



Collapse While Exercising: What is the Culprit

Jared McKinney, MD

Medical Director EMS Center of Excellence,
LifeFlight Ground/Critical Care/Event Medicine,
Mount Juliet Fire Dept.

Case Presentation

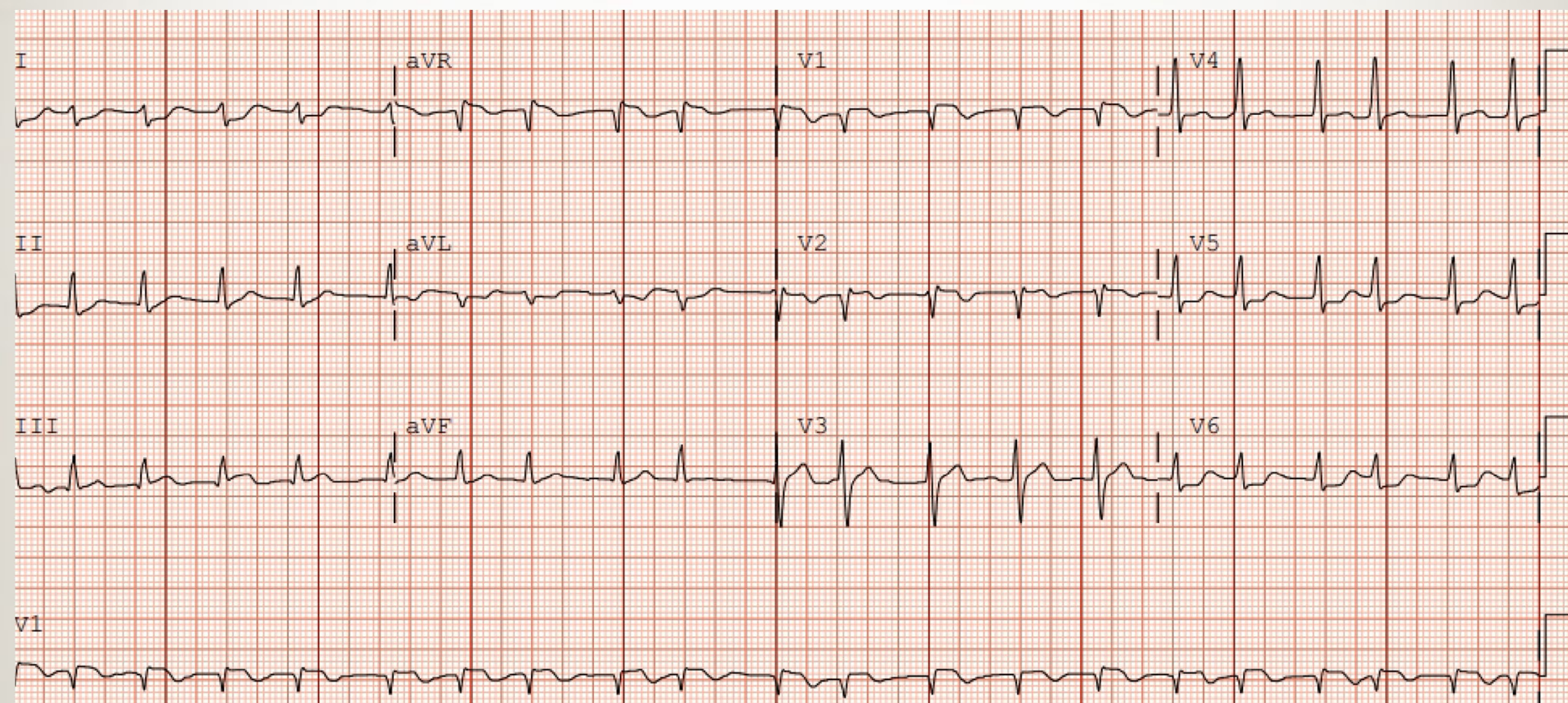
- 52 y/o female collapses while exercising
- Bystander CPR initiated and AED applied
- Shock advised
- Patient defibrillated 2x prior to EMS arrival
- Initial rhythm is ventricular fibrillation
- ACLS initiated and patient defibrillated a 3rd time

