Survey Monkey Results

MICHIGAN STS DATA MANAGERS MEETING

November 18, 2016
St. Mary's Hospital
Saginaw, MI

Thank You to those that responded!!

- Once again, rather than multiple scenarios, all questions are based on a single scenario to mimic chart abstraction.
- This scenario was designed from the cases that you submitted for clarification. The questions were designed for the benefit of our less experienced managers.
- Please provide feedback regarding this format and future topics in your evaluations!

Experience Level

Answer Choices	Responses	
I have been an STS data manager for less than one year.	**27.91%**	12
I have been an STS data manager for 1-3 years	**18.60%**	8
I have been an STS data manager for 3-5 years.	**16.28%**	7
I have been an STS data manager for greater than 5 years.	**37.21%**	16
Total		**43**

Patient Scenario

An 82 year old female presents to the ER on Tuesday evening, complaining of severe chest pain and SOB after watching the election results. ECG and Lab results lead to a diagnosis of NSTEMI, and the patient is taken to the Cath Lab for intervention. The cath shows 75% Left Main disease and 80% stenosis in the mid-RCA. Attempts to stent the RCA were unsuccessful, and the patient was transferred to a "Sister" hospital for further treatment. After arrival, a TEE demonstrates an EF of "30% w/ global hypokinesis", and mild mitral insufficiency. Surgery is consulted, and CABG surgery is scheduled for Friday, pending treatment and improvement of orthopnea, O2 requirements, and pulmonary edema.

After induction, a TEE examination now reveals "moderate to severe" mitral insufficiency with an EF of 25%. The surgeon then changes the operative plan to include inspection and possible repair of the mitral valve. CABG x 3 is performed, and inspection of the mitral valve reveals significant prolapse of the posterior leaflet, requiring triangular resection and annuloplasty. Given the patient's age, the left atrial appendage is oversewn from within the left atrium. After several failed attempts, the patient is eventually weaned from CPB after insertion of an IABP. The post repair TEE now shows mild MR.

Postoperatively, the patient has the IABP removed in the afternoon of POD #1, with extubation shortly thereafter. Continued complaints of SOB and DOE lead to the discovery of a "moderate" pleural effusion on POD #2, requiring a pleurocentesis. That evening, the patient develops A-Fib resulting in recurrent dyspnea and hypotension. TEE reveals only mild mitral insufficiency, but a "significant" pericardial effusion. Further hypotension and instability results in a return trip to the OR for relief of tamponade on POD #3. The patient remained intubated until POD #5 due to "wet lungs" and recurrent A-Fib requiring Amiodarone and aggressive diuresis. Neurology was consulted for post-extubation confusion, while Nephrology monitored a transient rise in creatinine. After a prolonged recovery period, the patient is discharged to an ECF on POD #20.
On the morning of POD #27, the ECF phones to report that the patient has been found unresponsive, and is in route to the hospital while undergoing CPR. Upon arrival, the patient is found to be in refractory V-Fib. Unresponsive to all resuscitative efforts, the patient expires within 10 minutes of arrival.

Question 2 Selections:

- Previous PCI = Yes; Within this episode of Care = Yes, at this facility; Indication for Surgery = Failure w/o Clinical Deterioration.
- Previous PCI = Yes; Within this episode of Care = Yes, at some other facility; Indication for Surgery = Failure w/o Clinical Deterioration.
- Previous PCI = Yes; Within this episode of Care = No.
- Previous PCI = Yes; Within this episode of Care = Yes, at some other facility; Indication for Surgery = PCI/Surgery Staged (not STEMI).

Data Points to Consider

- ❑ Did the patient undergo Previous Cardiac Intervention?
- ❑ Within this Episode of Care?
- ❑ Where did the intervention take place?
- ❑ What was the Indication for Surgery?

E. Previous Cardiac Interventions

Previous Cardiac Interventions: PrCVInt (665) ☐ Yes ☐ No ☐ Unknown

(If Yes →) Previous coronary artery bypass (CAB): PrCAB (670) ☐ Yes ☐ No

Previous valve procedure: PrValve (675) ☐ Yes ☐ No If PrValve Yes, Enter at least one previous valve procedure and up to 5 ↓

Seq. #: 665

Long Name: Prev Cardiac Intervent; **Short Name:** PrCVInt

Definition: Indicate whether the patient has undergone *any previous cardiovascular intervention, either surgical or non-surgical, which may include those done during the current admission.*

Previous PCI: POCPCI (775) ☐ Yes ☐ No

(If Yes →) PCI Performed Within This Episode Of Care: ☐ Yes, at this facility ☐ Yes, at some other acute care facility ☐ No
POCPCIWhen (780)

Indication for Surgery: POCPCIndSurg (785)
☐ PCI Complication ☐ PCI Failure without Clinical Deterioration
☐ PCI Failure with Clinical Deterioration ☐ PCI/Surgery Staged (not STEMI)
☐ PCI for STEMI, multivessel disease ☐ Other

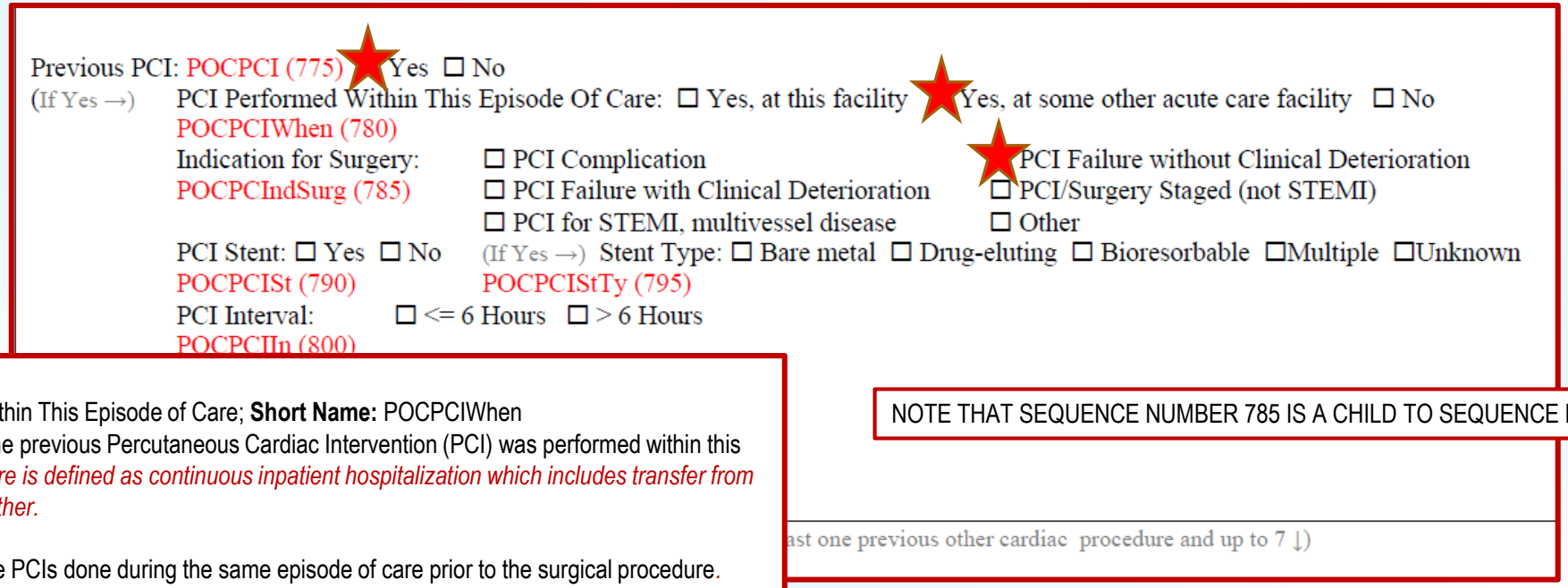
PCI Stent: ☐ Yes ☐ No POCPCISt (790) (If Yes →) Stent Type: ☐ Bare metal ☐ Drug-eluting ☐ Bioresorbable ☐Multiple ☐Unknown
POCPCIStTy (795)

PCI Interval: ☐ <= 6 Hours ☐ > 6 Hours
POCPCIIn (800)

Seq. #: 775

Long Name: Previous PCI; **Short Name:** POCPCI

Definition: Indicate whether a previous Percutaneous Coronary Intervention (PCI) was *performed any time prior to this surgical procedure.*



Seq. #: 780
Long Name: Previous PCI-Within This Episode of Care; **Short Name:** POCPCIWhen
Definition: Indicate whether the previous Percutaneous Cardiac Intervention (PCI) was performed within this episode of care. *Episode of care is defined as continuous inpatient hospitalization which includes transfer from one acute care hospital to another.*
Intent/Clarification:
This field is intended to capture PCIs done during the same episode of care prior to the surgical procedure. *Include patients who were transferred for surgery from another facility following PCI.*

NOTE THAT SEQUENCE NUMBER 785 IS A CHILD TO SEQUENCE NUMBER 780.

Intent/Clarification: Indicate whether surgery was required due to:
- **PCI complication** - complication during PCI necessitating surgical intervention such as dissection or acute occlusion
- **PCI failure with clinical deterioration** - PCI failed to yield expected and/or desired results, patient condition deteriorated, includes attempts to cross with the wire but unsuccessful
- **PCI for STEMI, multivessel disease** - STEMI with primary PCI (of culprit lesion) and multivessel disease requiring CABG
- **PCI failure without clinical deterioration** - PCI failed to yield expected and/or desired results, patient condition did not deteriorate, includes attempts to cross with the wire but unsuccessful
- **PCI/Surgery staged procedure (not STEMI)** - PCI and surgical procedures performed in a staged fashion in a patient not experiencing STEMI.
- **Other** - other indication for surgery not described above

Question 2 Selections:

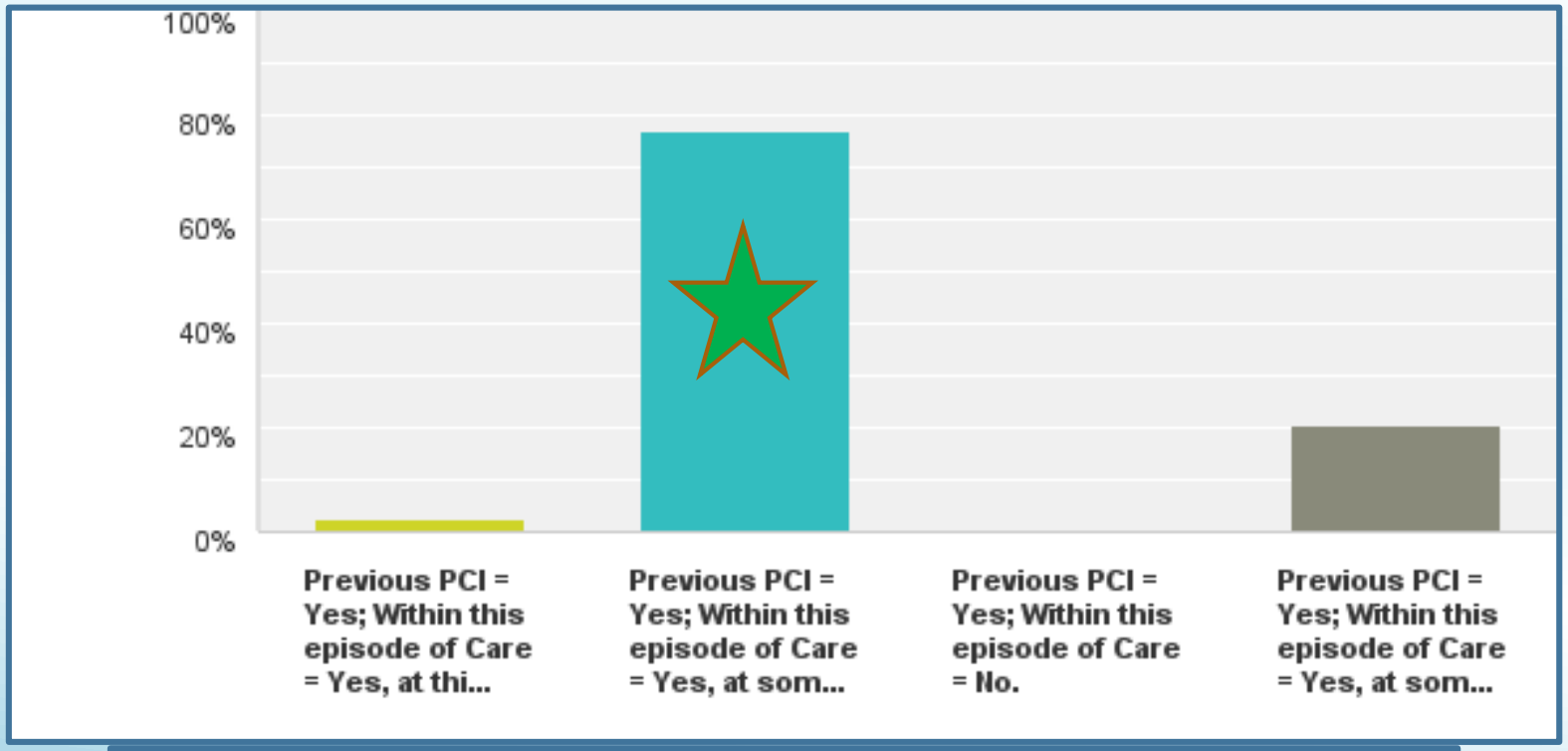
- Previous PCI = Yes; Within this episode of Care = Yes, at this facility; Indication for Surgery = Failure w/o Clinical Deterioration.

