **Arterial Access Site**[5110]: (check location for largest sheath used)

O Left axillary O Left carotid O Left femoral O Left radial O Umbilical
O Right axillary O Right carotid O Right femoral O Right radial O Other

→**If** Arterial or Both, **Arterial Sheath Size**[5115]: _____ French (largest)

→**If** Arterial or Both, **Arterial Closure Method(s)**[5120]:

1	2	3

☐ Method Not Documented[5125]

Systemic Heparinization[5140]: O No O Yes

→**If** Yes, **ACT Monitored**[5145]: O No O Yes

→**If** Yes, **ACT Peak**[5150]: _____ secs

Inotrope[5160]: O No O Yes

→**If** Yes, **Inotrope Use**[5165]:

O On before case, on at the end O On before case, off at the end
O Started during the case, on at the end O Started during case, off at the end
O Used for measurement only

ECMO Use[5170]: O Not used O In place at start of procedure O Electively initiated during procedure

LVAD Use[5175]: O Not used O In place at start of procedure O Electively initiated during procedure

IABP Use[5180]: O Not used O In place at start of procedure O Electively initiated during procedure

FLUOROSCOPY

X-Ray Imaging[5500]: O Single Plane O Biplane **Contrast Volume**[5135]: _____ mL

CODE **ALL** AVAILABLE MEASUREMENTS: →

Fluoro Time[5130]: _____ minutes

Cumulative Air Kerma[5515, 5520]: _____ O mGy O Gy

Dose Area Product[5525, 5530]: _____ O Gy-cm^2 O dGy-cm^2 O cGy-cm^2 O mGy-cm^2 O µGy-M^2

E. HEMODYNAMICS (COMPLETE FOR EACH CATH LAB VISIT)

Systemic Arterial Saturation[6000]: _____ % ☐ Not Assessed[6001]

Mixed Venous Saturation[6005]: _____ % ☐ Not Assessed[6006]

Systemic Ventricular Systolic Pressure[6010]: _____ mmHg ☐ Not Assessed[6011]

Systemic Ventricular End Diastolic Pressure[6015]: _____ mmHg ☐ Not Assessed[6016]

Systemic Blood Pressure: **(Systolic)**[6020]: _____ mmHg ☐ Not Assessed[6021] **(Mean)**[6030]: _____ mmHg ☐ Not Assessed[6031]

(Diastolic)[6025]: _____ mmHg ☐ Not Assessed[6026]

PA Pressure: **(Systolic)**[6035]: _____ mmHg ☐ Not Assessed[6036] **(Mean)**[6040]: _____ mmHg ☐ Not Assessed[6041]

Pulmonary Ventricular Systolic Pressure[6045]: _____ mmHg ☐ Not Assessed[6046]

Pulmonary Vascular Resistance Index[6050]: _____ Wood Units*m^2 ☐ Not Assessed[6051]

Cardiac Index[6055]: _____ L/min/m^2 ☐ Not Assessed[6056] | **Qp/Qs ratio**[6060]: _____ ☐ Not Assessed[6061]

F. ASD CLOSURE

Primary Procedure Indication[7000]:
O Right ventricular volume overload O Chronic lung disease O Failure to thrive
O Recurrent respiratory infections O Ventilator dependent O Cyanosis
O Stroke prevention O Migraines O Pulmonary hypertension

Total Septal Length[7005]: _____ mm ☐ Not Assessed[7006] | **Atrial Septal Aneurysm Present**[7010]: O No O Yes

DEFECT COUNTER[7020]	1	2	3
ASD Multi-Fenestrated[7022]:	O No O Yes	O No O Yes	O No O Yes
→**If** No, **ASD Size**[7025]:	_____ mm	_____ mm	_____ mm
Balloon Sizing Performed[7030]:	O No O Yes	O No O Yes	O No O Yes
→**If** Yes, **Stretched Diameter Performed**[7035]:	O No O Yes	O No O Yes	O No O Yes
→**If** Yes, **Size**[7040]:	_____ mm	_____ mm	_____ mm
→**If** Yes, **Stop Flow Technique Performed**[7045]:	O No O Yes	O No O Yes	O No O Yes
→**If** Yes, **Size**[7050]:	_____ mm	_____ mm	_____ mm
Rim Measurement Performed[7055]:	O No O Yes	O No O Yes	O No O Yes
→**If** Yes, **IVC Rim Length**[7060]:	_____ mm	_____ mm	_____ mm
→**If** Yes, **Minimum Aortic Rim Length**[7065]:	_____ mm	_____ mm	_____ mm
→**If** Yes, **Posterior Rim Length**[7066]:	_____ mm	_____ mm	_____ mm
Residual Shunt Size[7080]: (immed after device placement)	O None to trivial (<3 mm) O Significant (>=3 mm)	O None to trivial (<3 mm) O Significant (>=3 mm)	O None to trivial (<3 mm) O Significant (>=3 mm)

	Device(s)[7085]	Associated Defect(s)[7089]	Outcome of Device[7090]
1		_____ , _____ , _____	O Implanted, not released O Implanted, released O Implanted, released and retrieved
2		_____ , _____ , _____	O Implanted, not released O Implanted, released O Implanted, released and retrieved
3		_____ , _____ , _____	O Implanted, not released O Implanted, released O Implanted, released and retrieved

G. Coarctation Procedure

Primary Procedure Indication[7100]: O Abnormal ventricular function O Congestive heart failure O Exercise hypertension O Systemic hypertension O High resting gradient O Angiographic appearance O Pseudoaneurysm

Nature of simple discrete coarctation (One site of intervention)[7101]: O Native O Post Treatment

→**If** Post Treatment, **Most Recent Prior Treatment**[7102]: O Surgical Repair O Catheter-based Intervention

Pre-Procedure Minimal Diameter[7107]: _____ mm ☐ Not Assessed[7108]

Pre-Procedure Peak Systolic Gradient[7110]: _____ mmHg ☐ Not Assessed[7111]

