

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

2010 Discharges

**Cardiac Surgery Report, Adult
(Age 18 and Over)**

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

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Note to Users for 2010 Data Collection

The following instructions and data element definitions should be used when reporting data on cases discharged in January – December 2010. There are no changes to the data collection form, however there are several new coding instructions and clarifications as described in the following pages. For discharge year 2010, use form DOH-2254a (7/09). Although the bottom of that form states “July – Dec 2009 Discharges,” the effective period for this form has been extended through December 2010 discharges.

The file specification for CSRS data is unchanged from 2009 discharges. A copy of the current CSRS file specifications document can be obtained from the Cardiac Services Program.

Revision Highlights and Coding Clarifications

New Clarifications and Revisions for 2010 Data Collection

The following revisions and clarifications are effective January 2010.

Reportable Procedures

If a Percutaneous Coronary Intervention (PCI) is performed in the operating room, it should not be reported as a CABG. The PCI should be reported to the Percutaneous Coronary Interventions Reporting System (PCIRS) and any surgical procedure should be reported to CSRS.

The following procedures should not be reported in CSRS. New procedure codes specific to these procedures may be added in the future.

- Intra-cardiac thrombus removal
- Intra-coronary thrombus removal
- Epicardial lead placement
- Ventricular support device (e.g. Heartnet restraint)
- Coronary aneurysm repair (other than CABG)

Anti-Anginal Medical Therapy – Pg 34

Indicate which, if any, of these medications were given in any dose for any duration in the timeframe of two weeks prior to the surgery up to the time of surgery.

Other Patient Characteristics – Pg 35

For the items regarding LIMA patency, the graft would be considered “no longer functional” if there is angiographic stenosis of 70% or more or there is evidence of significant flow restriction documented by FFR or by stress test (with echo or nuclear to localize the ischemia).

Peripheral Vascular Disease – Pg 38

Ankle-Brachial Index (ABI) and subclavian artery stenosis have been added as acceptable forms of documentation for peripheral vascular disease.

Recently Added Data Elements

The following data elements were added to the CSRS data collection system effective July 2009. The definitions for these elements are provided in the main text of this document.

Anesthesiologist(s) name and license number – Pg 21
Congenital Diagnosis Code – Pg 20 and Attachment E
Skin Closure Time – Pg 23

Revision Highlights and Coding Clarifications (continued)

Recently Added Data Elements (continued)

Pre-Induction Blood Pressure – Pg 23
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Stress Test Type – Pg 28
Stress Test Result – Pg 28
Anti-Anginal Medical Therapy – Pg 34
Other Patient Characteristics – Pg 35
Previous CABG, No Patent Grafts – Pg 36

Recently Deleted Data Elements

The following data elements were deleted from the CSRS data collection system effective July 1, 2009.

Extubation Contraindicated
Post-OP Beta Blocker Contraindicated
Pre-Op Beta Blocker Contraindicated

Recently Revised Data Elements

The following data element revisions were made effective July 1, 2009. Please see further details in full text of this document.

Procedure Codes – Attachment D

Several procedure codes representing combination procedures (e.g. CABG and Valve) have been deleted. Individual codes for each portion of the procedure should be used instead. Space has been added to accommodate an additional procedure code. Procedure codes have been added for Pulmonary Valve Repair (503), Carotid Endarterectomy (763) and AICD Implantation (764).

Procedure codes have been added in the section for Congenital Heart Disease for the following:

- Great Vessel Anomalies: Aortic Repair, Coarctation or Interruption, End to side anastomosis (348)
- Anomalies of Ventricular Outflow Tract: Pulmonary Valve Replacement, Xenograft (192).

Revision Highlights and Coding Clarifications (continued)

Recently Revised Data Elements (continued)

Time of Induction of Anesthesia – Pg 23

The data element “Procedure Start Time” has been renamed “Time of Induction of Anesthesia”. The definition is unchanged.

Post- Op Temperature – Pg 23

If temperature via pulmonary artery is available upon arrival in next level of care, report temperature via this route, otherwise report using other method.

Pre-Op Beta Blocker – Pg 25

Response categories for “Pre-Op Beta Blocker” have been changed to include Yes, Contraindicated and Neither. As an associated change, the data element for “Beta Blocker Contraindicated” has been removed.

Extubation in 24 hours – Pg 25

Response categories for “Extubation in 24 hours” have been changed to include Yes, Contraindicated and Neither. As an associated change, the data element for “Extubation Contraindicated” has been removed.

Post- OP Beta Blocker – Pg 26

Response categories for “Post-Op Beta Blocker” have been changed to include Yes, Contraindicated and Neither. As an associated change the data element for “Post- Op Beta Blocker Contraindicated” has been removed.

Any Other Previous Cardiac Surgery – Pg 36

With the addition of “Previous CABG – No Patent Grafts”, this risk factor now refers to any previous cardiac surgery other than CABG.

Please see slightly revised instruction for reporting surgery on patients with bi-cuspid aortic valves on page 11.

When to Complete an Adult CSRS Form

Complete an Adult Cardiac Surgery Reporting System (CSRS) form for every patient age 18 or over on admission undergoing one or more operations on the heart or great vessels, with or without extracorporeal circulation.

If the patient went to the operating room more than once for cardiac surgery during a single hospital stay, complete a separate form for each operating room visit where a reportable cardiac surgery was performed.

DO NOT CODE:

- Implantation or removal of a pacemaker and its leads or wires
- Removal of an AICD and its leads or wires
- Coronary Endarterectomies
- Femoral Artery Repair or Bypass
- Innominate Artery Bypass
- Aortic Subclavian Bypass
- Exploration of the atria, aorta, valves, ventricles, or pulmonary artery
- Removal of thymoma
- Thymectomy
- VAD Removal
- Intra-cardiac thrombus removal
- Intra-coronary thrombus removal
- Epicardial lead placement
- Ventricular support device (e.g. Heartnet restraint)
- Coronary aneurysm repair (other than CABG)

When the following procedures are the ONLY cardiac surgery performed in a hospital admission code them as a 498 or 998, otherwise the procedures are NOT CODED.

- Surgical Removal of a Stent
- Aortic Endarterectomy
- Pulmonary Artery Endarterectomy

During quarterly and annual data verification and validation efforts, we will be asking for supporting documentation for cases coded as 398, 498, or 998. Therefore, we highly recommend that at the time of coding you keep a copy of the operative note as supporting documentation in a place for easy retrieval at a later date.

Code the following procedures only when they are performed in the same operating room visit as another reportable cardiac surgery

- Carotid Endarterectomy (763)
- Implantation of an AICD (764)

When to Complete an Adult CSRS Form (continued)

Repair of Cardiac Laceration due to Trauma (907): Should be coded for repair of cardiac laceration due to trauma including a procedure to repair an injury to the heart that has resulted from a cardiac diagnostic or interventional procedure or from cardiac surgery.

Radiofrequency or Operative Ablation (770-772): Code 770 (Atrial) or 771 (Ventricle) should be used when lesions are created in the atria or ventricle by an energy source (radiofrequency, microwave, cryothermia, etc.). The lesion then disrupts the abnormal re-entry pathways of electrical signals that can lead to fibrillation.

A 772 (Maze) should be coded when there is a surgical procedure (standard surgical maze procedure) in which full thickness incisions are made in the atria of the heart. Sutures are then used to reapproximate the incised tissue. The resulting lesion disrupts the abnormal re-entry pathways of electrical signals that lead to atrial fibrillation. *All procedures coded 772 will require an operative note to verify coding.*

Pericardiectomy (402): Any time the procedure consists of more than a pericardial window (i.e. stripping or partial pericardiectomy) and the procedure is performed on CP bypass it should be coded 402. A pericardial window is a small hole in the pericardium usually done by removing a small amount of the pericardial wall. It is usually done for a large or symptomatic collection of pericardial fluid or for diagnosis (biopsy).

Aortic Root Replacement or Repair, With Graft, With Coronary Reimplantation (785): This code only refers to procedures that involve the aortic root repair/replacement and an aortic valve replacement. An Ascending Aorta, with Graft, With Coronary Reimplantation should be coded 780.

Aortic Valve Replacements: Do not code aortic root enlargements when performed with aortic valve replacements.

Valve Debridement: If a valve has had debridement, then a valve repair should be coded.

Ventricular Assist Device as a Destination Therapy (840): If an LVAD is placed as the final therapy, code 840 in addition to the LVAD. For example, if the patient is not a candidate for a heart transplant, but an LVAD is placed as a long-term treatment option this code would be appropriate.

Bicuspid Aortic Valve: When a bicuspid aortic valve is being operated on for a patient who is not in the childhood era and the operation is required due to acquired valve disease, it should be coded as a standard valve procedure (CODE 520-548).

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, whether in hospice or not, appropriate supporting documentation should be sent to Cardiac Services Program. Examples of appropriate documentation include but are not limited to: 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, and evidence of death 30 days or more after initial discharge.

It will be the responsibility of the hospital (physician) to send documentation to the Department of Health's Cardiac Services Program 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.

Cardiogenic Shock Cases

Beginning with cases discharged January 1, 2006 and continuing for a period of at least two years, cases in pre-procedural Cardiogenic Shock will not be included in the publicly released reports and analyses. This applies only to cases that meet the NYS Cardiac Services Program definition of Cardiogenic Shock (risk factor #13). Data for these cases must still be submitted electronically and will be subject to data verification activities. To ensure that the appropriate cases are identified as "Shock" cases, we will continue to require submission of medical record documentation of any case reported with this risk factor. If appropriate documentation is not provided by your center, the risk factor will be removed from the data and the case will be included in analysis. In addition, we anticipate that there will be increased requirements for medical record documentation for cases coded as "Hemodynamically Unstable" as well. It is strongly suggested that all appropriate staff closely review the definitions and documentation requirements for these two risk factors.

Note: The above policy regarding cases in Shock will be continued for at least another year (2010 discharges).

