ECG Interpretation

1) RHYTHM:
regular, regularly irregular, irregularly irregular

2) RATE:
tachy or brady

3) Cardiac Axis Deviation:
S greater than R in lead I = RIGHT AXIS
S greater than R in lead II = LEFT AXIS

3) P wave
= atria depolarising
should be 1 P for every QRS:
How many Ps per QRS?
How long is the PQ interval?
irregular P with irregular rhythm QRS = AF
absent P with wide QRS = Ventricular Tachy
absent P with narrow QRS = Junctional Tachy
continuos undulating sawtooth baseline P = Atrial Flutter
continuos with 2P per 1 QRS = Atrial Tachy with block
bifid Long P waves = LA enlargement
peaked tall P waves = RA enlargement
normal rate, 2Ps per QRS = second degree block
Progressive PQ lengthening = second degree block
Long PQ interval = first degree block
Ps don't match to QRS, very brady = complete block
No P wave but a solitary QRS = ventricular extrasystole

4) Q wave
= septum depolarising or hole in conduction pattern
HOw BIG? Normal unless large.
Big Q wave = Infarct in the direction of THAT LEAD

5) QRS
= ventricles depolarising:
HOw BIG? Normal under 25mm
HOw WIDE? Hyperkalemia, BBB
DEFORMED QRS?
Huge tall QRS = LV hypertrophy
Weak little QRS = old infarcted muscle
RSR pattern (“M”) in V1 = Right Bundle Branch Block
SRS pattern (“W”) in V1 = Left Bundle Branch Block
A “Delta” wave (gently up-sloping R) =
Wolff-Parkinson-White Syndrome

6) ST SEGMENT:
DEPRESSED OR ELEVATED? Biggest ST points to the lesion
Depressed = demand ischaemia, elevated = supply ischaemia
Down-sloping ST = Digoxin therapy
CONCAVE ST elevation in all leads, with elevated PR in aVR \(\rightarrow\) pericarditis

7) T wave
= ventricles repolarising
TALL? INVERTED?? WITH “U” WAVE???
inverted = infarct in last 24 - 48 hrs; without Q waves = Subendocardial infarct
continuously painlessly inverted = LV hypertrophy
with U wave = HYPOKALEMIA
Tall T waves, Wide QRS, no ST segment = HYPERKALEMIA

9) U wave
just a little bump on the end of the T wave = HYPOKALEMIA

The higher the Ca++
The shorter the QT