Post-Procedure Minimal Diameter[7120]: _____ mm ☐ Not Assessed[7121]

Post-Procedure Peak Systolic Gradient [7125]: _____ mmHg ☐ Not Assessed[7124]

Coarctation with additional associated aortic obstruction[7126]: O No O Yes

→**If** Yes, **Additional intervention on aortic arch**[7127]: O No O Yes

→**If** Yes, **Pre-Procedure Total ascending to descending Aortic Systolic Gradient**[7128]: _____ mmHg

→**If** Yes, **Post-Procedure Total ascending to descending Aortic Systolic Gradient**[7129]: _____ mmHg

Device Counter[7130]	1	2	3
Device ID[7135]: (Capture devices used to correct defect)			
Device Type[7140]:	O Balloon O Stent	O Balloon O Stent	O Balloon O Stent
→**If** Balloon, **Purpose**[7145]:	O Compliance testing O Stent redilation O Angioplasty O Stent implantation	O Compliance testing O Stent redilation O Angioplasty O Stent implantation	O Compliance testing O Stent redilation O Angioplasty O Stent implantation
→**If** Balloon, **Max Inflation Pressure**[7150]:	_____ atm(s)	_____ atm(s)	_____ atm(s)
→**If** Balloon, **Outcome**[7155]:	O Inflated with rupture O Inflated without rupture	O Inflated with rupture O Inflated without rupture	O Inflated with rupture O Inflated without rupture
→**If** Stent, **Outcome**[7160]:	O Implanted intended site O Implanted other location O Not deployed	O Implanted intended site O Implanted other location O Not deployed	O Implanted intended site O Implanted other location O Not deployed
→**If** Stent, **In Stent Minimal Diameter Assessed**[7164]:	O No O Yes	O No O Yes	O No O Yes
→**If** Yes, **In Stent Minimal Diameter**[7165]:	_____ mm	_____ mm	_____ mm

H. Aortic Valvuloplasty

Primary Procedure Indication[7200]: O Aortic stenosis gradient O Abnormal stress test/EKG O LV dysfunction O Symptoms

Valve Morphology[7205]: O Unicuspid O Bicuspid O Tricuspid O Quadracuspid O Uncertain

Pre-Procedure Aortic Valve Regurgitation[7210]: O None O 1+ (mild) O 2+ (moderate) O 3+ (moderately severe) O 4+ (severe)

Aortic Valve Diameter[7215]: (used to select balloon) _____ mm | **Pre-Procedure Peak Systolic Gradient**[7220]: _____ mmHg

Balloon Counter[7231]	1	2	3
Balloon Technique[7236]:	O Single O Double	O Single O Double	O Single O Double
→**If** Single or Double, **Device ID Balloon 1**[7241]:	_____	_____	_____
→**If** Double, **Device ID Balloon 2**[7242]:	_____	_____	_____
Balloon Stabilization[7243]:	O No O Yes	O No O Yes	O No O Yes
Max Inflation Pressure[7244]:	_____ atm(s)	_____ atm(s)	_____ atm(s)
Balloon Outcome[7256]:	O Inflated with rupture O Inflated without rupture	O Inflated with rupture O Inflated without rupture	O Inflated with rupture O Inflated without rupture
Post Dilation Systolic Gradient[7257]:	_____ mmHg	_____ mmHg	_____ mmHg
Post Dilation Regurgitation[7258]:	O None O 1+ (mild) O 2+ (moderate) O 3+ (moderately severe) O 4+ (severe)	O None O 1+ (mild) O 2+ (moderate) O 3+ (moderately severe) O 4+ (severe)	O None O 1+ (mild) O 2+ (moderate) O 3+ (moderately severe) O 4+ (severe)

I. Pulmonary Valvuloplasty

Primary Procedure Indication[7400]: O High resting gradient O R to L shunting O RV dysfunction O Symptoms

Valve Morphology[7405]: O Typical O Dysplastic/Complex | **Subpulmonary Stenosis Present**[7410]: O No O Yes

Pulmonary Valve Diameter[7415]: (used to select balloon) _____ mm

Pre-Procedure Peak Systolic Gradient[7420]: _____ mmHg ☐ Not Assessed[7421]

Balloon Technique (Final Balloon)[7520]: O Single O Double

→**If** Single or Double, **Device ID Balloon 1**[7525]: _____

→**If** Double, **Device ID Balloon 2**[7530]: _____

Balloon Stabilization[7535]: O No O Yes

Max Inflation Pressure[7540]: _____ atm(s)

Balloon Outcome[7545]: O Inflated with rupture O Inflated without rupture

Post-Procedure Peak Systolic Gradient[7550]: _____ mmHg ☐ Not Assessed[7551]

J. PDA Closure

Primary Procedure Indication[7600]: O SBE prevention O Left ventricular volume overload O Pulmonary hypertension

PDA Diameter Aortic Side[7605]: _____ mm | **PDA Minimum Lumenal Diameter**[7610]: _____ mm | **PDA Length**[7615]: _____ mm

PDA Classification[7620]: O Type A (conical) O Type B (window) O Type C (tubular) O Type D (complex) O Type E (elongated)

PA Obstruction[7630]: (caused by implant) O No O Yes O Not Assessed

Aortic Obstruction[7635]: (caused by implant) O No O Yes O Not Assessed

Residual Shunt[7640]: (immed after device placement) O None to trivial O Significant

	Device(s)[7645]	Outcome of Device[7650]		
1		O Implanted, not released	O Implanted, released	O Implanted, released and retrieved
2		O Implanted, not released	O Implanted, released	O Implanted, released and retrieved
3		O Implanted, not released	O Implanted, released	O Implanted, released and retrieved

K. Proximal Pulmonary Artery Stenting Procedure

Primary Procedure Indication[7700]: O PA gradient O PA flow discrepancy O RV hypertension/dysfunction O Angiographic narrowing O Pulmonary regurgitation