CSRS Data Reporting Policies (continued)

Physician Assignment

When multiple records exist for the same patient during a hospital admission, and two or more surgeons were reported for those operations, the case will be assigned for analysis to the surgeon performing the first surgery. However, the hospital may submit a letter from the CEO or Medical Director requesting that the case be assigned to the surgeon performing the later surgery.

Reporting Schedule

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 2010 reporting schedule is as follows.

- Quarter 1 (1/1/10 – 3/31/10 Discharges) due on or before May 31, 2010
- Quarter 2 (4/1/10 – 6/30/10 Discharges) due on or before August 31, 2010
- Quarter 3 (7/1/10 – 9/30/10 Discharges) due on or before November 30, 2010
- Quarter 4 (10/1/10 – 12/31/10 Discharges) due on or before February 28, 2011

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

Item-By-Item Instructions

PFI Number

Variable Name: PFI

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

Sequence Number

Variable Name: SEQUENCE

If your facility assigns a sequence number to each case on a chronological flow sheet or similar log, enter the sequence number here. The sequence number is not required for the 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

Patient Name

Variable Names: LASTNAME, FIRSTNAME

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

Medical Record Number

Variable Name: MEDRECNO

Enter the patient's medical record number.

Social Security Number

Variable Name: SSNO

Enter the patient's Social Security Number as shown in the medical record. If the medical record does not contain the patient's Social Security Number, leave this item blank.

Date of Birth

Variable Name: DOB

Enter the patient's exact date of birth.

I. Patient Information (continued)

Sex

Variable Name: SEX

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

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.

Ethnicity

Variable Name: ETHNIC

Check the appropriate box.

Note: The term "Hispanic" refers to persons who trace their origin or descent to Mexico, Puerto Rico, Cuba, Central and South America or other Spanish cultures.

Race

Variable Names: RACE, RACESPEC

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. Terms such as "Haitian" or "Negro" can be used in addition to "Black or African American."

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

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

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

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

I. Patient Information (continued)

Race (continued)

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

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

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

Residence Code

Variable Names: RESIDENC, STATE

Enter the county code of the patient's principal residence, as shown in Attachment B. If the patient lives outside NYS, 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 in the US.

Hospital Admission Date

Variable Name: ADMIDATE

Enter the date that the current hospital stay began.

Primary Payer

Variable Name: PAYER

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

Please note that Worker's Compensation, Family Health Plus, and Other Federal Programs are reported as code "19-Other".

Interpretation: Primary Payer and Medicaid: For "Medicaid Pending" code Primary Payer as "11-Self-Pay" and check the box "Medicaid".

For patients in prison, code Primary Payer as "19-Other".

I. Patient Information (continued)

Primary Payer (continued)

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. Code “19” is any other type of insurance that is not given a code of its own (e.g. Corrections).

If the patient has Blue Cross and Medicare, code Medicare if there is no indication of which is primary.

Report a PPO (Preferred Provider Organization) as “06 – HMO/Managed Care”.

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

Medicaid

Variable Name: MEDICAID

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

PFI of Transferring Hospital

Variable Name: TRANS_PFI

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

This element only needs to be completed for transfer patients.

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

Note: PFI on the above website is listed without leading 0s. For purposes of cardiac reporting, PFI should always be four (4) numeric characters. For example, PFI “1” should be reported as “0001”.

II. Procedural Information

REMINDER: Fill out a separate CSRS form for each visit to the operating room for cardiac surgery involving the heart or great vessels during the hospital admission.

Hospital that Performed Diagnostic Cath

Variable Name: CATHPFI

If the cardiac surgery was preceded by a diagnostic catheterization, enter the name and PFI number of the hospital in the spaces provided. If the catheterization was at a cardiac diagnostic center in NYS, enter its PFI Number from Attachment A; if done at a Veterans Administration hospital in NYS, enter "8888"; if done outside NYS, enter "9999". If there was no diagnostic catheterization, leave this item blank.

Do not use this field to report any diagnostic procedure (e.g. CT) other than catheterization.

Note: Diagnostic Catheterization Hospital name is included on the paper form for abstractor convenience. It is not part of the CSRS file structure.

Date of Surgery

Variable Name: SURGDATE

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

Complete a separate CSRS form for each visit to the operating room that included a reportable cardiac surgery.

Prior Surgery this Admission

Variable Names: PRIOSURG, PRIODATE

Check the appropriate box to indicate whether the patient had any cardiac operations prior to the present operating room visit during the same hospital admission.

If "Yes" then the date of the previous cardiac operation **MUST** be entered. This is very important because this date aids in combining multiple procedures that occurred during the same admission in the proper order.

II. Procedural Information (continued)

Cardiac Procedures This OR Visit

Variable Names: PROC1, PROC2, PROC3, PROC4, PROC5

Enter the 3-digit State Cardiac Advisory Committee Code (SCAC) from the procedure code list in Attachment D – Congenital and Acquired Cardiac Procedure Codes.

List up to 5 cardiac procedures performed during this operating room visit.

If there are more than 5, list the 5 most significant.

Note: Combination codes for multiple valve surgery (610-638), combined valve plus CABG (740-747) and combined CABG with other (720-724) have been removed and are no longer valid. Individual procedure codes should be reported for each part of a cardiac surgery. For example, replacement of the Aortic and Mitral valves using mechanical valves and not a reoperation would now be coded as 520 and 550 rather than 610.

Codes 760, 761 and 762 can now be used when performed with or without CABG.

Code 503 has been added for Pulmonary Valve repair.

Code 763 has been added for Carotid Endarterectomy and Code 764 has been added for AICD implantation. These procedures should only be reported when performed with another reportable cardiac surgery as listed in Attachment D.

Procedure codes have been added to the section for Congenital Heart Disease for Great Vessel Anomalies, Aortic Repair, Coarctation or Interruption, End to side anastomosis (348), and Anomalies of Ventricular Outflow Tract, Pulmonary Valve Replacement, Xenograft (192).

Please see “When to Complete an Adult CSRS Form” on pages 8-10 for additional coding instructions and scenarios for reporting procedure codes.

II. Procedural Information (continued)

Congenital Diagnosis

Variable Names: DIAG1, DIAG2

For patients with a diagnosis of congenital heart disease, use the Primary Cardiac Diagnosis Codes found in Attachment E to report the diagnosis. Report up to two diagnoses. If there are more than two, first report the condition(s) being corrected and then others in order of severity.

The diagnosis codes in Attachment E are identical to those used for the Pediatric Cardiac Surgery Reporting System. Inclusion of this information will allow for meaningful evaluation of outcomes for adult congenital cardiac surgery.

If the patient has no congenital heart disease, these fields should be left blank.

Primary Physician Performing Operation

Variable Name: PHYSNUM

Enter the name and license number of the primary physician who performed the cardiac surgical procedure.

Interpretation: The primary physician for each operating room visit should be the one who performed the majority of the cardiac operation in that operating room visit.

The following is one of many possible examples: In a single trip to the OR, a radiofrequency ablation is performed by one surgeon and then a CABG by a second surgeon. The primary physician reported on the CSRS form should be the one who performed the CABG. It does not matter that the ablation was performed before the CABG.

Note: Physician name is included on the paper version of the data collection form for abstractor convenience. Physician name is not part of the required CSRS data structure.

II. Procedural Information (continued)

Anesthesiologist (Start)

Variable Name: Anesnum1

Enter the name and license number of the responsible anesthesiologist at the start of the cardiac surgery.

Note: Anesthesiologist name is included on the paper version of the data collection form for abstractor convenience. Anesthesiologist name is not part of the required CSRS data structure.

Anesthesiologist (End)

Variable Name: Anesnum2

Enter the name and license number of the responsible anesthesiologist at the end of the cardiac surgery.

Note: Anesthesiologist name is included on the paper version of the data collection form for abstractor convenience. Anesthesiologist name is not part of the required CSRS data structure.

CABG Information

Variable Names: TOT_COND, ART_COND, DISTAL

The following information must be completed for all CABG procedures.

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

Arterial Conduits: List the number of arterial conduits or grafts used up to 9. For more than 9, report 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, report 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.

II. Procedural Information (continued)

Minimally Invasive

Variable Name: MINI_INV

If the cardiac surgical procedure began through an incision other than a complete sternotomy or thoracotomy (less than 12 centimeters in length) check "Yes," regardless of whether the case converted to a standard incision or cardiopulmonary bypass was used. Otherwise check "No."

Converted to Standard Incision

Variable Name: STND_INC

Check this box to indicate that the minimally invasive procedure was modified to a standard incision.

Note: This box should never be checked unless Minimally Invasive is also checked.

Converted from Off Pump to On Pump

Variable Name: CONVERT

Check this box if the procedure began without the use of cardiopulmonary bypass, but prior to the completion of the procedure the patient was placed on pump. This should only be checked if the patient was placed on pump unexpectedly.

Entire Procedure Off Pump

Variable Name: ALL_OFF

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

Internal Mammary Artery (IMA) Grafting

Variable Name: IMA

Check the appropriate box. For any patient who has never had a left or right internal mammary artery (IMA) graft, code "0" (Never). If the patient is having an IMA graft during this operating room visit, code "1" (This OR Visit). If at anytime prior to this operating room visit (including this admission) the patient has had an IMA graft, code "2" (Prior to this OR Visit).

If the patient has had an IMA graft anytime prior to this operating room visit and is having one during the operating room visit, code "1".

Ila. Peri-Operative Information

Time of Induction of Anesthesia

Variable Name: SURG_HOUR, SURG_MIN

Enter the time of induction of anesthesia using 24 hour clock (e.g. 1:00 am is 01:00, and 1:00 pm is 13:00).

Skin Closure Time

Variable Name: CLOSE_HOUR, CLOSE_MIN

Capture the date and time (using 24 hour clock) to the minute, that the skin incision was closed, or its equivalent. If the patient leaves the operating room with an open incision, collect the time that the dressings were applied to the incision.

