

ACC National Cardiovascular Data Registry

Cardiac Cath Lab Module Version 2.0c

Data Elements and Definitions

ADMINISTRATIVE

# 1	Name:	Transmission Number
	Definition:	A unique number created and automatically inserted by the software. It describes the number of times the software has created transmission files. It can only be used once and may never be repeated.
# 2	Name:	Software Vendor
	Definition:	ACC assigned name to identify software vendor.
# 3	Name:	Software Version
	Definition:	Vendor software product name and version.
# 4	Name:	NCDR Version
	Definition:	Version of ACC-NCDR Core Data Element Documentation Used for this Transmission
# 5	Name:	Participant ID
	Definition:	Participant ID (formerly called Facility #) is a unique number assigned to each Participant by the ACC NCDR. An ACC NCDR Participant is defined as one entity that signs a Participation Agreement.
# 6	Name:	Participant Name
	Definition:	Indicate the name of the hospital or facility where the cath lab procedure(s) was performed.

DEMOGRAPHICS

# 7	Name:	Unique Patient ID
	Definition:	Identifies each unique patient. It is automatically inserted by the software. If a patient returns to the same facility they MUST receive this same unique identifier.
# 8	Name:	Patient Last Name
	Definition:	Indicate the patient's last name. If the last name exceeds 24 characters, enter the first 24 letters only.
# 9	Name:	Patient First Name
	Definition:	Indicate the patient's first name. If the first name exceeds 20 characters, enter the first 20 letters only.
# 10	Name:	Patient Middle Initial
	Definition:	Indicate the patient's middle initial.
# 11	Name:	Patient SSN/Country Code
	Definition:	Indicate the nine-digit Patient's Social Security Number (SSN) or ACC-NCDR approved unique identifier. Although this is the Social Security Number in the USA, other countries may have different National Identification Numbers. For example, in Canada, this would be the Social Insurance Number. In the event a patient does not have a SSN or equivalent, enter any consistent 9 digit unique identifier such as medical records number, etc. In addition to the nine-digit Patients Social Security Number, include the two-digit country code for where the patient resides.
# 12	Name:	Gender
	Definition:	Indicate the patient's gender as either male or female.
# 13	Name:	Race
	Definition:	Indicate the patient's race as either: Caucasian Black Hispanic Asian Native American Other
# 14	Name:	Patient DOB
	Definition:	Indicate the date of the patient's birth.

ADMISSION/DISCHARGE

# 15	Name:	Date of Admission
	Definition:	Indicate the date that the patient was admitted to the hospital for the current stay or had the procedure performed in the hospital's outpatient facility.
# 16	Name:	Date of Discharge
	Definition:	Indicate the date the patient was discharged from the hospital. If the patient died in the hospital the hospital discharge date is the date of death.
# 17	Name:	Admission Status
	Definition:	Indicate the admission status prior to documented admission (choose one): Referral - The patient was admitted via referral for the procedure by another MD and/or clinic. Emergency Department - The patient was admitted via the emergency department. Transfer - The patient was admitted by transfer from another facility such as, a skilled nursing facility or other hospital. Other
# 18	Name:	Insurance Payor
	Definition:	Indicate the patients insurance payor for this admission: Government: Government insurance refers to patients who are covered by government-reimbursed care. In the U.S., this includes, Medicare, Medicaid, (including all state/federal Medicaid-type programs), and Veteran's Administration health plan. Commercial: Commercial refers to all indemnity (fee-for-service) carriers and Preferred Provider Organizations (PPOs) (e.g. Blue Cross/Blue Shield) HMO: HMO refers to a Health Maintenance Organization characterized by coverage that provides health care services for members on a pre-paid basis. None: None refers to individuals with no or limited health insurance; thus, the individual is the payor regardless of ability to pay. Only mark "None" when "self" or "none" is denoted as the first insurance in the medical record.
# 19	Name:	Number of PCI Lab Visits
	Definition:	Indicate the number of cath lab visits at which PCI was performed during this admission. Do NOT include cardiac cath. Do not count as separate procedures if more than one device was used during the same session.
# 20	Name:	Multiple PCI - Same Lesion
	Definition:	Indicate whether a PCI procedure was performed on at least one lesion on multiple cath lab visits.
# 21	Name:	CAB During This Admission - Status
	Definition:	If the patient had a CAB (Coronary Artery Bypass) during this admission indicate the CAB status using the following categories: I. Elective: The procedure could be deferred without increase risk of compromised cardiac outcome. II. Urgent: All of the following conditions are met: A. Not elective B. Not emergency C. Procedure required during same hospitalization in order to minimize chance of further clinical deterioration. III. Emergency: The patient's clinical status includes any of the following: A. Ischemic dysfunction (any of the following) 1. Ongoing ischemia including rest angina despite maximal medical therapy (medical and/or IABP); 2. Acute Evolving MI within 24 hours before intervention; or 3. Pulmonary edema requiring intubation B. Mechanical dysfunction (either of the following): 1. Shock with circulatory support; or 2. Shock without circulatory support. IV. Salvage: The patient is undergoing CPR en route to the Operating Room.
# 22	Name:	CAB During This Admission - Date
	Definition:	Indicate the CAB date.
# 23	Name:	Discharge Status
	Definition:	Indicate if the patient expired during this hospitalization.
# 24	Name:	Date of Death
	Definition:	Indicate the date the patient was diagnosed clinically dead.

25 Name: **Primary Cause of Death**
Definition: If the patient expired during this hospitalization indicate the primary cause of death:

Cardiac, Neurologic, Renal, Vascular, Infection, Pulmonary, Vavular, or Other.

26 Name: **Location of Death**
Definition: If the patient expired during this hospitalization indicate if the patient expired during cath lab visit or after cath lab visit.

HISTORY AND RISK FACTORS

27 Name: **Height**
Definition: Indicate the patient's height in centimeters.

28 Name: **Weight**
Definition: Indicate the patient's weight in kilograms.

29 Name: **Family History of CAD**
Definition: Indicate if the patient has/had any direct blood relatives (parents, siblings, children) who have had any of the following at age <55:
1. Angina
2. MI
3. Sudden cardiac death without obvious cause.

30 Name: **CHF**
Definition: Indicate if the patient has a history of congestive heart failure (CHF) documented in the medical record. CHF can also be defined by one of the following:
1. Paroxysmal nocturnal dyspnea (PND);
2. Dyspnea on exertion (DOE) due to heart failure; or
3. Chest X-Ray (CXR) showing pulmonary congestion.

31 Name: **Diabetes**
Definition: Indicate if the patient has a history of diabetes, regardless of duration of disease, need for antidiabetic agents, or medical therapy. If yes, indicate the diabetic control at time of the first procedure (check all that apply).
1. Diet: Diet Treatment
2. Oral: Oral Agent Treatment
3. Insulin: Insulin Treatment (includes any combination of insulin)

32 Name: **Renal Failure**
Definition: Indicate if the patient has any documented history of renal (kidney) failure diagnosed and treated with medication, low protein diet or dialysis by a physician.
If yes, indicate if the patient is currently receiving dialysis.

33 Name: **Chronic Lung Disease**
Definition: Indicate if the patient has a documented history of chronic lung disease (i.e., chronic obstructive pulmonary disease, asthma, bronchitis) or has been or is currently treated with pharmacologic therapy.

