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THE CANADIAN CARDIOVASCULAR SOCIETY DATA DICTIONARY

A CCS Consensus Document

CORONARY ANGIOGRAPHY/ REVASCULARIZATION DATA ELEMENTS AND DEFINITIONS

FINAL VERSION 1.0

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BACKGROUND

The Canadian Cardiovascular Society Data Dictionary is comprised of multiple "chapter" data elements and definitions that reflect national input and consensus on definitions within several spheres of cardiovascular disease, treatment and subspecialty expertise.

The Coronary Angiography/Revascularization Data Dictionary chapter contains the guidelines for data elements and definitions relevant to the area of Coronary Angiography/Revascularization. It includes the collection of percutaneous coronary intervention (PCI) and cardiac catheterization (CATH) medications, laboratory results, intra and post-procedure events and discharge information.

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Part 1 – Percutaneous Coronary Intervention (PCI)/ Cardiac Catheterization (CATH) Procedures

DATA ELEMENT	CLASSIFICATION	DEFINITION
CATH Status	CORE	Define CATH status: 1. Emergency - next available slot or summoning of a team after-hours 2. In-patient (non emergent) 3. Out-patient - out-patient arrives from home/equivalent on a scheduled basis Indicate the date (YYYYMMDD) & time (HH:MM – 24 hr clock) (patient enters the procedure room)
PCI Status	CORE	Define PCI status: 1. Emergency - next available slot or summoning of a team after-hours 2. In-patient (non emergent) 3. Out-patient - out-patient arrives from home/equivalent on a scheduled basis Indicate the date (YYYYMMDD) & time (HH:MM – 24 hr clock) (patient enters the procedure room)
Cardiogenic Shock at Start of CATH/PCI	CORE	Indicate if the patient is in cardiogenic shock at the start of PCI procedure. 1. No 2. Yes Note(s): Transient episodes of hypotension reversed with IV fluid or atropine do not constitute cardiogenic shock. The hemodynamic compromise (with or without extraordinary supportive therapy) must persist for at least 30 minutes. Cardiogenic shock is defined as a sustained (>30 minutes) episode of systolic blood pressure <90 mm Hg, and/or cardiac index <2.2 L/min/m2 determined to be secondary to cardiac dysfunction, and/or the requirement for parenteral inotropic or vasopressor agents or mechanical support (e.g., IABP, extracorporeal circulation, ventricular assist devices) to maintain blood pressure and cardiac index above those specified levels. (Source: Acute Coronary Syndromes Data Standards (JACC 2001 38: 2114 - 30)

CATH/PCI Indication	CORE	Indicate the main indication for procedure (select one): 1. Acute Coronary Syndrome (ACS) a. ACS without ST elevation or evidence of myonecrosis b. Non-STEMI c. STEMI, indicate i. Rescue – defined as emergency PCI for STEMI (or STEMI equivalent) after failed full-dose fibrinolytic therapy. ii. If not Rescue 1. Within 24 hrs of onset of STEMI, Indicate if Lytic was given a.No b.Yes 2. More than 24 hrs from onset of STEMI, Indicate if Lytic was given a.No b.Yes d. ACS Indeterminate 2. Stable Angina/Ischemia 3. Heart Failure 4. Valvular Heart Disease a. Aortic b. Mitral c. Other 5. Staged Revascularization 6. Biopsy 7. Research - not clinically indicated (for Cath only) 8. Other, if possible, specify – defined as patients that don't fit into any of the above categories. This can include patients with elective or urgent status, status/post cardiac arrest or cardiogenic shock but without ECG or biomarker evidence of acute infarction.
Fluoroscopy Time and Dose*	CORE	Indicate the total fluoroscopy time recorded to the nearest 0.1 - minute. The time recorded should include the total time for the lab visit. *If available, indicate the total dose and the unit of measurement. The value recorded should include the total dose for the lab visit. Note: units of measurement may not be the same across labs.
Contrast Volume	CORE	Indicate the volume of contrast used in milliliters (ml). The volume recorded should be the total volume for the lab visit.

