Lahey Clinic provides primary care services for adults at medical centers in Burlington, Peabody and Lexington and at physician practices in surrounding communities. For a complete directory of staff, locations and services, visit our Web site: www.lahey.org.

Lahey Clinic Medical Center, Burlington
41 Mall Road, Burlington
- *Internal Medicine*
- *Medical and Surgical Specialties*

Appointments
781-744-8000

All other calls
781-744-5100

Lahey Clinic Medical Center, North Shore
One Essex Center Drive, Peabody
- *Internal Medicine*
- *Medical and Surgical Specialties*

Appointments
978-977-6336

All other calls
978-538-4000

Lahey Medical Center, Lexington
16 Hayden Avenue, Lexington
- *Internal Medicine*
  781-372-7100
- *Center for Cosmetic and Laser Surgery*
  1-877-867-0707
- *Medical and Surgical Specialties*
  781-372-7144

Lahey Arlington
- *Internal Medicine*
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Lahey Billerica
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  978-663-6666

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- *Internal Medicine*
  978-694-9610

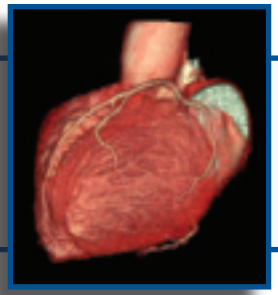
State-of–the-Heart

Technologies to view the heart are evolving at a rapid pace. Fortunately, Lahey's Cardiovascular Imaging Center is keeping its pulse on the latest developments.

Last July, Lahey Clinic became one of the first hospitals in the United States to install a Dual Source Siemens Definition scanner, the fastest and most progressive equipment commercially available for performing cardiac (coronary) CT angiography, or CTA.

Cardiac CT angiography is a noninvasive procedure that uses CT technology to examine a patient's heart and determine if fatty deposits, called plaques, have built up in the walls of the coronary arteries. Plaque that is left untreated can lead to a narrowing of the coronary arteries (known as coronary artery disease or CAD), chest pain and ultimately, a heart attack.

The traditional test for CAD is coronary angiography, which involves inserting a catheter through an artery in the leg and threading it up to the heart.



One of the most important advantages this technology can offer to our patients is to obtain high quality images at a low radiation dosage.

Doctors then inject contrast material, which allows them to view blood flow through the arteries on a video monitor. Because this method is somewhat invasive, doctors try to use it only when they think interventional or surgical treatment will likely be required. Following diagnostic catheterization, cardiologists are often able to open a blocked artery and treat it right away with a balloon or stent. Other patients may be referred for cardiac surgery.

CTA, on the other hand, is typically used in cases where there is low or intermediate suspicion of coronary artery disease. "If you already know that CAD exists, then a catheterization may be better because you can often fix the problem at the same time," explains Sebastian Flacke, MD, PhD, director of the new Cardiovascular Imaging Center in Lahey's Radiology Department. "But if you want to determine if CAD exists and avoid an interventional procedure, CTA is the better choice."

The dual source scanner—also referred to as a double 64-slice scanner—builds upon the strengths of its predecessor, the single 64-slice, multidetector scanner, by adding a second X-ray source and a second detector. Both scanners offer a noninvasive alternative to traditional cardiac angiography for appropriate patients. The dual source, however, also offers some revolutionary new benefits.

"One of the most important advantages this technology can offer to our patients is to obtain high quality images at a low radiation dosage," says Flacke. "For most studies performed with the dual source scanner, we can actually cut the radiation dose despite the use of two tubes compared to what we used to do."

Other benefits of the new scanner include the faster speed at which exams are performed, and the elimination of medications to slow the heart down at the time of the scan. "Because of this scanner's enhanced time resolution, we can image any heart no matter how high the heart rate without the use of beta-blockers," says Flacke.

The dual source scanner is also the current gold standard for imaging and diagnosing all diseases of the aorta.

The cardiac CTA service is only one pillar of the Cardiovascular Imaging Center—a multidisciplinary center where radiologists and cardiologists meet twice a week to view images and discuss cases. The other two pillars include cardiac MRI and cardiac nuclear imaging/PET.

"As a group, we have all the tools and expertise to do high end cardiac imaging," concludes Flacke. "And having all these technologies at our disposal is gradually changing the way we manage patients suffering from chest pain."

For more information, visit www.Lahey.org/Radiology.