Radiology and Radiation

Background

- There are numerous types of radiation, including visible light, gamma rays, microwaves, radio waves, and x-ray.
- X-rays can be transmitted through the body and create an image of the body.
- These images are interpreted by a radiologist, who is medically trained specialist, and the results made available to your referring doctor to assist in your medical management.
- Radiology tests using radiation include x-ray and CT.
- Ultrasound and MRI do not use radiation.

Naturally occurring background radiation

- Many people are unaware that radiation is all around us - in the air, plants, soil etc. This is referred to as a background radiation.
- The effective does in terms of overall risk due to radiation exposure is measured in the unit of a Sievert [Sv].
- The average background radiation in Australia measures 2 mSv per year. Worldwide, this figure varies substantially, measuring up to 20 mSv, with the average measuring 2.4 mSv.
- The general population lifetime risk of developing cancer is 1 in 3. The risk of developing cancer due to radiation exposure from an ionising radiology technique is extremely small.
- The effective dose of medical imaging techniques varies, and is dependent on numerous factors - patient size, patient weight, imaging technique requested, patient protection [shielding], quality of equipment etc.

Are X-rays and CT Safe?

- X-rays are safe in small doses.
- The doses used in x-ray and CT are small.
- Large x-ray doses have been proven to cause cancer.
- To minimize this risk, Qscan Radiology invests in cutting-edge technology and X-Ray and CT equipment. In fact, the CT Flash is the only dual source and dual energy CT in Tasmania and offers the lowest radiation dose throughout the state.
- Great care is also taken to use techniques that minimize the radiation dose to produce diagnostic quality images.
- Your referring doctor and on-site radiologist will ensure that the diagnostic benefits of ax-ray or CT outweighs any potential risk.
Children and Pregnant Women

- If you may be, or are aware that you are pregnant, please advise referring doctor and staff at the time of booking.
- Extra care is taken to ensure that any request for x-ray or CT outweighs the potential risks.
- Occasionally, imaging techniques (x-ray and CT) can be substituted if the clinical question can be answered instead with a non-ionising technique (ultrasound or MRI).
- Appropriate shielding will also be employed to reduce exposure.