34 Name: **Cerebrovascular Disease**
Definition: Indicate if the patient has cerebrovascular disease, documented by any one of the following:

1. Cerebrovascular Accident (CVA): Patient has a history of stroke, i.e., loss of neurological function caused by an ischemic event with residual symptoms at least 24 hours after onset.

2. Reversible Ischemic Neurologic Deficit (RIND): Patient has a history of loss of neurological function caused by ischemia with symptoms at least 24 hours after onset but with complete return of function within 72 hours.

3. Transient Ischemic Attack (TIA): Patient has a history of loss of neurological function caused by ischemia that was abrupt in onset but with complete return of function within 24 hours.

4. Unresponsive Coma greater than 24 hours: Patient experienced complete mental unresponsiveness and no evidence of psychological or physiologically appropriate responses to stimulation.

5. Non-invasive/invasive carotid test with greater than 75% occlusion.

35 Name: **Peripheral Vascular Disease**
Definition: Indicate if the patient has peripheral vascular disease. This can include:

1. Claudication either with exertion or at rest.
2. Amputation for arterial vascular insufficiency.
3. Vascular reconstruction, bypass surgery or percutaneous intervention to the extremities.
4. Documented aortic aneurysm.
5. Positive non-invasive/invasive test.

36 Name: **Previous MI**

Definition: Indicate if the patient has had at least one documented previous ST or non-ST MI eight or more days prior to this admission. Documented evidence of an ST or Non ST MI is defined as:

NON ST ELEVATION MYOCARDIAL INFARCTION (NSTEMI)

The patient was hospitalized for a myocardial infarction documented in the medical record.
AT LEAST ONE OF THE FOLLOWING BIOCHEMICAL INDICATORS for detecting myocardial necrosis must be present (see below for a definition of Reference Control Limits):

- 1) Troponin T or I:
 - a) Maximal concentration of troponin T or I > the MI decision limit on at least one occasion during the first 24 hours after the index clinical event.
- 2) CK-MB:
 - a) Maximal value of CK-MB > 2 x the upper limit of normal on one occasion during the first hours after the index clinical event. OR
 - b) Maximal value of CK-MB, preferable CK-MB mass, > upper limit of normal on two successive samples.
- 3) Total CK:
 - a) In the absence of availability of a troponin or CK-MB assay, total CK > 2 x the upper limit of normal, or the B fraction of CK may be employed, but these last two biomarkers are considerably less satisfactory than CK-MB.

AND ONE OF THE FOLLOWING:

- 1) Either ST segment depression or T wave abnormalities; or
- 2) Ischemic symptoms in the presence or absence of chest discomfort. Ischemic symptoms may include:
 - a) unexplained nausea and vomiting; or
 - b) persistent shortness of breath secondary to left ventricular failure; or
 - c) unexplained weakness, dizziness, lightheadedness, or syncope.

ST ELEVATION MYOCARDIAL INFARCTION (STEMI)

Indicate whether the patient was hospitalized for an ST Elevation Myocardial Infarction (STEMI) documented in the medical record.

AT LEAST ONE OF THE FOLLOWING BIOCHEMICAL INDICATORS for detecting myocardial necrosis must be present (see below for a definition of Reference Control Limits):

- 1) Troponin T or I:
 - a) Maximal concentration of troponin T or I > the MI decision limit on at least one occasion during the first 24 hours after the index clinical event.
- 2) CK-MB:
 - a) Maximal value of CK-MB > 2 x the upper limit of normal on one occasion during the first hours after the index clinical event; OR
 - b) Maximal value of CK-MB, preferable CK-MB mass, > upper limit of normal on two successive samples.
- 3) Total CK:
 - a) In the absence of availability of a troponin or CK-MB assay, total CK > 2 x the upper limit of normal, or the B fraction of CK may be employed, but these last two biomarkers are considerably less satisfactory than CK-MB.

AND ONE OF THE FOLLOWING ECG CHANGES:

- 1) ST-segment elevation: New or presumed new ST segment elevation at the J point in two or more contiguous leads with the cut-off points ≥ 0.2 mV in leads V1, V2, or V3, or ≥ 0.1 mV in other leads; OR
- 2) Development of any Q wave in leads V1 through V3, or the development of a Q-wave \geq or = to 30 ms (0.03s) in leads I, II, aVL, aVF, V4, V5, or V6. (Q wave changes must be present in any two contiguous leads, and be \geq or = to 1mm in depth.)

Defining Reference Control Values (MI Diagnostic Limit and Upper Limit of Normal):

Reference values must be determined in each laboratory by studies using specific assays with appropriate quality control, as reported in peer-reviewed journals. Acceptable imprecision (coefficient of variation) at the 99th percentile for each assay should be defined as \leq or = to 10%. Each individual laboratory should confirm the range of reference values in their specific setting.

37 Name: **Hypertension**

Definition: Indicate if the patient has hypertension as documented by:

1. History of hypertension diagnosed and treated with medication, diet and/or exercise.
2. Blood pressure greater than 140 systolic or 90 diastolic on at least 2 occasions.
3. Currently on antihypertensive pharmacologic therapy.

38 Name: **Smoking History**

Definition: Indicate if the patient has a history of any cigarette smoking in the past.
If yes, choose one:

1. Current: Use of cigarettes within one month of this admission.
2. Former: Use of cigarettes greater than one month prior to this admission.

- # 39 Name: **Hypercholesterolemia**
 Definition: Indicate if the patient has a history of hypercholesterolemia diagnosed and/or treated by a physician. Criteria can include documentation of:
1. Total cholesterol greater than 200 mg/dl, or
 2. LDL greater than or equal to 130 mg/dl, or
 3. HDL less than 30 mg/dl, or
 4. Admission cholesterol greater than 200 mg/dl.
- If yes, indicate if the patient is currently being treated with a lipid lowering therapy.

PREVIOUS INTERVENTIONS

- # 40 Name: **Previous PCI**
 Definition: Indicate if the patient had a previous percutaneous coronary intervention (PCI) of any type (balloon angioplasty, atherectomy, stent or other), done prior to the current admission.
- # 41 Name: **Previous PCI - Date**
 Definition: If the patient had a previous PCI of any type (balloon angioplasty, atherectomy, stent or other), done prior to the current admission indicate the date of the most recent PCI. If month or day are unknown enter 01.
- # 42 Name: **Previous CAB**
 Definition: Indicate if the patient had a previous Coronary Bypass Graft prior to the current admission.
- # 43 Name: **Previous CAB - Date**
 Definition: If the patient had a previous CAB prior to the current admission indicate the date of the most recent CAB. If month or day are unknown enter 01.
- # 44 Name: **Previous Valvular Surgery**
 Definition: Indicate if the patient had a previous surgical replacement and/or repair of a cardiac valve, by any approach prior to the current admission.
- # 45 Name: **Previous Valvular Surgery - Date**
 Definition: If the patient had a previous surgical replacement and/or repair of a cardiac valve, by any approach prior to the current admission indicate the date of the most recent valve surgery. If month or day are unknown enter 01.

