### Tier 1 Surgery Form

**Date of Surgery**

**Primary Cardiac Procedure**
Select the patient's primary surgical procedure. If the patient has multiple operating room visits, these should be reported on additional “New Surgery Forms”.

**Ventricular Septal Defect (VSD) repair, Primary closure**

- AV Canal
  - Atrioventricular (AV, AVSD) Septal Repair, Complete
  - Atrioventricular (AV, AVSD) Septal Repair, Intermediate (Transitional)
  - Atrioventricular (AV, AVSD) Septal Repair, Partial (Incomplete) (PAVSD)
- Coarctation of Aorta and Aortic arch hypoplasia
  - Coarctation repair, End to end
  - Coarctation repair, End to end, Extended
  - Coarctation repair, Subclavian flap
  - Coarctation repair, Patch aortoplasty
  - Coarctation repair, Interposition graft
  - Coarctation repair, Other
  - Coarctation repair, Extra-anatomic Bypass

**Hypoplastic Left Heart and Related malformations**

- Norwood procedure (w/mBT shunt)
- Norwood procedure (RV-PA Conduit)
- Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn)
- Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn)
- Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn)
- Hemi-Fontan
- Partial Anomalous Pulmonary Venous Connection
- Partial Anomalous Pulmonary Venous Connection (PAPVC) repair
- Partial Anomalous Pulmonary Venous Connection (PAPVC), Scimitar, Repair
- PAPVC repair, Baffle redirection to left atrium with systemic vein translocation (Warden) (SVC sewn to right atrial appendage)

**Single Ventricle**

- Fontan Operation (Complete Cavo-pulmonary anastomosis), Lateral Tunnel Type
- Fontan Operation (Complete Cavo-pulmonary anastomosis), Extra/Intra Cardiac Type
- Fontan Operation (Complete Cavo-pulmonary anastomosis), Internal Conduit Type
- Fontan Operation (Complete Cavo-pulmonary anastomosis), Other
- Fontan, Other
- Tetralogy of Fallot Repair
- Tetralogy of Fallot (TOF) repair
- Tetralogy of Fallot (TOF) repair, Ventriculotomy
- Tetralogy of Fallot (TOF) repair, Transannular patch
- Tetralogy of Fallot (TOF) repair, RV-PA conduit
- Tetralogy of Fallot (TOF) repair, Pulmonary Artery (PA) Reconstruction
- Tetralogy of Fallot (TOF) repair, Valvotomy
- Total Anomalous Pulmonary Venous Connection
- Total Anomalous Pulmonary Venous Connection (TAPVC) repair
- Transposition of the Great Arteries
- Arterial switch operation (ASO)
- Tricuspid Valve Disease and Ebstein's Anomaly
- Ebstein's repair
- Truncus Arteriosus
- Truncus arteriosus repair
- VSD
- **Ventricular Septal Defect (VSD) repair, Primary closure**
- Ventricular Septal Defect (VSD) repair, Patch
- Ventricular Septal Defect (VSD) repair, Device
- Ventricular Septal Defect (VSD), Multiple, Repair
- Ventricular Septal Defect (VSD) creation/enlargement

### Primary Cardiac Diagnosis

- Related to this surgery (Check only one)