Arterial Access Site	CORE	For each site attempted, specify left/right and success/failure: 1. Femoral a. Left i. Success ii. Failure b. Right i. Success ii. Failure 2. Brachial a. Left i. Success ii. Failure b. Right i. Success ii. Failure 3. Radial a. Left i. Success ii. Failure b. Right i. Success ii. Failure 4. Other, specify a. Left i. Success ii. Failure b. Right i. Success ii. Failure
Closure Methods	CORE	Indicate if closure device was attempted/used: 1. No 2. Yes
IABP/Hemodynamic support and timing	CORE	Indicate use of an Intra-Aortic Balloon Pump (IABP) during this encounter: 1. No 2. Yes, indicate type of device a. IABP b. Cardiopulmonary full support (extra-corporeal circulation) c. Impella d. Other Indicate timing of initiation of support relative to Cath/PCI procedure 1. Insertion / initiation prior to arrival in Cath Lab 2. Insertion / initiation in Cath Lab prior to PCI or if no PCI performed 3. Insertion / initiation after PCI commenced

Lesions and Devices	CORE	Identify lesion interventions. See Lesion and Devices Table on next page. (Define up to 15 instances): *Notes: 1. Lesion No. - provide when there is more than one discreet lesion in a given Segment. 2. Additional Therapeutic Modality Note: Rotational Atherectomy (Rotablator) would be classified under Atherectomy 3. Total Stent Length (mm) applies to entire vessel. Enter the value for the total stent length in the row corresponding to the most proximal lesion. 4. Success – Was the lesion successfully opened, Select 'Yes' if: a. No Stent was used and < 50% residual narrowing b. Stent used and < 20% residual narrowing c. Either No stent/Stent and Normal Flow = TIMI Grade 3 5. Additional Information (Optional) – provide additional comments such as information about complexity

Lesion and Devices Table:

Vessel		Treated	Segment No.	Lesion No.*	STENT								
					Stent Type	Total Stent Length (mm)*	Final Nominal Balloon Size	Additional Diagnostic Modality*	Additional Therapeutic Modality*	Ischemia on testing concordant with this lesion	Total Occlusion	Success*	Additional Information
Normal	a. No b. Yes (< 20% Stenosis in all epicardial vessels)	a. No b. Yes											
RCA	a. > 70% b. > 50%	a. No b. Yes			a. None b. DES c. BMS d. Bio-absorbable e. Other, specify			a. No b. Yes, specify: i. FFR ii. IVUS iii. OCT iv. Other	a. No b. Yes, specify: i. Thrombectomy ii. Atherectomy iii. Cutting balloon iv. Other	a. No b. Yes	a. No b. Yes	a. No b. Yes	
Cx	a. > 70% b. > 50%	a. No b. Yes			a. None b. DES c. BMS d. Bio-absorbable e. Other, specify			a. No b. Yes, specify: i. FFR ii. IVUS iii. OCT iv. Other	a. No b. Yes, specify: i. Thrombectomy ii. Atherectomy iii. Cutting balloon iv. Other	a. No b. Yes	a. No b. Yes	a. No b. Yes	
Prox LAD	a. > 70% b. > 50%	a. No b. Yes			a. None b. DES c. BMS d. Bio-absorbable e. Other, specify			a. No b. Yes, specify: i. FFR ii. IVUS iii. OCT iv. Other	a. No b. Yes, specify: i. Thrombectomy ii. Atherectomy iii. Cutting balloon iv. Other	a. No b. Yes	a. No b. Yes	a. No b. Yes	
Other LAD	a. > 70% b. > 50%	a. No b. Yes			a. None b. DES c. BMS d. Bio-absorbable e. Other, specify			a. No b. Yes, specify: i. FFR ii. IVUS iii. OCT iv. Other	a. No b. Yes, specify: i. Thrombectomy ii. Atherectomy iii. Cutting balloon iv. Other	a. No b. Yes	a. No b. Yes	a. No b. Yes	
Left Main	a. > 70% b. > 50%	a. No b. Yes			a. None b. DES c. BMS d. Bio-absorbable e. Other, specify			a. No b. Yes, specify: i. FFR ii. IVUS iii. OCT iv. Other	a. No b. Yes, specify: i. Thrombectomy ii. Atherectomy iii. Cutting balloon iv. Other	a. No b. Yes	a. No b. Yes	a. No b. Yes	

Part 2 – Medications

A. Medications at Pre-Encounter, Prior to the Cath Lab visit

This section includes medications administered to a patient prior to the Cath Lab visit.

