

# WHAT IS COMPUTED TOMOGRAPHY?

## ALSO KNOWN AS A CT OR CAT SCAN

**A COMPUTED TOMOGRAPHY (CT) SCAN** is a kind of x-ray that provides doctors with detailed pictures of the inside of the body. CT scans of internal organs, bones, soft tissue, and blood vessels provide greater clarity and reveal more detail than regular x-ray exams. When someone is sick or injured, a CT can provide doctors with valuable information that may be necessary to make a diagnosis, or to follow up on a particular type of disease.

### WHY IS IT DONE?

A CT scan may be done for many different reasons, some of which include:

- gather information about the presence, location, and size of abscesses, cysts, and tumors
- locate birth defects or abnormalities within the body
- look at malformed or injured blood vessels
- find the cause of headaches, weakness, or a change in mental status
- evaluate the appendix for inflammation or rupture

### PREPARATION

Your child may be asked change into a hospital gown and remove any accessories. Buttons, zippers, clasps, or jewelry can interfere with the images.

Sedation is sometimes required for a child who can't lie still and to relieve anxiety. Since the scan is very brief, other distraction methods may be attempted first. If your child's exam was scheduled with sedation, fasting may be required. A nurse will contact you 1-2 days before the procedure to give you age specific instructions for preparing your child. Sedation medicines are usually given through an IV and will help your child to stay calm and still while the images are taken. A nurse will also monitor your child during and after the procedure until the effects from the sedation have worn off.

If you suspect that your daughter may be pregnant, it's important to tell the technician or her doctor.



### PROCEDURE

Contrast is sometimes given to highlight certain areas of interest. If contrast is required, it may be given orally, through an IV, or rectally if appendicitis is suspected. IV contrast may cause a warm sensation throughout the body. Your child may also experience a strange metallic taste. This is normal.

When the exam is about to begin, the technologist will position your child on the CT table. The table will slide into the center of the CT scanner and the technologist will begin to take images. In order to obtain high quality CT images, it is very important for your child to remain completely still. Your child won't feel anything as the pictures are taken but may hear whirring and buzzing sounds from the CT machine.

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### PROCEDURE (CONTINUED)

Parents can stay in the scan room during the exam. A lead apron must be worn for protection from radiation exposure. If parents leave the CT scan room, they will be asked to sit in a waiting room nearby.

The scan itself usually takes less than 10 minutes. The total procedure time depends on the age of the child, whether contrast solution is given, and if sedation is needed. If oral contrast and sedation are needed, your child will need to drink the contrast and wait 1 hour before sedation can be given, and the exam can begin.

If no sedation is used, the technologist will inform you when it is OK to leave. If your child did require sedation, he or she will stay with a nurse in a recovery area until the sedation has worn off. In this case a nurse will let you know when you can leave. Sedation recovery time is usually 30-60 minutes.

### GETTING THE RESULTS

The CT images will be reviewed by a pediatric radiologist. A report will be sent to your doctor, who will discuss and explain the result with you. Results are generally available from your child's doctor within 12 to 24 hours. If the CT scan was done on an emergency basis, the results can be made available more quickly.

### HELPING YOUR CHILD

You can help your child to prepare for a CT scan by explaining the test in simple terms before coming to the hospital. You can describe the room and the equipment that will be used, and reassure your child that you will be close by. For older kids, be sure to explain the importance of keeping still so the scan can be completed quickly.

### RISKS

In general, CT scans are safe, and if warranted the benefits outweigh the risks. Any exposure to radiation poses some risk to the body, but the amount used in an individual CT scan isn't considered dangerous.

It's important to know that our radiologists and CT technologist are trained to use the smallest amount of radiation required to obtain the best results. Our department utilizes techniques and standards to ensure that your child will be exposed to the minimal amount of radiation required during their procedure. Visit [www.imagegently.com](http://www.imagegently.com) for more information regarding radiation safety.

Contrast solutions are generally safe with a very low incidence of allergic reactions. Talk with your doctor if you have any concerns about a possible allergy. If your child has had a prior reaction to contrast, please inform your child's physician.

### IF YOU HAVE ANY QUESTIONS

If you have questions about why this test is needed, please speak with your doctor. If you have questions about how the test is performed or what happens during a CT exam you may speak with one of our Child Life Specialists or the CT technologist before the procedure.

For additional information about Primary Children's Imaging Services, visit [www.primarychildrens.org/imaging](http://www.primarychildrens.org/imaging)



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