Note: This element refers to the time of the final incision closure prior to leaving the operating room.

Pre-Induction Blood Pressure

Variable Name: BP_SYS, BP_DIA

Enter the patient's blood pressure just prior to the induction of anesthesia as measured by any means.

Post-Op Temperature

Variable Name: POST_TEMP

Report the patient's post-op temperature in degrees Celsius.

This should be the temperature on arrival at the next level of care after the operating room (e.g. Critical Care, PACU, Recovery, etc).

If a pulmonary artery temperature is available upon arrival at the next level of care, report that value. Otherwise report temperature via other method.

If no post-operative temperature is available (e.g. patient expires prior to arrival at next level of care), report temperature as 00.0.

Ila. Peri-Operative Information (continued)

Temperature Route

Variable Name: TEMP_RT

Report the route of post-operative temperature measurement using the following codes:

1. Pulmonary Artery
2. Rectal/Bladder
3. Nasopharyngeal
4. Tympanic
8. Other
9. Unknown

If Post-op Temperature is reported as "00.0" because none is available (e.g. patient expires prior to arrival at next level of care), report Temperature Route as "9-Unknown".

Hematocrit

Variable Name: CRIT_OR, CRIT_LOW, CRIT_LST, CRIT

Report the patient's hematocrit at the following specified time periods.

- First recorded in the operating room
- Lowest on Cardiopulmonary Bypass - report as "00" or leave blank if entire procedure was "off-pump."
- Last on Cardiopulmonary Bypass - report as "00" or leave blank if entire procedure was "off-pump."
- Post-Op – Value on arrival at next level of care after the operating room (e.g. Critical Care, PACU, Recovery, etc). If no value is available (e.g. patient expires prior to arrival at next level of care) then report as "00" or leave blank.

Clarification:

Values from any source are acceptable (e.g. lab, Istat, ABG), however if available from multiple sources for the same time-frame, central lab values are preferred to point of care values.

If blood is drawn for "post-op" lab work just prior to leaving the operating room, that value may be reported for "Post-op, on arrival at next level of care."

In the event that only one Hematocrit value is recorded for the entire time that the patient is on Cardiopulmonary Bypass, then this value would be reported as both "Lowest" and "Last."

Ila. Peri-Operative Information (continued)

Pre-Op Beta Blocker Use

Variable Name: PRE_BETA

Use the following codes to indicate pre-op beta blocker use or contraindication.

1. Yes - The patient received beta blockers within 48 hours pre-op.
2. Contraindicated - The patient did not receive beta blockers within 48 hours pre-op due to contraindication. Contraindication includes any of the following reasons: allergy, bradycardia (heart rate less than 60 bpm) and not on beta blockers, second or third degree heart block on ECG on arrival or during hospital stay and does not have a pacemaker, systolic blood pressure less than 90 mmHg and not on beta blockers, or other reasons documented by a physician, nurse practitioner, or physician's assistant in the medical chart.
3. Neither - The patient did not receive beta blockers within 48 hours pre-op and there was no contraindication as defined above.

Extubation at 24 hours – Report only for CABG patients

Variable Name: EXTUBATE

Use the following codes to indicate extubation at 24 hours post-op.

1. Yes - The patient was extubated at 24 hours post-op.
2. Contraindicated - The patient was not extubated at 24 hours post-op due to a contraindication. Contraindications include the following: myocardial dysfunction; valvular heart disease; active systemic illness; respiratory disease; neuropsychiatric disease or problems with communication secondary to language. This would include stroke (new neurological deficit) and neuropsychiatric state (paranoia, confusion, dementia).
3. Neither - The patient was not extubated at 24 hours post-op and there was no contraindication as defined above.

Interpretation: Post-op is defined as starting when the patient leaves the actual procedure room where the cardiac operation occurred

Ila. Peri-Operative Information (continued)

Post-Op Beta Blocker Use - Report only for CABG patients

Variable Name: PO_BETA

1. Yes - The patient received beta-blockers within 24 hours post-op.
2. Contraindicated - The patient did not receive beta-blockers with 24 hours post-op due to a contraindication. Contraindications include the following: allergy, bradycardia (heart rate less than 60 bpm) and not on beta blockers, second or third degree heart block on ECG on arrival or during hospital stay and does not have a pacemaker, systolic blood pressure less than 90 mmHg and not on beta blockers, or other reasons documented by a physician, nurse practitioner, or physician's assistant in the medical chart.
3. Neither- The patient did not receive beta-blockers within 24 hours post-op and there was no contraindication as defined above.

Interpretation: Post-op is defined as starting when the patient leaves the actual procedure room where the cardiac operation occurred.

Glucose Control Protocol

Variable Name: GLUCOSE

Check this box if a glucose control protocol was used for this patient.

Interpretation: This element is referring to a post-op glucose control protocol. These may be initiated in the pre or intra-operative period but continued post-op.

Expected documentation would be an order in the patient's chart indicating use of protocol or evidence that there are standing orders for all patients to be on a protocol.

III. Pre-Op Surgical Risk Factors

Surgical Priority

Variable Name: PRIORITY

Check the appropriate box.

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

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

Emergency: Patients with ongoing, refractory, unrelenting cardiac compromise, with or without hemodynamic instability.

Typical emergency patients include those in arrest with CPR administered immediately prior to the procedure, shock, ongoing ischemia including rest angina, acute evolving MI within 24 hours of procedure, and/or pulmonary edema requiring intubation.

Height

Variable Name: HEIGHT

Enter the patient's height in centimeters (cm).

Centimeters = 2.54 x inches

Weight

Variable Name: WEIGHT

Enter the patient's weight in kilograms (kg).

Kilograms = pounds ÷ 2.2

Stress Test / Imaging Study Done

Variable Name: STRS_DONE

Use the codes below to indicate if a stress test was performed prior to this procedure but within 6 months.

1. Yes
2. No
9. Unknown

III. Pre-Op Surgical Risk Factors (continued)

Stress Test / Imaging Study Type

Variable Name: STRS_TYP

Use the codes below to indicate the type of stress test performed

1. Standard Exercise Stress Test – without imaging
2. Stress Echocardiogram
3. Stress Testing with single photon emission computed tomography (SPECT) myocardial perfusion imaging (MPI)
4. Stress Testing with cardiac magnetic resonance (CMR)
9. Not Done / Unknown

If more than one type of stress test was performed within the past 6 months, report on the most recent test.

Stress Test / Imaging Study Results

Variable Name: STRS_RES

Use the codes below to indicate the stress test results.

1. Negative –
A stress test or imaging study is negative when the electrocardiogram is normal or not suggestive of ischemia; or the imaging study reveals no change in wall motion during the procedure, or the imaging study revealed no myocardial perfusion defect. ECGs are not suggestive of ischemia when < 1 mm of horizontal or downsloping ST segment depression or evaluation for $\geq 60 - 80$ milliseconds after the end of the QRS complex, either during or after exercise.
2. Positive, Low Risk – Any of the following:
 - a. Low-risk treadmill score (score ≥ 5)
 - b. Normal or small myocardial perfusion defect at rest or with stress.*
 - c. Normal stress echocardiographic wall motion or no change of limited resting wall motion abnormalities during stress.*

*Although the published data are limited, patients with these findings will probably not be at low risk in the presence of either a high-risk treadmill score or severe resting left ventricular dysfunction (LVEF $< 35\%$).
3. Positive, Intermediate Risk – Any of the following:
 - a. Mild/moderate resting left ventricular dysfunction (LVEF = 35-49%)
 - b. Intermediate risk treadmill score ($- 11 < \text{score} < 5$)

III. Pre-Op Surgical Risk Factors (continued)

Stress Test / Imaging Study Results (continued)

- c. Stress-induced moderate perfusion defect without LV dilation or increased lung uptake (thallium-201).
- d. Limited stress echocardiographic ischemia with a wall motion abnormality only at higher doses of dobutamine involving less than or equal to two segments.
4. Positive, High Risk – Any of the following:
 - a. Severe resting left ventricular dysfunction (LVEF < 35%)
 - b. High-risk treadmill score (\leq - 11).
 - c. Severe exercise left ventricular dysfunction (exercise LVEF < 35%)
 - d. Stress-induced large perfusion defect (particularly if anterior)
 - e. Stress-induced multiple perfusion defects of moderate size
 - f. Large, fixed perfusion defect with LV dilation or increased lung uptake (thallium 201).
 - g. Echocardiographic wall motion abnormality (involving greater than two segments) developing at low dose of dobutamine (less than or equal to 10 mg/kg/min) or at a low heart rate (<120 beats /min).
 - h. Stress echocardiographic evidence of extensive ischemia.
5. Positive, Risk Unavailable – Stress test / imaging study positive but risk or extent of ischemia not available.
6. Indeterminate - Results were indeterminate or un-interpretable. They cannot be considered positive or negative.
7. Unavailable –The results of the test are not available.
9. Not Done/ Unknown – No stress test/imaging study was performed within the past 6 months or it is not known if a stress test/imaging study was performed in the past 6 months.

Note:

Inclusion of stress test reports in the medical record is encouraged to allow for accurate and complete reporting of these data elements.

If the stress test report is not in the chart and the only documentation is a note of “positive stress test,” please report as follows:

Stress Test Done = “1 -Yes”

Stress Test Type = “9 - Not Done / Unknown”

Stress Test Result = “5 - Positive, risk unavailable”

III. Pre-Op Surgical Risk Factors (continued)

Ejection Fraction and Measure

Variable Names: EJEC_FRA, MEASURE

Record the pre-operative ejection fraction taken closest to but before the start of the cardiac procedure. If a calculated measure is unavailable, the ejection fraction should be estimated visually from the ventriculogram or by echocardiography.

If an ejection fraction is unavailable, enter "0" and then enter "9 – Unknown" for the measure.

