

Evidence Discussion (CD 2.1-2.3)

Transthoracic Echo

- Transthoracic echocardiogram (TTE) is an ultrasonic examination of the heart through the chest wall. Given that sound waves are used (sonography) there is no exposure to ionizing radiation or possible complications related to contrast induced nephropathy.
- It is readily accessible and transportable allowing for the test to be performed at multiple different locations with no need for blood work.
- TTE is widely accepted as initial imaging modality of choice for the general evaluation of cardiac and pericardial structure and function^{1,12}
- Multiple evidence based professional society guidelines indicate that TTE can be appropriately used for the evaluation of multiple cardiac issues including but not limited to evaluation of cardiac symptoms, dyspnea and pulmonary hypertension.²
- A complete comprehensive TTE will utilize multiple acoustic windows and incorporate 2- dimensional imaging with appropriate data; including measurements with color and spectral Doppler imaging.³
- The test is performed and interpreted by qualified individuals in a facility that is accredited in performing echocardiograms.³
- TTE is the primary imaging tool for screening of family members with thoracic aortic disease as well as genetic syndromes that are associated with thoracic aortic aneurysms and dissection.⁶⁻⁸ It is not indicated for screening of asymptomatic individuals in the general public in the absence of family history of cardiac, vascular, or associated connective tissue disorder.^{2,16}
- TTE offers real time hemodynamic assessment which may be used in the guidance of therapeutic interventions.¹¹
- Repeat echocardiograms may be done for the surveillance of known valvular heart disease, cardiomyopathies, pulmonary hypertension, and cardiotoxic agents.¹⁰ The need for surveillance echocardiograms are dependent on factors such as morphology, severity, family history of cardiomyopathies, timing of surgery, left ventricular function, symptoms, and for follow up of post cardiac structural interventions.¹⁰ Timing of surveillance echocardiograms are in alignment with recommendations from various national and international medical specialty organization guidelines and Appropriate Use Criteria based on studies which analyzed progression of valvular disease and timing of invasive intervention.^{10,12}

References

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