DATA ELEMENT	CLASSIFICATION	DEFINITION
Aspirin at Pre-Encounter to Cath Lab	**CORE**	Indicate if the patient has been taking Aspirin prior to the Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Clopidogrel at Pre-Encounter to Cath Lab	**CORE**	Indicate if the patient has been taking Clopidogrel prior to the Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Prasugrel at Pre-Encounter to Cath Lab	**CORE**	Indicate if the patient has been taking Prasugrel prior to the Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Ticagrelor at Pre-Encounter to Cath Lab	**CORE**	Indicate if the patient has been taking Ticagrelor prior to the Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Other anti-platelets (e.g. Ticlopidine) at Pre-Encounter to Cath Lab	**CORE**	Indicate if the patient has been taking other anti-platelets (e.g. Ticlopidine) prior to the Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Warfarin at Pre-Encounter to Cath Lab	**CORE**	Indicate if the patient has been taking Warfarin prior to the Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Other oral anti-coagulants (e.g. Dabigatran, Rivaroxiban) at Pre-Encounter to Cath Lab	**CORE**	Indicate if the patient has been taking other anti-coagulants (e.g. Dabigatran, Rivaroxiban) prior to the Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated

Unfractionated heparin at Pre-Encounter to Cath Lab	**CORE**	Indicate if the patient has been taking unfractionated heparin prior to the Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
LMW heparin at Pre-Encounter to Cath Lab	**CORE**	Indicate if the patient has been taking LMW heparin prior to the Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Beta-Blockers at Pre-Encounter to Cath Lab	**CORE**	Indicate if the patient has been taking beta-blockers prior to the Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
ACE Inhibitors / Angiotensin II Receptor Blockers at Pre-Encounter to Cath Lab	**CORE**	Indicate if the patient has been taking ACE inhibitors/Angiotensin II Receptor blockers prior to the Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Statins at Pre-Encounter to Cath Lab	**CORE**	Indicate if the patient has been taking statins prior to the Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated

B. Procedure Medications in the Cath Lab

This section includes medications administered to a patient in the Cath Lab.

DATA ELEMENT	CLASSIFICATION	DEFINITION
Oral anti-platelet in Cath Lab	CORE	Indicate if an oral anti-platelet medication was administered in the Cath Lab. 1. None 2. Clopidogrel 3. Prasugrel 4. Ticagrelor 5. Other, please specify 6. Unknown
Anti-coagulant in Cath Lab	CORE	Indicate if an anti-coagulant medication was administered in the Cath Lab. 1. None 2. Unfractionated heparin 3. Low molecular weight heparin – Enoxaparin 4. Low molecular weight heparin – other, if possible, specify 5. Fondaparinux 6. Bivalirudin 7. Oral anticoagulant 8. Other, if possible, specify 9. Unknown
Glycoprotein IIb/IIIa inhibitor in Cath Lab	CORE	Indicate if Glycoprotein IIb or IIIa inhibitor medication was administered in the Cath Lab. 1. None 2. Abciximab 3. Eptifibatide 4. Tirofiban 5. Unknown

C. Medications, Post-Cath Lab visit (prior to discharge from hospital)

This section includes medications administered to a patient post-Cath Lab visit but prior to discharge from hospital.

DATA ELEMENT	CLASSIFICATION	DEFINITION
Aspirin Post-Cath Lab	CORE	Indicate if Aspirin was administered post-Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Clopidogrel Post-Cath Lab	CORE	Indicate if Clopidogrel was administered post-Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Prasugrel Post-Cath Lab	CORE	Indicate if Prasugrel was administered post-Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Ticagrelor Post-Cath Lab	CORE	Indicate if Ticagrelor was administered post-Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Other anti-platelets (e.g. ticlopidine) Post-Cath Lab	CORE	Indicate if other anti-platelets (e.g. Ticlopidine) was administered post-Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Warfarin Post-Cath Lab	CORE	Indicate if Warfarin was administered post-Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Other oral anti-coagulants (e.g. Dabigatran, Rivaroxiban) Post-Cath Lab	CORE	Indicate if other anti-coagulants (e.g. Dabigatran, Rivaroxiban) was administered post-Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Unfractionated heparin Post-Cath Lab	CORE	Indicate if unfractionated heparin was administered post-Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated

LMW heparin Post-Cath Lab	CORE	Indicate if LMW heparin was administered post-Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Beta-Blockers Post-Cath Lab	CORE	Indicate if beta-blockers was administered post-Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
ACE Inhibitors / Angiotensin II Receptor Blockers Post-Cath Lab	CORE	Indicate if ACE inhibitors/Angiotensin II Receptor blockers was administered post-Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Statins Post-Cath Lab	CORE	Indicate if the patient has been taking statins post-Cath Lab visit. 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated

D. Medications at Discharge (from hospital)

(Note: These data elements and definitions originate from the Core Element Chapter, Medications at Discharge section and are duplicated here.)

