**Appendix 2: Definitions for New York State Cardiac Surgery Reporting System**

**Pre-Op Surgical Risk Factors**

**Surgical Priority**

*Variable Name: PRIORITY*

Indicate the clinical status of the patient prior to entering the operating room.

1 Elective: The patient's cardiac function has been stable in the days or weeks prior to the operation. The procedure could be deferred without increased risk of compromised cardiac outcome.

2 Urgent: Procedure required during same hospitalization in order to minimize chance of further clinical deterioration. Examples include but are not limited to: Worsening, sudden chest pain; CHF; acute myocardial infarction; anatomy; IABP; unstable angina with intravenous nitroglycerin or rest angina.

3 Emergent: Patients requiring emergency operations will have ongoing, refractory (difficult, complicated, and/or unmanageable) unrelenting cardiac compromise, with or without hemodynamic instability, and not responsive to any form of therapy except cardiac surgery. An emergency operation is one in which there should be no delay in providing operative intervention.

4 Emergent Salvage: The patient is undergoing CPR en route to the OR or prior to anesthesia induction or has ongoing ECMO to maintain life.

**Coding Note:** *PRIORITY* is aligned with STS v2.73 element 2390.

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**Height**

*Variable Name: HEIGHT*

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

**Coding Note:** HEIGHT definition is consistent with STS v2.73 element 640.

**Weight**

*Variable Name: WEIGHT*

Indicate the weight of the patient, in kilograms (kg), closest to the date of the procedure.

**Coding Note:** *WEIGHT* definition is consistent with STS v2.73 element 630.

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**III. Pre-Op Surgical Risk Factors (continued)**

**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

**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. Definitions and clarification can be found Attachment F: Stress Test Results.

1 Negative

2 Positive, Low Risk

3 Positive, Intermediate Risk

4 Positive, High Risk

5 Positive, Risk Unavailable

6 Indeterminate

7 Unavailable

9 Not Done/ Unknown

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

**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 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:**

Intra-operative TEE is acceptable, if no 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 unusual ejection fraction will be sent back during quarterly and annual data validation to verify accuracy of this data element.*

**Anginal Classification Within 2 Weeks**

*Variable Name: CCS\_CLAS*

Indicate the patient’s anginal classification or symptom status within the past 2 weeks. The anginal classification or symptom status is classified as the highest grade of angina or chest pain by the Canadian Cardiovascular Angina Classification System (CCA).

**III. Pre-Op Surgical Risk Factors (continued)**

**Anginal Classification Within 2 Weeks (continued)**

1 CCA I Ordinary physical activity does not cause angina; for example walking or climbing stairs, angina occurs with strenuous or rapid or prolonged exertion at work or recreation.

2 CCA II Slight limitation of ordinary activity; for example, angina occurs walking or stair climbing after meals, in cold, in wind, under emotional stress or only during the few hours after awakening, walking more than

two blocks on the level or climbing more than one flight of ordinary stairs at a normal pace and in normal conditions.

3 CCA III Marked limitation of ordinary activity; for example, angina occurs walking one or two blocks on the level or climbing one flight of stairs in normal conditions and at a normal pace.

4 CCA IV Inability to carry on any physical activity without discomfort - angina syndrome may be present at rest.

8 No Symptoms, No Angina The patient has no symptoms, no angina.

**Coding Note:** *CCS\_CLAS* definition is aligned with STS v2.73 data element 1570.

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**Cardiac Presentation on Admission**

*Variable Name: CAD\_PRES*

Indicate the type of angina present prior to this procedure.

 1 No Symptoms, No Angina

 2 Symptoms Unlikely to be Ischemia

 Pain, pressure or discomfort in the chest, neck or arms not clearly exertional or not otherwise consistent with pain or discomfort of myocardial ischemic origin. This includes patients with non-cardiac pain (e.g., pulmonary embolism, musculoskeletal, or esophageal discomfort), or cardiac pain not caused by myocardial ischemia (e.g. acute pericarditis).

