

Choice of Diagnostic Stress Test

Exercise ECG without imaging:

Obtain in patients with an intermediate probability of CAD who are able to exercise, including patients with <1 mm ST depression or complete right bundle-branch block on a resting ECG

Exercise ECG is accurate in patients with complete right bundle-branch block (a positive test is indicated by exercise-induced ST-segment depression in the inferior leads or lateral precordium) or <1 mm of baseline ST-segment depression on the resting ECG

Left ventricular hypertrophy with repolarization abnormality on the resting ECG reduces the specificity of exercise treadmill testing

Digoxin often causes ST-segment depression and reduces the specificity of exercise treadmill testing

Hold β -blockers and nitrates for approximately 48 hours (4-5 half-lives) when feasible before diagnostic exercise treadmill testing

Exercise ECG with myocardial perfusion imaging or exercise echocardiography

Obtain in patients with an intermediate probability of CAD who are able to exercise and have one of the following baseline ECG abnormalities:

Pre-excitation (Wolff-Parkinson-White) syndrome

More than 1 mm of ST depression

Also appropriate in patients who are able to exercise with an intermediate pretest probability of CAD and have a history of previous revascularization (PTCA or CABG)

May be preferable studies in patients who take digoxin or have LVH with less than 1 mm of ST depression at rest

Exercise echocardiography is an acceptable choice in patients with left bundle-branch block on rest ECG

Pharmacologic stress myocardial perfusion imaging or dobutamine echocardiography

Obtain in patients with an intermediate pretest probability of CAD and:

An electronically paced ventricular rhythm; or

Left bundle-branch block (exercise stress testing is associated with an increase in false-positive test results)

Also appropriate in patients with an intermediate pretest probability of CAD who are unable to exercise

Notes:

Stress imaging is recommended to further stratify patients with intermediate risk diagnostic exercise treadmill tests

Exercise (treadmill or bicycle ergometer) is preferred to pharmacologic stress in most instances; it provides the most information regarding symptoms, cardiovascular reserve, and hemodynamic response during activity

Exercise or pharmacologic stress testing is safe in low-risk outpatients with unstable angina and in low- or intermediate-risk inpatients with unstable angina who have had an acute MI ruled out, are angina-free at rest, and do not have symptomatic heart failure (69)

CABG = coronary artery bypass grafting; CAD = coronary artery disease; ECG = electrocardiography; LVH = left ventricular hypertrophy; MI = myocardial infarction; PTCA = percutaneous transluminal coronary angiography.

Table from *Physicians Information and Education Resource (PIER), Chronic Stable Angina* module.