Defect Counter[7705]	1	2	3
Defect Location[7710]:	O Right proximal PA O Left proximal PA	O Right proximal PA O Left proximal PA	O Right proximal PA O Left proximal PA
Distal Obstruction Present[7720]:	O No O Yes	O No O Yes	O No O Yes
Sidebranch Jailing[7725]:	O No O Yes	O No O Yes	O No O Yes
→**If** Yes, **Intended**[7730]:	O No O Yes	O No O Yes	O No O Yes
→**If** Yes, **Artery**[7735]:	O Proximal artery O Lobar artery	O Proximal artery O Lobar artery	O Proximal artery O Lobar artery
→**If** Yes, **Decreased Flow**[7740]:	O No O Yes	O No O Yes	O No O Yes
Pre-Procedure Measurements (to PA defect)			
If Single Ventricle[4026] is 'No',			
→**Proximal Systolic Pressure**[7745]:	_____ mmHg	_____ mmHg	_____ mmHg
→**Distal Systolic Pressure**[7750]:	_____ mmHg	_____ mmHg	_____ mmHg
If Single Ventricle[4026] is 'Yes',			
→**Proximal Mean Pressure**[7755]:	_____ mmHg	_____ mmHg	_____ mmHg
→**Distal Mean Pressure**[7760]:	_____ mmHg	_____ mmHg	_____ mmHg
Proximal Diameter[7765]:	_____ mm	_____ mm	_____ mm
Distal Diameter[7770]:	_____ mm	_____ mm	_____ mm
PA Vessel Diameter Minimum[7775]:	_____ mm	_____ mm	_____ mm
Post-Procedure Measurements (to PA defect)			
If Single Ventricle[4026] is 'No',			
→**Proximal Systolic Pressure**[7785]:	_____ mmHg	_____ mmHg	_____ mmHg
→**Distal Systolic Pressure**[7790]:	_____ mmHg	_____ mmHg	_____ mmHg
If Single Ventricle[4026] is 'Yes',			
→**Proximal Mean Pressure**[7795]:	_____ mmHg	_____ mmHg	_____ mmHg
→**Distal Mean Pressure**[7800]:	_____ mmHg	_____ mmHg	_____ mmHg
Proximal Diameter[7805]:	_____ mm	_____ mm	_____ mm
Distal Diameter[7810]:	_____ mm	_____ mm	_____ mm
PA Vessel Diameter in Stent Minimum[7815]:	_____ mm	_____ mm	_____ mm

	Device(s)[7820]	Associated Defect(s)[7824]	Outcome of Device[7825]
1		_____ , _____ , _____	O Stent deployed in intended location O Stent deployed in unintended location O Not deployed
2		_____ , _____ , _____	O Stent deployed in intended location O Stent deployed in unintended location O Not deployed
3		_____ , _____ , _____	O Stent deployed in intended location O Stent deployed in unintended location O Not deployed

L. ELECTROPHYSIOLOGY PROCEDURE

Primary Procedure Indication[10000]: O Evaluation of specific arrhythmia O Evaluation of event or symptoms suggesting arrhythmia O Evaluation of prior antiarrhythmic treatment O Evaluation of risk for ventricular tachyarrhythmia O Preoperative evaluation

PRIOR ELECTROPHYSIOLOGY HISTORY

History of Congenital Heart Disease[10005]:
O No structural heart disease or trivial, unoperated congenital heart disease
O Repaired functionally two-ventricle congenital heart disease
O Repaired tetralogy of Fallot and tetralogy-like variants
O Transposition of the great arteries following atrial-level (Mustard or Senning) palliation
O Fontan palliation of functionally univentricular heart
O Pre-Fontan palliation of functionally univentricular heart
O Unoperated acyanotic congenital heart disease
O Unoperated cyanotic congenital heart disease

Previous EP Therapy Attempted[10010]: O No O Yes

→**If** Yes, **EP therapy(ies) attempted:** (check all that apply)
☐ Catheter Ablation[10011] ☐ Pharmacologic Therapy[10012] ☐ Chemical cardioversion[10013]
☐ DC cardioversion[10014] ☐ Pacemaker insertion[10015] ☐ ICD insertion[10016]
☐ Arrhythmia surgery[10017]

→**If** Catheter Ablation, **Number of prior ablation procedures**[10018]: _____

PRE-PROCEDURE SYMPTOM SEVERITY SURVEY (SSS)

SSSQ1: In the past 6 months, what symptom or feeling that comes from the patient's heart rhythm problem bothers her/him most often?[10020]

O Palpitations O Chest pain O Shortness of breath O Dizziness O Fatigue O Fainting O No symptoms

→**If** any symptoms present, **SSSQ2: In the past 6 months how often has patient had this feeling?**[10021]

O Every day O At least once per week O At least once per month O At least once in the last 6 months

SSSQ3: In the past 6 months, what symptom or feeling that comes from the patient's heart rhythm problem was the worst (most severe or unpleasant)?[10022]

O Palpitations O Chest pain O Shortness of breath O Dizziness O Fatigue O Fainting O No symptoms

SSSQ4: In the past 6 months, for any heart rhythm episodes the patient has had , what is the most intense (severe) treatment that the patient has endured to treat the rhythm problem?[10023]

O No rhythm problems during this time O Rhythm is always present and no effort was made to try and relieve it O Self-Resolving
O Vagal Maneuvers O ER visit, symptoms self-resolved or with vagal maneuvers
O ER-Treated with medication O Admitted for >= 1 day, treated with medication O Hospital/ER Cardioversion

SSSQ5: In the past 6 months, has the patient taken any of the following medications?[10024] (check all that apply)

☐ Amiodarone ☐ Beta Blocker ☐ Digoxin ☐ Diltiazem ☐ Dofetilide ☐ Dronedarone ☐ Flecainide ☐ Mexiletine
☐ Propafenone ☐ Sotalol ☐ Verapamil ☐ None

SSSQ6: In the past 6 months, does the patient feel that their rhythm problem has interfered with how well they are able to work, go to school or play?[10025] O No O Yes

SSSQ7: Indicate who completed the Symptom Severity Survey (SSS)?[10026] O Caregiver O Parent O Patient

