ECG, Echocardiography, or MPI for Cardiac Screening: Guidance from the ACP

Key Points for Practice
- Cardiac disease screening using resting or stress ECG, stress echocardiography, or stress MPI should not be performed in low-risk adults without symptoms.
- Emphasis of care should be on reducing the factors that affect a patient’s cardiovascular risk and promoting exercise.

Benefits and Harms
Benefits of screening with imaging include detecting coronary heart disease that has not yet been diagnosed, and determining if a person has a higher risk of a cardiovascular event, such as myocardial infarction or arrhythmia.

Harms associated with stress tests include sudden death or an event in which a patient needs to be hospitalized; however, the risk is minimal, estimated at one per 10,000 exercise ECGs performed. Pharmacologic agents used to induce stress can have adverse effects, such as hypotension or myocardial ischemia, but the rates of serious effects appear to be low.

There are also harms stemming from false-positive results, such as anxiety and unnecessary treatments or follow-up tests, and from true-positive results, such as disease labeling and health insurance issues (e.g., increased cost). Downstream harms are also possible from follow-up tests and treatments.

High-Value Care Recommendations
Cardiac disease screening using resting or stress ECG, stress echocardiography, or stress MPI should not be performed in low-risk adults without symptoms. Instead, the focus should be on reducing each patient’s risk by addressing adjustable factors that increase the patient’s risk (e.g., smoking, diabetes mellitus, being overweight) and promoting exercise. Global risk calculators such as the Framingham Risk Score (http://cvdrisk.nhlbi.nih.gov/calculator.asp), SCORE (www.heartscore.org/Pages/welcome.aspx), and PROCAM (www.myhealthywaist.org/evaluating-cmr/assessing-cvd-risk-traditional-approaches/procam/page/5/index.html) can be used to help assess risk for heart disease.

Guideline source: American College of Physicians

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