- Previous PCI = Yes; Within this episode of Care = Yes, at some other facility; Indication for Surgery = Failure w/o Clinical Deterioration.

- Previous PCI = Yes; Within this episode of Care = No.

- Previous PCI = Yes; Within this episode of Care = Yes, at some other facility; Indication for Surgery = PCI/Surgery Staged (not STEMI).

Question 2 Results



Answer Choices	Responses	
Previous PCI = Yes; Within this episode of Care = Yes, at this facility; Indication for Surgery = Failure w/o Clinical Deterioration.	**2.56%**	1
Previous PCI = Yes; Within this episode of Care = Yes, at some other facility; Indication for Surgery = Failure w/o Clinical Deterioration.	**76.92%**	30
Previous PCI = Yes; Within this episode of Care = No.	**0.00%**	0
Previous PCI = Yes; Within this episode of Care = Yes, at some other facility; Indication for Surgery = PCI/Surgery Staged (not STEMI).	**20.51%**	8
Total		**39**

Question 3 Selections:

- Cardiac Symptoms at Admission = NSTEMI; Cardiac Symptoms at Surgery = NSTEMI; Prior HF = No; HF w/in 2 wks = Yes (Class IV).
- Cardiac Symptoms at Admission = NSTEMI; Cardiac Symptoms at Surgery = Unstable Angina; Prior HF = Unknown; HF w/in 2 wks = Yes (Class III).
- Cardiac Symptoms at Admission = NSTEMI; Cardiac Symptoms at Surgery = Unstable Angina; Anginal Class = CCS III; HF w/in 2 wks = Yes (Class III).
- Cardiac Symptoms at Admission = NSTEMI; Cardiac Symptoms at Surgery = Other; Anginal Class w/in 2 wks. = CCS IV; HF w/in 2 wks = Yes (Class IV).

Data Points to Consider

- ❑ What was the Cardiac Presentation at Admission?
- ❑ What was the Cardiac Presentation at Surgery?
- ❑ Was there a history of Prior Heart Failure ?
- ❑ Did the patient suffer from Heart Failure w/in last 2 weeks?
- ❑ Anginal and Heart Failure Classification

F. Preoperative Cardiac Status

Prior Myocardial Infarction: PrevMI (885) ☐ Yes ☐ No ☐ Unknown (If Yes ↓)
MI When: ☐ <=6 Hrs. ☐ >6 Hrs. but <24 Hrs. ☐ 1 to 7 Days ☐ 8 to 21 Days ☐ >21 Days
MIWhen (890)

Cardiac Presentation/Symptoms: (Choose one from the list below for each column↓)

	At time of this admission: CardSympTimeOfAdm (895)	At time of surgery: CardSympTimeOfSurg (900)
No Symptoms		
Stable Angina		
Unstable Angina		
Non-ST Elevation MI (Non-STEMI)		
ST Elevation MI (STEMI)		
Angina Equivalent		
Other		

Anginal Classification Within 2 weeks: ☐ CCS Class 0 ☐ CCS Class I ☐ CCS Class II ☐ CCS Class III ☐ CCS Class IV
AnginalClass (905)

Heart Failure Within 2 weeks : ☐ Yes ☐ No ☐ Unknown (If Yes→) Classification-NYHA: ☐ Class I ☐ Class II ☐ Class III ☐ Class IV
CHF (910) ClassNYH (915)

Prior Heart failure: ☐ Yes ☐ No ☐ Unknown
PriorHF (920)

Seq. #: 895
Long Name: Cardiac Presentation/Symptoms - At Time Of This Admission; **Short Name:** CardSympTimeOfAdm
Definition: Indicate the patient's cardiac symptoms at the time of this admission. Cardiac presentation is not for angina only.
Intent/Clarification: Indicate the patient's cardiac presentation / symptoms. *Choose the worst status.*

• **No symptoms** – No angina, no acute STEMI, non-STEMI, no anginal equivalent, and no other atypical chest pain.

• **Stable angina** without a change in frequency or pattern for the 6 weeks prior. Angina is controlled by rest and/or oral or transcutaneous medications.

• **Unstable angina**: There are three principal presentations of unstable angina:
-- Rest angina (occurring at rest and prolonged, usually >20 minutes);
-- New-onset angina (within the past 2 months, of at least Canadian Cardiovascular Society Class III severity); or
Increasing angina (previously diagnosed angina that has become distinctly more frequent, longer in duration, or increased by 1 or more Canadian Cardiovascular Society class to at least CCS III severity).

• **Non-STEMI** The patient was hospitalized for a non-ST elevation myocardial infarction (NSTEMI) as documented in the medical record. Non-STEMIs are characterized by the presence of **both** criteria:
-- Cardiac biomarkers (creatinine kinase-myocardial band, Troponin T or I) exceed upper limit of normal according to the individual hospitals. Laboratory confirmation of myocardial necrosis; laboratory parameters with a clinical presentation consistent or suggestive of ischemia. ECG changes and/or ischemic symptoms may or may not be present
-- Absence of ECG changes diagnostic of a STEMI (see STEMI).

• **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:
-- ECG evidence of STEMI: New/presumed new ST-segment elevation or new left bundle branch block not documented to be resolved within 20 minutes.
-- 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.

• **Anginal Equivalent** - An anginal equivalent is a symptom such as shortness of breath (dyspnea), diaphoresis, extreme fatigue, or belching, occurring in a patient at high cardiac risk. Anginal equivalents are considered to be symptoms of myocardial ischemia. Anginal equivalents are considered to have the same importance as angina pectoris in patients presenting with elevation of cardiac enzymes or certain EKG changes which are diagnostic of myocardial ischemia. For the patient with diabetes who presents with “silent angina”, code anginal equivalent.

• **Other** – Aortic dissections, sudden death, heart block, arrhythmia, syncope or heart failure.

F. Preoperative Cardiac Status

Prior Myocardial Infarction: PrevMI (885) ☐ Yes ☐ No ☐ Unknown (If Yes ↓)
MI When: ☐ <=6 Hrs. ☐ >6 Hrs. but <24 Hrs. ☐ 1 to 7 Days ☐ 8 to 21 Days ☐ >21 Days
MIWhen (890)

Cardiac Presentation/Symptoms: (Choose one from the list below for each column↓)

	At time of this admission: CardSympTimeOfAdm (895)	At time of surgery: CardSympTimeOfSurg (900)
No Symptoms		
Stable Angina		
Unstable Angina		
Non-ST Elevation MI (Non-STEMI)		
ST Elevation MI (STEMI)		
Angina Equivalent		
Other		

Anginal Classification Within 2 weeks: ☐ CCS Class 0 ☐ CCS Class I ☐ CCS Class II ☐ CCS Class III ☐ CCS Class IV
AnginalClass (905)

Heart Failure Within 2 weeks : ☐ Yes ☐ No ☐ Unknown (If Yes→) Classification-NYHA: ☐ Class I ☐ Class II ☐ Class III ☐ Class IV
CHF (910) ClassNYH (915)

Prior Heart failure: ☐ Yes ☐ No ☐ Unknown
PriorHF (920)

Seq. #: 895
Long Name: Cardiac Presentation/Symptoms - At Time Of This Admission; **Short Name:** CardSympTimeOfAdm
Definition: Indicate the patient's cardiac symptoms at the time of this admission. Cardiac presentation is not for angina only.
Intent/Clarification: Indicate the patient's cardiac presentation / symptoms. *Choose the worst status.*

F. Preoperative Cardiac Status

Prior Myocardial Infarction: PrevMI (885) ☐ Yes ☐ No ☐ Unknown (If Yes ↓)
MI When: ☐ <=6 Hrs. ☐ >6 Hrs. but <24 Hrs. ☐ 1 to 7 Days ☐ 8 to 21 Days ☐ >21 Days
MIWhen (890)

Cardiac Presentation/Symptoms: (Choose one from the list below for each column↓)

	At time of this admission: CardSympTimeOfAdm (895)	At time of surgery: CardSympTimeOfSurg (900)
No Symptoms		
Stable Angina		
Unstable Angina		
Non-ST Elevation MI (Non-STEMI)	★	★
ST Elevation MI (STEMI)		
Angina Equivalent		
Other		

Seq. #: 900
Definition: Indicate the patient's cardiac symptoms at the time of awake, entry to the operating room.
Intent/Clarification:
The *intent is to capture changes between admission and surgery; whether a patient improves or deteriorates.* Same definition as Seq. #895, although timeframes may overlap.

- If the patient did not improve or deteriorate between admission and surgery, the code will be the same.
- For elective admissions, patient symptoms (same value/answer) will be entered twice for seq. #895 and 900.
- If the patient presents with STEMI or Non-STEMI, they should be coded as such in both sequence numbers 895 and 900 unless the patient remains longer than 7 days and in that case presentation at the time of admission would be STEMI or Non-STEMI and at the time of surgery would be coded as unstable angina.
- Unstable angina at the time of admission would be coded unstable angina at the time of surgery.

Anginal Classification Within 2 weeks: ☐ CCS Class 0 ☐ CCS Class I ☐ CCS Class II ☐ CCS Class III ☐ CCS Class IV AnginalClass (905)
Heart Failure Within 2 weeks : ☐ Yes ☐ No ☐ Unknown (If Yes→) Classification-NYHA: ☐ Class I ☐ Class II ☐ Class III ☐ Class IV CHF (910) ClassNYH (915)
Prior Heart failure: ☐ Yes ☐ No ☐ Unknown PriorHF (920)

Seq. #: 905
Long Name: Anginal Classification within 2 weeks **Short Name:** AnginalClass
Definition: 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 (CCS).
Intent/Clarification: CanadianCardiovascular Angina Class - Indicate the patient's CCA Class:
• **CCS 0**. The patient has no angina.
• **CCA I**. Ordinary physical activity (for example, walking or climbing stairs) does not cause angina; angina occurs with strenuous or rapid or prolonged exertion at work or recreation
• **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 2 blocks on the level or climbing more than 1 flight of ordinary stairs at a normal pace; and in normal conditions)
• **CCA III**. Marked limitation of ordinary activity (for example, angina occurs with walking 1 or 2 blocks on the level or climbing 1 flight of stairs in normal conditions and at a normal pace)
• **CCA IV**. Inability to perform any physical activity without discomfort; *angina syndrome may be present at rest*. All other classes of pain go away with rest and/or treatment.

Anginal Classification Within 2 weeks: ☐ CCS Class 0 ☐ CCS Class I ☐ CCS Class II ☐ CCS Class III ★ CCS Class IV AnginalClass (905)
Heart Failure Within 2 weeks : ★ Yes ☐ No ☐ Unknown (If Yes→) Classification-NYHA: ☐ Class I ☐ Class II ☐ Class III ☐ Class IV CHF (910) ClassNYH (915)
Prior Heart failure: ☐ Yes ☐ No ☐ Unknown PriorHF (920)

Seq. #: 910
Long Name: Heart Failure within 2 weeks; **Short Name:** CHF
Definition: Indicate if there is physician documentation the patient has been in a state of heart failure within the past 2 weeks.
Heart failure is *defined as physician documentation or report of any of the following clinical symptoms of heart failure described as unusual dyspnea on light exertion, recurrent dyspnea occurring in the supine position, fluid retention; or the description of rales, jugular venous distension, pulmonary edema on physical exam, or pulmonary edema on chest x-ray presumed to be cardiac dysfunction.* A low ejection fraction alone, without clinical evidence of heart failure does not qualify as heart failure. An elevated BNP without other supporting documentation should not be coded as CHF.
Intent/Clarification: Capture the patient's actual status in the weeks before surgery, the *new diagnosis or exacerbation of an existing heart failure condition.*

DO NOT code stable or asymptomatic compensated failure or patients whose symptoms improved after medical therapy. A low ejection fraction (EF) without clinical presentation does not qualify for history of heart failure

Anginal Classification Within 2 weeks: ☐ CCS Class 0 ☐ CCS Class I ☐ CCS Class II ☐ CCS Class III ☐ CCS Class IV
AnginalClass (905)

Heart Failure Within 2 weeks : ☐ Yes ☐ No ☐ Unknown (If Yes→) Classification-NYHA: ☐ Class I ☐ Class II ☐ Class III ☐ Class IV
CHF (910) ClassNYH (915)

Prior Heart failure: ☐ Yes ☐ No ☐ Unknown
PriorHF (920)

Seq. #: 915
Long Name: Classification-NYHA; **Short Name:** ClassNYH
Definition: Indicate the patient's *worst dyspnea or functional class,* coded as the New York Heart Association (NYHA) classification within the past 2 weeks. This is to be used for heart failure only, is not intended to classify angina.

Intent/Clarification:
NYHA is for congestive heart failure (CHF).
Select the **highest level** of heart failure within the two weeks leading up to episode of hospitalization or at the time of the procedure. The intent is to capture the highest level of failure. If the NYHA class is not documented, use the guidelines below to assign a class based on documented symptoms.

- **Class I**: Patient has cardiac disease but without resulting limitations of ordinary physical activity. Ordinary physical activity (e.g., walking several blocks or climbing stairs) does not cause undue fatigue, palpitation, dyspnea, or anginal pain. Limiting symptoms may occur with marked exertion.
- **Class II**: Patient has cardiac disease resulting in slight limitation of ordinary physical activity. Patient is comfortable at rest. Ordinary physical activity such as walking more than two blocks or climbing more than one flight of stairs results in limiting symptoms (e.g., fatigue, palpitation, dyspnea, or anginal pain).
- **Class III**: Patient has cardiac disease resulting in marked limitation of physical activity. Patient is comfortable at rest. Less than ordinary physical activity (e.g., walking one to two level blocks or climbing one flight of stairs) causes fatigue, palpitation, dyspnea, or anginal pain.
- **Class IV**: Patient has dyspnea at rest that increases with any physical activity. Patient has cardiac disease resulting in inability to perform any physical activity without discomfort. Symptoms may be present even at rest. If any physical activity is undertaken, discomfort is increased.