DATA ELEMENT	CLASSIFICATION	DEFINITION
Aspirin at Discharge	CORE	Indicate if Aspirin was continued or prescribed at discharge Note: *do not code for patients who die or are AMA or are transferred to another hospital.* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Clopidogrel at Discharge	CORE	Indicate if Clopidogrel was continued or prescribed at discharge. *Note: do not code for patients who die or are AMA or are transferred to another hospital.* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Prasugrel at Discharge	CORE	Indicate if Prasugrel was continued or prescribed at discharge. *Note: do not code for patients who die or are AMA or are transferred to another hospital.* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Ticagrelor at Discharge	CORE	Indicate if Ticagrelor was continued or prescribed at discharge. Note: *do not code for patients who die or are AMA or are transferred to another hospital.* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Other anti-platelets (e.g. Ticlopidine) at Discharge	CORE	Indicate if other anti-platelets were continued or prescribed at discharge. Note: *do not code for patients who die or are AMA or are transferred to another hospital.* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Warfarin at Discharge	CORE	Indicate if Warfarin was continued or prescribed at discharge. *Note: do not code for patients who die or are AMA or are transferred to another hospital.* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated

Other oral anti-coagulants (e.g. Dabigatran, Rivaroxiban) at Discharge	CORE	Indicate if other oral anti-coagulants (e.g. Dabigatran, Rivaroxiban) were continued or prescribed at discharge. Note: *do not code for patients who die or are AMA or are transferred to another hospital.* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Unfractionated heparin at Discharge	CORE	Indicate if Unfractionated heparin was continued or prescribed at discharge. *Note: do not code for patients who die or are AMA or are transferred to another hospital.* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
LMW heparin at Discharge	CORE	Indicate if LMW heparin was continued or prescribed at discharge. *Note: do not code for patients who die or are AMA or are transferred to another hospital.* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Beta-Blockers at Discharge	CORE	Indicate if beta-blockers were continued or prescribed at discharge. *Note: do not code for patients who die or are AMA or are transferred to another hospital* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
ACE Inhibitors/Angiotensin II Receptor Blockers at Discharge	CORE	Indicate if ACE Inhibitors/Angiotensin II Receptor Blockers were continued or prescribed at discharge. Note: *do not code for patients who die or are AMA or are transferred to another hospital.* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Aldosterone Blocking Agents at Discharge	CORE	Indicate if aldosterone blocking agents were continued or prescribed at discharge. *Note: do not code for patients who die or are AMA or are transferred to another hospital.* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated

Direct renin inhibitors at Discharge	CORE	Indicate if direct renin inhibitors were continued or prescribed at discharge. Note: *do not code for patients who die or are AMA or are transferred to another hospital.* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Statins at Discharge	CORE	Indicate if statins were continued or prescribed at discharge. *Note: do not code for patients who die or are AMA or are transferred to another hospital.* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Other lipid-lowering agents at Discharge	CORE	Indicate if other lipid-lowering agents were continued or prescribed at discharge. Note: *do not code for patients who die or are AMA or are transferred to another hospital* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Diuretics (excluding Spironolactone, Eplerenone) at Discharge	CORE	Indicate if diuretics (excluding Spironolactone, Eplerenone) were continued or prescribed at discharge. Note: *do not code for pa*tients who die or are AMA or are transferred to another hospital* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Insulin at Discharge	CORE	Indicate if Insulin was continued or prescribed at discharge. Note: *do not code for patients who die or are AMA or are transferred to another hospital* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Oral antihyperglycemics at Discharge	CORE	Indicate if oral antihyperglycemics were continued or prescribed at discharge. Note: *do not code for patients who die or are AMA or are transferred to another hospital* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated

Non-insulin injectables at Discharge	CORE	Indicate if non-insulin injectables were continued or prescribed at discharge *Note: do not code for patients who die or are AMA or are transferred to another hospital* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Dihydropyridine Calcium Channel Blockers at Discharge	CORE	Indicate if dihydropyridine calcium channel blockers were continued or prescribed at discharge. Note: *do not code for patients who die or are AMA or are transferred to another hospital* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Non-Dihydropyridine Calcium Channel Blockers at Discharge	CORE	Indicate if non-dihydropyridine calcium channel blockers were continued or prescribed at discharge. *Note: do not code for patients who die or are AMA or are transferred to another hospital* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Anti-arrhythmics at Discharge	CORE	Indicate if anti-arrhythmics were continued or prescribed at discharge. Note: *do not code for patients who die or are AMA or are transferred to another hospital* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated
Digoxin at Discharge	CORE	Indicate if Digoxin was continued or prescribed at discharge. Note: *do not code for patients who die or are AMA or are transferred to another hospital* 1. Yes 2. No 3. Contraindicated 4. Blinded 5. Not tolerated

Part 3 – Laboratory Results

DATA ELEMENT	CLASSIFICATION	DEFINITION
Myonecrosis	CORE	Indicate if post-procedure biomarker was measured? 1. No 2. Yes, if yes, specify a. Troponin I post-procedure – Indicate the post-procedure Troponin I peak value in ng/mL within the interval of 6-24 hours post-PCI. If more than one value is known, code the peak value. Also indicate in all cases the upper reference limit. b. Troponin T post-procedure – Indicate the post-procedure Troponin T peak value in ng/mL within the interval of 6-24 hours post-PCI. If more than one value is known, code the peak value. Also indicate in all cases the upper reference limit. c. CK-MB – indicate the post-procedure CK-MB value within the interval of 6-24 hours post PCI. If more than one value is known, code the peak value. Also indicate in all cases the upper reference limit of absolute CK-MB. d. Other biomarker
Renal function	CORE	Indicate occurrence of screening for pre-procedural acute kidney function. 1. Not done 2. If done, indicate a. Pre-procedure creatinine level in µmol/L b. Pre-procedure eGFR level c. Indicate the date (YYYYMMDD) d. If available, specify, Time (HH:MM – 24 hr clock) Indicate occurrence of screening for post-procedural acute kidney injury. 1. Not done 2. If done, indicate a. Post-procedure creatinine level in µmol/L within the interval of 24 to 120 hours post cath or PCI. If more than one level is available, code the peak level. b. Post-procedure eGFR level within the interval of 24 to 120 hours post cath or PCI. If more than one level is available, code the peak level. c. Indicate the date (YYYYMMDD) d. (Optional) Time (HH:MM – 24 hr clock)

(LV) function	CORE	Provide the most recent estimated or calculated left ventricular (LV) function, as the percentage of blood emptied from the left ventricle at the end of the contraction. Enter actual number, if available: If actual number not available, select the appropriate category (category source: CARDS[1]): 1. Normal (>50%) 2. Slightly reduced (41-50%) 3. Moderately reduced (31-40%) 4. Severely reduced (≤30%) 5. LV function not assessed 6. Unknown Indicate the method used: 1. Echocardiography 2. LV-Gram 3. SPECT / PET 4. MUGA 5. CT/MR 6. Other, if possible, specify (optional to specify) Note: This data element and definition originates from the Core Elements and Demographics Chapter, Test Results section and has been duplicated herein.

[1] CARDS: Cardiology Audit and Registration Data Standards in Europe.

Part 4 – Intra and Post-Procedure Events

DATA ELEMENT	CLASSIFICATION	DEFINITION
Myocardial Infarction (Biomarker Positive)	CORE	Indicate the NEW occurrence of a biomarker positive myocardial infarction after PCI. 1. No 2. Yes **Supporting Definition:** Universal definition of Myocardial Infarction (Source: American Heart Association, Circulation, Thygesen et al. 116 (22):2634. 2007) **Criteria for acute myocardial infarction** The term myocardial infarction should be used when there is evidence of myocardial necrosis in a clinical setting consistent with myocardial ischaemia. Under these conditions any one of the following criteria meets the diagnosis for myocardial infarction: • Detection of rise and/or fall of cardiac biomarkers (preferably troponin) with at least one value above the 99th percentile of the upper reference limit (URL) together with evidence of myocardial ischaemia with at least one of the following: o Symptoms of ischaemia; o ECG changes indicative of new ischaemia [new ST-T changes or new left bundle branch block (LBBB)]; o Development of pathological Q waves in the ECG; o Imaging evidence of new loss of viable myocardium or new regional wall motion abnormality. • Sudden, unexpected cardiac death, involving cardiac arrest, often with symptoms suggestive of myocardial ischaemia and accompanied by presumably new ST elevation, or new LBBB, and/or evidence of fresh thrombus by coronary angiography and/or at autopsy, but death occurring before blood samples could be obtained, or at a time before the appearance of cardiac biomarkers in the blood. • For percutaneous coronary interventions (PCI) in patients with normal baseline troponin values, elevations of cardiac biomarkers above the 99th percentile URL are indicative of peri-procedural myocardial necrosis. By convention, increases of biomarkers greater than 3 x 99th percentile URL have been designated as defining PCI-related myocardial infarction. A subtype related to a documented stent thrombosis is recognized.

