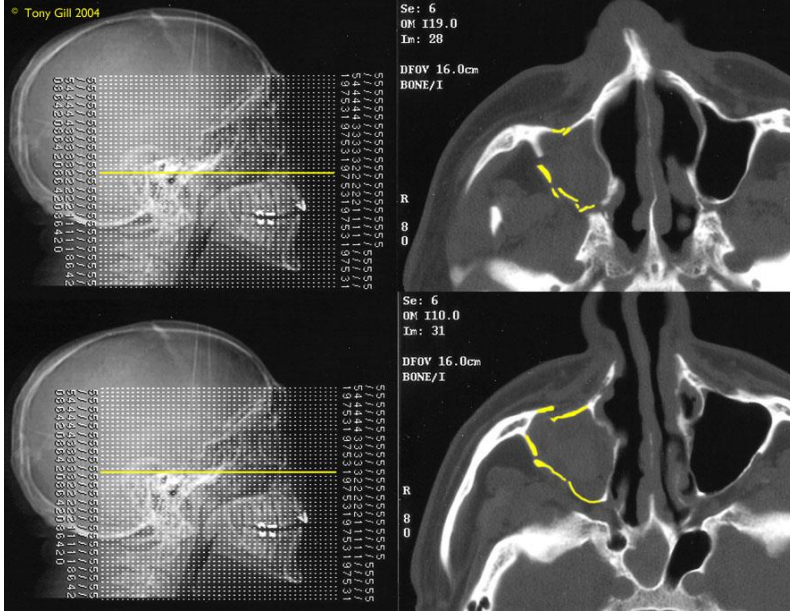


Harris Orthotics and Sports Medicine

What is a CT Scan or also known as “CAT Scan”?



What is a CT Scan?

CT scan—sometimes called “CAT scan”. A CT scan — stands for “computerized tomography” or just CT — combines a series of X-ray views taken from many different angles to produce cross-sectional images of the bones and soft tissues inside your body. A CT scan obtains images of parts of the body that cannot be seen on a standard x-ray. Therefore, these scans often result in earlier diagnosis and more successful treatment of many diseases.

You will be asked to lie on a narrow table that slides into the center of the CT scanner. Depending on the study being done, you may need to lie on your stomach, back, or side.

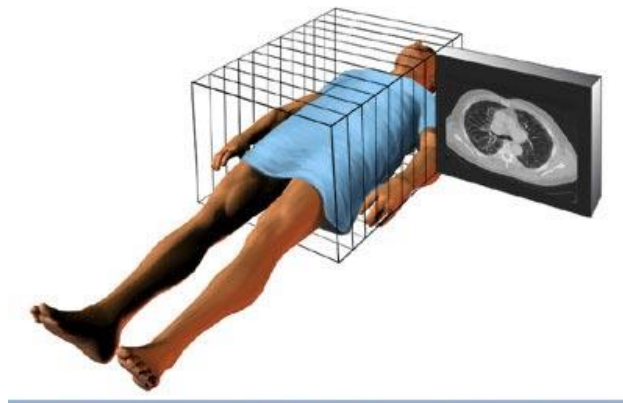
Once you are inside the scanner, the machine's x-ray beam rotates around you. (Modern "spiral" scanners can perform the exam in one continuous motion.). Small detectors inside the scanner measure the amount of x-rays that make it through the part of the body being studied. A computer takes this information and uses it to create several individual images, called slices. These images can be stored, viewed on a monitor, or printed on film. Three-dimensional models of organs can be created by stacking the individual slices together.

Imagine the body as a loaf of bread and you are looking at one end of the loaf. As you remove each slice of bread, you can see the entire surface of that slice from the crust to the center. The body is seen on CT scan slices in a similar fashion from the skin to the central part of the body being examined. When these levels are further "added" together, a three-dimensional picture of an organ or abnormal body structure can be obtained. Your doctor will be able to look at each of these slices individually or perform additional visualization to make 3-D images. CT scan images provide much more information than do plain X-rays.

What is a CT Scan continue...

A CT scan is particularly well suited to quickly examine people who may have internal injuries from car accidents or other types of trauma. A CT scan can also visualize the brain and — with the help of injected contrast material — check for blockages or other problems in your blood vessels (more information about contrast below).

CT scan slices



What you can expect during a CT scan?

CT scanners are shaped like a large doughnut standing on its side. You lie on a narrow table that slides into the "doughnut hole," which is called a gantry. Straps and pillows may help you stay in position. During a CT scan of the head, the table may be fitted with a special cradle that holds your head still.

As the X-ray tube rotates around your body, the table slowly moves through the gantry. While the table is moving you may need to hold your breath to avoid blurring the images. You may hear clicking and whirring noises. Each rotation yields several images of thin slices of your body.