Indicate how the Ejection Fraction was measured using one of the following:

1. LV Angiogram
2. Echocardiogram
3. Radionuclide Studies
4. Transesophageal Echocardiogram (TEE), this includes intra-operative
8. Other
9. Unknown

Note: Intra-operative direct observation of the heart is NOT an adequate basis for a visual estimate of the ejection fraction.

Interpretation: Any ejection fraction that is well documented in the chart is acceptable, but give precedence to the one closest to (but before) the cardiac procedure.

Intra-operative TEE is acceptable, if no other pre-operative Ejection Fraction is available.

Any ejection fraction that is described as "Normal" in the medical record should be considered 55%.

Any cases with a missing or < 10% ejection fraction will be sent back during quarterly and annual data validation to verify accuracy of this data element.

III. Pre-Op Surgical Risk Factors (continued)

CCS Functional Class

Variable Name: CCS_CLAS

Enter the number (1-4) corresponding to the patient's Canadian Cardiovascular Society (CCS) Functional Class or 8 for No Angina, as defined below.

Anginal equivalent symptoms (e.g. shortness of breath) can be used to determine the appropriate functional class.

Canadian Cardiovascular Society (CCS) Functional Classification:

1. Class I Ordinary physical activity, such as walking or climbing stairs, does not cause angina. Angina may occur with strenuous or rapid or prolonged exertion at work or recreation.
2. Class II There is slight limitation of ordinary activity. Angina may occur with walking or climbing stairs rapidly, walking uphill, walking or stair climbing after meals or in the cold, in the wind, or under emotional stress, or walking more than two blocks on the level, or climbing more than one flight of stairs under normal conditions at a normal pace.
3. Class III There is marked limitation of ordinary physical activity. Angina may occur after walking one or two blocks on the level or climbing one flight of stairs under normal conditions at a normal pace.
4. Class IV There is inability to carry on any physical activity without discomfort; angina may be present at rest.
8. None Patient does not have Angina CCS Class I-IV as defined above and includes those who do not have documented history of angina but may present with chest pain associated with an MI.

Note: The determination of functional class should be based on the typical level of exertion required to produce angina. The CCS class should be based on the patient's history or pattern of angina, not the presenting symptoms. For example, a patient with no history of angina that is experiencing ischemic chest pain at rest in the ED should be classified as "8-None".

III. Pre-Op Surgical Risk Factors (continued)

Creatinine

Variable Name: CREATININE

Enter the patient's highest pre-operative creatinine (in mg/dL) recorded during this hospital admission.

Interpretation: If no pre-operative creatinine values are available from the current hospital stay, it is acceptable to use values found during Pre-Admission Testing (up to 2 weeks prior to the intervention). If the patient is transferred, the creatinine can come from the transferring hospital.

Vessels Diseased

Variable Name: LMT, PROX_LAD, MID_LAD, RCA, LCX

For each diseased vessel, check the appropriate box to indicate the percent diameter stenosis. Include all vessels diseased, even branches.

Interpretation: This section must be completed for all CABG cases. If this information is available for other procedures, please indicate the vessels diseased, otherwise leave blank.

If the diseased segment of the native vessel is bypassed by an open artery or vein graft, do not code as diseased. This vessel is re-vascularized.

Use the ranges listed below when the medical record describes the percent stenosis in the following ways:

MILD	= < 50%
MODERATE	= 50-69%
SEVERE	= > 70%

If a vessel or branch is described as having "Mild" stenosis then the vessel would NOT be coded as diseased, since we only code 50-100% stenosis.

If the medical record reports the range "40-50%" stenosis, then DO NOT CODE as diseased.

If the medical record reports the range "60-70%" stenosis, then code 50-69%.

Proximal LAD is now reported by itself. Disease of the Major Diagonal should be reported with Mid/Distal LAD. The Ramus Intermediate should be coded as the Diagonal or Marginal.

III. Pre-Op Surgical Risk Factors (continued)

Vessels Diseased (continued)

Always take the highest stenosis reported for a vessel. If the medical record reports the Proximal RCA with a 70% lesion and the Distal RCA with a 50% you should code the RCA as 70-100%, since the Proximal RCA has a 70% lesion.

If the medical record only has documentation that states the LAD was stenosed: then code the Mid LAD and not the Proximal LAD.

Valve Disease

Variable Names: STEN_AOR, STEN_MIT, STEN_TRI, INCO_AOR, INCO_MIT, INCO_TRI

This section is required for valve patients, if the information is available for other patients, please report it.

Enter an assessment of the degree of stenosis or incompetence (acute or chronic) for each valve (Aortic, Mitral, Tricuspid). Both lines should be completed for all valve patients.

Please enter the following values for each valve to indicate the degree of stenosis or incompetence:

0. None
1. Mild
2. Moderate
3. Severe

Moderate or Severe Stenosis – Aortic, Mitral, or Tricuspid: Should be demonstrated by appropriate imaging technique, echocardiography, or hemodynamic measurement during cardiac catheterization or operation.

Moderate or Severe Aortic Incompetence: Should be demonstrated by aortography or by pre-op or intraoperative echocardiography.

Moderate or Severe Mitral Incompetence: Should be demonstrated by left ventriculography or by pre-op or intraoperative echocardiography.

Moderate or Severe Tricuspid Incompetence: Should be demonstrated by physical examination or by pre-op or intraoperative echocardiography.

Note: If a patient is not having a valve procedure, but disease (stenosis or incompetence) is indicated, please code.

III. Pre-Op Surgical Risk Factors (continued)

Anti-Anginal Medication within 2 Weeks

Variable names: MED_BB, MED_CA, MED_NIT, MED_RAN, MED_OTH

Indicate if the patient was taking any of the following agents to treat anginal symptoms within the past two weeks. Check all that apply.

- Beta-Blockers
- Calcium Channel Blockers
- Long Acting Nitrates
- Ranolazine
- Other

Interpretation:

If the medication is given in any dose for any duration in the timeframe of two weeks prior to the surgery up to the time of surgery then report.

If the patient is taking the medication for any reason, then report. It does not have to be documented as a prescription to treat anginal symptoms.

If the patient has been prescribed the medication but is known to be not taking it, then do not report.

Nitro paste and nitro patch are considered Long Acting Nitrates.

Other is a category created for medications not on the market at this time.

III. Pre-Op Surgical Risk Factors (continued)

Other Patient Characteristics

Variable Names: FFR_IVUS, CTO, GRFTFAIL, LIMA_FAIL, LIMA_PAT

Indicate which, if any, of the following characteristics apply to this patient. Check all that apply.

- 50-69% stenosis with significant findings on Fractional Flow Reserve (<0.75) and/or IVUS with significant reduction in cross sectional area.
Note: Significant reduction in cross sectional area by IVUS is defined as 6mm² for the left main and 4mm² for major epicardial vessels other than the left main.
- Chronic Total Occlusion (CTO) is the only stenosis – Indicate if patient has a CTO and no other lesion in that vessel or any other vessel. CTO is defined as a vessel with 100% pre-procedure stenosis presumed to be 100% occluded for at least 3 months previous to this procedure.
Note: If timeframe of 3 months is not specified, but lesion is described as “CTO,” this is acceptable.
- Prior CABG with native 3 vessel disease and failure of multiple bypass grafts.
- LIMA was used as a graft but is no longer functional
- LIMA was used as a graft and remains patent to a native coronary artery.

Interpretation: For the items regarding LIMA patency, the graft would be considered “no longer functional” if there is angiographic stenosis of 70% or more or there is evidence of significant flow restriction documented by FFR or by stress test (with echo or nuclear to localize the ischemia).

III. Pre-Op Surgical Risk Factors (continued)

0. None

Variable Name: NORISK

Report if none of the pre-operative risk factors listed below are present.

1. Previous CABG - Patent Grafts

Variable Name: PAT_GRAFT

Indicate if prior to this OR visit the patient has undergone CABG and currently has one or more patent grafts.

Include any surgeries that occurred prior to this one including those earlier in the current admission.

Note: Check this box if there are any patent grafts, even if there are also occluded grafts. If the patient has had multiple previous operations (e.g. CABG and Valve) and has patent grafts, it is only necessary to check this box. It is not also necessary to check Risk #2- Any Other Previous Cardiac Surgery.

1a. Previous CABG – No Patent Grafts

Variable Name: OTH_CABG

Indicate if prior to this OR visit the patient has previously undergone CABG and has no patent grafts.

Include any surgeries that occurred prior to this one including those earlier in the current admission.

Note: If the patient has had multiple previous operations (e.g. CABG and Valve) and has no patent grafts, it is only necessary to check this box. It is not also necessary to check Risk #2- Any Other Previous Cardiac Surgery.

2. Any Other Previous Cardiac Surgery

Variable Name: OTH_SURG

Indicate if prior to this OR visit the patient has had any cardiac surgery other than CABG.

Note: Do not include catheter-based interventions.

III. Pre-Op Surgical Risk Factors (continued)

4. - 6. Previous MI (most recent)

Variable Names: PREMILT6, PREMI623, PREMIDAY

If the patient had one or more myocardial infarctions before surgery, report the length of time since the most recent MI. Timing should be from the onset of symptoms to the start of the surgery. If the exact time that the symptoms started is not available in the medical record, every effort should be made to create a close estimate based on available documentation.

The diagnosis of Acute Coronary Syndrome (ACS) in the medical record is not sufficient to code risk factors 4 – 6. There must be documentation of a myocardial infarction.

If less than 6 hours, check box “4”.

If 6-23 hours, check box “5”.

If 24 hours or more, enter the number of days in the space provided next to “6”.

If 21 days or more, enter "21".

9. Cerebrovascular Disease

Variable Name: CEREBRO

Code if there is documentation of a history of stroke, with or without residual deficit, angiographic or ultrasound demonstration of at least 50% narrowing in a major cerebral or carotid artery (common or internal), or previous surgery for such disease. A history of bruits or transient ischemic attacks (TIA) is not sufficient evidence of cerebrovascular disease.

