

How much dose do I get from different imaging procedures?

When it comes to radiation dose, all imaging procedures are not the same. Some procedures, like ultrasound and magnetic resonance imaging (MRI), use no x-rays or nuclear radiation. Procedures that use x-rays (like standard x-ray or computed tomography) or radioactive materials (nuclear medicine) vary widely in dose. Dose depends on the type of procedure and the part of the body being examined.

Potential risk can be expressed in different ways. Radiation dose can be compared to levels from naturally existing radiation in the environment, or a qualitative assessment of risk can be given.

Effective dose

Effective dose is the dose quantity that is used to assess risks from diagnostic medical imaging procedures. It is expressed in millisieverts (mSv).

Effective dose takes many factors into account, including the sensitivity of different body organs and tissues.

For example, an ankle x-ray has a different effective dose than a coronary angiogram.

However, effective dose is not intended to apply to a specific patient. The actual risk to a patient might be higher or lower, depending on the size of the patient and the type of procedure.



Ankle x-ray

Natural background radiation in the United States

We are always exposed to background radiation. It comes from the air, sky, ground and the food we eat. It is natural to our environment.

To put dose from medical imaging in perspective, we compare imaging dose to the time it takes to reach the same dose from natural background radiation.

Over one year's time, our dose from natural background radiation is approximately 3 mSv.

Qualitative risk levels

Negligible risk: less than 2 days of natural background exposure

from food
and water



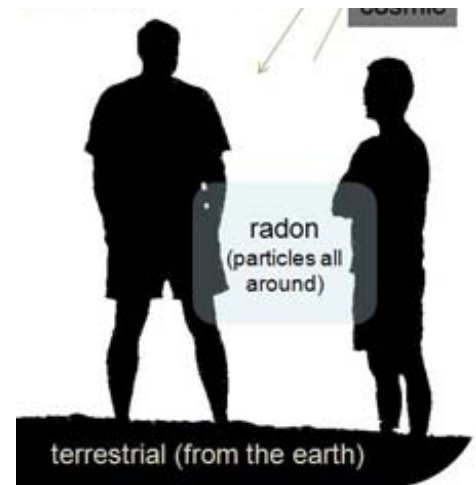
Minimal risk: more than 2 days and up to 1 month of natural background exposure

Very low risk: more than 1 month and up to 8 months of natural background exposure

Low risk: more than 8 months and up to 6 years of natural background exposure

Moderate risk: more than 6 years of natural background exposure

View table showing summary of radiation doses for a variety of procedures



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