Tachyarrhythmias Observed during EP Study[10040]: (check all that apply)

☐ Atrial Fibrillation ☐ Atrial Flutter - CTI-dependent ☐ Atrial Flutter - Non-CTI-dependent
☐ Atrial premature complexes ☐ AV node re-entry Typical (slow/fast) ☐ AV node re-entry Atypical (fast/slow)
☐ AV node re-entry Atypical (slow/slow) ☐ AV node re-entry Atypical (unknown) ☐ AVRT - antidromic
☐ AVRT - orthodromic ☐ Ectopic atrial tachycardia ☐ Inappropriate sinus tachycardia
☐ Isolated ventricular pre-excitation ☐ Junctional tachycardia ☐ Premature ventricular complexes
☐ Ventricular fibrillation ☐ Ventricular tachycardia, monomorphic ☐ Ventricular tachycardia, monomorphic, non-sustained
☐ Ventricular tachycardia, polymorphic ☐ Ventricular tachycardia, polymorphic, non-sustained
☐ No tachyarrhythmias or ectopy observed

Sedation Medication[10065]: (check all that apply)
☐ Cisatracurium ☐ Desflurane ☐ Dexmedetomidine ☐ Fentanyl ☐ Isoflurane ☐ Ketamine
☐ Midazolam ☐ Morphine ☐ Nitrous oxide ☐ Propofol ☐ Remifentanil ☐ Rocuronium
☐ Sevoflurane ☐ Succinylcholine ☐ Vecuronium

L. ELECTROPHYSIOLOGY PROCEDURE (CONT.)

Imaging System(s) Used[10070]: (check all that apply)

☐ CARTO 3 ☐ CARTO XP ☐ CARTO Sound ☐ ICE ☐ Ensite NavX
☐ Velocity NavX ☐ EnSite Balloon Array ☐ Velocity Balloon Array ☐ TEE ☐ None

ABLATION PROCEDURE

Ablation Target Counter[10075]	**1**	**2**
Indications for Ablation[10080]: (check all that apply)	☐ Adverse drug effects ☐ Cardiomyopathy ☐ Frequent ICD discharges ☐ Impending CHD surgery ☐ Patient choice/desire for a drug-free lifestyle ☐ Refractory to drug Rx ☐ Stroke prophylaxis ☐ Sudden-death prophylaxis	☐ Adverse drug effects ☐ Cardiomyopathy ☐ Frequent ICD discharges ☐ Impending CHD surgery ☐ Patient choice/desire for a drug-free lifestyle ☐ Refractory to drug Rx ☐ Stroke prophylaxis ☐ Sudden-death prophylaxis
Approach to Ablation Target[10085]: (check all that apply)	☐ Antegrade approach to right heart from IVC ☐ Antegrade approach to right heart from SVC ☐ Trans-foraminal approach to left heart ☐ Trans-septal approach to left heart ☐ Retrograde approach to left heart ☐ Coronary sinus approach to left heart ☐ Percutaneous approach to the epicardial space ☐ Trans-hepatic approach to right heart ☐ Transbaffle approach ☐ Extracardiac conduit puncture ☐ Transthoracic cardiac puncture	☐ Antegrade approach to right heart from IVC ☐ Antegrade approach to right heart from SVC ☐ Trans-foraminal approach to left heart ☐ Trans-septal approach to left heart ☐ Retrograde approach to left heart ☐ Coronary sinus approach to left heart ☐ Percutaneous approach to the epicardial space ☐ Trans-hepatic approach to right heart ☐ Transbaffle approach ☐ Extracardiac conduit puncture ☐ Transthoracic cardiac puncture
Targeted ablation substrate[10090]:	O Accessory pathway - concealed O Accessory pathway - manifest (bidirectional WPW) O Accessory pathway - manifest (antegrade only WPW) O Accessory pathway - manifest (unidirectional anterograde decremental pathway - Mahaim) O AV node O AV node - fast pathway O AV node - slow pathway O His bundle O Myocardium - atrial O Myocardium - coronary sinus O Myocardium - ventricular O Sinus node O Congenital Heart Disease specific target O No target identified	O Accessory pathway - concealed O Accessory pathway - manifest (bidirectional WPW) O Accessory pathway - manifest (antegrade only WPW) O Accessory pathway - manifest (unidirectional anterograde decremental pathway - Mahaim) O AV node O AV node - fast pathway O AV node - slow pathway O His bundle O Myocardium - atrial O Myocardium - coronary sinus O Myocardium - ventricular O Sinus node O Congenital Heart Disease specific target O No target identified
Ablation Target Location ID[10095]:	_____	_____
Methods to localize ablation target[10100]: (check all that apply)	☐ Activation mapping ☐ Anatomic mapping ☐ Entrainment mapping ☐ Signal morphology mapping ☐ Pace mapping ☐ Voltage (substrate) mapping	☐ Activation mapping ☐ Anatomic mapping ☐ Entrainment mapping ☐ Signal morphology mapping ☐ Pace mapping ☐ Voltage (substrate) mapping
Ablation Attempted[10105]: →**If** No, **Reason not attempted**[10106]:	O No O Yes O Not clinically indicated O Proximity to AV node O Proximity to sinus node O Insufficient target for mapping and ablation O Patient/Family choice	O No O Yes O Not clinically indicated O Proximity to AV node O Proximity to sinus node O Insufficient target for mapping and ablation O Patient/Family choice

