

# Coronary CTA Test

## Preprocedure Patient Information

### What is a coronary CTA test?

A coronary computed tomography angiogram (CTA) is a heart-imaging test that helps your doctor determine whether fatty deposits or calcium deposits have built up in your coronary arteries, the arteries that supply blood flow to the heart. Using only an intravenous injection of contrast dye, the test is non-invasive and does not require placing a catheter into an artery or the heart. The computed tomography (CT) scanner can scan the entire heart during 10 heartbeats.

### Why am I having this test?

Coronary CTA is used to evaluate coronary artery disease and to evaluate a patient's risk of heart attack. Since coronary CTA is able to detect small amounts of plaque that are missed on other exams, it can detect disease very early, before a patient has symptoms.

A coronary CTA can be used for:

- **Detection of sub-clinical heart disease as the basis for primary prevention**
- **Pre-surgical assessment of coronary arteries**
- **Evaluation of chest pain in patients with uncommon symptoms or unclear stress test results**
- **Evaluation of coronary artery abnormalities**
- **Checking the patency of previously placed bypass grafts**

However, coronary CTA does have its limitations. For example, it is not able to image people with irregular heart rhythms. Also, very obese patients or those with heavily calcified arteries may not benefit from this exam.

### How does the test work?

Using an intravenous (IV) line, iodine containing contrast dye is injected into your vein. The CT scanner, which is monitoring your pulse (heart) rate, measures when the contrast will reach the heart vessels. When the contrast is in the heart vessels, the CT scanner takes hundreds of images of your heart and then puts those back together to form a picture of your heart.

Unlike a normal snapshot, this picture can be broken down to show just the arteries, the muscles or the veins. This reconstruction will allow the radiologist to see if you have a blocked artery that could cause you to have a heart attack.

Since the coronary CTA scans the entire heart, the test can be used to check several different problems.

### What conditions should I make sure my doctor is aware of?

In advance of your exam, you should notify the radiologist or nurse if you:

- **Have had a previous reaction to iodine**
- **Have any drug/food allergies**
- **Are taking any medications**
- **Have asthma**
- **Have emphysema**

### What are the risks of the coronary CTA test?

A coronary CTA is a very safe procedure; however, there are some minimal risks. You could have an allergic reaction to the contrast dye used during the procedure. Also, there is X-ray exposure, but the exposure is similar to that experienced from other heart studies, such as a nuclear medicine stress test.

### Does my insurance cover this test?

Coronary CTA is covered by some insurance. When we schedule your appointment for the test, your insurance company will be contacted. If your insurance company does not cover the procedure, you will be expected to pay \$750.00 on the day of the procedure.

## About the Procedure

### Before the test

- Avoid any caffeinated drinks for 24 hours prior to your test, including coffee, tea, energy drinks or caffeinated sodas.
- Avoid energy or diet pills for 24 hours prior to test.
- Do not use Viagra®, Cialis® or any similar medications for 24 hours prior to test. They are not compatible with the medications you will receive during the test.
- Do not eat for 4 hours prior to the test.

### The day of the test

- Please arrive and register at the Radiology Registration Desk, one hour prior to the scheduled test time.
- You will then be escorted to the CT area, where you will be connected to a blood pressure machine that will take your blood pressure as well as your heart rate. If your heart rate is above 60 beats per minute, you will be given a beta-blocker called metoprolol to slow the rate. A slower heart rate allows us to see your heart better and obtain clearer pictures with the CT scanner.
- Once your heart rate is 60 beats or slower, you will be escorted to the CT scanner and asked to lie on a table, which will move you in and out of the scanner as your test is performed.
- In preparation for the test, the radiologist will instruct you on breathing techniques for the test. (For example, you will have to hold your breath for about 15 seconds.) You will also have electrocardiogram (ECG) leads placed on your chest to allow us to monitor your heart rate during the test.
- A nurse will insert an IV in your right arm. During the test, this IV will be used to give you a contrast dye, which is used to enhance the visibility of certain tissues. You will also be given a medication called nitroglycerin (0.4 mg) that will be placed under your tongue. This medicine dilates the vessels around your heart to allow better visualization of those vessels.

### During the test

- During the injection of the contrast dye, you may feel a warm, flushed sensation. This feeling is normal for any contrast injection.

### After the test

- The medication given to slow your heart rate, metoprolol, has been known to cause some people to feel dizzy if they stand suddenly. The dizziness is slight and happens rarely.
- The medication given to dilate your heart vessels, nitroglycerin, has been known to cause some people to have a headache or have their heart feel like it is "racing." These symptoms are normal and should not be cause for concern. If you desire, you can take acetaminophen (Tylenol®).
- Once the test is completed, you will be observed for a few minutes and then discharged to go home.
- After the coronary CTA, you should drink a lot of water for the next 24 hours to help flush the contrast out of your system.

### Who interprets the results and how do I get them?

Dr. John D. Grizzard (section chief of Noninvasive Cardiovascular Imaging) or one of his associates will interpret your study. The final results will be sent to the physician who ordered your test within a few days.

The radiologist will be happy to answer any questions about the exam procedure itself; however, since the images require time to process, the results are not available immediately.

### For More Information

If you have any questions or concerns, regarding your procedure, please call Ginette Concepcion, R.N. at (804) 828-4914 or Dana Wilmoth Britt, N.P. at (804) 628-2340.