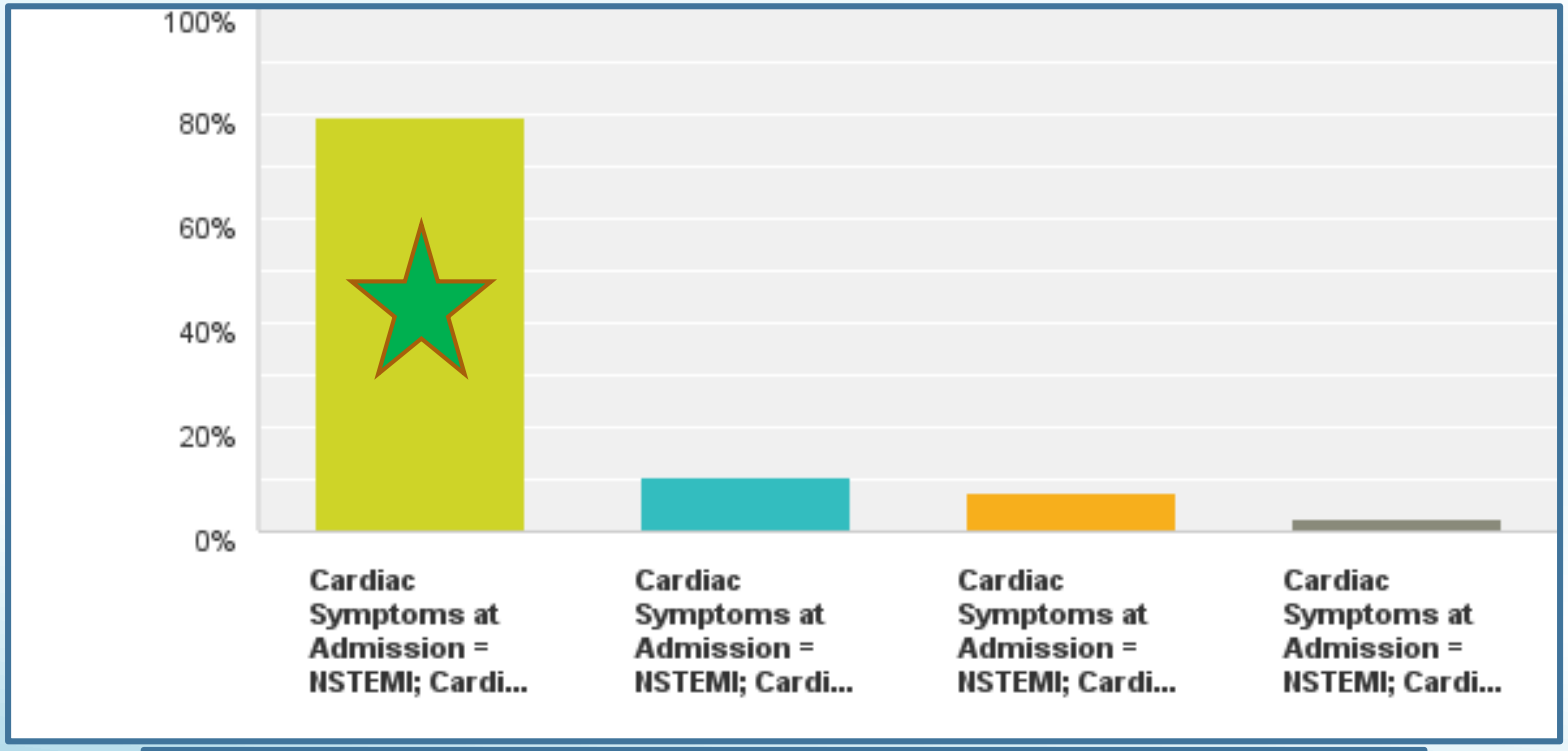
Anginal Classification Within 2 weeks: ☐ CCS Class 0 ☐ CCS Class I ☐ CCS Class II ☐ CCS Class III ☐ CCS Class IV AnginalClass (905)
Heart Failure Within 2 weeks : ☐ Yes ☐ No ☐ Unknown (If Yes→) Classification-NYHA: ☐ Class I ☐ Class II ☐ Class III ☐ Class IV CHF (910) ClassNYH (915)
Prior Heart failure: ☐ Yes ☐ No ☐ Unknown PriorHF (920)

Seq. #: 920
Long Name: Prior Heart failure; **Short Name:** PriorHF
Definition: Indicate history of heart failure occurring *more than 2 weeks prior* to current episode of care.
A previous hospital admission with principal diagnosis of heart failure is considered evidence of heart failure history but is not essential.
Intent/Clarification:
The goal is to capture patients who have improved following medical management and do not exhibit clinical signs of failure within 2 weeks of surgery but have documented failure symptoms prior to that.
Newly diagnosed HF that is described to have onset of symptoms over past few months (but not previously known or treated) that is now worsening –code yes to both 910 and 920

Question 3 Selections:

- Cardiac Symptoms at Admission = NSTEMI; Cardiac Symptoms at Surgery = NSTEMI; Prior HF = No; HF w/in 2 wks = Yes (Class IV).
- Cardiac Symptoms at Admission = NSTEMI; Cardiac Symptoms at Surgery = Unstable Angina; Prior HF = Unknown; HF w/in 2 wks = Yes (Class III).
- Cardiac Symptoms at Admission = NSTEMI; Cardiac Symptoms at Surgery = Unstable Angina; Anginal Class = CCS III; HF w/in 2 wks = Yes (Class III).
- Cardiac Symptoms at Admission = NSTEMI; Cardiac Symptoms at Surgery = Other; Anginal Class w/in 2 wks. = CCS IV; HF w/in 2 wks = Yes (Class IV).

Question 3 Results



Answer Choices	Responses	
Cardiac Symptoms at Admission = NSTEMI; Cardiac Symptoms at Surgery = NSTEMI; Prior HF = No; HF w/in 2 wks = Yes (Class IV).	**79.49%**	31
Cardiac Symptoms at Admission = NSTEMI; Cardiac Symptoms at Surgery = Unstable Angina; Prior HF = Unknown; HF w/in 2 wks = Yes (Class III).	**10.26%**	4
Cardiac Symptoms at Admission = NSTEMI; Cardiac Symptoms at Surgery = Unstable Angina; Anginal Class = CCS III; HF w/in 2 wks = Yes (Class III).	**7.69%**	3
Cardiac Symptoms at Admission = NSTEMI; Cardiac Symptoms at Surgery = Other; Anginal Class w/in 2 wks. = CCS IV; HF w/in 2 wks = Yes (Class IV).	**2.56%**	1
Total		**39**

Question 4 Selections:

- Number of Diseased Vessels = 3; EF = 25; Mitral Insufficiency = Severe; Aortic, Tricuspid, and Pulmonic Insufficiency = None
- Number of Diseased Vessels = 3; EF = 30; Mitral Insufficiency = Severe; Aortic Insufficiency = Not Documented.
- Number of Diseased Vessels = 2; EF = 30; Mitral Insufficiency = Moderate; Aortic Insufficiency = Not Documented.
- Number of Diseased Vessels = 2; EF = 25; Mitral Insufficiency = Moderate; Aortic Insufficiency = None.

Data Points to Consider

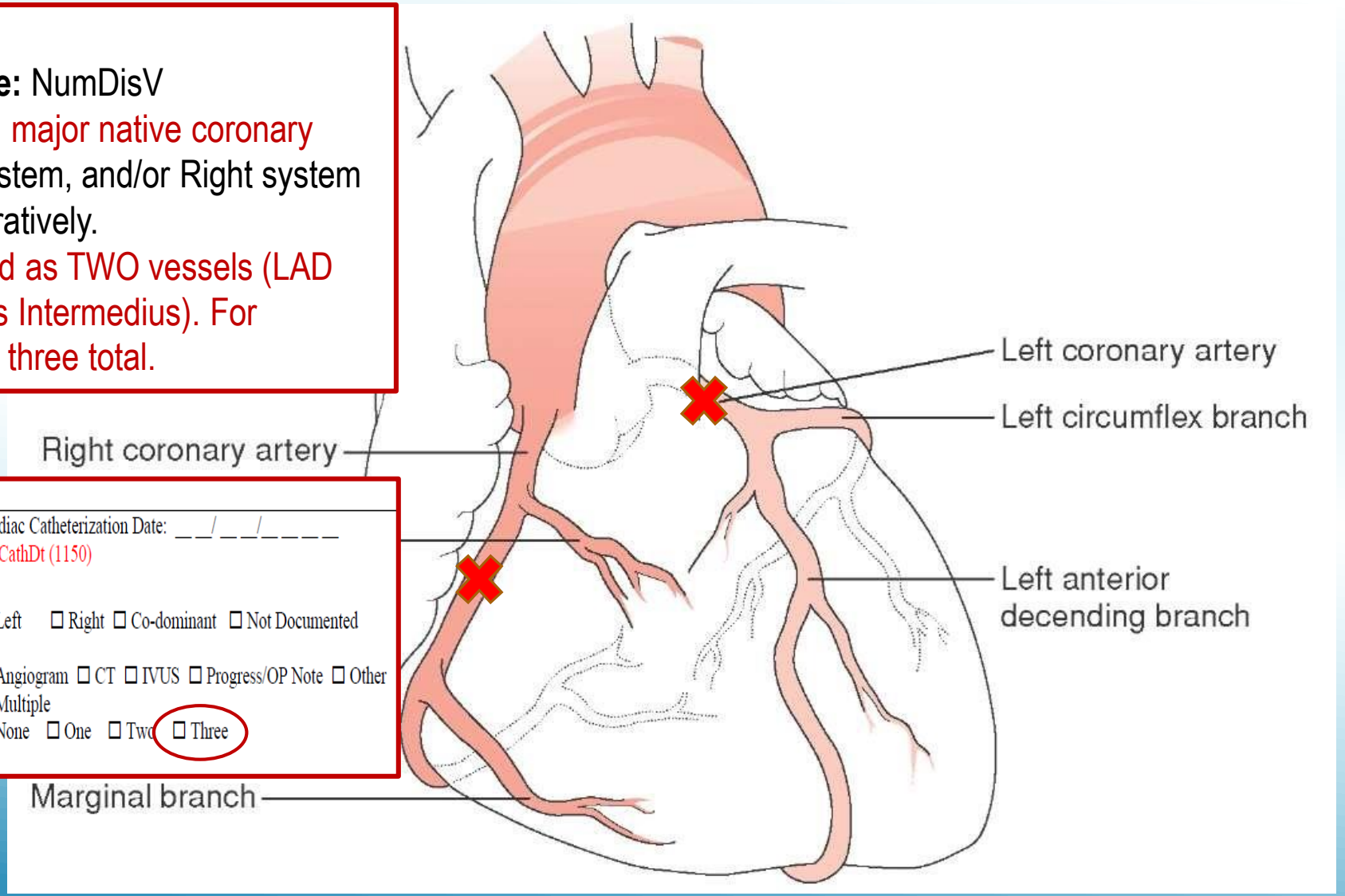
- What were the number of diseased Vessels?
- Determination of Ejection Fraction.
- What degree of insufficiency was present preoperatively in the native valves?

Coronary Anatomy

Seq. #: 1170
Long Name: Num Dis Vessels; **Short Name:** NumDisV
Definition: Indicate the number of diseased major native coronary vessel *systems*: LAD system, Circumflex system, and/or Right system with ≥ 50% narrowing of any vessel preoperatively.
NOTE: Left main disease (≥ 50%) is counted as TWO vessels (LAD and Circumflex, which may include a Ramus Intermedius). For example, left main and RCA would count as three total.

H. Hemodynamics/Cath/Echo

Cardiac Catheterization Performed : ☐ Yes ☐ No (If Yes→) CarCathPer (1145)	Cardiac Catheterization Date: __/__/____ CarCathDt (1150)
Coronary Anatomy/Disease known: ☐ Yes ☐ No (If Yes↓)	
CorAnatDisKnown (1155)	Dominance: ☐ Left ☐ Right ☐ Co-dominant ☐ Not Documented Dominance (1160)
	Source(s) used to quantify stenosis : StenSource (1165) ☐ Angiogram ☐ CT ☐ IVUS ☐ Progress/OP Note ☐ Other ☐ Multiple
	Number Diseased Vessels : ☐ None ☐ One ☐ Two ☐ Three NumDisV (1170)



Ejection Fraction

Seq. #: 1540
Long Name: Hemo Data-EF Done; **Short Name:** HDEFD
Definition: Indicate whether the Ejection Fraction was measured prior to the induction of anesthesia.
Intent/Clarification:
Some patients may not have had an LV Gram performed during cardiac catheterization due to existing clinical conditions. Ejection fraction (EF) and hemodynamic pressures may be obtained from other sources other than coronary angiogram, such as echo, or MUGA.
Note: Because anesthesia can alter the values to be collected, do not collect data from intra-operative transesophageal echo (TEE) after the induction of anesthesia, ***unless*** you have no other source to collect the information.
Time Frame: Do not use results more than 6 months prior to this operation.