You can have a CT scan done in a hospital or an outpatient facility. CT scans are painless. The actual procedure can take from a half an hour to an hour and a half. If specific tests, biopsies, or intervention are performed by the radiologist during CT scanning, additional time and monitoring may be required. It is important during the CT scan procedure that the patient minimize any body movement by remaining as still and quiet as is possible while the scan is being done. This significantly increases the clarity of the x-ray images. The CT scan technologist tells the patient when to breathe or hold his/her breath during scans of the chest and abdomen. If any problems are experienced during the CT scan, the technologist should be informed immediately. The technologist directly watches the patient through an observation window during the procedure, and there is an intercom system in the room for added patient safety.



How does the CT Scan feel?

You will not have pain from the CT scan. You may also hear some noises like beeps during the CT scan. The table you lie on may feel hard and the room is often cool where you are going to have the CT done. You may be tired or sore from lying in one position for a long time.

How you prepare?

How you prepare for a CT scan depends on which part of your body is being scanned.. You may be asked to wear a hospital gown if you are wearing clothes that have metal buttons/zippers; it is best to wear sweatpants type material with draw strings vs. pants with buttons/zippers. You'll need to remove any metal objects, such as jewelry, that might interfere with image results (it is BEST to leave any valuables at home).

Preparing your small child for a scan

If your infant or toddler is having the CT scan, the doctor may give your child a sedative to keep him or her calm and still. Movement blurs the images and may lead to inaccurate results. Ask your doctor how best to prepare your child.

What if my doctor ordered contrast material with my CT Scan?

Certain exams require a special dye, called contrast, to be delivered into the body before the test starts. Contrast can highlight specific areas inside the body like blood vessels, bowel or other structures, which creates a clearer image.

Some people have allergies to IV contrast and may need to take medications before their test in order to safely receive this substance.

Contrast can be given several ways, and depends on the type of CT being performed.

- It may be delivered through a vein (IV) in your hand or forearm. Contrast given through an IV may cause a slight burning sensation, a metallic taste in the mouth, and a warm flushing of the body. These sensations are normal and usually go away within a few seconds.
- It may be given through the rectum using an enema.
- You might drink the contrast before your scan. When you actually drink the contrast depends on the type of exam being done. The contrast liquid may taste chalky, although some are flavored to make it taste a little better. The contrast eventually passes out of your body through your stools.

If contrast is used, you may also be asked not to eat or drink anything for 4-6 hours before the test.

In rare cases, you may feel:

- A tingling feeling in the mouth if you have metal dental fillings.
- Warmth in the area being examined. This is normal. Tell the technologist if you have nausea, vomiting, headache, dizziness, pain, burning, or breathing problems.

Before having the CT Scan the CT department/technologist needs to know:

Before your CT scan, tell your health professional and the CT technologist if you:

- Are allergic to any medicines. The contrast material used for CT scan does not contain iodine. If you have a known allergy to the contrast material used for CT scan, tell your health professional before having the test. Sometimes the benefits of having this test may outweigh the risks.
- Are or might be pregnant.
- Have any other health conditions, such as kidney problems or sickle cell anemia, that may prevent you from having an CT using contrast material.
- You may need to arrange for someone to drive you home after the test, if you are given a medicine (sedative) to help you relax.

Please be sure your doctor and the CT staff are aware of any of these conditions. If you have any questions, be sure to ask!

What the Radiology Department Needs to Know:

- Do you have diabetes or take metformin (Glucophage) for your diabetes?
- Do you have asthma?
- Are you being treated now for any kind of infection?
- Do you have a history of claustrophobia?
- Have arthritis that is bothering you at the time of your test?
- For women, are you using an IUD or diaphragm, breastfeeding an infant, pregnant or suspect that you are pregnant?

What the Radiology Department needs to know continue...

- IF your doctor orders contrast material during the CT scan. The kidneys help filter the iodine out of the body after the CT test is done. Therefore, those with kidney disease or diabetes should receive plenty of fluids after the test, and be closely monitored for kidney problems. If you have diabetes or are on kidney dialysis, talk to your health care provider before the test about your risks.

Risks

A CT scan is considered to be a safe examination. While CT imaging does involve x-rays, the diagnostic benefits generally outweigh the risks of x-ray (radiation) exposure. CT scans and other x-rays are strictly monitored and controlled to make sure they use the least amount of radiation.

If a woman is pregnant, there may be a potential risk to the fetus, especially in the first trimester of the pregnancy. If a woman is pregnant, she should inform her doctor of her condition and discuss other potential methods of imaging, such as an ultrasound, which are not harmful to the fetus.

After Your CT scan

After the exam you can return to your normal routine. If you were given a contrast material, your doctor, a nurse or the CT technologist performing the scan may give you special instructions. You may be asked to wait for a short time in the radiology department to ensure that you feel well after the exam. After the scan, you'll likely be told to drink lots of fluids to help your kidneys remove the contrast material from your body.

You may leave the department right after your CT scan and all your questions have been answered.

Obtaining Your Test Results

The findings from your test are reviewed and interpreted by the radiologist. These results will be given to your referring doctor, who will also interpret the reading share them with you during your follow-up visit. After your doctor has seen the condition of your injury, further treatment with medicine or other tests may be needed, physical therapy, or surgery may be recommended.

* References available upon request