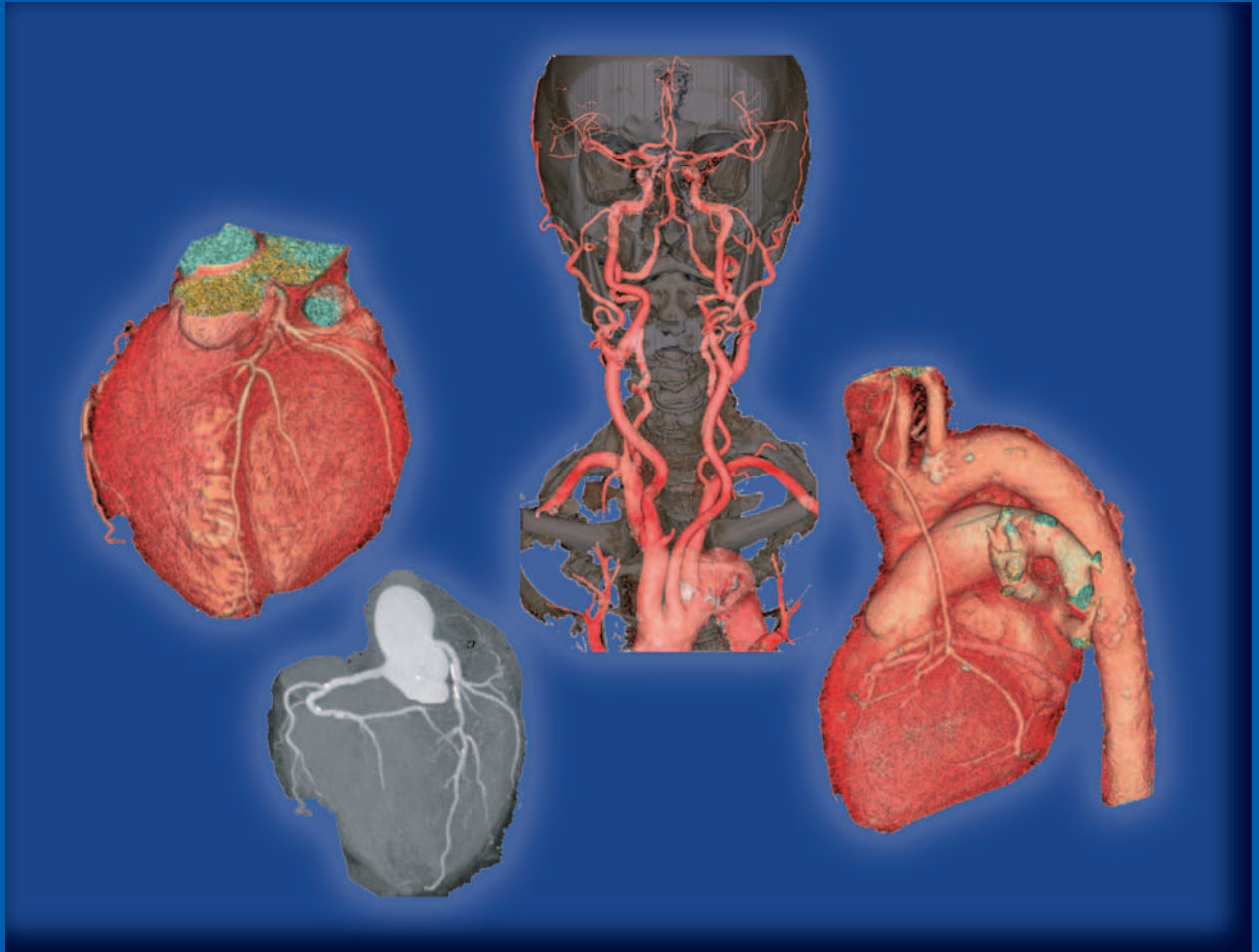


# 64 Slice CT



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**Medical Arts Radiology**

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*Imaging Excellence on Long Island for over 70 Years*

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[www.medicalartsradiology.com](http://www.medicalartsradiology.com)

## NEW 64 DETECTOR CT

Medical Arts Radiology is proud to announce the addition of our new GE 64 detector LightSpeed VCT, the latest in CT technology. The LightSpeed VCT is the world's first Volume Computed Tomography (VCT) system. This state-of-the-art scanner is the fastest CT unit to date, capturing 64 sub-millimeter images in a single rotation. This equals 4 centimeters of anatomical coverage in one rotation. Image acquisition is four times faster than the previous generation of scanners, the 16 detector CT. Medical Arts Radiology now offers an innovative way for its physicians to obtain the information they need to diagnose disease and life-threatening illnesses, including cardiovascular disease, stroke and chest pain.



