

UVRA Physicians

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24/7 Consultation

Coronary CT Angiography Now Available at Utah Valley Regional Medical Center

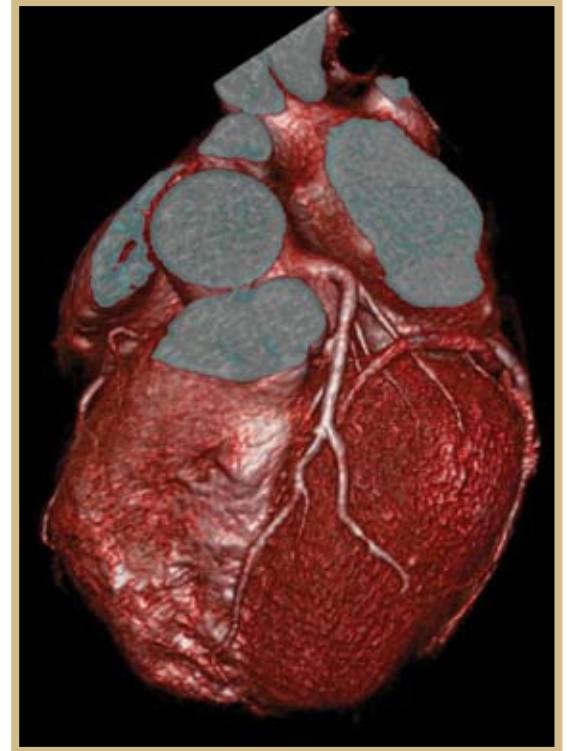
Coronary Artery Disease

Coronary Artery Disease (CAD) is a serious health problem in the United States. It is estimated that over 13 million people in the United States have coronary artery disease. More than 500,000 people will die of heart attacks this year, and of those about 1/3 to 1/2 will have no prior warning.

About six million people will be seen in emergency rooms this year because of chest pain. Many of these patients will have non-coronary causes of their chest pain, but sorting out those with CAD and those without CAD can be a diagnostic challenge. Early diagnosis of CAD is important for early intervention to prevent heart attacks and death.

Diagnostic Tests for CAD

After ruling out myocardial infarction, different imaging and diagnostic tests have been used to evaluate for blockage of the coronary arteries. Stress EKG, stress echocardiography, and stress nuclear medicine tests are often used to help diagnose a significant coronary obstruction. Unfortunately, these tests are insensitive for the detection of early coronary artery



disease, and will not detect disease typically until coronary arteries have narrowed to at least 70%. Diagnostic coronary angiography is much more sensitive in detecting coronary disease, but it is invasive, has some risk, and is expensive.

As CT technology has advanced, the ability to accurately and non-invasively detect early coronary artery disease has improved. With the advent of 64 detector technology, CT coronary angiography has become clinically relevant as an important tool in diagnosing CAD.

What is Coronary CT Angiography?

Coronary CTA (CCTA) is a non-invasive, very fast, EKG-gated contrasted CT examination of the heart which allows visualization of both the lumen and wall of

[Continued on Page Two](#)

Coronary CT Angiography

Continued from Previous Page

the coronary arteries. The high spatial and temporal resolution of 64 slice CT provides a multi-dimensional view of coronary arteries to detect CAD. CCTA allows detection of coronary atherosclerotic plaque which may or may not be causing obstruction. "Soft" cholesterol-laden atheromatous plaque can also be detected. This disease may not yet have caused blockage, but is at risk for plaque rupture and thrombosis which causes myocardial infarction and death.

CCTA has high sensitivity ranging from 82-95%, significantly better than any currently available non-invasive coronary imaging test. CCTA's negative predictive value is 97-99%. Therefore, CCTA can confidently exclude CAD. In other words, if it's negative, it's negative.

In addition to CAD, CCTA has the ability to detect other important findings that could be related to the patient's clinical presentation. These findings might include pulmonary embolus, pneumonia, hiatal hernia, pulmonary nodules or masses, mediastinal or hilar adenopathy, bronchiectasis, aortic aneurysm or dissection.

Who is a Candidate for CCTA?