CARDIAC STATUS

- # 46 Name: **CHF - Prior Procedure**
 Definition: Indicate whether, within 2 weeks prior to the first procedure, a physician has diagnosed congestive heart failure (CHF) by one of the following criteria:
1. Paroxysmal nocturnal dyspnea (PND);
 2. Dyspnea on exertion (DOE) due to heart failure, or
 3. Chest X-Ray (CXR) showing pulmonary congestion.
- NOTE: Pedal edema or dyspnea alone are not diagnostic. Patient should also have been treated with medical therapy for heart failure.
- # 47 Name: **NYHA**
 Definition: (CHF - Prior Procedure Patients Only):
 Indicate the patient's New York Heart Association (NYHA) classification:
- 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.

48 Name: **Non Invasive Test - Ischemia**

Definition: If non invasive diagnostic testing is performed indicate if the patient demonstrated a deficiency of blood supply to the heart muscle due to obstruction or constriction of the coronary arteries.

Not Done: ECG, radionuclide, echo, or other stress test was not performed.

Positive: ECG, radionuclide, echo, or stress test was positive by standard criteria.

Negative: ECG, radionuclide, echo, or stress test was negative by standard criteria.

Equivocal: ECG, radionuclide, echo, or stress test result was not interpretable.

Arrhythmia: An arrhythmia suggestive of myocardial ischemia was detected.

49 Name: **Angina Type**

Definition: Indicate the patient's angina type if present (choose one):

I. Atypical Chest Pain: 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.

II. Stable Angina: Angina without a change in frequency or pattern for the six weeks prior to this cath lab visit. Angina is controlled by rest and/or oral or transcutaneous medications.

III. Acute Coronary Syndrome (ACS): Choose one (see definitions below):

- A) Unstable Angina
- B) Non ST Elevation MI (NSTEMI)
- C) ST Elevation MI (STEMI)

UNSTABLE ANGINA

The patient was hospitalized for unstable angina documented in the medical record with serial ECG's and biochemical profiles. One of the following criteria are necessary:

1. Angina at rest (usually prolonged >20 minutes).
2. New onset angina (<2 months) exertional angina of at least Canadian Cardiovascular Society Classification (CCSC) Class III.
3. Recent (<2 months) acceleration of angina reflected by an increase in severity of at least one CCSC class to at least CCSC Class III. The patient must also NOT have any biochemical evidence of myocardial necrosis.

NON ST ELEVATION MYOCARDIAL INFARCTION (NSTEMI)

The patient was hospitalized for a myocardial infarction documented in the medical record.

AT LEAST ONE OF THE FOLLOWING BIOCHEMICAL INDICATORS for detecting myocardial necrosis must be present (see below for a definition of Reference Control Limits):

- 1) Troponin T or I:
 - a) Maximal concentration of troponin T or I > the MI decision limit on at least one occasion during the first 24 hours after the index clinical event.
- 2) CK-MB:
 - a) Maximal value of CK-MB > 2 x the upper limit of normal on one occasion during the first hours after the index clinical event. OR
 - b) Maximal value of CK-MB, preferable CK-MB mass, > upper limit of normal on two successive samples.
- 3) Total CK:
 - a) In the absence of availability of a troponin or CK-MB assay, total CK > 2 x the upper limit of normal, or the B fraction of CK may be employed, but these last two biomarkers are considerably less satisfactory than CK-MB.

AND ONE OF THE FOLLOWING:

- 1) Either ST segment depression or T wave abnormalities; or
- 2) Ischemic symptoms in the presence or absence of chest discomfort. Ischemic symptoms may include:
 - a) unexplained nausea and vomiting; or
 - b) persistent shortness of breath secondary to left ventricular failure; or
 - c) unexplained weakness, dizziness, lightheadedness, or syncope.

ST ELEVATION MYOCARDIAL INFARCTION (STEMI)

Indicate whether the patient was hospitalized for an ST Elevation Myocardial Infarction (STEMI) documented in the medical record.

AT LEAST ONE OF THE FOLLOWING BIOCHEMICAL INDICATORS for detecting myocardial necrosis must be present (see below for a definition of Reference Control Limits):

- 1) Troponin T or I:
 - a) Maximal concentration of troponin T or I > the MI decision limit on at least one occasion during the first 24 hours after the index clinical event.
- 2) CK-MB:
 - a) Maximal value of CK-MB > 2 x the upper limit of normal on one occasion during the first hours after the index clinical event; OR
 - b) Maximal value of CK-MB, preferable CK-MB mass, > upper limit of normal on two successive samples.
- 3) Total CK:
 - a) In the absence of availability of a troponin or CK-MB assay, total CK > 2 x the upper limit of normal, or the B fraction of CK may be employed, but these last two biomarkers are considerably less satisfactory than CK-MB.

AND ONE OF THE FOLLOWING ECG CHANGES:

- 1) ST-segment elevation: New or presumed new ST segment elevation at the J point in two or more contiguous leads with the cut-off points ≥ 0.2 mV in leads V1, V2, or V3, or ≥ 0.1 mV in other leads; OR
- 2) Development of any Q wave in leads V1 through V3, or the development of a Q-wave \geq or = to 30 ms (0.03s) in leads I, II, aVL, aVF, V4, V5, or V6. (Q wave changes must be present in any two contiguous leads, and be \geq or = to 1mm in depth.)

Defining Reference Control Values (MI Diagnostic Limit and Upper Limit of Normal):

Reference values must be determined in each laboratory by studies using specific assays with appropriate quality control, as reported in peer-reviewed journals. Acceptable imprecision (coefficient of variation) at the 99th percentile for each assay should be defined as $\leq 10\%$. Each individual laboratory should confirm the range of reference values in their specific setting.

-
- # 50 Name: **Canadian Clinical Classification**
Definition: Indicate the Patient's Canadian Clinical Class using the Canadian Clinical Classification:
- No Angina
- Class 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.
- Class 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.
- Class 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.
- Class IV: 'Inability to carry on any physical activity without discomfort - angina syndrome may be present at rest'
-
- # 51 Name: **ACS Time Period**
Definition: ACS Patients Only: Indicate the time from the documented onset of ACS at the time of admission.
1. Less than or equal to 6 hours: MI/Unstable Angina onset occurred within the last 6 hours.
 2. Greater than 6 hours and less than or equal to 24 hours: MI/Unstable Angina onset occurred in greater than 6 hours but equal to or less than 24 hours.
 3. Greater than 24 hours and equal to or less than 7 days: MI/Unstable Angina onset occurred in greater than 24 hours but equal to or less than 7 days.

CATH LAB VISIT

-
- # 52 Name: **Date of Procedure**
Definition: Indicate the date on which the procedure(s) was performed.
-
- # 53 Name: **Procedure Number**
Definition: This is a counter that describes how many visits to the cath lab each patient had for each admission.
-
- # 54 Name: **Procedure Type**
Definition: Indicate the type of procedure(s) performed during this cath lab visit.
1. Right Heart Cath: Passage of a catheter through the right atrium and ventricle to the pulmonary artery or wedge position. Pressure measurements.
 2. Left Heart Cath: Passage of a catheter into the left ventricle for pressure measurements or ventriculography, or into the aortic root for coronary arteriography.
 3. PCI: Any coronary device attempting to cross one or more coronary lesions.
-
- # 55 Name: **Fluoroscopy Time (min.)**
Definition: Indicate total fluoroscopy time recorded, during the cath lab visit, to the nearest 0.1-minute.
-
- # 56 Name: **Cath/PCI Same Lab Visit**
Definition: Indicate if a diagnostic catheterization was performed during the same cath lab visit as the PCI procedure.

