

**NEW YORK STATE DEPARTMENT OF HEALTH
OFFICE OF HEALTH SERVICES QUALITY
AND ANALYTICS
CARDIAC SERVICES PROGRAM**

**2025 Data Collection
1/1/2025 – 12/31/2025 Discharges**

**Cardiac Surgery Report, Pediatric
(Under Age 18)**

**Instructions and Data Element
Definitions
Form DOH-2254p**

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Table of Contents

- Revision Highlights and Coding Clarification..... 5**
- When to Complete a Pediatric CSRS Form 6**
- Pediatric CSRS Data Reporting Policies 9**
 - Hospice Policy 9
 - Reporting Schedule 9
- Item-by-Item Instructions10**
 - PFI Number10
 - Sequence Number10
- I. Patient Information10**
 - Child’s Name10
 - Medical Record Number10
 - Child’s Social Security Number10
 - Age in Years11
 - Date of Birth11
 - Sex11
 - Ethnicity11
 - Race12
 - Race Specify.....12
 - Residence Code13
 - Hospital Admission Date13
 - Primary Payer13
 - Medicaid14
 - Preferred Language14
 - PFI of Transferring Hospital14
- II. Procedural Information.....15**
 - Date of Surgery.....15
 - Time of First Skin Incision15
 - Primary Surgeon Performing Surgery15
 - Interventional Cardiologist.....15
 - Surgical Priority.....16
 - Prior Surgery this Admission16
 - Fundamental Diagnosis17
 - Primary Diagnosis.....18
 - Additional Cardiac Diagnosis Codes (#1-#3).....18
 - Primary Procedure Code.....18
 - Additional Cardiac Procedure Codes (#1-#3).....19
 - Mode of Cardiopulmonary (CP) Bypass19
 - Hypothermia19
 - Circulatory Arrest19
 - Minimally Invasive.....20
 - Entire Procedure Off Pump20
 - CABG Information.....20

III. Pre-Operative Status	21
Weight at Time of Operation	21
Gestational Age at Birth in Weeks.....	21
Weight at Birth in Grams	21
Pre-Operative Conditions	21
None	21
Previous Open Heart Operations.....	22
Previous Closed Heart Operations	22
Pre-op Interventional Cath Procedure.....	23
Severe Cyanosis or Severe Hypoxia	23
Dialysis within 14 Days Prior to Surgery	23
Any Ventilator Dependence During the Same Admission or within 14 Days Prior to Surgery.....	24
Inotropic Support Immediately Pre-op within 24 Hrs	24
Positive Blood Cultures within 2 Weeks of Surgery.....	24
Arterial pH < 7.25, Immediately Pre-op within Hospital Stay	25
Significant Renal Dysfunction	25
Trisomy 21	25
Major Extracardiac Anomalies	25
Near Systemic Pulmonary Vascular Resistance (PVR)	26
Ventricular Assist.....	26
Pre-existing Neurologic Abnormality	26
Pneumonia at Time of Surgery	27
Prostaglandin Dependence at Time of Surgery	27
Balloon Atrial Septostomy.....	27
ny Previous Organ Transplant	27
IV. Post-Procedural Events Requiring Intervention	28
None	28
Cardiac Tamponade	28
Ventricular Fibrillation or CPR.....	28
Bleeding Requiring Reoperation	28
Deep Sternal Wound Infection	29
Ventilator Dependency > 10 Days.....	29
Clinical Sepsis with Positive Blood Cultures	29
Renal Failure Requiring Dialysis	29
Complete Heart Block at Discharge	29
Unplanned Cardiac Reoperation or Interventional Catheterization	30
New Neurologic Deficit.....	30
Ventricular Assist	30
V. Discharge Information	31
Hospital Discharge Date	31
Discharged Alive To.....	31
Died in	31
30 Day Status	31

Attachments

- A: Response Codes for Asian Pacific Islander Groups
- B: Response Codes for Preferred Language
- C: PFI Numbers for Cardiac Diagnostic and Surgical Centers
- D: Congenital and Acquired Cardiac Procedure Codes
- E: Primary Cardiac Diagnosis Codes
- F: Residence Codes

Revision Highlights and Coding Clarification

Complete data element definitions and coding instructions can be found in the main body of this document. The following changes take effect January 1, 2025.

Patient Information

Sex at Birth – An additional response choice for “Other” has been added.

Race – It is now possible to report more than one race.

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)
 - Tracheal procedure (1440)
 - Muscle flap, Trunk (i.e. intercostal, pectus, or serratus muscle) (2800)
 - Muscle flap, Trunk (i.e. latissimus dorsi) (2810)
 - Removal, Sternal wire (2820)
 - Rib excision, Complete (2930)
 - Rib excision, Partial (2840)
 - Sternal fracture, Open treatment (2850)
 - Sternal resection, Radical resection of the sternum (2860)
 - Sternal resection, Radical resection of the sternum with mediastinal lymphadenectomy (2870)
 - Tumor of chest wall, Excision including ribs (2880)
 - Tumor of chest wall, Excision including ribs, With reconstruction (2890)
 - Tumor of soft tissue of thorax, Excision of deep subfascial or intramuscular tumor (2900)
 - Tumor of soft tissue of thorax, Excision of subcutaneous tumor (2910)
 - Tumor of soft tissue of thorax, Radical resection (2920)
 - Hyoid myotomy and suspension (2930)
 - Muscle flap, Neck (2940)
 - Procedure on neck (2950)
 - Tumor of soft tissue of neck, Excision of deep subfascial or intramuscular tumor (2960)
 - Tumor of soft tissue of neck, Excision of subcutaneous tumor (2970)
 - Tumor of soft tissue of neck, Radical resection (2980)

- Pectus bar removal (2990)
- Pectus bar repositioning (3000)
- Pectus repair, Minimally invasive repair (Nuss), With thoracoscopy (3010)
- Pectus repair, Minimally invasive repair (Nuss), Without thoracoscopy (3020)
- Pectus repair, Open repair (3030)
- Division of scalenus anticus, With resection of a cervical rib (3040)
- Division of scalenus anticus, Without resection of a cervical rib (3050)
- Rib excision, Excision of a cervical rib (3060)
- Rib excision, Excision of a cervical rib, With sympathectomy (3070)
- Rib excision, Excision of first rib (3080)
- Rib excision, Excision of first rib, With sympathectomy (3090)
- Procedure on thorax (3100)
- 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) 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 2023 reporting schedule is as follows.

Quarter 1 (1/1/25 – 3/31/25 Discharges) due on or before May 31, 2025

Quarter 2 (4/1/25– 6/30/25 Discharges) due on or before August 31, 2025

Quarter 3 (7/1/25 – 9/30/25 Discharges) due on or before November 30, 2025

Quarter 4 (10/1/25 – 12/31/25 Discharges) due on or before February 28, 2026

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

Descriptive Name: PFI Number

Variable Name: PFI

Format: XXXX, or XXXXX, or XXXXXX

Definition: The PFI Number is a Permanent Facility Identifier assigned by the Department of Health.

