

**NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF QUALITY AND PATIENT SAFETY
CARDIAC SERVICES PROGRAM**

**Instructions and Data Element Definitions
January 2013**

**Cardiac Surgery Report, Pediatric
(Under age 18)
Form DOH-2254p**

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Revision Highlights and Coding Clarification

There are no changes for 2013 data collection. The following are included here as reminders of recent changes.

Recently Added Data Elements

Interventional Cardiologist - A field has been added to collect the NYS Physician License number of interventional cardiologist if the surgical procedure included both surgical and interventional components.

Recently Revised Data Elements

Start time is now collected as time of first skin incision.

Diagnosis #1 is now the Fundamental Diagnosis.

Diagnosis #2 is now the Primary Diagnosis.

Diagnosis #3 - #5 are now Additional Diagnosis #1 - #3.

Procedure #1 is now the Primary Procedure

Procedures #2 - #4 are now Additional Procedures #1 - #3.

The Procedure Code List (Attachment D) and Diagnosis Code List (Attachment E) have been updated. These code sets are compatible with those reported to the STS Congenital Heart Surgery Database v3.0 and are used with permission.

Pulmonary Hypertension has been renamed "Near Systemic PVR." The definition is unchanged.

Recent Data Element Clarifications

Please see "When to Complete A PedCSRS" form for revised clarifications on what procedures should be reported to PedCSRS.

When to Complete a Pediatric CSRS Form

Complete a Pediatric Cardiac Surgery Reporting System (Pediatric CSRS) form for every patient under the age of 18 at the time of admission undergoing one or more surgical operations **on the heart or great vessels**, with or without extracorporeal circulation.

Complete a Pediatric CSRS form only for procedures that include a surgical intervention on the heart or great vessels. Procedure codes for other types of interventions may be used (as space permits) to indicate non-surgical and/or non-cardiac components of a cardiac surgery. However, non-surgical and non-cardiac procedures are not “form generating”. This means that performing one of these procedures by itself, with no cardiac surgical procedure at the same time, is not reportable.

If more than one cardiac surgery occurred during a single hospital stay, complete a separate form for each operation.

Unless otherwise specified, forms should be created for reportable cardiac surgery even if it occurs in a location other than the operating room.

A surgical procedure begins at the time of the FIRST skin incision, unless otherwise stated.

Examples of procedures that are not “form generating” include but are not limited to the following codes found in Attachment D:

- Thoracic and Mediastinal Disease
 - Lung biopsy (1400)
 - Lung procedure, Other (1420)
 - Pectus repair (1430)
 - Tracheal procedure (1440)
- Interventional Cardiology Procedures – All Listed
- Anesthetic Procedures - All Listed
- Pericardial Disease
 - Pericardial drainage procedure (920)
- Thoracic Arteries and Veins
 - PDA closure, Device using transcatheter technique (1340)
- Electrophysiological Procedures
 - Pacemaker implant, Permanent (1450)
 - Pacemaker procedure (1460)
 - Explantation of pacing system (2350)
 - ICD [AICD] implantation (1470)
 - ICD [AICD] procedure (1480)

When to Complete a Pediatric CSRS Form (cont.)

Examples of procedures that are not form generating (continued)

- Mechanical Support
 - ECMO decannulation (2370)
 - IABP insertion (1900)
 - VAD explantation (2390)
- Miscellaneous Procedures
 - Pleural drainage procedure (1810)
 - Pleural procedure, Other (1820)
 - Ligation, Thoracic duct (1830)
 - Decortication (1840)
 - Esophageal procedure (1850)
 - Mediastinal procedure (1860)
 - Bronchoscopy (1870)
 - Diaphragm plication (1880)
 - Diaphragm procedure, Other (1890)
 - VATS – video assisted thoracoscopic surgery (1930)
 - Minimally invasive procedure (1940)
 - Bypass for non-cardiac lesion (1950)
 - Delayed sternal closure (1960)
 - Mediastinal exploration (1970)
 - Sternotomy wound drainage (1980)
 - Thoracotomy, Other (1990)
 - Cardiotomy, Other (2000)
 - Thoracic and/or mediastinal procedure, Other (2020)
 - Peripheral vascular procedure, Other (2030)
 - Miscellaneous procedure, Other (2040)
 - Organ procurement (2050)
 - Other procedure (7777)

PDA closure, Surgical (1330) is form generating only when performed in the operating room on a baby weighing at least 1500 grams. If done at the same time as another cardiac surgical procedure, it should always be reported. This is consistent with the prior PedCSRS instruction to not report an *isolated* PDA on patients less than 1500g or if performed anywhere other than the operating room.

ECMO cannulation (2360): Is form generating only when there is also another PedCSRS reportable procedure during the admission. For these cases, ECMO should be reported regardless of physical location or clinical staff responsible.

Cardiac procedure, Other (2010): Should not be reported for procedures that are not cardiac or that are not surgical. Operative notes will be requested as part of the validation process for cases reported with this procedure code.

Pediatric CSRS Data Reporting Policies

Hospice Policy

Beginning with patients discharged on or after January 1, 2003, any patient that is discharged from the hospital after cardiac surgery or PCI to hospice care (inpatient or home with hospice care) and is still alive 30 days after the discharge from the hospital will be analyzed as a live discharge.

All patients discharged to a hospice or home with hospice care should continue to be reported with Discharge Status – 12: Hospice. If a patient is still alive 30 days after discharge to hospice, whether in hospice or not, appropriate supporting documentation should be sent to Cardiac Services Program. Examples of appropriate documentation include: a dated progress note from the hospice service, evidence of a follow-up doctor's visit 30 days after discharge, evidence of subsequent hospital admission 30 days after initial discharge. It will be the responsibility of the hospital (physician) to send documentation to the Department of Health to support this change. Upon receipt, review, and verification of the documentation, Cardiac Services Program staff will change the discharge status from dead to alive for purposes of analysis. All documentation must be received before the final volume and mortality for a given year of data is confirmed by the hospital.

Reporting Schedule

Pediatric CSRS data is reported quarterly by discharge date. It is due to the Cardiac Services Program two months after the end of the quarter. The 2012 reporting schedule is as follows.

Quarter 1 (1/1/13 – 3/31/13 Discharges) due on or before May 31, 2013
Quarter 2 (4/1/13 – 6/30/13 Discharges) due on or before August 31, 2013
Quarter 3 (7/1/13 – 9/30/13 Discharges) due on or before November 30, 2013
Quarter 4 (10/1/13 – 12/31/13 Discharges) due on or before February 28, 2014

Limited extensions to the above deadlines will be granted on a case by case basis when warranted by extenuating circumstances. They must be requested in writing prior to the required submission date.

Item-by-Item Instructions

PFI Number

Variable Name: PFI

The PFI Number is a Permanent Facility Identifier assigned by the Department of Health. Enter your facility's PFI Number as shown in Attachment A.

Sequence Number

Variable Name: SEQUENCE

If your facility assigns a sequence number to each case on a chronological flow sheet or similar log, enter the sequence number here. The sequence number is not required for the Pediatric Cardiac Surgery Reporting System, but has been included on the form in case your facility finds it useful in identifying and tracking cases.

I. Patient Information

Child's Name

Variable Names: LASTNAME, FIRSTNAME

Enter the child's last name followed by his/her first name.

Medical Record Number

Variable Name: MEDRECNO

Enter the child's medical record number.

Child's Social Security Number

Variable Name: SSNO

Enter the child's social security number.

Patient Information (continued)

Age in Years

Variable Name: AGE

Enter the child's age at admission to the hospital. If the child is less than one year old, enter "0". If the child is admitted on or after his/her 18th birthday, please complete an Adult CSRS form NOT a Pediatric CSRS form.

Date of Birth

Variable Name: DOB

Enter the child's exact date of birth.

Sex

Variable Name: SEX

Check the appropriate box.

Ethnicity

Variable Name: ETHNIC

Check the appropriate box.

Race

Variable Names: RACE, RACESPEC

Select one of the following.

1 - White. A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

2 - Black or African American. A person having origins in any of the black racial groups of Africa. Terms such as "Haitian" or "Negro" can be used in addition to "Black or African American."

3 - Native American / American Indian or Alaska Native. A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

Patient Information (continued)

Race (cont.)

4 - Asian. A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

5 - Native Hawaiian or Other Pacific Islander. A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

8 - Other. Report for those responses that are not covered by an above category. Please provide the specific race for any case marked "Other."

Note: Please note that race should be based on the patient's racial/ethnic origins, which is not necessarily the same as their country or place of origin.

Multi-racial can be indicated by checking "8-Other" and providing details in the "specify" field.

For White Hispanics, check "White"; for Black Hispanics, check "Black."

Residence Code

Variable Names: RESIDENC, STATE

Enter the county code of the patient's principal residence, as shown in Attachment B. If the patient lives outside of New York State, use code 99 and print the name of the state or country where the patient resides in the space provided. If you enter a valid NYS County Code then the 'State or Country' field **should** be left blank.

If the patient is from a foreign country, but is staying in the US during the pre-operative and post-operative time period, you must enter 99 and print the name of the country that the patient is from. Do not enter the residence code of where the patient is staying while in the United States.

Hospital Admission Date

Variable Name: ADMIDATE

Enter the date that the current hospital stay began.

Patient Information (continued)

Primary Payer

Variable Name: PAYER

Enter the primary source of payment for this hospital stay as shown in Appendix C.

Interpretation: Primary Payer and Medicaid

For “Medicaid Pending” code Primary Payer as “11 - Self-Pay” **and** check the box for Medicaid.

Please note the difference between “07 - Other Private Insurance Company” and “19 - Other”. Code 07 refers to a Private Insurance Company (also referred to as “Commercial” insurance) that is not listed elsewhere. Use Code 19 for any other type of insurance that is not given a code of its own (e.g. Corrections).

Code a PPO (Preferred Provider Organization) as Code 06 – HMO/Managed Care.

If you know a patient has Medicare or Medicaid, but do not know if it is Fee for Service or Managed Care, code Fee for Service.

Medicaid

Variable Name: MEDICAID

Check this box if the patient has Medicaid that will provide payment for any portion of this hospital stay. If the patient’s primary payer is Medicaid, check this box in addition to entering “03” or “04” under Primary Payer.

PFI of Transferring Hospital

Variable Name: TRANS_PFI

If the patient was transferred from another acute care facility, enter the PFI of the transferring hospital.

This element only needs to be completed for transfer patients.

A listing of PFIs for cardiac diagnostic centers in New York State (NYS) is provided in Attachment A. If transferred from a Veterans Administration hospital in NYS, enter "8888"; if transferred from outside NYS, enter "9999". For patients transferred from another hospital in NYS, please see <http://hospitals.nyhealth.gov> for a complete listing of NYS hospitals, including their PFI.

