## The TEN Rules of the 12 Lead ECG in Adults

**1.** All waves are negative in lead aVR.

2. The ST starts isoelectric except in V1-V3

3. The PR interval should be 0.12-0.20sec.

4. The QRS complex should not exceed 0.12sec.

5. The QRS and T waves tend to have the same general direction in the limb leads.

6. The R wave in the precordial leads grows V1 to at least V4.

7. The QRS is mainly upright (Positive) in I & II.

8. The P wave in upright (Positive) in I, II, V2-V6.

9. There is no Q wave or only a small q <0.04 (1 small square) in width in I, II, V2-V6.

10. The T wave is upright (Positive) in I, II, V2-V6.



## TIPS >

- Rule out nonischaemic causes of ST elevation such as LVH, RBBB, LBBB, Early repolarisation, electrolyte abnormalities, ventricular pacing.
- For Inferior STEMI, record V4r to check for ST Elevation > 0.5mm which suggests RV involvement.
- If there is isolated ST depression in two of V1-V4 record V7 V8 V9 to check for ST elevation > 0.5mm which suggests posterior wall involvement / STEMI.
- ST Depression in 6 limb leads and ST Elevation in aVR and V1 may suggest left main obstruction or multivessel disease (NOTE: extreme tachycardia and other causes of ischaemia can produce this pattern).
- LBBB with ST Elevation in a lead with upright QRS suggests STEMI (Sgarbossa criterion).



LOCALISING Ischaemia or Injury >



## AXIS DEVIATION



POSITIONING 12-Lead ECG Electrodes >

corpuis

- Broadened diagnostics with 22 leads
- Posterior leads V7-V9
- Right cardiac leads V3r-V6r
- Orthogonal leads X, Y, Z and Vectorloops
- Only 10 electrodes, extremities and chest leads

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