Examples:

Cerebrovascular Disease	Code	Do Not Code
1. Patient with TIA, vertigo per history & physical		X
2. Cerebral aneurysm and clipping residual deficit	X	
3. External carotid artery has >50% stenosis		X
4. Internal or common carotid artery has >50% stenosis	X	
5. Carotid endarterectomy is scheduled for after surgery, but there is no pre-operative documentation of the carotid stenosis.		X

Note: #5 is different from what is acceptable documentation in the Percutaneous Coronary Interventions Reporting System.

III. Pre-Op Surgical Risk Factors (continued)

10. Peripheral Vascular Disease

Variable Name: PERIPH

Angiographic demonstration of at least 50% narrowing in a major aortoiliac or femoral/popliteal vessel, previous surgery for such disease, absent femoral or pedal pulses, or the inability to insert a catheter or intra-aortic balloon due to iliac aneurysm or obstruction of the aortoiliac or femoral arteries. Ankle-Brachial Index < 0.9 is also acceptable documentation.

Examples:

Peripheral Vascular Disease	Code	Do Not Code
1. Tortuosity of the vessel alone		X
2. Tortuosity of the vessel with an inability to insert a catheter	X	
3. Abdominal aortic aneurysm (AAA)	X	
4. Aneurysm in the ascending or descending aorta	X	
5. Absence of femoral pulse on either the right or the left	X	
6. Diminished femoral pulse on either right or left or both		X
7. Claudication		X
8. A negative popliteal pulse alone (1+1- or 1-1+)		X
9. Palpable dorsalis pedis and posterior tibial pulses		X
10. If pulses are non-palpable, but are dopplerable	X	
11. Inability to insert a catheter or IABP in femoral arteries	X	
12. Amputated toes, necrotic toes, gangrene of the foot in the absence of other acceptable criteria		X
13. Renal artery with significant stenosis	X	
14. Subclavian artery with significant stenosis	X	

III. Pre-Op Surgical Risk Factors (continued)

12. Unstable

Variable Name: UNSTABLE

In the immediate pre-operative period, the patient requires pharmacologic or mechanical support to maintain blood pressure or cardiac index.

Interpretation:

Key elements for documentation of Unstable include evidence in the pre-operative period of the following:

1. Hypotension or low cardiac index and
2. Administration of mechanical or pharmacological support.

For these purposes, the pre-operative period is defined as the period prior to anesthesia taking responsibility for the patient.

- The procedure itself does not constitute support.
- Fluid replacement alone does not constitute support.
- IABP constitutes support only when documented that it was placed for hemodynamics. Pain control, anatomy, or undocumented indication for IABP do not support coding Unstable.

Unstable cannot be coded with SHOCK.

III. Pre-Op Surgical Risk Factors (continued)

13. Shock

Variable Name: SHOCK

In the immediate pre-operative period, the patient has acute hypotension (*systolic blood pressure < 80 mmHg*) or low cardiac index (*< 2.0 liters/min/m²*), despite pharmacologic or mechanical support.

Interpretation: Key elements for the documentation of Shock include evidence in the immediate pre-operative period of all three of the following elements:

1. Documented acute hypotension (*systolic blood pressure < 80 mmHg*) or low cardiac index (*< 2.0 liters/min/m²*), **and**
2. Mechanical or pharmacological support, **and**
3. Persistent acute hypotension (*systolic blood pressure < 80 mmHg*) or low cardiac index (*< 2.0 liters/min/m²*) while receiving mechanical or pharmacological support.

For these purposes, the pre-operative period is defined as the period prior to anesthesia taking responsibility for the patient.

- The procedure itself does not constitute mechanical support.
- Fluid replacement alone does not constitute support.
- IABP constitutes support only when documented that it was placed for hemodynamics. Pain control, anatomy, or undocumented indication for IABP do not support coding Shock.

Ongoing resuscitation warrants the coding of Shock.

If the patient has an IABP – the non-augmented BP should be < 80 mmHg to code Shock.

If the patient is Ventricular Assist Device (VAD) dependent then code Shock. The type of VAD (Right, Left, Bi) is not important.

Shock cannot be coded with Unstable.

Clarification: The intent of this data element is to capture patients with pre-operative cardiogenic shock, whose hemodynamics cannot be stabilized with pharmacologic or mechanical support. Patients whose hemodynamics are maintained (*SBP ≥ 80 or CI ≥ 2.0*) by pharmacological or mechanical support should be coded as Unstable, not as Shock.

III. Pre-Op Surgical Risk Factors (continued)

18. Congestive Heart Failure, Current

Variable Name: CHF_CUR

Within 2 weeks prior to the procedure, the patient has a clinical diagnosis of CHF, and symptoms requiring treatment for CHF.

Note: Physician diagnosis of CHF may be based on one of the following:

- Paroxysmal nocturnal dyspnea (PND)
- Dyspnea on exertion (DOE) due to heart failure
- Chest X-Ray showing pulmonary congestion

Documentation must include the presence of a diagnosis of CHF, evidence of symptoms, and treatment for CHF.

19. Congestive Heart Failure, Past

Variable Name: CHF_PAST

Between 2 weeks and 6 months prior to the procedure, the patient has a clinical diagnosis/ past medical history of CHF and ongoing treatment for CHF.

Note: Physician diagnosis of CHF may be based on one of the following:

- Paroxysmal nocturnal dyspnea (PND)
- Dyspnea on exertion (DOE) due to heart failure
- Chest X-Ray showing pulmonary congestion

Documentation must include a diagnosis of CHF and evidence of treatment for CHF. Patient's clinical status may be compensated.

It is acceptable to report both Congestive Heart Failure Current and Past.

III. Pre-Op Surgical Risk Factors (continued)

63. BNP, three times normal

Variable name: BNP3X

Report if prior to surgery but within this admission, the BNP was at least three times the lab's upper limit of normal value.

For transfer patients, BNP from a transferring institution is acceptable.

20. Malignant Ventricular Arrhythmia

Variable Name: MAL_VENT

Recent (within the past 14 days) sustained ventricular tachycardia requiring electrical defibrillation or conversion with intravenous antiarrhythmic agents or ventricular fibrillation requiring electrical defibrillation. Excludes V-Tach or V-Fib occurring within 6 hours of the diagnosis of a myocardial infarction and responding well to treatment.

Interpretation:

Sustained arrhythmia is that which continues until something is done to stop it; it does not resolve on its own.

If a patient is experiencing V-Tach or V-Fib that otherwise meets the above criteria, but is within 6 hours of an MI, you may still code this risk factor, IF the arrhythmia is not responding well to treatment. That is, if it continues despite electrical defibrillation or conversion with intravenous anti-arrhythmic agents.

If the patient has an AICD that is documented to have fired then CODE, unless the patient has had an MI within the last 6 hours.

Regular oral medication for a ventricular arrhythmia is NOT sufficient reason to code the risk factor.

III. Pre-Op Surgical Risk Factors (continued)

21. Chronic Obstructive Pulmonary Disease

Variable name: COPD

Patients who require chronic (longer than three months) bronchodilator therapy to avoid disability from obstructive airway disease,

Or

Have a forced expiratory volume in one second of less than 75% of the predicted value or less than 1.25 liters,

Or

Have a room air PO₂ <60 or a PCO₂ >50.

Note: COPD should not be checked unless the patient's medical record contains documented evidence of the above criteria, regardless of how much the patient may have smoked.

Examples:

COPD	Code	Do Not Code
1. Chest X-ray as documentation		X
2. Patient required bronchodilators prior to surgery		X
3. Fibrotic lungs on chest X-ray		X
4. Hyperinflated lungs at operation		X
5. Chart states asthma without medications		X
6. Sleep apnea without any of the above criteria		X
7. History of tobacco use		X

III. Pre-Op Surgical Risk Factors (continued)

23. Extensive Aortic Atherosclerosis

Variable Name: CALCAORT

Ascending, transverse, and/or descending aortic atherosclerosis marked by either extensive calcification or luminal atheroma such that the intended surgical procedure is altered.

Interpretation: It is necessary to demonstrate that the intended surgical procedure is altered.

Documentation of the advanced aortic pathology by either transesophageal echocardiography, epi aortic echocardiography, intravascular ultrasound, magnetic resonance angiography or other imaging modality performed in the perioperative period should be available either by official report or dictated in the operative notes.

An operative note that dictates a change in the intended surgical procedure (i.e. clamp moved, procedure performed off pump) is acceptable documentation. Changes to the intended surgical procedure may also include documentation that more extensive evaluation/exploration of the aorta, for example epi aortic scanning, was performed.

Calcium in aortic arch on chest X-ray is not enough to code this risk.

24. Diabetes Requiring Medication

Variable Name: DIABETES

The patient is receiving either oral hypoglycemics or insulin.

Interpretation: The patient must be on oral hypoglycemics or insulin prior to hospital admission.

The following scenario would not be coded since the medication was not ongoing: Patient admitted on 12/28. Nurse's note on 12/29: "patient has no hx DM but had Insulin (stat) in another hospital." Glucose level 155 on no meds.

25. Hepatic Failure

Variable Name: HEPATICF

The patient has cirrhosis or other liver disease
and has a bilirubin > 2 mg/dL
and a serum albumin < 3.5 g/dL.

III. Pre-Op Surgical Risk Factors (continued)

27. Renal Failure, Dialysis

Variable Name: REN_DIAL

The patient is on chronic peritoneal or hemodialysis.

Interpretation: A single dialysis treatment does not constitute coding this risk factor.

30. Emergency Transfer to OR after DX Cath

Variable Name: EME_CATH

The patient requires immediate surgery following a diagnostic catheterization.

31. Emergency Transfer to OR after PCI

Variable Name: EME_PCI

The patient requires immediate surgery following a Percutaneous Coronary Intervention (PCI).

32. Previous PCI, This Admission

Variable Name: PCITHIS

The patient has had a PCI during this admission, prior to the current cardiac surgery.

33. PCI Before This Admission

Variable Name: PCIBEFO

The patient has had a PCI before this admission.