- Anomalous Systemic Venous Connection
- Anomalous Systemic Venous Connection Systemic venous anomaly
- Aortic Aneurysm
- Aortic aneurysm (including pseudoaneurysm)
- Aortic dissection
- Aneurysm, Ventricular, Right (including pseudoaneurysm)
- Mitral Valve Disease
- Mitral Valve Disease Mitral stenosis (Annular Hypoplasia)
- Mitral Valve Disease Mitral stenosis, Subvalvar
- Mitral Valve Disease Mitral stenosis, Subvalvar, Parachute
<table>
<thead>
<tr>
<th>Aortic dissection</th>
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<tbody>
<tr>
<td>Aortic Valve Disease</td>
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<tr>
<td>Aortic Valve Disease Aortic stenosis, Subvalvar</td>
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<tr>
<td>Aortic Valve Disease Aortic stenosis, Valvar</td>
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<tr>
<td>Aortic Valve Disease Aortic stenosis, Supravalvar</td>
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<tr>
<td>Aortic Valve Disease Aortic valve atresia</td>
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<tr>
<td>Aortic Valve Disease Aortic valve insufficiency</td>
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<tr>
<td>Aortic Valve Disease Aortic valve insufficiency and aortic stenosis</td>
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<tr>
<td>Aortic Valve Disease Aortic valve, Other</td>
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<table>
<thead>
<tr>
<th>AP Window</th>
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<tbody>
<tr>
<td>AP Window Aorto-pulmonary window (aortopulmonary window)</td>
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<tr>
<td>AP Window Pulmonary artery origin from ascending aorta (hemitruncus)</td>
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<table>
<thead>
<tr>
<th>ASD</th>
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<tbody>
<tr>
<td>ASD, Patent oval foramen (patent foramen ovale)</td>
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<tr>
<td>ASD Atrial Septal Defect, Secundum</td>
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<tr>
<td>ASD Atrial Septal Defect, Venosus</td>
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<tr>
<td>ASD: Atrial Septal Defect, Common Atrium (single Atrium)</td>
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<table>
<thead>
<tr>
<th>AV Canal</th>
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<tbody>
<tr>
<td>AV Canal Atrioventricular Canal Defect, Intermediate (transitional)</td>
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<tr>
<td>AV Canal Atrioventricular Canal Defect, Partial (incomplete) (PAVSD) (ASD, primum)</td>
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<thead>
<tr>
<th>Cardiomyopathy</th>
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<tr>
<td>Cardiomyopathy (including dilated, restrictive, and hypertrophic)</td>
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<tr>
<td>Cardiomyopathy, End-stage congenital heart disease</td>
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<table>
<thead>
<tr>
<th>Coarctation of Aorta and Aortic arch hypoplasia</th>
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<tr>
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<tr>
<td>Coarctation of Aorta and Aortic arch hypoplasia Ventricular Septal Defect</td>
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<tr>
<td>Coarctation of aorta</td>
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<tr>
<th>Conduit Failure</th>
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<tbody>
<tr>
<td>Congenitally Corrected TGA</td>
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<thead>
<tr>
<th>Double Chamber Right Ventricle</th>
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<tr>
<td>Sinus valve</td>
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<tr>
<th>Shunt Failure</th>
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<tbody>
<tr>
<td>Single Ventricle</td>
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</table>

| Sinus of Valsalva Fistula/Aneurysm |
Coronary Artery Anomalies: Coronary artery anomaly, Fistula
Coronary Artery Anomalies: Coronary artery anomaly, Other

DOLV

DOLV Double Outlet Left Ventricle

DORV

DORV Double Outlet Right Ventricle
DORV Double Outlet Right Ventricle, Atrioventricular Septal Defect
DORV DoubleOutlet Right Ventricle, Intact Ventricular Septal Defect
DORV Double Outlet Right Ventricle, Remote VSD (Uncommitted)
DORV Double Outlet Right Ventricle, Tetralogy of Fallot type
DORV Double Outlet Right Ventricle, Transposition of Great Arteries Type

Electrophysiological

Arrhythmia
Arrhythmia, atrial
Arrhythmia, heart block
Arrhythmia, ventricular

Hypoplastic left heart syndrome

Hypoplastic left heart syndrome (HLHS)

Interrupted Arch
interrupted aortic arch
Interrupted Arch, interrupted aortic arch + Aorto-Pulmonary window
Interrupted Arch, interrupted aortic arch + Ventricular Septal Defect

LV to Aorta Tunnel

LV to Aorta Tunnel Left Ventricular to aorta tunnel

Miscellaneous, Other

Miscellaneous, Other Atrial Isomerism, Left
Miscellaneous, Other Atrial Isomerism, Right
Miscellaneous, Other Dextrocardia
Miscellaneous, Other Levocardia
Miscellaneous, Other Mesocardia
Miscellaneous, Other Aneurysm, Pulmonary artery
Miscellaneous, Other Prosthetic valve failure
Miscellaneous, Other Cardiac tumor
Miscellaneous, Other Pulmonary vascular obstructive disease (Eisenmenger’s)

Prosthetic valve Endocarditis
Situs inversus
Aneurysm, Other
Aneurysm, Ventricular, Left (including pseudoaneurysm)

Sinus of Valsalva Fistula/Aneurysm
Sinus of Valsalva aneurysm
Systemic venous obstruction

Tetralogy of Fallot

Tetralogy of Fallot, Pulmonary stenosis
Tetralogy of Fallot, complete Atrio-ventricular septal Defect
Tetralogy of Fallot, Absent pulmonary valve

Total anomalous pulmonary venous connection
Total anomalous pulmonary venous connection (TAPVC), Type 1 (supracardiac)
Total anomalous pulmonary venous connection (TAPVC), Type 2 (cardiac)
Total anomalous pulmonary venous connection (TAPVC), Type 3 (infracardiac)
Total anomalous pulmonary venous connection (TAPVC), Type 4 (mixed)

Transposition of the Great Arteries
Transposition of the Great Arteries, Intact Ventricular Septum-Left Ventricular Outflow Tract Obstruction
Transposition of the Great Arteries, Ventricular Septal Defect
Transposition of the Great Arteries, Intact Ventricular Septum
Transposition of the Great Arteries, Ventricular Septal Defect-Left Ventricular Outflow Tract Obstruction

