



Radiation

We live in a radioactive world; we 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. [To estimate your personal annual radiation dose go to the American Nuclear Society website.]

Our practice follows the “ALARA” policy “As Low As Reasonably Achievable”. Long gone are the days of taking x-rays every six months as many of us experienced growing up. We customize the frequency of how often radiographs are needed for each patient to help early diagnosis and detection of dental disease such as decay and gum disease. Some patients may require radiographs as often as every six months if they have lots of dental work and a high decay rate, while others may not need radiographs for up to a three year interval. Expert guidelines are that 3 years are the maximum period without taking new x-rays. We incorporated digital dental radiography back in the earliest days when it was available, because the radiation dose was much lower than traditional dental x-rays and we were able to get rid of the hazardous chemical solutions needed to develop x-rays. Below is a list comparing various sources of radiation that we are exposed to.

Common Sources of Radiation:	Amount of Radiation (mrems):	Equivalent number of Digital Dental x-rays:
Cosmic at sea level	26 per year	266
From the ground near Atlantic	16 per year	178
House Construction (Stone/brick)	7 per year	78
Power Plant within 50 miles of nuclear	0.01 per year	0.1
Power Plant within 50 miles of coal	0.03 per year	0.3

Food (Water radon dissolved in water)	40 per year	444
Air (radon)	228 per year	2533

Plane (travel)	0.5 per hour	5.5
Smoke ½ pack cigarette per day	200	2,222
Mammogram	42 per procedure	467
CT Scan Chest	700 per procedure	7,778
Angiogram Heart	2000 per procedure	22,222
Traditional dental x-ray	0.9 per film	10.5
OUR DIGITAL DENTAL XRAY	0.09 per film	1