



Computed Tomography Patient Information

Computed Tomography

You have been given an appointment for a computed tomography (CT) scan. If this is your first CT scan, you will, of course, have many questions on your mind: "What can I expect before, during and after such a procedure?"

This brochure is designed to give you some answers to these questions. Your doctor will also be glad to inform you about the procedure. But first of all, one thing is certain: a CT examination is fast, straightforward and painless. So there is no need to worry about your CT appointment.



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What is CT?

CT is a radiological method which has been used since 1974 to visualize certain regions of your body slice by slice. Today, CT technology is an indispensable tool in medicine. It is used for routine examinations of the entire body.

For example, CT can assist in:

- Detecting strokes, head injuries, herniated discs, abscesses
- Locating fractures
- Determining the extent of bone and soft tissue damage in trauma patients; in such cases it is especially helpful to have an imaging procedure which allows a fast first diagnosis
- Diagnosing changes in various organs
- Examination of the heart and of the coronary vessels
- Early Diagnosing of lung and intestinal cancer





The modern CT technology delights with high image quality and detail. This is an image of a lung.

Important advantages of CT:

- With the aid of computed tomography, physicians are now able to look into the coronary arteries without having to introduce a catheter
- CT allows true-to-detail three dimensional images of the inside of the heart and other parts of the body
- Virtual endoscopy enables a computer-aided flight through blood vessels and cavities in the body. The physician can for example examine the condition of the intestinal walls – non-invasively



*CT image of a heart.
The better the image
quality, the more
precise the diagnosis.*

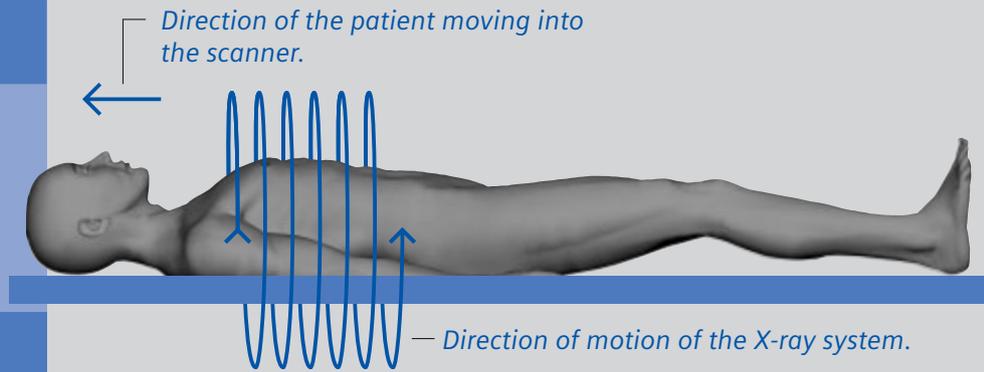


What Happens During the Examination?

During the examination you will be lying on a comfortable patient table (usually on your back). This table will then slowly move you through the opening of the examination unit called the gantry. All you need to do now is pay attention to the instructions of the CT personnel who may, for example, ask you to briefly hold your breath or not to move certain regions of your body.

As with conventional X-ray examinations, you will not feel the acquisition of CT images at all; you will only hear a low whirring noise. The patient table will move slightly during the entire examination.





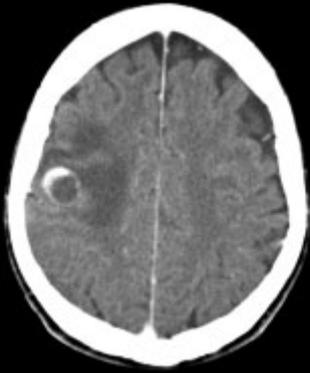
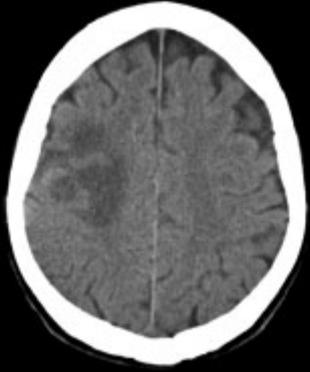
As the table moves through the gantry of the CT unit, the X-ray system rotates around the patient; images of the body are acquired in "spiral movements".

How is the CT Image or CT Scan Performed?

While you are in the gantry, the X-ray system is taking extremely detailed cross-sectional images of your body. Based on the data acquired, the computer then generates the so-called result images. This way it aids your physician in reliably and precisely visualizing and then diagnosing the presence or absence of disease inside your body.

The CT examination is called "scanning" by the experts, and not image acquisition. Scanning is a computer-controlled electronic procedure comparable to digital photography. Whether you call it a scan or an image: after the examination you and your physician will be able to look at an extraordinarily precise image of the inside of your body. And this is what counts!

