



What Parents Should Know about CT Scans for Children

A computed tomography (CT) scan is an X-ray imaging technique that is used on people of all ages, including children. CT scans are vitally important for quickly investigating serious health problems inside the body, for example, bleeding inside the skull after a fracture. CT scans provide more information than a plain X-ray image.

What is an X-ray?

An X-ray image is produced by an invisible beam of radiation (called X-rays) to create two-dimensional images of bones and organs inside the body. X-ray imaging is often performed on children, particularly when bone fractures are suspected.

What is a CT scan?

CT scans use X-rays to create three-dimensional images, providing different views and far greater detail than plain X-ray images. CT scans can provide critical information for the care of your child, but obtaining the images uses more radiation than a plain X-ray image.

How much radiation is used in CT scans?

We are all exposed to naturally occurring radiation from soil, rocks, air, building and other materials every day – this is known as background radiation. The radiation used in X-ray imaging and CT scans can be compared to background radiation to help explain the different exposure levels. For instance, we could say that an abdominal CT scan is approximately equal to 2000 days of background radiation and a brain CT scan to 500 days.

Are there any risks from a CT scan?

The use of CT scans has been linked to increases in the chance of developing cancer later in life. While our knowledge is evolving and the risk varies with age, part of the body examined, and the scan technique, current estimates are that about 1 of every 1000 children who have a CT scan will get a cancer attributable to that CT scan later in life. By way of comparison, one in two men and one in three women will develop cancer by 85 years of age.

How can we minimise radiation risk to my child?

During a CT scan, the objective is that your child is exposed to the smallest amount of radiation necessary to make a diagnosis. The Australian Government through the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) and the health professionals who refer and deliver medical imaging promote the following strategies for minimising radiation exposure in children:

- Only use CT when there is a clear medical benefit.
- Use other diagnostic imaging methods such as ultrasound or magnetic resonance imaging (MRI), which do not use X-ray beams, when possible and appropriate.
- Use the lowest amount of radiation for adequate imaging based on the size and age of the child.
- Image only the indicated area.
- Avoid multiple scans where possible.

If I still have concerns about radiation exposure to my child, who should I talk to?

You should first talk to the doctor who is requesting your child's CT scan. Your child's doctor and the radiologist can work together on decisions about which test is best to perform and how to balance the risks with the benefits in your child's individual circumstances. If you still have questions when you get to the radiology practice or department, ask to speak to the radiologist before the test is undertaken.

The information contained in this publication should not be used as a substitute for the medical care and advice of your doctor. There may be variations in treatment that your doctor may recommend based on individual facts and circumstances.