Types of Myocardial Infarction

Type I: Spontaneous Myocardial Infarction
- Due to atherosclerotic plaque rupture, ulceration, fissuring, erosion or dissection with resulting intraluminal thrombus leading to decreased myocardial blood flow or distal platelet emboli with ensuing myocyte necrosis

Type 2: Myocardial Infarction secondary to oxygen supply-demand mismatch
- By definition, acute atherothrombotic plaque disruption is not a feature of type 2 MI
- Imbalance between myocardial oxygen supply and/or demand, e.g. coronary artery spasm, anemia, respiratory failure, hypotension, sepsis, etc.

Type 3: Myocardial Infarction resulting in death with unavailable biomarkers
- Ex: a patient passes in the ED before lab work can be drawn
- Patient must have symptoms suggestive of myocardial ischemia accompanied by presumed new ischemic ECG changes or ventricular fibrillation

Type 4a: Myocardial Infarction related to percutaneous coronary intervention (PCI)
- Post PCI MI is defined as ≤ 48 hours after the index procedure AND troponin > 5 times the 99th percentile URL
  - If preprocedural troponins are normal
    - Troponin > 5 times 99th percentile URL
  - If preprocedural troponin values are elevated but stable (≤ 20% variation) or falling
    - Troponin > 5 times 99th percentile URL AND a change in baseline troponin > 20%

Type 4b: Myocardial Infarction secondary to stent/scaffold THROMBOSIS
Type 4c: Myocardial Infarction secondary to stent/scaffold RESTENOSIS

Type 5: Myocardial Infarction related to coronary artery bypass grafting (CABG)
- Some elevation of cardiac biomarkers is expected after surgery
- Post CABG MI is arbitrarily defined as ≤ 48 hours after the index procedure AND troponin > 10 times the 99th percentile URL
  - If preprocedural troponins are normal
    - Troponin > 10 times 99th percentile URL
  - If preprocedural troponin values are elevated but stable (≤ 20% variation) or falling
    - Troponin > 10 times 99th percentile URL AND a change in baseline troponin > 20%

*Adapted from the Fourth Universal Definition of Myocardial Infarction, Published August 2018*