Tricuspid Valve Disease and Ebstein's Anomaly

Tricuspid Valve Disease and Ebstein's Anomaly, Ebstein's anomaly
Tricuspid Valve Disease and Ebstein's Anomaly, Tricuspid regurgitation, non-Ebstein's related
Tricuspid Valve Disease and Ebstein's Anomaly, Tricuspid regurgitation and tricuspid stenosis
Tricuspid Valve Disease and Ebstein's Anomaly, Tricuspid stenosis
Tricuspid Valve Disease and Ebstein's Anomaly, Tricuspid valve, Other

Truncus arteriosus
Truncus arteriosus
Truncus arteriosus + Interrupted aortic arch
Truncal valve insufficiency

Vascular rings and Slings
Vascular rings and Slings, Vascular Ring
Vascular rings and Slings, Pulmonary Artery Sling

VSD
VSD Ventricular Septal Defect, Type 1 (Subarterial) (Supracristal) (Conal septal defect) (Infundibular)
VSD Ventricular Septal Defect, Type 2 (Perimembranous) (Paramembranous) (Conoventricular)
VSD Ventricular Septal Defect, Type 3 (Inlet) (AV canal type)
VSD Ventricular Septal Defect, Type 4 (Muscular)
VSD Ventricular Septal Defect, Type: Gerbode type (LV-RA communication)
VSD Ventricular Septal Defect, Multiple

1a. Are there any additional Cardiac Diagnoses?

- Yes
- No
- Unknown
Additional Cardiac Diagnoses

Check all that apply.

