ECG INTERPRETATION SUMMARY SHEET

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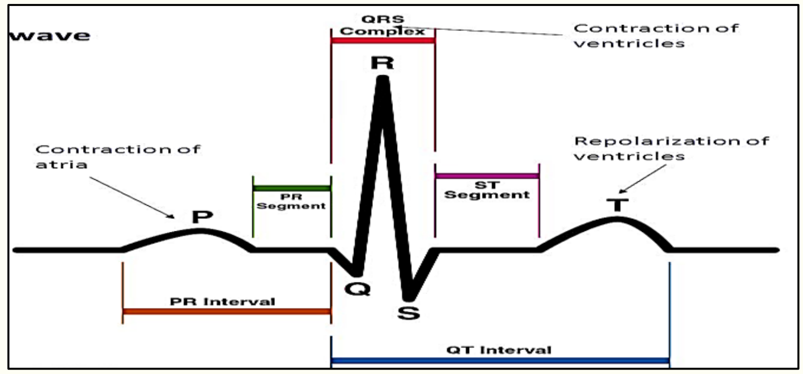
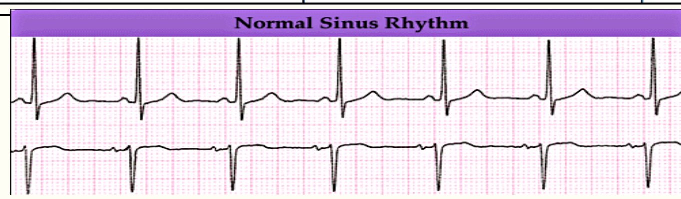
CARDIOCARE GUIDELINES

- Check Calibration & Lead Placement (II, aVR)
- Check Identity & review clinical scenario
- Interpret ECG
- Take corresponding clinical action and/or refer appropriately
- Seek a second opinion/Refer when unsure
- A “normal ECG” does not always rule out cardiovascular disease, check again



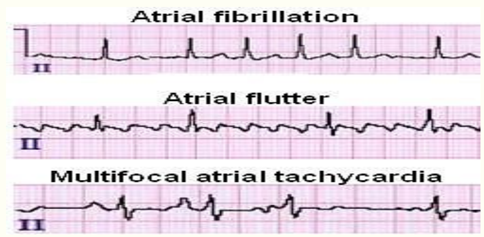
1. RHYTHM? (Use II and V1/V2)

a. Are the R-R Intervals equal?
b. Is P wave upright in lead II and inverted in AVR?
c. Are all P waves similar and normal looking?
d. Are all QRS complexes preceded by a P wave?
e. Are all P waves succeeded by a QRS complex after it?



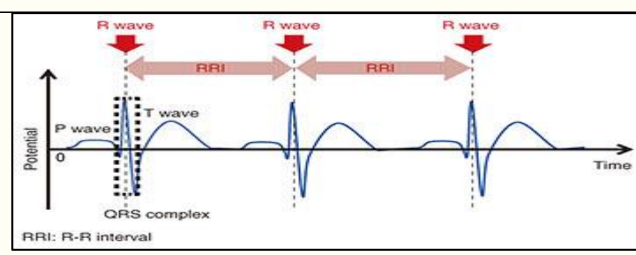
RHYTHM EXAMPLES

- Absent P wave with:
  - Narrow irregular QRS – Atrial Fibrillation
  - Narrow regular QRS = Junctional Tachy
  - Wide Regular QRS = Ventricular Tachy
- Multiple irregular P waves- Atrial Flutter
- Different types of P waves- Multifocal atrial tachycardia
- Absent QRS after a P-wave:
  - Dropped QRS after progressively prolonging PR Interval- Mobitz 1, 2˚AV block
  - Regular dropping QRS after 2 P- Mobitz 2, 2˚AV block
  - QRS and P waves not in sync at all- Complete AV Block



2. RATE?

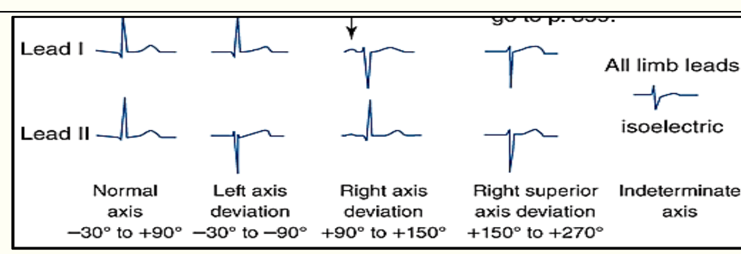
300 divided by NO OF BIG SQUARES BETWEEN R WAVES (use average number if unequal RR interval)
Normal: 60-100