CATH LAB VISIT - Medications

-
- # 57 Name: **Thrombolytics**
Definition: (PCI patients only): Indicate the time interval thrombolytics were administered prior to the first attempted PCI guidewire crossing or if thrombolytics were contraindicated.
1. Contraindicated
 2. Less than 3 hours: thrombolytics were administered in less than 3 hours of the first attempted PCI guidewire crossing.
 3. 3 to 6 hours: thrombolytics were administered in 3-6 hours of the first attempted PCI guidewire crossing.
 4. Greater than 6 hours but less than or equal to 7 days: thrombolytics were administered in greater than 6 with but less than or equal to 7 days of the first attempted PCI guidewire crossing.
-

58 Name: **IIB/IIIA Blockade**
Definition: If IIB/IIIA blockade was administered indicate the patient's location when the initial dose was administered or whether it was contraindicated.

If yes, indicate the time interval the initial dose was administered.
1. Contraindicated
2. Before the Lab Visit
3. During the Lab Visit
4. After the Lab Visit

59 Name: **Heparin**
Definition: (PCI Patients Only) Indicate if Heparin (unfractionated or low molecular weight) was administered (check all that apply):
1. Contraindicated.
2. Prior PCI: Prior to the first attempted PCI guidewire crossing.
3. During PCI: During the cath lab visit with intended/expected effect during the procedure.
4. After PCI: After the cath lab visit or whether it was contraindicated.

60 Name: **Aspirin**
Definition: Indicate whether aspirin was administered prior to the procedure (diagnostic cath and/or PCI) during this admission.

61 Name: **Clopidogrel/Ticlopidine**
Definition: (PCI Patients only): Indicate whether clopidogrel/ticlopidine was administered within 72 hours of the 1st attempted PCI guidewire crossing. If not, indicate whether clopidogrel/ticlopidine was administered after the 1st attempted PCI guidewire crossing.

1. Not administered
2. Contraindicated
3. Yes: Administered within 72 hours of the 1st attempted PCI guidewire crossing.
4. Yes: Administered anytime after the 1st attempted PCI guidewire crossing

CATH LAB VISIT - Hemodynamic Support

62 Name: **IABP**
Definition: Indicate if the patient arrived to the lab with an Intra-aortic Balloon Pump in place or required IABP placement before leaving the lab.

63 Name: **Cardiopulmonary Bypass**
Definition: Indicate if the patient requires cardiopulmonary bypass at the commencement of the procedure. Excludes cardiopulmonary bypass necessitated by a complication of the procedure.

CATH LAB VISIT - LV Status

64 Name: **Left Ventriculogram**
Definition: Indicate whether the patient had a left ventriculogram during the cath lab visit.

65 Name: **Left Ventricular Wall Motion**
Definition: If left ventricular non-invasive or invasive testing were documented and completed before or during the cath lab visit indicate whether wall motion was normal or abnormal.

CATH LAB VISIT - EF Status

66 Name: **EF Testing**
Definition: If an ejection fraction (EF) was obtained during the current admission prior to cath lab visit indicate whether it was obtained by contrast or non-invasive testing and if it was estimated or calculated.

67 Name: **Ejection Fraction Percent**
Definition: If an ejection fraction (EF) was obtained during the current admission prior to cath lab visit indicate the EF percent.

EF percent is defined as the percent of blood emptied from the ventricle at the end of contraction and can be obtained (in preferred order) from a left ventriculogram, radionuclide scan, or echocardiogram. Indicate as a percentage from 5-90.

CATH LAB VISIT - Coronary Anatomy

# 68	Name: Dominance
Definition:	Indicate whether the posterior descending artery comes from the right or left system according to the following criteria: 1. Left Dominant: The posterior descending artery and all of the posterolateral branches to the inferior surface of the left ventricle arise from the left circumflex artery. 2. Right Dominant: The posterior descending artery arises from the right coronary artery. 3. Mixed Dominance: There is approximately equal contribution to the inferior surface of the left ventricle from both the left circumflex and right coronary arteries.
# 69	Name: Stenosis Percent - LM
Definition:	Indicate the % of the greatest stenosis assessed, for the Left Main coronary artery. If no stenosis enter 0. STENOSIS: Stenosis represents the percentage diameter reduction, from 0 to 100, associated with the identified vessel systems. Percent stenosis at its maximal point is estimated to be the amount of reduction in the diameter of the "normal" reference vessel proximal to the lesion. In instances where multiple lesions are present, enter the single highest percentage stenosis noted. The LM, the Prox LAD, the Mid/Distal LAD, the RCA/PDA if Right or Mixed Dominant, and the CIRC are the systems of interest and should include major branch vessels of > 2.0 mm in diameter.
# 70	Name: Stenosis Percent - Proximal LAD
Definition:	Indicate the % of the greatest stenosis assessed, in the proximal Left Anterior Descending coronary artery. If no stenosis enter 0. STENOSIS: Stenosis represents the percentage diameter reduction, from 0 to 100, associated with the identified vessel systems. Percent stenosis at its maximal point is estimated to be the amount of reduction in the diameter of the "normal" reference vessel proximal to the lesion. In instances where multiple lesions are present, enter the single highest percentage stenosis noted. The LM, the Prox LAD, the Mid/Distal LAD, the RCA/PDA if Right or Mixed Dominant, and the CIRC are the systems of interest and should include major branch vessels of > 2.0 mm in diameter.
# 71	Name: Stenosis Percent - Mid/Distal LAD
Definition:	Indicate the % of the greatest stenosis assessed, in the mid/distal Left Anterior Descending coronary artery. If no stenosis enter 0. STENOSIS: Stenosis represents the percentage diameter reduction, from 0 to 100, associated with the identified vessel systems. Percent stenosis at its maximal point is estimated to be the amount of reduction in the diameter of the "normal" reference vessel proximal to the lesion. In instances where multiple lesions are present, enter the single highest percentage stenosis noted. The LM, the Prox LAD, the Mid/Distal LAD, the RCA/PDA if Right or Mixed Dominant, and the CIRC are the systems of interest and should include major branch vessels of > 2.0 mm in diameter.
# 72	Name: Stenosis Percent - RCA/PDA if Right or MI Dominant
Definition:	Indicate the % of the greatest stenosis assessed, in the Right coronary artery or the Posterior Descending coronary artery if there is Right or Mixed dominance. If no stenosis enter 0. STENOSIS: Stenosis represents the percentage diameter reduction, from 0 to 100, associated with the identified vessel systems. Percent stenosis at its maximal point is estimated to be the amount of reduction in the diameter of the "normal" reference vessel proximal to the lesion. In instances where multiple lesions are present, enter the single highest percentage stenosis noted. The LM, the Prox LAD, the Mid/Distal LAD, the RCA/PDA if Right or Mixed Dominant, and the CIRC are the systems of interest and should include major branch vessels of > 2.0 mm in diameter.
# 73	Name: Stenosis Percent - CIRC
Definition:	Indicate the % of the greatest stenosis assessed, in the Left Circumflex coronary artery. If no stenosis enter 0. STENOSIS: Stenosis represents the percentage diameter reduction, from 0 to 100, associated with the identified vessel systems. Percent stenosis at its maximal point is estimated to be the amount of reduction in the diameter of the "normal" reference vessel proximal to the lesion. In instances where multiple lesions are present, enter the single highest percentage stenosis noted. The LM, the Prox LAD, the Mid/Distal LAD, the RCA/PDA if Right or Mixed Dominant, and the CIRC are the systems of interest and should include major branch vessels of > 2.0 mm in diameter.

