



Nuclear Medicine

The Canadian Nuclear Safety Commission licenses the use of more than 50 radioisotopes that have transformed medicine as we once knew it.

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Indium-111

Targeted Diagnosis

Indium-111 is used to detect blood clots and locate abscesses and inflammation. It is also useful in diagnosing certain rare cancers.

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Samarium-153

Cancer Therapy and Pain Relief

Samarium-153 is used to relieve the pain of bone cancers and is an effective treatment for prostate and breast cancer.

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Gallium-67

Infection Detection

Gallium-67 is taken up and concentrated by tumours and inflammation so it can be used to diagnose even chronic infections. It is also useful for imaging osteomyelitis of the spine.

^{99m}Tc

Technetium-99m

The Most Widely Used Isotope in the World

Technetium-99m is used to study disease processes and observe organ function in many parts of the body, including the heart, thyroid, liver, kidneys, gall bladder, lungs, gastric system and skeleton. Every year, Tc-99m is used to diagnose over 40 million people worldwide.

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Thallium-201

Heart Health

Thallium-201 is used to diagnose coronary artery disease, as well as to determine the extent of the disease. It is also useful for locating low-grade lymphomas.

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Iodine-131

Versatile Radioiodine

Iodine-131 is an effective treatment for thyroid disorders such as Grave's Disease. It is also used in imaging scans to find some nervous system tumours.

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Yttrium-90

Hope for Liver Cancer Patients

Yttrium-90 is of growing significance in liver cancer therapy and is also used to relieve the pain and swelling associated with some types of arthritis.

¹³³Xe

Xenon-133

Breathing Easier

Xenon-133 gas is used to create functional images of pulmonary ventilation. This can advance the treatment of asthma and other respiratory disorders. It also helps with the early diagnosis of certain lung diseases.