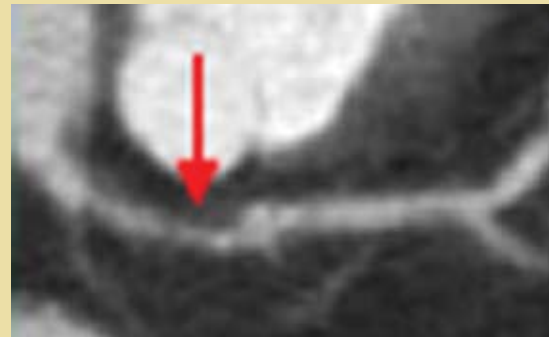
According to appropriateness criteria set forth by the ACC and ACR, CCTA is best suited for the following types of patients:

- Intermediate risk with atypical chest pain
- Acute chest pain, intermediate risk, negative EKG and enzymes

Continued on Page Four



Atherosclerosis: Lipid-rich plaque with thin fibrous cap.



Atherosclerotic Plaque ("Soft")



3-D volume rendering display of heart obtained with 64 detector CT.

Open MRI Coming Summer 2007

Utah Valley Radiology is pleased to announce the opening of a new open MRI. The MRI is slated for opening at the end of June.

Kurt Kendell, MD, a musculoskeletal radiologist with UVRA, notes the new MRI will give a much-needed alternative for patients with special requirements.

"The open-air design of the MRI provides a vastly-improved experience for patients whose size, anxieties or age make them

less comfortable with traditional MRI machines," said Kendell. "Not only is the technology a wonderful alternative for patients, but referring physicians will always see the highest quality of images comparable to those produced by most closed systems."

The open MRI is capable of performing orthopedic, neurological, vascular, facial, neck, abdomen, pelvis and chest scans.

Featured Physicians of Utah Valley Radiology Associates

Roy C. Hammond, MD



Dr. Roy Charles Hammond first made the personal goal of joining Utah Valley Radiology Associates while in college at Brigham Young University. He was excited to accomplish that goal in 2001 after graduating with

Honors from medical school at the University of California, San Francisco and completing a Diagnostic Radiology residency and fellowship at the University of Utah.

Dr. Hammond's fellowship was in Body Imaging with an emphasis in Body and Musculoskeletal MRI. He is board-certified in Diagnostic Radiology. Dr. Hammond is currently the Director of MRI for UVRMC, American Fork Hospital and Orem Community Hospital. He also serves as the Medical Director of Imaging at Castleview Hospital in Price.

Dr. Hammond's current areas of special interest include MRI, coronary artery multi-detector CT angiography and digital mammography. He has been working with several of the cardiologists and radiologists on implementing the coronary artery CT angiography program at UVRMC.

Dr. Hammond maintains professional membership in the American College of Radiology, Radiological Society of North America (RSNA), American Roentgen Ray Society, American Medical Association, Utah Medical Association and Huntsman-Intermountain Cancer Care Program.

Dr. Hammond states that the best part of his job is "daily personal interaction with referring physicians and working through challenging cases with them. I love being able to make a significant contribution to patient care. I also enjoy the constant intellectual stimulation provided by advances in medical imaging."

Dr. Hammond met his wife of 10 years, Jennifer, while a radiology resident. They have four young children and make their home in Springville. He enjoys golfing, skiing, boating, movies and spending time with his wife and kids.

J. Daniel Rasband, MD



Dr. J. Daniel Rasband and his family are very happy to have joined Utah Valley Radiology Associates. An early interest in anatomy combined with Dr. Rasband's desire to be actively involved with physicians of all types in the diagnosis of disease led to an easy fit within this discipline.

After graduating from medical school at the University of Rochester School of Medicine and Dentistry in New York, Dr. Rasband completed a transitional medicine internship at the LDS Hospital. This was followed by a residency in diagnostic radiology at the University of Utah. Dr. Rasband's primary training is in general diagnostic radiology, with skill in interpreting many different imaging modalities, including MRI, CT, ultrasound, and general radiography. Dr. Rasband is board certified in diagnostic radiology.