CATH LAB VISIT - Percutaneous Entry

- # 74 Name: **Percutaneous Entry Location**
Definition: Indicate the primary location of percutaneous entry:
1. Femoral-Percutaneous puncture of either femoral artery.
 2. Brachial-Either a cutdown or percutaneous puncture of either brachial artery.
 3. Radial-Percutaneous radial approach.
 4. Other-Percutaneous entry other than femoral brachial, or radial approaches to the cardiovascular system.
- # 75 Name: **Closure Device**
Definition: If a vascular closure device was attempted at the percutaneous entry site specify the device type. Closure devices do not include c-clamps and or manual pressure.
1. No Closure Device
 2. Suture
 3. Sealant
 4. Other

DIAGNOSTIC CATH PROCEDURE

- # 76 Name: **Catheterization Operator's Name**
Definition: Catheterization Operator's last name, followed by a space, followed by the first name. If the name exceeds 40 characters, enter the first 40 letters only.
- # 77 Name: **Catheterization Operator's Social Security Number**
Definition: Indicate the nine-digit Operator's Social Security Number (SSN) or ACC-NCDR approved unique identifier. Although this is the Social Security Number in the USA, other countries may have different National Identification Numbers. For example, in Canada, this would be the Social Insurance Number.
- # 78 Name: **Cardiac Cath Status**
Definition: Indicate the status of the Cardiac Cath using the following categories:
- I. Elective: The procedure could be deferred without increase risk of compromised cardiac outcome.
 - II. Urgent: All of the following conditions are met:
 - A. Not elective
 - B. Not emergency
 - C. Procedure required during same hospitalization in order to minimize chance of further clinical deterioration.
 - III. Emergency: The patient's clinical status includes any of the following:
 - A. Ischemic dysfunction (any of the following)
 1. Ongoing ischemia including rest angina despite maximal medical therapy (medical and/or IABP);
 2. Acute Evolving MI within 24 hours before intervention; or
 3. Pulmonary edema requiring intubation.
 - B. Mechanical dysfunction (either of the following):
 1. Shock with circulatory support; or
 2. Shock without circulatory support.
 - IV. Salvage: The patient is undergoing CPR en route to the Lab.

DIAGNOSTIC CATH PROCEDURE - Indications

- # 79 Name: **Cardiogenic Shock**
Definition: Indicate if the patient experienced cardiogenic shock at the time of the diagnostic cath procedure. Cardiogenic shock is considered present if intravenous inotropes and/or intra-aortic balloon pump are needed to maintain:
1. Systolic blood pressure > 80 mm Hg and/or
 2. Cardiac index of > 1.8 liter/minute/m².
- # 80 Name: **Valvular Heart Disease**
Definition: Indicate if the patient has history, physical findings, or noninvasive evidence of any valvular heart disease.
- # 81 Name: **Arrhythmia**
Definition: Indicate if the patient had at least one of the following arrhythmia's, which required diagnostic catheterization to define the anatomic and hemodynamic substrate:
1. Atrial fibrillation/flutter requiring Rx;
 2. Atrioventricular block;
 3. Ventricular tachycardia, or ventricular fibrillation requiring cardioversion and/or medications(IV or oral).

# 82	Name: Ischemic Heart Disease Definition: Indicate if the patient has evidence of ischemic heart disease and requires catheterization for any manifestation of possible or definite coronary artery disease.
# 83	Name: Positive Functional Tests Definition: Indicate if the patient underwent routine functional testing in the absence of signs or symptoms that showed evidence of ischemia and/or arrhythmia. Functional tests are defined as exercise or pharmacologic stress tests.
# 84	Name: Heart Disease of Other Etiology Definition: Indicate if the patient has cardiovascular signs or symptoms that do not match common diagnostic categories. If yes, indicate which category of disease was the primary reason the cath was performed to exclude uncommon presentation of common disease or disease that is rare: 1. Transplant 2. Congenital 3. Cardiomyopathy 4. Other

DIAGNOSTIC CATH PROCEDURE - Findings

# 85	Name: Pulmonary Hypertension Definition: Indicate whether there is evidence of pulmonary hypertension. Pulmonary hypertension is defined as systolic pulmonary artery pressure > 60 mmHg or pulmonary vascular resistance > 260 dynes-sec-cm-5).
# 86	Name: Valve Disease - Mitral Definition: Indicate whether there is evidence of at least moderate stenosis (less than 1.0 cm(2)) or regurgitation (greater than +2) of the mitral valve.
# 87	Name: Valve Disease - Tricuspid Definition: Indicate whether there is evidence of at least moderate stenosis (less than 1.0 cm(2)) or regurgitation (greater than +2) of the tricuspid valve.
# 88	Name: Valve Disease - Aortic Definition: Indicate whether there is evidence of at least moderate stenosis (less than 1.0 cm(2)) or regurgitation (greater than +2) of the aortic valve.
# 89	Name: Valve Disease - Pulmonic Definition: Indicate whether there is evidence of at least moderate stenosis (less than 1.0 cm(2)) or regurgitation (greater than +2) of the pulmonic valve.

PCI PROCEDURE

# 90	Name: PCI Primary Operator's Name Definition: PCI Operator's last name, followed by a space, followed by the first name. If the name exceeds 40 characters, enter the first 40 letters only.
# 91	Name: PCI Operator's Social Security Number Definition: Indicate the nine-digit Operator's Social Security Number (SSN) or ACC-NCDR approved unique identifier. Although this is the Social Security Number in the USA, other countries may have different National Identification Numbers. For example, in Canada, this would be the Social Insurance Number.
# 92	Name: PCI Status Definition: Indicate the status of the PCI using the following categories: I. Elective: The procedure could be deferred without increase risk of compromised cardiac outcome. II. Urgent: All of the following conditions are met: A. Not elective B. Not emergency C. Procedure required during same hospitalization in order to minimize chance of further clinical deterioration. III. Emergency: The patient's clinical status includes any of the following: A. Ischemic dysfunction (any of the following) 1. Ongoing ischemia including rest angina despite maximal medical therapy (medical and/or IABP); 2. Acute Evolving MI within 24 hours before intervention; or 3. Pulmonary edema requiring intubation B. Mechanical dysfunction (either of the following): 1. Shock with circulatory support; or 2. Shock without circulatory support. IV. Salvage: The patient is undergoing CPR en route to the Lab.

PCI PROCEDURE - Indications

93 Name: **Coronary Lesion \geq 50% in a Major Artery**
Definition: If a coronary lesion(s) has greater than or equal to 50% stenosis in a major artery indicate if it is a de novo and/or restenosed lesion. De novo is defined as a lesion that is diagnosed with stenosis for the first time.