II. Procedural Information

REMINDER: Complete a separate pediatric cardiac surgery form for each surgery involving the heart or great vessels during the current hospital admission.

Date of Surgery

Variable Name: SURGDATE

Enter the date on which the cardiac surgical procedure was performed.

Remember to fill out a separate pediatric cardiac surgery form for **each** cardiac surgery that occurred during the admission.

Time of First Skin Incision

Variable Names: SURGHOUR, SURGMIN

Enter the time of the first skin incision for this procedure, using military time (e.g. 1:00 am is 01:00, and 1:00 pm is 13:00).

Primary Surgeon Performing Surgery

Variable Name: PHYSNUM

Enter the name and NYS physician license number of the primary or principal surgeon who performed the cardiac surgical procedure(s).

Note: Primary Surgeon name is included on the paper form for abstractor convenience. It is not part of the PedCSRS file structure.

Interventional Cardiologist

Variable Name: CARDNUM

Enter the name and NYS physician license number of the interventional cardiologist participating in the case if this surgical procedure also included an interventional component.

Note: Interventional Cardiologist name is included on the paper form for abstractor convenience. It is not part of the PedCSRS file structure.

II. Procedural Information (continued)

Surgical Priority

Variable Name: PRIORITY

Check the appropriate box.

Elective: All cases not classified as urgent or emergency as defined below.

Urgent: The patient is too ill or unstable to be discharged from the hospital, but is not classified as an emergency as defined below.

This includes patients with ductal-dependent systemic or pulmonary circulation.

Emergency: Patients with cardiac compromise or circulatory compromise of the cardiac organ.

Typical emergency patients include those with obstructed anomalous pulmonary venous return and those with ductal-dependent systemic or pulmonary circulation in whom ductal patency cannot be maintained.

Prior Surgery this Admission

Variable Names: PRIOSURG, PRIODATE

Check the appropriate box to indicate whether the patient underwent any cardiac surgery prior to this one during the current hospital admission.

If "Yes" then the date of the most recent previous cardiac operation **MUST** be entered.

II. Procedural Information (continued)

Fundamental Diagnosis

Variable Names: DIAG1

The fundamental diagnosis is a diagnosis that is carried with a patient throughout life, through all operations and hospitalizations. The fundamental diagnosis is the most complex cardiac anomaly or condition (congenital or acquired) of the patient.

No “Status - post diagnoses” can be a primary diagnosis or fundamental diagnosis.

Most frequently, the primary diagnosis will also be the fundamental diagnosis. For some operations, however, the fundamental diagnosis and primary diagnosis will be different.

For example, a patient who has a complete AV canal defect and undergoes either palliation or repair of the defect has a primary and fundamental diagnosis of “AVC (AVSD), Complete CAVSD”. Subsequently, the child develops mitral insufficiency and is re-hospitalized for mitral valve replacement. The primary diagnosis for the mitral valve replacement operation is “Mitral regurgitation”, but the fundamental diagnosis is “AVC (AVSD), Complete CAVSD.”

Coding Note: The definition of Fundamental Diagnosis (*DIAG1*) and the Congenital Diagnosis Codes in Attachment E are aligned with STS Congenital Heart Surgery Database v3.0 data element 430.

Society of Thoracic Surgeons, Congenita Heart Surgery Database, Version 3.0 , used with permission.

Primary Diagnosis

Variable Names: DIAG2

Indicate the diagnosis of primary importance at the time of this surgical procedure.

No “Status - post diagnoses” can be a primary diagnosis or fundamental diagnosis.

Example: fundamental diagnosis of Tetralogy of Fallot. The current Diagnoses are both pulmonary insufficiency and residual ventricular septal defect. In this case, pulmonary insufficiency will be flagged as the primary diagnosis.

Coding Note: The definition of Primary Diagnosis (*DIAG1*) and the Congenital Diagnosis Codes in Attachment E are aligned with STS Congenital Heart Surgery Database v3.0 data element 870.

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II. Procedural Information (continued)

Additional Cardiac Diagnosis Codes (#1 - #3)

Variable Names: DIAG3, DIAG4, DIAG5

Report up to three additional diagnoses. Indicate up to three diagnoses noted at the time of the surgical procedure or documented by preoperative studies.

Coding Note: The Congenital Diagnosis Codes in Attachment E are aligned with those used in STS Congenital Heart Surgery Database v3.0 data element 870. *Society of Thoracic Surgeons, Congenita Heart Surgery Database, Version 3.0, used with permission.*

Primary Procedure Code

Variable Names: PROC1

Use the codes in Attachment D to report the PRIMARY procedure performed during this surgical procedure.

Coding Note: The definition of Primary Procedure (*PROC1*) and the Procedure Codes in Attachment D are aligned with STS Congenital Heart Surgery Database v3.0 data element 910. *Society of Thoracic Surgeons, Congenita Heart Surgery Database, Version 3.0, used with permission.*

Additional Cardiac Procedure Codes (#1 - #3)

Variable Names: PROC2, PROC3, PROC4

Use the procedure codes listed in Attachment D to indicate additional procedure(s) performed during this operation.

Do not repeat the procedure reported as Primary Procedure in these fields.

If there are more than 3 additional procedures, select procedure codes that are both cardiac and surgical in order of significance first. You may use additional spaces for non-surgical interventions that take place during the procedure or portions of the procedure that are not primarily directed at the heart or great vessels only as space permits.

Coding Note: The Procedure Codes in Attachment D are aligned with those used in the STS Congenital Heart Surgery Database v3.0 data element 900. *Society of Thoracic Surgeons, Congenita Heart Surgery Database, Version 3.0, used with permission.*

II. Procedural Information (continued)

Mode of Cardiopulmonary (CP) Bypass

Variable Name: LOWFLOW, DEEPHYPO, CIRCARES

Check all that apply. If none apply, leave blank.

Minimally Invasive

Variable Name: MINI_INV

If the cardiac surgical procedure began through an incision other than a complete sternotomy or thoracotomy check "Yes", regardless of whether the case was converted to a standard incision or CP Bypass was used. Otherwise check "No".

Entire Procedure Off Pump

Variable Name: ALL_OFF

Check this box if the cardiac operation was performed entirely without the use of cardiopulmonary bypass.

CABG Information

Variable Names: TOT_COND, ART_COND, DISTAL

If Procedure Code 670 is coded then the following information must be completed.

Total Conduits: List the total number of conduits or grafts performed up to 9. For more than 9, write 9.

Arterial Conduits: List the number of arterial conduits or grafts used up to 9. For more than 9, write 9. The number of arterial conduits **CANNOT** be larger than the total number of conduits

Distal Anastomoses: List the total number of distal anastomoses up to 9. For more than 9, write 9. A distal anastomosis is defined as a hole between a conduit or graft and a coronary touchdown site for the conduit or graft. The number of distal anastomoses could be larger than the total number of conduits, especially in the case of sequential grafts.

III. Pre-Operative Status

Weight at Time of Operation

Variable Names: WGT_UNIT, WEIGHT

Enter the patient's weight at the time of the operation. If less than 10 kilograms, report in grams, if 10 kilograms or more report in kilograms. Check the appropriate box for grams or kilograms.

Gestational Age at Birth in Weeks

Variable Name: GEST_AGE

If the patient is under one year of age at admission, enter the gestational age at birth (in weeks).

If the patient's age at admission was one year or more, this item should be left blank.

Weight at Birth in Grams

Variable Names: BIRTHWGT

If the patient is under one year of age at admission, check the box with the appropriate weight range in grams. If the patient's age at admission was one year or more, this item should be left blank.

Pre-operative Conditions

Check all of the following conditions that existed prior to the start of the procedure, but within the time frame specified.

0. None

Variable Name: NORISK

None of the pre-operative conditions listed below were present prior to surgery.

III. Pre-Operative Status (continued)

1-3. Previous Open Heart Operations

Variable Names: PREVOP_1, PREVOP_2, PREVOP_3

If the patient had an open-heart surgery prior to the current cardiac operation, check the appropriate box to indicate the number of such operations.

Interpretation: For the purposes of this reporting system, minimally invasive procedures are considered open-heart surgery.

“Previous Open Heart Operations” refers to surgeries using CP Bypass and “Previous Closed Heart Operations” refers to those without CP Bypass.

Include any previous surgeries, either from this admission or a previous admission.

If there was a previous surgery this admission, please be sure that the date of the most recent surgery is indicated in the field “Prior Surgery This Admission” on the front of the form.

4-6. Previous Closed Heart Operations

Variable Names: PRECLO_1, PRECLO_2, PRECLO_3

If the patient had a closed heart surgery prior to the current cardiac operation, check the appropriate box to indicate the number of such operations.

Interpretation: “Previous Open Heart Operations” refers to surgeries using CP Bypass and “Previous Closed Heart Operations” refers to those without CP Bypass.

Include any previous surgeries, either from this admission or a previous admission.

If there was a previous surgery this admission, please be sure that the date of the most recent surgery is indicated in the field “Prior Surgery This Admission” on the front of the form.

III. Pre-Operative Status (continued)

7. Pre-op Interventional Cath Procedure

Variable Names: PRE_CATH, INT_DATE

Indicate if the patient has had a pre-operative interventional cardiac catheterization procedure.

If during this admission, enter the date of the most recent procedure in the space provided.

Interpretation: Examples of these procedures include but are not limited to coil embolization of collaterals, balloon valvuloplasty, balloon dilation of coarctation of the aorta, defect closure, pulmonary artery, systemic vein or pulmonary vein. Balloon atrial septostomy would be excluded.

Report this risk factor if the patient underwent a cardiac intervention in-utero (e.g. aortic valve dilation).

11. Severe Cyanosis or Severe Hypoxia

Variable Name: SEV_CYAN

Code if any of the following are present and sustained within 12 hours prior to surgery:

Pulse oximetry saturation <70%

Resting PO₂ < 35mmHg

Arterial saturation <75%

Interpretation: The following scenario **would** be coded: Medical record states: “the patient’s baseline oxygen saturation is 68% on room air. Central Aorto-Pulmonary Shunt placed for full repair due to cyanosis.”

12. Dialysis within 14 Days Prior to Surgery

Variable Name: DIAL_PRE

Code if the patient received either continuous or intermittent hemodialysis or peritoneal dialysis within 14 days prior to surgery. The dialysis does not have to occur in the same hospital stay, it only has to be within 14 days of the procedure.

Note: You may also code this element if the patient had Continuous Renal Replacement Therapy (CRRT), for example PRISMA, within 14 days prior to surgery.

