Choice of Stress Test Algorithm

Consider Cardiology Input:
- Acute (NQW)MI, Wellen's
- Severe AS or subaortic stenosis (HCM)
- Ongoing unstable symptoms, esp. w/ ECG changes
- Unstable CHF/arrhythmia

Can the patient exercise to high workload?

Yes

Is the ECG interpretable?

Yes

Exercise treadmill test (ETT)
Consider SPECT perfusion for:
- viability assessment
- evaluation of known lesion
- prior revascularization

No

Resting ECG with:
LVH, > 1mm ST depression, WPW or patient on Digoxin

Exercise SPECT perfusion
or
Exercise Echo

Resting ECG with:
LBBB, paced rhythm, afib with high exertional HR

Vasodilator SPECT perfusion

No

Is ECG Paced, with LBBB or Afib

Yes

Vasodilator SPECT perfusion

No

Vasodilator SPECT perfusion
or
Dobutamine SPECT perfusion
or
Dobutamine Echo
(unless resting wall motion abnormality)

Contraindications

Vasodilators: severe reactive airways (particularly with regular steroid or O2 dependence), hypotension, sick sinus syndrome, high degree heart block, oral dipyridamole (persantine perfusion can still be used), caffeine within 12 hours, theophylline within 48 hours

Dobutamine: ventricular arrhythmias, recent MI (within 3 days), unstable angina, hemodynamically significant outflow tract obstruction, aortic dissection, severe hypertension

Note: Stress Echo imaging may provide improved specificity but reduced sensitivity. It is less preferred if known or suspected technically limited image quality.