94 Name: **Acute MI Present**
Definition: Indicate whether the patient was hospitalized for An ST or Non ST Myocardial Infarction documented in the medical record. Check one:

NON ST ELEVATION MYOCARDIAL INFARCTION (NSTEMI)

The patient was hospitalized for a myocardial infarction documented in the medical record.
AT LEAST ONE OF THE FOLLOWING BIOCHEMICAL INDICATORS for detecting myocardial necrosis must be present (see below for a definition of Reference Control Limits):

- 1) Troponin T or I:
 - a) Maximal concentration of troponin T or I $>$ the MI decision limit on at least one occasion during the first 24 hours after the index clinical event.
- 2) CK-MB:
 - a) Maximal value of CK-MB > 2 x the upper limit of normal on one occasion during the first hours after the index clinical event. OR
 - b) Maximal value of CK-MB, preferable CK-MB mass, $>$ upper limit of normal on two successive samples.
- 3) Total CK:
 - a) In the absence of availability of a troponin or CK-MB assay, total CK > 2 x the upper limit of normal, or the B fraction of CK may be employed, but these last two biomarkers are considerably less satisfactory than CK-MB.

AND ONE OF THE FOLLOWING:

- 1) Either ST segment depression or T wave abnormalities; or
- 2) Ischemic symptoms in the presence or absence of chest discomfort. Ischemic symptoms may include:
 - a) unexplained nausea and vomiting; or
 - b) persistent shortness of breath secondary to left ventricular failure; or
 - c) unexplained weakness, dizziness, lightheadedness, or syncope.

ST ELEVATION MYOCARDIAL INFARCTION (STEMI)

Indicate whether the patient was hospitalized for an ST Elevation Myocardial Infarction (STEMI) documented in the medical record.
AT LEAST ONE OF THE FOLLOWING BIOCHEMICAL INDICATORS for detecting myocardial necrosis must be present (see below for a definition of Reference Control Limits):

- 1) Troponin T or I:
 - a) Maximal concentration of troponin T or I $>$ the MI decision limit on at least one occasion during the first 24 hours after the index clinical event.
- 2) CK-MB:
 - a) Maximal value of CK-MB > 2 x the upper limit of normal on one occasion during the first hours after the index clinical event; OR
 - b) Maximal value of CK-MB, preferable CK-MB mass, $>$ upper limit of normal on two successive samples.
- 3) Total CK
 - a) In the absence of availability of a troponin or CK-MB assay, total CK > 2 x the upper limit of normal, or the B fraction of CK may be employed, but these last two biomarkers are considerably less satisfactory than CK-MB.

AND ONE OF THE FOLLOWING ECG CHANGES:

- 1) ST-segment elevation: New or presumed new ST segment elevation at the J point in two or more contiguous leads with the cut-off points ≥ 0.2 mV in leads V1, V2, or V3, or ≥ 0.1 mV in other leads; OR
- 2) Development of any Q wave in leads V1 through V3, or the development of a Q-wave $>$ or $=$ to 30 ms (0.03s) in leads I, II, aVL, aVF, V4, V5, or V6. (Q wave changes must be present in any two contiguous leads, and be $>$ or $=$ to 1mm in depth.)

Defining Reference Control Values (MI Diagnostic Limit and Upper Limit of Normal):

Reference values must be determined in each laboratory by studies using specific assays with appropriate quality control, as reported in peer-reviewed journals. Acceptable imprecision (coefficient of variation) at the 99th percentile for each assay should be defined as $<$ or $=$ to 10%. Each individual laboratory should confirm the range of reference values in their specific setting.

95 Name: **ST Elevation Onset**
Definition: (PCI Indication -Acute MI Present with ST Elevation MI patients only): Indicate the time and date the patient arrived to the facility as documented in the medical record or the initial onset of ST elevation MI symptoms if occurred during this hospitalization. Enter the time that occurred last.

96 Name: **Balloon/Stent Deployment Time**
Definition: (PCI Indication -Acute MI Present with ST Elevation MI patients only): Indicate the time of the first balloon inflation or initial Stent placement (if no balloon placement). If the exact time of first balloon inflation or initial Stent (if no balloon placement) is not known indicate the time of the start of the procedure.

97 Name: **Cardiogenic Shock Indication**
Definition: Indicate if the patient experienced cardiogenic shock at the time of the PCI procedure. Cardiogenic shock is considered present if intravenous inotropes and/or intra-aortic balloon pump are needed to maintain:

1. Systolic blood pressure > 80 mm Hg and/or
2. Cardiac index of > 1.8 liter/minute/m2.

PCI PROCEDURE - Summary

98 Name: **Number of Lesions Attempted**
Definition: Indicate the number of lesions where an attempt was made to pass a guidewire, whether successful or not.

99 Name: **Number of Lesions Successfully Dilated**
Definition: Indicate the number of lesions where the residual post intervention stenosis is less than or equal to 50% of the arterial luminal diameter, TIMI Flow is 3 and the minimal decrease in stenosis was 20%.

100 Name: **Procedure Result**
Definition: Indicate the overall procedural result as:

1. Successful: Number of lesions successfully dilated equals the number of lesions attempted.
2. Partially Successful: Number of lesions successfully dilated is less than number of lesions attempted.
3. Unsuccessful: No lesions successfully dilated.

PCI PROCEDURE - Lesion Information

101 Name: **Lesion Identification Number**
Definition: Indicate a lesion ID number 1, 2, 3... incrementally for each lesion attempted with a guidewire for PCI. This is NOT the Segment Number but is used to identify multiple lesions in the same segment and to distinguish records in the lesion-level database.

