

CT Scans & Radiation Dose Reduction

What is a CT scan?

A CT or CAT scan is a shortened name for computerized axial tomography. A CT scan uses x-rays to create cross-sectional pictures of the body. With its ability to see inside the body, CT has significantly changed the practice of medicine. CT can identify the presence, location and extent of disease. It can also guide medical therapy and monitor treatment response.

Does a CT scan expose you to radiation?

Everyone is exposed to natural radiation in the environment every day. The majority of natural radiation comes from cosmic radiation from the sun, and terrestrial radiation from rocks and minerals. A CT scan also exposes a person to radiation. The exposure is somewhat higher than natural radiation and a conventional radiograph. There has been increased use of CT scans in the past 30 years. This has increased concern for lifetime radiation exposure with repeated CT scans, especially for children. While there is no conclusive evidence that low level radiation from diagnostic exams causes cancer, there is concern that increased radiation exposure may lead to a slightly increased cancer risk. However, the benefits of improved diagnostic medical information provided by a CT typically far outweigh any theoretical mild increased risk of cancer.



What is National Jewish Health doing to decrease radiation exposure for patients?

National Jewish Health established a radiation dose reduction task force in 2009. The task force has focused on dose reduction strategies at NJH. They include:

- Continuing to perform and encourage low dose CT imaging, including performing low dose Chest CT imaging whenever possible
- Maintaining American College of Radiology Accreditation in CT, MRI, Nuclear Medicine, PET (Positron Emission Tomography) and Ultrasound
- Encouraging the use of MRI and Ultrasound (which use no ionizing radiation) whenever possible and
- Providing formal interpretations of outside imaging examinations when appropriate to avoid repeating exams.

The radiologists and radiology staff at NJH work hard to ensure every patient's imaging study is:

- The **right exam** by verifying the exam is the right test to answer the clinical question
- For the **right reason** by ensuring the right indication for the examination
- At the **right time** by verifying the date of the previous study and assuring the follow-up study is done at the appropriate time, to avoid an unnecessary examination

- With the **right protocol** by following the correct protocol for the procedure and
- At the **right dose** by using advanced exam software and tools to help reduce the radiation dose.

The risk of medical radiation exposure is small, compared with the benefits of an appropriate exam. NJH is committed to Image Wisely and Image Gently. The Image Wisely and Image Gently Programs were developed by health care provider organizations concerned about radiation safety. For additional information see the links below.

For additional information:

- www.RadiologyInfo.org
- www.ImageWisely.org/patients
- www.imagegently.org

Visit our website for more information about support groups, clinical trials and lifestyle information.

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