38. Stent Thrombosis

Variable Name: THROMBOS

Formation of a blood clot/thrombus in the stented segment of an artery and/or adjacent area. This usually results in an acute occlusion, chest pain or development of an acute MI. Patient must be currently affected by stent thrombosis as evidenced by AMI, ACS, or clinical angina to code this risk factor.

Interpretation: An occlusion alone, plaque build-up or in-stent restenosis does not constitute coding. There must be documentation noting thrombus.

The thrombus needs to be in or around the area that was stented for the risk factor to be coded.

III. Pre-Op Surgical Risk Factors (continued)

39. Any Previous Organ Transplant

Variable Name: ORGAN

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 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 corneal or skin transplant (grafting).

If the patient had a previous organ transplant and that organ was later removed, do not code this risk factor.

40. Heart Transplant Candidate

Variable Name: HT_TRANS

This risk factor should be coded when the patient is an approved heart transplant candidate before the start of the procedure.

Supporting documentation must be included in the patient's medical record showing that the patient was a transplant candidate prior to the start of the procedure. Acceptable documentation includes: notes that a pre-transplant evaluation was performed and patient was accepted, notes from the transplant coordinator that they have discussed this issue with the patient/family, or a note indicating the transplant patient's status based on UNOS urgency criteria.

During quarterly and annual data verification and validation efforts, we will be asking for supporting documentation for cases coded with this risk factor. Therefore, we highly recommend that at the time of coding you keep supporting documentation in a place for easy retrieval at a later date.

62. Active Endocarditis

Variable Name: ENDOCARD

Two or more positive blood cultures without other obvious source with demonstrated valvular vegetations or acute valvular dysfunction caused by infection.

Includes patients who are on antibiotics at the time of surgery.

Excludes patients who have completed antibiotic therapy and have no evidence of residual infection.

IV. Major Events Following Operation

Check to be sure that all of the listed major events occurred during or after the current cardiac surgery. Check at least one box in this section.

Please Note: A documented pre-operative condition that persists post-operatively with no increase in severity is not a major event. This is true even if the pre-operative condition is not part of this reporting system.

Unless otherwise specified, major events are only reported if they occur post-operatively, but before hospital discharge.

0. None

Variable Name: NOCOMPS

Check if none of the major events listed below occurred following the operation.

1. Stroke (New Neurological Deficit) Intra-Op to 24 hours

Variable Name: STROKE

Permanent new focal neurological deficit occurring either intra-operatively or within 24 hrs post-op.

Interpretation: Exacerbation of a previous CVA with no new neurological deficit would not be coded.

Transient neurological deficits, such as TIA, are not reported as a post-op event.

If the new deficit is still present at discharge, the event should be coded.

1A. Stroke (New Neurological Deficit) over 24 hours

Variable Name: STROKE24

Permanent new focal neurological deficit occurring more than 24 hours post-op.

Interpretation: Exacerbation of a previous CVA with no new neurological deficit would not be coded.

Transient neurological deficits, such as TIA, are not reported as a post-op event.

If the new deficit is still present at discharge, the event should be coded.

IV. Major Events Following Operation (Continued)

2. Q-Wave MI

Variable Name: POSTMI

New Q waves occurring within 48 hours after surgery.

4. Deep Sternal Wound Infection (Bone-Related)

Variable Name: STERNINF

Drainage of purulent material from the sternotomy wound and instability of the sternum.

Note: A deep sternal wound infection should be reported as a major event following operation even if it does not become apparent until after the patient is discharged from the hospital. It should be reported if diagnosed up to 6 months post-op.

Interpretation: If there is documentation of a deep sternal wound infection anywhere in the patient's medical record, then it should be coded. This is true even if the information is in documentation from a subsequent admission.

Do not code based solely on the following:

- Debridement secondary to necrosis, with negative (-) infection
- Positive (+) drainage, negative (-) cellulitis, sternum is showing no instability.

5. Bleeding Requiring Reoperation

Variable Name: BLEDTREOP

Unplanned reoperation within 36 hours post-op to control bleeding or evacuate large hematomas in the thorax or pericardium.

Interpretation: No matter where the bleeding was controlled (e.g. ICU, OR, bedside), if it occurred within 36 hours of the procedure, code it.

The following scenario would not be coded because the chest was left open intentionally and therefore does not qualify as a major event:

CABG surgery on 11/7 – chest left open
Evacuate clots on 11/8
Operating room to close chest on 11/9

IV. Major Events Following Operation (Continued)

8. Sepsis or Endocarditis

Variable Name: SEPSIS

Sepsis: Fever and positive blood cultures related to the procedure.

Endocarditis: Two or more positive blood cultures without other obvious source, demonstrated valvular vegetation, or acute valvular dysfunction caused by infection.

9. G-I Bleeding, Perforation, or Infarction

Variable Name: GIBLEED

Any post-operative episode of vomiting blood, gross blood in the stool, perforation or necrosis of the stomach or intestine.

The episode must occur post-surgery, but before hospital discharge.

10. Renal Failure

Variable Name: RENAL_FAI

The need for temporary or permanent renal dialysis of any type.

Do not code this item if Risk Factor 27 - Renal Failure, Dialysis is coded.

Initiation of dialysis is always considered a major event regardless of the pre-op creatinine or expectation of future need for dialysis.

13. Respiratory Failure

Variable Name: RESP_FAI

Pulmonary insufficiency requiring intubation and ventilation for a period of 72 hours or more, at any time during the post-operative stay. For patients who are placed on and taken off ventilation several times, the total of these episodes should be 72 hours or more.

Interpretation: If the patient is intubated for 72 or more hours after surgery this major event should be coded, even if the patient was intubated prior to the procedure.

The following scenario would be coded:

 Patient was extubated 48 hours post-op. Patient was re-intubated sometime the next day. Patient was extubated 32 hours later.

IV. Major Events Following Operation (Continued)

14. Unplanned Cardiac Reoperation or Interventional Procedure

Variable Name: UNPLANREOP

Any unplanned cardiac reoperation or percutaneous coronary intervention that is required as a result of the current cardiac surgery. This would exclude a reoperation to control bleeding that occurs within 36 hours of the surgery.

Interpretation: This major event should be reported for any cardiac surgery, not just those reportable in CSRS. Procedures should be directly related to the heart. Examples of reportable surgeries include but are not limited to: CABG, cardiac massage, or cardiac explorations. Some examples of the procedures not reportable are: pacemaker insertion, pericardiocentesis, and pleurocentesis.

If the chest is left open after surgery with a return to the operating room to close, this would not be considered an unplanned cardiac reoperation. If clots need to be removed from an open chest this would not be considered an unplanned cardiac reoperation.

The procedure does not have to be performed in the operating room or cath lab.

This event would not be coded under the following situation: the patient has a reoperation to control bleeding less than 36 hours after surgery and then goes back greater than 36 hours to once again control bleeding. In this instance coding the major event "5 - Bleeding Requiring Reoperation" is sufficient.

V. Discharge Information

Discharged Alive To

Variable Name: STATUS, DISWHERE

Check the appropriate box.

If a patient is discharged to hospice (including home with hospice), the discharge status should be reported with code “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 on page 11 of the “Revision Highlights and Coding Clarifications”

If the patient came from a prison or correctional facility and is being discharged back to the same setting then “11 – Home” would be coded.

If the patient is discharged to sub-acute rehab that is in a skilled nursing facility then the discharge status would be “14”, if it is unknown where the sub-acute rehab facility is located then the discharge status would be “19”.

If the patient is discharged to an inpatient physical medicine and rehabilitation unit the discharge status should be “15.”

“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 an indication of where the patient was discharged to will be returned during data validation for completion.

Died in

Variable Name: STATUS, DISWHERE

Check the appropriate box.

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

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

Hospital Discharge Date

Variable Name: DISDATE

Enter the date the patient was discharged from the hospital.

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

V. Discharge Information (continued)

30 Day Status

Variable Name: THIRTYDAY

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

VI. Person Completing Report

Name

This space is provided as an aid to the hospital. Enter the name and telephone number of the person completing the report, and the date the report was completed. This field is not required and is not used by the Department of Health. It is provided solely for the use of the individual hospitals.

This field appears only on the hard copy form, it is not part of data entry or file specification for transmission to cardiac services program.

Referring Physician

Variable Name: REF_PHYS

This space is provided as an aid to the hospital. It is intended to allow the name of the referring cardiologist or primary care physician to be entered. For many hospitals this is useful for tracking 30-day status. By entering the name of the referring physician case lists can be generated and sent to the referring physician for follow-up. This field is not required and is not used by the Department of Health. It is provided solely for the use of the individual hospitals.