Do not report this risk factor if the patient requires CRRT, for example PRISMA, for fluid management while on ECMO.

III. Pre-Operative Status (continued)

13. Any Ventilator Dependence During the Same Admission or within 14 Days Prior to Surgery

Variable Name: VENT_PRE

Code if the patient was ventilator dependent during the same admission *or* within 14 days prior to surgery.

Interpretation: The following scenario **would** be coded because surgery occurred in the same admission as ventilator dependence even though there was 16 days between ventilator dependence and surgery:

Admitted on 5/15
Ventilator dependent on 6/1
Extubated on 6/10
Surgery on 6/26
Discharged on 6/30

The following scenario **would NOT** be coded because more than 14 days passed between ventilator dependence and surgery:

Admitted on 5/15
Ventilator dependent on 6/1
Extubated on 6/10
Discharged on 6/13
Admitted on 6/20
Surgery on 6/26
Discharged on 6/30

Nasal CPAP is not considered pre-operative ventilator dependence.

14. Inotropic Support Immediately Pre-op within 24 hrs

Variable Name: INOT_PRE

Code if either of the following is present in the patient's medical record:

Dopamine in dosage >5 mcg/kg/minute
Any other agent/dose for inotropic support

15. Positive Blood Cultures within 2 Weeks of Surgery

Variable Name: POS_BLOO

Code if the patient has had positive blood cultures that are documented in the medical record, occurring within 2 weeks prior to surgery.

Interpretation: This can be coded even if the patient had the positive blood cultures within 2 weeks of surgery, was discharged, and was then re-admitted for surgery.

III. Pre-Operative Status (continued)

16. Arterial pH < 7.25, Immediately Pre-op within Hospital Stay

Variable Name: ARTER_PH

Arterial pH is < 7.25 within 12 hours prior to surgery but before the first blood gas taken in the OR.

17. Significant Renal Dysfunction

Variable Name: RENA_DYS

Code if Creatinine levels reach the indicated range for the patient's age:

Preemies and Newborn	Creatinine >1.5 mg /dl
>1 month of age	Creatinine >2.0 mg/dl

18. Trisomy 21

Variable Name: DOWN_SYN

Code for any patients with Trisomy 21 (Down's Syndrome).

III. Pre-Operative Status (continued)

19. Major Extracardiac Anomalies

Variable Name: *CARDANOM and ANOM_SPEC*

Check this box for any extracardiac anomaly not already captured on the PedCSRS form that is felt to be clinically relevant. Specify the anomaly in the space provided.

Examples include but are not limited to:

Non-Down's Syndrome chromosomal abnormalities	Tracheo-esophageal (TE) fistula
DiGeorge's Syndrome	Choanal Atresia
Cystic Fibrosis	Diaphragmatic hernia
Marfan's Syndrome	Biliary Atresia
Sickle Cell Anemia	Any -ostomy
Blood Dyscrasia	Beecher Muscular Dystrophy
Omphalocele	Tethered Spinal Cord
Hypoplastic lung	Vater Syndrome
	Pierre Robin Syndrome

The following would *not* be accepted as Major Extracardiac Anomalies:

Failure to Thrive	Normothermic
Developmentally Delayed	Cleft lip/palate
Hepatomegaly	Hirschsprung Disease
Preemie	Legally blind
Jaundiced	

Note: As part of the data validation process, you may be asked to provide additional information on the nature, extent, or severity of the "Major Extracardiac Anomaly." Please keep notes on cases with this risk factor to facilitate this validation.

21. Near Systemic Pulmonary Vascular Resistance (PVR)

Variable Name: *PULM_HYP*

In the case of an unrestrictive ventricular or great vessel communication (e.g. ductus or AP window), the following would constitute evidence of increased PVR (and hence presence of the risk factor):

- bidirectional shunting (meaning at least some R to L shunting) across the defect
- OR
- absence of CHF symptoms in patients at least 2 months of age
- OR
- evidence of systemic or suprasystemic RV pressure by tricuspid regurgitant jet velocity in the absence of a moderate or large left to right shunt

III. Pre-Operative Status (continued)

22. Ventricular Assist

Variable Name: PREOPVAD

Code if any of the following were used prior to the procedure to maintain vital signs:

Extracorporeal Membrane Oxygenation (ECMO)
Intra-Aortic Balloon Pump (IABP)
Left Ventricular Assist Device (LVAD)
Right Ventricular Assist Device (RVAD)
Bi-Ventricular Assist Device (BIVAD)

24. Pre-existing Neurologic Abnormality

Variable Name: NEUROABN and NEURO_SPEC

Check this box for any pre-existing neurologic abnormality. Specify the abnormality in the space provided.

Pre-existing neurological abnormality includes but is not limited to:

Documented intracranial bleed
Hydrocephalus
Chiari Malformation
Arterial venous malformation
Cerebral vascular accident (CVA)
Seizure disorders

Note: As part of the data validation process, you may be asked to provide additional information on the nature, extent, or severity of the “Pre-existing Neurologic Abnormality.” Please keep notes on cases with this risk factor to facilitate this validation.

25. Pneumonia at Time of Surgery

Variable Name: PNEUMONI

As evidenced by:

Chest X-ray with infiltrate and at least **ONE** of the following:

- temperature greater than 101°F (38.5°C)
- white blood count greater than 12,000
- positive blood culture/viral titer.

III. Pre-Operative Status (continued)

26. Prostaglandin Dependence at Time of Surgery

Variable Name: PROSTAGL

At the time of surgery, the child requires prostaglandin to maintain normal respiration

27. Balloon Atrial Septostomy

Variable Name: BALLSEPT

Prior to surgery, but within the same hospital admission, the patient had a balloon atrial septostomy.

28. Any Previous Organ Transplant

Variable Name: ORGN_TRA

The patient has had any organ transplant prior to the current cardiac surgery. This includes, but is not limited to, heart, lung, kidney, and liver transplants. If a heart and/or lung transplant was performed during the operating room visit that generated this form DO NOT code this risk factor.

Interpretation: Also code for bone marrow transplant. Do not code for skin transplant (grafting).

IV. Post-Procedural Events Requiring Intervention

Check all of the listed post-procedural events that occurred following the surgery.

Please Note: A documented pre-operative condition that persists post-operatively with **NO** increase in severity is **NOT** a post-procedural event.

0. None

Variable Name: *NOEVENTS*

Check if none of the post-procedural events listed below occurred following the operation.

1. Cardiac Tamponade

Variable Name: *CARDTAMP*

Code if cardiac tamponade is present post procedure.

Interpretation: Cardiac Tamponade should be coded if there is post-op chest drainage. Code regardless of where the drainage was performed (operating room, bedside, etc.).

2. Ventricular Fibrillation or CPR

Variable Name: *VENT_FIB*

Code if the patient experiences V-Fib or requires CPR at any time post-procedure, but before hospital discharge.

3. Bleeding Requiring Reoperation

Variable Name: *BLEDREOP*

Unplanned reoperation to control bleeding or to evacuate large hematomas in the thorax or pericardium.

Interpretation: This should be coded no matter where the bleeding was controlled (i.e., ICU, OR, bedside).

IV. Post-Procedural Events Requiring Intervention (continued)

4. Deep Sternal Wound Infection

Variable Name: DSW_INF

Drainage of purulent material from the sternotomy or thoracotomy wound.

Report this event only when associated with instability of the sternum.

A sternal wound infection should be reported as a post-procedural event even if it does not become apparent until after the patient is discharged from the hospital.

NOTE: This event is reportable up to one-year post-procedure, regardless of when the patient was discharged.

6. Ventilator Dependency > 10 Days

Variable Name: VENDEP10

The patient is unable to be extubated within 10 days post procedure.

Do not report if the patient had been ventilator dependent within 14 days prior to surgery.

7. Clinical Sepsis with Positive Blood Cultures

Variable Name: SEPSIS

Report if either of the following is present post procedure:

Temperature over 101° F (38.5° C) **and** Increased WBC **and** Positive blood culture

OR

Temperature below 98.6°F (37°C) **and** Decreased WBC **and** Positive blood culture

11. Renal Failure Requiring Dialysis

Variable Name: DIALYSIS

Code if the patient requires either continuous or intermittent hemodialysis or peritoneal dialysis post-procedure. Also code if the patient requires Continuous Renal Replacement Therapy (CRRT), for example PRISMA, post-procedure.

DO NOT code if the patient required dialysis (or CRRT) within 14 days before the procedure. Do not report this major event if the patient requires CRRT, for example PRISMA, for fluid management while on ECMO.

IV. Post-Procedural Events Requiring Intervention (continued)

12. Complete Heart Block at Discharge

Variable Name: COMP_HB

Code if the heart block lasts until the time of discharge with or without permanent pacemaker insertion before discharge.

13. Unplanned Cardiac Reoperation or Interventional Catheterization

Variable Name: UP_REOP

Includes any unplanned cardiac reoperation or interventional catheterization.

The procedure can be done in the operating room, cath lab, or at the bedside.

This would **exclude** a reoperation to control bleeding.

15. New Neurologic Deficit

Variable Name: NEURODEF

New neurologic deficit **present at discharge**.

16. Ventricular Assist

Variable Name: POST_VAD

Code if any of the following were required after the procedure to maintain vital signs:

Extracorporeal Membrane Oxygenation (ECMO)

Intra-Aortic Balloon Pump (IABP)

Left Ventricular Assist Device (LVAD)

Right Ventricular Assist Device (RVAD)

Bi-Ventricular Assist Device (BIVAD)

Do not code if Pre-Operative Status #22 is reported or if VAD/ECMO support was initiated during this procedure (and reported as a procedure code).

V. Discharge Information

Hospital Discharge Date

Variable Name: *DISDATE*

Enter the date the patient was discharged from the hospital.

If the patient died in the hospital, the hospital discharge date is the date of death.

Discharged Alive To

Variable Name: *STATUS, DISWHERE*

Check the appropriate box.

If a patient is discharged to Hospice (including Home with Hospice), code the status a “12”. NOTE that for purposes of analysis a hospice discharge (“12”) is considered an in-hospital mortality, unless the hospital can provide documentation that 30 days after discharge the patient was still alive (even if still in Hospice).

Please see the full Hospice policy and reporting requirements under “Pediatric CSRS Data Reporting Policies.”

“19 – Other (specify)” should only be checked for a live discharge status not otherwise specified in this section (e.g. AMA).

Any status “19” that is reported without a specific discharge location will be sent back during data validation.

Died in

Variable Name: *STATUS, DISWHERE*

Check the appropriate box.

If “8 – Elsewhere in Hospital (specify)” is checked, specify where the patient died.