Note:

The reported PFI must be at least 4 digits but can extend to 5 or 6 digits if the number is > 9999. PFI values < 9999 (e.g. 0001 or 0925) should continue to be reported with leading zeros to fill the required 4 digits. Additional 0s beyond those required to fill 4 digits should not be reported.

Descriptive Name: Sequence Number

Variable Name: SEQUENCE

Format: XXXX

Definition: 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

Descriptive Name: Child's Name

Variable Name: LAST NAME, FIRSTNAME

Format: Free text

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

Descriptive Name: Medical Record Number

Variable Name: MEDRECNO

Format: 0-9 or A-Z; no punctuation or other characters

Definition: Enter the child's medical record number.

Descriptive Name: Child's Social Security Number

Variable Name: SSNO

Format: XXX-XX-XXXX

Definition: Enter the child's social security number.

Descriptive Name: Age in Years

Variable Name: AGE

Format: 0-17

Definition: 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.

Descriptive Name: Date of Birth

Variable Name: DOB

Format: MM/DD/YYYY

Definition: Enter the child's exact date of birth.

Descriptive Name: Sex

Variable Name: SEX

Format: 1 -3

Definition: Check the appropriate box for the patient's sex at birth.

- 1 – Male
- 2 – Female
- 3 - Other

Note:

In the absence of any other information, it is reasonable to assume that the sex at birth is the same as at the time of admission.

Descriptive Name: Ethnicity

Variable Name: ETHNIC

Format: 1 or 2

Definition: Check the appropriate box.

Descriptive Name: Race

Variable Name: RACE_W, RACE_B, RACE_NA, RACE_O, RACE_U, AA_CODE, PI_CODE

Format: 1 = Yes, 0 or Blank = No, except AA_CODE (1-21, 0 or blank) and PI_CODE (1-4, 0 or Blank)

Definition: Select all that apply.

Report the patient's race. More than one response may be reported.

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

Black or African American: A person having origins in any of the black racial groups of Africa.

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.

Other: Report for those responses that are not covered by any other category.

Unknown: Report if patient's race is unknown.

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. Report using the most appropriate code from Attachment A.

Pacific Islander: A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. Report using the most appropriate code from Attachment A.

Note:

Race should be based on the patient's racial/ethnic origins, which is not necessarily the same as their country or place of origin.

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

Descriptive Name: Race Specify

Variable Name: RACESPEC, AA_OTH, PI_OTH

Format: Free text

Definition: If Race was reported as Other, Asian Other, or Pacific Islander Other provide the specific race.

Descriptive Name: Residence Code

Variable Name: RESIDENC, STATE

Format: 01-62, 88, or 99

Definition: Enter the county code of the patient's principal residence, as shown in Attachment F. 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.

Descriptive Name: Hospital Admission Date

Variable Name: ADMIDATE

Format: MM/DD/YYYY

Definition: Enter the date that the current hospital stay began.

Descriptive Name: Primary Payer

Variable Name: PAYER

Format: 01-07, 11, or 19

Definition: Enter the primary source of payment for this hospital stay.

- 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

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.

Descriptive Name: Medicaid

Variable Name: MEDICAID

Format: 1 = Yes, Blank or 0 = No

Definition: 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.

Descriptive Name: Preferred Language

Variable Name: PEF_LANG

Format: From Attachment B

Definition: Indicate the patient's preferred language using the responses listed in Attachment B.

Descriptive Name: PFI of Transferring Hospital

Variable Name: TRANS_PFI

Format: XXXX or XXXXX or XXXXXX

Definition: 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 C. 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 health.ny.gov/statistics/sparcs/reports/compliance/pfi_facilities.htm for a complete listing of NYS hospitals, including their PFI.

Note:

PFI on the above website is listed as 6 digits. The reported PFI must be at least 4 digits but can extend to 5 or 6 digits if the number is > 9999. PFI values < 9999 (e.g. 0001 or 0925) should continue to be reported with leading zeros to fill the required 4 digits. Additional 0s beyond those required to fill 4 digits should not be reported.

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.

Descriptive Name: Date of Surgery

Variable Name: SURGDATE

Format: MM/DD/YYYY

Definition: 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.

Descriptive Name: Time of First Skin Incision

Variable Name: SURGHOUR, SURGMIN

Format: HH:MM

Definition: 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).

Descriptive Name: Primary Surgeon Performing Surgery

Variable Name: PHYSNUM

Format: XXXXXX

Definition: 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.

Descriptive Name: Interventional Cardiologist

Variable Name: CARDNUM

Format: XXXXXX

Definition: 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.

Descriptive Name: Surgical Priority

Variable Name: PRIORITY

Format: 1-3

Definition: 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.

Descriptive Name: Prior Surgery this Admission

Variable Name: PRIOSURG, PRIODATE

Format: 1 or 2, MM/DD/YYYY

Definition: 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.

Descriptive Name: Fundamental Diagnosis

Variable Name: DIAG1

Format: XXXX

Definition: 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, consider a child who underwent repair of subaortic stenosis, subsequently develops complete atrioventricular (AV) block, and undergoes pacemaker placement within the same hospitalization. The primary diagnosis for the pacemaker surgery is “Arrhythmia, Heart block, Acquired”, while the fundamental diagnosis is “Aortic stenosis, Subvalvar”.

Similarly, 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.”

The utilization of the fundamental diagnosis field, it is hoped, will clarify designation of a primary diagnosis, and enable greater specificity in the lesion specific report analyses.

Coding Note:

The definition of Fundamental Diagnosis (*DIAG1*) and the Congenital Diagnosis Codes in Attachment E are aligned with STS Congenital Heart Surgery Database v6.23.2 data element 1075.

Society of Thoracic Surgeons, Congenita Heart Surgery Database, Version 6.23.2, used with permission.

Descriptive Name: Primary Diagnosis

Variable Name: DIAG2

Format: XXXX

Definition: Indicate the diagnosis of primary importance at the time of this surgical procedure. The primary diagnosis is the principal diagnostic reason for performing the operation.

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

The primary diagnosis can be any of the following:

- (1) the anatomic diagnosis for which a palliative or reparative surgery is indicated and planned, e.g., *Tetralogy of Fallot, Pulmonary stenosis*
- (2) the physiologic derangement or hemodynamic abnormality to be addressed by the planned operation, e.g., *Mitral or systemic AV valve insufficiency* following AVC (AVSD) , Complete (CAVSD) repair
- (3) postoperative bleeding following any surgical procedure.

Coding Note:

The definition of Primary Diagnosis (*DIAG1*) and the Congenital Diagnosis Codes in Attachment E are aligned with STS Congenital Heart Surgery Database v6.23.2 data element 1070. *Society of Thoracic Surgeons, Congenita Heart Surgery Database, Version 6.23.2 , used with permission.*

Descriptive Name: Additional Cardiac Diagnosis Codes (#1-#3)

Variable Name: DIAG3, DIAG4, DIAG5

Format: XXXX

Definition: 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 v6.23.2 data element 1065. *Society of Thoracic Surgeons, Congenita Heart Surgery Database, Version 6.23.2, used with permission.*

Descriptive Name: Primary Procedure Code

Variable Name: PROC1

Format: XXXX

Definition: 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 v6.23.2 data element 1355. *Society of Thoracic Surgeons, Congenita Heart Surgery Database, Version 6.23.2, used with permission.*

Descriptive Name: Additional Cardiac Procedure Codes (#1-#3)

Variable Name: PROC2, PROC3, PROC4

Format: XXXX

Definition: 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 v6.23.2 data element 1350.

