

CT Angiography (CTA) Coronary Arteries

Technology: A Computed Tomography (CT) scanner generates highly sensitive x-ray images of specified body parts. CT Angiography (CTA) of the coronary arteries is a virtually non-invasive alternative to conventional angiography. Clinical studies have shown that coronary CTA is reliable for assessing stenoses, patency of bypass grafts, and assessing calcified and non-calcified plaque. The CT scanner acquires images at an extremely fast rate in order to obtain motionless pictures of the arteries in the heart. An injection of contrast is given at the same time the images are acquired to better visualize the arteries. After the data is processed, the images can be viewed in a 3-D reconstruction of the heart.

Preparation: You may take all regular medications on day of exam. We ask that you not eat or drink anything 3 hours before your exam. We ask that you not have any caffeine 12 hours before your exam. ****IF YOU ARE DIABETIC PLEASE INFORM STAFF AT TIME OF SCHEDULING****

What to expect: Upon arrival to Diagnostic Imaging you will be greeted by the receptionist. The receptionist will inform the diagnostic imaging nurse of your arrival. The nurse will then escort you to our procedure preparation area, where you will be asked to change into a hospital gown. The nurse will then ask for your health history information. She will obtain vital signs, which include blood pressure, temperature, and pulse rate. She will place electrodes on your chest to visualize your heart rhythm on a monitor. She will also start an IV in your arm. This is for the administration of contrast necessary for the procedure. The radiologist will then explain the procedure to you and answer any questions you may have. He will then ask you to sign a consent form stating that he has explained the procedure to you and you are comfortable with proceeding. If your heart rate is above 60 beats per minute (bpm), you may be given an oral medication, known as a beta blocker, to lower your heart rate. An additional dose may be given in 30 minutes if your heart rate remains above 60bpm. You will then be escorted to the CT suite where you will meet the CT staff. You will be asked to lie down on your back on the examination table. The technologist will place different electrodes on your chest, for imaging purposes, and then go over breathing instructions for the procedure. If your heart rate still remains above 60bpm, it may be necessary to administer an IV dose of beta blockers through your IV. Pre-contrast imaging will then begin. Immediately prior to the contrast injection, you will be given a Nitroglycerin tablet to place under your tongue. This is for the purpose of dilating your blood vessels. The contrast will then be injected, and the final imaging performed. The nurse will then escort you back to the preparation area, where she will continue to monitor your vital signs for approximately ½ to 1 hour. You will then be given discharge instructions and contact information should you have any questions or concerns. Your practitioner will contact you with results.

Glossary:

Angiography- x-ray visualization of blood vessels after intravascular injection of contrast

Conventional coronary angiography- x-ray visualization of blood vessels after a catheter is inserted into an artery in the groin area and thread to the heart, contrast is injected, images obtained, and the patient must remain flat for 4 hours after the procedure.

Coronary arteries- the vessels that supply blood to your heart

Stenosis- narrowing of the blood vessel

Calcified plaque- a hard, solid build up of cholesterol and fat in the blood vessel

Non-calcified plaque- a soft build up of cholesterol and fat in the blood vessel

Beta blocker- a medication used to decrease the rate and force of heart contractions

To obtain additional information regarding this study, log on to www.range.fairview.org