

Remember to discuss all atraumatic chest pain with a senior if considering discharge

Benign Early Repolarization

- AKA 'High take-off'
- Usually a normal variant
- Usually in young & healthy <50 years old
- Widespread ST elevation
- Common finding in young people but gets confusing if that person attends with chest pain with chest pain (10- 15%)

What does it look like?

- Widespread **concave** ST elevation usually limited to limb leads
- Notch or slur at J point
- Prominent T waves in the **same direction** as QRS
- Elevation **<25% T wave height**
- <2mm precordial & <0.5mm limb leads
- **No reciprocal** ST depression
- **Doesn't progress** with serial ECGs **at rest**



Beware in the context of syncope or a family history of sudden cardiac death! It does have a small association with descent to VF especially if prominent in inferio- lateral leads.

Pericarditis

- Inflammation of pericardium (usually viral induced in developed world e.g. coxsackie B)
- Characteristic pleuritic retrosternal chest pain which increases on lying flat
- May have a friction rub or muffled heart sounds from pericardial effusion

What does it look like?

- Sinus tachycardia
- Widespread "saddle shaped" ST elevation
- PR depression
- ST depression and PR elevation in aVR +/- V1
- May have low voltage QRS if pericardial effusion
- No J point notch
- Measure height of ST elevation and height of T wave; if ST elevation >25% of T wave the pericarditis is more likely than BER



LBBB

- Septum normally depolarises from left to right, reversed in LBBB
- Multiple causes, acute onset should always consider MI

Usually LBBB ECG shows:

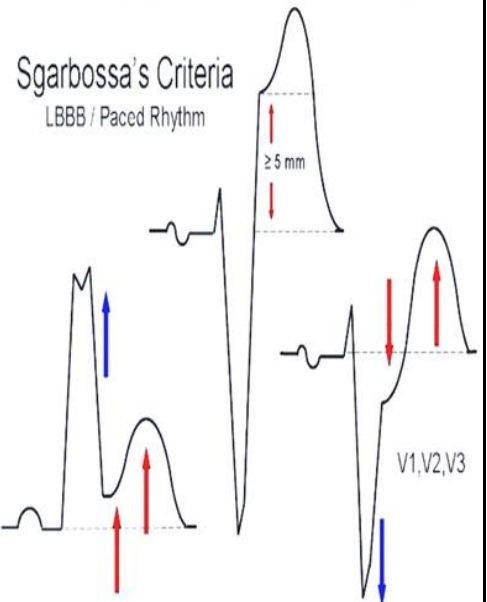
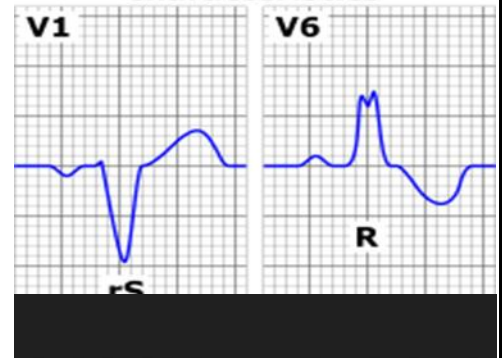
- ST elevation and TWI vs broadened QRS is usually 'normal'
- Poor R wave progression
- Left axis deviation
- Also seen in paced rhythms
- If known LBBB it makes diagnosing acute MI very difficult

Modified Sgarbossa criteria

1. ≥ 1 leads with ≥ 1 mm of concordant (same direction as QRS) STE
 - Scores 5 points
2. ≥ 1 leads anywhere with ≥ 1 mm of **discordant** STE, if STE is $\geq 25\%$ depth of preceding S wave (ignore the ' ≥ 5 mm' in the diagram, that's the old criteria)
 - Scores 2 points
3. 1 or more leads of V1-V3 of concordant ST depression
 - Scores 3 points

A score ≥ 3 points has specificity of 90% for diagnosing acute MI

Left bundle branch block characteristics



Brugada Syndrome

- Inherited myocardial sodium 'channelopathy'
- Young people at risk of paroxysmal ventricular arrhythmias and sudden cardiac death

What does it look like?

- Persistent ST elevation in leads V1-3 with RBBB
- ST elevation is 'coved' or 'saddle shaped'
- Adrenergic stimulation reduces STE; Vagal stimulation worsens STE
- PR prolongation may also be present
- Exercise has patient dependent effects- for some it increases, for others it decreases STE
- Management involves placement of an implantable defibrillator