Attachment A

PFI Numbers for Cardiac Diagnostic and Surgical Centers

PFI Facility

ALBANY AREA

0001 Albany Medical Center Hospital
0135 Champlain Valley Physicians Hospital Medical Center
0829 Ellis Hospital
1005 Glens Falls Hospital
0746 Mary Imogene Bassett Hospital
0755 Rensselaer Regional Heart Institute – St. Mary's
0756 Rensselaer Regional Heart Institute – Samaritan
0818 Saratoga Hospital
0005 St. Peter's Hospital

BUFFALO AREA

0207 Buffalo General Hospital
0208 Children's Hospital of Buffalo
0210 Erie County Medical Center
0213 Mercy Hospital of Buffalo
0215 Millard Fillmore Gates
0103 Women's Christian Association

ROCHESTER AREA

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

SYRACUSE AREA

0977 Cayuga Medical Center at Ithaca
0628 Community General
0636 Crouse Hospital
0599 Faxton-St. Luke's Healthcare, St. Luke's Division
0367 Samaritan Medical Center
0598 St. Elizabeth Medical Center
0630 St. Joseph's Hospital Health Center
0058 United Health Services Hospital, Inc.-Wilson Hospital Division
0635 University Hospital SUNY Health Science Center (Upstate)

Attachment A (continued)

PFI Numbers for Cardiac Diagnostic and Surgical Centers

PFI Facility

NEW ROCHELLE AREA

0989 Benedictine Hospital
0779 Good Samaritan Hospital-Suffern
0990 Kingston Hospital
0513 Mercy Medical Center
0686 Orange Regional Medical Center
1072 Sound Shore Medical Center-Westchester
0180 St. Francis Hospital (Poughkeepsie)
1097 St. John's Riverside
0694 St. Luke's Cornwall Hospital/Newburgh
0181 Vassar Brothers Medical Center
1139 Westchester Medical Center
1045 White Plains Hospital Center

LONG ISLAND AREA

0885 Brookhaven Memorial Hospital
0925 Good Samaritan Hospital Medical Center-West Islip
0913 Huntington Hospital
0528 Nassau University Medical Center
0541 North Shore University Hospital
0527 South Nassau Communities Hospital
0924 Southside Hospital
0943 St. Catherine of Siena Medical Center
0563 St. Francis Hospital (Roslyn)
0245 Stony Brook University Hospital
0511 Winthrop University Hospital

NY CITY AREA

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

Attachment A (continued)

PFI Numbers for Cardiac Diagnostic and Surgical Centers

PFI Facility

NY CITY AREA (CONT.)

- 1302 Long Island College Hospital
- 1630 Long Island Jewish Medical Center
- 1304 Lutheran Medical Center
- 1305 Maimonides Medical Center
- 3058 Montefiore Medical Center-Jack D. Weiler Hospital of
A. Einstein College Division
- 1169 Montefiore Medical Center-Henry and Lucy Moses Division
- 1456 Mount Sinai Hospital
- 1637 NY Hospital Medical Center of Queens
- 1306 NY Methodist Hospital
- 1464 NY Presbyterian-Columbia Presbyterian Center
- 1458 NY Presbyterian-NY Weill Cornell Center
- 1463 NYU Medical Center
- 2968 North General Hospital
- 1176 St. Barnabas Hospital
- 1466 St. Luke's Roosevelt Hospital Center-Roosevelt Hospital Division
- 1469 St. Luke's Roosevelt Hospital-St. Luke's Hospital Division
- 1740 Staten Island University Hospital-North
- 1471 SVCMC-St. Vincent's Manhattan
- 1738 Richmond University Medical Center
- 1320 University Hospital of Brooklyn
- 1318 Wyckoff Heights Medical Center

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

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

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

Attachment B

Residence Codes

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

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

Attachment C

Payer Codes

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

Attachment D

Congenital and Acquired Cardiac Procedure Codes NYSDOH CARDIAC ADVISORY COMMITTEE

100-398 Congenital Heart Disease - Operations With or Without Extracorporeal Circulation

Note: Extracorporeal circulation will be determined from the data element Entire Procedure Off Pump reported under Section II. Procedural Information on the front of the form. Please accurately complete this item for all appropriate cases.

Anomalies of Pulmonary Veins

- 100 Repair of Anomalous Pulmonary Venous Return
- 101 Repair of Pulmonary Vein Stenosis
- 103 Repair of Partial Anomalous Pulmonary Venous Return

Anomalies of Atrial Septum

- 120 ASD Closure
- 121 Creation of ASD
- 122 Repair of Cor Triatriatum
- 123 PFO Closure

Atrioventricular Septal Defect (AVSD)

- 130 Repair of Complete AV Canal
- 131 Repair of Partial AV Canal

Anomalies of Ventricular Septum

- 140 Repair of VSD
- 141 Creation/Enlargement of VSD
- 142 Fenestration of VSD Patch

Anomalies of Atrioventricular Valves

Tricuspid Valve

- 150 Repair (Non-Ebstein's Valve)
Replacement
- 151 Homograft
- 152 Prosthetic
- 153 Tricuspid Valve Closure
- 154 Repair Ebstein's Anomaly

Attachment D (continued)

Congenital and Acquired Cardiac Procedure Codes

Anomalies of Atrioventricular Valves (continued)

Mitral Valve

- 160 Resect supramitral ring
- 161 Repair (including annuloplasty)
Replacement
- 162 Homograft
- 163 Prosthetic
- 170 Common AV Valve Repair

Anomalies of Ventricular Outflow Tract(s)

Pulmonary Ventricular Outflow Tract

- 180 Pulmonary Valvotomy/Valvectomy
- 181 Resection of subvalvular PS
- 182 Repair of supra-ventricular PS
Pulmonary Valve Replacement
- 190 Homograft
- 191 Prosthetic
- 192 Xenograft

Pulmonary Outflow Conduit

- Valved
- 200 Homograft
- 201 Prosthetic
- 202 Non-Valved
 - Transannular Patch
 - 210 With Monocusp Valve
 - 211 Without Monocusp Valve
 - 212 Repair Branch PS

Aortic Ventricular Outflow Tract

- 220 Aortic Valvuloplasty
- 221 Aortic Valvotomy
- 230 Repair Supra-ventricular AS
- 231 Resection of Discrete Subvalvular AS
- 235 Aortoventriculoplasty (Konno Procedure)
Aortic Valve Replacement
- 240 Autograft (Ross Procedure)
- 241 Homograft
- 242 Prosthetic
- 243 Heterograft
- Aortic Root Replacement
- 250 Autograft (Ross Procedure)

Attachment D (continued)

Congenital and Acquired Cardiac Procedure Codes

Anomalies of Ventricular Outflow Tract(s) (continued)

- 251 Homograft
- 252 Prosthetic
- 255 LV Apex to Aorta Conduit

Tetralogy of Fallot

- 260 Repair with Pulmonary Valvotomy
- 261 Repair with Transannular Patch
- 262 Repair with Non-valved Conduit
- Repair with Valved Conduit
- 263 Homograft
- 264 Prosthetic
- 265 Repair with reduction/plasty of PAs
- Repair with pulmonary valve replacement
- 266 Homograft
- 267 Prosthetic

Truncus Arteriosus

- 262 Repair with Non-Valved Conduit
- Repair with Valved Conduit
- 263 Homograft
- 264 Prosthetic

Univentricular Heart (Single Ventricle)

- Fontan Operations
- 270 Direct RV-PA Connection
- Total Cavopulmonary Connection
- 271 Lateral tunnel – nonfenestrated
- 272 Lateral tunnel – fenestrated
- 273 Extracardiac – nonfenestrated
- 274 Extracardiac – fenestrated
- 275 Septation of Single Ventricle
- Hypoplastic Right Ventricle
- Valved
- 200 Homograft
- 201 Prosthetic
- 202 Non-Valved

Attachment D (continued)

Congenital and Acquired Cardiac Procedure Codes

Univentricular Heart (Single Ventricle) (continued)

- Transannular Patch
- 210 With Monocusp Valve
- 211 Without Monocusp Valve
- Hypoplastic Left Ventricle
- 280 Norwood
- 290 Damus Kaye Stansel (DSK)

Transposition of Great Arteries or Double Outlet RV

- 310 Arterial Switch
- 311 Senning Procedure
- 312 Mustard Procedure
- 313 Intraventricular Repair of DORV
- Rastelli Procedure
- RV-PA Conduit
- Valved
- 320 Homograft
- 321 Prosthetic
- 322 Non-Valved
- 325 REV operation (Modified Rastelli)
- LV-PA Conduit
- Valved
- 326 Homograft
- 327 Prosthetic
- 328 Non-Valved

Great Vessel Anomalies

- 330 PDA Ligation
- 331 Repair Aortopulmonary Window
- 332 Reimplantation of left or right pulmonary artery
- 333 Repair Sinus of Valsalva Aneurysm
- Aortic Repair (Coarctation or Interruption)
- 340 End to end anastomosis
- 348 End to side anastomosis
- 341 Subclavian flap angioplasty
- 342 Onlay Patch
- 343 Interposition graft
- 344 Vascular Ring Division
- 345 Repair of PA Sling

Attachment D (continued)

Congenital and Acquired Cardiac Procedure Codes

Great Vessel Anomalies (continued)

- 346 Reimplantation of Innominate Artery
- 347 Aortoplexy

Coronary Artery Anomalies

- Translocation of LCA to Aorta
- 350 Direct
- 351 Transpulmonary Tunnel (Takeuchi)
- 352 Coronary Artery Ligation
- 353 Coronary Fistula Ligation

Cardiomyopathies

- 360 Left Ventricular Reconstruction (Batiste Procedure, Surgical Ventricular Restoration)
- 361 Radical Myomectomy

Interval Procedures

- 370 Pulmonary Artery Band
- 375 Unifocalization of Pulmonary Vessels Shunts
- 381 Central Aortopulmonary Shunt
- Blalock Taussig Shunts
- 382 Classical
- 383 Modified
- Glenn Shunts
- 384 Unidirectional (Classical)
- 385 Bidirectional
- 386 Bilateral Bidirectional
- 390 Cardiac Arrhythmia Surgery
- 398 Other Operations for Congenital Heart Disease

400-998 Acquired Heart Disease – Operations Performed With or Without Extracorporeal Circulation

- 401 Mitral Valvotomy
- 402 Pericardiectomy (with extracorporeal circulation)
- 403 Stab Wound of Heart or Great Vessel Repair (without extracorporeal circulation)
- 404 Saccular Aortic Aneurysm

Attachment D (continued)

Congenital and Acquired Cardiac Procedure Codes

Repair Of Aortic Deceleration Injury

- 420 With Shunt
- 421 Without Shunt

Other

- 498 Other Operation for Acquired Heart Disease (without extracorporeal circulation)

Valve Repair

- 500 Aortic
- 501 Mitral
- 502 Tricuspid
- 503 Pulmonary

Valve Replacement

- 510-518* Ross Procedure
- 520-528* Aortic Mechanical
- 530-538* Aortic Heterograft
- 540-548* Aortic Homograft
- 550-558* Mitral Mechanical
- 560-568* Mitral Heterograft
- 570-578* Tricuspid Mechanical
- 580-588* Tricuspid Heterograft
- 590-598* Pulmonary
- 600-608* Mitral Homograft

*REOPERATIONS: For Valve Replacement (510-608), use third digit to indicate reason for reoperation, as follows:

- | | |
|---------------------------|----------------------------|
| 0 Not a Reoperation | 4 Failed Valvuloplasty |
| 1 Periprosthetic Leak | 5 Disease of Another Valve |
| 2 Prosthetic Endocarditis | 8 Other Reason |
| 3 Prosthetic Malfunction | |

Valve Conduits

- 660 Apical Aortic Conduit

Note: Record Aortic Valve and Ascending Aorta Replacement under Aneurysms.

