**STRESS TESTING: WHAT EVERY TECHNOLOGIST NEEDS TO KNOW**

**ECG Findings**

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### Intraventricular Conduction Abnormalities

#### Left Bundle Branch Block
- Wide QRS (duration ≥120 ms)
- Broad/slurred R wave in I, AVL, V5, V6
- Absent q waves in I, V5, V6
- R wave peak time >60 ms in V5 and V6
- WillAms: W pattern in V1, M pattern in V6
- Uninterpretable for ischemia

#### Right Bundle Branch Block
- Wide QRS (duration ≥120 ms)
- rsr', rsR', or rSR' pattern "Rabbit ears" in V1
- Deep slurred S wave (>40 ms) in I and V6
- MallRtoV: M pattern in V1, W pattern in V6

#### Intraventricular conduction delay (IVCD)
- QRS ≥100 ms
- Does not meet criteria for either LBBB or RBBB

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### Bradyarrhythmia “Slow”

#### First Degree AV block
- Prolonged PR >200 ms

#### Second degree AV block Mobitz type I
- PR interval gradually increases then a QRS complex gets dropped (dropped beat)

#### 2:1 AV block
- Every other P wave is conducted. Can be secondary to Mobitz I or Mobitz II

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### Tachyarrhythmias “Fast”

#### Atrial Fibrillation
- No clear P waves
- Irregularly irregular rhythm/tachycardia

#### Atrial Flutter
- Flutter waves (Saw-tooth appearance)
- Fixed (usually 2:1) or variable AV block
- Usually at 130-150 bpm

#### Ventricular Tachycardia
- Wide QRS: Usually >140 ms; rate >100 bpm
- Non-sustained → <30 seconds and no requirement of emergency termination
- Sustained → >30 seconds or requires emergency termination if there is evidence of hemodynamic compromise

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### Other Tachycardias

- Sinus tachycardia
- Atrial tachycardia
- SVT: supraventricular tachycardia

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### Ischemic Changes

#### ST Depression
- ≥1 mm horizontal or down-sloping ST Depression in two or more leads
- Measured at 60-80 ms after the J-point
- During exercise, pharm stress and/or recovery

#### ST elevation
- ≥1 mm ST segment elevation in the absence of q-wave
- High risk feature and localizing for myocardial ischemia
- Suggests transmural ischemia or severe multivessel coronary artery disease
- ST elevation in aVR may be suggestive of multi-vessel or left main disease

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**Safe for Regadenoson**

**Regadenoson contraindicated**