# 102	Name:	Segment Number
	Definition:	Use the following numeric reference points to identify segments where procedures were attempted and its proximal reference number. 1 Proximal right coronary artery conduit segment □ pRCA 2 Mid-right coronary artery conduit segment □ mRCA 3 Distal right coronary artery conduit segment □ dRCA 4 Right posterior descending artery segment □ rPDA 5 Right posterior atrioventricular segment □ rPAV 6 First right posterolateral segment □ 1st RPL 7 Second right posterolateral segment □ 2nd RPL 8 Third right posterolateral segment □ 3rd RPL 9 Posterior descending septal perforators segment □ pDSP 10 Acute marginal segment(s) □ aMarg 11 Left main coronary artery segment □ LM 12 Proximal LAD artery segment □ pLAD 13 Mid-LAD artery segment □ mLAD 14 Distal LAD artery segment □ dLAD 15 First diagonal branch segment □ 1st Diag 15a Lateral first diagonal branch segment □ Lat 1st Diag 16 Second diagonal branch segment □ 2nd Diag 16a Lateral second diagonal branch segment □ Lat 2nd Diag 17 LAD septal perforator segments □ LAD SP 18 Proximal circumflex artery segment □ pCIRC 19 Mid-circumflex artery segment □ mCIRC 19a Distal circumflex artery segment □ dCIRC 20 First obtuse marginal branch segment □ 1st OM 20a Lateral first obtuse marginal branch segment □ Lat 1st OM 21 Second obtuse marginal branch segment □ 2nd OM 21a Lateral second obtuse marginal branch segment □ Lat 2nd OM 22 Third obtuse marginal branch segment □ 3rd OM 22a Lateral third obtuse marginal branch segment □ Lat 3rd OM 23 Circumflex artery AV groove continuation segment □ CIRC AV 24 First left posterolateral branch segment □ 1st LPL 25 Second left posterolateral branch segment □ 2nd LPL 26 Third posterolateral descending artery segment □ 3rd LPL 27 Left posterolateral descending artery segment □ LPDA 28 Ramus intermedius segment □ Ramus 28a Lateral ramus intermedius segment □ Lat Ramus 29 Third diagonal branch segment □ 3rd Diag 29a Lateral third diagonal branch segment □ Lat 3rd Diag
# 103	Name:	Guidewire
	Definition:	Indicate whether the guidewire crossing the lesion was successful or unsuccessful: Successful guidewire crossing allows the subsequent attempt of a coronary device. Unsuccessful guidewire crossing prevents the subsequent attempt of a coronary device.
# 104	Name:	Pre-Stenosis Percent
	Definition:	Indicate for the treated segment the pre-procedure percent stenosis.
# 105	Name:	Post-Stenosis Percent
	Definition:	Indicate for the treated segment the post-procedure percent stenosis.
# 106	Name:	Pre-Procedure TIMI Flow
	Definition:	Indicate for the segment identified the pre-procedure TIMI flow: 0: No flow/no perfusion. 1: Slow penetration without perfusion. 2: Partial flow/partial perfusion (greater than TIMI-1 but less than TIMI-3). 3: Complete and brisk flow/complete perfusion.
# 107	Name:	Post-Procedure TIMI Flow
	Definition:	Indicate for the segment identified the post-procedure TIMI flow: 0: No flow/no perfusion. 1: Slow penetration without perfusion. 2: Partial flow/partial perfusion (greater than TIMI-1 but less than TIMI-3). 3: Complete and brisk flow/complete perfusion.

# 108	Name:	Previously Dilated Lesion
	Definition:	Indicate for each treated segment if the lesion has been treated before in the current or a prior hospitalization. If yes, indicate the type(s) of treatment devices used: Balloon only; Stent only; Other/Any Combination
# 109	Name:	In Graft to Cited Segment
	Definition:	If the treated lesion is in a graft to the cited segment indicate if it is a vein graft or artery graft.
# 110	Name:	Location in Graft
	Definition:	If the lesion is in a graft, enter the appropriate code to indicate the location of the most severe stenosis in the graft: 1. Graft-aortic anastomosis (less than or equal to 3 mm from insertion point) 2. Body of the graft 3. Graft distal anastomosis (less than or equal to 3 mm from insertion point).
# 111	Name:	Lesion Risk
	Definition:	Low Risk (minimally complex) Discrete (length <10mm) Concentric Readily accessible Nonangulated segment (<45°) Smooth contour Little or no calcification Less than totally occlusive Not ostial in location No major side branch involvement Absence of thrombus Moderate Risk Tubular (length 10-20mm) Eccentric Moderate tortuosity of proximal segment Moderately angulated segment (>45°, <90°) Irregular contour Moderate or heavy calcification Total occlusions <3 months old Ostial in location Bifurcation lesions requiring double guidewires Some thrombus present High Risk Diffuse (length >2cm) Excessive tortuosity of proximal segment Extremely angulated segments >90° Total occlusions >3 months old and/or bridging collaterals Inability to protect major side branches Degenerated vein grafts with friable lesions
# 112	Name:	Device Number
	Definition:	This counter represents the number of coronary devices used during each PCI session. Each time information is entered about a new PCI session, it starts at 1. For each device used in the PCI session, it is incremented by one.

- # 113 Name: **Intracoronary Devices Used**
 Definition: Indicate for the treated segment the intracoronary device(s) used in chronological order.
 Balloon
 Cutting Balloon
 Bare Metal Stent
 DCA (Directional Coronary Atherectomy)
 Rotational Atherectomy
 AngioJet
 TEC (Transluminal Extraction Catheter)
 Laser
 IVUS (Intravascular Ultrasound)
 FlowireTM
 Pressure Wire
 Sirolimus-Eluting Stent
 Paclitaxel-Eluting Stent
 Heparin Coated Stent
 Covered Stent
 Gamma Brachytherapy
 Beta Brachytherapy
 Distal Embolic Protection
 Other Device
-
- # 114 Name: **Primary Intracoronary Device Indicator**
 Definition: Indicate which intracoronary device was considered the primary intervention for luminal dilatation.
-
- # 115 Name: **Dissection in Segment**
 Definition: Indicate for the treated segment if a dissection > 5 mm was observed during the PCI procedure. Dissection is defined as the appearance of contrast materials outside of the expected luminal dimensions of the target vessel and extending longitudinally beyond the length of the lesion.
-
- # 116 Name: **Acute Closure**
 Definition: Indicate for the treated segment if an acute closure was observed during the PCI procedure. Complete occlusion of treated vessel is usually indicated by TIMI flow of 0 or 1.
-
- # 117 Name: **Successful Reopening**
 Definition: Indicate for the treated segment if an acute closure was reopened and remained open at the time the patient left the cardiac cath lab.
-
- # 118 Name: **Perforation**
 Definition: Indicate for the treated segment if a perforation occurred during cath lab visit.

ADVERSE OUTCOMES

- # 119 Name: **Periprocedural MI**
 Definition: Indicate the NEW presence of a periprocedural MI as documented by at least 1 of the following criteria:
1. Evolutionary ST-segment elevations, development of new Q-waves in 2 or more contiguous ECG leads, or new or presumably new LBBB pattern on the ECG.
 2. Biochemical evidence of myocardial necrosis; this can be manifested as (1) CK-MB > 3x the upper limit of normal or if CK-MB not available (2) total CK > 3x upper limit of normal. Because normal limits of certain blood tests may vary, please check with your lab for normal limits for CK-MB and total CK.
- Defining Reference Control Values (Upper Limit of Normal):
 Reference values must be determined in each laboratory by studies using specific assays with appropriate quality control, as reported in peer-reviewed journals. Acceptable imprecision (coefficient of variation) at the 99th percentile for each assay should be defined as < or = to 10%. Each individual laboratory should confirm the range of reference values in their specific setting.
-
- # 120 Name: **CK-MB ULN**
 Definition: (Periprocedural MI patients only):
- Indicate the upper limit of normal (ULN) of CK-MB (or total CK if CK-MB unavailable) as defined by individual hospital laboratory standards.
- Unavailable-no CK or CK-MB testing equipment available.