5 Non-traumatic Causes of Sudden Death

- MI
- Intracranial Catastrophe
- Massive Pulmonary Embolism
- Aortic Catastrophe
- Malignant Arrhythmia

Back to the Case

ROSC obtained after the 4th
defibrillation and a 12 Lead ECG is
obtained



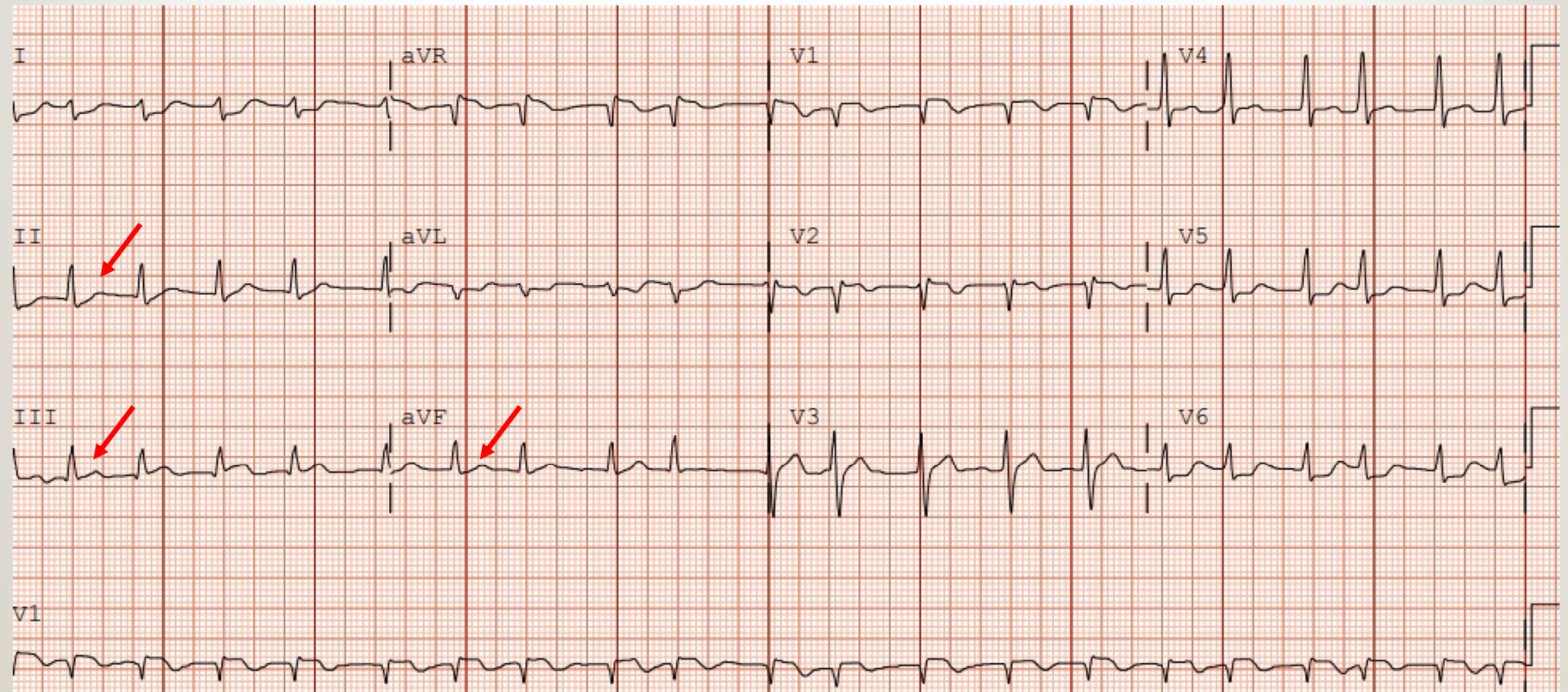
ECG's- Anatomy Matters

- Inferior
 - II, III, aVf
- Anterior
 - V1-V4
- Lateral
 - I, aVL, V5, V6
- Posterior
 - ST depression in anterior leads with upright T

