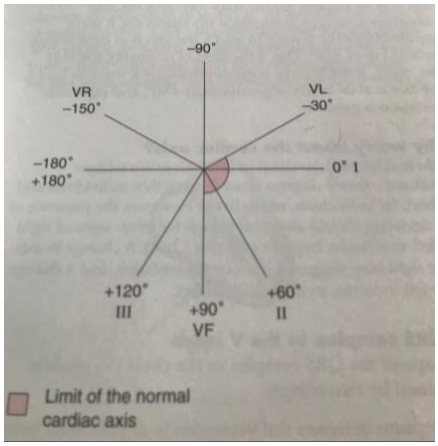
Teaching ECG interpretation

GLOBAL MARK			
CLEAR PASS	BORDERLINE PASS	BORDERLINE FAIL	FAIL

Criteria

Introduces Self, Confirms patient identify, Washes hands	2, 1
Checks comfort level of patient and gains consent for teaching	2, 1
Identifies current level of knowledge of learner	
Sets Objectives for sessions Introduce a system for ECG interpretation	
Explains indications	
Explains contraindications	
ECG – patient information recorded on it	
Paper – Large squares 5mm, 0.2s, Small squares 0.04s, or 40ms Speed is 25mm/sec	
Rate – 300/Number of big squares between QRS Or number of complexes on rhythm strip x6	
Rhythm – At this stage regular or irregular	
Axis –  VR and II are mirror images of eachother The average direction of spread of depolarization is between 11 and 5 oclock. Lead two is in the middle of the 3 so it gets most of the signal. So is most positive normally. If the RV gets bigger, it will pull the average depolarization to the right (lead III will get more positive), if the LV gets bigger it will pull the average deprolarisation to the left (I will get bigger). Left Axis deviation I and III pointing away from eachother and II is negative. RAD – 1 and 3 pointing towards eachother	
P waves = should fit in 1 little box	
PR interval [beginning of P wave to beginning of QRS] 3-5 little boxes	
QRS – duration 2-2.5 small squares	
Q waves – ANY negative deflection that precedes the R wave. Big/Deep Q waves are bad [>1mm wide >2mm deep or in V1-3]	
QTc – Start of Q wave, end of T wave. Represents depolarization of the ventricles	

QT/√RR [all measured in seconds] QT goes down as HR goes up.	
T waves - Same direction as QRS - Shape - ?hyperkalaemia ?hypokalaemia - Hyperacute – broad, asymmetrically peaked, eg T wave > V6 QRS	
ST depression	
Other irregularities Long QT Delta wave – slurred upstroke of QRS suggestive of WPW U wave – follows T wave, in hypokalaemia, bradyarrythmias, hypothermia Epsilon wave – characteristic of arrhythmogenic right ventricular dysplasia (positive blip at end of QRS) Brugada – coved ST segment in V1-3 followed by negative T Osborn/J wave – hump at the j point (end of QRS) – hypothermia, hypercalcaemia	
Summarises ECG findings well	
Invites questions and manages them well	
Checks understanding	
Identifies further learning for learner to cover	
Summarizes session/objectives	