Seq. #: 1545
Long Name: Hemo Data-EF; **Short Name:** HDEF
Definition: Indicate the percentage of the blood emptied from the left ventricle at the end of the contraction. Use the most recent determination prior to the surgical intervention documented on a diagnostic report.
Enter a percentage in the range of 1 - 99. If a percentage range is reported, report a whole number using the "mean" (i.e., 50-55% is reported as 53%).
- Hyperdynamic: >70%
- Normal: 50%–70% (midpoint 60%)
- Mild dysfunction: 40%–49% (midpoint 45%)
- Moderate dysfunction: 30%–39% (midpoint 35%)
- Severe dysfunction: <30%

Note: If no diagnostic report is in the medical record, a value documented in the medical record is acceptable. ACCF/AHA 2013
Intent/Clarification:
Time Frame: Collect the last value closest to incision, not greater than 6 months.
Use the most recent determination prior to the induction of anesthesia documented on a diagnostic report, regardless of the diagnostic procedure to obtain it.
Note: If no diagnostic report specifying an EF is in the medical record, a value documented in the progress record is acceptable.
Note: If there is no documentation of a pre-op EF, ***then*** it is acceptable to code the EF from the intra-op TEE prior to incision.

Valve Insufficiency and Disease

Seq. #: 1680
Long Name: VD-Insuff-Mitral
Short Name: VDInsufM

The same rules apply to all four valves

Definition: Indicate whether there is evidence of Mitral valve insufficiency/regurgitation. Enter the level of valve function associated with highest risk (i.e., worst performance). Enter the highest level recorded in the chart. "Moderately severe" should be coded as "Severe".
Intent/Clarification:
Time Frame: Collect the last value closest to incision, not greater than 6 months.
Choose the highest level of valve dysfunction when there are differences in interpretation of the most recent study.
Capture even if patient is not scheduled for valve repair and/or replacement when available.

January 2016 FAQ: Clarify coding of valve disease from echocardiograms.
If there is a preoperative echo, use those values UNLESS the diagnostic information from the TEE changes the procedure performed. If there is no pre-op information, you may use the pre-incision intraoperative TEE.

Seq. #: 1685
Long Name: VD-Mitral; **Short Name:** VDMit
Definition: Indicate whether Mitral valve disease is present.
Intent/Clarification:
When insufficiency is noted in the valve, at what level should the valve be considered diseased? The valve should be coded as being diseased if there is mild, moderate or severe insufficiency.

Mitral Valve

Mitral Insufficiency: VDInsufM (1680) ☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

Mitral Valve Disease: VDMit (1685) ☐ Yes ☐ No

(If Yes→) Mitral Stenosis: ☐ Yes ☐ No (If Yes→)
VDStenM (1690)

Hemodynamic/ Echo data available: ☐ Yes ☐ No (If Yes ↓)
MiHemoDatAvail (1695)

Smallest Valve Area: _____ cm^2
VDMVA (1700)

Highest Mean Gradient: _____mmHg

There is not an option to select "Not Documented" for Valve Disease. When an Echo is not done, or a valve is not mentioned in the study, the best answer is "No" if there is no other documentation in the medical record that there is valve disease.

None = Valves were Studied & No Insufficiency Found

Not Documented = Procedure to Study Valves Not Done (or not mentioned)

No means No

Aortic Valve

Aortic Insufficiency: □ None □ Trivial/Trace □ Mild □ Moderate □ Severe □ Not Documented
VDInsufA (1590)

Aortic Valve Disease: VDAort (1595) □ Yes □ No

(If Yes→) Aortic Stenosis: □ Yes □ No (If Yes→) Hemodynamic/Echo data available: □ Yes □ No (If Yes ↓)
VDStenA (1600) AoHemoDatAvail (1605)

Tricuspid Valve

Tricuspid Insufficiency: VDInsufT (1775) □ None □ Trivial/Trace □ Mild □ Moderate □ Severe □ Not Documented

Tricuspid Valve Disease: VDTr (1780) □ Yes □ No

(If Yes→) Tricuspid Stenosis: VDStenT (1785) □ Yes □ No

Pulmonic Valve

Pulmonic Insufficiency: □ None □ Trivial/Trace □ Mild □ Moderate □ Severe □ Not Documented
VDInsufP (1820)

Pulmonic Valve Disease: □ Yes □ No
VDPulm (1825)

Question 4 Selections:

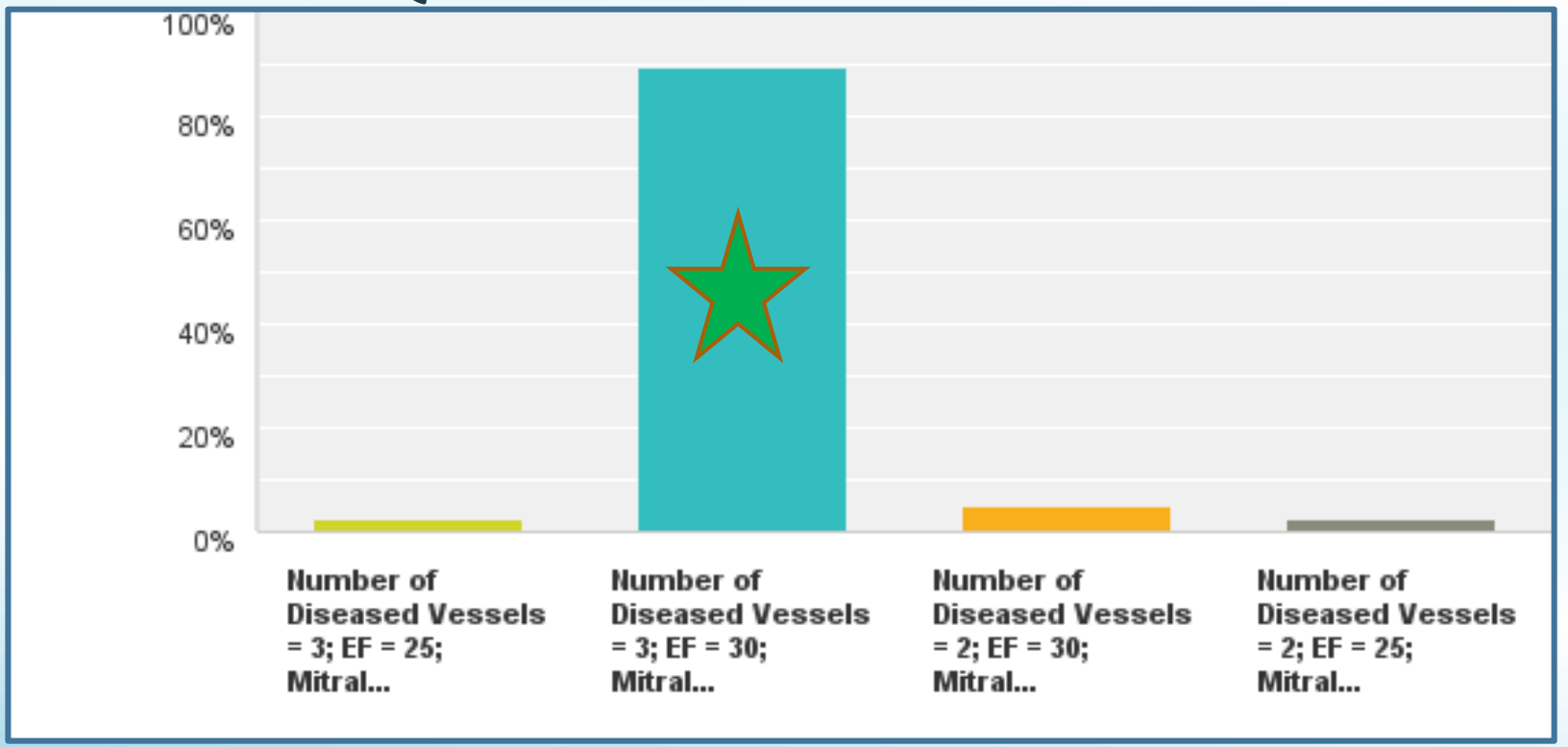
- Number of Diseased Vessels = 3; EF = 25; Mitral Insufficiency = Severe; Aortic, Tricuspid, and Pulmonic Insufficiency = None

- Number of Diseased Vessels = 3; EF = 30; Mitral Insufficiency = Severe; Aortic Insufficiency = Not Documented.

- Number of Diseased Vessels = 2; EF = 30; Mitral Insufficiency = Moderate; Aortic Insufficiency = Not Documented.

- Number of Diseased Vessels = 2; EF = 25; Mitral Insufficiency = Moderate; Aortic Insufficiency = None.

Question 4 Results



Answer Choices	Responses	
Number of Diseased Vessels = 3; EF = 25; Mitral Insufficiency = Severe; Aortic, Tricuspid, and Pulmonic Insufficiency = None	**2.56%**	1
Number of Diseased Vessels = 3; EF = 30; Mitral Insufficiency = Severe; Aortic Insufficiency = Not Documented.	**89.74%**	35
Number of Diseased Vessels = 2; EF = 30; Mitral Insufficiency = Moderate; Aortic Insufficiency = Not Documented.	**5.13%**	2
Number of Diseased Vessels = 2; EF = 25; Mitral Insufficiency = Moderate; Aortic Insufficiency = None.	**2.56%**	1
Total		**39**

Question 5 Selections:

- Status = Urgent; Reason = PCI Incomplete w/o deterioration; Surgical Procedures include: CAB, Valve Surgery; Combined Surgery and PCI = Yes (Concurrent)
- Status = Emergent; Reason = Pulmonary Edema; Surgical Procedures include: CAB, Valve Surgery, Other Cardiac; Combined Surgery and PCI = Yes (Staged)
- Status = Urgent; Reason = AMI; Surgical Procedures include: CAB, Valve Surgery, Other Cardiac; Combined Surgery and PCI = Yes (Staged).
- Status = Emergent; Reason = CHF; Surgical Procedures include: CAB, Valve Surgery; Combined Surgery and PCI = Yes (Concurrent).

Data Points to Consider

- ❑ What is the patient's Operative Status?
- ❑ What is the best Reason for Operative Status?
- ❑ What surgical procedures were performed?
- ❑ Was this a "Combined" case? What constitutes "Combined"?

Status

Seq. #: 1975
Long Name: Status; **Short Name:** Status
Definition: Indicate the clinical status of the patient prior to entering the operating room.

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.

Urgent: Any of the conditions that require that *the patient remain in the hospital until surgery can take place, but the patient is able to wait for surgery* until the next available OR schedule time. Delay in the operation may be necessitated by attempts to improve the patient's condition, availability of a spouse or parent for informed consent, availability of blood products, or the availability of results of essential laboratory procedures or tests.

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

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

Status: ☐ Elective ★ Urgent ☐ Emergent ☐ Emergent Salvage

Status (1975)

UrgEmergRsn (1990)

(If Urgent or Emergent choose one reason↓)

Urgent / Emergent reason:

- ☐ AMI
- ☐ Anatomy
- ☐ Aortic Aneurysm
- ☐ Aortic Dissection
- ☐ CHF
- ☐ Device Failure
- ☐ Diagnostic/Interventional Procedure Complication
- ☐ Endocarditis
- ☐ Failed Transcatheter Valve Therapy
- ☐ IABP
- ☐ Infected Device
- ☐ Intracardiac mass or thrombus
- ☐ Ongoing Ischemia
- ☐ PCI Incomplete without clinical deterioration
- ☐ PCI or attempted PCI with Clinical Deterioration
- ☐ Pulmonary Edema
- ☐ Pulmonary Embolus
- ☐ Rest Angina
- ☐ Shock Circulatory Support
- ☐ Shock No Circulatory Support
- ☐ Syncope
- ☐ Transplant
- ☐ Trauma
- ☐ USA
- ☐ Valve Dysfunction
- ☐ Worsening CP
- ☐ Other

Seq. #: 1990

Long Name: Urgent Or Emergent Reason; **Short Name:** UrgEmergRsn

Definition: Choose one reason from the list below that best describes why this operation was considered urgent or emergent.

Intent/Clarification: See list for options. There may be multiple reasons, choose one that best describes this patient's clinical state.

Operative Procedure

	Approach converted during procedure: ☐ Yes, planned ☐ Yes, unplanned ☐ No ApproachCon (2105)
	Robot Used: ☐ Yes ☐ No (If Yes →) ☐ Used for entire operation ☐ Used for part of the operation Robotic (2110) RobotTim (2115)
★	Coronary Artery Bypass: ☐ Yes, planned ☐ Yes, unplanned due to surgical complication ☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No (If "Yes" complete Section J) OpCAB (2120)
★	Valve Surgery: ☐ Yes ☐ No (If "Yes" complete Section K) OpValve (2125)
	VAD Implanted or Removed: ☐ Yes ☐ No VADProc (2130)
★	Other Cardiac Procedure: ☐ Yes ☐ No (If "Yes" complete Section M) OpOCard (2140)
✖	Other Cardiac Procedure, AFib: ☐ Yes ☐ No (If "Yes" complete Section M-1) AFibProc (2145)
	Other Cardiac Procedure, Aortic: ☐ Yes, planned ☐ Yes, unplanned due to surgical complication ☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No (If "Yes" complete Section M-2) AortProc (2150)
	Other Non-Cardiac Procedure: ☐ Yes ☐ No (If "Yes" complete Section N)

Combined Procedures

Seq. #: 2585
Long Name: Combined Cardiac Surgery and PCI Performed; **Short Name:** CombCardPCI
Definition: Indicate whether a cardiac surgical procedure was performed in addition to a PCI during this hospitalization.
Intent/Clarification:
This includes planned and unplanned combinations of cardiac surgery procedures and percutaneous coronary interventions.