Myocardial Infarction (Biomarker Positive) **(cont'd)**	CORE	• For coronary artery bypass grafting (CABG) in patients with normal baseline troponin values, elevations of cardiac biomarkers above the 99th percentile URL are indicative of peri-procedural myocardial necrosis. By convention, increases of biomarkers greater than 5 x 99th percentile URL plus either new pathological Q waves or new LBBB, or angiographically documented new graft or native coronary artery occlusion, or imaging evidence of new loss of viable myocardium have been designated as defining CABG-related myocardial infarction. • Pathological findings of an acute myocardial infarction. Clinical classification would be coded as Type 4a Myocardial Infarction associated with PCI
Cardiogenic Shock	CORE	Indicate if/when the patient developed cardiogenic shock during this episode of care. 1. No 2. Yes, indicate a. Present before b. During c. After Note(s): Transient episodes of hypotension reversed with IV fluid or atropine do not constitute cardiogenic shock. The hemodynamic compromise (with or without extraordinary supportive therapy) must persist for at least 30 minutes. Cardiogenic shock is defined as a sustained (>30 minutes) episode of systolic blood pressure <90 mm Hg, and/or cardiac index <2.2 L/min/m2 determined to be secondary to cardiac dysfunction, and/or the requirement for parenteral inotropic or vasopressor agents or mechanical support (e.g., IABP, extracorporeal circulation, ventricular assist devices) to maintain blood pressure and cardiac index above those specified levels. (Source: Acute Coronary Syndromes Data Standards (JACC 2001 38: 2114 - 30)
CVA/Stroke	CORE	Indicate if the patient had a cerebrovascular infarction* 1. No 2. Yes a. Indicate if the presence of residual symptoms lasting 24 hrs or leading to death i. No ii. Yes b. Indicate if the patient experienced a hemorrhagic stroke. i. No ii. Yes

CVA/Stroke **(cont'd)**	CORE	*Proposed Universal Definition of Cerebral Infarction: 'This review proposes cerebral infarction be defined as brain or retinal cell death due to prolonged ischemia. This definition categorizes both pannecrosis and neuronal dropout ("complete" and "incomplete" infarcts in classic neuropathologic terminology) as cerebral infarcts. Making the presence of any neuronal or glial cell death essential yields a definition of cerebral infarction that has high relevance to patients, physicians, and policymakers; is more easily applied in clinical practice; fosters action in acute care; harmonizes with myocardial ischemia classification; and focuses diagnostic evaluation on the cause of brain ischemia and the occurrence of end organ injury.' (Source: American Heart Association, Stroke.2008;39:3110-3115)
Tamponade	CORE	Indicate if the patient experienced fluid in the pericardial space compromising cardiac filling and requiring drainage intervention. Note(s): For patients with extended hospital stays, restrict coding of post-procedure events to 30 days after the last procedure. 1. No 2. Yes
New Requirement for Dialysis	CORE	Indicate if the patient experienced acute or worsening renal failure necessitating renal dialysis. 1. No 2. Yes Note: We are tracking whether creatinine was measured and if so the values are recorded
Other Vascular Complications Requiring Treatment	CORE	Indicate if the patient experienced any other vascular complications (excluding external bleeding or small hematoma) at the percutaneous entry site that required treatment or intervention. Hematoma 1. Pseudoaneurysm Requiring Repair 2. Dissection 3. Limb ischemia 4. Other, specify Note(s): Code '4' for patients treated with IV therapy for loss of distal pulse. For patients with extended hospital stays, restrict coding of post-procedure events to 30 days after the last procedure.
Suspected Bleeding Event If Yes, Event Date If Yes, Event Location If Yes, Surgical Procedure or Intervention Required	CORE	Indicate the suspected bleeding event type. **1. Type 3** a. Type 3a ▪ Overt bleeding plus hemoglobin drop of 3 to <5*g/dL (provided hemoglobin drop is related to bleed) ▪ Any transfusion with overt bleeding b. Type 3b ▪ Overt bleeding plus hemoglobin drop ≥ 5*g/dL (provided hemoglobin drop is related to bleed) ▪ Cardiac tamponade ▪ Bleeding requiring surgical intervention for control (excluding dental/nasal/skin/hemorrhoid) ▪ Bleeding requiring intravenous vasoactive drugs

