

Cardiovascular Summit

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Appropriate Coding For Type 2 Myocardial Infarction

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Session Goals

- Explain The Specifics
- Present Why This Is Important
- Strategies To Improve Performance
- What Do I Document For A Type 2 MI?
- Why Does It Matter?



Myocardial cell death (= troponin >99%ile)

Type 1 Myocardial Infarction:

- Definition: Myocardial cell death due to ischemia *due to acute atherosclerotic plaque disruption.*
- Requires clinical evidence of myocardial ischemia*
- Will result in either STEMI or non-STEMI.
- Will usually be a principal diagnosis
- Due only to acute rupture of atherosclerotic plaque
- Documentation: Type 1 MI involving (anterior, inferior, ...) territory.

Type 2 Myocardial Infarction:

- Definition: Myocardial cell death due to ischemia not due to acute atherosclerotic plaque disruption but *from another underlying cause.*
- Examples of causes:
 - Pure supply reduction:
 - Coronary arterial spasm
 - Coronary artery embolism
 - Spontaneous coronary artery dissection
 - Aortic dissection causing coronary artery obstruction
 - Supply-demand imbalance:
 - Tachyarrhythmias
 - Severe hypertension
 - Bradyarrhythmias
 - Severe hypoxia
 - Severe anemia
 - Severe hypotension
- Requires clinical evidence of ischemia*
- Not due to acute rupture of atherosclerotic plaque
- May be in the setting of chronic CAD
- May never be a principal diagnosis
- **Must specify cause**
- Documentation: Type 2 MI (I21.A1) due to _____.

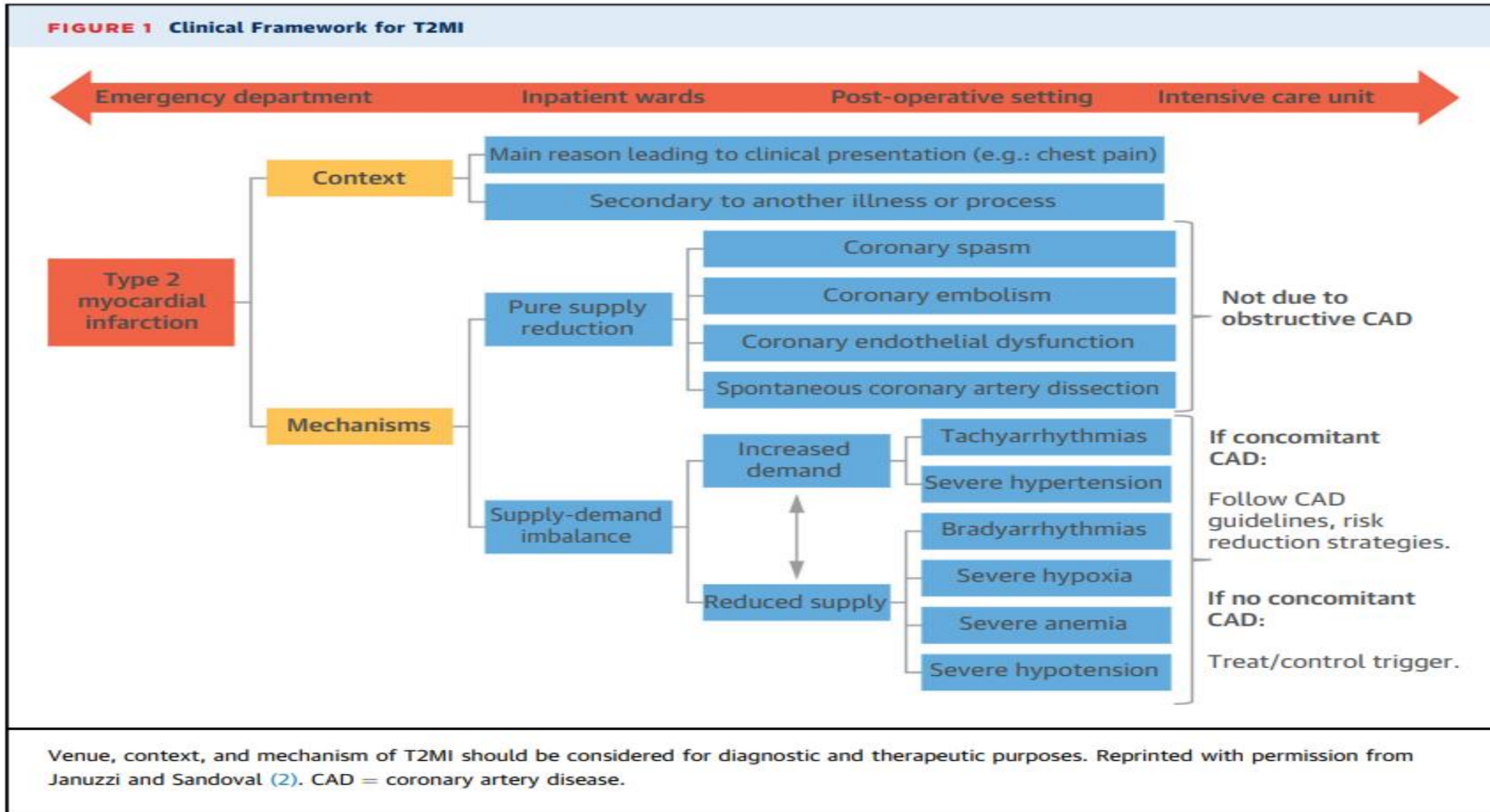
Elevated troponin without myocardial ischemia:

