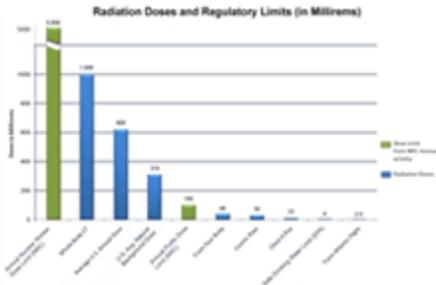




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Doses in Our Daily Lives



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On average, Americans receive a radiation dose of about 0.62 rem (620 millirem) each year. Half of this dose comes from natural background radiation. Most of this background exposure comes from radon in the air, with smaller amounts from cosmic rays and the Earth itself. (The chart to the right shows these radiation doses in perspective.) The other half (0.31 rem or 310 mrem) comes from man-made sources of radiation, including medical, commercial, and industrial sources. In general, a yearly dose of 620 millirem from all radiation sources has not been shown to cause humans any harm.

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Doses from Medical Procedures

Medical Procedure Doses	Procedure	Dose (mrem)	
X-Rays-single exposure	Pelvis	70	Among these medical procedures, x-rays, mammography, and CT use radiation or perform functions similar to those of radioisotopes. However, they do not involve radioactive material and, hence, are not regulated by the U.S. Nuclear Regulatory Commission (NRC). Instead, most of these procedures are regulated by State health agencies. In fact, among these procedures, the NRC and its Agreement States only license and regulate the possession and use of radioactive materials for nuclear medicine.
	Abdomen	60	
	Chest	10	
	Dental	1.5	
	Hand/Foot	0.5	
	Mammogram (2 views)	72	
	Nuclear Medicine	400	
	CT		
	Full body	1,000	
	Chest	700	
	Head	200	

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Radioactivity in Food

All organic matter (both plant and animal) contains some small amount of radiation from radioactive potassium-40 (^{40}K), radium-226 (^{226}Ra), and other isotopes. In addition, all water on Earth contains small amounts of dissolved uranium and thorium. As a result, the average person receives an average internal dose of about 30 millirem of these materials per year from the food and water that we eat and drink, as illustrated by the following table. (Amounts are shown in picocuries per kilogram.)

Food	Natural Radioactivity in Food	
	^{40}K (pCi/kg)	^{226}Ra (pCi/kg)
Bananas	3,520	1
Carrots	3,400	0.6 – 2
White Potatoes	3,400	1 – 2.5
Lima Beans	4,640	2 – 5
(raw)		
Red Meat	3,000	0.5
Brazil Nuts	5,600	1,000 – 7,000
Beer	390	---
Drinking Water	---	0 – 0.17

Personal Annual Radiation Dose Calculator

We live in a radioactive world, and radiation has always been all around us as a part of our natural environment. As explained above, the annual average dose per person from all sources is about 360 mrem, but it is not uncommon for any of us to receive more than that average dose in a given year (largely as a result of medical procedures). To find your personal annual radiation dose, use the interactive Personal Annual Radiation Dose Calculator or this printer friendly worksheet.

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