

Radiation Safety

Patient Information Sheet

What is Radiation?

Radiation is the release of energy in the form of moving waves that travel through space.

One of the most familiar forms of radiation is sunshine. It delivers heat and a spectrum of light, including ultraviolet rays. While we are able to enjoy it, we must be conscious of our exposure to it.

Besides ultraviolet radiation from the sun there are other kinds of radiation such as: low doses from natural sources like the Earth, rocks and cosmic radiation from outer space. Collectively, we refer to these kinds of radiation as ionizing radiation. Ionizing radiation is also used in the field of medicine. Collectively, it is capable of damaging matter, like living tissue when exposed at high levels. Although we cannot feel this type of radiation, it is necessary to control our exposure to it.

Measuring Radiation Dose

The scientific unit of measurement for radiation dose is the millisievert (mSv).

On average, a person living in Canada receives 1.8 mSv per year from natural background radiation and these doses vary throughout the country.

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Medical examinations/procedures which involve the use of radiation have risks as well as benefits. Your physician will determine whether the benefits of the examination/procedure outweigh the risks to you.

The risk of not having a needed examination/procedure can be greater than the risk from any exposure to the radiation. For low dose examinations, usually those that only involve a few images (such as a chest x-ray), this is generally an easy decision. For higher dose exams such as computed tomography (CT) or those involving the use of contrast materials such as barium or x-ray dye, your ordering physician may want to consider your past history of exposure to radiation.

The staff at Southlake involved in your examinations/procedures have been trained to use the minimum amount of radiation necessary to obtain the needed results.

If you have any concerns about the radiation you will receive from your examination/procedure, please



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discuss this with your ordering physician.

If you are pregnant, or think you may be, tell a staff member involved in your examination, before having the procedure.

Areas within Southlake which may use Radiation:

- a. Diagnostic Imaging Services
- b. Cardiac Program
- c. Stronach Regional Cancer Centre
- d. Surgical Program

Frequently Asked Questions

Do MRIs and ultrasounds use radiation?

No. MRI uses magnets and radiofrequency while ultrasound uses sound waves to create diagnostic images.

Do I need a travel letter after I've had a Nuclear Medicine procedure?

If you are planning to cross the border (i.e. to the USA) within a few days of your Nuclear Medicine procedure, you may need a travel letter that documents your recent radiation exposure.

Please ask the Nuclear Medicine staff during the time of your procedure if it is necessary for you to receive one.

