In the era of multidetector CT technology, cardiac CT has become an increasingly important tool in the evaluation of patients with cardiovascular disease.
Cardiac CT imaging at Yale-New Haven Hospital

With 16- and 64-row detector scanners, it is now possible to image the heart without motion in a single breath-hold. Complete, high resolution scans of the heart can be obtained in as few as 5 heart beats with 64-row scanners.

Evaluation...

**Patient Selection:**

Patients must be appropriately selected prior to scheduling the study.

(Please note that not all insurance companies cover this exam.)

There are a number of factors to consider:

- **Risk factors:** The patient must have sufficient risk factors to warrant the study.
- **Body habitus:** Obese patients (greater than 300 lbs) are poor candidates for the study due to the noisy images obtained. This may cause over- or under-estimation of disease.
- **Renal function:** Iodinated IV contrast is administered for the study. To avoid the risk of contrast-induced nephropathy, patients with Cr > 1.5 will not be scanned. Patients on glucophaghe should discontinue the medication for 48 hours following the study and have Cr measured.
- **Beta-blockers:** These may need to be administered to achieve a HR 60-65 bpm to obtain adequate images. Patients with contraindications to beta-blockade are not ideal candidates for the study.
- **Rhythm:** Patients with frequent ectopy or atrial fibrillation are not good candidates for cardiac CT.
- **Pacers:** The leads produce artifact which may significantly degrade the images.
**Coronary Artery Calcium Scoring**

This study may be performed in patients with a heart rate up to 90 beats per minute. It does not require intravenous contrast administration and can be performed in as little as 30 seconds. The total calcium score is an indicator of the patient’s risk for a cardiac event.

**Valve Imaging**

Calcification of the leaflets, leaflet coaptation and excursion can all be assessed with cardiac CT. Valvular stenosis and regurgitation can also be quantified.

**Coronary Artery Imaging**

Evaluation of the presence, location, severity and plaque characterization can be performed. Patients at risk for a cardiac event can be identified and stratified.

Atheromatous plaque can be identified, even in patients with normal nuclear stress tests/angiograms. Stenosis detection and quantification can also be performed.

Note: Evaluation of stenosis severity can be compromised by dense calcification or stents.

**Coronary Artery Bypass Grafts**

Symptomatic patients who have undergone saphenous vein or internal mammary artery bypass graft placement can be safely and effectively evaluated with CCTA.

Evaluation of graft patency and stenosis can be performed, as can evaluation of the presence or progression of disease in the native coronary arterial tree.

For patients planned for repeat sternotomy, location of grafts in relation to the sternum can be determined as an adjunct to surgical planning.
There is a wealth of information about cardiac morphology, function, valvular pathology and coronary arterial plaque burden which can be determined in a single 30-second scan.

Yale-New Haven Hospital

For complete details, questions, or an individualized consultation of our services, you may contact:
Tara Catanzano, M.D., Chief of Cardiac CT and MR
Daniel Cornfeld, M.D.
Hamid Mojibian, M.D.
203.785.5913
Albert J. Sinusas, M.D., Director of Cardiovascular Imaging
203.785.4915

To schedule an exam, please call 203.688.4572

Yale-New Haven Hospital
20 York Street
New Haven, CT 06510
www.ynhh.org