3. AXIS?

LEAD I & II

	Positive I	Negative I
Positive II/aVF	NORMAL AXIS	RIGHT AXIS
Negative II/aVF	LEFT AXIS	EXTREME



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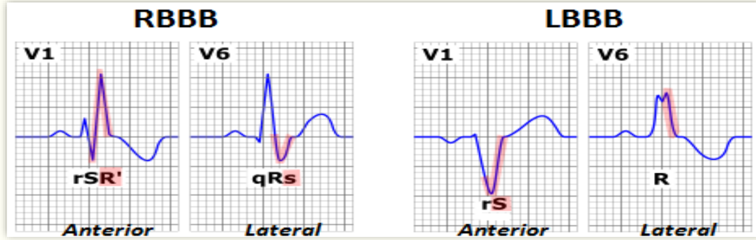
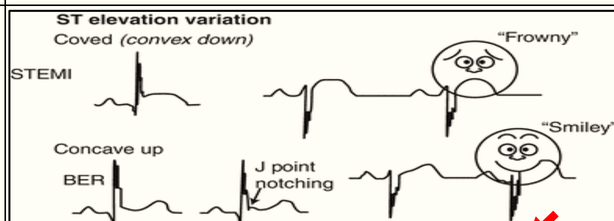
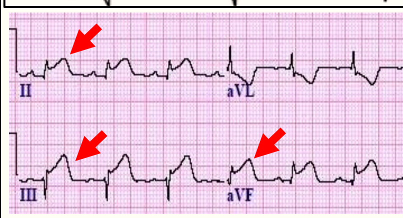
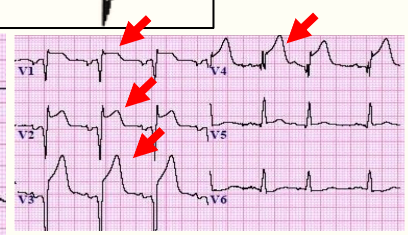
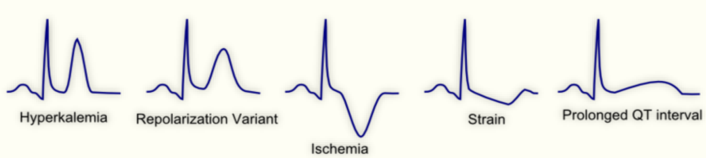
4. INTERVALS? LONG/SHORT • **PR INTERVAL** should not be more than 1 big box (1° AV block) or less than 3 small boxes (Pre-excitation) o Long PR Interval- 1° AV block o Short PR Interval- Pre-excitation Syn o Elevated PR Segment- Pericarditis • Wide QRS with pattern in V1 & V6 o RSR pattern ("M") in V1, W in V6 = Right Bundle Branch Block (**M**a**RR**o**W**) o SRS pattern ("W") in V1, M in V5 = Left Bundle Branch Block (**W**i**LL**ia**M**) • Wide QRS without pattern o Long in Hyperkalemia • Short QRS in Hypercalcemia	o ***PR INTERVAL should not be more than 1 big box or less than 3 small boxes*** o ***QRS INTERVAL should not be more than ½ big box*** o ***QT INTERVAL should not be more than ½ R-R interval*** 
5. SEGMENTS: UP/DOWN • **ST SEGMENT DEPRESSED OR ELEVATED?** *>1 small box except in V2 and V3 where it should be greater than 2 small boxes to be significant* o ***De****pressed* = ***De****mand* Ischemia; o Elevated = Supply Ischemia o *MUST BE IN AT LEAST 2 CONTIGUOUS LEADS* for diagnosis of Ischemia: ▪ **Lateral-** I, aVL, V5, V6 ▪ **Septal-** V1, V2 ▪ **Anterior-** V3, V4 ▪ **Inferior-** II, III, aVF	  
6. CHAMBERS • **LA Enlargement**: Bifid wide P waves >2.5 small boxes- • **RA Enlargement**: Peaked tall P waves >2.5 small boxes- • **LV Enlargement (LVH):** o R or S wave>25mm in V1,2,5 or 6 o S (V1) + R (V5 or V6) >35mm • **RV Enlargement (RVH):** o R>S in V1	
7. WAVE MORPHOLOGIC PATTERNS **Q Wave:** *1st negative deflection after P represents septal depolarization* • How big? Only abnormal if >25% of R or Taller than 1 small square • How long? Only abnormal if longer than 1 small square **T WAVE:** • Tall T waves with wide QRS and Normal ST = Hyperkalemia • Inverted in contiguous leads = ischemia or infarct	 

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SPECIALTY HOSPITAL

•Clinical & Interventional Cardiology (Cathlab) •Endocrinology & Diabetology •Neurology •Nephrology and Dialysis •Hepatology •Rheumatology •Critical and Intensive Care •Internal Medicine

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