



Computed Tomography (CT) 電腦斷層(英文)

What is CT Scan?

Computed Tomography is a specialized X-ray imaging technique. It may be performed " plain " or after the injection of a " Contrast Agent ". CT creates the image by using an array of individual small X-Ray sensors and a computer. By spinning the X-Ray source and the sensor/detectors around the patient, data is collected from multiple angles. A computer then processes this information to create an image on the video screen. These images are called " sections " or " cuts " because they appear to resemble cross-sections of the body. This technique eliminates the problem of conventional X-rays, where all the shadows overlap. Don't worry though, the patient is not actually " cut ".

What is a CT scan for?

Your doctor may recommend a CT scan to help :

1. Diagnose muscle and bone disorders, such as bone tumors and fractures
2. Pinpoint the location of a tumor, infection or blood clot
3. Guide procedures such as surgery, biopsy, and radiation therapy
4. Detect and monitor diseases such as cancer or heart disease
5. Detect internal injuries and internal bleeding

How do you prepare for a CT scan?

How you prepare for a CT scan depends on which part of your body is being scanned. You may be asked to remove your clothing and wear a hospital gown. You'll need to remove any metal objects, such as jewelry that might interfere with image results.

Preparation sometimes involves fasting

Some CT scans require you to drink a contrast liquid before the scan or have contrast injected into a vein in your arm during the scan. A contrast medium blocks X-rays and appears white on images, which can help emphasize blood vessels, bowel or other structures. If your test involves a contrast medium, your doctor may ask you to fast for a few hours before the test. Depending on the part of your body being scanned, your doctor may ask you to take laxatives, enemas or suppositories, or temporarily modify your diet.

Reactions to contrast medium

Although rare, the contrast medium involved in a CT scan poses a slight risk of allergic reaction. Most reactions are mild and result in hives or itchiness. For people with asthma who become allergic to the contrast medium, the reaction can be an asthma attack.

In rare instances, an allergic reaction can be serious and potentially life-threatening — including swelling in your throat or other areas of your body. If you experience hives, itchiness or swelling in your throat during or after your CT exam, immediately tell your technologist or doctor. If you've had a reaction to a contrast medium in the past, and you need a diagnostic test that may require a contrast medium again, talk to your doctor. Be sure to let your doctor know if you have kidney problems. Contrast material that's injected into a vein is removed from your body by your kidneys and could potentially cause further damage to your kidneys in some circumstances.

Preparing your small child for a scan

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

How is a CT scan done?

During a CT scan, you lie on a table inside a doughnut-shaped machine called a gantry. An X-ray tube inside the machine rotates around your body and sends small doses of radiation through it at various angles. As X-rays pass through your body, different tissues absorb different amounts of radiation.

Detectors inside the gantry measure the radiation that has passed through your body and converts it into electrical signals. A computer gathers these signals and assigns them a color ranging from black to white, depending on signal intensity. The computer then assembles the images and displays them on a computer monitor.

Risks of a CT scan

CT scan risks are similar to those of conventional X-rays. During the CT scan, you're briefly exposed to radiation. But doctors and other scientists believe that CT scans provide enough valuable information to outweigh the associated risks. Be sure to inform your doctor if :

1. You're pregnant.
2. You have asthma or allergies.
3. You have certain medical conditions : diabetes, asthma, heart disease, kidney problems or certain thyroid conditions

若有任何疑問，請不吝與我們聯絡
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