Any status “8” that is reported without an indication of where the patient expired will be sent back during data validation.

30 Day Status

Variable Name: *THIRTYDAY*

Report the patient’s status at 30 days post-procedure using the appropriate code.

Attachment A

PFI Numbers for Cardiac Diagnostic and Surgical Centers

PFI Facility

ALBANY AREA

0001 Albany Medical Center Hospital
0135 Champlain Valley Physicians Hospital Medical Center
0829 Ellis Hospital
1005 Glens Falls Hospital
0746 Mary Imogene Bassett Hospital
0756 Samaritan Hospital
0818 Saratoga Hospital
0005 St. Peter's Hospital

BUFFALO AREA

0207 Buffalo General Hospital
0210 Erie County Medical Center
0213 Mercy Hospital of Buffalo
0066 Olean General Hospital
0103 Women's Christian Association Hospital

ROCHESTER AREA

0116 Arnot Ogden Medical Center
0411 Rochester General Hospital
0413 Strong Memorial Hospital
0471 Unity Hospital of Rochester

SYRACUSE AREA

0977 Cayuga Medical Center at Ithaca
0636 Crouse Hospital
0599 Faxton-St. Luke's Healthcare, St. Luke's Division
0598 St. Elizabeth Medical Center
0630 St. Joseph's Hospital Health Center
0058 United Health Services Hospital, Inc.-Wilson Medical Center
0635 University Hospital SUNY Health Science Center (Upstate)

PFI Facility

NEW ROCHELLE AREA

0989 Benedictine Hospital
0885 Brookhaven Memorial Hospital Medical Center
0779 Good Samaritan Hospital of Suffern
0925 Good Samaritan Hospital Medical Center-West Islip
0913 Huntington Hospital
0990 Kingston Hospital
0513 Mercy Medical Center
0528 Nassau University Medical Center
0541 North Shore University Hospital
0699 Orange Regional Medical Center
1072 Sound Shore Medical Center of Westchester
0527 South Nassau Communities Hospital
0924 Southside Hospital
0943 St. Catherine of Siena Medical Center
0563 St. Francis Hospital (aka St. Francis Hospital The Heart Center, Roslyn)
0180 St. Francis Hospital (aka St. Francis Hospital & Health Ctrs, Poughkeepsie)
1097 St. John's Riverside
0694 St. Luke's Cornwall Hospital/Newburgh
0245 University Hospital - Stony Brook
0181 Vassar Brothers Medical Center
1139 Westchester Medical Center
1045 White Plains Hospital Center
0511 Winthrop University Hospital

NY CITY AREA

1438 Bellevue Hospital Center
1439 Beth Israel Medical Center / Petrie Campus
1178 Bronx-Lebanon Hospital Center-Concourse Division
1286 Brookdale Hospital Medical Center
1288 Brooklyn Hospital Center-Downtown
1294 Coney Island Hospital
1626 Elmhurst Hospital Center
1445 Harlem Hospital Center
1309 Interfaith Medical Center (Brooklyn)
1165 Jacobi Medical Center
1629 Jamaica Hospital Medical Center
1301 King's County Hospital Center
1450 Lenox Hill Hospital
1630 Long Island Jewish Medical Center
1304 Lutheran Medical Center

PFI Facility

NY CITY AREA (CONT.)

- 1305 Maimonides Medical Center
- 3058 Montefiore Medical Center-Jack D. Weiler Hospital of
A. Einstein College Division
- 1169 Montefiore Medical Center-Henry and Lucy Moses Division
- 1456 Mount Sinai Hospital
- 1637 NY Hospital Medical Center of Queens
- 1306 NY Methodist Hospital
- 1464 NY Presbyterian-Columbia Presbyterian Center
- 1458 NY Presbyterian-NY Weill Cornell Center
- 1463 NYU Medical Center
- 1176 St. Barnabas Hospital
- 1466 St. Luke's Roosevelt Hospital Center-Roosevelt Hospital Division
- 1469 St. Luke's Roosevelt Hospital-St. Luke's Hospital Division
- 1302 SUNY Downstate Medical Center @ Long Island College Hospital
- 1740 Staten Island University Hospital-North
- 1738 Richmond University Medical Center
- 1320 University Hospital of Brooklyn
- 1318 Wyckoff Heights Medical Center

8888 Catheterization Laboratory at a Veterans Administration Hospital in New York. (for use in this reporting system; not an official Permanent Facility Identifier)

9999 Catheterization Laboratory Outside New York State (for use in this reporting system; not an official Permanent Facility Identifier)

A complete listing of NYS hospitals, including their PFI can be found at:
<http://hospitals.nyhealth.gov/> .

Attachment B

Residence Codes

The county codes shown below are also used in the SPARCS Discharge Data Abstract:

01 Albany	35 Oswego
02 Allegany	36 Otsego
03 Broome	37 Putnam
04 Cattaraugus	38 Rensselaer
05 Cayuga	39 Rockland
06 Chautauqua	40 St. Lawrence
07 Chemung	41 Saratoga
08 Chenango	42 Schenectady
09 Clinton	43 Schoharie
10 Columbia	44 Schuyler
11 Cortland	45 Seneca
12 Delaware	46 Steuben
13 Dutchess	47 Suffolk
14 Erie	48 Sullivan
15 Essex	49 Tioga
16 Franklin	50 Tompkins
17 Fulton	51 Ulster
18 Genesee	52 Warren
19 Greene	53 Washington
20 Hamilton	54 Wayne
21 Herkimer	55 Westchester
22 Jefferson	56 Wyoming
23 Lewis	57 Yates
24 Livingston	58 Bronx
25 Madison	59 Kings
26 Monroe	60 Manhattan
27 Montgomery	61 Queens
28 Nassau	62 Richmond
29 Niagara	
30 Oneida	
31 Onondaga	88 Unknown
32 Ontario	
33 Orange	99 Outside NYS
34 Orleans	

Attachment C

Payer Codes

- 01 Medicare—Fee For Service
- 02 Medicare—Managed Care
- 03 Medicaid—Fee For Service
- 04 Medicaid—Managed Care
- 05 Blue Cross
- 06 HMO/Managed Care
- 07 Other Private Insurance Company
- 11 Self Pay
- 19 Other

Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

SEPTAL DEFECTS

ASD

10	PFO, Primary closure
20	ASD repair, Primary closure
30	ASD repair, Patch
40	ASD repair, Device
2110	ASD repair, Patch + PAPVC repair
50	ASD, Common atrium (single atrium), Septation
60	ASD creation/enlargement
70	ASD partial closure
80	Atrial septal fenestration
85	Atrial fenestration closure

VSD

100	VSD repair, Primary closure
110	VSD repair, Patch
120	VSD repair, Device
130	VSD, Multiple, Repair
140	VSD creation/enlargement
150	Ventricular septal fenestration

AV Canal

170	AVC (AVSD) repair, Complete (CAVSD)
180	AVC (AVSD) repair, Intermediate (Transitional)
190	AVC (AVSD) repair, Partial (Incomplete) (PAVSD)
2300	Valvuloplasty, Common atrioventricular valve
2250	Valvuloplasty converted to valve replacement in the same operation, Common atrioventricular valve
2230	Valve replacement, Common atrioventricular valve

AP Window

210	AP window repair
220	Pulmonary artery origin from ascending aorta (hemitruncus) repair
230	Truncus arteriosus repair
240	Valvuloplasty, Truncal valve
2290	Valvuloplasty converted to valve replacement in the same operation, Truncal valve
250	Valve replacement, Truncal valve
2220	Truncus + Interrupted aortic arch repair (IAA) repair

PULMONARY VENOUS ANOMALIES

Partial Anomalous Pulmonary Venous Connection

260	PAPVC repair
270	PAPVC, Scimitar, Repair
2120	PAPVC repair, Baffle redirection to left atrium with systemic vein translocation (Warden) (SVC sewn to right atrial appendage)

Total Anomalous Pulmonary Venous Connection

280	TAPVC repair
2200	TAPVC repair + Shunt - systemic-to-pulmonary

¹Society of Thoracic Surgeon, Congenital Heart Surgery Database v3.0, used with permission

Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

COR TRIARIATUM

290 Cor triatriatum repair

PULMONARY VENOUS STENOSIS

300 Pulmonary venous stenosis repair

SYSTEMIC VENOUS ANOMALIES

Anomalous Systemic Venous Connection / Obstruction

310 Atrial baffle procedure (non-Mustard, non-Senning)
330 Anomalous systemic venous connection repair
340 Systemic venous stenosis repair

RIGHT HEART LESIONS

Tetralogy of Fallot

350 TOF repair, No ventriculotomy
360 TOF repair, Ventriculotomy, Nontransanular patch
370 TOF repair, Ventriculotomy, Transanular patch
380 TOF repair, RV-PA conduit
390 TOF - AVC (AVSD) repair
400 TOF - Absent pulmonary valve repair

Pulmonary Atresia

420 Pulmonary atresia - VSD (including TOF, PA) repair
430 Pulmonary atresia - VSD - MAPCA (pseudotruncus) repair
440 Unifocalization MAPCA(s)
450 Occlusion MAPCA(s)

Tricuspid Valve Disease and Ebstein's Anomaly

460 Valvuloplasty, Tricuspid
2280 Valvuloplasty converted to valve replacement in the same operation, Tricuspid
465 Ebstein's repair
470 Valve replacement, Tricuspid (TVR)
480 Valve closure, Tricuspid (exclusion, univentricular approach)
490 Valve excision, Tricuspid (without replacement)
500 Valve surgery, Other, Tricuspid

RVOT Obstruction, IVS Pulmonary Stenosis

510 RVOT procedure
520 1 1/2 ventricular repair
530 PA, reconstruction (plasty), Main (trunk)
540 PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)
550 PA, reconstruction (plasty), Branch, Peripheral (at or beyond the hilar bifurcation)
570 DCRV repair

Pulmonary Valve Disease

590 Valvuloplasty, Pulmonic
2270 Valvuloplasty converted to valve replacement in the same operation, Pulmonic
600 Valve replacement, Pulmonic (PVR)

¹Society of Thoracic Surgeon, Congenital Heart Surgery Database v3.0, used with permission

Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

RIGHT HEART LESIONS (CONTINUED)

Pulmonary Valve Disease (continued)

- 630 Valve excision, Pulmonary (without replacement)
- 640 Valve closure, Semilunar
- 650 Valve surgery, Other, Pulmonic

CONDUIT OPERATIONS

Conduit Operations

- 610 Conduit placement, RV to PA
- 620 Conduit placement, LV to PA
- 1774 Conduit placement, Ventricle to aorta
- 1172 Conduit placement, Other

