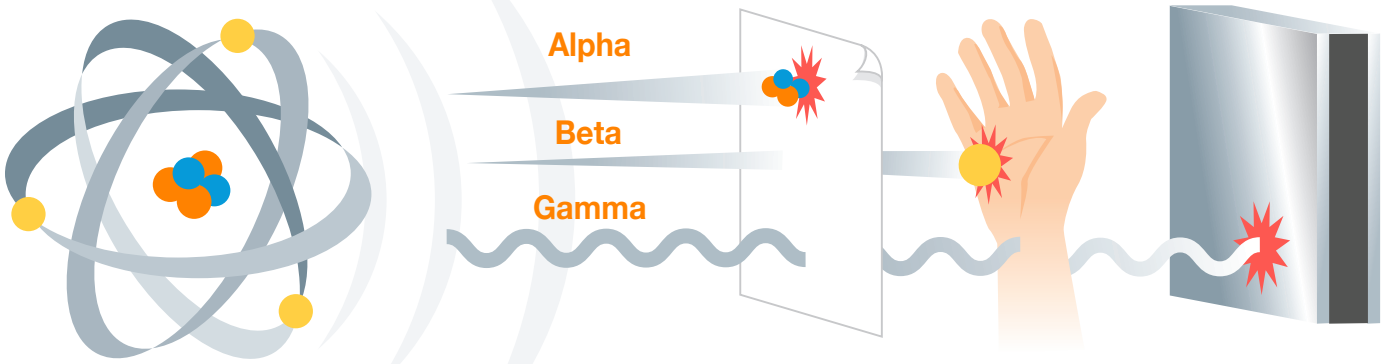
NUCLEAR MEDICINE and Your Health

Nuclear medicine is a medical specialty that uses radiopharmaceuticals to diagnose, treat, and monitor diseases. Nuclear medicine and molecular imaging procedures have a long history of use.

RADIOPHARMACEUTICALS

are any drugs that contain a radioactive substance. Some radiopharmaceuticals are comprised of a radioisotope attached to a targeting molecule. These can be used to diagnose, treat, or monitor disease.

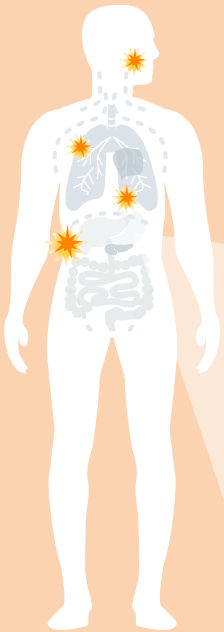


RADIOISOTOPE

is an atom that releases excess energy in the form of radiation; also called a radionuclide.

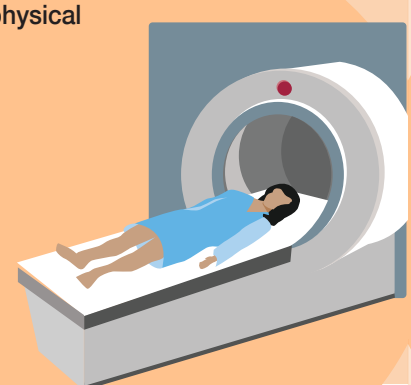
ALPHA AND BETA PARTICLES don't travel very far. They are used primarily for treatment as they can damage diseased cells.

GAMMA RAYS can pass through the human body and are detected using specialized cameras, making them a useful diagnostic tool.



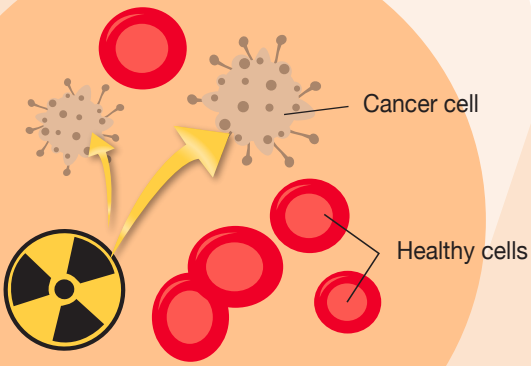
IMAGING AND DIAGNOSIS

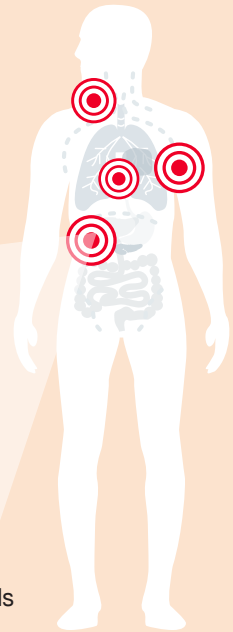
Nuclear medicine diagnostics, or molecular imaging, uses radiopharmaceuticals to see how the body is functioning and to observe its chemical and biological processes. Other diagnostic imaging procedures, such as x-rays or computed tomography (CT), assist in detecting changes in physical structures.



