

TWELVE LEAD EKG

EKG Changes:	EKG Changes In An MI:
ST segment depression: Ischemia	Hyperacute: ST segment elevation
ST segment elevation: injury	Subacute: Q wave & ST returns to normal T wave inversion
Q waves: Necrosis	Old MI: Normal ST segment & Q waves

Q Wave MI – Thrombus occludes the coronary vessel for a prolonged period of time.
Damage to all three layers: endocardium, myocardium, and epicardium.

- a. ST elevation
- b. Q wave(>.04 sec and/or 1/3 to 1/4 the height of the R wave)
- c. Reciprocal change

Non-Q Wave MI – Damage to the subendocardial layer of the heart. Intermittently occlusive thrombus may cause distal myocyte necrosis in the region supplied by the culprit artery. As the clot enlarges, microemboli originating in the thrombus may embolize and lodge in the coronary microvasculature causing small significant elevation of troponins.

- a. EKG changes: ST Depression. T wave inversion
- b. Treated with Nitrates and Beta-blockers
- c. High risk of infection

Location:	Reciprocal EKG Changes:
Inferior II, III, AVF	ST segment depression
Septal: V1, V2	Tall R waves
Anterior: V3, V4	
Lateral: V5, V6, I, AvL	
Posterior: V1-V3, reciprocal changes	
Reciprocal Changes: mirror image of an MI in the hyperacute stage, rarely seen in subacute state.	