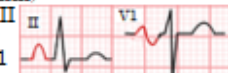


4. Hypertrophy

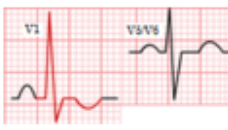
RAE

- tall (>2.5 mm)
- P wave in II
- diphasic P wave in V1



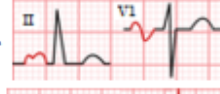
RVH

- RAD
- rSR' in V1
- Persistent S wave in V5, V6



LAE

- wide (>3mm)
- P wave in II
- notched or diphasic P in V1



LVH

- R in aVL > 11 mm
- S in V1+ R in V5/V6 = 35 mm



5. Injury, Ischemia, Infarct

Location

Inferior (RCA)

Lateral Wall (LCX)

Anteroseptal (LAD)

Anterior Wall (LAD)

Extensive Anterior Wall (LAD)

Posterior Wall (RCA)

ST Elevation

II, III, aVF

I, aVL, V5-V6

V1-V4

V1-V5

V1-V6, I, aVL

Reciprocal

I, aVL

II, III, aVF

V1-V3



Ischemia

- see ST depression or symmetrical TWI
- QRS and T should always point in same direction



Injury (acute)

- ST elevation, tall peaked T-waves or TWI
- if Q waves also present = acute infarct
- DDx: MI, early repolarization, pericarditis, epicardial injury



Infarct

- Significant Q Waves:
 - Q waves 0.4s (1 small box) in duration
 - Q wave > 1/3 height of QRS complex
 - Q waves persist after initial injury

6. Electrolytes

Hypocalcemia

- Prolonged QT/QTc due to prolonged ST

Hypercalcemia

- Shortened QT/QTc
- J waves if severe

Hypokalemia

- Flat T waves or TWI
- U waves

Hyperkalemia

- Flat P wave
- Wide QRS
- Peaked T waves

PSVT

- Prolonged QT/QTc due to prolonged ST

7. Dysrhythmias

PSVT

- Prolonged QT/QTc due to prolonged ST

VTach

- Shortened QT/QTc
- J waves if severe

V-Fib

- Flat T waves or TWI
- U waves

Torsades

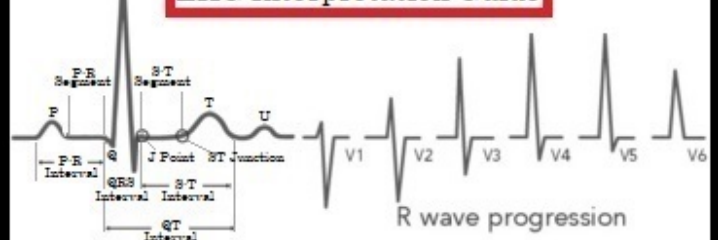
- Flat P wave
- Wide QRS
- Peaked T waves

Accelerated Idioventricular

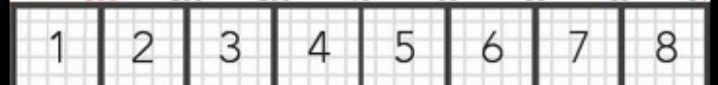
- Flat P wave
- Wide QRS
- Peaked T waves



EKG Interpretation Guide



1. Rate Small Box = 0.04 s Big Box = 0.20 s Normal = 60 - 100 bpm



i. Count large boxes between QRS complexes

2. Rhythm/Intervals

- is there a P before every QRS?
 - yes = Sinus Rhythm
 - yes but irregular shape = Wandering (<100 bpm)
 - Multiple regular P waves = Atrial Flutter
 - no = A-fib, junctional/escape, ventricular
- is P upright in II and inverted in aVR?
 - >0.20s = 1° AV Block
 - Gradual PR lengthening then drop QRS = 2° AV Block (Wenkebach)
 - Normal PR with sudden dropped QRS = 2° AV Block (Mobitz II)
 - Complete dissociation between Ps and Qs = 3° AV Block (Complete)
 - <0.12s seen in AVRT (like WPW)
- what is the PR interval? [N = 0.12 - 0.20s]
 - >0.12s = Bundle Branch Block, Ventricular
 - RBBB: rSR' in V1, broad S wave TWI in V1-V3
 - LBBB: rS complex in V1 broad monomorphic notched R wave in V5/V6 "rabbit ears"
- what is the QRS interval? [N = 0.08 - 0.12s]
 - >0.12s = Bundle Branch Block, Ventricular
 - RBBB: rSR' in V1, broad S wave TWI in V1-V3
 - LBBB: rS complex in V1 broad monomorphic notched R wave in V5/V6 "rabbit ears"
- what is QT/QTc interval? [N = ~0.46s (M); ~0.46s (F)]

3. Axis