Society of Thoracic Surgeons, Congenital Heart Surgery Database, Version 6.23.2, used with permission.

Descriptive Name: Mode of Cardiopulmonary (CP) Bypass

Variable Name: LOWFLOW

Format: 1 = Yes, Blank or 0 = No

Definition: Indicate if CP Bypass was "Low Flow."

Descriptive Name: Hypothermia

Variable Name: DEEPHYPO

Format: 1, 2, or Blank

Definition: Check the appropriate box.

- 1 $\leq 24^{\circ}$ C
 - 2 25 – 32°C
-

Descriptive Name: Circulatory Arrest

Variable Name: CIRCARES

Format: 1,2,3 or Blank

Definition: Check the appropriate box.

- 1 < 30 minutes
 - 2 30 – 60 minutes
 - 3 > 60 minutes
-

Descriptive Name: Minimally Invasive

Variable Name: MINI_INV

Format: 1 = Yes, Blank or 0 = No

Definition: 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".

Descriptive Name: Entire Procedure Off Pump

Variable Name: ALL_OFF

Format: 1 = Yes, Blank or 0 = No

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

Descriptive Name: CABG Information

Variable Name: TOT_COND, ART_COND, DISTAL

Format: 1-9

Definition: 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

Descriptive Name: Weight at Time of Operation

Variable Name: WGT_UNIT, WEIGHT

Format: 0-9999

Definition: 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.

Descriptive Name: Gestational Age at Birth in Weeks

Variable Name: GEST_AGE

Format: 18-44

Definition: 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.

Descriptive Name: Weight at Birth in Grams

Variable Name: BIRTHWGT

Format: 1-5, Blank or 0

Definition: 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.

Descriptive Name: 0. None

Variable Name: NORISK

Format: 1 = Yes, Blank or 0 = No

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

Descriptive Name: 1-3. Previous Open Heart Operations

Variable Name: PREVOP_1, PREVOP_2, PREVOP_3

Format: 1 = Yes, Blank or 0 = No,

Definition: 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.

Descriptive Name: 4-6. Previous Closed Heart Operations

Variable Name: PRECLO_1, PRECLO_2, PRECLO_3

Format: 1 = Yes, Blank or 0 = No,

Definition: 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.

Descriptive Name: 7. Pre-op Interventional Cath Procedure

Variable Name: PRE_CATH, INT_DATE

Format: 1 = Yes, Blank or 0 = No, MM/DD/YYYY

Definition: 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).

Descriptive Name: 11. Severe Cyanosis or Severe Hypoxia

Variable Name: SEV_CYAN

Format: 1 = Yes, Blank or 0 = No

Definition: 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.”

Descriptive Name: 12. Dialysis within 14 Days Prior to Surgery

Variable Name: DIAL_PRE

Format: 1 = Yes, Blank or 0 = No

Definition: 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.

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

Variable Name: VENT_PRE

Format: 1 = Yes, Blank or 0 = No

Definition: 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.

Descriptive Name: 14. Inotropic Support Immediately Pre-op within 24 Hrs

Variable Name: INOT_PRE

Format: 1 = Yes, Blank or 0 = No

Definition: 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

Descriptive Name: 15. Positive Blood Cultures within 2 Weeks of Surgery

Variable Name: POS_BLOO

Format: 1 = Yes, Blank or 0 = No

Definition: 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.

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

Variable Name: ARTER_PH

Format: 1 = Yes, Blank or 0 = No

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

Descriptive Name: 17. Significant Renal Dysfunction

Variable Name: RENA_DYS

Format: 1 = Yes, Blank or 0 = No

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

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

Descriptive Name: 18. Trisomy 21

Variable Name: DOWN_SYN

Format: 1 = Yes, Blank or 0 = No

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

Descriptive Name: 19. Major Extracardiac Anomalies

Variable Name: CARDANOM, ANOM_SPEC

Format: 1 = Yes, Blank or 0 = No; Free text

Definition: 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.

Descriptive Name: 21. Near Systemic Pulmonary Vascular Resistance (PVR)

Variable Name: PULM_HYP

Format: 1 = Yes, Blank or 0 = No

Definition: 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

Descriptive Name: 22. Ventricular Assist

Variable Name: PREOPVAD

Format: 1 = Yes, Blank or 0 = No

Definition: 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)

Descriptive Name: 24. Pre-existing Neurologic Abnormality

Variable Name: NEUROABN, NEURO_SPEC

Format: 1 = Yes, Blank or 0 = No; Free text

Definition: 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.

Descriptive Name: 25. Pneumonia at Time of Surgery

Variable Name: PNEUMONI

Format: 1 = Yes, Blank or 0 = No

Definition: 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.
-

Descriptive Name: 26. Prostaglandin Dependence at Time of Surgery

Variable Name: PROSTAGL

Format: 1 = Yes, Blank or 0 = No

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

Descriptive Name: 27. Balloon Atrial Septostomy

Variable Name: BALLSEPT

Format: 1 = Yes, Blank or 0 = No

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

Descriptive Name: 28. Any Previous Organ Transplant

Variable Name: ORGN_TRA

Format: 1 = Yes, Blank or 0 = No

Definition: 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.

Descriptive Name: 0. None

Variable Name: NOEVENTS

Format: 1 = Yes, Blank or 0 = No

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

Descriptive Name: 1. Cardiac Tamponade

Variable Name: CARDTAMP

Format: 1 = Yes, Blank or 0 = No

Definition: 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.).

Descriptive Name: 2. Ventricular Fibrillation or CPR

Variable Name: VENT_FIB

Format: 1 = Yes, Blank or 0 = No

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

Descriptive Name: 3. Bleeding Requiring Reoperation

Variable Name: BLEDREOP

Format: 1 = Yes, Blank or 0 = No

Definition: 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).

Descriptive Name: 4. Deep Sternal Wound Infection

Variable Name: DSW_INF

Format: 1 = Yes, Blank or 0 = No

Definition: 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

Descriptive Name: 6. Ventilator Dependency > 10 Days

Variable Name: VENDEP10

Format: 1 = Yes, Blank or 0 = No

Definition: 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.

Descriptive Name: 7. Clinical Sepsis with Positive Blood Cultures

Variable Name: SEPSIS

Format: 1 = Yes, Blank or 0 = No

Definition: 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

Descriptive Name: 11. Renal Failure Requiring Dialysis

Variable Name: DIALYSIS

Format: 1 = Yes, Blank or 0 = No

Definition: 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.

Descriptive Name: 12. Complete Heart Block at Discharge

Variable Name: COMP_HB

Format: 1 = Yes, Blank or 0 = No

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

Descriptive Name: 13. Unplanned Cardiac Reoperation or Interventional Catheterization

Variable Name: UP_REOP

Format: 1 = Yes, Blank or 0 = No

Definition: 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.