Anomalous Systemic Venous Connection
- Anomalous Systemic Venous Connection Systemic venous anomaly
- Aortic Aneurysm
- Aortic aneurysm (including pseudoaneurysm)
- Aortic dissection
- Aortic dissection
- Aortic Valve Disease
- Aortic Valve Disease Aortic stenosis, Subvalvar
- Aortic Valve Disease Aortic stenosis, Valvar
- Aortic Valve Disease Aortic valve atresia
- Aortic Valve Disease Aortic valve, Other
- AP Window
- AP Window Aorto-pulmonary window (aortopulmonary window)
- AP Window Pulmonary artery origin from ascending aorta (hemitruncus)
- ASD
- ASD, Patent oval foramen (patent foramen ovale)
- ASD Atrial Septal Defect, Secundum
- ASD Atrial Septal Defect, Venosus
- ASD: Atrial Septal Defect, Coronary Sinus
- ASD: Atrial Septal Defect, Common Atrium (single Atrium)
- AV Canal
- AV Canal Atrioventricular Canal Defect, Intermediate (transitional)
- AV Canal Atrioventricular Canal Defect, Partial (incomplete) (PAVSD) (ASD, primum)
- Complete Atrioventricular Canal Defect
- Cardiomyopathy
- Cardiomyopathy (including dilated, restrictive, and hypertrophic)
- Cardiomyopathy, End-stage congenital heart disease
- Coarctation of Aorta and Aortic arch hypoplasia
- Coarctation of Aorta and Aortic arch hypoplasia Coarctation of aorta
- Aortic arch hypoplasia
- Coarctation of Aorta and Aortic arch hypoplasia Ventricular Septal Defect + Aortic arch hypoplasia
- Coarctation of Aorta and Aortic arch hypoplasia Ventricular Septal Defect + Coarctation of aorta
- Conduit Failure
- Conduit Failure
- Congenitally Corrected TGA
- Congenitally Corrected TGA Congenitally corrected Transposition of the Great Arteries, Intact Ventricular Septum
- Congenitally corrected Transposition of the Great Arteries
- Congenitally Corrected TGA Congenitally corrected Transposition of the Great Arteries
- Aneurysm, Ventricular, Right (including pseudoaneurysm)
- Mitral Valve Disease
- Mitral Valve Disease Mitral stenosis (Annular Hypoplasia)
- Mitral Valve Disease Mitral stenosis, Subvalvar
- Mitral Valve Disease Mitral stenosis, Subvalvar, Parachute
- Mitral Valve Disease Mitral stenosis, Supravalvar mitral ring
- Mitral Valve Disease Mitral stenosis, Valvar
- Mitral Valve Disease Mitral regurgitation
- Mitral Valve Disease Mitral regurgitation and mitral stenosis
- Mitral Valve Disease Mitral valve, Other
- Partial anomalous pulmonary venous connection
- Partial anomalous pulmonary venous connection (PAPVC)
- Partial anomalous pulmonary venous connection (PAPVC), scimitar
- Patent ductus arteriosus
- Patent ductus arteriosus
- Pulmonary atresia
- Pulmonary atresia
- Pulmonary atresia, Intact Ventricular Spetum
- Pulmonary atresia, VSD (Including TOF, PA)
- Pulmonary atresia, Ventricular Septal Defect-Multiple aorto-pulmonary collateral artery
- Pulmonary atresia, MAPCA(s) (major aortopulmonary collateral[s]) (without PA-VSD)
- Pulmonary Valve Disease
- Pulmonary Valve Disease Pulmonary insufficiency
- Pulmonary valve, Other
- Pulmonary Valve Disease Pulmonary insufficiency and pulmonary stenosis
- Pulmonary venous stenosis
- Pulmonary venous stenosis
- RVOT Obstruction and/or Pulmonary Stenosis
- RVOT Obstruction and/or Pulmonary Stenosis Pulmonary stenosis, Valvar
- RVOT Obstruction and/or Pulmonary Stenosis Pulmonary stenosis, Subvalvar
- RVOT Obstruction and/or Pulmonary Stenosis Pulmonary artery stenosis (hypoplasia), Main (trunk) (Supravalvalar Stenosis)
- RVOT Obstruction and/or Pulmonary Stenosis Pulmonary artery stenosis, Branch, Central (within the hilar bifurcation)
- RVOT Obstruction and/or Pulmonary Stenosis Pulmonary artery stenosis, Branch, Peripheral (at or beyond the hilar bifurcation)
- RVOT Obstruction and/or Pulmonary Stenosis Pulmonary artery, Discontinuous
- RVOT Obstruction and/or Pulmonary Stenosis Double Chamber Right Ventricle
- Shone’s syndrome
- Shone’s syndrome
- Shunt Failure
- Shunt Failure
- Single Ventricle
<table>
<thead>
<tr>
<th>Medical Condition</th>
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<tbody>
<tr>
<td>Transposition of the Great Arteries, Intact Ventricular Septum-Left</td>
</tr>
<tr>
<td>Ventricular Outflow Tract Obstruction</td>
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<tr>
<td>Congenitally Corrected TGA Congenitally corrected</td>
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<td>Transposition of the Great Arteries, Ventricular Septal Defect</td>
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<td>Ventricular Outflow Tract Obstruction</td>
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<td>Cor triatriatum</td>
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<tr>
<td>Coronary Artery Anomalies</td>
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<tr>
<td>Coronary Artery Anomalies Coronary artery anomaly, Aneurysm</td>
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<tr>
<td>Coronary Artery Anomalies Coronary artery anomaly, Anomalous</td>
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<tr>
<td>aortic origin of coronary artery (AAOCA)</td>
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<tr>
<td>Coronary Artery Anomalies Coronary artery anomaly, Anomalous</td>
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<tr>
<td>pulmonary origin (includes ALCAPA)</td>
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<tr>
<td>Coronary Artery Anomalies Coronary artery anomaly, Fistula</td>
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<tr>
<td>Coronary Artery Anomalies Coronary artery anomaly, Other</td>
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<tr>
<td>DOLV</td>
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<tr>
<td>DOLV Double Outlet Left Ventricle</td>
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<tr>
<td>DORV Double Outlet Right Ventricle, Tetralogy of Fallot type</td>
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<tr>
<td>DORV Double Outlet Right Ventricle, Transposition of Great Arteries Type</td>
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<tr>
<td>Electrophysiological</td>
</tr>
<tr>
<td>Arrhythmia</td>
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<tr>
<td>Arrhythmia, atrial</td>
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<tr>
<td>Arrhythmia, heart block</td>
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<tr>
<td>Arrhythmia, ventricular</td>
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<tr>
<td>Hypoplastic left heart syndrome</td>
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<tr>
<td>Hypoplastic left heart syndrome (HLHS)</td>
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<tr>
<td>Interrupted Arch</td>
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<tr>
<td>Interrupted Arch, interrupted aortic arch</td>
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<tr>
<td>Interrupted Arch, interrupted aortic arch + Aorto-Pulmonary window</td>
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<tr>
<td>Interrupted Arch, interrupted aortic arch + Ventricular Septal Defect</td>
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<tr>
<td>LV to Aorta Tunnel</td>
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<tr>
<td>LV to Aorta Tunnel Left Ventricular to aorta tunnel</td>
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<tr>
<td>Miscellaneous, Other</td>
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<tr>
<td>Miscellaneous, Other Atrial Isomerism, Left</td>
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<tr>
<td>Miscellaneous, Other Atrial Isomerism, Right</td>
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<tr>
<td>Miscellaneous, Other Dextrocardia</td>
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<tr>
<td>Miscellaneous, Other Levocardia</td>
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<tr>
<td>Miscellaneous, Other Mesocardia</td>
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<tr>
<td>Miscellaneous, Other Aneurysm, Pulmonary artery</td>
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<tr>
<td>Miscellaneous, Other Prosthetic valve failure</td>
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<tr>
<td>Miscellaneous, Other Cardiac tumor</td>
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<tr>
<td>Miscellaneous, Other Pulmonary vascular obstructive disease (Eisenmenger’s)</td>
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<tr>
<td>Single ventricle, Double Inlet left ventricle</td>
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<tr>
<td>Single ventricle, Double Inlet Right Ventricle</td>
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<tr>
<td>Single ventricle, Mitral atresia</td>
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<tr>
<td>Single ventricle, Unbalanced Atrio-ventricular canal Defect</td>
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<tr>
<td>Single ventricle, Heterotaxia syndrome</td>
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<tr>
<td>Single ventricle, Other</td>
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<tr>
<td>Single ventricle + Total anomalous pulmonary venous connection (TAPVC)</td>
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<tr>
<td>Single ventricle, Tricuspid atresia</td>
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<tr>
<td>Sinus of Valsalva Fistula/Aneurysm</td>
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<tr>
<td>Sinus of Valsalva Fistula/Aneurysm Sinus of Valsalva aneurysm</td>
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<tr>
<td>Systemic venous obstruction</td>
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<tr>
<td>Tetralogy of Fallot</td>
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<tr>
<td>Tetralogy of Fallot, Pulmonary stenosis</td>
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<tr>
<td>Tetralogy of Fallot, complete Atrio-ventricular septal Defect</td>
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<tr>
<td>Tetralogy of Fallot, Absent pulmonary valve</td>
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<tr>
<td>Transposition of the Great Arteries</td>
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<tr>
<td>Transposition of the Great Arteries, Ventricular Septal Defect</td>
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<tr>
<td>Transposition of the Great Arteries, Intact Ventricular Septum</td>
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<tr>
<td>Transposition of the Great Arteries, Ventricular Septal Defect-Left</td>
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<tr>
<td>Ventricular Outflow Tract Obstruction</td>
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<tr>
<td>Tricuspid Valve Disease and Ebstein's Anomaly</td>
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<tr>
<td>Tricuspid Valve Disease and Ebstein's Anomaly, Ebstein's anomaly</td>
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<tr>
<td>Tricuspid Valve Disease and Ebstein's Anomaly, Tricuspid regurgitation, non-Ebstein's related</td>
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<td>Truncus arteriosus + interrupted aortic arch</td>
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<td>Truncal valve insufficiency</td>
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<tr>
<td>Vascular rings and Slings</td>
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<tr>
<td>Vascular rings and Slings Pulmonary Artery Sling</td>
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<tr>
<td>VSD</td>
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<tr>
<td>VSD Ventricular Septal Defect, Type 1 (Subarterial) (Supracristal) (Conal septal defect) (Infundibular)</td>
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<tr>
<td>VSD Ventricular Septal Defect, Type 2 (Perimembranous) (Paramembranous) (Conoventricular)</td>
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</table>
2b. Specify previous congenital cardiac operations