 3 Stable Angina

 Angina without a change in frequency or pattern for the six weeks prior to this surgical intervention. Angina is controlled by rest and/or oral or transcutaneous medications.

4 Unstable Angina

 There are three principal presentations of unstable angina:

 a. Rest angina (occurring at rest and prolonged usually >20 minutes);

 b. New-onset angina (within the past 2 months, of at least CCS

 Class III severity); or

 c. Increasing angina (previously diagnosed angina that has become

 distinctly more frequent, longer in duration, or increased by 1 or

 more CCS Society class to at least CCS III severity).

**III. Pre-Op Surgical Risk Factors (continued)**

**Cardiac Presentation on Admission (continued)**

 5 Non-ST Elevation MI (Non-STEMI) Non-ST elevation myocardial infarction as documented in the medical record. Non-STEMIs are characterized by the presence of both criteria:

 a. Cardiac biomarkers (creatinine kinase-myocardial band,Troponin T or I) exceed the upper limit of normal according to the individual hospital’s laboratory parameters with a clinical presentation which is consistent or suggestive of ischemia. ECG changes and/or ischemic symptoms may or may not be present.

 b. Absence of ECG changes diagnostic of a STEMI (see #6 STEMI).

 6 ST-Elevation MI (STEMI) or equivalent.The patient presented with a ST elevation myocardial infarction (STEMI) or its equivalent as documented in the medical record. STEMIs are characterized by the presence of **both criteria**:

 a. ECG evidence of STEMI: New or presumed new ST-segment elevation or new left bundle branch block not documented to be resolved within 20 minutes. ST-segment elevation is defined by new or presumed new sustained ST-segment elevation at the J-point in two contiguous ECG leads with the cut-off points: ≥0.2 mV in men or ≥ 0.15mV in women in leads V2-V3 and/or ≥ 0.1 mV in other leads and lasting greater than or equal to 20 minutes. If no exact ST-elevation measurement is recorded in the medical chart, physician's written documentation of ST-elevation or Q waves is acceptable. If only one ECG is performed, then the assumption that the ST elevation persisted at least the required 20 minutes is acceptable. Left bundle branch block (LBBB) refers to new or presumed new LBBB on the initial ECG.

b. Cardiac biomarkers (creatinine kinase-myocardial band, Troponin T or I) exceed the upper limit of normal according to the individual hospital's laboratory parameters and a clinical presentation which is consistent or suggestive of ischemia

Note: For purposes of the Registry, ST elevation in the posterior chest leads (V7 through V9), or ST depression that is maximal in V1-3, without ST-segment elevation in other leads, demonstrating posterobasal myocardial infarction, is considered a STEMI equivalent.

**Coding Note:** *CARD\_PRES* definition is aligned with STS v2.73 data element 1610.

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**III. Pre-Op Surgical Risk Factors (continued)**

**Creatinine**

*Variable Name: CREATININE*

Indicate the creatinine level closest to the date and time of surgery but prior to anesthetic management (induction area or operating room).

**Interpretation:** For the purposes of this data element, anesthetic management begins when a member of the anesthesiology team initiates care. The administration of IV fluids in the holding area can cause dilution of blood. Do not capture labs drawn after the patient receives fluids in the holding area or O.R.

**Coding Note:** *CREATININE* definition is aligned with STS v2.73 data element 750.

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**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%.

**III. Pre-Op Surgical Risk Factors (continued)**

**Vessels Diseased (continued)**

Proximal LAD is 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.

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

**Clarification**:

Do not report if the patient was given sublingual, IV, or short acting formula of the medications.

Do not report if the patient has been prescribed the medication but is known to be not taking it.

Report if the patient was started on an oral form of the medication after admission but prior to this surgical procedure.

Report if this medication was prescribed for this patient, but you are unsure it has been prescribed specifically to treat anginal symptoms.

