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

2023 Data Collection
1/1/2023 – 12/31/2023 Discharges

Cardiac Surgery Report, Pediatric (Under Age 18)

Instructions and Data Element Definitions
Form DOH-2254p

CARDIAC SERVICES PROGRAM:
One University Place
George Education Center 2nd Floor, Room 224
Rensselaer, NY 12144-3455
Phone: (518) 402-1016
Email: CardiacServicesProgram@health.ny.gov

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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, 2023.

Expanded Categories for Asian/Pacific Islander and Addition of Preferred Language

As required by recent NYS legislation, there are additional response categories for Asian/Pacific Islander groups in the demographic section of the form. There is also a question about the patient's preferred language.

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
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    - 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 (1/1/23 – 3/31/23 Discharges) due on or before May 31, 2023
Quarter 2 (4/1/23– 6/30/23 Discharges) due on or before August 31, 2023
Quarter 3 (7/1/23 – 9/30/23 Discharges) due on or before November 30, 2023
Quarter 4 (10/1/23 – 12/31/23 Discharges) due on or before February 28, 2024

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

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 or 2
Definition: Check the appropriate box.

Descriptive Name: Ethnicity
Variable Name: ETHNIC
Format: 1 or 2
Definition: Check the appropriate box.

Descriptive Name: Race
Variable Name: RACE
Format: 1-4 or 8
Definition: Choose the appropriate response from the list below.

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.
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.
4 – Asian or Pacific Islander. 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 or 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. Provide the specific race for any case marked "Other."

Directions:
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."

Descriptive Name: AAPI Code
Variable Name: AAPI_CODE
Format: 01-25
Definition: Report the appropriate code from the list in Attachment A.

Report the detailed Asian or Pacific Islander group information for any case where Race is reported as 4 – Asian or Pacific Islander.

Descriptive Name: AAPI Other Specify
Variable Name: AAPI_OTH
Format: Free text
Definition: Specify the other Asian or Pacific Islander group identification.

For any case where the detailed Asian/Pacific Islander Code was "21 – Other Asian" or "25 – Other Pacific Island group," specify the Asian or Pacific Island group in the space provided.

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: PREF_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
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 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.*

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, 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.*

Descriptive Name: Primary Diagnosis
Variable Name: DIAG2
Format: XXXX
Definition: 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. *Society of Thoracic Surgeons, Congenita Heart Surgery Database, Version 3.0 , 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 v3.0 data element 870.
Society of Thoracic Surgeons, Congenita Heart Surgery Database, Version 3.0, 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 v3.0 data element 910.
Society of Thoracic Surgeons, Congenita Heart Surgery Database, Version 3.0, 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 v3.0 data element 900.
Society of Thoracic Surgeons, Congenita Heart Surgery Database, Version 3.0, 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 ≤ 24° 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	Creatinine >1.5 mg /dl
>1 month of age	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
	Choanal Atresia
DiGeorge's Syndrome	Diaphragmatic hernia
Cystic Fibrosis	Biliary Atresia
Marfan's Syndrome	Any -ostomy
Sickle Cell Anemia	Beecher Muscular Dystrophy
Blood Dyscrasia	Tethered Spinal Cord
Omphalocele	Vater Syndrome
Hypoplastic lung	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

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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

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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

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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 / Pacific Islander” (AAPI_CODE) when response to “Race” (RACE) is 4-Asian Pacific Islander.

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
22 Native Hawaiian
23 Guamanian and Chamorro
24 Samoan
25 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
0213	Mercy Hospital of Buffalo
0574	Niagara Falls Memorial Medical Center
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	The Unity Hospital of Rochester
	SYRACUSE AREA
0977	Cayuga Medical Center
0636	Crouse Hospital
0598	St. Elizabeth Medical Center
0630	St. Joseph's Hospital Health Center
0058	UHS-Wilson Medical Center
0635	Upstate University Hospital - SUNY

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
0990	HealthAlliance Hospital – Broadway Campus
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
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
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	Coney Island Hospital
1626	Elmhurst Hospital Center
1445	Harlem Hospital Center
1309	Interfaith Medical Center (Brooklyn)
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: http://www.health.ny.gov/statistics/sparcs/reports/compliance/alpha_facilities.htm
Use the last four digits of the number listed to the right of the name for the PFI.

Attachment D
Pediatric CSRS Cardiac Procedure Codes[1]

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

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

Attachment D
Pediatric CSRS Cardiac Procedure Codes[1]

COR TRIATRIATUM

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)

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

Attachment D
Pediatric CSRS Cardiac Procedure Codes[1]

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

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Attachment D
Pediatric CSRS Cardiac Procedure Codes[1]

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

Hypoplastic Left Heart

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

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

Attachment D
Pediatric CSRS Cardiac Procedure Codes[1]

TRANSPOSITION OF THE GREAT ARTERIES (CONTINUED)

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)

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

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Attachment D
Pediatric CSRS Cardiac Procedure Codes[1]

THORACIC ARTERIES AND VEINS (CONTINUED)

Patent Ductus Arteriosus (continued)
1340 PDA closure, Device

Vascular Rings and Slings
1360 Vascular ring repair
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

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Attachment D
Pediatric CSRS Cardiac Procedure Codes[1]

INTERVENTIONAL CARDIOLOGY PROCEDURES (CONTINUED)

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
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

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Attachment D
Pediatric CSRS Cardiac Procedure Codes[1]

ANESTHETIC PROCEDURES (CONTINUED)

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
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 Codes[1]

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)
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
2470	Truncal valve stenosis
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
2480	Pulmonary venous stenosis, acquired
2490	Pulmonary venous stenosis, spontaneous

[1]*Society of Thoracic Surgeons, Adult Cardiac Surgery Database, used with permission.*

Attachment E
Congenital Cardiac Diagnosis Codes[1]

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
- 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)
- 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

CONDUIT FAILURE

Conduit Failure
- 520 Conduit failure

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Attachment E
Congenital Cardiac Diagnosis Codes[1]

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
2500 Aortic stenosis, subvalvar, discrete
2510 Aortic stenosis, subvalvar, IHSS
2520 Aortic stenosis, subvalvar, tunnel-like

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 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)

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

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

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Attachment E
Congenital Cardiac Diagnosis Codes[1]

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

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 (AAOCA)
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

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Attachment E
Congenital Cardiac Diagnosis Codes[1]

THORACIC ARTERIES AND VEINS (CONTINUED)

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

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

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

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Attachment E
Congenital Cardiac Diagnosis Codes[1]

THORACIC AND MEDIASTINAL DISEASE (CONTINUED)

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
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
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

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Attachment E
Congenital Cardiac Diagnosis Codes[1]

MISCELLANEOUS, OTHER (CONTINUED)

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	Cario-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	