**X-RAY EXAMS IN CHILDREN**

**What do we need to know?**

The radiation dose can be adjusted based on the type of exam and the detail of the images needed. The exposure settings can be adapted for children (“child-sized”) to deliver the least amount of radiation for producing an image that shows the information the doctors need.

A CT scan gives a small amount of radiation to the patient, and conventional radiography can give a hundred times less. Chest X-rays, for example, give about the same amount of radiation as we are exposed to just from several days’ worth of naturally occurring radiation in our everyday environment.

**Additional Resources**

This poster, as well as other more specific leaflets and posters on different types of X-ray imaging exams, have been developed as a complementary tool to the WHO report Communicating Radiation Risks in Paediatric Imaging, where you can find more detailed information.

Further useful information is available at Image Gently.

http://www.imagegentlyparents.org

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**X-RAYS FOR CHILDREN: BENEFITS AND RISKS**

On average, 1 in 3 people will develop cancer during their lifetime. X-ray exams may slightly increase this normal chance of developing cancer later in life. Children are especially vulnerable to the effects of radiation due to their growing tissues and their longer lifespan. When X-ray exams are needed for diagnosing an illness or injury in a child and they are performed with the proper technique, the benefits far outweigh the radiation risks.

**WHAT EXAMS USE X-RAYS?**

Medical and dental conventional radiography

Radiography is the use of X-rays to visualize the internal organ and structures of the body including film-based techniques as well as digital technologies.

Computed Tomography

A computed tomography or CT scan is an exam that uses X-rays to get images of the body in real-time, and allows performing procedures involving small devices (e.g. catheters, needles, balloons).

Fluoroscopy and fluoroscopy-guided exams

Fluoroscopy is like a video which uses x-ray pulses to show organ motion within the body in real-time, and allows performing procedures involving small devices (e.g. catheters, needles, balloons).

Imaging exams that do not use X-rays

- **Ultrasound**
- **Magnetic Resonance Imaging (MRI)**

**WHAT IS THE VALUE OF MEDICAL IMAGING IN CHILDREN?**

Radiology is an essential part of pediatric health care. X-ray imaging exams can save lives and X-ray guided interventions may replace more invasive surgery.

The benefit of an X-ray exam should always outweigh the radiation risks. It is not certain that there is any risk at very low doses, and if there is, it is very small. Even so, your radiology team takes radiation protection in pediatric imaging seriously and uses the smallest amount of radiation necessary.

**We should be sure that an imaging exam will do more good than harm (doctors call this “justification”). It is important to deliver the smallest amount of radiation needed to obtain images for the desired purpose (doctors call this “optimization”). Both are part of responsible and ethical medical practice.**