Seq. #: 2590
Long Name: Combined Cardiac and PCI Procedures Performed; **Short Name:** CombProcs
Definition: Indicate which procedures were performed during this hospitalization.
Intent/Clarification:
- PCI + CAB
- PCI + Valve
- PCI + Aortic
- PCI + Other

Seq. #: 2595
Long Name: Combined Cardiac Surgery and PCI Procedure Status; **Short Name:** CombProcsStatus
Definition: Indicate whether the procedures were performed concurrently or staged.
Intent/Clarification:
- Concurrent - same setting
- Staged - PCI followed by surgery
- Staged - surgery followed by PCI

Combined cardiac surgery and PCI Performed: ☐ Yes ☐ No (If Yes ↓)
CombCardPCI (2585)
Procedures: ☐ PCI + CAB ☐ PCI + Valve ☐ PCI + Aortic ☐ PCI + Other
CombProcs (2590)
Status: ☐ Concurrent- same setting ☐ Staged - PCI followed by surgery ☐ Staged - Surgery followed by PCI
CombProcsStatus (2595)
PCI Procedure: ☐ Angioplasty ☐ Stent ☐ Angioplasty and Stent ☐ Attempted PCI
CombProcsPCI (2600)
(If Stent or Angioplasty & Stent→) Stent Type: ☐ Bare metal ☐ Drug-eluting ☐ Bioresorbable ☐ Multiple ☐ Not documented
CombProcsStentTy (2605)

Question 5 Selections:

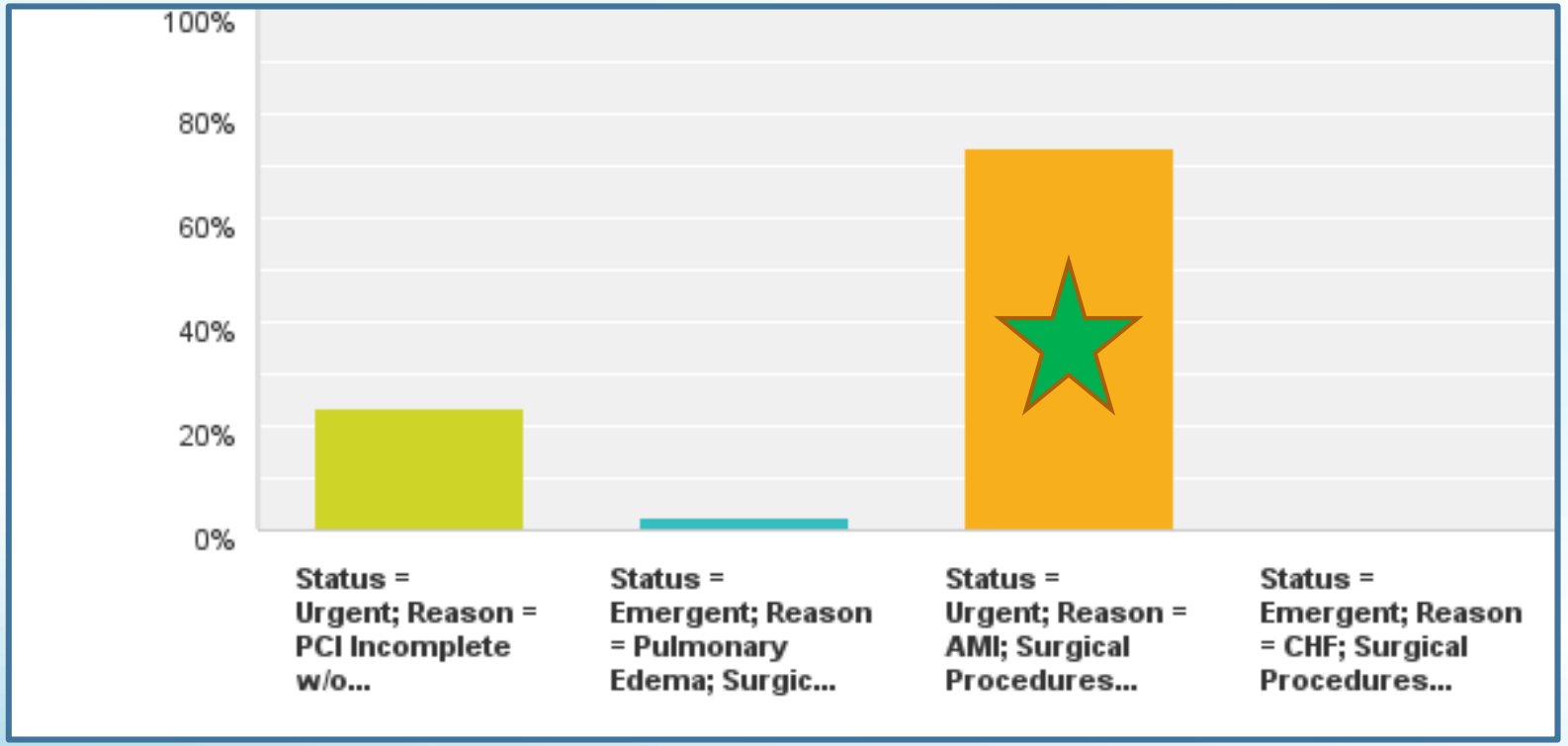
- Status = Urgent; Reason = PCI Incomplete w/o deterioration; Surgical Procedures include: CAB, Valve Surgery; Combined Surgery and PCI = Yes (Concurrent)

- Status = Emergent; Reason = Pulmonary Edema; Surgical Procedures include: CAB, Valve Surgery, Other Cardiac; Combined Surgery and PCI = Yes (Staged)

- Status = Urgent; Reason = AMI; Surgical Procedures include: CAB, Valve Surgery, Other Cardiac; Combined Surgery and PCI = Yes (Staged).

- Status = Emergent; Reason = CHF; Surgical Procedures include: CAB, Valve Surgery; Combined Surgery and PCI = Yes (Concurrent).

Question 5 Results



Answer Choices	Responses	
Status = Urgent; Reason = PCI Incomplete w/o deterioration; Surgical Procedures include: CAB, Valve Surgery; Combined Surgery and PCI = Yes (Concurrent)	**23.68%**	9
Status = Emergent; Reason = Pulmonary Edema; Surgical Procedures include: CAB, Valve Surgery, Other Cardiac; Combined Surgery and PCI = Yes (Staged)	**2.63%**	1
Status = Urgent; Reason = AMI; Surgical Procedures include: CAB, Valve Surgery, Other Cardiac; Combined Surgery and PCI = Yes (Staged).	**73.68%**	28
Status = Emergent; Reason = CHF; Surgical Procedures include: CAB, Valve Surgery; Combined Surgery and PCI = Yes (Concurrent).	**0.00%**	0
Total		**38**

Question 6 Selections:

- Mitral Valve Procedure performed = Repair, Planned; Repair Type = Annuloplasty, Leaflet Resection; Other Cardiac Procedure = AFib Intracardiac lesion; IABP = Intraoperative, CPB Wean.

- Mitral Valve Procedure performed = Repair, Unplanned disease or anatomy; Repair Type = Leaflet Resection; Other Cardiac Procedure = Atrial Appendage procedure, LAA; IABP = Intraoperative, Hemodynamic Instability.

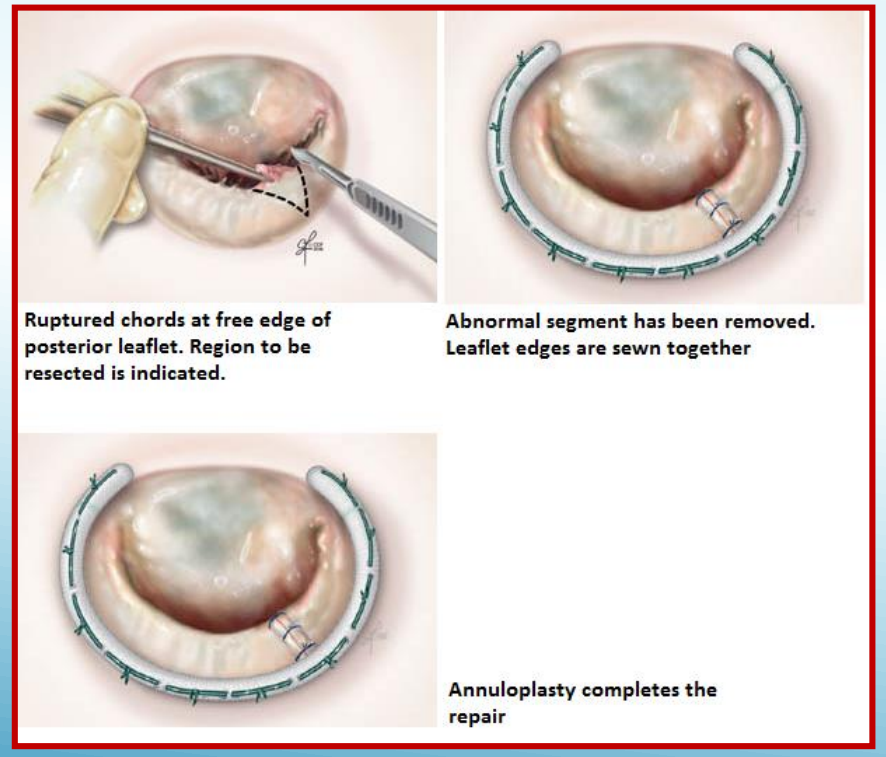
- Mitral Valve Procedure performed = Repair, Planned; Repair Type = Annuloplasty, Sliding Plasty; Other Cardiac Procedure = AFib Intracardiac lesion; IABP = Intraoperative, Procedural Support.

- Mitral Valve Procedure performed = Repair, Unplanned disease or anatomy; Repair Type = Annuloplasty, Leaflet Resection; Other Cardiac Procedure = Atrial Appendage procedure, LAA; IABP = Intraoperative, CPB Wean.

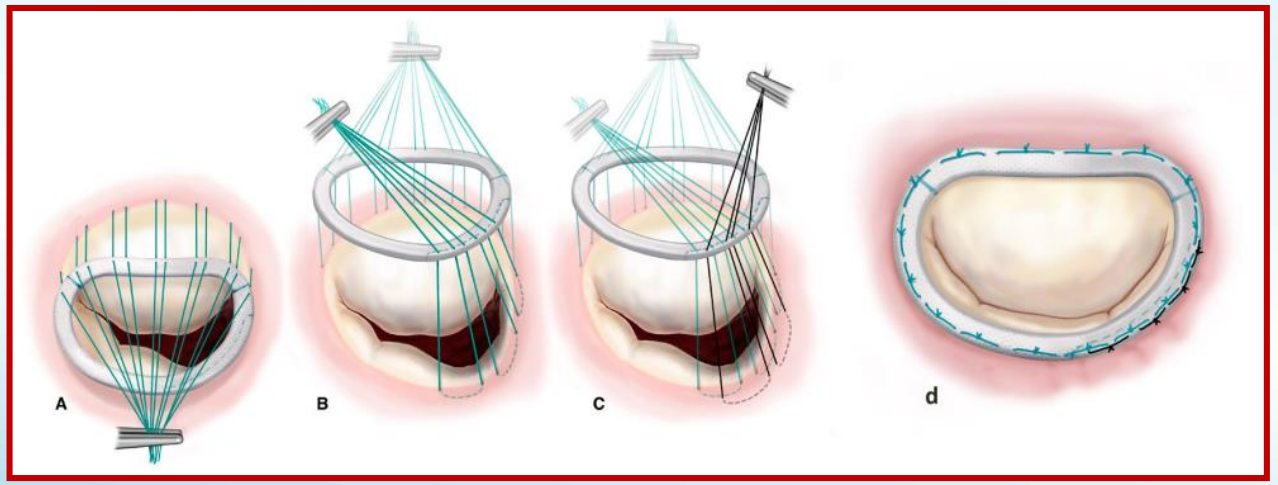
Data Points to Consider

- ❑ What Mitral Procedure was performed?
- ❑ What type of procedure was performed?
- ❑ What was the Other Cardiac Procedure performed?
- ❑ Why was an IABP inserted?