Descriptive Name: 15. New Neurologic Deficit

Variable Name: NEURODEF

Format: 1 = Yes, Blank or 0 = No

Definition: New neurologic deficit **present at discharge**.

Descriptive Name: 16. Ventricular Assist

Variable Name: POST_VAD

Format: 1 = Yes, Blank or 0 = No

Definition: 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

Descriptive Name: Hospital Discharge Date

Variable Name: DISDATE

Format: MM/DD/YYYY

Definition: 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.

Descriptive Name: Discharged Alive To

Variable Name: STATUS, DISWHERE

Format: 11-15 or 19; Free text

Definition: 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.

Descriptive Name: Died in

Variable Name: STATUS, DISWHERE

Format: 2-6 or 8, Free text

Definition: 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.

Descriptive Name: 30 Day Status

Variable Name: THIRTYDAY

Format: 1, 2 or 9

Definition: Report the patient's status at 30 days post-procedure using the appropriate code.

Attachment A

Response Codes for Asian and Pacific Islander Groups

These codes are to be used in the field “Detailed Asian” (AA_CODE) when response to “Race” (RACE) is Asian.

- 01 Chinese
- 02 Japanese
- 03 Filipino
- 04 Korean
- 05 Vietnamese
- 06 Asian Indian
- 07 Bangladeshi
- 08 Pakistani
- 09 Burmese
- 10 Nepalese
- 11 Taiwanese
- 12 Thai
- 13 Bhutanese
- 14 Cambodian
- 15 Hmong
- 16 Indonesian
- 17 Laotian
- 18 Malaysian
- 19 Mongolian
- 20 Sri Lankan
- 21 Other Asian

These codes are to be used in the field “Detailed Pacific Islander” (PI_CODE) when response to “Race” (RACE) is - Pacific Islander.

- 1 Native Hawaiian
- 2 Guamanian and Chamorro
- 3 Samoan
- 4 Other Pacific Island group

Attachment B

Response Codes for Preferred Language

Acceptable responses for “Preferred Language” (PREF_LANG). The language responses follow the ISO 639.2 conventions and there are two special codes for Other and Unknown/Not Documented.

Language	Response Code
Albanian	sqi
Arabic	ara
Bengali	ben
Cantonese	yue
Chinese	zho
English	eng
French	fra
German	deu
Greek	gre
Haitian-Creole	hat
Hindi	hin
Italian	ita
Japanese	jpn
Korean	kor
Mandarin	cmn
Polish	pol
Russian	rus
Spanish	spa
Tagalog	tgl
Urdu	urd
Yiddish	yid
SPECIAL VALUES	
Other Language Not Above	888
Language Unknown/Not Documented	999

Attachment C

PFI Numbers for Cardiac Diagnostic and Surgical Centers

PFI Facility

ALBANY AREA

0001 Albany Medical Center Hospital
0746 Bassett Medical Center
0829 Ellis Hospital
1005 Glens Falls Hospital
0756 Samaritan Hospital
0818 Saratoga Hospital
0005 St. Peter's Hospital
0135 UVM Health Network - CVPH

BUFFALO AREA

0207 Buffalo General Medical Center
0210 Erie County Medical Center
0213 Mercy Hospital of Buffalo
0574 Niagara Falls Memorial Medical Center
0066 Olean General Hospital
0103 UPMC Chautauqua

ROCHESTER AREA

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

SYRACUSE AREA

0977 Cayuga Medical Center
0636 Crouse Hospital
0630 St. Joseph's Hospital Health Center
0058 UHS-Wilson Medical Center
0635 Upstate University Hospital – SUNY
15478 Wynn Hospital

PFI Facility

NEW ROCHELLE AREA

0699 Garnet Health Medical Center (formerly Orange Regional Medical Center)
0779 Good Samaritan Hospital of Suffern
0925 Good Samaritan University Hospital
0989 HealthAlliance Hospital – Mary’s Ave
0913 Huntington Hospital
0895 John T. Mather Memorial Hospital
0885 Long Island Community Hospital
0513 Mercy Medical Center
0180 MidHudson Regional Hospital of Westchester Medical Center
1072 Montefiore New Rochelle Hospital
0776 Montefiore Nyack Hospital
0694 Montefiore St. Luke’s Cornwall Hospital
0527 Mount Sinai South Nassau
0528 Nassau University Medical Center
0541 North Shore University Hospital
0192 Northern Dutchess Hospital
1117 Northern Westchester Hospital
1039 NY Presbyterian-Hudson Valley Hospital
1122 NYP Westchester
0511 NYU- Langone Hospital - Long Island
0938 Peconic Bay Medical Center
0552 Plainview Hospital
0924 South Shore University Hospital
0943 St. Catherine of Siena Medical Center
0563 St. Francis Hospital & Heart Center
1097 St. John's Riverside Hospital-St. John's Division
0551 St. Joseph Hospital
0889 Stony Brook Southampton Hospital
0245 University Hospital at Stony Brook
0181 Vassar Brothers Medical Center
1139 Westchester Medical Center
1045 White Plains Hospital

NY CITY AREA

1438 Bellevue Hospital Center
1178 BronxCare Health System-Concourse
1286 Brookdale University Hospital Medical Center
1288 Brooklyn Hospital Center-Downtown
1294 South Brooklyn Health
1626 Elmhurst Hospital Center
1309 Interfaith Medical Center
1165 Jacobi Medical Center

PFI Facility

NY CITY AREA (CONT.)

1629 Jamaica Hospital Medical Center
1301 King's County Hospital Center
1450 Lenox Hill Hospital
1630 Long Island Jewish Medical Center
1305 Maimonides Medical Center
1169 Montefiore Medical Center-Henry and Lucy Moses Division
3058 Montefiore Medical Center-Jack D. Weiler Hospital of
A. Einstein College Division
1439 Mount Sinai Beth Israel
1456 Mount Sinai Hospital
1469 Mount Sinai Morningside
1639 Mount Sinai Queens
1306 NYP Hospital - Brooklyn Methodist Hospital
1464 NYP Hospital-Columbia Presbyterian Center
1458 NYP Hospital-NY Weill Cornell Center
1637 NYP Hospital-Queens
1463 NYU Hospitals Center
1304 NYU Langone Hospital-Brooklyn
1738 Richmond University Medical Center
1176 St. Barnabas Hospital
1740 Staten Island University Hospital-North
1320 University Hospital at Downstate
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:

health.ny.gov/statistics/sparcs/reports/compliance/pfi_facilities.htm

Use the last four digits of the number in the PFI column PFI.

