Test Name	With/Without Contrast	Test is For	Pre-Procedure	Teaching	Post-Procedure
Angiography	Yes	To identify lesions, occlusions, degree of ischemia	• NPO up to 12 h • Consent needed • Checklist completed • IV access site in groin or antecubital space	• Lie prone on a table • Area where catheter will be inserted will be numbed • After catheter is inserted & dye injected, pictures will be taken • May receive IV conscious sedation	Monitor for: • Reaction to contrast agent • Embolus (stroke): LOC, symmetry, speech, visual • Hematoma or hemorrhage at insertion site • Renal dysfunction (given mucamist to bind to dye & excrete) • Conscious sedation – VS, resp status, & safety
Computed Tomography (CT) Computerized Axial Tomographic (CAT) Spiral CT (or helical CT)	Yes and No Contraindication to contrast: allergy to iodine or shellfish	Provides cross-sectional images of chest including heart & great vessels Provides greater visualization of vessels & internal tissues. Scans faster with higher definition. **Definitive test for blood clot.	• Screened for renal dysfunction & may be medicated to prevent damage from the contrast material • May be NPO – depending on the area to be scanned	• Positioned on table while the scanner revolves around pt • Noninvasive & painless • Needs to lie perfectly still • IV line if contrast is to be used	Monitor for: • Allergic reaction to contrast agent • Contrast-induced renal dysfunction
Doppler Study	No	To hear & evaluate blood flow (with continuous wave Doppler ultrasound)		• A conducting gel is applied to the skin & a transducer is slowly moved over the area	

Test Name	With/Without Contrast	Test is For	Pre-Procedure	Teaching	Post-Procedure
Doppler Study (con't)				• Duplex Ultrasound Imaging Studies: uses a pulsing Doppler to send info to a computer which produces images on the screen	
Echocardiography	No	Involves transmission of high frequency sound waves to produce images on a computer screen			
Transthoracic Echocardiography		Done simultaneously with ECG. Used to assess heart valves, direction of blood flow, size & motion of myocardium & heart chambers		• Conducting gel is applied to the chest wall & the transducer is applied • "Hold breath" for short period of time • May be asked to turn on left side (heart is closer to surface)	
Transesophageal Echocardiography (TEE)		Used to visualize the back side of the heart	• Fast for 6 h • Sign consent	• IV line placed for sedation & meds • Throat will be sprayed with numbing agent • VS will be monitored • Conscious sedation	Monitor for: • Return of gag reflex • Adverse reactions to sedation • Any potential injury
Nuclear Scans Multi-gated acquisition scan (MUGA Scan)	Yes	Evaluates function of left & right ventricles		• Contrast is injected into bloodstream	

Test Name	With/Without Contrast	Test is For	Pre-Procedure	Teaching	Post-Procedure
MUGA Scan (con't) Equilibrium radionuclide angiocardiography (ERNA)		Images are taken at specific phases of the cardiac cycle over a series of several hundred cycles		• Pt is placed under a gamma camera & pictures are taken at each stage of the cardiac cycle • May be performed at rest, during exercise (stress MUGA), or a nitroglycerin MUGA (nitro is administered prior to test) • Images show the blood pool in the ventricles & can be used to determine the ejection fraction of the left ventricle	
Electrocardiogram (EKG)	No	Represents the electrical activity of the heart at one point in time	• Explain the procedure • Position supine as flat as possible • Uncover chest & limbs • Identify landmarks • Prepare skin for electrode adherence • Place electrodes at landmark • Attach corresponding lead wires to electrodes	• Lie still	• Determine if EKG appears normal If repeat EKG is not needed: • Remove electrodes from skin • Assist patient with repositioning • Leave patient safe & comfortable Leave equipment ready for emergency use.