The upper clinical image shows an image of a brain without contrast medium.



The use of contrast medium facilitates the diagnosis for the doctor.

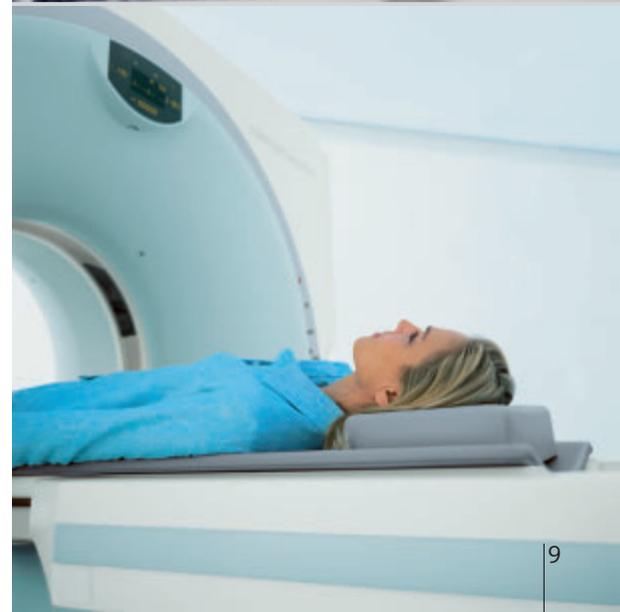
Contrast Medium – Why?

Depending on the examination, a contrast medium may be administered to aid in strengthening the resulting diagnosis. Most people tolerate the contrast medium without any problems and merely feel flushed for a moment.

Since the contrast medium contains iodine which may cause an allergic reaction in some people, you should consult with your physician regarding any existing allergies prior to the examination. Should you feel any discomfort during the examination, you can communicate this to the CT team any time. Modern scanners are equipped with an intercom system for this purpose.

How Long Does a CT Scan Take?

There is no general answer to this question. The duration of a CT examination depends on which body regions are scanned. Although with a modern spiral CT scanner the actual images are produced within a few seconds, you should expect the examination to last approximately 15 to 30 minutes. If a contrast medium is used, the examination will take longer. You may also have to drink a contrast medium that will coat the gastrointestinal tract approximately one hour before the CT scan takes place.



How Should You Prepare?

To ensure that optimal results are obtained, your cooperation is required. Please talk to the physician referring you to CT. He will give you detailed information on how to prepare yourself for the examination.

Be sure to tell your doctor if you are pregnant. Like other X-ray examinations, CT scans should not be performed during pregnancy because of the exposure to radiation.





A few general tips:

- If you have images from previous examinations (including X-rays), please bring them with you
 - For head and neck examinations: please remove all jewelry, hairpins, eyeglasses, hearing aids and dentures or leave them at home
 - For abdominal examinations: please ask your physician how many hours prior to the examination you should refrain from eating or drinking
 - For use of a contrast medium: drink a sufficient amount of fluid one to two hours before and after the examination
- It is very important to let your physician know if you have had previous allergic reactions to a contrast medium, iodine or shellfish or if you have asthma
 - If you have diabetes or take medication: Please inform the radiologist or his team
 - As possible do not swallow during neck examinations
 - For abdominal and chest examination: please follow the directive "Please hold breath for 15 to 20 seconds." If not the pictures could be blurred

What You Should Know About Radiation Exposure

CT scanners use X-rays. Your radiation exposure is kept to a minimum. The competent and experienced CT staff nowadays have a whole series of dose saving functions at their disposal. Modern CT scanners are designed to ensure the consistent reduction of radiation exposure to patients and staff.

Today's CT scanners offer an optimal combination of low radiation exposure and short examination times while maintaining excellent image quality. Siemens CT scanners, for example, come with a software package (CARE) especially designed to reduce radiation exposure. However, X-rays may harm a developing fetus. Pregnant women should therefore avoid having a CT scan.



What Happens After the Examination?

The radiologist analyzes the images and sends a report of the diagnosis to your referring doctor, who will then discuss the results of the CT examination with you.





Further Questions?

If you have any further questions about computed tomography, please ask your physician. He will explain the procedure to you and do his best to ensure that your CT examination is as comfortable and quick as possible.

A Final Word

CT sees inside your body, and also into areas that cannot be visualized by standard X-ray examinations. The results of computed tomography allow your physician to diagnose certain diseases earlier and more precisely. And since diseases are treated more successfully when diagnosed early, CT scans can help save lives. With CT you will receive the best of treatments from highly qualified and experienced experts.

Your CT Appointment Is On:

Stamp of practice/hospital

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