# 121	Name: CK-MB Baseline Definition: (Periprocedural MI patients only): Indicate the pre PCI CK-MB baseline (or total CK if CK-MB unavailable). Unavailable-no CK or CK-MB testing equipment available.
# 122	Name: CK-MB Peak Definition: (Periprocedural MI patients only) Indicate the post PCI CK-MB peak value (or total CK if CK-MB unavailable). Unavailable-no CK or CK-MB testing equipment available.
# 123	Name: Cardiogenic Shock Definition: Indicate if the patient experienced NEW onset cardiogenic shock during and/or after the lab visit. Shock is considered present if intravenous inotropes and/or intra-aortic balloon pump are needed to maintain: 1. Systolic blood pressure > 80 mm Hg and/or 2. Cardiac index of > 1.8 liter/minute/m2.
# 124	Name: Arrhythmia Definition: Indicate the acute reoccurrence or new onset of arrhythmia by documentation of one of the following: 1. Atrial Fibrillation/Flutter requiring Rx; 2. Atrioventricular block/Bradycardia requiring pacing; 3. Ventricular Tachycardia, or Ventricular Fibrillation requiring cardioversion and/or antiarrhythmics (IV/oral).
# 125	Name: CVA/Stroke Definition: Indicate if the patient experienced a Cerebrovascular Accident (CVA) as documented by a loss of neurological function caused by an ischemic event with residual symptoms at least 24 hours after onset.
# 126	Name: Tamponade Definition: Indicate if there is fluid in the pericardial space documented by echocardiography and/or other methods resulting in systemic hypotension requiring intervention.
# 127	Name: Vascular Complications - Bleeding Definition: Indicate whether bleeding occurred at the site of percutaneous entry During the Procedure and/or After Lab Visit – Before Any Subsequent Lab Visits. Bleeding is defined as: Blood loss at the site of arterial or venous access or due to perforation of a traversed artery or vein requiring transfusion and/or prolonging the hospital stay, and/or causing a drop in hemoglobin > 3.0 gm/dl. Bleeding attributable to the vascular site could be retroperitoneal, a local hematoma > 10 cm diameter or external.
# 128	Name: Vascular Complications - Occlusion Definition: Indicate whether an occlusion occurred at the site of percutaneous entry During the Procedure and/or After Lab Visit – Before Any Subsequent Lab Visits. Occlusion is defined as total obstruction of the artery by thrombus usually at the site of access requiring surgical repair. Occlusions may be accompanied by absence of palpable pulse or doppler.
# 129	Name: Vascular Complications - Loss of distal pulse Definition: Indicate whether a loss of distal pulse to the site of percutaneous entry occurred During the Procedure and/or After Lab Visit – Before Any Subsequent Lab Visits. Loss of Distal Pulse: is defined as a loss of distal pulse requiring therapy.
# 130	Name: Vascular Complications - Dissection Definition: Indicate whether a dissection occurred at the site of percutaneous entry During the Procedure and/or After Lab Visit – Before Any Subsequent Lab Visits. A dissection is defined as a disruption of an arterial wall resulting in splitting and separation of the intimal (subintimal) layers.
# 131	Name: Vascular Complications - Pseudoaneurysm Definition: Indicate whether a pseudoaneurysm occurred at the site of percutaneous entry After Lab Visit – Before Any Subsequent Lab Visits only. Pseudoaneurysm is defined as the occurrence of a disruption and dilation of the arterial wall without identification of the arterial wall layers at the site of the catheter entry demonstrated by arteriography or ultrasound.

- # 132 Name: **Vascular Complications - AV Fistula**
Definition: Indicate whether a AV Fistula occurred at the site of percutaneous entry After Lab Visit – Before Any Subsequent Lab Visits only
- AV Fistula is defined as a connection between the access artery and the accompanying vein that is demonstrated by arteriography or ultrasound and most often characterized by a continuous bruit.
-
- # 133 Name: **Contrast Reaction**
Definition: Indicate if the patient experienced a contrast reaction During the Procedure and/or After Lab Visit – Before Any Subsequent Lab Visits.
- Contrast reaction is defined as:
1. Anaphylaxis-including bronchospasm and/or vascular collapse,
 2. Hives-including skin redness requiring treatment,
 3. Hypotension-prolonged depression of blood pressure below 70mm Hg.
-
- # 134 Name: **Congestive Heart Failure**
Definition: Indicate if the patient experienced documented new onset CHF or an acute reoccurrence of CHF, which necessitated new or increased pharmacologic therapy After the Lab Visit – but before Any Subsequent Lab Visits.
- CHF is defined as paroxysmal nocturnal dyspnea, dyspnea on exertion, pulmonary congestion on x-ray, or ventricular S3 gallop. Bilateral pedal edema or dyspnea alone are not diagnostic.
-
- # 135 Name: **Renal Failure**
Definition: After the Lab Visit – but before Any Subsequent Lab Visits Only:
- Indicate if the patient experienced acute renal insufficiency resulting in an increase in serum creatinine to more than 2.0 mg/dl (or a 50% or greater increase over an abnormal baseline) measured prior to procedure, or requiring dialysis.
-
- # 136 Name: **Emergency PCI**
Definition: Indicate if the patient required coronary intervention as a treatment for a complication of a diagnostic cath.
-
- # 137 Name: **Unplanned CAB**
Definition: (PCI Patients Only) Indicate if the patient required unplanned CAB. In the opinion of the operator or the responsible physician, the patient needed to be moved directly to surgery from the cath lab or hospital ward, typically due to indications such as ongoing ischemia, rest angina despite maximal treatment, pulmonary edema requiring intubation, or shock.
-

OPTIONAL PCI FOLLOW-UP

138 Name: **Date of Follow Up**

Definition: Indicate the date that a follow-up was conducted. Follow-up visits should occur 6 months, 1 year, and annually thereafter from the anniversary of the first PCI date. In the event subsequent PCI hospitalizations occur the follow up anniversary date is RESET only when the PCI date occurs 6 months AFTER the initial PCI date. The follow up anniversary date is NOT reset when PCI hospitalization occurs within 6 months of the initial PCI.

For example, note the below 2 scenario's for a patient with a single PCI hospitalization vs. multiple PCI hospitalizations.

PATIENT #1 Single PCI Hospitalization:

Adm Date	PCI Date	D/C Date
01/01/2000	01/02/2000	01/03/2000

Conduct follow up at:
6 months - 07/2/2000
1 year - 01/2/2001
Annually -
01/02/2002
01/02/2003
01/02/2004
01/02/2005
and so on...

PATIENT #2 Multiple PCI Hospitalizations:

Adm/Readm Date	PCI Date	D/C Date
01/01/2000	01/02/2000	01/03/2000
03/14/2000	03/14/2000	03/20/2000
06/03/2000	06/04/2000	06/05/2000

Conduct follow up at:
6 months - 7/2/2000

Adm/Readm Date	PCI Date	D/C Date
08/01/2000	08/02/2000	08/03/2000

Conduct follow up at:
6 months - 02/02/2001
1 year - 08/02/2001
Annually -
08/02/2002
08/02/2003
08/02/2004
08/02/2005
and so on...

139 Name: **Vital Status**

Definition: Indicate if the patient expired.

140 Name: **Primary Cause of Death**

Definition: If the patient died indicate the primary cause of death:
Cardiac, Noncardiac, Unknown.

141 Name: **Readmission**

Definition: Indicate if the patient was readmitted.

142 Name: **Readmission Reason**

Definition: If the patient was readmitted to a hospital indicate the reasons for admission (check all that apply):

1. Myocardial Infarction (documented).
2. Coronary Artery Bypass surgery.
3. Percutaneous Coronary Intervention.
4. Congestive Heart Failure (without MI).
5. Arrhythmia or Conduction Disturbance (without MI).
6. Recurrent Angina (without MI).
7. Other medical problem
