TYPE II MI

KC ACDIS LOCAL CHAPTER

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TYPE 2 MI

- DEFINITION:

"Acute coronary syndrome" (ACS) encompasses a continuum of myocardial ischemia and infarction, which can make the diagnostic and coding criteria for ACS confusing. What's more, coding definitions and requirements don't always match clinical practice and terminology. Physicians should view the ACS diagnosis as provisional and evaluate further for a specific diagnosis.

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DIAGNOSIS Categories:

- **myocardial infarction** (ST-segment elevation and depression, Q wave and non-Q wave)

- **unstable angina (UA)** The more severe conditions of ST-elevation myocardial infarction (STEMI) and Q-wave infarction are not discussed here as part of the ACS definition.

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NSTEMI VS. UA

- NSTEMI has troponin, troponin T or CK-MB leak.

- UA no biomarker release

- Following this guideline from the AHA and ACC, coding rules classify UA and ACS as the same condition assigned to a low-severity, low-complexity diagnostic code. NSTEMI—even if characterized as mild or "early"—is classified as an acute MI, a more serious and complex diagnosis.

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Troponin elevation :

- MI
- Heart Failure
- Renal Failure
- Arrthymias
- Myocarditis
- Pulmonary embolism
- Coronary procedures

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The guidelines also say that a provisional diagnosis of ACS should be further classified following evaluation as:

1. STEMI requiring consideration of immediate reperfusion therapy or percutaneous coronary intervention (PCI),

2. NSTEMI,

3. UA (definite, probable, or possible),

4. Non-ACS cardiovascular condition (for example, pericarditis), or

5. Non-cardiac condition with a specific cause (for example, gastroesophageal reflux disease) or with unknown cause.

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Demand Ischemia:

MI (oxygen supply and demand) without coronary artery disease.

Troponin leak without CAD

MI Type 2:

MI with necrosis

CAD not contributing

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- Therefore, "demand ischemia" associated with release of cardiac biomarkers (to a level above the 99th percentile reference limit) actually represents progression to myocardial infarction (such as NSTEMI) as defined by this authoritative professional consensus. This is also consistent with the AHA/ACC guidelines for UA/NSTEMI discussed above.

- Examples of conditions involving myocardial oxygen supply/demand imbalance include those listed in Table 1. (Table 1: Causes of type 2 MI: The circumstances associated with MI as specified by the Universal Definition of MI are classified in Table 2.

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- In summary, ACS is a provisional description for conditions along a continuum of myocardial ischemia and infarction. A more specific diagnosis should be established based on subsequent evaluation. In the setting of myocardial ischemia, the distinction between NSTEMI and UA is crucial and based on the presence or absence of cardiac biomarker release (troponin or CK-MB). Cardiac biomarker release in the setting of "demand ischemia" actually represents type 2 MI.

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Table 1. Causes of type 2 myocardial infarction

Tachy- and bradyarrhythmias

Aortic dissection

Severe aortic valve disease

Hypertrophic cardiomyopathy

Shock: cardiogenic, hypovolemic, septic

Severe anemia

Hypertensive crisis

Coronary spasm

Coronary embolism or vasculitis

Coronary endothelial dysfunction without CAD

Source: *Circulation* 2012; 126: 2020-2035

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Table 2. Types of MI, per the 2012 Third Universal Definition of Myocardial Infarction

Type 1:	Spontaneous MI—related to atherosclerotic plaque disruption and the resulting intraluminal thrombosis
Type 2:	MI secondary to ischemic imbalance—a condition other than coronary artery disease contributes to an imbalance in myocardial oxygen supply/demand
Type 3:	MI resulting in death (when cardiac biomarker values are unavailable or nondiagnostic)
Type 4a:	MI related to percutaneous coronary intervention
Type 4b:	MI related to stent thrombosis
Type 5:	MI related to coronary artery bypass grafting

Source: *Circulation.* 2012;126:2020-2035.

ICD-10-CM Coding for ACS and Other Ischemic Diseases

The diagnosis of acute coronary syndrome (ACS) is classified to code I24.9, Acute ischemic heart disease, in ICD-10-CM. The condition is indexed as "Syndrome, coronary acute NEC [not elsewhere classified]." Since NEC is included, if the condition is classified elsewhere, such as angina or myocardial infarction, it is appropriate to assign the more specific code. However, if ACS is not better classified elsewhere, assign code I24.9.

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- Demand ischemia is indexed to code I24.8. However, there is a "see also Angina" note. A see also note indicates another term may be referenced to find a more accurate code, but it is not mandatory to follow the note if the original main term provides the necessary code. If the record does not indicate more to a condition, then assigning code I24.8 for demand ischemia may be appropriate.

- Angina is classified to category I20. There is an Excludes 1 note associated with the angina category code that excludes angina with atherosclerosis of the coronary arteries of native, bypassed, or transplanted vessels. If the physician documents that the patient has angina as well as coronary atherosclerosis, a code from one of the following subcategories should be assigned:

- • I25.11-, Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm; or

- • I25.7-, Atherosclerosis of coronary artery bypass graft(s) and coronary artery of transplanted heart with angina pectoris.

- A causal relationship can be assumed in a patient with both atherosclerosis and angina pectoris unless the physician documentation indicates that the angina is caused by something other than the atherosclerosis. If a patient has angina and there is no documentation of atherosclerosis of a coronary artery, an applicable code from the I20 category would be assigned.

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THANK YOU!

References

Pinson, R. Acute coronary syndrome: A cardiac conundrum *From the January* ACP Hospitalist, *2014 . American College of Physicians*

Circulation 2012; 126: 2020-2036