Nitro paste and nitro patch are considered Long Acting Nitrates.

“Other” excludes short acting anti-anginal medications such as nitroglycerin sublingual tablets or spray that is used to relieve an acute episode of chest pain.

**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.

**III. Pre-Op Surgical Risk Factors (continued)**

**Other Patient Characteristics (continued)**

* 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.

**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 cardiac surgery, 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. Only check box 1 or box 1a, not both.

If the patient has a history of CABG and a history of other cardiac surgery, you should report both risk factors.

**III. Pre-Op Surgical Risk Factors (continued)**

**1a. Previous CABG – No Patent Grafts**

*Variable Name: OTH\_CABG*

Indicate if, prior to this cardiac surgery, 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:** Check this box only if there are no patent grafts. Only check box 1 or box 1a, not both.

If the patient has a history of CABG and a history of other cardiac surgery, you should report both risk factors.

**2a. Previous Valve Surgery**

*Variable Name: PRE\_VALV*

Indicate if, prior to this cardiac surgery, the patient has previously undergone surgery or catheter based intervention for valve repair or replacement.

Note: It is acceptable to report this risk factor as well as a risk factor for previous CABG surgery and/or 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 or valve repair / replacement.

**Note:** Do not include catheter-based interventions.

If the patient has previously had CABG and/or valve surgery as well as another cardiac surgery, report this risk factor in addition to the appropriate Previous CABG and/or Valve risks.

**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*

Indicate whether the patient has cerebrovascular disease, documented by any one of the following:

* + CVA (symptoms > 24 hrs after onset, presumed to be from vascular etiology);
	+ TIA (recovery within 24 hrs);
	+ Non-invasive carotid test with > 79% diameter occlusion.; or
	+ Prior carotid surgery or stenting or prior cerebral aneurysm clipping or coil.

Does not include neurological disease processes such as metabolic and/or anoxic ischemic encephalopathy.

**Coding Note:** *CEREBO* definition is aligned with STS v2.73 data element 1010.

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**III. Pre-Op Surgical Risk Factors (continued)**

**9a. TIA, Only Cerebrovascular Risk**

*Variable Name: TIA*

Indicate whether the patient has a history of a Transient Ischemic Attack (TIA) as the only qualifying feature of “Risk Factor #9 - Cerebrovascular disease.” Patient has a history of loss of neurological function that was abrupt in onset but with complete return of function within 24 hours. Patient meets no other elements of the Cerebrovascular disease risk factor.

**Interpretation:** This element can only be reported if Risk Factor #9 - Cerebrovascular Disease is also reported. TIA should only be reported when the patient meets no other criteria included in the Cerebrovascular Disease definition. For example, if the patient has a history of CVA and TIA, report only #9 - Cerebrovascular Disease.

**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.*

**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.

**III. Pre-Op Surgical Risk Factors (continued)**

**13. Shock (continued)**

* 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.

**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.

**III. Pre-Op Surgical Risk Factors (continued)**

**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.

**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 Lung Disease**

*Variable name: COPD*

Indicate whether the patient has chronic lung disease, and the severity level according to the following classification:

1 No

2 Mild - FEV1 60% to 75% of predicted, and/or on chronic inhaled or oral bronchodilator therapy.

3 Moderate - FEV1 50% to 59% of predicted, and/or on chronic steroid therapy aimed at lung disease.

4 Severe - FEV1 <50% predicted, and/or Room Air pO2 < 60 or Room Air pCO2 > 50.

**Interpretation:** The diagnosis of chronic lung disease is not based solely on the fact that a person has or currently is smoking, or is on home oxygen. Diagnostic testing and or pharmacological criteria must be met. Chest x-ray is not included in the data specs for inclusion as chronic lung disease and should not be coded as “Yes.”