- Prosthetic valve Endocarditis
- Situs inversus
- Aneurysm, Other
- Aneurysm, Ventricular, Left (including pseudoaneurysm)

- VSD Ventricular Septal Defect, Type 3 (Inlet) (AV canal type)
- VSD Ventricular Septal Defect, Type 4 (Muscular)
- VSD Ventricular Septal Defect, Type: Gerbode type (LV-RA communication)
- VSD Ventricular Septal Defect, Multiple

2. Is this the patient’s first congenital surgery?  
   - Yes
   - No
   - Unknown

Anomalous systemic venous connection

- Anomalous systemic venous connection repair
- Aortic Aneurysm
- Aortic Dissection
- Aortic Dissection repair
- Aortic Root Replacement
- Aortic Root Replacement, Bioprosthetic
- Aortic Root Replacement, Mechanical
- Aortic Root Replacement, Homograft
- Aortic Root Replacement, Valve sparing

- Aortic Valve Disease
- Ross procedure
- Konno procedure (with and without aortic valve replacement)
- Ross Konno Procedure
- Repair of Supraaortic Stenosis
- Other aortic annular enlargement procedure
- Aortic Valve Repair
- Aortic Valve Replacement
- Aortic Valve Replacement (AVR), Mechanical
- Aortic Valve Replacement (AVR), Bioprosthetic
- Aortic Valve Replacement (AVR), Homograft

- AP Window
- Aorto-pulmonary (AP) window repair
- Pulmonary artery origin from ascending aorta (hemitruncus) repair

- ASD
- Patent Foramen Ovale (PFO), Primary closure
- Atrial Septal Defect (ASD) repair, Primary closure
- Atrial Septal Defect (ASD) repair, Patch
- Atrial Septal Defect (ASD) repair, Device
- Atrial Septal Defect (ASD) repair, Patch + Partial anomalous pulmonary venous connection repair
- Atrial Septal Defect (ASD), Common atrium (single atrium), Septation
- Atrial Septal Defect (ASD) creation/enlargement
- Atrial Septal Fenestration