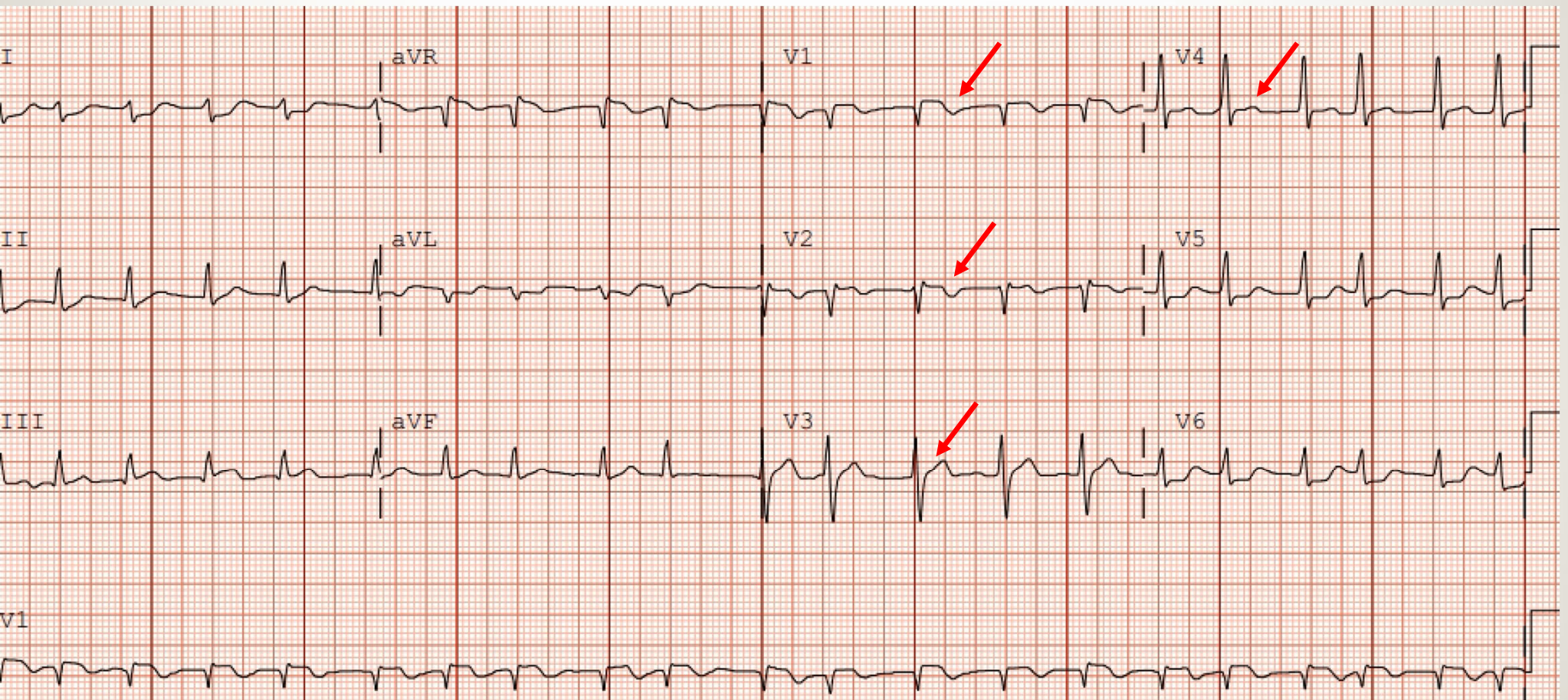
Reading for Ischemia/Infarction

- Any ST elevation is concerning
- After looking for ST elevation, look for reciprocal changes
- ECG's are dynamic, repeat them if time allows