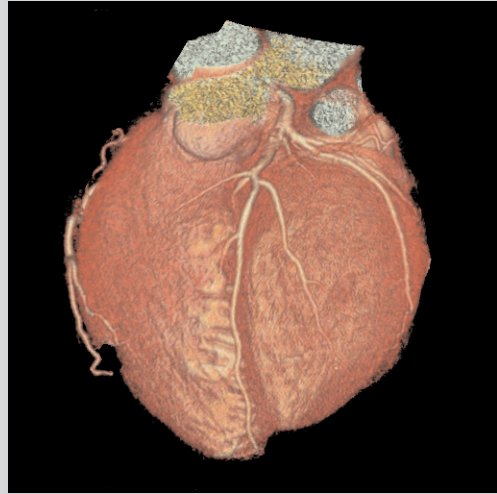
## IS FASTER BETTER?



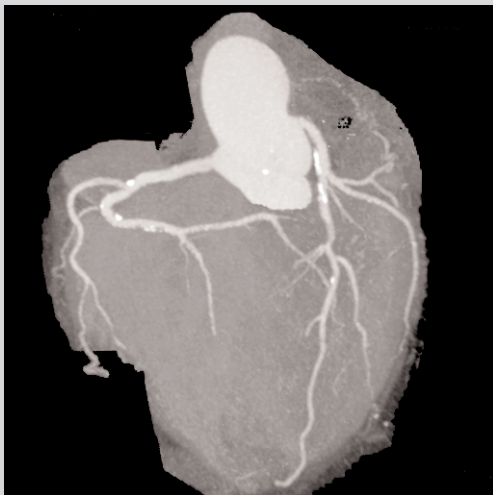
Medical Arts Radiology physicians are now able to capture images of a beating heart in five heartbeats, an organ in one second, and perform whole body scans in ten seconds. As a result of quicker scanning, breath-hold times are significantly reduced, allowing geriatric, pediatric and COPD patients to be studied with greater ease. Because of the reduction in acquisition time, radiation dose is reduced, which improves image quality for morbidly obese patients. The 64 detector scanner has superior temporal, spatial, and contrast resolution, resulting in overall exquisite image quality.

## CORONARY CT ANGIOGRAPHY

One of the areas most impacted by these technical advances is imaging of the coronary arteries, referred to as coronary CT angiography (CCTA). In the past, optimal visualization of the coronary arteries was limited due to normal cardiac motion. The fast 64 detector scanner now captures images in multiple cardiac phases in a few rotations. In addition, improved resolution reduces blooming artifact from atherosclerotic calcification, allowing better evaluation of vascular stenosis. CCTA is now on its way to replacing catheter angiography in evaluating coronary artery stenosis.



*CCTA 3D reconstruction showing surface heart anatomy*



*CCTA 3D reconstruction of coronary arteries demonstrating calcified plaques.*

## CT SCAN OR CATHETER?

CCTA is non-invasive compared to catheter angiography, which involves femoral artery catheterization. CCTA is performed after an injection of IV contrast, similar to a standard chest CT scan. Oral beta-blockers are also routinely used to slightly reduce heart rate during scanning. Unlike catheter angiography, which visualizes vessel lumen only, CCTA has the added benefit of visualizing calcified and soft plaque as well as adjacent anatomical detail including myocardium, pericardium, pulmonary arteries and lung parenchyma.

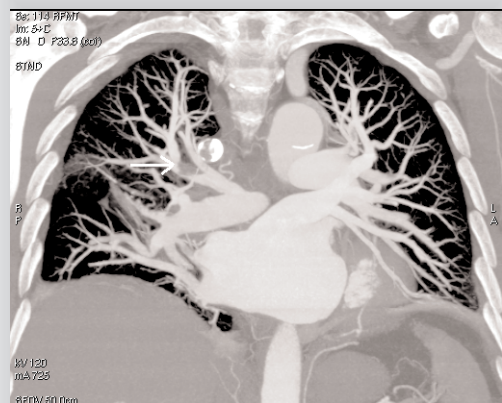
In recent studies, CCTA demonstrated a negative predictive value of 97% to 99%. It has also been shown that 91% of diagnostic cardiac catheterizations are elective, and of these, 40% to 50% are normal. Therefore, CCTA should precede every diagnostic catheterization because it can eliminate unnecessary negative catheterizations, which have higher cost and associated morbidity and mortality. Sixty-four slice CCTA will soon qualify as a potential replacement for nuclear stress tests as the first line imaging test for patients with suspected coronary artery disease.