A history of chronic inhalation reactive disease (asbestosis, mesothelioma, black lung disease or pneumoconiosis) qualifies as chronic lung disease. Radiation induced pneumonitis or radiation fibrosis also qualifies as chronic lung disease. A history of atelectasis is a transient condition and does not qualify.

Chronic lung disease can include patients with chronic obstructive pulmonary disease, chronic bronchitis, or emphysema. It can also include a patient who is currently being chronically treated with inhaled or oral pharmacological therapy (e.g., beta-adrenergic agonist, anti-inflammatory agent, leukotriene receptor antagonist, or steroid). Patients with asthma or seasonal allergies are not considered to have chronic lung disease.

**Coding Note:** *COPD* definition is aligned with STS v2.73 data element 860.

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**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**

*Variable Name: DIABETES*

Indicate whether patient has a history of diabetes diagnosed and/or treated by a physician.

**Interpretation:** The definition below is informational and data coordinator is not expected to diagnose diabetes.

The American Diabetes Association criteria include documentation of the following:

 1. A1c >=6.5%; or

 2. Fasting plasma glucose >=126 mg/dl (7.0 mmol/l); or

 3. Two-hour plasma glucose >=200 mg/dl (11.1 mmol/l) during an oral glucose tolerance test; or

 4. In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose >=200 mg/dl (11.1 mmol/l)

It does not include gestational diabetes.

**Coding Note:** *DIABETES* definition is aligned with STS V2.73 data element 780*.*

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**III. Pre-Op Surgical Risk Factors (continued)**

**24a. Diabetes Therapy**

*Variable Name: DM\_TRT*

Indicate the control method the patient presented with on admission. Patients placed on a preprocedure diabetic pathway of insulin drip at admission but were previously controlled by diet or oral method are not coded as insulin treated. Choose the most aggressive therapy used prior to admission.

1 No treatment for diabetes

2 Diet treatment only

3 Oral agent treatment (includes oral agent with/without diet treatment)

4 Insulin treatment (includes any combination with insulin)

5 Other adjunctive therapy

Report this element for all cases where “Risk Factor #24 - Diabetes” is also reported. If the patient does not qualify for “Risk Factor #24 - Diabetes,” then leave the field blank or enter 0.

**Coding Note:** *DM\_TRT* definition is aligned with STS v2.73 data element 790.

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**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.

**27. Renal Failure, Dialysis**

*Variable Name: REN\_DIAL*

Indicate whether the patient is currently undergoing dialysis.

**Interpretation:** Includes any form of peritoneal or hemodialysis patient is receiving at the time of admission. Also, may include Continuous Veno-Venous Hemofiltration (CVVH, CVVH-D), and Continuous Renal Replacement Therapy (CRRT) as dialysis.

Code ”No” for renal dialysis if ultrafiltration is the only documentation found in the record since this is for volume management

**Coding Note**: *REN\_DIAL* definition is aligned with STS v2.73 data element 810

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**III. Pre-Op Surgical Risk Factors (continued)**

**30. Emergency Transfer to OR After Dx Cath**

*Variable Name: EME\_CATH*

The patient requires immediate surgery following a diagnostic catheterization.

**31. Surgery For PCI Complication**

*Variable Name: EME\_PCI*

Indicate if there was a complication during PCI necessitating surgical intervention such as dissection or acute occlusion.

**Coding Note:** EME\_PCI should be reported (file upload vale of 1) when STS 1490 POCPCIndSurg = 1.

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**32. Previous PCI, This Episode of Care**

*Variable Name: PCITHIS*

Indicate whether there was a previous Percutaneous Cardiac Intervention (PCI) performed within this episode of care. Include those at this facility and at some other acute care facility.

**Coding Note:** *PCITHIS* should be reported (file upload value of 1) when STS 1481 POCPCIWhen = 1 or 2.

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**33. PCI Before This Episode of Care**

*Variable Name: PCIBEFO*

The patient has had a PCI before this episode of care.

**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.