

Contrast Study for Computer-Assisted Tomography (CT) Scan



Figure 1. CT machine

What is this procedure?

CT scan is a diagnostic imaging procedure that combines a series of X-rays taken from different angles of the body and uses computer technology to create images of bones, blood vessels, soft tissue, and organs inside the body. Contrast Study means taking the image after intravenous injection of a dye called “contrast medium”.

Why is there a need to do it?

Compared with a plain CT image without contrast medium, adding contrast medium can make the image clearer so that it is easier for the doctor to locate any abnormality.

How is it done?

The contrast medium can be taken by mouth or via a feeding tube to reach the gut, and/ or by injecting into the blood vessel to reach various organs and tissues. It acts like a dye by blocking the X rays, enhancing the images of various organs and tissues to be examined. The doctor will decide how the contrast(s) to be given according to the patient's condition.

Risks and complications

In general, contrast medium is a safe drug. However, side effects may occasionally occur.

General risks:

- Mild reactions: These include feeling of warmth, itching, nausea, vomiting, arm pain, sneezing, coughing, and chest tightness. A few patients may experience delayed reactions usually within 24 hours, which include pain along the site of injection, itching, rash, painful or swollen salivary glands. The symptoms are usually transient, requiring minimal or no treatment.
- Moderate reaction: The symptoms are more severe and last for longer duration. Patient may also experience rash, itchiness, fever and chills, an abnormally high

or low blood pressure and palpitation. Specific treatment and close monitoring are required.

- Severe reaction: The symptoms include shortness of breath, irregular heartbeat, chest pain, severe kidney failure, convulsion and unconsciousness. If these symptoms occur, the patient will require urgent medical treatment.

Specific risks:

- Aspiration of oral contrast into the lung may lead to shortness of breath, cough and aspiration pneumonia.
- Contrast injection leak (extravasation): If the contrast injection leaks out from the vein to the surrounding skin tissues, it is known as extravasation. The patient will feel discomfort or pain at the injection site. There may also be swelling of the arm or hand near the site of injection leak. In most cases, this is a minor injury and does not need further treatment.
- Death: Contrast medium may cause death by causing severe allergic reaction, but this is extremely rare. Please notify healthcare personnel if you have ever had any adverse reaction to contrast media.
- Risks during pregnancy: Radiation exposure during pregnancy may lead to birth defects; please notify healthcare personnel if you are pregnant or suspect that you may be pregnant.

Possibility that the procedure cannot be carried out

There is also a possibility that the procedure cannot be carried out, for example, if patient's condition is unstable and not fit for transfer, or if intravenous access cannot be set up.

Other treatment options

The patient may choose to not undergo this procedure. The degree of impact this decision may have on the patient's health condition depends on a variety of clinical factors, such as the individual patient's physical condition before the onset of illness, the type of disease, the response to treatment and the progress. The doctor will explain suitable alternative options to the patient and family members.

Disclaimer

The information provided in this booklet is for general reference only. The risks and complications listed above are not exhaustive. Please consult your attending doctor for details.