Conduit Stenosis / Insufficiency

- 580 Conduit reoperation

LEFT HEART LESIONS

Aortic Valve Disease

- 660 Valvuloplasty, Aortic
- 2240 Valvuloplasty converted to valve replacement in the same operation, Aortic
- 2310 Valvuloplasty converted to valve replacement in the same operation, Aortic – with Ross procedure
- 2320 Valvuloplasty converted to valve replacement in the same operation, Aortic – with Ross-Konno procedure
- 670 Valve replacement, Aortic (AVR)
- 680 Valve replacement, Aortic (AVR), Mechanical
- 690 Valve replacement, Aortic (AVR), Bioprosthetic
- 700 Valve replacement, Aortic (AVR), Homograft
- 715 Aortic root replacement, Bioprosthetic
- 720 Aortic root replacement, Mechanical
- 730 Aortic root replacement, Homograft
- 735 Aortic root replacement, Valve sparing
- 740 Ross procedure
- 750 Konno procedure
- 760 Ross-Konno procedure
- 770 Other annular enlargement procedure
- 780 Aortic stenosis, Subvalvar, Repair
- 2100 Aortic stenosis, Subvalvar, Repair, With myectomy for IHSS
- 790 Aortic stenosis, Supravalvar, Repair
- 800 Valve surgery, Other, Aortic

Sinus of Valsalva Aneurysm

- 810 Sinus of Valsalva, Aneurysm repair

LV to Aorta Tunnel

- 820 LV to aorta tunnel repair

Mitral Valve Disease

- 830 Valvuloplasty, Mitral
- 2260 Valvuloplasty converted to valve replacement in the same operation, Mitral

¹Society of Thoracic Surgeon, Congenital Heart Surgery Database v3.0, used with permission

Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

LEFT HEART LESIONS (CONTINUED)

Mitral Valve Disease (continued)

- 840 Mitral stenosis, Supravalvar mitral ring repair
- 850 Valve replacement, Mitral (MVR)
- 860 Valve surgery, Other, Mitral
- 870 Norwood procedure
- 880 HLHS biventricular repair
- 2160 Hybrid Approach "Stage 1", Application of RPA & LPA bands
- 2170 Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)
- 2180 Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands
- 2140 Hybrid approach "Stage 2", Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding + Aortic arch repair (Norwood [Stage 1] + Superior Cavopulmonary anastomosis(es) + PA Debanding)
- 2150 Hybrid approach "Stage 2", Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding + Without aortic arch repair

CARDIOMYOPATHY

- 890 Transplant, Heart
- 900 Transplant, Heart and lung
- 910 Partial left ventriculectomy (LV volume reduction surgery) (Batista)

PERICARDIAL DISEASE

- 920 Pericardial drainage procedure
- 930 Pericardiectomy
- 940 Pericardial procedure, Other

SINGLE VENTRICLE

- 950 Fontan, Atrio-pulmonary connection
- 960 Fontan, Atrio-ventricular connection
- 970 Fontan, TCPC, Lateral tunnel, Fenestrated
- 980 Fontan, TCPC, Lateral tunnel, Nonfenestrated
- 1000 Fontan, TCPC, External conduit, Fenestrated
- 1010 Fontan, TCPC, External conduit, Nonfenestrated
- 1025 Fontan revision or conversion (Re-do Fontan)
- 1030 Fontan, Other
- 2340 Fontan + Atrioventricular valvuloplasty
- 1035 Ventricular septation

TRANSPOSITION OF THE GREAT ARTERIES

Congenitally Corrected TGA

- 1050 Congenitally corrected TGA repair, Atrial switch and ASO (double switch)
- 1060 Congenitally corrected TGA repair, Atrial switch and Rastelli
- 1070 Congenitally corrected TGA repair, VSD closure
- 1080 Congenitally corrected TGA repair, VSD closure and LV to PA conduit
- 1090 Congenitally corrected TGA repair, Other

¹Society of Thoracic Surgeon, Congenital Heart Surgery Database v3.0, used with permission

Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

TRANSPOSITION OF THE GREAT ARTERIES (CONTINUED)

Transposition of the Great Arteries

- 1110 Arterial switch operation (ASO)
- 1120 Arterial switch operation (ASO) and VSD repair
- 1123 Arterial switch procedure + Aortic arch repair
- 1125 Arterial switch procedure and VSD repair + Aortic arch repair
- 1130 Senning
- 1140 Mustard
- 1145 Atrial baffle procedure, Mustard or Senning revision
- 1150 Rastelli
- 1160 REV
- 2190 Aortic root translocation over left ventricle (Including Nikaidoh procedure)
- 2210 TGA, Other procedures (Kawashima, LV-PA conduit, other)

DORV

- 1180 DORV, Intraventricular tunnel repair

DOLV

- 1200 DOLV repair

THORACIC ARTERIES AND VEINS

Coarctation of Aorta and Aortic Arch Hypoplasia

- 1210 Coarctation repair, End to end
- 1220 Coarctation repair, End to end, Extended
- 1230 Coarctation repair, Subclavian flap
- 1240 Coarctation repair, Patch aortoplasty
- 1250 Coarctation repair, Interposition graft
- 1260 Coarctation repair, Other
- 1275 Coarctation repair + VSD repair
- 1280 Aortic arch repair
- 1285 Aortic arch repair + VSD repair

Coronary Artery Anomalies

- 1290 Coronary artery fistula ligation
- 1291 Anomalous origin of coronary artery from pulmonary artery repair
- 1300 Coronary artery bypass
- 1305 Anomalous aortic origin of coronary artery from aorta (AAOCA) repair
- 1310 Coronary artery procedure, Other

Interrupted Arch

- 1320 Interrupted aortic arch repair

Patent Ductus Arteriosus

- 1330 PDA closure, Surgical
- 1340 PDA closure, Device

Vascular Rings and Slings

- 1360 Vascular ring repair

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Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

THORACIC ARTERIES AND VEINS (CONTINUED)

Vascular Rings and Slings (continued)

- 1365 Aortopexy
- 1370 Pulmonary artery sling repair

Aortic Aneurysm

- 1380 Aortic aneurysm repair

Aortic Dissection

- 1390 Aortic dissection repair

THORACIC AND MEDIASTINAL DISEASE

Lung Disease

- 1400 Lung biopsy
- 1410 Transplant, lung(s)
- 1420 Lung procedure, Other

Pectus Excavatum, Carinatum

- 1430 Pectus repair

Tracheal Stenosis

- 1440 Tracheal procedure

ELECTROPHYSIOLOGICAL

- 1450 Pacemaker implantation, Permanent
- 1460 Pacemaker procedure
- 2350 Explantation of pacing system
- 1470 ICD (AICD) implantation
- 1480 ICD (AICD) ([automatic] implantable cardioverter defibrillator) procedure
- 1490 Arrhythmia surgery - atrial, Surgical Ablation
- 1500 Arrhythmia surgery - ventricular, Surgical Ablation

INTERVENTIONAL CARDIOLOGY PROCEDURES

- 2500 Cardiovascular catheterization procedure, Diagnostic
- 2520 Cardiovascular catheterization procedure, Diagnostic, Angiographic data obtained
- 2550 Cardiovascular catheterization procedure, Diagnostic, Electrophysiology alteration
- 2540 Cardiovascular catheterization procedure, Diagnostic, Hemodynamic alteration
- 2510 Cardiovascular catheterization procedure, Diagnostic, Hemodynamic data obtained
- 2530 Cardiovascular catheterization procedure, Diagnostic, Transluminal test occlusion
- 2410 Cardiovascular catheterization procedure, Therapeutic
- 2670 Cardiovascular catheterization procedure, Therapeutic, Adjunctive therapy
- 1540 Cardiovascular catheterization procedure, Therapeutic, Balloon dilation
- 2590 Cardiovascular catheterization procedure, Therapeutic, Balloon valvotomy
- 1580 Cardiovascular catheterization procedure, Therapeutic, Coil implantation
- 1560 Cardiovascular catheterization procedure, Therapeutic, Device implantation
- 2640 Cardiovascular catheterization procedure, Therapeutic, Perforation (establishing interchamber and/or intervessel communication)
- 2580 Cardiovascular catheterization procedure, Therapeutic, Septostomy

¹Society of Thoracic Surgeon, Congenital Heart Surgery Database v3.0, used with permission

Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

INTERVENTIONAL CARDIOLOGY PROCEDURES (CONTINUED)

- 1550 Cardiovascular catheterization procedure, Therapeutic, Stent insertion
- 2630 Cardiovascular catheterization procedure, Therapeutic, Stent re-dilation
- 2650 Cardiovascular catheterization procedure, Therapeutic, Transcatheter Fontan completion
- 2660 Cardiovascular catheterization procedure, Therapeutic, Transcatheter implantation of valve
- 2680 Cardiovascular electrophysiological catheterization procedure
- 2690 Cardiovascular electrophysiological catheterization procedure, Therapeutic ablation

PALLIATIVE PROCEDURES

- 1590 Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)
- 1600 Shunt, Systemic to pulmonary, Central (from aorta or to main pulmonary artery)
- 1610 Shunt, Systemic to pulmonary, Other
- 1630 Shunt, Ligation and takedown
- 2095 Shunt, Reoperation
- 1640 PA banding (PAB)
- 1650 PA debanding
- 1660 Damus-Kaye-Stansel procedure (DKS) (creation of AP anastomosis without arch reconstruction)
- 1670 Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn)
- 1680 Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn)
- 1690 Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn)
- 1700 HemiFontan
- 2330 Superior cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty
- 2130 Superior Cavopulmonary anastomosis(es) + PA reconstruction
- 1710 Palliation, Other

MECHANICAL SUPPORT

- 2360 ECMO cannulation
- 2370 ECMO decannulation
- 1910 ECMO procedure
- 1900 Intraaortic balloon pump (IABP) insertion
- 1920 Right/left heart assist device procedure
- 2390 VAD explantation
- 2380 VAD implantation

ANESTHETIC PROCEDURES

- 2420 Echocardiography procedure, Sedated transesophageal echocardiogram
- 2430 Echocardiography procedure, Sedated transthoracic echocardiogram
- 2435 Non-cardiovascular, Non-thoracic procedure on cardiac patient with cardiac anesthesia
- 2440 Radiology procedure on cardiac patient, Cardiac Computerized Axial Tomography (CT Scan)
- 2450 Radiology procedure on cardiac patient, Cardiac Magnetic Resonance Imaging (MRI)
- 2460 Radiology procedure on cardiac patient, Diagnostic radiology
- 2470 Radiology procedure on cardiac patient, Non-Cardiac Computerized Tomography (CT) on cardiac patient
- 2480 Radiology procedure on cardiac patient, Non-cardiac Magnetic Resonance Imaging (MRI) on cardiac patient
- 2490 Interventional radiology procedure on cardiac patient