## INDICATIONS

- Chest Pain Syndrome- including chest pains, anginal equivalent, angina. Depending on the clinical situation, CCTA may precede a perfusion stress test, or it may be used to clarify a perfusion stress test that is non-diagnostic, equivocal, or does not adequately explain the patient's symptoms.
- Suspicion of pulmonary embolism or aortic dissection.
- Known coronary artery disease with symptoms. For example, patients post-stent or post-CABG.
- Assessment of suspected congenital vascular anomalies.
- Assessment of mediastinal or lung parenchymal lesions of unknown vascular-ity.

## TRIPLE RULE OUT

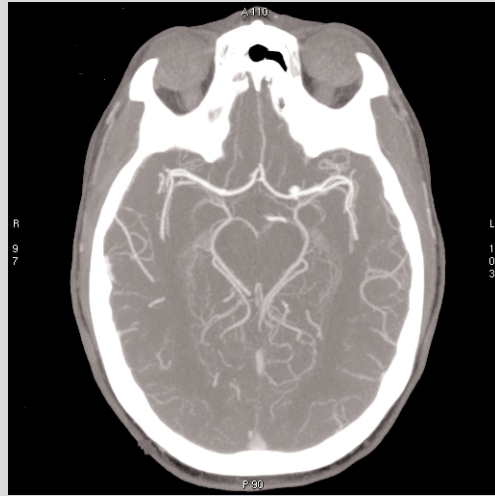
The three primary causes of mortality in patients with chest pain are aortic dissection, pulmonary embolism and coronary artery disease. The physicians at Medical Arts Radiology now have a tool to help them rule out (or in) these three individual causes of patient's chest pain through a single quick scan.



*CTA 2D coronal reconstruction of pulmonary arterial tree demonstrating embolus in right pulmonary artery branches.*

## BRAIN AND BEYOND

The LightSpeed VCT offers the speed and resolution required for rapid examination of blood vessels in the brain. Perfusion studies can be performed in the setting of acute stroke, enabling physicians to make a quick diagnosis and determine the best course of treatment.

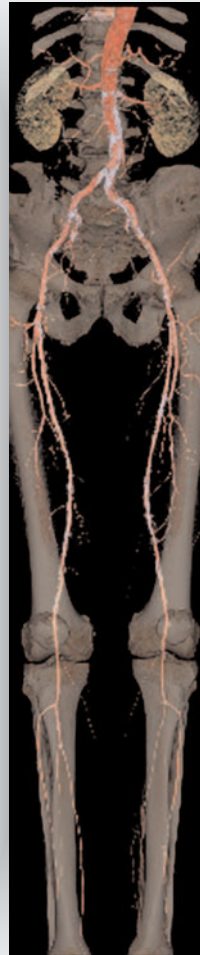


*CT angiogram of circle of Willis showing left middle cerebral artery aneurysm*



*CT angiogram 3D reconstruction of carotid circulation showing atherosclerotic disease of carotid bifurcations.*

The superb resolution as well as the multiplanar reconstruction and 3D imaging capabilities have further improved imaging of the spine, sinuses, temporal bones, extremities and solid organs.



*CTA runoff 3D reconstruction of lower extremities showing atherosclerotic disease.*

## RELEVANT STATISTICS

For the approximately 5 million individuals who present in the Emergency Department with chest pain each year, only a fraction are actually having a heart attack.

According to the American Heart Association

- Since 1900, cardiovascular disease has been the number 1 killer in the United States every year except for 1918. Nearly 2,600 Americans die of cardiovascular disease each day, an average of 1 death every 34 seconds.
- In 2002, an estimated 6,813,000 inpatient cardiovascular operations and procedures were performed in the US; 4 million were performed on males and 2.8 million on females.
- From 1979-2002, the number of cardiac catheterizations increased 389 percent.
- An estimated 1,463,000 inpatient cardiac catheterizations were performed in 2002; an average length of a patient's hospital stay is 3.6 days.

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# Medical Arts Radiology

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## Huntington (Fall 2006)

3 Tesla MRI  
64 Slice Cat Scan  
Digital Mammography  
Ultrasound  
Bone Density  
X-Ray  
Fluoroscopic Procedures

## Bay Shore

1.5 Tesla MRI  
64 Slice Cat Scan  
Digital Mammography  
Ultrasound  
Bone Density  
X-Ray  
Fluoroscopic Procedures

## Commack

PET/CT  
High Field Open MRI  
Cat Scan  
Ultrasound  
X-Ray  
Fluoroscopic Procedures

## Patchogue

1.5 Tesla MRI  
16 Slice Cat Scan  
Digital Mammography  
Ultrasound  
Bone Density  
X-Ray  
Fluoroscopic Procedures

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