Suspected Bleeding Event If Yes, Event Date If Yes, Event Location If Yes, Surgical Procedure or Intervention Required (cont'd)	CORE	c. Type 3c ▪ Intracranial hemorrhage (does not include microbleeds or hemorrhagic transformation; does include intraspinal). ▪ Subcategories; Confirmed by autopsy or imaging or LP ▪ Intra-ocular bleed compromising vision 2. **Type 4 - CABG–related bleeding** ▪ Perioperative intracranial bleeding within 48 hrs ▪ Reoperation following closure of sternotomy for the purpose of controlling bleeding ▪ Transfusion of ≥ 5 units of whole blood or packed red blood cells within a 48 period**. ▪ Chest tube output ≥ 2L within a 24 hour period ▪ If a CABG - related bleed is not adjudicated as at least a Type 3 severity event, it will be classified as 'not a bleeding event' 3. **Type 5 - Fatal Bleeding** a. Type 5a - Probable fatal bleeding: no autopsy or imaging confirmation, but clinically suspicious b. Type 5b - Definite fatal bleeding: overt bleeding or autopsy or imaging confirmation Obs: Platelet transfusions should be recorded and reported, but are not included in these definitions until further information is obtained about the relationship to outcomes. *Corrected for transfusion (1 unit PRBC or 1 unit whole blood = 1g/dL Hgb) * Only allogeneic transfusions are considered as transfusions for BARC Type 4 bleeding. Cell saver products will not be counted.

Part 5 – Discharge (from hospital)

DATA ELEMENT	CLASSIFICATION	DEFINITION
Date	CORE	Indicate the date the patient was discharged from acute care, left against medical advice, or expired during this admission.
Discharge Status	CORE	Indicate whether the patient was alive or deceased at discharge from the hospitalization during which the procedure occurred. 1. Alive 2. Deceased If deceased, indicate the cause of death: a. Cardiac b. Non-cardiac c. Unknown If deceased, indicate the Time of Death. (HH:MM – 24 hr clock)
Location	CORE	If alive, indicate the location to where the patient was discharged from hospital. 1. Home 2. Extended Care/Transitional Unit 3. Other Hospital 4. Nursing Home 5. Hospice 6. Other 7. Left against medical advice 8. Unknown
Referral to Cardiac Rehab	CORE	Indicate if there was a documented referral for the patient (by the physician, nurse, or other personnel) to an outpatient cardiac rehabilitation program. **Note(s):** The program may include a traditional cardiac rehabilitation program based on face-to-face interactions and training sessions or may include other options such as home-based approaches; as well as diet modifications and exercise counseling. 1. Yes (referred and documented) 2. No. not referred 3. No, not documented
Smoking Cessation Intervention	CORE	Indicate if a formal patient referral to smoking cessation intervention (referral to cessation program, formal counseling, or medication) was documented during this healthcare encounter. 1. Yes 2. No, no formal intervention 3. No, Patient refused formal intervention 4. Not applicable (use this if patient is a non-smoker) 5. Not documented

Discharge Diagnosis	CORE	Indicate the discharge diagnosis (for this healthcare encounter only): 1. Acute Coronary Syndrome 2. Stable Angina/Ischemia 3. Heart Failure 4. Valvular Heart Disease 5. Other, Cardiovascular, - specify 6. Other, Non-cardiovascular - specify
Follow-up Information	OPTIONAL	Indicate patient event(s) after discharge for each subsequent follow-up and date of event(s): 1. Cardiac death 2. Non-cardiac death 3. MI (including stent thrombosis) 4. Repeat revascularization – Staged* 5. Repeat revascularization – Non-staged* 6. CVA/Stroke 7. repeat catheterization, without a re-intervention 8. if none of the above, enter date of last follow-up * Staged = intervention on a different lesion that was planned at the time of the initial intervention.

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