L. ELECTROPHYSIOLOGY PROCEDURE (CONT.)

Ablation Target Counter[10075]	1	2
EP – Outcome of Ablation[10110] (Select from below)		
→**If** Accessory pathway - concealed, **Outcome:**	O Elimination of retrograde AP conduction O Persistence of retrograde conduction, without SVT O Persistence of retrograde conduction, with SVT O Unknown or Ambiguous	O Elimination of retrograde AP conduction O Persistence of retrograde conduction, without SVT O Persistence of retrograde conduction, with SVT O Unknown or Ambiguous
→**If** Accessory pathway - manifest (bidirectional WPW), **Outcome:**	O Elimination of antegrade conduction (Elimination of retrograde conduction) O Elimination of antegrade conduction (Persistence of retrograde conduction, with SVT) O Elimination of antegrade conduction (Persistence of retrograde conduction, without SVT) O Persistence of antegrade conduction (Elimination of retrograde conduction, with SVT) O Persistence of antegrade conduction (Elimination of retrograde conduction, without SVT) O Persistence of antegrade conduction (Persistence of retrograde conduction, with SVT) O Persistence of antegrade conduction (Persistence of retrograde conduction, without SVT) O Unknown or Ambiguous	O Elimination of antegrade conduction (Elimination of retrograde conduction) O Elimination of antegrade conduction (Persistence of retrograde conduction, with SVT) O Elimination of antegrade conduction (Persistence of retrograde conduction, without SVT) O Persistence of antegrade conduction (Elimination of retrograde conduction, with SVT) O Persistence of antegrade conduction (Elimination of retrograde conduction, without SVT) O Persistence of antegrade conduction (Persistence of retrograde conduction, with SVT) O Persistence of antegrade conduction (Persistence of retrograde conduction, without SVT) O Unknown or Ambiguous
→**If** Accessory pathway manifest (antegrade only WPW), **Outcome:**	O Elimination of antegrade AP conduction O Persistence of antegrade conduction, without SVT O Persistence of antegrade conduction, with SVT O Unknown or Ambiguous	O Elimination of antegrade AP conduction O Persistence of antegrade conduction, without SVT O Persistence of antegrade conduction, with SVT O Unknown or Ambiguous
→**If** Accessory pathway - manifest (unidirectional anterograde decremental pathway - Mahaim), **Outcome:**	O Elimination of antegrade AP conduction O Persistence of antegrade conduction, without SVT O Persistence of antegrade conduction, with SVT O Unknown or Ambiguous	O Elimination of antegrade AP conduction O Persistence of antegrade conduction, without SVT O Persistence of antegrade conduction, with SVT O Unknown or Ambiguous
→**If** AV node, **Outcome:**	O Ablation ineffective O Attenuation of AV conduction O Elimination of AV conduction O Unknown or Ambiguous	O Ablation ineffective O Attenuation of AV conduction O Elimination of AV conduction O Unknown or Ambiguous
→**If** AV node (fast pathway), **Outcome:**	O Elimination of fast pathway conduction (Attenuation of AV conduction) O Elimination of fast pathway conduction (Elimination of AV conduction) O Elimination of fast pathway conduction (No change in AV conduction) O Persistence of fast pathway conduction (Attenuation of AV conduction) O Persistence of fast pathway conduction (Elimination of AV conduction) O Persistence of fast pathway conduction (No change in AV conduction) O Unknown or Ambiguous	O Elimination of fast pathway conduction (Attenuation of AV conduction) O Elimination of fast pathway conduction (Elimination of AV conduction) O Elimination of fast pathway conduction (No change in AV conduction) O Persistence of fast pathway conduction (Attenuation of AV conduction) O Persistence of fast pathway conduction (Elimination of AV conduction) O Persistence of fast pathway conduction (No change in AV conduction) O Unknown or Ambiguous
→**If** AV node (slow pathway), **Outcome:**	O Elimination of slow pathway conduction O Persistence of slow pathway conduction (Persistence of spontaneous or inducible SVT) O Persistence of slow pathway conduction (with single echoes but no SVT) O Persistence of slow pathway conduction (without echoes) O Unknown or Ambiguous	O Elimination of slow pathway conduction O Persistence of slow pathway conduction (Persistence of spontaneous or inducible SVT) O Persistence of slow pathway conduction (with single echoes but no SVT) O Persistence of slow pathway conduction (without echoes) O Unknown or Ambiguous

L. ELECTROPHYSIOLOGY PROCEDURE (CONT.)

Ablation Target Counter[10075]	1	2
EP – Outcome of Ablation[10110] (Select from below)		
→**If** His bundle**, Outcome:**	O Elimination of ectopic focus/tachycardia (Attenuation of AV conduction) O Elimination of ectopic focus/tachycardia (Elimination of AV conduction) O Elimination of ectopic focus/tachycardia (No change in AV conduction) O Persistence of ectopic focus/tachycardia (Attenuation of AV conduction) O Persistence of ectopic focus/tachycardia (Elimination of AV conduction) O Persistence of fast pathway conduction (No change in AV conduction) O Unknown or Ambiguous	O Elimination of ectopic focus/tachycardia (Attenuation of AV conduction) O Elimination of ectopic focus/tachycardia (Elimination of AV conduction) O Elimination of ectopic focus/tachycardia (No change in AV conduction) O Persistence of ectopic focus/tachycardia (Attenuation of AV conduction) O Persistence of ectopic focus/tachycardia (Elimination of AV conduction) O Persistence of fast pathway conduction (No change in AV conduction) O Unknown or Ambiguous
→**If** Myocardium - atrial, **Outcome:**	O Substrate eliminated O Substrate attenuated O Ablation ineffective O Unknown or Ambiguous	O Substrate eliminated O Substrate attenuated O Ablation ineffective O Unknown or Ambiguous
→**If** Myocardium - coronary sinus, **Outcome:**	O Substrate eliminated O Substrate attenuated O Ablation ineffective O Unknown or Ambiguous	O Substrate eliminated O Substrate attenuated O Ablation ineffective O Unknown or Ambiguous
→**If** Myocardium-ventricular, **Outcome:**	O Elimination of spontaneous/inducible VT O Persistence of spontaneous/inducible VT (with non-sustained VT) O Persistence of spontaneous/inducible VT (with sustained VT) O Unknown or Ambiguous	O Elimination of spontaneous/inducible VT O Persistence of spontaneous/inducible VT (with non-sustained VT) O Persistence of spontaneous/inducible VT (with sustained VT) O Unknown or Ambiguous
→**If** Sinus node, **Outcome:**	O Normalization of sinus node function O Persistent inappropriate sinus tachycardia O Sinus bradycardia or arrest O Unknown or Ambiguous	O Normalization of sinus node function O Persistent inappropriate sinus tachycardia O Sinus bradycardia or arrest O Unknown or Ambiguous