- Supravalvar mitral ring repair: resection
- Mitral Valve (MV) Repair (Left Atrioventricular Valve)
- Mitral Valve Replacement (Left Atrioventricular Valve)
- Mitral Valve (MV) Replacement, Mechanical
- Mitral Valve (MV) Replacement, Bioprosthetic
- Mitral Valve (MV) Replacement, Homograft

- Palliative Procedures
- Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)
- Shunt, Systemic to pulmonary, Central (shunt from aorta)
- Shunt, Systemic to pulmonary, Other
- Pulmonary Artery banding (PAB)
- Pulmonary Artery debanding

- Damus-Kaye-Stansel procedure (DKS) (creation of Aorto-pulmonary anastomosis without arch reconstruction)
- Bidirectional cavopulmonary anastomostomasis (BDCPA) (bidirectional Glenn)
- Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn)
- Bilateral bidirectional cavopulmonary anastomostomasis (BBDCPA) (bilateral bidirectional Glenn)
- Hemi-Fontan

- Hepatic vein to azygous vein connection, Direct or with Interposition Graft
- Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation)
- Bidirectional cavopulmonary anastomostomasis (BDCPA) (bidirectional Glenn) Re-repair (within 90 days)

- Partial Anomalous Pulmonary Venous Connection

- Partial Anomalous Pulmonary Venous Connection (PAPVC) repair
- Partial Anomalous Pulmonary Venous Connection (PAPVC), Scimitar, Repair
- PAPVC repair, Baffle redirection to left atrium with systemic vein translocation (Warden) (SVC sewn to right atrial appendage)
- Partial Anomalous Pulmonary Venous Connection (PAPVC) Re-repair (within 90 days)

- Patent Ductus Arteriosus
- Patent Ductus Arteriosus (PDA) closure, Surgical

- Pericardial Disease
- Pericardial drainage procedure
- Atrial fenestration closure

- AV Canal

- Atrioventricular (AV, AVSD) Septal Repair, Complete

- Atrioventricular (AV, AVSD) Septal Repair, Intermediate (Transitional)

- Atrioventricular (AV, AVSD) Septal Repair, Partial (Incomplete) (PAVSD)

- Common atrioventricular (AV) valve Repair

- Common atrioventricular (AV) valve Replacement

- Atrioventricular (AV, AVSD) Septal Defect RE-repair (within 90 days)

  - Cardiomyopathy

- Transplant, Heart

- Transplant, Heart and lung

  - Coartation of Aorta and Aortic arch hypoplasia

- Coarctation repair, End to end

- Coarctation repair, End to end, Extended

- Coarctation repair, Subclavian flap

- Coarctation repair, Interposition graft

- Coarctation repair, Other

- Coarctation repair + Ventricle Septal Defect repair

  - Aortic arch repair

  - Aortic arch repair + Ventricle Septal Defect repair

- Coarctation repair, Extra-anatomic Bypass

- Coarctation Re-repair (within 90 days)

  - Conduit Operations

    - Conduit placement, Right Ventricle (RV) to Pulmonary Artery (PA) (primary or reoperation)

    - Conduit placement, Left Ventricle (LV) to Pulmonary Artery (PA)

    - Conduit placement, Ventricle to aorta

- Congenitally Corrected TGA

  - Congenitally corrected Transposition of the Great Arteries (TGA) repair, Atrial switch and ASO (double switch)

  - Congenitally corrected Transposition of the Great Arteries (TGA) repair, Atrial switch and Rastelli

    - Congenitally corrected Transposition of the Great Arteries (TGA) repair, VSD closure

    - Congenitally corrected Transposition of the Great Arteries (TGA) repair, VSD closure and Left ventricular to Pulmonary Artery conduit

    - Congenitally corrected Transposition of the Great Arteries (TGA) repair, Other

    - Cor triatriatum

    - Cor triatriatum repair

- Coronary Artery Anomalies

- Coronary artery fistula ligation

  - Anomalous origin of coronary artery from pulmonary artery repair (AAOCA)

  - Coronary artery bypass (CABG)

  - Anomalous aortic origin of coronary artery (AAOCA) repair

  - Coronary artery procedure, Other

- DOLV

- Double Outlet Left Ventricle repair (DOLV)

- DORV

- Double Outlet Right Ventricle (DORV), Intraventricular tunnel

- Pericardectomy

- Pericardial procedure, Other

- Pulmonary Atresia/VSD

- Pulmonary atresia - VSD (including TOF, PA) repair

- Pulmonary atresia - VSD – MAPCA repair, Complete single stage repair (1 stage that includes pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])

- Pulmonary atresia - VSD – MAPCA repair, Status post prior complete unifocalization (includes VSD closure + RV to PA connection [with or without conduit])

- Pulmonary atresia - VSD – MAPCA repair, Status post prior incomplete unifocalization (includes completion of pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])