Mitral Valve Repair



Leaflet Resection Posterior, Triangular



Annuloplasty Only

Mitral Valve Procedure Performed: ☐ Yes, planned ☐ Yes, unplanned due to surgical complication VSMV (3495)
☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No (If Yes ↓)

Procedure Performed: VSMVPr (3500)
☐ Repair

(If Repair→) Repair Type: (Select all that apply↓)

Annuloplasty ☐ Yes ☐ No
VSMitRAnnulo (3505)

Leaflet Resection ☐ Yes ☐ No (If Yes↓)
VSMitRLeafRes (3510)

Resection Type: ☐ Triangular ☐ Quadrangular ☐ Other
VSLeafResTyp (3515)

Location: ☐ Anterior ☐ Posterior ☐ Both Anterior and Posterior
VSLeafRepLoc (3520)

Leaflet Plication ☐ Yes ☐ No
VSMitRLeafPlic (3525)

Leaflet Debridement ☐ Yes ☐ No
VSMitRLeafDeb (3530)

Folding Plasty ☐ Yes ☐ No
VSMitRFold (3535)

Sliding Plasty ☐ Yes ☐ No
VSMitRSlidP (3540)

Annular decalcification/debridement ☐ Yes ☐ No
VSMitRADecalc (3545)

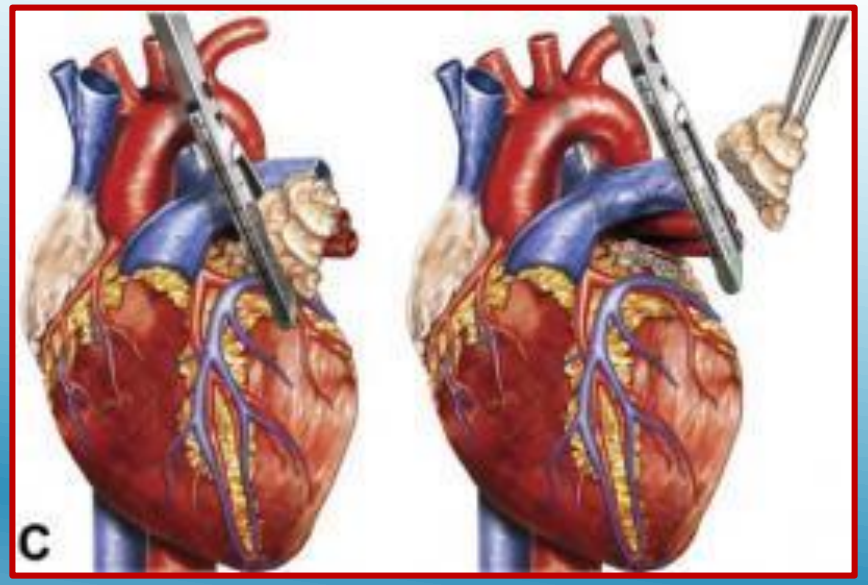
Neochords (PTFE) ☐ Yes ☐ No
VSMitRPTFE (3550)

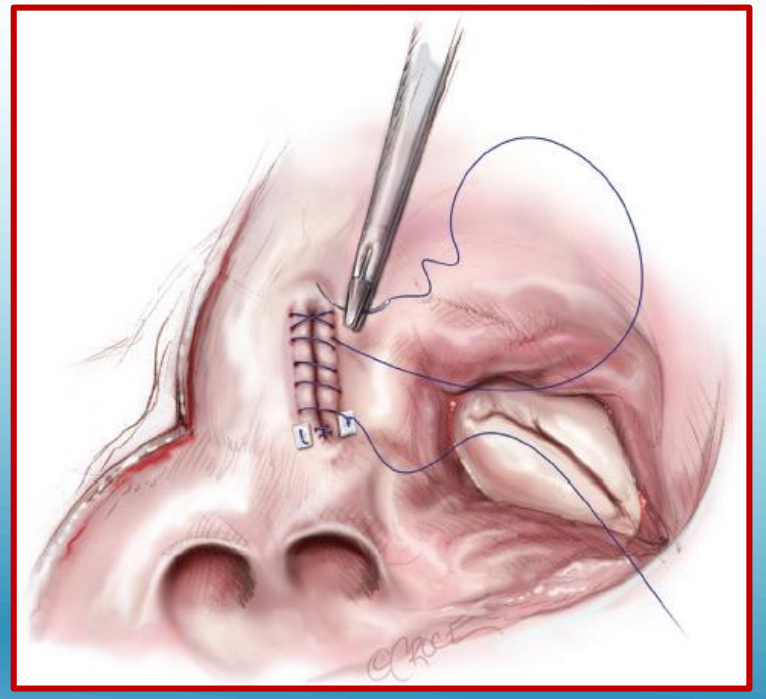
(If Yes→) # of neochords inserted: _____
VSNeoChNum (3555)

Other Cardiac Procedure

M. Other Cardiac Procedure (If Other Cardiac Procedure = Yes ↓)

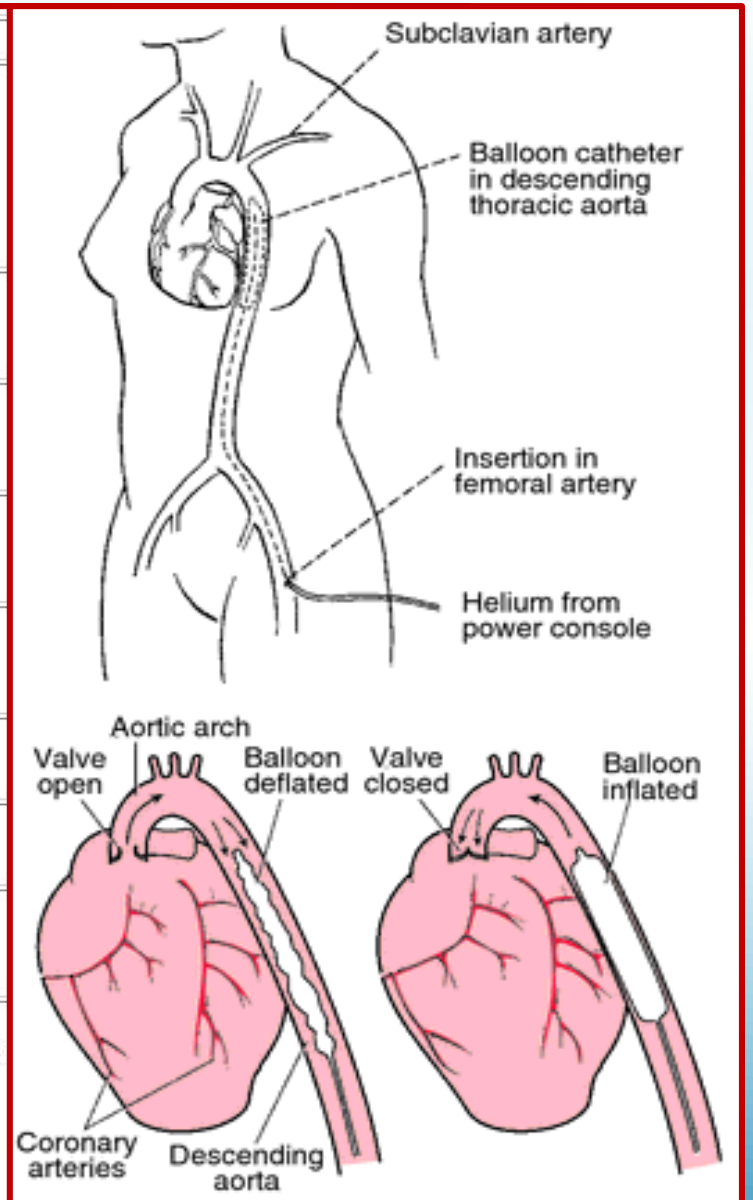
These procedures do not impact isolated category	These procedures move the case out of isolated category
AFib Epicardial lesions (complete M-1) ☐ Yes ☒ No OCarAFibEpLes (4070)	AFib Intracardiac lesions (complete M-1) ☐ Yes ☒ No OCarAFibIntraLes (4105)
ASD repair- PFO type ☐ Yes ☐ No OCarASDPFO (4075)	ASD Repair- secundum or sinus venosus ☐ Yes ☐ No OCarASDSec (4110)
Atrial Appendage procedure: ☐ RAA ☐ LAA ☐ Both ☐ No OCarAAProc (4080)	Lead Extraction ☐ Yes, planned OCarACDLE (4120) ☐ Yes, unplanned due to surgical complication ☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No
Arrhythmia Device: OCarACD (4085)	LV Aneurysm Repair: ☐ Yes ☐ No





INDICATIONS

- Left ventricular failure or Cardiogenic Shock a. Myocardial infarction (MI) b. Myocarditis c. Cardiomyopathy d. Severe Myocardial contusion e. Septic shock f. Drug induced
- Mechanical Complications of Acute MI
- Post - Myocardial Infarction Ventricular Irritability
- Unstable Angina refractory to medical therapy
- Support for High risk PTCA - Patients
- Failed PTCA
- Thrombolytic Therapy of Acute MI
- Failure to wean from Cardiopulmonary Bypass
- Low - Output Syndrome
- Stabilization of High - Risk Patients undergoing General Anesthesia
- Bridge to Transplant
- Stunned Myocardium



IABP(INTRA-AORTIC BALLOON PUMP)

TABLE 54–33. Indications for IABP During Cardiac Surgery

Inability to discontinue bypass: multiple interventions
Inadequate hemodynamics: after ↑ ↑ inotropic support
↓ ↓ Systolic blood pressure ↓ 80 mm. Hg
↓ ↓ Cardiac index ↓ 2.0 L./min./sq. m.
↑ ↑ Left atrial pressure ↑ 20 mm. Hg
↑ ↑ Vascular resistance ↑ 2500 dynes/sec./cm.$^{-5}$
Large doses of multiple inotropic drugs
Continued refractory ventricular arrhythmias

L. Mechanical Cardiac Assist Devices

Intra-Aortic Balloon Pump (IABP): ★Yes □ No (If Yes ↓)
IABP (3725)
IABP Insertion: □ Preop ★Intraop □ Postop
IABPWhen (3730)
Primary Reason for Insertion: □ Hemodynamic Instability □ Procedural Support □ Unstable Angina
IABPInd (3735) ★CPB Weaning Failure □ Prophylactic □ Other

Question 6 Selections:

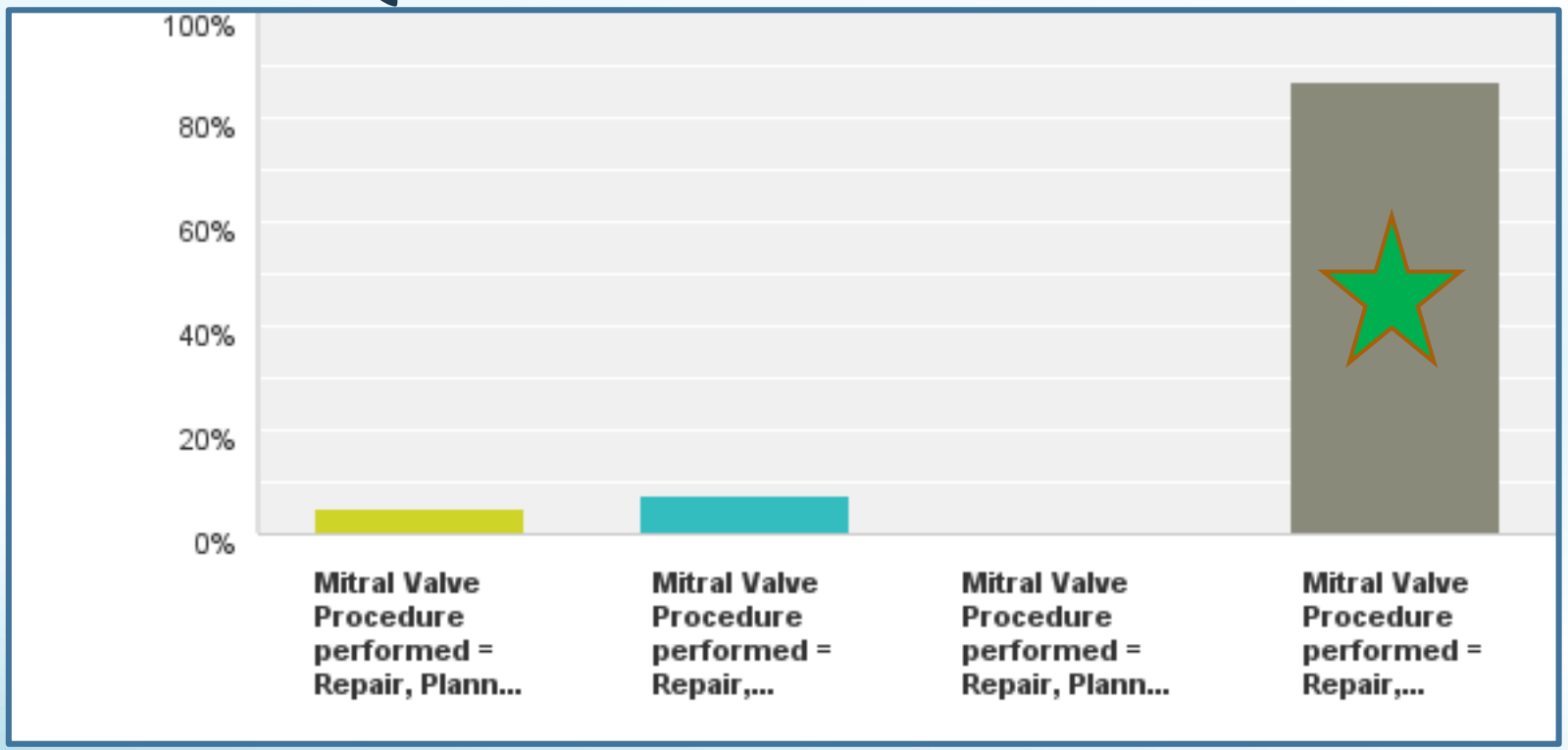
- Mitral Valve Procedure performed = Repair, Planned; Repair Type = Annuloplasty, Leaflet Resection; Other Cardiac Procedure = AFib Intracardiac lesion; IABP = Intraoperative, CPB Wean.

- Mitral Valve Procedure performed = Repair, Unplanned disease or anatomy; Repair Type = Leaflet Resection; Other Cardiac Procedure = Atrial Appendage procedure, LAA; IABP = Intraoperative, Hemodynamic Instability.

- Mitral Valve Procedure performed = Repair, Planned; Repair Type = Annuloplasty, Sliding Plasty; Other Cardiac Procedure = AFib Intracardiac lesion; IABP = Intraoperative, Procedural Support.

- Mitral Valve Procedure performed = Repair, Unplanned disease or anatomy; Repair Type = Annuloplasty, Leaflet Resection; Other Cardiac Procedure = Atrial Appendage procedure, LAA; IABP = Intraoperative, CPB Wean.