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
- 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
- 5001 VSD repair, Patch + ASD repair, Primary closure
- 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)
- 5022 AVC (AVSD) repair, Partial (Incomplete) (PAVSD) + VSD repair, Patch
- 2300 Valvuloplasty, Common atrioventricular valve
- 2250 Valvuloplasty converted to valve replacement in the same operation, Common atrioventricular valve
- 2230 Valve replacement, Common atrioventricular valve
- 5027 AVC (AVSD) repair, Complete (CAVSD) + Vascular ring repair
- 5034 AVC (AVSD) repair, Complete (CAVSD) + Coarctation repair, End to end, Extended
- 3480 AVC (AVSD) repair, Complete (CAVSD) + Arch repair

AP Window

- 210 AP window repair
- 220 Pulmonary artery origin from ascending aorta (hemitruncus) repair
- 230 Truncus arteriosus repair
- 2220 Truncus + Interrupted aortic arch repair (IAA) repair

PULMONARY VENOUS ANOMALIES

Partial Anomalous Pulmonary Venous Connection

- 260 PAPVC repair
- 5007 PAPVC repair + ASD repair, Primary closure
- 270 PAPVC, Scimitar, Repair
- 2120 PAPVC repair, Baffle redirection to left atrium with systemic vein translocation (Warden) (SVC sewn to right atrial appendage)
- 2110 ASD repair, Patch + PAPVC repair
- 5024 VSD repair, Patch + PAPVC repair
- 5028 VSD repair, Patch + ASD repair, Patch + PAPVC repair

¹Society of Thoracic Surgeon, Congenital Heart Surgery Database v6.23.2, used with permission

Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

Total Anomalous Pulmonary Venous Connection

- 280 TAPVC repair
- 2200 TAPVC repair + Shunt - systemic-to-pulmonary
- 5006 TAPVC repair + Shunt - systemic-to-pulmonary + PDA closure, Surgical

COR TRIARIATUM

- 290 Cor triatriatum repair

PULMONARY VENOUS STENOSIS

- 300 Pulmonary venous stenosis repair
- 5019 Pulmonary venous stenosis repair + ASD partial closure

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
- 5004 TOF repair, No Ventriculotomy + ASD repair, Primary closure
- 360 TOF repair, Ventriculotomy, Nontransanular patch
- 370 TOF repair, Ventriculotomy, Transanular patch
- 3330 TOF repair, Ventriculotomy, Transanular patch, plus native valve reconstruction
- 3340 TOF repair, Ventriculotomy, Transanular patch, with monocusp or other surgically fashioned RVOT valve
- 380 TOF repair, RV-PA conduit
- 390 TOF - AVC (AVSD) repair
- 400 TOF - Absent pulmonary valve repair
- 5018 TOF repair, Ventriculotomy, Transanular patch + Vascular ring repair

Pulmonary Atresia

- 420 Pulmonary atresia - VSD (including TOF, PA) repair
- 5031 Pulmonary atresia - VSD (including TOF, PA) repair + ASD repair, Primary closure + PDA closure, Surgical
- 2700 Pulmonary atresia - VSD – MAPCA repair, Complete single stage repair (1 stage that includes bilateral pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])
- 2710 Pulmonary atresia - VSD – MAPCA repair, Status post prior complete unifocalization (includes VSD closure + RV to PA connection [with or without conduit])
- 2720 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])
- 2730 Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - Complete unifocalization (all usable MAPCA[s] are incorporated)

¹Society of Thoracic Surgeon, Congenital Heart Surgery Database v6.23.2, used with permission

Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

Pulmonary Atresia (Continued)

- 2740 Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - Incomplete unifocalization (not all usable MAPCA[s] are incorporated)
- 2750 Unifocalization MAPCA(s), Unilateral pulmonary unifocalization
- 440 Unifocalization MAPCA(s)
- 5011 Unifocalization MAPCA(s) + Conduit placement, RV to PA
- 5014 Unifocalization MAPCA(s) + Shunt, Systemic to pulmonary, Central (shunt from aorta)
- 450 Occlusion MAPCA(s)

Tricuspid (or Atrioventricular valve of non-systemic ventricle) Disease and Ebstein's Anomaly

- 460 Valvuloplasty, Tricuspid
- 2280 Valvuloplasty converted to valve replacement in the same operation, Tricuspid
- 465 Ebstein's repair
- 5030 Ebstein's repair + PDA closure, Surgical
- 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)
- 5003 PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation) + Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)
- 550 PA, reconstruction (plasty), Branch, Peripheral (at or beyond the hilar bifurcation)
- 3350 PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch, proximal to first segmental branch)
- 3360 PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch, and includes plasty of segmental branch(es), ostial or beyond)
- 570 DCRV repair
- 3370 RV Rehabilitation, Endocardial Resection

Pulmonary Valve Disease

- 590 Valvuloplasty, Pulmonic
- 2270 Valvuloplasty converted to valve replacement in the same operation, Pulmonic
- 600 Valve replacement, Pulmonic (PVR)
- 5015 ASD repair, Patch + Valve replacement, Pulmonary or Neo-Pulmonary (PVR)
- 5023 VSD repair, Patch + Valve replacement, Pulmonary or Neo-Pulmonary (PVR)
- 5033 Valve replacement, Pulmonary or Neo-Pulmonary (PVR) + explantation of pacing system
- 630 Valve excision, Pulmonary (without replacement)
- 640 Valve closure, Semilunar
- 650 Valve surgery, Other, Pulmonic
- 5025 Valve replacement, Pulmonary or Neo-Pulmonary (PVR) + Valve replacement, Aortic/Neo-Aortic/Truncal (AVR), Mechanical

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Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

RIGHT HEART LESIONS (CONTINUED)

Conduit Operations

- 610 Conduit placement, RV to PA
- 3520 Conduit placement, RV to PA, Valved
- 3530 Conduit placement, RV to PA, Non-valved
- 620 Conduit placement, LV to PA
- 1774 Conduit placement, Ventricle to aorta
- 1772 Conduit placement, Other
- 5013 Conduit placement, RV to PA + PDA closure, Surgical
- 5035 Conduit placement, RV to PA + Aortic root replacement, Mechanical

Conduit Stenosis / Insufficiency

- 580 Conduit reoperation
- 5016 VSD repair, Patch + Conduit reoperation
- 5020 Conduit reoperation + Valve replacement, Aortic/Neo-Aortic/Truncal (AVR), Mechanical

LEFT HEART LESIONS

Aortic Valve Disease

- 240 Valvuloplasty, Truncal valve
- 3490 Valvuloplasty, Truncal valve, Reduction of number of cusps/sinus resection
- 3500 Valvuloplasty, Truncal valve, Augmentation of valve leaflet (one or more)
- 3510 Valvuloplasty, Truncal valve, Neo-cuspidization (including one or more leaflet – ‘Ozaki’ type repair etc.)
- 2290 Valvuloplasty converted to valve replacement in the same operation, Truncal valve
- 250 Valve replacement, Truncal valve
- 3790 Valve replacement, Truncal, Mechanical
- 3800 Valve replacement, Truncal, Bioprosthetic
- 3810 Valve replacement, Truncal, Homograft
- 660 Valvuloplasty, Aortic/neo-aortic
- 3540 Valvuloplasty, Aortic/Neo-Aortic Valve, Reduction of number of cusps/sinus resection
- 3550 Valvuloplasty, Aortic/Neo-Aortic Valve, Augmentation of valve leaflet (one or more)
- 3560 Valvuloplasty, Aortic/Neo-Aortic Valve Neo-cuspidization (including one or more leaflet – ‘Ozaki’ type repair etc.)
- 2240 Valvuloplasty converted to valve replacement in the same operation, Aortic/neo-aortic.
- 2310 Valvuloplasty converted to valve replacement in the same operation, Aorti/neo-aortic.c – with Ross procedure
- 2320 Valvuloplasty converted to valve replacement in the same operation, Aortic/neo-aortic. – with Ross-Konno procedure
- 670 Valve replacement, Aortic (AVR)
- 680 Valve replacement, Aortic/neo-aortic. (AVR), Mechanical
- 690 Valve replacement, Aortic/neo-aortic. (AVR), Bioprosthetic
- 700 Valve replacement, Aortic/neo-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
- 5026 Ross-Konno procedure + Valve replacement, Mitral or systemic atrioventricular Valve (MVR)

