



## CT Scans

“Get a CT on this guy,” is a phrase we hear often while sitting in our living rooms watching the newest medical drama on TV. But what is a CT scan? What does a CT scan tell us that makes them such an important feature in diagnosing medical problems?



CT scans (otherwise known as CAT scans or computed axial tomography scans) help doctors diagnose problems by creating clear images of internal tissue, bone, organs and blood vessels. The CT scan can help locate tumors. They also are used to help doctors apply treatments. For example, CT scans create a map of a person’s body, helping doctors perform surgeries with precision.

CT scans are advanced x-ray procedures that combine multiple x-ray images with the assistance of a specialized computer to generate cross-sectional views and three dimensional images of a patient’s internal organs. If a patient was getting a CT Scan, they would lie down on a platform that slowly moves through the center of an x-ray tube. Unlike a normal x-ray, in a CT Scan, an x-ray beam moves all around the patient. This creates multiple scans, which are then turned into a single image.

Usually, a doctor must write a prescription for a patient to receive a CT scan. Recently, however, in some states, instead of waiting for symptoms of illnesses, the public can request a whole body CT scan in hope of finding a problem before they become sick. The voluntary whole body CT scan’s benefits are uncertain, and the potential harm from the radiation exposure may outweigh the presumed benefit from the scan.

Compared to most other diagnostic x-ray procedures, CT scans result in relatively high radiation exposure. The [radiation exposure](#) of a CT exam can be several hundred times that of a chest x-ray. Keep in mind that CT scans can highlight inaccurate and benign features that can prompt unnecessary follow-up testing. Whenever having a CT scan, a person should talk to their doctor about the risks from the CT scan radiation exposure and the benefits of early diagnosis.

## Who is protecting you

### The States

The use of CT systems for medical purposes is controlled, in the U.S., largely at the State and Local government levels. States control the practice of medicine, license medical practitioners and typically license or register facilities operating medical x-ray systems such as CT systems. Some States have established regulations regarding the operation of screening programs that employ ionizing radiation.

### U.S. Food and Drug Administration (FDA)

CT systems are regulated by the FDA under two statutes. They are regulated as radiation-emitting electronic products under the Radiation Control for Health and Safety Act and as medical devices under the Medical Device Amendments to the Food, Drug, and Cosmetic Act. The regulations implemented under these laws place controls on the manufacturers of the CT systems rather than on the users of the CT systems.

## What you can do to protect yourself

For sick and injured patients, CT scans and x-rays may be extremely beneficial. Before agreeing to a CT scan it is important to consult with your doctor and investigate the risks and benefits of the procedure.

Make sure your doctor is aware if you have had any previous CT scans. In some cases, viewing a CT done elsewhere may eliminate the need for a new one.

## Resources

You can explore this radiation source further through the resources at the following URL:

[http://www.epa.gov/radtown/ct\\_scans.html#resources](http://www.epa.gov/radtown/ct_scans.html#resources)

We provide these resources on-line rather than here so we can keep the links up-to-date.