	Ablation Catheter(s)[10120]	Associated Ablation Targets(s)[10125]	Seconds on Ablation Target[10130]	Number of Ablation Activations[10135]
1		_____ , _____ , _____		
2		_____ , _____ , _____		
3		_____ , _____ , _____		

M. Transcatheter Pulmonary Valve Replacement (TPVR)

Clinical Indication[11000] :

O Symptomatic O Prevention of symptoms in asymptomatic patient O Declining ventricular function O Worsening arrhythmias O Other

Hemodynamic Indication[11005] :

O Predominant valve/conduit Obstruction O Predominant valve/conduit Regurgitation O Mixed obstruction/regurgitation

Underlying anatomic reason for Right Ventricular Outflow Tract (RVOT) dysfunction[11010]:

O Congenital Heart Disease repaired using RVOT valve/conduit O s/p Ross Procedure with repair using RVOT valve/conduit

O No Congenital Heart Disease with RVOT valve/conduit O Native RVOT dysfunction secondary to surgical intervention

O Native RVOT dysfunction secondary to transcatheter intervention (other than preparation for transcatheter valve)

O Native RVOT dysfunction with no prior interventions

Pre-Procedure Testing

Echocardiogram[11015]: O No O Yes

→**If Yes,**

Mean gradient across valve/conduit[11016]: _____ mmHg

Maximum gradient across valve/conduit[11017]: _____ mmHg

Pulmonary Valve Regurgitation[11018]: O None O 1+ (mild) O 2+ (moderate) O 3+ (moderately severe) O 4+ (severe)

LVEF[11019]: _____%

Tricuspid Regurgitation Severity[11020]: O None O 1+ (mild) O 2+ (moderate) O 3+ (moderately severe) O 4+ (severe)

MRI[11030]: O No O Yes

→**If Yes,**

RVEF[11031]: _____%

LVEF[11032]: _____%

PR Fraction[11037]: _____%

RVEDV Index[11033]: _____ml/m^2	**RVESV Index**[11034]: _____ml/m^2
LVEDV Index[11035]: _____ml/m^2	**LVESV Index**[11036]: _____ml/m^2

Right Ventricular Outflow Tract (RVOT) Anatomy and Function

Type of RVOT valve/conduit[11040]: O Homograft (aortic) O Homograft (pulmonary) O Homograft (unknown) O Contegra O Bioprosthetic valve/conduit O Non-valved synthetic tube O Native/patched RVOT

→**If Not** Native/patched RVOT, **Surgically implanted valve/conduit size**[11041]: _____ mm

Existing stent within valve/conduit[11045]: O No O Yes

Prior TPVR (Valve-in-Valve)[11050]: O No O Yes

Cath Peak gradient across valve/conduit[11055]: _____ mmHg

Narrowest angiographic valve/conduit diameter[11060]: _____ mm

Coronary Artery Assessment

Aortography performed[11065]: O No O Yes

Selective coronary angiography performed[11070]: O No O Yes

Coronary compression testing performed[11075]: O No O Yes

→**If** Yes, **Max Balloon size**[11076]: _____ mm

→**If** Yes, **Coronary compression present**[11077]: O No O Yes O Uncertain

M. Transcatheter Pulmonary Valve Replacement (Cont.)

Conduit Preparation

Pre-dilation performed[11080]: O No O Yes

→**If** Yes, **First Balloon size**[11081]: _____ mm

→**If** Yes, **Maximum Balloon size**[11082]: _____ mm

→**If** Yes, **Highest pressure inflation performed**[11083]: _____ atm(s)

New Pre-Stent implanted[11085]: O No O Yes

→**If** Yes, **Number of new stents**[11086]: _____

Access vessel for valve delivery[11090]: O Femoral Vein O Jugular Vein O Subclavian Vein O Per ventricular O Other

Delivery Balloon size[11095]: _____ mm

Transcatheter Pulmonary Valve (TPV) deployed[11100]: O No O Yes

→**If** Yes, **Post-dilation of TPV**[11101]: O No O Yes

→**If** Yes, **Final Balloon size**[11102]: _____ mm

→**If** Yes, **Final Balloon Pressure**[11103]: _____ atm(s)

→**If** Yes, **Post-Procedure Peak RVOT gradient**[11105]: _____ mmHg

→**If** Yes, **Post-Procedure Pulmonary Valve Regurgitation**[11110]:

O None O 1+ (mild) O 2+ (moderate) O 3+ (moderately severe) O 4+ (severe)

→**If** Yes, **Final minimal diameter of valve**[11115]: _____ mm

→**If** No, **Reason TPV not deployed**[11120]:

O Not indicated based on invasive hemodynamics
O Coronary artery compression risk
O Pre-stent implanted, planned TPVR at a later date
O Other
O Other treatment performed instead with adequate result
O Valve could not be advanced to implant location
O Patient unstable
O Complication before deployment
O No treatable landing zone

	Device(s)[11130]	Outcome of Device[11135]
1		O Implanted in intended location O Implanted in unintended location O Implanted, released and retrieved O Implanted, not released
2		O Implanted in intended location O Implanted in unintended location O Implanted, released and retrieved O Implanted, not released
3		O Implanted in intended location O Implanted in unintended location O Implanted, released and retrieved O Implanted, not released

Post-Procedure Testing (Post Procedure and Prior to Discharge)

Echocardiogram[11140]: O No O Yes

→**If** Yes, **Mean gradient across valve/conduit**[11145]: _____ mmHg

→**If** Yes, **Maximum gradient across valve/conduit**[11150]: _____ mmHg

→**If** Yes, **Pulmonary Valve Regurgitation**[11155]: O None O 1+ (mild) O 2+ (moderate) O 3+ (moderately severe) O 4+ (severe)