Attachment D (continued)

Congenital and Acquired Cardiac Procedure Codes

Coronary Artery Bypass Grafts

670 Coronary Artery Bypass Graft

Please Note: If you code a 670 then you must complete the CABG Information under the Procedural Information Section of the Form.

Other Revascularization

710 Transmyocardial Revascularization

715 Growth Factor Installation

Additional Procedures with or without CABG

760 Acquired Ventricular Septal Defect

761 Resection or Plication of LV Aneurysm

762 Ventricular Reconstruction (Batiste Procedure, Surgical Ventricular Restoration)

763 Carotid Endarterectomy (report only if done with another cardiac procedure)

764 Implantation of AICD (report only if done with another cardiac procedure)

Radiofrequency or Operative Ablation

770 Atrial

771 Ventricular

772 Maze Procedure

Aortic Aneurysm Repair/Aortic Root Replacement

780 Ascending Aorta, With Graft, With Coronary Reimplantation

781 Ascending Aorta, Replacement or Repair, Without Coronary Reimplantation

782 Transverse Aorta

783 Descending Thoracic Aorta (Excluding Acute Deceleration Injury)

784 Thoracoabdominal

785 Aortic Root Replacement or Repair, With Graft, With Coronary Reimplantation

Dissecting Aneurysm Surgery

800 Intraluminal Graft

801 Intraluminal Graft with Aortic Valve Suspension

802 Tube Graft with Aortic Valve Suspension

Attachment D (continued)

Congenital and Acquired Cardiac Procedure Codes

Dissecting Aneurysm Surgery (continued)

- 803 Tube Graft with Aortic Valve Replacement
- 818 Other Dissecting Aneurysm Surgery

Transplant Procedures

- 820 Heart Transplant
- 821 Heart and Lung Transplant
- 822 Lung Transplant
- 830 Left Ventricular Assist Device (LVAD) – Extracorporeal
- 831 Left Ventricular Assist Device (LVAD) – Implantable
- 832 Right Ventricular Assist Device (RVAD)
- 833 Bi-Ventricular Assist Device (BIVAD)
- 834 Extracorporeal Membrane Oxygenation (ECMO)
- 840 Ventricular Assist Device as a Destination Therapy (must also code either 830 or 831)
- 901 Artificial Heart

Other

- 902 Pulmonary Embolectomy
- 903 Stab Wound of Heart or Great Vessel Repair (with extracorporeal circulation)
- 904 Removal of Intracardiac Tumor
- 905 Removal of Intracardiac Catheter
- 906 Repair of Aortic Deceleration Injury (With Aortofemoral Bypass)
- 907 Repair of a Cardiac Laceration due to Trauma
- 915 Septal Myomectomy
- 916 Ventricular Myomectomy
- 920 Ventricular Free Wall Rupture
- 998 Other Operation for Acquired Heart Disease (with extracorporeal circulation)

Attachment E

Primary Cardiac Diagnosis Codes NYSDOH Cardiac Advisory Committee

Atrial Situs Anomalies

- 010 Situs Inversus
- 011 Situs Ambiguous/Heterotaxy Syndrome

Cardiac Position Anomalies

- 020 Dextrocardia
- 021 Mesocardia
- 022 Ectopia cordis

Anomalies of Pulmonary Veins

- 100 Partial Anomalous Return
Total Anomalous Return
- 101 Supracardiac
- 102 Cardiac
- 103 Infracardiac
- 104 Mixed
- 105 Pulmonary Vein Stenosis
- 106 Cor Triatriatum

Anomalies of Atrial Septum

- 110 Secundum ASD
- 111 Single Atrium
- 112 Unroofed Coronary Sinus
- 113 Sinus Venosus ASD
- 114 PFO

Anomalies of Atrioventricular Valve(s)

- Tricuspid Valve
- 120 Ebstein's Anomaly
- 121 Tricuspid Stenosis
- 122 Tricuspid Regurgitation
- 123 Straddling Tricuspid Valve
- Mitral Valve
- 130 Supravalvular Mitral Stenosis
- 131 Valvular Mitral Stenosis
- 132 Subvalvular Mitral Stenosis

Attachment E (continued)

Primary Cardiac Diagnosis Codes NYSDOH Cardiac Advisory Committee

Anomalies of Atrioventricular Valve(s) (continued)

133	Mitral Regurgitation
134	Straddling Mitral Valve
135	Papillary Muscle Abnormality
	Common AV Valve Abnormality
140	Stenosis
141	Regurgitation
142	Malaligned

Anomalies of Ventricular Septum

150	Perimembranous VSD
151	Doubly committed VSD (Subarterial)
152	Inlet VSD
153	Muscular VSD
154	Multiple VSDs
155	Malalignment VSD

Atrioventricular Septal Defects (AVSD)

160	Partial AVSD (Primum ASD)
163	Transitional / Intermediate AV Canal
	Complete AVSD
161	Balanced
162	Unbalanced

Univentricular Heart (Single Ventricle)

170	Double/Common Inlet LV
171	Double/Common Inlet RV
	Tricuspid Atresia
172	With IVS
173	With VSD
174	With TGA
175	Mitral Atresia
176	Indeterminate Ventricle
	Hypoplastic Right Ventricle
180	Pulmonary atresia with IVS
181	Other type of hypoplastic RV
	Hypoplastic Left Ventricle

Attachment E (continued)

Primary Cardiac Diagnosis Codes NYSDOH Cardiac Advisory Committee

Univentricular Heart (Single Ventricle) (continued)

- 190 Classical HLHS (Aortic Atresia w/ Hypoplastic LV)
- 191 Any other Hypoplastic LV

Anomalies of Ventricular Outflow Tracts

- 200 Pulmonary Ventricular Outflow Tract
- 201 Pulmonary Valve Stenosis
- 209 Supravalvular Pulmonary Stenosis
- 202 Subvalvular/Infundibular Pulmonary Stenosis
- 203 Double Chamber Right Ventricle
- 204 Branch Pulmonary Artery Stenosis
- 205 Hypoplastic Pulmonary Arteries
- 206 Pulmonary Valve Regurgitation
- 207 Main Pulmonary Artery Atresia
- 208 Branch Pulmonary Artery Atresia
- Aortic Ventricular Outflow Tract
- 210 Valvular Aortic Stenosis
- Subvalvular Aortic Stenosis
- 211 Discrete
- 212 Long Segment/Tunnel
- 220 Supravalvular Aortic Stenosis
- 230 Aortic Valve Atresia
- 231 Aortic Valve Regurgitation
- 232 Aorto-Ventricular Tunnel

Tetralogy of Fallot (TOF)

- 240 RV-PA Continuity
- 241 TOF with Pulmonary Valve Atresia
- 242 Absent Pulmonary Valve Syndrome

Truncus Arteriosus

- 250 Type I
- 251 Type II
- 252 Type III

Attachment E (continued)

Primary Cardiac Diagnosis Codes NYSDOH Cardiac Advisory Committee

Transposition of the Great Arteries (TGA)

- 260 D-TGA
- 261 Congenitally Corrected Transposition

Double Outlet Right Ventricle (DORV)

- 270 Subaortic VSD
- 271 Subpulmonic VSD
- 272 Uncommitted VSD
- 273 Doubly Committed VSD
- 274 Restrictive VSD

Great Vessel Anomalies

- 280 Aortopulmonary Window
- 281 Patent Ductus Arteriosus
- 282 Origin of L/R PA from Aorta
- 283 Sinus of Valsalva Aneurysm/Fistula
- 284 Aortic Coarctation
- 297 Hypoplastic Aortic Arch
- 285 Aortic Interruption
 - Aortic Aneurysm
- 286 Ascending
- 287 Descending
- 288 Transverse
- 289 Vascular Ring
- 290 Origin of LPA from RPA (PA sling)
- 291 Discontinuous PAs
- 292 Bronchial PA Blood Flow (MAPCA)
- 293 Isolated LSVC
- 294 Bilateral SVCs
- 295 Azygous/Hemiazygos Continuous IVC
- 296 Other Great Vessel Anomalies

Coronary Artery Anomalies

- 300 Coronary Artery Fistula
- 301 Coronary Artery Sinusoids
- 302 Coronary Artery Stenosis
- 303 Coronary Artery Aneurysm

Attachment E (continued)

Primary Cardiac Diagnosis Codes NYSDOH Cardiac Advisory Committee

Coronary Artery Anomalies (continued)

- 304 Anomalous Origin Coronary Artery
- 305 Atresia Left Main Coronary Artery
- 306 Atresia Right Main Coronary Artery

Cardiac Rhythm Anomalies

- 310 Supraventricular tachycardia
- 311 Ventricular tachycardia
- 312 Sinus bradycardia
- 313 Heart Block

Cardiomyopathies

- Hypertrophic
 - 320 Left Ventricle
 - 321 Right Ventricle
- 322 Dilated
- 398 Other Diagnoses NOT Listed

Acquired Disease

- 400 Kawasaki's Disease
- 401 Endocarditis
- 402 Myocarditis
- 403 Traumatic

Organ Failure

- 820 Cardiac
- 821 Pulmonary

Cardiac Neoplasms

- 900 Atrial
- 901 Ventricular
- 902 Valvular
- 903 Great Vessel