



Fact Sheet

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Common Exposures to Radiation

What are some of the most common exposures of/to radiation?

Gastrointestinal series (upper & lower)	→ 1,400 millirem per exam
Cigarette Smoking (average – several packs/day)	→ 1,300 millirem per year
CT Scan (head & body)	→ 1,100 millirem per exam
Nuclear medicine examination of the brain	→ 650 millirem per exam
Average annual background dose to humans	→ 620 millirem per year
Nuclear medicine examination of the thyroid	→ 509 millirem per exam
Barium Enema	→ 405 millirem per exam
Upper gastrointestinal tract series	→ 245 millirem per exam
Radon in average household	→ 200 millirem per year
Dose to members of airline crews	→ 170 millirem per year
Nuclear medicine examination of the lung	→ 150 millirem per exam
Computerized tomography of the head	→ 110 millirem per exam
Plutonium-powered pacemaker	→ 100 millirem per year
Natural radioactivity in your body (120,000 pCi/L)	→ 40 millirem per year
Cosmic radiation	→ 31 millirem per year
Mammogram	→ 30 millirem per exam
Smoking Cigarettes (1 cigarette/day)	→ 15 to 20 millirem per year
Consumer products	→ 11 millirem per year
Using natural gas in the home	→ 9 millirem per year
To spouses of recipients of certain cardiac pacemakers	→ 7.5 millirem per year
Chest X-ray	→ 6-8 millirem per exam
Foods grown on lands (where phosphate fertilizers are used)	→ 5 millirem per year
Road construction material	→ 4 millirem per year
Dental X-ray	→ 3 millirem per exam
The use of gas mantles	→ 2 millirem per year
Domestic water supplies	→ 1 to 6 millirem per year
Living near a nuclear power station	→ 1 millirem per year
Air travel (every 2006 miles)	→ 1 millirem per trip
(Cross-country flight)	→ 2 millirem per trip
Television receivers	→ 1 millirem per year
Eating one-half pound of Brazil nuts	→ 0.5 millirem per bag
Combustible fuels (i.e.-coal, natural gas, liquefied petroleum)	→ 0.3 millirem per year
Drinking a quart of Gatorade each week	→ 0.2 millirem per year
Sleeping with one's spouse (or "significant other")	→ 0.1 millirem per year

Sources: - U.S. DOE Oak Ridge
- 2004 DOE Annual Site Environmental Report Summary

Compact fluorescent light bulb (Krypton-85)	→ 15,000 p/Ci per year
Salt Substitute	→ 2,400 p/Ci per teaspoon
Airborne radioactivity from nuclear power plants	→ 550 p/Ci per year
Common lawn & garden fertilizer	→ 30 to 50 p/Ci per 50-lb. bag
Loose leaf of spinach	→ 8 p/Ci per salad
Bananas	→ 4 p/Ci per banana
Waterborne radioactivity from nuclear power plants	→ 0.6 p/Ci per year

- Sources:**
- KAPL Analysis, 2000
 - NCRP Report # 95, Radiation Exposure from Consumer Products and Miscellaneous Sources, 1987
 - U.S. NRC Report NUREG/CR-2907, Vol. 14, Annual Report 1993

Most radiation comes to us from the sun and from cosmic radiation – so that people at higher elevations like Colorado and adjacent Rocky Mountain States receive more than those who live at sea level. However, a lot of radiation also comes from the soil and rocks around us. Granite and marble have background levels of radioactivity. A relatively small additional amount comes from our man-made technology.



- **Source:** American Nuclear Society
http://www.aboutnuclear.org/view.cgi?fc=Radiation_and_Radioactivity,Sources_of_Radiation

Is a radiation dose of 620 millirem (or 0.62 Rem) in a year harmful?

No. No effects have ever been observed at doses below 5,000 millirem (5 Rem) delivered over a one-year period. In fact, effects seen when humans are exposed to 100,000 millirem (100 Rem) over a short time period are temporary and reversible. It takes a short-term dose of well over 500,000 millirem (500 Rem) to cause a fatality.

For more information on radiation and DHEC’s role in response, contact:

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