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Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

MISCELLANEOUS PROCEDURES

1720	Aneurysm, Ventricular, Right, Repair
1730	Aneurysm, Ventricular, Left, Repair
1740	Aneurysm, Pulmonary artery, Repair
1760	Cardiac tumor resection
1780	Pulmonary AV fistula repair/occlusion
1790	Ligation, Pulmonary artery
1802	Pulmonary embolectomy, Acute pulmonary embolus
1804	Pulmonary embolectomy, Chronic pulmonary embolus
1810	Pleural drainage procedure
1820	Pleural procedure, Other
1830	Ligation, Thoracic duct
1840	Decortication
1850	Esophageal procedure
1860	Mediastinal procedure
1870	Bronchoscopy
1880	Diaphragm plication
1890	Diaphragm procedure, Other
1930	VATS (video-assisted thoracoscopic surgery)
1940	Minimally invasive procedure
1950	Bypass for noncardiac lesion
1960	Delayed sternal closure
1970	Mediastinal exploration
1980	Sternotomy wound drainage
1990	Thoracotomy, Other
2000	Cardiotomy, Other
2010	Cardiac procedure, Other
2020	Thoracic and/or mediastinal procedure, Other
2030	Peripheral vascular procedure, Other
2040	Miscellaneous procedure, Other
2050	Organ procurement
7777	Other procedure

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Attachment E

Congenital Cardiac Diagnosis Codes¹

SEPTAL DEFECTS

ASD

- 10 PFO
- 20 ASD, Secundum
- 30 ASD, Sinus venosus
- 40 ASD, Coronary sinus
- 50 ASD, Common atrium (single atrium)

VSD

- 71 VSD, Type 1 (Subarterial) (Supracristal) (Conal septal defect) (Infundibular)
- 73 VSD, Type 2 (Perimembranous) (Paramembranous) (Conoventricular)
- 75 VSD, Type 3 (Inlet) (AV canal type)
- 77 VSD, Type 4 (Muscular)
- 79 VSD, Type: Gerbode type (LV-RA communication)
- 80 VSD, Multiple

AV Canal

- 100 AVC (AVSD), Complete (CAVSD)
- 110 AVC (AVSD), Intermediate (transitional)
- 120 AVC (AVSD), Partial (incomplete) (PAVSD) (ASD, primum)

AV Window

- 140 AP window (aortopulmonary window)
- 150 Pulmonary artery origin from ascending aorta (hemitruncus)

Truncus Arteriosus

- 160 Truncus arteriosus
- 170 Truncal valve insufficiency
- 2010 Truncus arteriosus + Interrupted aortic arch

PULMONARY VENOUS ANOMALIES

Partial Anomalous Pulmonary Venous Connection

- 180 Partial anomalous pulmonary venous connection (PAPVC)
- 190 Partial anomalous pulmonary venous connection (PAPVC), scimitar

Total Anomalous Pulmonary Venous Connection

- 200 Total anomalous pulmonary venous connection (TAPVC), Type 1 (supracardiac)
- 210 Total anomalous pulmonary venous connection (TAPVC), Type 2 (cardiac)
- 220 Total anomalous pulmonary venous connection (TAPVC), Type 3 (infracardiac)
- 230 Total anomalous pulmonary venous connection (TAPVC), Type 4 (mixed)

COR TRIATRIATUM

- 250 Cor triatriatum

PULMONARY VENOUS STENOSIS

- 260 Pulmonary venous stenosis

¹Society of Thoracic Surgeons, Adult Cardiac Surgery Database, Version 2.73, used with permission.

Attachment E

Congenital Cardiac Diagnosis Codes¹

SYSTEMIC VENOUS ANOMALIES

Anomalous Systemic Venous Connection

270 Systemic venous anomaly

Systemic Venous Obstruction

280 Systemic venous obstruction

RIGHT HEART LESIONS

Tetralogy of Fallot

290 TOF
2140 TOF, Pulmonary stenosis
300 TOF, AVC (AVSD)
310 TOF, Absent pulmonary valve

Pulmonary Atresia

320 Pulmonary atresia
330 Pulmonary atresia, IVS
340 Pulmonary atresia, VSD (Including TOF, PA)
350 Pulmonary atresia, VSD-MAPCA (pseudotruncus)
360 MAPCA(s) (major aortopulmonary collateral[s]) (without PA-VSD)

Tricuspid Valve Disease and Ebstein's Anomaly

370 Ebstein's anomaly
380 Tricuspid regurgitation, non-Ebstein's related
390 Tricuspid stenosis
400 Tricuspid regurgitation and tricuspid stenosis
410 Tricuspid valve, Other

RVOT Obstruction and/or Pulmonary Stenosis

420 Pulmonary stenosis, Valvar
430 Pulmonary artery stenosis (hypoplasia), Main (trunk)
440 Pulmonary artery stenosis, Branch, Central (within the hilar bifurcation)
470 Pulmonary artery, Discontinuous
490 Pulmonary stenosis, Subvalvar
500 DCRV

Pulmonary Valve Disease

510 Pulmonary valve, Other
530 Pulmonary insufficiency
540 Pulmonary insufficiency and pulmonary stenosis

SHUNT FAILURE

Shunt Failure

2130 Shunt failure

CONDUIT FAILURE

Conduit Failure

520 Conduit failure

¹Society of Thoracic Surgeons, Adult Cardiac Surgery Database, Version 2.73, used with permission.

Attachment E

Congenital Cardiac Diagnosis Codes¹

LEFT HEART LESIONS

Aortic Valve Disease

550	Aortic stenosis, Subvalvar
560	Aortic stenosis, Valvar
570	Aortic stenosis, Supravalvar
590	Aortic valve atresia
600	Aortic insufficiency
610	Aortic insufficiency and aortic stenosis
620	Aortic valve, Other

Sinus of Valsalva Fistula/Aneurysm

630	Sinus of Valsalva aneurysm
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LV to Aorta Tunnel

640	LV to aorta tunnel
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Mitral Valve Disease

650	Mitral stenosis, Supravalvar mitral ring
660	Mitral stenosis, Valvar
670	Mitral stenosis, Subvalvar
680	Mitral stenosis, Subvalvar, Parachute
695	Mitral stenosis
700	Mitral regurgitation and mitral stenosis
710	Mitral regurgitation
720	Mitral valve, Other

Hypoplastic Left Heart Syndrome

730	Hypoplastic left heart syndrome (HLHS)
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Shone's Syndrome

2080	Shone's syndrome
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CARDIOMYOPATHY

740	Cardiomyopathy (including dilated, restrictive, and hypertrophic)
750	Cardiomyopathy, End-stage congenital heart disease

PERICARDIAL DISEASE

760	Pericardial effusion
770	Pericarditis
780	Pericardial disease, Other

SINGLE VENTRICLE

790	Single ventricle, DILV
800	Single ventricle, DIRV
810	Single ventricle, Mitral atresia
820	Single ventricle, Tricuspid atresia
830	Single ventricle, Unbalanced AV canal
840	Single ventricle, Heterotaxia syndrome

¹Society of Thoracic Surgeons, Adult Cardiac Surgery Database, Version 2.73, used with permission.

Attachment E

Congenital Cardiac Diagnosis Codes¹

SINGLE VENTRICLE (CONTINUED)

850	Single ventricle, Other
851	Single Ventricle + Total anomalous pulmonary venous connection (TAPVC)

TRANSPOSITION OF THE GREAT ARTERIES

Congenitally Corrected TGA

870	Congenitally corrected TGA
872	Congenitally corrected TGA, IVS
874	Congenitally corrected TGA, IVS-LVOTO
876	Congenitally corrected TGA, VSD
878	Congenitally corrected TGA, VSD-LVOTO

Transposition of the Great Arteries

880	TGA, IVS
890	TGA, IVS-LVOTO
900	TGA, VSD
910	TGA, VSD-LVOTO

DORV

930	DORV, VSD type
940	DORV, TOF type
950	DORV, TGA type
960	DORV, Remote VSD (uncommitted VSD)
2030	DORV + AVSD (AV Canal)
975	DORV, IVS

DOLV

980	DOLV
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THORACIC ARTERIES AND VEINS

Coarctation of Aorta and Aortic Arch Hypoplasia

990	Coarctation of aorta
1000	Aortic arch hypoplasia
92	VSD + Aortic arch hypoplasia
94	VSD + Coarctation of aorta

Coronary Artery Anomalies

1010	Coronary artery anomaly, Anomalous aortic origin of coronary artery from aorta (AAOCA)
1020	Coronary artery anomaly, Anomalous pulmonary origin (includes ALCAPA)
1030	Coronary artery anomaly, Fistula
1040	Coronary artery anomaly, Aneurysm
1050	Coronary artery anomaly, Other

Interrupted Arch

1070	Interrupted aortic arch
2020	Interrupted aortic arch + VSD

¹Society of Thoracic Surgeons, Adult Cardiac Surgery Database, Version 2.73, used with permission.

Attachment E

Congenital Cardiac Diagnosis Codes¹

THORACIC ARTERIES AND VEINS (CONTINUED)

Interrupted Arch (continued)

2000 Interrupted aortic arch + AP window (aortopulmonary window)

Patent Ductus Arteriosus

1080 Patent ductus arteriosus

Vascular Rings and Slings

1090 Vascular ring

1100 Pulmonary artery sling

Aortic Aneurysm

1110 Aortic aneurysm (including pseudoaneurysm)

Aortic Dissection

1120 Aortic dissection

THORACIC AND MEDIASTINAL DISEASE

Lung Disease

1130 Lung disease, Benign

1140 Lung disease, Malignant

Pectus Excavatum, Carinatum

1150 Pectus

Tracheal Stenosis

1160 Tracheal stenosis

1170 Airway disease

Pleural Disease

1430 Pleural disease, Benign

1440 Pleural disease, Malignant

1450 Pneumothorax

1460 Pleural effusion

1470 Chylothorax

1480 Empyema

Esophageal Disease

1490 Esophageal disease, Benign

1500 Esophageal disease, Malignant

Mediastinal Disease

1505 Mediastinal disease

1510 Mediastinal disease, Benign

1520 Mediastinal disease, Malignant

Diaphragmatic Disease

1540 Diaphragm paralysis

1550 Diaphragm disease, Other

¹Society of Thoracic Surgeons, Adult Cardiac Surgery Database, Version 2.73, used with permission.