Following residency, Dr. Rasband pursued further training at Duke University Medical Center with a fellowship in nuclear radiology —imaging performed with radiotracers (radionuclides or pharmaceuticals that have been labeled with radionuclides) and a gamma camera, which detects the radiation emitted from the radionuclide inside the body. During his fellowship training, the Academy of Molecular Imaging awarded him a Young Investigator Scholarship for research in cardiac PET combined with coronary CT angiography. Dr. Rasband holds a second board certification in Nuclear Medicine.

Dr. Rasband's particular area of interest and expertise is in positron emission tomography (PET) combined with CT. Oncology is the primary use for this imaging modality which offers cancer patients a more accurate method of establishing diagnosis, disease staging and progression, as well as evaluating response to therapy.

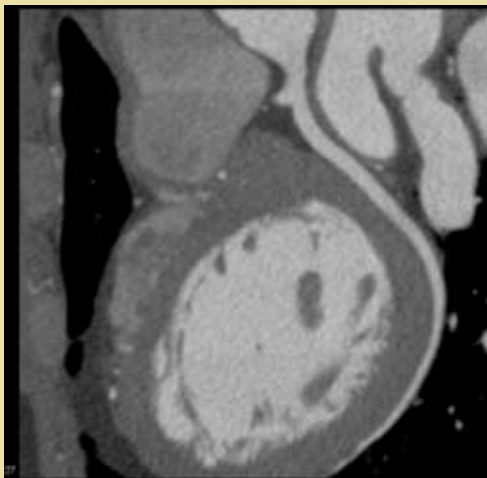
Away from work, Dr. Rasband enjoys time with his wife and three children. His interests include outdoor activities such as mountain biking, flyfishing, and backpacking. His professional associations include the Radiological Society of North America, the American College of Radiology, and the Society of Nuclear Medicine.



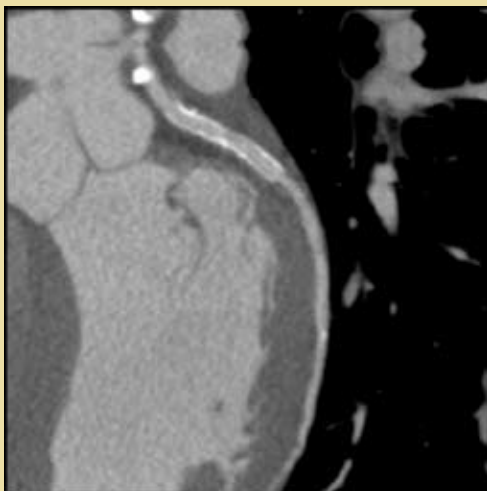
Normal Left Coronary Artery



Normal Right Coronary Artery



Normal Left Circumflex Artery



Patent Coronary Stent in the Left Circumflex Artery

Coronary CT Angiography

Continued from Page Two

- Acute chest pain, high risk, negative EKG and enzymes
- S/P CABG with recurrent chest pain
- Suspected coronary variants (young persons with exercise-induced chest pain)
- Uninterpretable or equivocal stress test
- New onset heart failure (ischemic vs. dilated)
- Cardiac mass or pericardial disease

Coronary Calcium Scoring

Although there is some controversy regarding the utility of coronary artery calcium scoring, there is clear evidence that calcium scoring can aid in risk stratification of low and intermediate risk patients. A person with no calcium in their coronary arteries has a very small chance of atherosclerotic disease, lower risk than would be predicted by the Framingham criteria. Also, a patient with a calcium score greater than 100 has a risk of myocardial infarction 10x that of the normal population.

Summary

Coronary CTA is revolutionizing the diagnosis of CAD. It provides patients with a non-invasive, lower cost imaging examination that accurately detects atherosclerotic plaque. Early diagnosis of CAD can help physicians intervene early to prevent myocardial infarction and death.

Utah Valley Radiology Associates, in cooperation with local cardiologists, have instituted the Coronary CT Angiography program at Utah Valley Regional Medical Center (UVRMC). The hospital has installed the high-end Volume CT 64 slice scanner with cardiac processing software. Appointments are now being accepted for Coronary CTA at the UVRMC Radiology Department.