

ECG Interpretation

- ❖ All ECG machines run at a standard rate using standard paper
- ❖ 1 large square = 0.2 seconds
- ❖ 5 large squares = 1 second
- ❖ P wave = atrial depolarisation
- ❖ QRS complex = ventricular depolarisation
- ❖ T wave = ventricular repolarisation (atrial repolarisation is hidden in QRS complex)
- ❖ Positive (upward) deflection indicates current travelling towards sensing electrode
- ❖ Negative (downward) deflection indicates current travelling away from sensing electrode.
- ❖ The V (chest), I and II leads "look" at the anterior while III and VF leads "look" at the inferior myocardium
- ❖ You need to know the rate and the rhythm
 - Divide number of large squares between adjacent R waves into 300 to get rate
 - e.g. 1 R wave every 5 large squares = 60 bpm
 - If successive QRS complexes are regularly spaced the rhythm is regular (sinus)
 - If successive QRS complexes are irregularly spaced the rhythm is irregular
 - e.g. BBB, AF, VT, VF!
- ❖ Complexes should be narrow (see below for maximum timings)
 - Wide complexes indicate slow (abnormal) conduction
 - e.g. ventricular ectopics, bundle branch block, VT, VF!
- ❖ Every QRS complex should be preceded by a P wave
 - Suspect AF if no P waves present
- ❖ Q waves should be no more than 1 small square wide and 2 small squares deep
 - Pathological Q waves indicate myocardial infarction (cavity potential)
- ❖ P, QRS & T waves should start and end on isoelectric point
 - ST segment elevation suggests infarction or pericarditis
 - ST segment depression suggests ischaemia (exercise ECG and ST depression - angina)