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Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

LEFT HEART LESIONS (CONTINUED)

- 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, neo-aortic or truncal valve.
- 3380 Extended Ventricular Septoplasty (modified Konno, VSD creation and patch enlargement of LVOT, sparing aortic valve) for tunnel type sub aortic stenosis

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
- 5005 Mitral or systemic atrioventricular Valvuloplasty + Valvuloplasty, Aortic/Neo-Aortic/Truncal
- 2260 Valvuloplasty converted to valve replacement in the same operation, Mitral
- 840 Mitral stenosis, Supravalvar mitral ring repair
- 850 Valve replacement, Mitral (MVR)
- 860 Valve surgery, Other, Mitral

Hypoplastic Left Heart

- 870 Norwood procedure
- 5012 Norwood procedure+Valvuloplasty, Systemic Atrioventricular valve+Conduit placement, RV to PA
- 880 HLHS biventricular repair for hypoplastic left ventricle
- 3390 LV Endocardial Fibroelastosis resection
- 2755 Conduit insertion right ventricle to pulmonary artery + Intraventricular tunnel left ventricle to neoaorta + arch reconstruction (Rastelli and Norwood type arch reconstruction) (Yasui)
- 2160 Hybrid Approach "Stage 1", with application of RPA & LPA bands with concomitant use of PGE to maintain ductal patency.
- 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
- 2760 Hybrid Approach, Transcatheter balloon dilatation
- 2770 Hybrid Approach, Transcatheter device placement

CARDIOMYOPATHY

- 890 Transplant, Heart
- 5002 PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation) + Transplant, Heart
- 900 Transplant, Heart and lung
- 3570 Transplant, Heart and Liver (Combined procedure)
- 3580 Transplant, Heart and Kidney (Combined procedure)
- 3590 Transplant, Heart and Liver and Kidney (Combined procedure)
- 910 Partial left ventriculectomy (LV volume reduction surgery) (Batista)

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Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

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
- 5010 Fontan, TCPC, External conduit, Fenestrated + Pacemaker procedure
- 1010 Fontan, TCPC, External conduit, Nonfenestrated
- 2780 Fontan, TCPC, Intra/extracardiac conduit, Fenestrated
- 2790 Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated
- 3310 Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated
- 3320 Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated
- 1025 Fontan revision or conversion (Re-do Fontan)
- 1030 Fontan, Other
- 3600 Fontan, Takedown
- 2340 Fontan + Atrioventricular valvuloplasty
- 1035 Ventricular septation
- 3610 Ventricular septation, Following superior cavopulmonary anastomosis or hemifontan
- 3620 Ventricular septation, Following prior total cavopulmonary connection
- 3630 Ventricular septation, Following prior Hybrid Stage 1
- 3640 Ventricular septation, Following prior Norwood or DKS procedure

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

Congenitally Corrected TGA (continued)

- 1080 Congenitally corrected TGA repair, VSD closure and LV to PA conduit
- 1090 Congenitally corrected TGA repair, Other

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)
- 3400 Double root translocation

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Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

DORV

- 1180 DORV, Intraventricular tunnel repair
- 3410 DORV repair, No Ventriculotomy
- 3420 DORV repair, Ventriculotomy, Nontransannular patch
- 3430 DORV repair, Ventriculotomy, Transannular patch
- 3440 DORV repair, RV-PA conduit
- 3450 DORV - AVC (AVSD) 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
- 3460 Coarctation repair, Descending aorta anastomosed to Ascending aorta
- 1230 Coarctation repair, Subclavian flap
- 1240 Coarctation repair, Patch aortoplasty
- 1250 Coarctation repair, Interposition graft
- 3470 Coarctation repair, Extra-anatomic Bypass graft
- 1260 Coarctation repair, Other
- 1275 Coarctation repair + VSD repair
- 1280 Aortic arch repair
- 1285 Aortic arch repair + VSD repair
- 5008** Aortic arch repair + VSD repair + ASD repair, Patch

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
- 1365 Aortopexy
- 3650 Division with or without reimplantation of aberrant subclavian artery
- 1370 Pulmonary artery sling repair
- 5009** Pulmonary artery sling repair + Tracheal procedure

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Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

THORACIC ARTERIES AND VEINS (CONTINUED)

Aortic Aneurysm

1380 Aortic aneurysm repair

Aortic Dissection

1390 Aortic dissection repair

Aortic Other

3655 Aorta, Other

THORACIC AND MEDIASTINAL DISEASE

Lung Disease

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

Tracheal Stenosis

1440 Tracheal procedure

Chest Wall

2800 Muscle flap, Trunk (i.e. intercostal, pectus, or serratus muscle)
2810 Muscle flap, Trunk (i.e. latissimus dorsi)
2820 Removal, Sternal wire
2830 Rib excision, Complete
2840 Rib excision, Partial
2850 Sternal fracture, Open treatment
2860 Sternal resection, Radical resection of the sternum
2870 Sternal resection, Radical resection of the sternum with mediastinal lymphadenectomy
2880 Tumor of chest wall, Excision including ribs
2890 Tumor of chest wall, Excision including ribs, With reconstruction
2900 Tumor of soft tissue of thorax, Excision of deep subfascial or intramuscular tumor
2910 Tumor of soft tissue of thorax, Excision of subcutaneous tumor
2920 Tumor of soft tissue of thorax, Radical resection

Neck

2930 Hyoid myotomy and suspension
2940 Muscle flap, Neck
2950 Procedure on neck
2960 Tumor of soft tissue of neck, Excision of deep subfascial or intramuscular tumor
2970 Tumor of soft tissue of neck, Excision of subcutaneous tumor
2980 Tumor of soft tissue of neck, Radical resection

Pectus Excavatum, Carinatum

2990 Pectus bar removal
3000 Pectus bar repositioning
3010 Pectus repair, Minimally invasive repair (Nuss), With thoracoscopy
3020 Pectus repair, Minimally invasive repair (Nuss), Without thoracoscopy
3030 Pectus repair, Open repair

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Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

THORACIC AND MEDIASTINAL DISEASE (CONTINUED)