  - Unifocalization MAPCA(s), Bilateral pulmonary unifocalization

  - Unifocalization MAPCA(s), Unilateral pulmonary unifocalization

- Pulmonary Valve Disease

- Pulmonary Valve (PV) Replacement, Mechanical

- Pulmonary Valve (PV) Replacement, Bioprosthetic

- Pulmonary Valve (PV) Replacement, Homograft

- Pulmonary Valve (PV) Repair

- Pulmonary venous stenosis

- Pulmonary venous stenosis repair

  - Repair of Subaortic Stenosis

- Membrane Resection

- Myomectomy

- Extended Myomectomy

- RVOT Obstruction, IVS Pulmonary Stenosis

- Right ventricular Outflow Tract (RVOT) procedure and/or Transannular patch

  - 1 1/2 ventricular repair

  - Pulmonary Artery (PA), reconstruction, Main

  - Pulmonary Artery (PA), reconstruction, Central

  - Pulmonary Artery (PA), reconstruction, Peripheral

  - Double Chamber Right Ventricle (DCRV)

  - Single Ventricle

  - Fontan Operation (Complete Cavo-pulmonary anastomosis), Extracardiac Type: Fenestrated

  - Fontan Operation (Complete Cavo-pulmonary anastomosis), Extracardiac Type: Non-fenestrated

  - Fontan Operation (Complete Cavo-pulmonary anastomosis), Lateral Tunnel Type

  - Fontan Operation (Complete Cavo-pulmonary anastomosis), Extra/Intra Cardiac Type

  - Fontan Operation (Complete Cavo-pulmonary anastomosis), Internal Conduit Type

  - Fontan Operation (Complete Cavo-pulmonary anastomosis), Other

  - Fontan revision or conversion (Re-do Fontan)

  - Fontan, Other

  - Ventricular septation

  - Fontan Re-repair (within 90 days)

  - Sinus of Valsalva Aneurysm

  - Sinus of Valsalva, Aneurysm repair

  - Systemic venous obstruction

  - Systemic venous stenosis repair

  - Tetralogy of Fallot Repair
Repair

Electrophysiological
- Pacemaker implantation, Permanent
- ICD (AICD) implantation
- Arrhythmia surgery - atrial, Surgical Ablation
- Arrhythmia surgery - ventricular, Surgical Ablation

Hybrid
- Hybrid Approach "Stage 1", Application of RPA & LPA bands
- Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)
- Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands
- Hybrid approach "Stage 2", Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding + Aortic arch repair (Norwood [Stage 1] + Superior Cavopulmonary anastomosis(es) + PA Debanding)
- Hybrid approach "Stage 2", Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding + Without aortic arch repair
- Hybrid Approach, Transcardiac balloon dilatation
- Hybrid Approach, Transcardiac balloon dilatation
- Hybrid Approach, Transcardiac transcatheter device placement

Hypoplastic Left Heart and Related malformations
- Norwood procedure (w/mBT shunt)
- Norwood procedure (RV-PA Conduit)
- Conduit insertion right ventricle (RV) to pulmonary artery (PA) + Intraventricular tunnel left ventricle (LV) to neoaorta + arch reconstruction (Rastelli and Norwood type arch reconstruction) (Yasui)
- Norwood procedure Re-repair (within 90 days)
- Interrupted Arch
- Interrupted aortic arch repair
- LV to Aorta Tunnel
- LV to aorta tunnel repair

Mechanical Support
- Extracorporeal membrane oxygenation (ECMO) Cannulation
- Extracorporeal membrane oxygenation (ECMO) Decannulation
- Right Heart Temporary Ventricular Assist Device (RVAD)
- Right Heart Long-Term Ventricular Assist Device (RVAD)
- Left Heart Temporary Ventricular Assist Device (LVAD)
- Left Heart Long-Term Ventricular Assist Device (LVAD)
- Total Artificial Heart (TAH)

Miscellaneous Procedures
- Aneurysm, Ventricular, Right, Repair
- Aneurysm, Ventricular, Left, Repair
- Aneurysm, Pulmonary artery (PA), Repair
- Cardiac tumor resection
- Pulmonary AV fistula repair/occlusion
- Ligation, Pulmonary artery (PA)
- Pulmonary embolectomy, Acute pulmonary embolus (PE)
- Pulmonary embolectomy, Chronic pulmonary embolus (PE)
- Diaphragm plication
- Procedures for Chylothoracic

Mitral Valve Disease

Tricuspid Valve Disease and Ebstein's Anomaly
- Ebstein's repair
- Tricuspid Valve (TV) Replacement (Right Atrioventricular Valve)
- Tricuspid Valve (TV) Repair (Right Atrioventricular Valve)
- Ebstein's Re-repair (within 90 days)