Question 6 Results



Answer Choices	Responses	
Mitral Valve Procedure performed = Repair, Planned; Repair Type = Annuloplasty, Leaflet Resection; Other Cardiac Procedure = AFib Intracardiac lesion; IABP = Intraoperative, CPB Wean.	**5.13%**	2
Mitral Valve Procedure performed = Repair, Unplanned disease or anatomy; Repair Type = Leaflet Resection; Other Cardiac Procedure = Atrial Appendage procedure, LAA; IABP = Intraoperative, Hemodynamic Instability.	**7.69%**	3
Mitral Valve Procedure performed = Repair, Planned; Repair Type = Annuloplasty, Sliding Plasty; Other Cardiac Procedure = AFib Intracardiac lesion; IABP = Intraoperative, Procedural Support.	**0.00%**	0
Mitral Valve Procedure performed = Repair, Unplanned disease or anatomy; Repair Type = Annuloplasty, Leaflet Resection; Other Cardiac Procedure = Atrial Appendage procedure, LAA; IABP = Intraoperative, CPB Wean.	**87.18%**	34
Total		**39**

Question 7 Selections:

- Post Op Echo = Yes, Mitral Insufficiency = Mild; Imaging Study = Not performed; Re-Op for Bleeding/Tamponade = Yes, Late; Encephalopathy = Yes.
- Post Op Echo = Yes, Mitral Insufficiency = Mild; Imaging Study = Not performed; Re-Op for Bleeding/Tamponade = Yes, Acute; Atrial Fib = Yes.
- Post Op Echo = Yes, Mitral Insufficiency = Mild; Imaging Study = No evidence of injury; Re-Op for Bleeding/Tamponade = Yes, Late; Pleural Effusion requiring drainage = Yes.
- Post Op Echo = Yes, Mitral Insufficiency = Mild; Imaging Study = No evidence of injury; Re-Op for Bleeding/Tamponade = Yes, Acute; Prolonged Ventilation = Yes.

Data Points to Consider

- ❑ What were the Postoperative Echo results?
- ❑ What is an Imaging Study?
- ❑ What Postoperative Events did the patient encounter?

Postoperative Echo

Post Op Echo Performed to evaluate valve(s): ☐ Yes ☐ No (If Yes ↓) POpTTEch (4625)

Highest level aortic insufficiency found:	☐ None	☐ Trace/trivial	☐ Mild	☐ Moderate	☐ Severe	☐ ~~Not Reported~~ ~~POpTTAR (4630)~~
Highest level mitral insufficiency found:	☐ None	☐ Trace/trivial	☐ Mild	☐ Moderate	☐ Severe	☐ Not Reported POpTTMR (4635)
Highest level tricuspid insufficiency found:	☐ None	☐ Trace/trivial	☐ Mild	☐ Moderate	☐ Severe	☐ ~~Not Reported~~ ~~POpTTTR (4640)~~
Highest level pulmonic insufficiency found:	☐ None	☐ Trace/trivial	☐ Mild	☐ Moderate	☐ Severe	☐ Not Reported POpTTPu (4645)

Seq. #: 4625

Long Name: Postop Echo; **Short Name:** POpTTEch

Definition: Indicate whether an echo was performed postoperatively to evaluate valvular function prior to discharge.

- Capture echos performed after the patient leaves the operating room but prior to hospital discharge. - Code the exam closest to discharge.
- Indicate the highest/worst level found.
- Mild-to-moderate should be coded as moderate; moderate to severe should be coded as severe.
- If the report for an echo does not address valve disease, code "not reported".
- Use the following to categorize the level of insufficiency/regurgitation:
  - None = 0
  - Trace/trivial = 1+
  - Mild = 2+
  - Moderate = 3+
  - Severe = 4+

"Not Reported" = "Not Documented"

Mitral Valve

Mitral Insufficiency: VDInsufM (1680) ☐ None ☐ Trivial/Trace ☐ Mild ☐ Moderate ☐ Severe ☐ Not Documented

Imaging Study

Imaging Study for MI ~~...~~ jury : POpImagStdy (4685) *...for any reason*

- ☐ Not performed
- ☐ Angiographic evidence of new thrombosis or occlusion of graft or native coronary
- ☐ Imaging evidence of new loss of viable myocardium
- ☐ No evidence of new myocardial injury
- ☐ Other

Seq. #: 4685
Long Name: Postop Imaging Study; **Short Name:** POpImagStdy
Definition: Indicate the post procedure imaging study findings, if performed.

- This does not imply that post op imaging is expected to be performed on all patients; the intent is to capture results if an exam was performed*….for any reason.*
- Studies may include echo, cardiac cath, CT, MRI (does not include CXR).
- If more than one study is done following surgery, capture the last study done prior to discharge.

Postoperative Events

P. Postoperative Events

Surgical Site Infection within 30 days of operation: ☐ Yes ☒ No (If Yes ↓) SurSInf (4690)

Sternal Superficial Wound Infection: ☐ Yes, within 30 days of procedure ☐ Yes, >30 days after procedure but during hosp. for surgery ☐ No CSternalSupInf (4695)

Deep Sternal Infection/ Mediastinitis: DeepSternInf (4700)

☐ Yes, within 30 days of procedure ☐ Yes, >30 days after procedure but during hosp. for surgery ☐ No

(If either Yes value →) Diagnosis Date: __ __/ __ __/ __ __ __ __ (mm/dd/yyyy) DeepSternInfDt (4705)

Thoracotomy: ☐ Yes, within 30 days of procedure ☐ Yes, >30 days after procedure but during hosp. for surgery ☐ No CIThor (4710)

Conduit Harvest : ☐ Yes, within 30 days of procedure ☐ Yes, >30 days after procedure but during hosp. for surgery ☐ No ConduitHarv (4715)

Cannulation Site: ☐ Yes, within 30 days of procedure ☐ Yes, >30 days after procedure but during hosp. for surgery ☐ No CanSite (4720)

Wound Intervention/Procedure: ☐ Yes ☐ No (If Yes ↓) WoundInter (4725)

Wound Intervention – Open with Packing/Irrigation: ☐ Yes, primary incision ☐ Yes, secondary incision ☐ Both ☐No WoundIntOpen (4730)

Wound Intervention – Wound Vac: WoundIntVac (4735) ☐ Yes, primary incision ☐ Yes, secondary incision ☐ Both ☐ No

Secondary Procedure Muscle Flap: WoundIntMuscle (4740) ☐ Yes, primary incision ☐ Yes, secondary incision ☐ Both ☐ No

Secondary Procedure Omental Flap: WoundIntOmental (4745) ☐ Yes ☐ No

Other In Hospital Postoperative Event Occurred: ☒ Yes ☐ No (If Yes ↓) Complics (4750)

Operative

ReOp for Bleeding /Tamponade: ☒ Yes ☐ No COpReBld (4755) (If Yes →) Bleed Timing: ☐ Acute ☒ Late COpReBldTim (4760)

ReOp for Valvular Dysfunction: ☐ Yes, surgical ☐ Yes, transcatheter ☐ No COpReVlv (4765)

ReOp for Graft Occlusion: ☐ Yes, surgical ☐ Yes, PCI ☐ No COpReGft (4770)

ReOp for Other Cardiac Reasons: ☐ Yes ☐ No COpReOth (4775)

ReOp for Other Non-Cardiac Reasons: ☐ Yes ☐ No COpReNon (4780)

Open chest with planned delayed sternal closure: ☐ Yes ☐ No COpPlndDelay (4785)

Sternotomy Issue: ☐ Yes ☐ No CSternal (4790) (If Yes →) Sternal instability/dehiscence (sterile): ☐ Yes ☐ No CSternalDehis (4795)

Infection

Sepsis: ☐ Yes ☒ No CSepsis (4800) (If Yes →) Positive Blood Cultures: ☐ Yes ☐ No CSepsisPBC (4805)

Neurologic

Postoperative Stroke: ☐ Yes, hemorrhagic ☐ Yes, embolic ☐ Yes, undetermined type ☐ No CNStrokP (4810)

Transient Ischemic Attack (TIA): ☐ Yes ☐ No CNStrokTTIA (4815)

Encephalopathy: ☐ None ☐ Anoxic ☐ Embolic ☐ Drug ☐ Metabolic ☐ Intracranial Bleeding ☐ Other ☐ Unknown CNComaEnceph (4820)

Paralysis: ☐ Yes ☐ No CNParal (4825) (If Yes →) Paralysis Type: ☐ Transient ☐ Permanent CNParalTy (4830)

Pulmonary

Prolonged Ventilation: ☐ Yes ☐ No (OR exit time until initial extubation, plus any additional reintubation hours) CPVntLng (4835)

Pneumonia: ☐ Yes ☐ No CPPneum (4840)

Venous Thromboembolism – VTE: ☐ Yes ☐ No (If Yes ↓) CVTE (4845)

Pulmonary Thromboembolism: ☐ Yes ☐ No PulmEmb (4850)

Deep Venous Thrombosis: ☐ Yes ☐ No DVT (4855)

Pleural Effusion Requiring Drainage: ☐ Yes ☐ No CPlEff (4860)

Pneumothorax Requiring Intervention: ☐ Yes ☐ No PostOpPneumo (4865)

Renal

Renal Failure: ☐ Yes ☐ No (If Yes ↓) CRenFail (4870)

Dialysis (Newly Required): ☐ Yes ☐ No (If Yes →) Required after Hospital Discharge: ☐ Yes ☐ No

CRenDial (4875) DialDur (4880)

Ultra Filtration Required: ☐ Yes ☐ No CUltraFil (4885)

Vascular

Iliac/Femoral Dissection: ☐ Yes ☐ No CVaIlFem (4890)

Acute Limb Ischemia: ☐ Yes ☐ No CVaLbIsc (4895)

Other

Rhythm Disturbance Requiring Permanent Device: ☐ Pacemaker ☐ ICD ☐ Pacemaker/ICD ☐ Other ☐None CRhythmDis (4900)

Cardiac Arrest: ☐ Yes ☐ No COtArrst (4905)

Anticoagulant Event: ☐ Yes ☐ No COtCoag (4910)

Tamponade (Non-Surgical Intervention): ☐ Yes ☐ No COtTamp (4915)

Gastro-Intestinal Event: ☐ Yes ☐ No COtGI (4920)

Multi-System Failure: ☐ Yes ☐ No COtMSF (4925)

Atrial Fibrillation: ☐ Yes ☐ No COtAFib (4930)

Aortic Dissection: ☐ Yes ☐ No CVaAoDis (4935)

Recurrent Laryngeal Nerve Injury: ☐ Yes ☐ No RecLarynNrvInj (4940)

Phrenic Nerve Injury: ☐ Yes ☐ No PhrenNrvInj (4945)

Other: ☐ Yes ☐ No COtOther (4950)

Question 7 Selections:

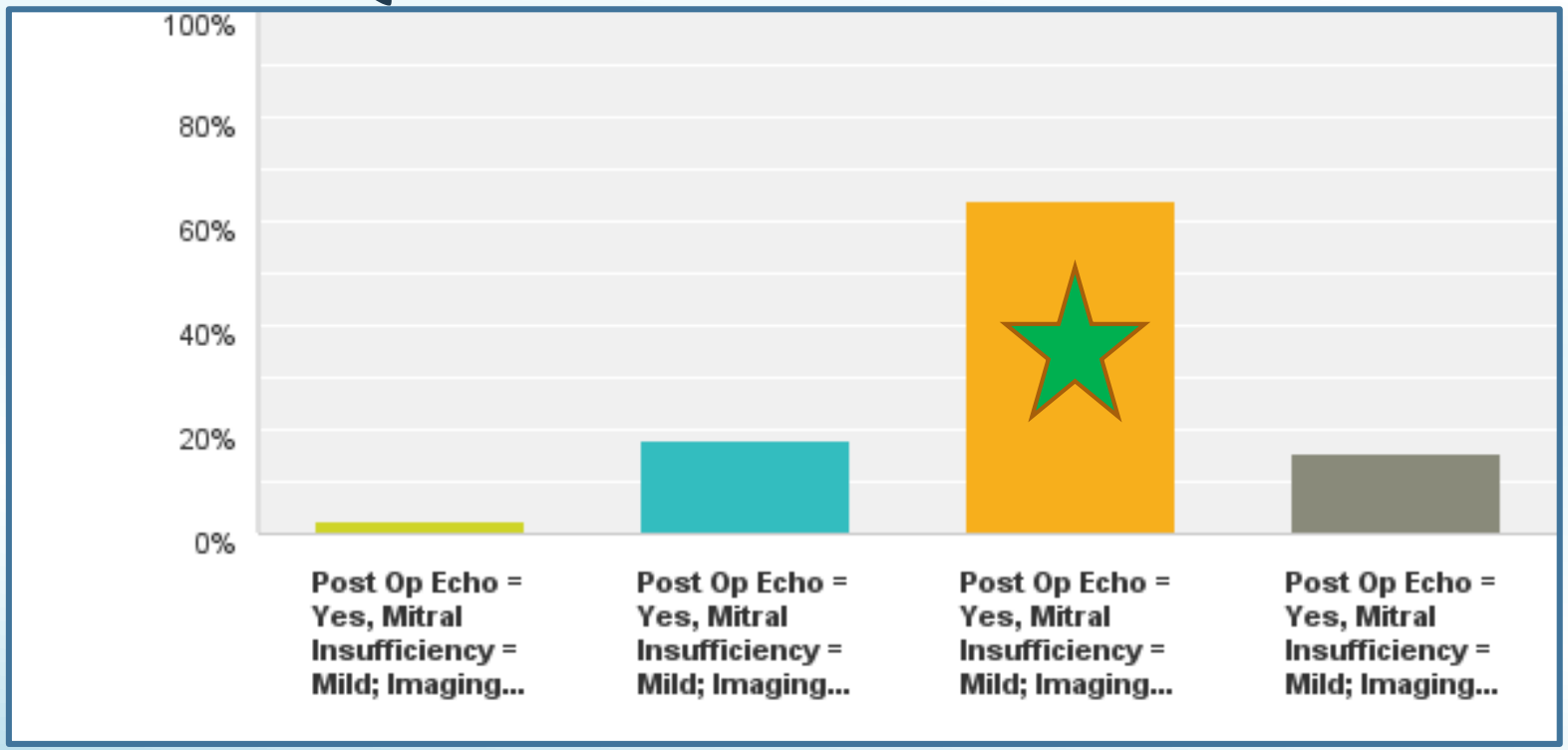
- Post Op Echo = Yes, Mitral Insufficiency = Mild; Imaging Study = Not performed; Re-Op for Bleeding/Tamponade = Yes, Late; Encephalopathy = Yes.

