Estimate Your Personal Annual Radiation Dose

Factors	Common Sources of Radiation	Your Annual Dose (mrems)
Where You Live	**Cosmic Radiation** (from outer space) Exposure depends on your elevation (how much air is above you to block radiation). Amounts are listed in mrem (per year). At sea level..... 26 mrem; 0-1000 ft..... 28; 1-2000 ft..... 31; 2-3000 ft .....35 mrem; 3-4000 ft .....41; 4-5000 ft .....47; 5-6000 ft .....52; 6-7000 ft .....66 mrem; 7-8000 ft .....79; 8-9000 ft .....96 (Elevation of cities (in feet): Atlanta 1050; Chicago 595; Dallas 435; Denver 5280; las Vegas 2000; Minneapolis 815; Pittsburg 1200; St.louis 455; Salt lake City 4400; Spokane 1890.)	_____ mrem
	Terrestrial (from the ground) If you live in a state that borders the Gulf or Atlantic Coasts, add 16 mrem If you live in the Colorado Plateau area, add 63 mrem If you live anywhere else in the continental US, add 30 mrem	_____ mrem
	House Construction If you live in a stone, adobe, brick or concrete building, add 7 mrem	_____ mrem
	Power Plants If you live within 50 miles of a nuclear power plant, add 0.01 mrem If you live within 50 miles of a coal-fired power plant, add 0.03 mrem	_____ mrem
Food, Water, Air	**Internal Radiation**[2] From food (Carbon-14 and Potassium-40) & from water (radon dissolved in water) From air (radon)	40 mrem 228 mrem
How You Live	Jet Plane Travel .....0.5 mrem per hour in the air	_____ mrem
	If you have porcelain crowns or false teeth[3] .....0.07 mrem	_____ mrem
	If you go past luggage x-ray inspection at airport.....0.002 mrem	_____ mrem
	If you view a TV or computer screen which uses CRT technology[4].....1 mrem	_____ mrem
	If you smoke 1/2 pack of cigarettes every day of the year .....add 18 mrem	_____ mrem
	If you have a smoke detector.....0.008 mrem	_____ mrem
Medical Tests	**Medical Diagnostic Tests** – Number of millirems per procedure[5] X-Rays: Chest-10 mrem, Mammography (2 views)-72, Skull-10, Cervical Spine-20, Lumbar Spine-600, Upper GI-600, Abdomen (kidney/bladder)-700, Barium Enema-800, Pelvis-60, Hip-70, Dental Bitewing/Image-0.5, Extremity (hand/foot)-0.5	_____ mrem
	CT Scans: Head-200 mrem, Chest-700, Abdomen/Pelvis-1000, Extremity-10, Angiography (heart)-2000, Angiography (head)-500, Spine-1000, Whole Body-1000, Cardiac-2000	_____ mrem
	Your Estimated Annual Radiation Dose	_____ mrem

We live in a radioactive world - humans always have. Radiation is part of our natural environment. We are exposed to radiation from materials in the earth itself, from naturally occurring radon in the air, from outer space, and from inside our own bodies (as a result of the food and water we consume). This radiation is measured in units called millirems (mrems). The average dose per person from all sources is about 620 mrems per year. It is not, however, uncommon for any of us to receive less or more than that in a given year (largely due to medical procedures we may undergo). Standards allow exposure to as much as 5,000 mrems a year for those who work with and around radioactive material.[1]

1. See http://www.nrc.gov/about-nrc/radiation/health-effects/info.html
2. Average values.
3. Some of the radiation sources listed in this chart result in an exposure to only part of the body. For example, false teeth or crowns result in a radiation dose to the mouth. The annual dose numbers given here represent the "effective dose" to the whole body.
4. The value is less than 1, but adding a value of 1 would be reasonable.
5. Exposures for medical tests vary depending upon equipment and the patient. The doses listed are an average for an actual exposure.

Primary sources for this information are National Council on Radiation Protection and Measurements Reports: #92 Public Radiation Exposure from Nuclear Power Generation in the United States (1987); #93 Ionizing Radiation Exposure of the Population of the United States (1987); #94 Exposure of the Population in the United States and Canada from Natural Background Radiation (1987); #95 Radiation Exposure of the U.S. Population from Consumer Products and Miscellaneous Sources (1987); #100 Exposure of the U.S. Population from Diagnostic Medical Radiation (1989); and #160 Ionizing Radiation Exposure of the Population of the United States (2009).

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