N. Intra and Post-Procedure Events (Complete for each cath lab visit)

Cardiac Arrest[8000]:	O No	O Yes	**Bleeding Event**[8090]:	O No	O Yes
Arrhythmia[8005]:	O No	O Yes	→**If** Yes, **Bleeding at Access Site**[8095]:	O No	O Yes
→**If** Yes, **AV Block**[8006]:	O No	O Yes	→**If** Yes, **Hematoma at Access Site**[8100]:	O No	O Yes
→**If** Yes, **Spontaneously resolved**[8007]:	O No	O Yes	→**If** Yes, **Retroperitoneal Bleeding**[8110]:	O No	O Yes
→**If** Yes, **Antiarrhythmic Medication**[8010]:	O No	O Yes	→**If** Yes, **GI Bleed**[8115]:	O No	O Yes
→**If** Yes, **Cardioversion**[8015]:	O No	O Yes	→**If** Yes, **GU Bleed**[8120]:	O No	O Yes
→**If** Yes, **Temporary Pacemaker**[8020]:	O No	O Yes	→**If** Yes, **Other Bleed**[8125]:	O No	O Yes
→**If** Yes, **Permanent Pacemaker**[8025]:	O No	O Yes	**RBC Transfusion**[8130]:	O No	O Yes
New Heart Valve Regurgitation[8030]:	O No	O Yes	→**If** Yes, **Drop in Hgb ≥ 3**[8131]:	O No	O Yes
Tamponade[8035]: (req pericardial drainage)	O No	O Yes	→**If** Yes, **Anemia prior to Cath Procedure**[8132]	O No	O Yes
Air Embolus[8040]:	O No	O Yes	→**If** Yes, **Post-operative Blood Loss**[8133]:	O No	O Yes
Embolic Stroke[8045]:	O No	O Yes	→**If** Yes, **ECMO Blood Replacement**[8134]:	O No	O Yes
Device Malposition or Thrombus[8050]:	O No	O Yes	**Other Vascular Complications Req Rx**[8140]:	O No	O Yes
→**If** Yes, **Retrieved via Catheterization**[8051]:	O No	O Yes	**Other Events**[8145]: (optional)	O No	O Yes
→**If** Yes, **Retrieved via Surgery**[8052]:	O No	O Yes	→**If** Yes, select **Event(s)**[8150] from list: _____ , _____ , _____		
Device Embolization[8055]: (req device retrieval)	O No	O Yes	**Peripheral Nerve Injury**[8200]:	O No	O Yes
→**If** Yes, **Retrieved via Catheterization**[8060]:	O No	O Yes	**Phrenic Nerve Paralysis**[8205]:	O No	O Yes
→**If** Yes, **Retrieved via Surgery**[8065]:	O No	O Yes	**Pneumothorax**[8210]:	O No	O Yes
New Requirement for Dialysis[8070]:	O No	O Yes	**Pulmonary Embolism**[8215]:	O No	O Yes
Coronary Artery Compression[8071]:	O No	O Yes	**Pulmonary Vein Stenosis**[8220]:	O No	O Yes
Erosion[8072]:	O No	O Yes	**Radiation Burn to Skin**[8225]:	O No	O Yes
Esophageal Fistula[8073]:	O No	O Yes	**Deep Vein Thrombosis**[8230]:	O No	O Yes
LBBB[8074]:	O No	O Yes	**Conduit Tear**[8235]:	O No	O Yes
RBBB[8076]:	O No	O Yes	→**If** Yes, **Location**[8236]:		
Airway Event Requiring Escalation of Care[8075]:	O No	O Yes	O Confined or therapeutic tear without hemodynamic change O Rupture into pericardial or pleural space O Rupture into bronchus, cardiac chamber, aorta, or other vessel		
Event Requiring ECMO[8080]:	O No	O Yes			
Event Requiring LVAD[8085]:	O No	O Yes	→**If** Yes, **Treatment**[8237]: (check all that apply) ☐ No specific treatment ☐ Pericardial or pleural drain ☐ Covered with TPV ☐ Other catheter device (covered stent, occluder, coils) ☐ Surgery		

Post-Procedure Treatments

Planned Cardiac Surgery[8155]:	O No	O Yes	**Unplanned Other Surgery**[8170]:	O No	O Yes
Unplanned Cardiac Surgery[8160]: (due to cath complication)	O No	O Yes	→**If** Yes, **Due to Cath Complication**[8175]:	O No	O Yes
Unplanned Vascular Surgery[8165]: (due to cath complication)	O No	O Yes	**Subsequent Cardiac Cath**[8180]: (due to cath complication)	O No	O Yes

O. DISCHARGE (COMPLETE FOR EACH EPISODE OF CARE)

Cardiac Surgery during this admission[8305]: O No O Yes →**If** Yes, **Cardiac Surgery Date/Time**[8310,8315]: mm / dd / yyyy HH:MM

Discharge Date[9000]: mm / dd / yyyy

Discharge Status[9005]: O Alive O Deceased

→ **If** Deceased, **Death in Lab**[9010]: O No O Yes

→ **If** Deceased, **Primary Cause of Death**[9015]:

O Acute myocardial infarction	O Pulmonary	O Hemorrhage
O Sudden cardiac death	O Renal	O Non-cardiovascular procedure or surgery
O Heart failure	O Gastrointestinal	O Trauma
O Stroke	O Hepatobiliary	O Suicide
O Cardiovascular procedure	O Pancreatic	O Neurological
O Cardiovascular hemorrhage	O Infection	O Malignancy
O Other cardiovascular reason	O Inflammatory/Immunologic	O Other non-cardiovascular reason

P. FOLLOW-UP (COMPLETE AFTER DISCHARGE FROM FACILITY)

Assessment Date[12000]: mm / dd / yyyy

Reference Procedure Start Date/Time[12001/12002]: mm / dd / yyyy HH:MM

Method(s) to Determine Status: ☐ Office Visit[12005] ☐ Medical Records[12006] ☐ Letter from Medical Provider[12007] ☐ Phone Call[12008] ☐ Social Security Death Master File[12009] ☐ Hospitalized[12010] ☐ Other[12011]