- Definition: Myocardial cell death due to *cause other than ischemia.*
- Examples of causes:
 - CKD/ESRD
 - Heart failure (acute or chronic)
 - Sepsis/critical illness
 - Pulmonary embolism
 - Myocarditis
 - Stress cardiomyopathy (Takotsubo)
 - Cardiotoxic drugs
 - CPR
 - Defibrillator shocks
 - Chest trauma (cardiac contusion)
 - Stroke
 - Tachyarrhythmia
- May be in the setting of chronic CAD
- May never be a principal diagnosis
- **Must specify cause**
- Documentation: Elevated troponin without myocardial ischemia (R79.89) due to _____.

* Clinical evidence of myocardial ischemia:

- Symptoms of myocardial ischemia (eg. chest pain. Use caution in using SOB as clinical evidence of ischemia as the causes of this are myriad.)
- New EKG evidence of ischemia (EKG may also be abnormal and evolve in Elevated Troponin without Myocardial Ischemia.)
- New pathologic Q waves
- New regional wall motion abnormality in a pattern fitting a coronary territory





	Type 1 MI	Type 2 MI	Elevated troponin without myocardial ischemia
Myocardial cell death	X	X	X
Troponin >99 th %ile	X	X	X
Acute atherosclerotic plaque rupture	X		
Atherosclerotic coronary disease <u>must</u> be present	X		
Atherosclerotic coronary disease <u>may</u> be present	X	X	X
Non-STEMI or STEMI	X		
Require clinical evidence of infarction*	X	X	
* Clinical evidence of myocardial ischemia: Can be principal diagnosis? • Symptoms of myocardial ischemia (Chest pain. Use caution in using SOB as clinical evidence of ischemia.) Never a principal diagnosis? • New pathologic Q waves • New regional wall motion abnormality in a pattern fitting a coronary territory	X	X	X
Included in Value Based Purchasing metrics	X	X	



General Coding Guidance

Myocardial infarction

- Location within the heart (anterolateral wall, inferoposterior wall, lateral wall, subendocardial wall, etc.)
- Date of myocardial infarction, as this affects code assignment:
 - A myocardial infarction that occurred four weeks ago or less is coded as acute.
 - Encounters after the four-week time frame but with the patient still receiving care related to the myocardial infarction are coded as "aftercare."
 - A myocardial infarction that occurred more than four weeks ago with no current symptoms directly associated with that myocardial infarction and requiring no current care is coded as an "old" or historical myocardial infarction.
- In the final impression, spell out the diagnosis in full (no abbreviations) and describe myocardial infarction with the highest level of specificity (site/location, type, presence or absence of ST elevation on electrocardiogram (EKG), dates and timelines, etc.)

