

INFORMATION ON PATIENT RADIATION DOSES, IRELAND

Typical effective doses, equivalent periods of natural background radiation and lifetime fatal cancer risks from most common diagnostic medical exposures

Ionising Radiation	(typical effective dose in milliSieverts(mSv) ⁽¹⁾)	Equivalent Period of Natural Background Radiation ⁽¹⁾	Lifetime Additional Risk of Fatal Cancer per <i>Single Examination</i> ⁽³⁾
Limbs and joints (except hip and knees)	(0.0002mSv)	Half an hour	Almost 0 (1 in 100 million)
Knees x-ray	(0.00058mSv)	One hour	Almost 0 (1 in 35 million)
Teeth, intra-oral	(0.005mSv)	Less than a day	1 in 4 million
Teeth, panoramic	(0.019mSv)	2 days	1 in 1 million
Chest PA x-ray	(0.02mSv)	2 days	1 in 1 million
Return airplane flight Dublin – Rome return	(0.027mSv)⁽¹⁾	2 days	1 in 1 million
Cervical spine AP + Lat x-ray	(0.07mSv)	1 week	1 in 300,000
Pelvis AP x-ray	(0.29mSv)	1 month	1 in 70,000
Abdomen AP x-ray	(0.4mSv)	7 weeks	1 in 50,000
Mammogram screening	(0.57mSv)	2 months	1 in 35,000
Lumbar Spine AP + Lat x-ray	(0.57mSv)	2 months	1 in 35,000
Spine (Thoracic and Lumbar)	(1.22mSv)	4 months	1 in 16,000
Nuclear Medicine 99mTc Thyroid Scan	(1.32mSv)	5 months	1 in 15,000
CT Brain / Head	(1.7mSv)	6 months	1 in 12,000
One year's natural background radiation (Ireland)	(3.4mSv)		1 in 5,900
Nuclear Medicine 99mTc Bone Scan	(3.54mSv)	1 year	1 in 5,700
Barium enema	(4.6mSv)	1.4 years	1 in 4,500
Cardioangiography	(6mSv)	1.5 years	1 in 3,500
CT of Chest / Thorax	(7.3mSv)	2 years	1 in 2,800
CT of Abdomen and Pelvis	(8.4mSv)	2.5 years	1 in 2,400
CT of Chest, Abdomen and Pelvis	(12.9mSv)	3.8 years	1 in 1,500
Nuclear Medicine 131 I Thyroid Uptake Scan	(47mSv)	14 years	1 in 450
Lifetime risk of cancer NOT caused by radiation⁽²⁾			1 in 3

1. Medical Exposure Radiation Unit Publications on CT, Dental, General and Nuclear Medicine Patient Radiation Doses, 2009 – 2013; Radiation Doses Received by the Irish Population, RPII, 2008.
2. National Cancer Registry of Ireland (NCRI) (www.ncri.ie)
3. Patient Dose Information, Public Health England website, http://www.hpa.org.uk/Topics/Radiation/UnderstandingRadiation/UnderstandingRadiationTopics/MedicalRadiation/medic_TedEquivalent/