Thoracic Outlet

- 3040 Division of scalenus anticus, With resection of a cervical rib
- 3050 Division of scalenus anticus, Without resection of a cervical rib
- 3060 Rib excision, Excision of a cervical rib
- 3070 Rib excision, Excision of a cervical rib, With sympathectomy
- 3080 Rib excision, Excision of first rib
- 3090 Rib excision, Excision of first rib, With sympathectomy

Thorax

- 3100 Procedure on thorax

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
- 3110 Cardiovascular catheterization procedure, Therapeutic, Device implantation attempted
- 2690 Cardiovascular catheterization procedure, Therapeutic, Electrophysiological ablation
- 3120 Cardiovascular catheterization procedure, Therapeutic, Intravascular foreign body removal
- 2640 Cardiovascular catheterization procedure, Therapeutic, Perforation (establishing interchamber and/or intervessel communication)
- 2580 Cardiovascular catheterization procedure, Therapeutic, Septostomy
- 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
- 3660 Open chest exposure for transcatheter/per-ventricular/per-atrial procedure
- 3670 Peripheral vascular access for transcatheter procedures

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Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

PALLIATIVE PROCEDURES

1590	Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)
5000	Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS) + PDA closure, Surgical
1600	Shunt, Systemic to pulmonary, Central (from aorta or to main pulmonary artery)
3130	Shunt, Systemic to pulmonary, Central (shunt from aorta) Central shunt with an end-to-side connection between the transected main pulmonary artery and the side of the ascending aorta (i.e. Mee shunt)
3230	Shunt, Systemic to pulmonary, Potts – Smith type (descending aorta to pulmonary artery)
1610	Shunt, Systemic to pulmonary, Other
3680	RV to PA Shunt (e.g. Sano Shunt or palliative RV-PA non-valved conduit to augment pulmonary blood flow)
1630	Shunt, Ligation and takedown
2095	Shunt, Reoperation
1640	PA banding (PAB), placement of main pulmonary artery band.
3860	PA banding (PAB), Placement of unilateral or bilateral branch pulmonary artery band(s) without the need for concomitant PGE and/or ductal stent
5037	PA banding (PAB) + Valvuloplasty, Common atrioventricular valve
1650	PA debanding
3200	PA band adjustment
1660	Damus-Kaye-Stansel procedure (DKS) (creation of AP anastomosis without arch reconstruction)
5017	Damus-Kaye-Stansel procedure (DKS) (creation of AP anastomosis without arch reconstruction) + Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)
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
3300	Takedown of superior cavopulmonary anastomosis
3140	Hepatic vein to azygous vein connection, Direct
3150	Hepatic vein to azygous vein connection, Interposition graft
3160	Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation)
1710	Palliation, Other

MECHANICAL SUPPORT

2360	ECMO cannulation
2370	ECMO decannulation
1910	ECMO procedure
1900	Intraaortic balloon pump (IABP) insertion
3820	Right/left heart temporary assist device, Implant
3830	Right/left heart temporary assist device, Explant
3840	Right/left heart temporary assist device, Procedure
2390	VAD explantation
2380	VAD implantation
3170	VAD, Change out
3850	VAD, Procedure

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Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

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

MISCELLANEOUS PROCEDURES

1720	Aneurysm, Ventricular, Right, Repair
1730	Aneurysm, Ventricular, Left, Repair
1740	Aneurysm, Pulmonary artery, Repair
1760	Cardiac tumor resection
3690	Cardiac tumor resection, Resection of ventricular fibroma
3700	Cardiac tumor resection, Resection of ventricular rhabdomyoma
3710	Cardiac tumor resection, Resection of atrial myxoma
3720	Cardiac tumor resection, Resection of Other tumor
5021	Cardiac tumor resection + PDA closure, Surgical
3730	Cardiac tumor resection + PDA closure, Surgical, Resection of ventricular fibroma
3740	Cardiac tumor resection + PDA closure, Surgical, Resection of ventricular rhabdomyoma
3750	Cardiac tumor resection + PDA closure, Surgical, Resection of Atrial myxoma
3760	Cardiac tumor resection + PDA closure, Surgical, Resection of Other tumor
3770	Resection of pericardial teratoma
3780	Anterior PA translocation (not performed as part of an arterial switch operation) (Le Compte)
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
3180	Intravascular stent removal
3220	Removal of transcatheter delivered device from heart
3210	Removal of transcatheter delivered device from blood vessel
1990	Thoracotomy, Other

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Attachment D

Pediatric CSRS Cardiac Procedure Codes¹

MISCELLANEOUS PROCEDURES (CONTINUED)

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)
2150	ASD, Postoperative interatrial communication

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)
2610	AVC (AVSD), Complete (CAVSD), Left dominant
2620	AVC (AVSD), Complete (CAVSD), Right dominant
2630	AVC (AVSD), Complete (CAVSD), Balanced
110	AVC (AVSD), Intermediate (transitional)
2640	AVC (AVSD), Intermediate (transitional), Left dominant
2650	AVC (AVSD), Intermediate (transitional), Right dominant
2660	AVC (AVSD), Intermediate (transitional), Balanced
120	AVC (AVSD), Partial (incomplete) (PAVSD) (ASD, primum)
2670	AVC (AVSD), Partial (incomplete) (PAVSD) (ASD, primum), Left dominant
2680	AVC (AVSD), Partial (incomplete) (PAVSD) (ASD, primum), Right dominant
2690	AVC (AVSD), Partial (incomplete) (PAVSD) (ASD, primum), Balanced
2580	Common AV valve insufficiency
2970	Common AV valve stenosis
830	Single ventricle, Unbalanced AV canal

AP Window

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

Truncus Arteriosus

160	Truncus arteriosus
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 TRIARTIATUM

250	Cor triatriatum
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¹Society of Thoracic Surgeons, Adult Cardiac Surgery Database v6.23.2, used with permission.

Attachment E

Congenital Cardiac Diagnosis Codes¹

PULMONARY VENOUS STENOSIS

- 260 Pulmonary venous stenosis
- 2480 Pulmonary venous stenosis, acquired
- 2490 Pulmonary venous stenosis, spontaneous

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
- 360 MAPCA(s) (major aortopulmonary collateral[s]) (without PA-VSD)

Tricuspid Valve Disease and Ebstein's Anomaly

- 370 Ebstein's anomaly
- 2700 Dysplastic Tricuspid or non-systemic atrioventricular valve, non-Ebstein's
- 410 Tricuspid or non-systemic atrioventricular valve, Other

RVOT Obstruction and/or Pulmonary Stenosis

- 420 Pulmonary stenosis, pulmonary or neo-pulmonary Valvar
- 430 Pulmonary artery stenosis (hypoplasia), Main (trunk)
- 440 Pulmonary artery stenosis, Branch, Central (within the hilar bifurcation)
- 450 Pulmonary artery stenosis, Branch, Peripheral (at or beyond 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
- 2730 Shunt Problem
- 2740 Shunt Problem, Excess pulmonary blood flow (pulmonary overcirculation)
- 2750 Shunt Problem, Inadequate pulmonary blood flow

