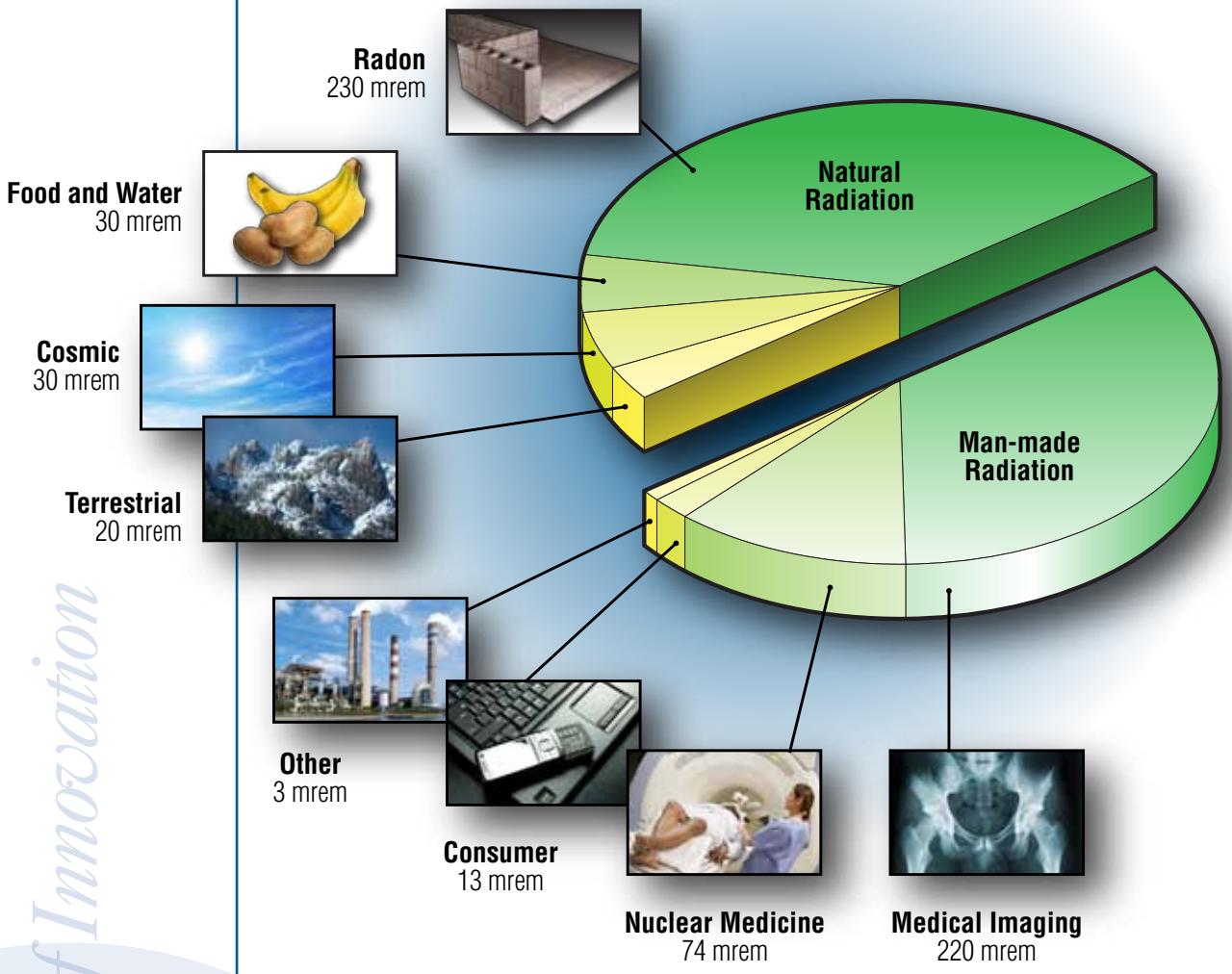

Average Annual Radiation Doses

Facts About Radiation

Radioactivity is the result of a natural and spontaneous process that occurs when an unstable atom emits or radiates excess energy in the form of particles or waves. This phenomenon occurs all around us including in the environment, certain foods, medical processes, industrial equipment and more.

In the U.S., the unit used to measure annual radiation dose is the millirem (mrem). The average annual radiation dose per person from natural and man-made sources is about 620 mrem. Variations in annual dose can occur through participation in voluntary activities such as medical procedures, air travel and smoking.

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How much is too much?

This scale (in millirems) shows how some common sources of radiation compare with doses known to impact health. Scale represents average yearly doses, except where noted.

0 - 1,000

- **4 mrem** per cross-country flight
- **30 mrem** food & water per year
- **230 mrem** natural radon per year
- **400 mrem** highest 1-day dosage estimated 30 miles from Fukushima plant on 3/16/11
- **10 – 1,000 mrem** X-rays & CT scans (per scan)

5,000
maximum allowed radiation-worker exposure

50,000
lifetime increase in cancer risk for 1 in 250

100,000
short-term dose during radiation treatment for cancer

500,000
24-hour dose is severe enough to be lethal for 1 in 2

Beneficial Uses of Radiation

- X-rays
- CT Scans
- Cancer Treatment
- Carbon Dating
- Smoke Detectors
- Food Sterilization

Protection from Radiation

- Minimize Exposure Time
- Increase Distance from Source
- Add Shielding from Source

Sources: *American Nuclear Society, Environmental Protection Agency, National Council on Radiation Protection & Measurements.*

For more information

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