Transposition of the Great Arteries
- Arterial switch operation (ASO)
- Arterial switch procedure + Aortic arch repair
- Artistic switch procedure and VSD repair + Aortic arch repair
- Arterial switch operation (ASO) Re-repair (within 90 days)
- Senning
- Mustard
- Atrial baffle procedure, Mustard or Senning revision
- Rastelli
- Reparation A L Etage Ventriculaire (REV)
- Aortic root translocation over left ventricle (Including Nikaidoh procedure)
- Transposition of the Great Arteries (TGA), Other procedures (Kawashima, Left Ventricular to Pulmonary Artery conduit, other)

Truncus Arteriosus
- Truncus arteriosus repair
- Trunca Valve Repair
- Truncal Valve Replacement
- Truncus + Interrupted aortic arch repair (IAA) repair
- Truncus arteriosus Re-repair (within 90 days)

Vascular Rings and Slings
- Vascular ring repair
- Aortopexy
- Pulmonary artery (PA) sling repair

VSD
- Ventricular Septal Defect (VSD) repair, Primary closure
- Ventricular Septal Defect (VSD) repair, Patch
- Ventricular Septal Defect (VSD) repair, Device
- Ventricular Septal Defect (VSD), Multiple, Repair
- Ventricular Septal Defect (VSD) creation/enlargement
- Ventricular septal patch fenestration
- Ventricular Septal Defect (VSD) Re-repair (within 90 days)
3. Did the patient have any of the listed preoperative risk factors?
   - Yes
   - No
   - Unknown

3a. Preoperative risk factors
   Select all that apply.
   - Cardio-pulmonary resuscitation
   - Preoperative complete AV block
   - Preoperative/Preprocedural mechanical circulatory support (IABP, VAD, ECMO, or CPS)
   - Shock, Persistent at time of surgery
   - Shock, Resolved at time of surgery
   - Diabetes mellitus
   - Endocrine Abnormalites
   - Hepatic dysfunction
   - Necrotizing entero-colitis
   - Endocarditis
   - Coagulation Disorder
   - Neurological deficit
   - Seizure
   - Renal dysfunction
   - Renal failure requiring dialysis
   - Respiratory Failure not requiring ventilation
   - Mechanical ventilation to treat cardiorespiratory failure
   - Sepsis
   - Pacemaker present
   - Tracheostomy present

4. Height at Time of Surgery
   Closest to time of surgery.
   Centimeters
   Missing Reason:
   - Clear
   - Unknown

5. Weight at Time of Surgery
   Closest to time of surgery.
   Kilograms
   Missing Reason:
   - Clear
   - Unknown

6. Status at Operation
   - Elective
   - Urgent
   - Emergent
   - Salvage

7. Was patient on cardiopulmonary bypass during operation?
   - Yes
   - No
   - Unknown
   If more than one period of cardiopulmonary bypass (CPB) is required during surgery add the minutes of all CPB together during surgery and enter the total CPB time.

7b. Duration of Cardiopulmonary Bypass
   Minutes
   Missing Reason:
   - Clear
   - Unknown

8. Cross Clamp Time
   Duration of cardiac ischemia.
   Minutes
   Missing Reason:
   - Clear
   - Not Done
   - Unknown
surgery add the minutes of all cross clamp time together during surgery and enter the total cross clamp time.

9. **Circulatory Arrest Time**
   If more than one period of circulatory arrest is required during surgery add the minutes of all circulatory arrest together during surgery and enter the total circulatory arrest time.

10. **Selective Cerebral Perfusion Time**
    Duration of time in which perfusion was maintained selectively to the brain while the remainder of the body was under circulatory arrest.

11. **Cardioplegia Type**
    Check only one.
    - Buckberg
    - Custodiol/Bretschneider (HTK)
    - Del Nido
    - Microplegia with Adenocaine
    - Microplegia with Potassium
    - Plegisol/St. Thomas
    - Roe's Solution
    - University of Wisconsin
    - Other, specify

12. **Was TEE used in the operation?**
    TEE: Transesophageal ECHO
    - Yes
    - No
    - Unknown

13. **Were there any complications during the operation?**
    If patient experienced complications diagnosed during the operation, specify the complication(s).
    - Yes
    - No
    - Unknown

13a. **Complications**
    Check all that apply.
    All neurological complications including those diagnosed in the operating room will be reported on the Post Operative Events Form.
    - Arrhythmia requiring drug therapy
    - Arrhythmia requiring electrical cardioversion or defibrillation
    - Arrhythmia requiring temporary pacemaker
    - Bleeding
    - Cardiac dysfunction resulting in low cardiac output
    - Cardiac failure (severe cardiac dysfunction)
    - Mechanical circulatory support (IABP, VAD, ECMO, or CPS)
    - Multi-System Organ Failure (MSOF) = Multi-Organ Dysfunction Syndrome (MODS)
    - Seizure
    - Unknown
    - Other, specify
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<tr>
<th>Intraoperative Mortality</th>
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<th>No</th>
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