Attachment E

Congenital Cardiac Diagnosis Codes¹

ELECTROPHYSIOLOGICAL

1180	Arrhythmia
2040	Arrhythmia, Atrial
2050	Arrhythmia, Junctional
2060	Arrhythmia, Ventricular
1185	Arrhythmia, Heart block
1190	Arrhythmia, Heart block, Acquired
1200	Arrhythmia, Heart block, Congenital
1220	Arrhythmia, Pacemaker, Indication for replacement

MISCELLANEOUS, OTHER

1230	Atrial Isomerism, Left
1240	Atrial Isomerism, Right
2090	Dextrocardia
2100	Levocardia
2110	Mesocardia
2120	Situs inversus
1250	Aneurysm, Ventricular, Right (including pseudoaneurysm)
1260	Aneurysm, Ventricular, Left (including pseudoaneurysm)
1270	Aneurysm, Pulmonary artery
1280	Aneurysm, Other
1290	Hypoplastic RV
1300	Hypoplastic LV
2070	Postoperative bleeding
1310	Mediastinitis
1320	Endocarditis
1325	Rheumatic heart disease
1330	Prosthetic valve failure
1340	Myocardial infarction
1350	Cardiac tumor
1360	Pulmonary AV fistula
1370	Pulmonary embolism
1385	Pulmonary vascular obstructive disease
1390	Pulmonary vascular obstructive disease (Eisenmenger's)
1400	Primary pulmonary hypertension
1410	Persistent fetal circulation
1420	Meconium aspiration
1560	Cardiac, Other
1570	Thoracic and/or mediastinal, Other
1580	Peripheral vascular, Other
7000	Normal heart
7777	Miscellaneous, Other

STATUS POST

SEPTAL DEFECTS

ASD

4010	Status post - PFO, Primary closure
4020	Status post - ASD repair, Primary closure
4030	Status post - ASD repair, Patch

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Attachment E

Congenital Cardiac Diagnosis Codes¹

STATUS POST

SEPTAL DEFECTS (CONTINUED)

ASD (continued)

- 4040 Status post - ASD repair, Device
- 6110 Status post - ASD repair, Patch + PAPVC repair
- 4050 Status post - ASD, Common atrium (single atrium), Septation
- 4060 Status post - ASD creation/enlargement
- 4070 Status post - ASD partial closure
- 4080 Status post - Atrial septal fenestration
- 4085 Status post - Atrial fenestration closure

VSD

- 4100 Status post - VSD repair, Primary closure
- 4110 Status post - VSD repair, Patch
- 4120 Status post - VSD repair, Device
- 4130 Status post - VSD, Multiple, Repair
- 4140 Status post - VSD creation/enlargement
- 4150 Status post - Ventricular septal fenestration

AV Canal

- 4170 Status post - AVC (AVSD) repair, Complete (CAVSD)
- 4180 Status post - AVC (AVSD) repair, Intermediate (Transitional)
- 4190 Status post - AVC (AVSD) repair, Partial (Incomplete) (PAVSD)
- 6300 Status post - Valvuloplasty, Common atrioventricular valve
- 6250 Status post - Valvuloplasty converted to valve replacement in the same operation, Common atrioventricular valve
- 6230 Status post - Valve replacement, Common atrioventricular valve

AP Window

- 4210 Status post - AP window repair
- 4220 Status post - Pulmonary artery origin from ascending aorta (hemitruncus) repair

Truncus Arteriosus

- 4230 Status post - Truncus arteriosus repair
- 4240 Status post - Valvuloplasty, Truncal valve
- 6290 Status post - Valvuloplasty converted to valve replacement in the same operation, Truncal valve
- 4250 Status post - Valve replacement, Truncal valve
- 6220 Status post - Truncus + Interrupted aortic arch repair (IAA) repair

STATUS POST

PULMONARY VENOUS ANOMALIES

Partial Anomalous Pulmonary Venous Connection

- 4260 Status post - PAPVC repair
- 4270 Status post - PAPVC, Scimitar, Repair
- 6120 Status post - PAPVC repair, Baffle redirection to left atrium with systemic vein translocation (Warden) (SVC sewn to right atrial appendage)

Total Anomalous Pulmonary Venous Connection

- 4280 Status post - TAPVC repair
- 6200 Status post - TAPVC repair + Shunt - systemic-to-pulmonary

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Congenital Cardiac Diagnosis Codes¹

STATUS POST COR TRIARIATUM

4290 Status post - Cor triatriatum repair

STATUS POST PULMONARY VENOUS STENOSIS

4300 Status post - Pulmonary venous stenosis repair

STATUS POST SYSTEMIC VENOUS ANOMALIES

Anomalous Systemic Venous Connection

4310 Status post - Atrial baffle procedure (non-Mustard, non-Senning)

4330 Status post - Anomalous systemic venous connection repair

Systemic Venous Obstruction

4340 Status post - Systemic venous stenosis repair

STATUS POST RIGHT HEART LESIONS

Tetralogy of Fallot

4350 Status post - TOF repair, No ventriculotomy

4360 Status post - TOF repair, Ventriculotomy, Nontransanular patch

4370 Status post - TOF repair, Ventriculotomy, Transanular patch

4380 Status post - TOF repair, RV-PA conduit

4390 Status post - TOF - AVC (AVSD) repair

4400 Status post - TOF - Absent pulmonary valve repair

Pulmonary Atresia

4420 Status post - Pulmonary atresia - VSD (including TOF, PA) repair

4430 Status post - Pulmonary atresia - VSD - MAPCA (pseudotruncus) repair

4440 Status post - Unifocalization MAPCA(s)

4450 Status post - Occlusion MAPCA(s)

Tricuspid Valve Disease and Ebstein's Anomaly

4460 Status post - Valvuloplasty, Tricuspid

6280 Status post - Valvuloplasty converted to valve replacement in the same operation, Tricuspid

4465 Status post - Ebstein's repair

4470 Status post - Valve replacement, Tricuspid (TVR)

4480 Status post - Valve closure, Tricuspid (exclusion, univentricular approach)

4490 Status post - Valve excision, Tricuspid (without replacement)

4500 Status post - Valve surgery, Other, Tricuspid

RVOT Obstruction, IVS Pulmonary Stenosis

4510 Status post - RVOT procedure

4520 Status post - 1 1/2 ventricular repair

4530 Status post - PA, reconstruction (plasty), Main (trunk)

4540 Status post - PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)

4550 Status post - PA, reconstruction (plasty), Branch, Peripheral (at or beyond the hilar bifurcation)

4570 Status post - DCRV repair

¹Society of Thoracic Surgeons, Adult Cardiac Surgery Database, Version 2.73, used with permission.

Attachment E

Congenital Cardiac Diagnosis Codes¹

STATUS POST

RIGHT HEART LESIONS (CONTINUED)

Pulmonary Valve Disease

- 4590 Status post - Valvuloplasty, Pulmonic
- 6270 Status post - Valvuloplasty converted to valve replacement in the same operation, Pulmonic
- 4600 Status post - Valve replacement, Pulmonic (PVR)
- 4630 Status post - Valve excision, Pulmonary (without replacement)
- 4640 Status post - Valve closure, Semilunar
- 4650 Status post - Valve surgery, Other, Pulmonic

STATUS POST

CONDUIT OPERATIONS

Conduit Operations

- 4610 Status post - Conduit placement, RV to PA
- 4620 Status post - Conduit placement, LV to PA
- 5774 Status post - Conduit placement, Ventricle to aorta
- 5772 Status post - Conduit placement, Other

Conduit Stenosis/ Insufficiency

- 4580 Status post - Conduit reoperation

STATUS POST

LEFT HEART LESIONS

Aortic Valve Disease

- 4660 Status post - Valvuloplasty, Aortic
- 6240 Status post - Valvuloplasty converted to valve replacement in the same operation, Aortic
- 6310 Status post - Valvuloplasty converted to valve replacement in the same operation, Aortic – with Ross procedure
- 6320 Status post - Valvuloplasty converted to valve replacement in the same operation, Aortic – with Ross-Konno procedure
- 4670 Status post - Valve replacement, Aortic (AVR)
- 4680 Status post - Valve replacement, Aortic (AVR), Mechanical
- 4690 Status post - Valve replacement, Aortic (AVR), Bioprosthetic
- 4700 Status post - Valve replacement, Aortic (AVR), Homograft
- 4715 Status post - Aortic root replacement, Bioprosthetic
- 4720 Status post - Aortic root replacement, Mechanical
- 4730 Status post - Aortic root replacement, Homograft
- 4735 Status post - Aortic root replacement, Valve sparing
- 4740 Status post - Ross procedure
- 4750 Status post - Konno procedure
- 4760 Status post - Ross-Konno procedure
- 4770 Status post - Other annular enlargement procedure
- 4780 Status post - Aortic stenosis, Subvalvar, Repair
- 6100 Status post - Aortic stenosis, Subvalvar, Repair, With myectomy for IHSS
- 4790 Status post - Aortic stenosis, Supravalvar, Repair
- 4800 Status post - Valve surgery, Other, Aortic

Sinus of Valsalva Aneurysm

- 4810 Status post - Sinus of Valsalva, Aneurysm repair

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Attachment E

Congenital Cardiac Diagnosis Codes¹

STATUS POST

LEFT HEART LESIONS (CONTINUED)

LV to Aorta Tunnel

4820 Status post - LV to aorta tunnel repair

Mitral Valve Disease

4830 Status post - Valvuloplasty, Mitral

6260 Status post - Valvuloplasty converted to valve replacement in the same operation, Mitral

4840 Status post - Mitral stenosis, Supravalvar mitral ring repair

4850 Status post - Valve replacement, Mitral (MVR)

4860 Status post - Valve surgery, Other, Mitral

Hypoplastic Left Heart

4870 Status post - Norwood procedure

4880 Status post - HLHS biventricular repair

6160 Status post - Hybrid Approach "Stage 1", Application of RPA & LPA bands

6170 Status post - Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)

6180 Status post - Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands

6140 Status post - Hybrid approach "Stage 2", Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding + Aortic arch repair (Norwood [Stage 1] + Superior Cavopulmonary anastomosis(es) + PA Debanding)

6150 Status post - Hybrid approach "Stage 2", Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding + Without aortic arch repair

STATUS POST

CARDIOMYOPATHY

1590 Status post - Transplant, Heart

1610 Status post - Transplant, Heart and lung

4910 Status post - Partial left ventriculectomy (LV volume reduction surgery) (Batista)

STATUS POST

PERICARDIAL DISEASE

4920 Status post - Pericardial drainage procedure

4930 Status post - Pericardiectomy

4940 Status post - Pericardial procedure, Other

STATUS POST

SINGLE VENTRICLE

4950 Status post - Fontan, Atrio-pulmonary connection

4960 Status post - Fontan, Atrio-ventricular connection

4970 Status post - Fontan, TCPC, Lateral tunnel, Fenestrated

4980 Status post - Fontan, TCPC, Lateral tunnel, Nonfenestrated

5000 Status post - Fontan, TCPC, External conduit, Fenestrated

5010 Status post - Fontan, TCPC, External conduit, Nonfenestrated

5025 Status post - Fontan revision or conversion (Re-do Fontan)

5030 Status post - Fontan, Other

6340 Status post - Fontan + Atrioventricular valvuloplasty

¹Society of Thoracic Surgeons, Adult Cardiac Surgery Database, Version 2.73, used with permission.