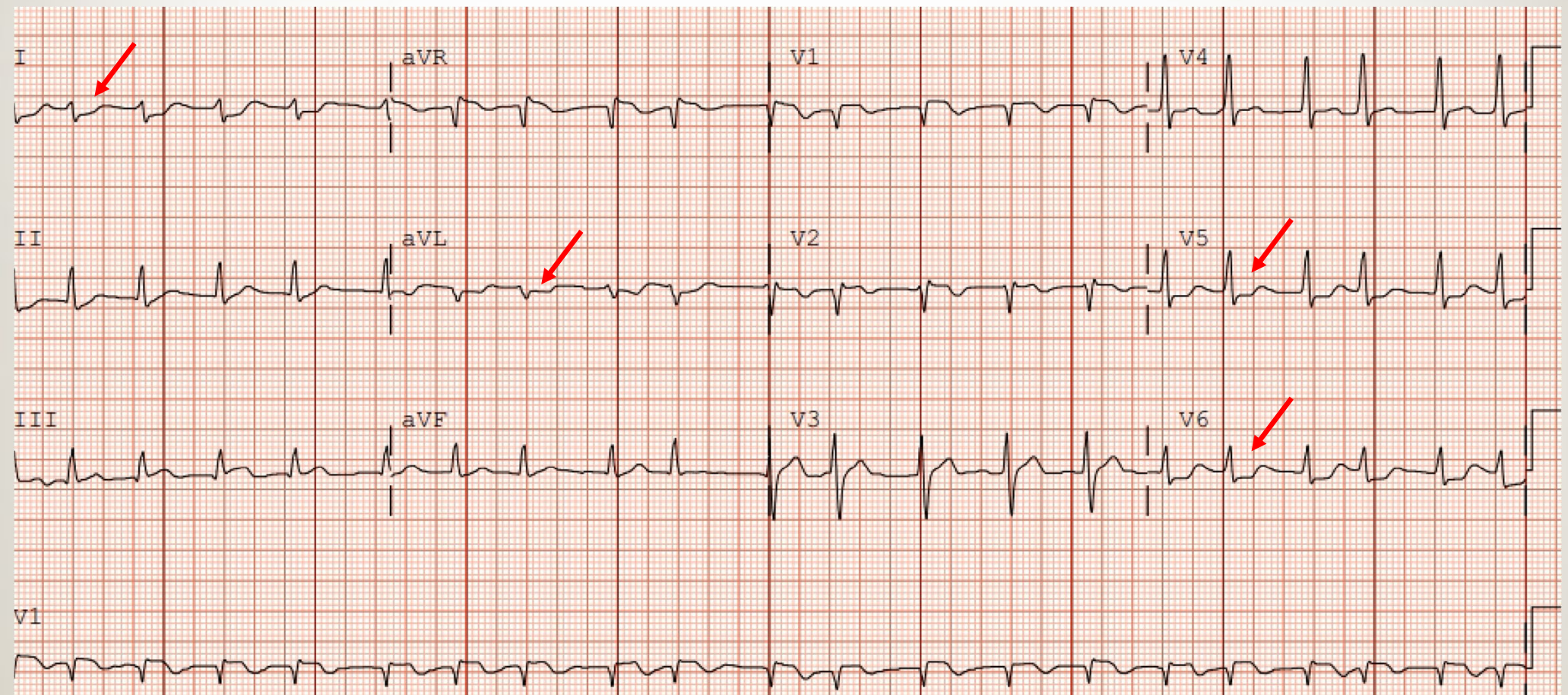
Inferior

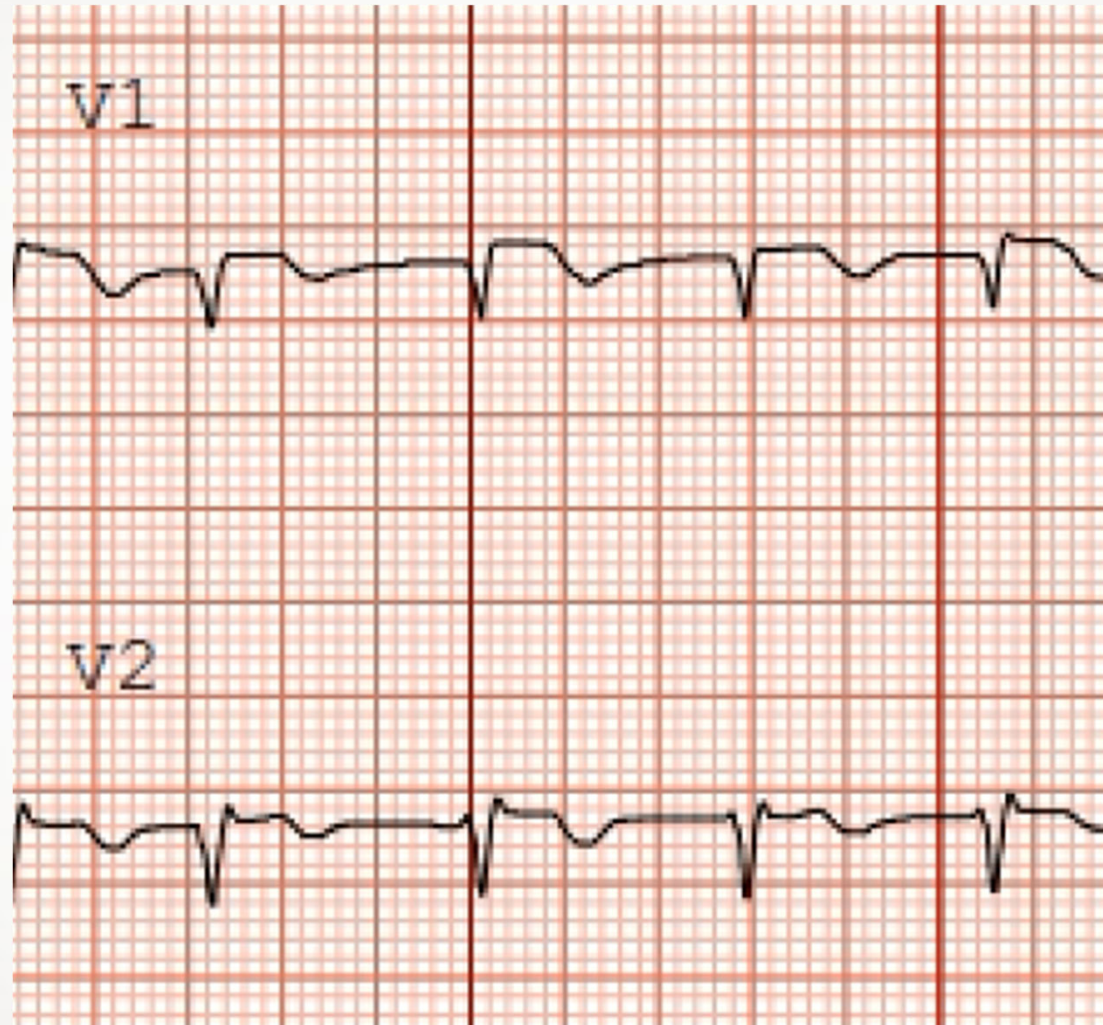


Anterior



Lateral





Putting It All Together

- Subtle ST elevation in VI-V2
- Reciprocal ST depression in V5, V6, I, and aVL
- Concerning for acute MI

Diagnosis:

Cardiac arrest secondary to acute
occlusive MI involving the Left
Anterior Descending Artery

Bonus Resource

- Defibrillation Strategies for Refractory Ventricular Fibrillation
 - <https://www.nejm.org/doi/full/10.1056/NEJMoa2207304>

