

## Computed Tomography - For Patients

All radiology tests require a physician's referral and written order, except for mammogram screening tests. With these tools, we can properly set the machine to achieve the goals of your doctor. The request will go through our scheduling department at (205) 801-8890. Doctor's orders can be faxed to (205) 801-8752.

If you are pregnant or suspect that you may be pregnant, you should notify your physician. Radiation exposure during pregnancy may lead to birth defects.

### **Safety**

CT scanning is a vital tool in medicine. It aids in diagnosing disease and in planning, and evaluating, treatment. However, CT does use radiation, and therefore, there is a risk. When your physician orders a CT exam, he feels the benefits outweigh the risks. The CT technologists have also been trained to use the right amount of radiation for your type of exam to gain the best image with the lowest radiation. You may want to keep track of the number of times you receive x-rays or CT scans to avoid overexposure. Other tests, such as MRI or ultrasound may be appropriate for your condition of radiation exposure is an issue. At UAB, we take the radiation exposure of our patients seriously and your exposure is controlled at the safest levels.

### **Preparing for a CT Scan**

Wear comfortable clothes, but keep in mind you may have to change into a gown. Metal buttons or other decorations can show up on the scan and damage the results. Body piercing and other jewelry should also be removed if it could interfere with the test.

Once you are called back from the waiting room, you will be asked a series of medical history questions. Bring information if you need help answering the questions.

If your exam requires contrast, you will be moved to the prep station where an IV will be started. Contrast agents allow us to see your gastrointestinal (throat and digestive) tract and all of your blood vessels for a complete examination.

Some exams don't require contrast, either IV or oral. This will depend on what your doctor has ordered and the condition of your kidneys and urinary tract.

At this time, the technologist may draw a small blood sample. This sample will be used to test your kidney function. This is necessary to make sure that you can urinate the contrast out in a timely fashion after the test is finished to prevent any kidney damage.

### **Contrast**

Sometimes, to get the clearest possible picture, your doctor will order "contrast." This dye can be taken by mouth, or through an IV. It enters the body and highlights the organ or tissue being scanned. If contrast is to be used, you will be asked to fast for a time before the procedure.

In the past, many thought that an allergy to shellfish was a predictor of an increased risk of a reaction to a contrast agent, presumably because both shellfish and contrast agents contain iodine. Such a relationship is clearly not true. Organic iodide as found in shellfish is an essential element, so individuals cannot be allergic to it. The presence of a history of multiple severe allergies does increase the risk of a reaction following contrast agent injection, but only by a very small percent.\*

Patients with kidney failure or other kidney problems should notify their physician.

We use two types of contrast. One is an oral agent that is made of water, Gastroview and Volumen. Sometimes, we mix water, Gastroview, and Crystal Light to make it taste better. These can be given separately or as a combination.

If your scan requires oral contrast, be prepared to drink 32 ounces, which is a quart, before your scan. The exception is if you also need Volumen, you will have to drink a bit more.

The second type is intravenous and comes through an IV in your arm. This contrast works on blood vessels and lets us see how an organ is working. Rarely, someone may have an allergic reaction. Tell your technologist immediately if you have itching, hives, shortness of breath, or anything else unusual.

If you have experienced a reaction in the past, you may be asked to pre-medicate to prevent a second one. If your reaction is severe, you may not be able to take the contrast. However, many tests do not require it.

*\* Frequently Asked Questions: Iodinated Contrast Agents. Michael A. Bettmann 2004 RadioGraphics, 24, S3-S10.*

## **What to expect during the CT scan**

Your CT technologist will bring you into the room and place you on the table. The technologist will center you into the large donut-shaped scanning ring so that the area to be scanned is in the right place. You may be asked to place your hands above your head during the scan.

The technologist will leave the room, but you will still be in visual and verbal range. A speaker and microphone may be necessary to hear during the scan. The machine makes a winding noise and the table will move periodically. It will roll around your body taking pictures from every angle.

It is important for you to be very still. Once the scan starts, try to follow the breathing instructions, which will help you stay in place. If you have problems hearing the instructions, please let us know so the volume can be adjusted.

Depending on the test, the exam time should last between five and 20 minutes.

The scanner will not physically touch you and you will not feel the x-rays. However, you will feel the contrast as it moves through your body. You may feel flush, a faster heart rate, and maybe nausea.

## **What to expect after a CT scan**

There are no restrictions after the CT scan is complete. The exception is patients on Metformin. To help eliminate the contrast, drink plenty of water, juices, and nonalcoholic beverages for the rest of the day. This will help your kidneys flush.



## Knowledge that will change your world

Your doctor should receive the report and images of your scan the same day as the test. If you have a same-day appointment, the report will arrive in advance of your appointment time. The responsibility of discussing the results of your test is with your doctor. If you do not have an appointment, you may call the next morning for your results.

### Frequently Asked Questions

#### Why am I not allowed to eat before the CT exam with contrast?

If you have food on your stomach, and get an injection of contrast, you could become nauseated. Aside from your discomfort, there is the danger of throwing up while lying down, which could cause the vomit to enter your lungs. However, you can have fluids, even sports drinks and coffee. Water and juice are best.

#### How long may it take with contrast?

You may expect 30 minutes to an hour to go over your medical history, place an IV in your arm, drink 32 ounces of fluid, get centered on the table, and complete the exam.

#### Can I have someone back with me during the scan?

Normally, no. We have multiple patients and must respect everyone's privacy. The exceptions are if the patient is a child or needs help remembering or conveying information. After this process, your companion may be asked to return to the waiting room.

#### What is the difference between a reaction to the IV and the normal side effects?

With normal side effects, you may feel a flush in various parts of the body, a faster heart rate, and maybe nausea. A reaction could involve itching, hives, shortness of breath, and a feeling like your throat is closing.

#### Why do I have to have lab work before my scan?

Your kidneys have to work hard to eliminate the contrast. The test determines kidney function to make sure they are up to the task. We may draw the blood for the test, or your doctor may send you to the lab.

#### If my blood was drawn in the lab, why do I still have to wait?

The lab has a turnaround time between 45 minutes to an hour.

#### How does the wait time work?

Sometimes lab results require longer waits. If you show up early, we will get to you as soon as possible, but we cannot guarantee seeing you before the scheduled time.

#### What is the difference between a CT scan and an MRI?

They use different technologies. CT uses x-ray and MRI uses magnetic fields. If you can't take an MRI because of metal in your body or a pacemaker, a CT scan will be recommended. Tattoos do not make a difference, unless they were gotten outside the United States and therefore could contain metal.

#### Why do I have to stop taking METFORMIN after my CT test?

Metformin is a drug that can interact with the IV contrast and cause severe kidney problems. It usually takes 24 to 48 hours for the contrast drug to be eliminated from your system.



Knowledge that will change your world

Why do I have to drink extra

This will help flush the contrast IV out of your body faster.

fluids after a contrast CT?