Follow-up Status[12015]: O Alive O Deceased O Lost to Follow-up

→ **If** Deceased, **Date of Death**[12020]: mm / dd / yyyy

→ **If** Deceased, **Cause of Death**[12025]:

O Acute myocardial infarction	O Pulmonary	O Hemorrhage
O Sudden cardiac death	O Renal	O Non-cardiovascular procedure or surgery
O Heart failure	O Gastrointestinal	O Trauma
O Stroke	O Hepatobiliary	O Suicide
O Cardiovascular procedure	O Pancreatic	O Neurological
O Cardiovascular hemorrhage	O Infection	O Malignancy
O Other cardiovascular reason	O Inflammatory/Immunologic	O Other non-cardiovascular reason

EVENTS SINCE DISCHARGE

Readmitted[12030]: O No O Yes

→ **If** Yes, **Readmission Length of Stay**[12031]: _____ days

→ **If** Yes, **Readmission Date**[12032]: mm / dd / yyyy

→ **If** Yes, **Hospitalized at time of Follow-up**[12033]: O No O Yes

ASD PROCEDURE

Erosion[12040]: O No O Yes

Device Embolization[12045]: (req device retrieval) O No O Yes

→**If** Yes, **Retrieved via Catheterization**[12046]: O No O Yes

→**If** Yes, **Retrieved via Surgery**[12047]: O No O Yes

Endocarditis[12050]: O No O Yes

→ **If** Yes, **Date of Endocarditis Diagnosis**[12051]: mm / dd / yyyy

→ **If** Yes, **Predisposing Factors for Endocarditis**[12052]: O Recent dental work or poor dentition O History of Endocarditis O Other implanted foreign bodies O Other surface injuries/infections O IV drug use

→ **If** Yes, **Treatment**[12053]: O Antibiotics O Surgical Explant O Transcatheter reintervention O Other

Residual Shunt Size[12055]: O None to trivial (<3 mm) O Significant (>=3 mm)

P. FOLLOW-UP (CONT.)

ELECTROPHYSIOLOGY ABLATION PROCEDURE

POST-PROCEDURE SYMPTOM SEVERITY SURVEY (SSS)

SSSQ1: In the past 6 months, what symptom or feeling that comes from the patient's heart rhythm problem bothers her/him most often?[12060]

O Palpitations O Chest pain O Shortness of breath O Dizziness O Fatigue O Fainting O No symptoms

→**If** any symptoms present, **SSSQ2: In the past 6 months how often has patient had this feeling?**[12061]

O Every day O At least once per week O At least once per month O At least once in the last 6 months

SSSQ3: In the past 6 months, what symptom or feeling that comes from the patient's heart rhythm problem was the worst (most severe or unpleasant)?[12062]

O Palpitations O Chest pain O Shortness of breath O Dizziness O Fatigue O Fainting O No symptoms

SSSQ4: In the past 6 months, for any heart rhythm episodes the patient has had , what is the most intense (severe) treatment that the patient has endured to treat the rhythm problem?[12063]

O No rhythm problems during this time O Rhythm is always present and no effort was made to try and relieve it O Self-Resolving
O Vagal Maneuvers O ER visit, symptoms self-resolved or with vagal maneuvers
O ER-Treated with medication O Admitted for >= 1 day, treated with medication O Hospital/ER Cardioversion

SSSQ5: In the past 6 months, has the patient taken any of the following medications?[12064] (check all that apply)

☐ Amiodarone ☐ Beta Blocker ☐ Digoxin ☐ Diltiazem ☐ Dofetilide ☐ Dronedarone ☐ Flecainide ☐ Mexiletine
☐ Propafenone ☐ Sotalol ☐ Verapamil ☐ None

SSSQ6: In the past 6 months, does the patient feel that their rhythm problem has interfered with how well they are able to work, go to school or play?[12065] O No O Yes

SSSQ7: Indicate fate of ablated substrates[12066]**:**

O No Recurrence O Confirmed No Recurrence O Possible Recurrence O Probable Recurrence O Confirmed Recurrence

TRANSCATHETER PULMONARY VALVE REPLACEMENT (TPVR) PROCEDURE

Transcatheter Pulmonary Valve (TPV) still in place[12070]**:** O No O Yes

→ **If** No, **Reason TPV is not still in place**[12071]**:** O Migration O Embolization O Explanted

TPV Reintervention[12075]**:** O No O Yes

→ **If** Yes, **TPV Surgical Reintervention**[12076]**:** O No O Yes

→ **If** Yes, **TPV Surgical Reintervention Date**[12077]**:** mm / dd / yyyy

→ **If** Yes, **TPV Catheter Reintervention**[12078]**:** O No O Yes

→ **If** Yes, **TPV Catheter Reintervention Date**[12079]**:** mm / dd / yyyy

→ **If** Yes, **Reason for TPV Reintervention**[12080]**:** O Stenosis O Pulmonary Regurgitation O Endocarditis O Other

Endocarditis[12090]**:** O No O Yes

→ **If** Yes, **Date of Endocarditis Diagnosis**[12091]**:** mm / dd / yyyy

→ **If** Yes, **Predisposing Factors for Endocarditis**[12092]**:**

O Recent dental work or poor dentition O History of Endocarditis O Other implanted foreign bodies
O Other surface injuries/infections O IV drug use

→ **If** Yes, **Treatment**[12093]**:** O Antibiotics O Surgical Explant O Transcatheter reintervention O Other

TRANSCATHETER PULMONARY VALVE (TPV) FUNCTION

Mean gradient across valve/conduit[12100]**:** _____ mmHg

Maximum gradient across valve/conduit[12105]**:** _____ mmHg

Pulmonary Valve Regurgitation[12110]**:** O None O 1+ (mild) O 2+ (moderate) O 3+ (moderately severe) O 4+ (severe)