

## Heart Centered Radiology

By Jennifer L. Kemp, MD

### DID YOU KNOW??

- 50% of Men and Women die of heart disease.
- 20-40% of patients experience sudden death as their FIRST symptom of heart disease.
- More than 65% of heart attacks occur in arteries with less than 50% obstruction.
- **Coronary artery disease can be prevented, arrested, and even reversed.**

How can a seemingly healthy person, with no risk factors, drop dead of a heart attack? Well, *traditional* risk factors may not tell you what you really need to know; whether your arteries are diseased. However, by using radiology imaging tests, we can directly visualize your arteries to look for plaque. Such imaging techniques can help determine whether you have heart disease and how to start preventing heart disease now.

I would like to introduce you to two different imaging exams that can do just this.

### CAROTID IMT (Intimal Media Thickness)

This is a test using ultrasound, also called sonogram. This test is easy, pain free, requires no preparation, and is FDA approved. The ultrasound peers into carotid arteries to give you an idea of your arterial health. This test gives a measurement of the thickness of the 2 inner layers of the carotid artery wall. The thickness of your vessel wall, compared to other people in your age range and gender, correlates with your overall vascular status and health of other blood vessels in your body; most importantly the coronary arteries. There are numerous studies that have shown this is a predictor of future heart attack and stroke.



[www.youtube.com/watch?v=05YKSVqHgHw&feature=related](http://www.youtube.com/watch?v=05YKSVqHgHw&feature=related)

## CORONARY CALCIUM SCORE

This is a type of CT scan (also known as CAT scan), and is the single most accurate test to evaluate early coronary atherosclerosis (hardening of blood vessels supplying oxygen to the muscle of the heart). The purpose is to identify people who are at risk for a heart attack. We can directly look at the coronary arteries to assess the level of calcified plaque that is present. This doesn't show "blockage" but shows how much calcified plaque is present, which has a direct relation to blockages and heart attack risk. The exam is quick and easy, and requires no patient preparation. EKG leads are placed on the chest and then you will be asked to hold your breath for 5-8 seconds. We use low dose radiation, equal to about 5-10 Chest X-Rays. Based on gender and age we can determine how you compare to all of the other people in the database. This allows us to identify someone at a relatively younger age so we can treat them effectively before symptoms develop.



[www.youtube.com/watch?v=mMOBgHkivtl&feature=related](http://www.youtube.com/watch?v=mMOBgHkivtl&feature=related)

Both of these tests are screening exams for ASYMPTOMATIC people, generally 40 years or older. Currently the American College of Cardiology and American Heart Association recommend these examinations for patients with "medium" risk factors. Check your risk with this interactive tool: [www.webmd.com/heart/heart-disease-risk-calculator](http://www.webmd.com/heart/heart-disease-risk-calculator).

The benefit of detecting the earliest form of artery disease is that we can start treating aggressively, and hopefully at a relatively young age to halt and reverse atherosclerotic disease, and thus prevent a heart attack. For more information about these tests, please call:

**Applewood Imaging** (Coronary Calcium Score) – (303) 237-8881  
**Avista Adventist Hospital** (Coronary Calcium Score) – (303) 673-1233  
**Good Samaritan Medical Center** (Coronary Calcium Score) – (303) 689-4110  
**Parker Adventist Hospital** (Coronary Calcium Score) – (303) 269-4500  
**Presbyterian/St. Luke's Medical Center** – (Coronary Calcium Score) – (303) 839-6000  
**Rose Medical Center** (Carotid IMT & Coronary Calcium Score) – (303) 363-7673  
**St. Joseph Hospital** (Coronary Calcium Score) – (303) 837-6855

*Jennifer L. Kemp, MD, Vice Chair Rose Radiology, is Fellowship trained in body imaging, which is a radiology subspecialty that primarily uses CT, Ultrasound and MRI to evaluate and diagnose diseases of the chest, abdomen, and pelvis. Dr. Kemp has a special interest in preventive medicine and preventive Radiology, rectal cancer imaging, thyroid cancer imaging, and pelvic floor imaging.*