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Attachment E

Congenital Cardiac Diagnosis Codes¹

CONDUIT FAILURE

Conduit Failure

520 Conduit failure

LEFT HEART LESIONS

Aortic Valve Disease

550 Aortic stenosis, Subvalvar
2500 Aortic stenosis, subvalvar, discrete
2510 Aortic stenosis, subvalvar, IHSS
2520 Aortic stenosis, subvalvar, tunnel-like
560 Aortic stenosis, neo-aortic or truncal, Valvar
570 Aortic stenosis, Supravalvar
590 Aortic valve atresia
600 Aortic, neo-aortic, or truncal valve insufficiency
610 Aortic, neo-aortic or truncal valve, other
620 Aortic, neo-aortic, or truncal valve, Other

Sinus of Valsalva Fistula/Aneurysm

630 Sinus of Valsalva aneurysm

LV to Aorta Tunnel

640 LV to aorta tunnel

Mitral Valve Disease

650 Mitral stenosis, Supravalvar mitral ring
660 Mitral or systemic AV valve stenosis, Valvar
670 Mitral or systemic AV valve stenosis, Subvalvar
680 Mitral or systemic AV valve stenosis, Subvalvar, Parachute
700 Mitral or systemic AV valve insufficiency and stenosis
710 Mitral or systemic AV valve insufficiency
720 Mitral or systemic AV valve, Other

Hypoplastic Left Heart Syndrome

730 Hypoplastic left heart syndrome (HLHS)
2760 Hypoplastic left heart syndrome (HLHS), AA+MA
2770 Hypoplastic left heart syndrome (HLHS), AA+MS
2780 Hypoplastic left heart syndrome (HLHS), AS+MA
2790 Hypoplastic left heart syndrome (HLHS), AS+MS

Shone's Syndrome

2080 Shone's syndrome

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

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Attachment E

Congenital Cardiac Diagnosis Codes¹

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
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
2800	Congenitally corrected TGA, IVS + Coarctation or arch hypoplasia or arch interruption
2810	Congenitally corrected TGA, VSD + Coarctation or arch hypoplasia or arch interruption

Transposition of the Great Arteries

880	TGA, IVS
890	TGA, IVS-LVOTO
900	TGA, VSD
910	TGA, VSD-LVOTO
2820	TGA, IVS + Coarctation or arch hypoplasia or arch interruption
2830	TGA, VSD + Coarctation or arch hypoplasia or arch interruption

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

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Attachment E

Congenital Cardiac Diagnosis Codes¹

THORACIC ARTERIES AND VEINS (CONTINUED)

Coronary Artery Anomalies

- 1010 Coronary artery anomaly, Anomalous aortic origin of coronary artery (AAOCA)
- 2840 Coronary artery anomaly, Anomalous aortic origin of coronary artery (AAOCA), Left coronary artery from right sinus
- 2850 Coronary artery anomaly, Anomalous aortic origin of coronary artery (AAOCA), Right coronary artery from left sinus
- 2860 Coronary artery Anomaly, Intramural coronary

- 1020 Coronary artery anomaly, Anomalous pulmonary origin (includes ALCAPA)
- 1030 Coronary artery anomaly, Fistula
- 1040 Coronary artery anomaly, Aneurysm
- 2420 Coronary artery anomaly, Ostial atresia
- 1050 Coronary artery anomaly, Other

Interrupted Arch

- 1070 Interrupted aortic arch
- 2020 Interrupted aortic arch + VSD
- 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
- 2780 Esophageal compression by vessel
- 2880 Tracheal compression by vessel

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

Tracheal Stenosis

- 1160 Tracheal stenosis
- 2430 Tracheomalacia
- 1170 Airway disease

Pleural Disease

- 1430 Pleural disease, Benign
- 1440 Pleural disease, Malignant
- 1450 Pneumothorax
- 1460 Pleural effusion
- 1470 Chylothorax
- 1480 Empyema

¹Society of Thoracic Surgeons, Adult Cardiac Surgery Database v6.23.2, used with permission.

Attachment E

Congenital Cardiac Diagnosis Codes¹

THORACIC AND MEDIASTINAL DISEASE (CONTINUED)

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

Chest Wall

- 2160 Rib tumor, Benign
- 2170 Rib tumor, Malignant
- 2180 Rib tumor, Metastatic
- 2190 Sternal tumor, Benign
- 2200 Sternal tumor, Malignant
- 2210 Sternal tumor, Metastatic

Pectus Excavatum, Carinatum

- 2220 Pectus carinatum
- 2230 Pectus excavatum

Thoracic Outlet

- 2240 Thoracic outlet syndrome

ELECTROPHYSIOLOGICAL

- 1180 Arrhythmia
- 2440 Arrhythmia, Atrial, Atrial fibrillation
- 2450 Arrhythmia, Atrial, Atrial flutter
- 2460 Arrhythmia, Atrial, Other
- 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
- 2530 Short QT syndrome
- 2540 Long QT syndrome (Ward Romano syndrome)
- 2550 Wolff-Parkinson-White syndrome (WPW syndrome)

MISCELLANEOUS, OTHER

- 1230 Atrial Isomerism, Left
- 1240 Atrial Isomerism, Right
- 2890 Interrupted IVC with azygos continuation
- 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

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Attachment E

Congenital Cardiac Diagnosis Codes¹

MISCELLANEOUS, OTHER (CONTINUED)

1280	Aneurysm, Other
1290	Hypoplastic RV
1300	Hypoplastic LV
2070	Postoperative bleeding
1310	Mediastinitis
2910	Mediastinitis, Deep
2920	Mediastinitis, Superficial
1320	Endocarditis
1325	Rheumatic heart disease
1330	Prosthetic valve failure
1340	Myocardial infarction
1350	Cardiac tumor, Unspecified.
2930	Cardiac tumor, Ventricular fibroma
2940	Cardiac tumor, Ventricular rhabdomyoma
2950	Cardiac tumor, Atrial myxoma
2960	Pericardial teratoma
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
2250	Kawasaki disease
1560	Cardiac, Other
1570	Thoracic and/or mediastinal, Other
1580	Peripheral vascular, Other
2260	Complication of cardiovascular catheterization procedure
2270	Complication of cardiovascular catheterization procedure, Device embolization
2280	Complication of cardiovascular catheterization procedure, Device malfunction
2290	Complication of cardiovascular catheterization procedure, Perforation
2300	Complication of interventional radiology procedure
2310	Complication of interventional radiology procedure, Device embolization
2320	Complication of interventional radiology procedure, Device malfunction
2330	Complication of interventional radiology procedure, Perforation
2340	Foreign body, Intracardiac foreign body
2350	Foreign body, Intravascular foreign body
2360	Open sternum with closed skin
2370	Open sternum with open skin (includes membrane placed to close skin)
2380	Retained sternal wire causing irritation
2390	Syncope
2400	Trauma, Blunt
2410	Trauma, Penetrating
2560	Cardio-respiratory failure not secondary to known structural heart disease
2570	Myocarditis
2580	Common AV valve insufficiency
2590	Protein-losing enteropathy
2600	Plastic bronchitis
7000	Normal heart
7777	Miscellaneous, Other

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Attachment F

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	