



MRI | CT | XRAY | DEXA | ULTRASOUND

Benefits and Risks of Radiation from Medical Exposures: Diagnostic X-Ray and Examinations

Benefits

- Medical exposures are used every day to help in the diagnosis, monitoring and treatment of many conditions and diseases. The risk of not performing an exam may include missing a diagnosis and/or initiating treatment too late to improve the medical outcome.
- Some medical imaging uses radiation, for example having an X-ray image taken of your chest.
- There are some risks associated with using radiation - see across. The overriding concern of your doctor, radiographer and healthcare staff is to ensure that when radiation is used, the expected benefit of diagnosing, monitoring or treating disease outweighs any small radiation risk involved.
- Higher dose examinations are normally used to diagnose or help treat more serious conditions when a greater benefit to the patient is to be expected.
- Healthcare staff are trained and responsible for making sure that any radiation you receive will be the lowest necessary.

Risks

- We all receive small amounts of radiation in our daily lives. For example from natural background radiation or from time spent flying on board an aircraft. The amount of radiation resulting from our medical exposures is small in comparison to this.
- The health risks from these exposures are very small in relation to the underlying risks of cancer (the normal risk of developing cancer during our lifetime is 1 person in every 2), but are not entirely negligible for some procedures involving fluoroscopy or computed tomography (CT).
- The risks are much lower for older people and a little higher for children and unborn babies, so extra care is taken with young or pregnant patients.

? Further information:

If you have any questions about the radiation dose or risks associated please speak to the Radiographer

X-ray Examination (Nuclear Medicine or Scan)	Equivalent period of exposure from background radiation / time spent flying	Additional Risk of Cancer per Examination Baseline Risk is 1 in 2
Teeth Arms and Legs Hands and Feet	A few days / < 1hr	NEGLIGIBLE RISK Less than 1 in 1,000,000
Chest Head Cervical spine	A few weeks / < 6hrs	MINIMAL RISK 1 in 1,000,000 to 1 in 100,000
Breast (mammography) Thoracic/Lumbar spine Abdomen Pelvis Barium follow (Lung scan) (Kidney scan)	A few months to a year / 60hrs	VERY LOW RISK 1 in 100,000 to 1 in 10,000
Angiography Barium enema CT scan chest CT scan abdomen	A few years / 600hrs	LOW RISK 1 in 10,000 to 1 in 1,000