Attachment E

Congenital Cardiac Diagnosis Codes¹

STATUS POST SINGLE VENTRICLE (CONTINUED)

5035 Status post - Ventricular septation

STATUS POST TRANSPOSITION OF THE GREAT ARTERIES

Congenitally Corrected TGA

5050 Status post - Congenitally corrected TGA repair, Atrial switch and ASO (double switch)
5060 Status post - Congenitally corrected TGA repair, Atrial switch and Rastelli
5070 Status post - Congenitally corrected TGA repair, VSD closure
5080 Status post - Congenitally corrected TGA repair, VSD closure and LV to PA conduit
5090 Status post - Congenitally corrected TGA repair, Other

Transposition of the Great Arteries

5110 Status post - Arterial switch operation (ASO)
5120 Status post - Arterial switch operation (ASO) and VSD repair
5123 Status post - Arterial switch procedure + Aortic arch repair
5125 Status post - Arterial switch procedure and VSD repair + Aortic arch repair
5130 Status post – Senning
5140 Status post – Mustard
5145 Status post - Atrial baffle procedure, Mustard or Senning revision
5150 Status post – Rastelli
5160 Status post – REV
6190 Status post - Aortic root translocation over left ventricle (Including Nikaidoh procedure)
6210 Status post – TGA, Other procedures (Kawashima, LV-PA conduit, other)

STATUS POST DORV

5180 Status post - DORV, Intraventricular tunnel repair

STATUS POST DOLV

5200 Status post - DOLV repair

STATUS POST THORACIC ARTERIES AND VEINS

Coarctation of Aorta and Aortic Arch Hypoplasia

5210 Status post - Coarctation repair, End to end
5220 Status post - Coarctation repair, End to end, Extended
5230 Status post - Coarctation repair, Subclavian flap
5240 Status post - Coarctation repair, Patch aortoplasty
5250 Status post - Coarctation repair, Interposition graft
5260 Status post - Coarctation repair, Other
5275 Status post - Coarctation repair + VSD repair
5280 Status post - Aortic arch repair
5285 Status post - Aortic arch repair + VSD repair

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Attachment E

Congenital Cardiac Diagnosis Codes¹

STATUS POST

THORACIC ARTERIES AND VEINS (CONTINUED)

Coronary Artery Anomalies

- 5290 Status post - Coronary artery fistula ligation
- 5291 Status post - Anomalous origin of coronary artery from pulmonary artery repair
- 5300 Status post - Coronary artery bypass
- 5305 Status post - Anomalous aortic origin of coronary artery from aorta (AAOCA) repair
- 5310 Status post - Coronary artery procedure, Other

Interrupted Arch

- 5320 Status post - Interrupted aortic arch repair

Patent Ductus Arteriosus

- 5330 Status post - PDA closure, Surgical
- 5340 Status post - PDA closure, Device

Vascular Rings and Slings

- 5360 Status post - Vascular ring repair
- 5365 Status post – Aortopexy
- 5370 Status post - Pulmonary artery sling repair

Aortic Aneurysm

- 5380 Status post - Aortic aneurysm repair

Aortic Dissection

- 5390 Status post - Aortic dissection repair

STATUS POST

THORACIC AND MEDIASTINAL DISEASE

Lung Disease

- 5400 Status post - Lung biopsy
- 1600 Status post - Transplant, Lung(s)
- 5420 Status post - Lung procedure, Other

Pectus Excavatum, Carinatum

- 5430 Status post - Pectus repair

Tracheal Stenosis

- 5440 Status post - Tracheal procedure

STATUS POST

ELECTROPHYSIOLOGICAL

- 5450 Status post - Pacemaker implantation, Permanent
- 5460 Status post - Pacemaker procedure
- 6350 Status post - Explantation of pacing system
- 5470 Status post - ICD (AICD) implantation
- 5480 Status post - ICD (AICD) ([automatic] implantable cardioverter defibrillator) procedure
- 5490 Status post - Arrhythmia surgery - atrial, Surgical Ablation
- 5500 Status post - Arrhythmia surgery - ventricular, Surgical Ablation

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Attachment E

Congenital Cardiac Diagnosis Codes¹

STATUS POST

INTERVENTIONAL CARDIOLOGY PROCEDURES

6500	Status post - Cardiovascular catheterization procedure, Diagnostic
6520	Status post - Cardiovascular catheterization procedure, Diagnostic, Angiographic data obtained
6550	Status post - Cardiovascular catheterization procedure, Diagnostic, Electrophysiology alteration
6540	Status post - Cardiovascular catheterization procedure, Diagnostic, Hemodynamic alteration
6510	Status post - Cardiovascular catheterization procedure, Diagnostic, Hemodynamic data obtained
6530	Status post - Cardiovascular catheterization procedure, Diagnostic, Transluminal test occlusion
6410	Status post - Cardiovascular catheterization procedure, Therapeutic
6670	Status post - Cardiovascular catheterization procedure, Therapeutic, Adjunctive therapy
6570	Status post - Cardiovascular catheterization procedure, Therapeutic, Balloon dilation
6590	Status post - Cardiovascular catheterization procedure, Therapeutic, Balloon valvotomy
6600	Status post - Cardiovascular catheterization procedure, Therapeutic, Coil implantation
6610	Status post - Cardiovascular catheterization procedure, Therapeutic, Device implantation
6640	Status post - Cardiovascular catheterization procedure, Therapeutic, Perforation (establishing interchamber and/or intervessel communication)
6580	Status post - Cardiovascular catheterization procedure, Therapeutic, Septostomy
6620	Status post - Cardiovascular catheterization procedure, Therapeutic, Stent insertion
6630	Status post - Cardiovascular catheterization procedure, Therapeutic, Stent re-dilation
6650	Status post - Cardiovascular catheterization procedure, Therapeutic, Transcatheter Fontan completion
6660	Status post - Cardiovascular catheterization procedure, Therapeutic, Transcatheter implantation of valve
6680	Status post - Cardiovascular electrophysiological catheterization procedure
6690	Status post - Cardiovascular electrophysiological catheterization procedure, Therapeutic ablation

STATUS POST

PALLIATIVE PROCEDURES

5590	Status post - Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)
5600	Status post - Shunt, Systemic to pulmonary, Central (from aorta or to main pulmonary artery)
5610	Status post - Shunt, Systemic to pulmonary, Other
5630	Status post - Shunt, Ligation and takedown
6095	Status post - Shunt, Reoperation
5640	Status post - PA banding (PAB)
5650	Status post - PA debanding
5660	Status post - Damus-Kaye-Stansel procedure (DKS) (creation of AP anastomosis without arch reconstruction)
5670	Status post - Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn)
5680	Status post - Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn)
5690	Status post - Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn)
5700	Status post - HemiFontan
6330	Status post - Superior cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty
6130	Status post - Superior Cavopulmonary anastomosis(es) + PA reconstruction
5710	Status post - Palliation, Other

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Attachment E

Congenital Cardiac Diagnosis Codes¹

STATUS POST MECHANICAL SUPPORT

6360	Status post - ECMO cannulation
6370	Status post - ECMO decannulation
5910	Status post - ECMO procedure
5900	Status post - Intraaortic balloon pump (IABP) insertion
5920	Status post - Right/left heart assist device procedure
6390	Status post - VAD explantation
6380	Status post - VAD implantation

STATUS POST ANESTHETIC PROCEDURES

6420	Status post - Echocardiography procedure, Sedated transesophageal echocardiogram
6430	Status post - Echocardiography procedure, Sedated transthoracic echocardiogram
6435	Status post - Non-cardiovascular, Non-thoracic procedure on cardiac patient with cardiac anesthesia
6440	Status post - Radiology procedure on cardiac patient, Cardiac Computerized Axial Tomography (CT Scan)
6450	Status post - Radiology procedure on cardiac patient, Cardiac Magnetic Resonance Imaging (MRI)
6460	Status post - Radiology procedure on cardiac patient, Diagnostic radiology
6470	Status post - Radiology procedure on cardiac patient, Non-Cardiac Computerized Tomography (CT) on cardiac patient
6480	Status post - Radiology procedure on cardiac patient, Non-cardiac Magnetic Resonance Imaging (MRI) on cardiac patient
6490	Status post - Interventional radiology procedure on cardiac patient

STATUS POST MISCELLANEOUS PROCEDURES

5720	Status post - Aneurysm, Ventricular, Right, Repair
5730	Status post - Aneurysm, Ventricular, Left, Repair
5740	Status post - Aneurysm, Pulmonary artery, Repair
5760	Status post - Cardiac tumor resection
5780	Status post - Pulmonary AV fistula repair/occlusion
5790	Status post - Ligation, Pulmonary artery
5802	Status post - Pulmonary embolectomy, Acute pulmonary embolus
5804	Status post - Pulmonary embolectomy, Chronic pulmonary embolus
5810	Status post - Pleural drainage procedure
5820	Status post - Pleural procedure, Other
5830	Status post - Ligation, Thoracic duct
5840	Status post - Decortication
5850	Status post - Esophageal procedure
5860	Status post - Mediastinal procedure
5870	Status post - Bronchoscopy
5880	Status post - Diaphragm plication
5890	Status post - Diaphragm procedure, Other
5930	Status post - VATS (video-assisted thoracoscopic surgery)
5940	Status post - Minimally invasive procedure
5950	Status post - Bypass for noncardiac lesion
5960	Status post - Delayed sternal closure

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Attachment E

Congenital Cardiac Diagnosis Codes¹

STATUS POST

MISCELLANEOUS PROCEDURES (CONTINUED)

5970	Status post - Mediastinal exploration
5980	Status post - Sternotomy wound drainage
5990	Status post - Thoracotomy, Other
6000	Status post - Cardiotomy, Other
6010	Status post - Cardiac procedure, Other
6020	Status post - Thoracic and/or mediastinal procedure, Other
6030	Status post - Peripheral vascular procedure, Other
6040	Status post - Miscellaneous procedure, Other
6050	Status post - Organ procurement

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