

CT, or Computed Tomography, Scan

What is a CT scan?

A **CT scan**, or **computed tomography scan**, is a tool that uses X-ray to make detailed images of the inside of the body.

CT is useful to detect the structure of tissues and can reveal injury, infection, inflammation and/or possible disorders of tissues, including identifying the presence of tumors. CT angiography (CTA) is a type of CT used to make images of the blood vessels.



The CT machine (pictured on the right) is a short, circular-shaped opening and a table that moves in and out of the opening. During the CT scan, the patient lies on the table and the table moves into the opening while we obtain the images.

To obtain the best CT images, the patient should be calm and not move. A CT does not hurt. It can be difficult to lie still even for a short exam; movement during the study can ruin the images. Some children are not able to lie still, so they are offered general anesthesia.

CT pictures help your child's doctor decide how to best care for your child. The CT scanner does not touch your child's body. A CT scan does not hurt.

Key things to know about a CT scan:

- CT scans use X-rays, so there is radiation exposure. At Phoenix Children's we use "child-size" radiation doses to keep exposure as low as is reasonably achievable (ALARA).
- CT is not painful.
- The process to complete a CT scan takes only a few seconds.
- The patient must remain calm and still to obtain high-quality images.
- A contrast agent made with iodine is usually given before the CT scan to enhance images—*this is determined by your doctor or the radiologist*—and is only given when it is necessary to help make a diagnosis.

Eating and drinking before the scan:

We give some children medicine to help them relax or feel sleepy during the procedure (**anesthesia**). If there is food or liquid in your child's stomach, there is a risk it could come up and be inhaled into the lungs. This can cause serious problems and could even be fatal. If you do not follow these instructions, your child's CT scan will be delayed or canceled.

If your child will be given anesthesia, your child cannot eat or drink before the CT scan. Follow these instructions:

Heavy meal:

- Last feeding **8 hours** before your child's CT scan.
- Stop giving your child heavy foods, such as meat, fried foods, ice cream, gum, mints and candy. Instead, your child can have light foods, such as toast, oatmeal, crackers, or a granola or protein bar.

Light meal:

- Last feeding **6 hours** before your child's CT scan.
- Stop giving your child any type of food, orange juice and milk.

Infant formula or milk:

- Last feeding **6 hours** before your child's CT scan.
- Stop giving your child infant formula or milk.

Breastmilk:

- Last feeding **4 hours** before your child's CT scan.
- Stop giving your child breastmilk.

Clear liquids:

- Last drink will be **2 hours** before your child's CT scan.
- Clear liquids are liquids you can see through, such as water, apple juice, Gatorade® (do not give your child red, orange or purple Gatorade®), Pedialyte® or other clear juices. No orange juice.

Medicine:

- If your child usually takes medicine, ask your doctor what to do for the day of your child's CT scan.

Before the scan:

- Ask someone you trust to pick up or care for your other children while this child is having the CT scan. We do not offer child care at the hospital.
- To get a clear picture, your child must stay very still during the CT scan. This is often hard for children to do. Your child may be given medicine to make him or her drowsy (**sedation**) or sleep through the scan (**general anesthesia**).
- For comfort during the CT scan, your child should wear loose clothing or they will be given a gown to wear. You may bring a story, music, a blanket, a stuffed animal, a doll, a pacifier or other comfort item your child likes.
- Tell your child he or she will have a CT scan. Show them the picture of the machine.
- Tell your child the machine takes pictures, like a camera. Tell your child to lie still for the pictures and explain he or she will wear a Velcro strap around the waist for safety when lying on the CT table. Tell your child there will be a swooshing sound during the scan. Your child will move back and forth through the opening of the machine while lying on the CT table.
- Before the CT scan, your child may be weighed. Your child's heart rate, breathing rate and blood pressure may be checked.
- If your child will be given contrast, a small tube may be placed into one of your child's veins. This tube is called an **IV**, or **intravenous catheter**. This will let your child receive medicine during the exam quickly and without pain. A J-Tip™ may be used when putting in the IV. A J-Tip™ has numbing medicine that can help decrease the pain of an IV stick. A J-Tip™ does not hurt but it does make a loud noise, such as a can of soda being opened.
- If your child has ever had a **kidney problem or kidney disease**, please tell your nurse, doctor and the technologist before the CT scan begins.
- If your child has ever had a **reaction or allergy to a contrast agent** used for any medical test, such as a CT scan, a magnetic resonance imaging (MRI) exam or an intravenous pyelogram (IVP) test, please tell your nurse, doctor and the technologist before the CT scan begins.

During the CT scan:

- Sometimes, to get the best picture, a medicine may be put into your child's IV that will make body parts show up better. This medicine is called **contrast**. For about a minute after it is put in your child's IV, your child may feel warm, get red in the face, and have a salty taste in his or her mouth. He or she may also feel sick to the stomach, but this is not common.
- Your child will hear a swooshing sound during the scan.
- During the scan, the machine takes pictures while the table your child is lying on moves in and out.
- During the scan, the technologist will watch through a window and talk to your child. You can wear a lead apron and stay with your child during the CT scan if your child does not need general anesthesia.
- No one under the age of 18 can stay in the room during the scan. If you are pregnant, you cannot stay in the room during the scan.

If your child has a CT scan of the head:

- Take out your child's earrings before the scan, as well as any barrettes, bobby pins and anything else that has metal or sparkles.
- Your child will lie on a table, and his or her head will rest in place on a special cradle. Your child's head will be kept still during the scan by a strap with Velcro.

If your child has a CT scan of the body:

- Your child's clothes should not have snaps, buckles, zippers, metal buttons, metallic print, sparkles or rhinestones.
- Your child will lie on his or her back. A strap with Velcro will be placed around your child's waist.
- Your child may be asked to hold his or her breath for a few seconds during the scan.

After the scan:

- If your child was given medicine (**sedation**), he or she may feel sleepy after the scan. Your child may also be unsteady and cranky. You will need to help your child walk and stay safe.
- If your child received contrast for the CT, the IV will be removed and the site bandaged. Please leave the dressing on for at least an hour to prevent any bleeding. Wash the site with soap and water regularly. If the site is sore, a warm compress may be helpful.

- The radiologist's report will be sent to the ordering physician; this may take one to three business days. Please call your doctor for results. The CT staff does not provide any report of the findings.