TREATMENT

Nuclear medicine can be used to treat many diseases, such as certain types of cancer. In nuclear medicine therapy, a radiopharmaceutical is injected into a patient's bloodstream, and binds to a specific receptor expressed on a particular tumor cell in the body. Radiation causes damage in target and nearby cells.





Nuclear Medicine and Other Sources of Radiation

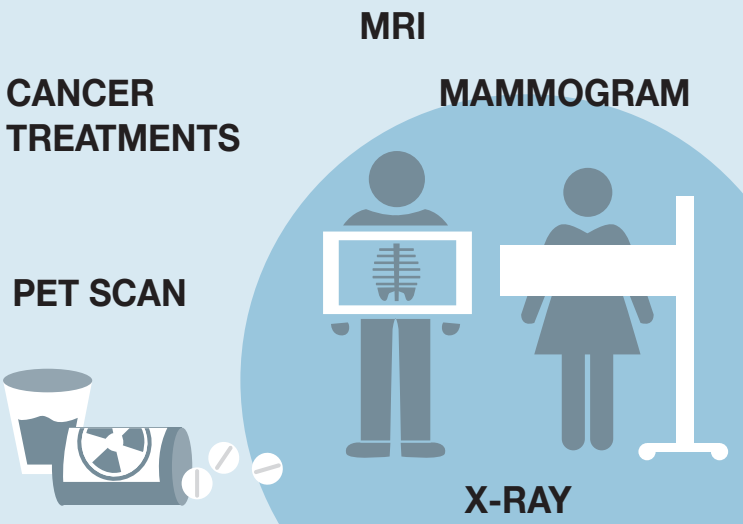
Radiation exists naturally in our environment. All living beings are exposed to radioactive elements every day in the air, water, plants, and even the food we eat.

BACKGROUND RADIATION

Humans are exposed to radiation in many forms every day, including from natural vegetation, food, air travel, and other common sources.

MEDICAL RADIATION

Medical radiation is used as a targeted form of treatment or for diagnosis. Nuclear medicine uses measured amounts of radiation to treat patients.

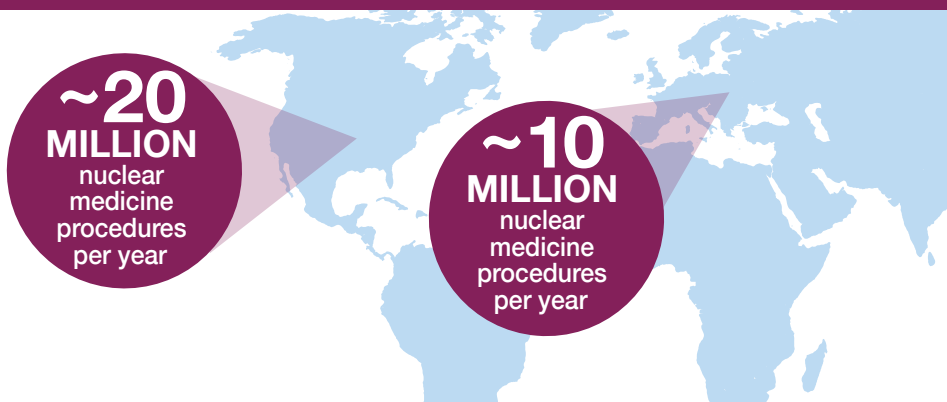


How Common Are Nuclear Medicine Procedures?

Today, nuclear medicine procedures are used often, with the United States and Europe being the leaders in using this technology.

- Although the radiation levels may vary with different procedures, the goal is to minimize the amounts of radioactivity administered while still providing the highest quality diagnostic information
- Discuss the benefits and risks of any nuclear medicine treatment or procedure with your medical provider

MRI, magnetic resonance imaging; PET, positron emission tomography.



Visit www.nuclearmedicineandyou.com

and speak to your doctor to learn more about nuclear medicine procedures.

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