

The EKG
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Lots of ED patients get EKGs often because we don't want to miss a life-threatening MI, dysrhythmia, or conduction abnormality. Patients may only have abdominal pain, dizziness, or even just weakness.

EKG interpretation is a CORE SKILL in emergency medicine!!!

Approach: 1,2,3 get an old EKG

- 1) **Identify the rate and rhythm**, is there a dysrhythmia?
 - Find a P wave and determine if regular (a sinus rhythm)
 - If not consider your differential for tachy/brady dysrhythmias
- 2) **Systematically look for ischemia**
 - Check for **Q waves**
 - Check for **ST segment elevation or depression** by comparing the J point (the curvy part after the S wave) with electrical baseline (between T wave and P wave)
 - **Look for peaked T waves and T wave inversions.** Inverted T waves in aVR and/or V1 in isolation are not concerning.
 - If you see an abnormality, look in other anatomical leads (see quick facts section)
- 3) **Look at intervals**
 - PR – checking for WPW and blocks
 - QS – looking for conduction abnormalities. **LBBB is concerning for potential new/old MI**
 - QT – looking for **long QT** as this is a risk factor for R on T phenomenon and Torsades (a polymorphic ventricular tachycardia!)
- 4) **Compare all of this with a baseline EKG!!!**

Quick Facts

- One method to learn EKGs:
 - 1) Get "ECG's for the Emergency Physician" by Amal Mattu and William Brady
 - 2) Try to figure out the EKG yourself, write down your answer
 - 3) Read the description, write down what you didn't know
 - 4) Repeat 200 times =)
- Know your anatomical leads
 - II, III, aVF
 - I, aVL
 - V1-V4
 - V5-V6
- Sgarbossa's Criteria = ≥ 1 mm concordant STE, ≥ 1 mm concordant STD in V1-V3, ≥ 1 mm STE $\geq 25\%$ of depth of preceding S wave.