- Post Op Echo = Yes, Mitral Insufficiency = Mild; Imaging Study = Not performed; Re-Op for Bleeding/Tamponade = Yes, Acute; Atrial Fib = Yes.

- Post Op Echo = Yes, Mitral Insufficiency = Mild; Imaging Study = No evidence of injury; Re-Op for Bleeding/Tamponade = Yes, Late; Pleural Effusion requiring drainage = Yes.

- Post Op Echo = Yes, Mitral Insufficiency = Mild; Imaging Study = No evidence of injury; Re-Op for Bleeding/Tamponade = Yes, Acute; Prolonged Ventilation = Yes.

Question 7 Results



Answer Choices	Responses	
Post Op Echo = Yes, Mitral Insufficiency = Mild; Imaging Study = Not performed; Re-Op for Bleeding/Tamponade = Yes, Late; Encephalopathy = Yes.	**2.56%**	1
Post Op Echo = Yes, Mitral Insufficiency = Mild; Imaging Study = Not performed; Re-Op for Bleeding/Tamponade = Yes, Acute; Atrial Fib = Yes.	**17.95%**	7
Post Op Echo = Yes, Mitral Insufficiency = Mild; Imaging Study = No evidence of new injury; Re-Op for Bleeding/Tamponade = Yes, Late; Pleural Effusion requiring drainage = Yes.	**64.10%**	25
Post Op Echo = Yes, Mitral Insufficiency = Mild; Imaging Study = No evidence of new injury; Re-Op for Bleeding/Tamponade = Yes, Acute; Prolonged Ventilation = Yes.	**15.38%**	6
Total		**39**

Question 8 Selections:

- Mortality = Yes; Operative Death = Yes, Hospital (Other than the OR); Discharge Location = Extended/Transitional Care; Readmission = Yes.

- Mortality = Yes; Operative Death = Yes, Hospital (Other than the OR); Discharge Location = Extended/Transitional Care; Readmission = No.

- Mortality = Yes; Operative Death =No, Hospital (Other than the OR); Discharge Location = Extended/Transitional Care; Readmission = Yes.

- Mortality = Yes; Operative Death = Yes, Hospital (Other than the OR); Discharge Location = Extended/Transitional Care; Readmission = Yes.

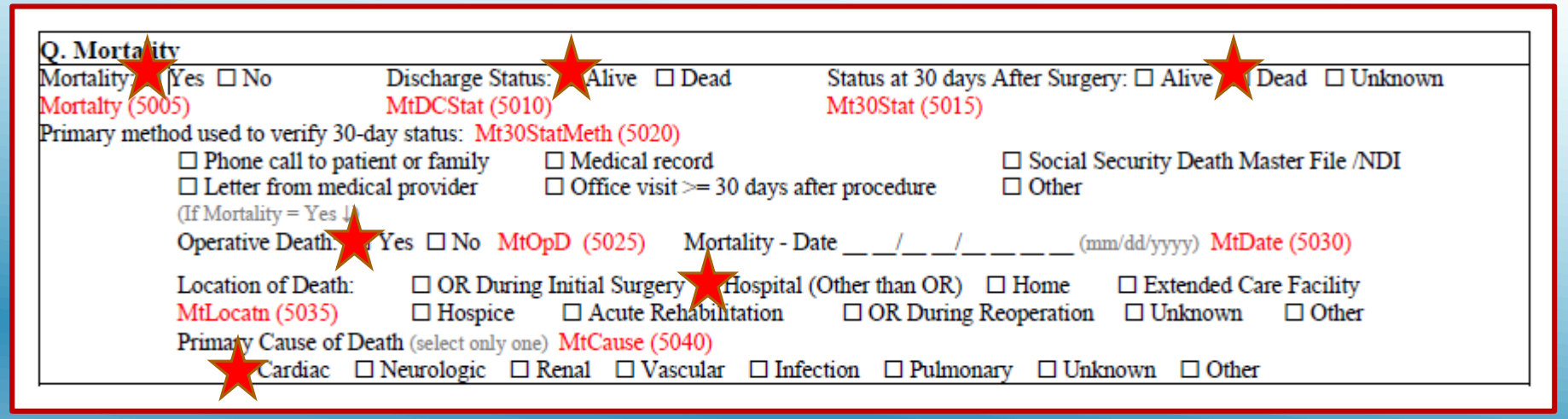
Data Points to Consider

- ❑ Was this mortality an Operative Death?
- ❑ Was this patient considered a “Readmisson”?

Mortality and Operative Death

Seq. #: 5005
Long Name: Mort-Mortality; **Short Name:** Mortalty
Definition: Indicate whether the patient has been declared dead within this hospitalization or *any time* after discharge from this hospitalization. This includes all causes of death, including those causes clearly unrelated to the operation. . This could be while the patient is in the hospital for the current procedure, within 30 days of the procedure, or "long term", meaning six months, five years, or anytime in the future.

Seq. #: 5025
Long Name: Mort-Op Death; **Short Name:** MtOpD
Definition: Operative Mortality includes: (1) ALL deaths, regardless of cause, occurring during the hospitalization in which the operation was performed, even if after 30 days (including patients transferred to other acute care facilities); and (2) ALL deaths, regardless of cause, occurring after discharge from the hospital, but before the end of the thirtieth postoperative day.



Readmission

Seq. #: 5140
Long Name: Readmission; **Short Name:** Readmit
Definition: Indicate whether the patient was readmitted to the hospital within 30 days of discharge from hospitalization for this surgery. Code yes for inpatient admission to an acute care facility. **Do not capture ED or outpatient visits** or admission to a skilled facility or nursing home.

- It is understood that some readmissions are planned; these are still counted as readmissions.
- Readmission does not need to be at same institution as surgical procedure. Obtain information as close to 30 days from date of discharge as possible.
- Do not include Emergency Dept. visits or observation unless the ED visits lead to admission. The intent is to capture inpatient readmissions to acute care and primary care institutions only.
- If a patient is readmitted to an inpatient rehabilitation hospital, code “No”.
- To align with CMS, 30 day readmission should not be coded for patients who remain in observation units, no matter the duration.
- On occasion a patient is readmitted twice within the 30 day time frame from the date of the procedure. Any time the patient is readmitted to a hospital ≤ 30 days from the date of discharge regardless if the readmission was planned or unplanned, related or unrelated. You code the first readmission only.

S. Readmission

(If Discharge Status = Alive↓)

Readmit : ☐ Yes ☐ No ☐ Unknown (If Yes ↓) Readmit (5140)

Readmit Date: __ __/__ __/__ __ __ __ (mm/dd/yyyy) ReadmitDt (5145)

Readmit Primary Reason: ReadmRsn (5160)

- ☐ Anticoagulation Complication - Pharmacological
- ☐ Anticoagulation Complication – Valvular
- ☐ Arrhythmia/Heart Block
- ☐ Congestive Heart Failure
- ☐ Coronary Artery/Graft Dysfunction
- ☐ DVT
- ☐ Endocarditis
- ☐ Infection, Conduit Harvest Site
- ☐ Infection, Deep Sternum / Mediastinitis
- ☐ Myocardial Infarction and/or Recurrent Angina
- ☐ PE
- ☐ Pericardial Effusion and/or Tamponade
- ☐ Pleural effusion requiring intervention
- ☐ Pneumonia
- ☐ Renal Failure
- ☐ Respiratory complication, Other
- ☐ Stroke
- ☐ TIA
- ☐ Transplant Rejection
- ☐ VAD Complication
- ☐ Valve Dysfunction
- ☐ Vascular Complication, acute
- ☐ Other – Related Readmission
- ☐ Other – Nonrelated Readmission
- ☐ Other – Planned Readmission
- ☐ Unknown

Question 8 Selections:

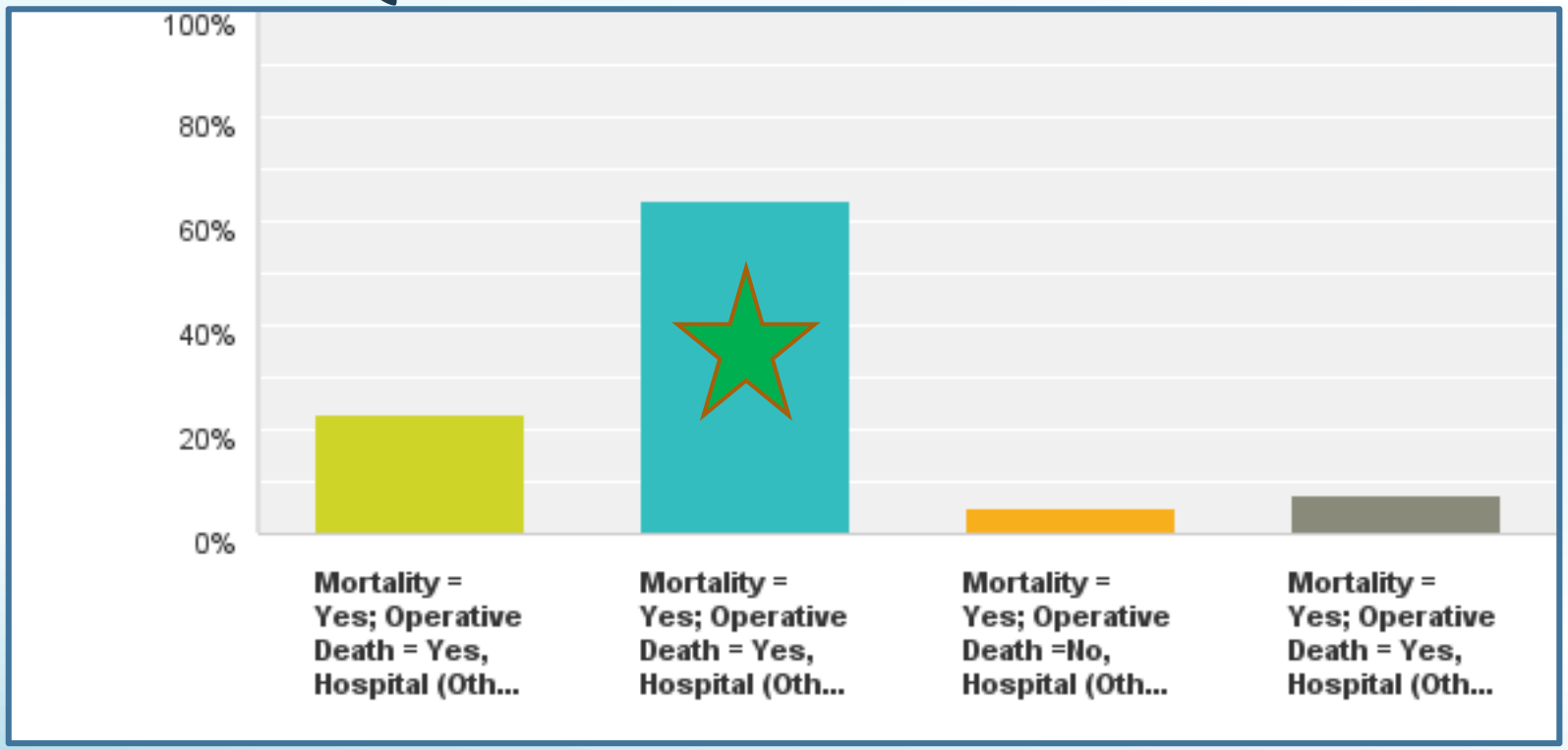
- Mortality = Yes; Operative Death = Yes, Hospital (Other than the OR); Discharge Location = Extended/Transitional Care; Readmission = Yes.

- Mortality = Yes; Operative Death = Yes, Hospital (Other than the OR); Discharge Location = Extended/Transitional Care; Readmission = No.

- Mortality = Yes; Operative Death =No, Hospital (Other than the OR); Discharge Location = Extended/Transitional Care; Readmission = Yes.

- Mortality = Yes; Operative Death = Yes, Hospital (Other than the OR); Discharge Location = Extended/Transitional Care; Readmission = Yes.

Question 8 Results



Answer Choices	Responses	
Mortality = Yes; Operative Death = Yes, Hospital (Other than the OR); Discharge Location = Extended/Transitional Care; Readmission = Yes.	**23.08%**	9
Mortality = Yes; Operative Death = Yes, Hospital (Other than the OR); Discharge Location = Extended/Transitional Care; Readmission = No.	**64.10%**	25
Mortality = Yes; Operative Death =No, Hospital (Other than the OR); Discharge Location = Extended/Transitional Care; Readmission = Yes.	**5.13%**	2
Mortality = Yes; Operative Death = Yes, Hospital (Other than the OR); Discharge Location = Extended/Transitional Care; Readmission = Yes.	**7.69%**	3
Total		**39**

Any Question ?