



SPORTS SURGERY CLINIC

*Specialists in Joint Replacement, Spinal Surgery,
Orthopaedics and Sport Injuries*

X-rays and Radiation Dose



Information for Patients



www.sportssurgeryclinic.com

What are x-rays?

X-rays are a type of radiation that are created using large amounts of electricity. X-rays pass through the body and create an image based on how many x-rays get absorbed and how many pass through. These images can be used to check for diseases or to act as guidance for therapeutic procedures like pain relief injections.

Exposure to Radiation

We are all constantly exposed to radiation from our surroundings, e.g. outer space (cosmic radiation), from materials in the earth and from gases (like Radon, in the air we breathe).

Natural sources of radiation make up over 80% of the radiation dose we receive each year in Ireland, medical examinations contribute 13.5% of the radiation dose.

Medical examinations that use radiation in SSC include routine X-rays, CT scans, fluoroscopically guided procedures (like some pain injections or surgeries) and DEXA scans. MRI and Ultrasound DO NOT use ionising radiation. SSC does not carry out any examinations that use radioactive material i.e. you will NOT be 'Radioactive' after any examination in SSC.

Is radiation dangerous?

The radiation doses used for X-ray examinations are many thousand times too low to produce immediate harmful effects. The only effect on the patient that is known to be possible at these low doses is a very slight increase in the chance of cancer occurring many years or even decades after the exposure.

What is the effect of having many x-ray examinations?

Each individual X-ray examination carries a level of risk. To estimate the effect of having many examinations, the risks for each one are simply added together. It does not make any difference whether you have a number of X-rays in one day or spread over many years, the total risk is just the same.

Radiation doses of typical examinations at SSC

Examination at SSC	Estimated Equivalent period of natural background Radiation	Estimated Lifetime additional risk of cancer*
X-ray Knee	<1 day	1 in 4,000,000
X-ray Cervical Spine	6 days	1 in 300,000
X-ray Shoulder	12 days	1 in 150,000
X-ray Pelvis	1.7 months	1 in 35,000
X-ray Lumbar spine	6 months	1 in 15,000
Fluoroscopic Injection of Foot	<1 day	1 in 4,000,000
Fluoroscopic Injection of Shoulder	<1 day	1 in 4,000,000
Fluoroscopic Injection of Hip	5 days	1 in 300,000
Fluoroscopic Caudal Epidural injection	1.5 months	1 in 55,000
CT Cervical Nerve root block injection	1.3 months	1 in 55,000
CT Brain	5 months	1 in 15,000
CT Lumbar Nerve root block injection	6.8 months	1 in 12,000
CT Chest scan	1.7 years	1 in 3,500
One year's natural background radiation in Ireland	1 year	1 in 5,900
Return flight Dublin to Rome	2 days	1 in 1,000,000

***These risk levels represent very small additions to the 1 in 3 chance we all have of getting cancer**

Pregnancy

Female patients of childbearing age will be asked to comply with clinic protocols to limit radiation effects to an unsuspected pregnancy. If you are unsure whether you are pregnant or not, please mention this to the radiographer before the start of your examination.

Benefits

Medical imaging can bring very real benefits to patients. The overriding concern of your doctor and the Radiology Department is to ensure that when radiation is used, the benefits from making the right diagnosis or injecting the precise area outweigh any small risk involved.

How else does SSC help to protect you? SSC has:-

1. An appointed Radiation Safety Committee tasked to ensure that the Radiology Department and the Clinic maintains governance over the use of radiation.
2. A dedicated Radiation Quality Assurance team that measures x-ray equipment and ensures it is operating appropriately.
3. An audit program with focus on Radiation dose.
4. A Radiation Licence issued and regulated by the Environmental Protection Agency.
5. Maintenance and service contracts from world leading imaging equipment providers.
6. A culture of Radiation Safety awareness throughout the clinic.



SSC Contact Details:

To ensure we deal with your query as quickly as possible please use the following numbers:

Monday to Friday 8am to 10pm – Diagnostic Imaging:

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