Make sure clinicians and coders are aware of the 4 week criteria for AMI code use



Type 2 MI

- Effective Oct 2017, ICD-10 implemented a new ICD-10 diagnosis code for type 2 MI (I21.A1), distinct from the ICD-10 diagnosis code for NSTEMI (I21.4).
- The term "NSTEMI" should only be used when referring to a type 1 MI. The term "type 2 NSTEMI" is no longer valid and should be eliminated from clinical documentation
- A type 2 MI should always be documented as a secondary diagnosis in the discharge summary, as it stems from an underlying (primary) cause.
- Confirm clinicians are not using "NSTEMI" as a "catch all" term to describe both type 1 NSTEMI and type 2 MI patients alike
- When referring to MI due to supply-demand mismatch, the term "type 2 MI" should be used.
- ICD-10 code of I21.A9 for "other MI types" such as , type 3 MI (suspected MI as a cause of sudden cardiac death), type 4 MI (PCI-related MI) and type 5 MI (CABG-related MI) .

Additional Resource Article From ACC:

[*Red Flags for Myocardial Infarctions Coding and CDI*](#) By Lorie B. Mills, RHIT, CCS; Susan Sweeney, RN, BSN, CCDS, CCS; Laura Little, RHIT, CCS; and Abhinav Goyal, MD, MHS, FACC, FAHA

What Does Your Coding Show?

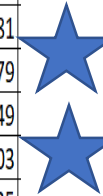
Units associated with any CPT code – Primary position

Row Labels	Count of claimid
I2101: STEMI involving left main coronary artery	80
I2102: STEMI involving left anterior descending coronary artery	564
I2109: STEMI involving oth coronary artery of anterior wall	627
I2111: STEMI involving right coronary artery	463
I2119: STEMI involving oth coronary artery of inferior wall	1017
I2121: STEMI involving left circumflex coronary artery	201
I2129: STEMI involving oth sites	304
I213: ST elevation (STEMI) myocardial infarction of unsp site	1003
I214: Non-ST elevation (NSTEMI) myocardial infarction	9746
I219: Acute myocardial infarction, unspecified	318
I21A1: Myocardial infarction type 2	85
I21A9: Other myocardial infarction type	38
I220: Subsequent STEMI of anterior wall	15
I221: Subsequent STEMI of inferior wall	2
I222: Subsequent non-ST elevation (NSTEMI) myocardial infarction	83
I228: Subsequent STEMI of sites	6
I229: Subsequent STEMI of unsp site	6
Grand Total	14558



Units associated with any CPT code – Secondary position

Row Labels	Count of claimid
I2101: STEMI involving left main coronary artery	18
I2102: STEMI involving left anterior descending coronary artery	106
I2109: STEMI involving oth coronary artery of anterior wall	390
I2111: STEMI involving right coronary artery	109
I2119: STEMI involving oth coronary artery of inferior wall	487
I2121: STEMI involving left circumflex coronary artery	49
I2129: STEMI involving oth sites	262
I213: ST elevation (STEMI) myocardial infarction of unsp site	281
I214: Non-ST elevation (NSTEMI) myocardial infarction	2479
I219: Acute myocardial infarction, unspecified	249
I21A1: Myocardial infarction type 2	103
I21A9: Other myocardial infarction type	35
I220: Subsequent STEMI of anterior wall	6
I221: Subsequent STEMI of inferior wall	1
I222: Subsequent non-ST elevation (NSTEMI) myocardial infarction	89
I228: Subsequent STEMI of sites	13
I229: Subsequent STEMI of unsp site	7
Grand Total	4684



In the practice environment coders are more likely to bill the diagnosis submitted by the clinician versus reading daily hospital notes and translating to an ICD-10 Code.

If it is a type 2 MI – please say so.

Chances are many Type 2 MI are within these NSTEMI units (numbers reflect all clinicians and all specialties – not just cardiology)

Take Aways

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- Requires clinical evidence of ischemia*
- May be in the setting of chronic CAD
- May never be a principal diagnosis
- **Must specify cause**
- Documentation: Type 2 MI (I21.A1) due to _____.