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## DENTAL XRAYS DEBATE

Since Reuters published “Dental x-rays linked to common brain tumor” study, we’ve faced a number of patients who refused to have dental x-rays taken. Let’s look into it and understand which part of this controversy is true and which is not. The article said: “A new study suggests people who had certain kinds of dental X-rays in the past may be at an increased risk for meningioma, the most commonly diagnosed brain tumor in the U.S.”

Study looked into two groups of people. First group of 1433 people diagnosed with intracranial meningioma, second group of 1350 healthy people. The study used a “questionnaire that asked about demographic details, family history of cancer, pregnancy and medical history and mainly the person’s history of dental work and the number of times they had the three types of dental x-rays taken throughout their life.” (based on people’s memory only)

The researchers did not measure ionizing radiation, nor did they use people’s dental records. **Can you remember every x-ray that was taken throughout your life since you were a child?**

The conclusion of the article: “The researchers found that those diagnosed with meningiomas were more than twice as likely as the comparison group to report ever having had bitewing images taken.

So we decided to do some scientific “digging” and here are the facts, from the American Dental Association:

### **How do dental X-rays compare to other sources of radiation?**

The amount of radiation that we are exposed to from dental X-rays is very small compared to our daily exposure from things like, cosmic radiation and naturally-occurring radioactive elements (for example, those producing radon).

The table below compares our estimated exposure to radiation from dental X-ray with other various sources. As indicated below, a millisievert (mSv) is a unit of measure that allows for some comparison between radiation sources that expose the entire body (such as natural background radiation) and those that only expose a portion of the body (such as X-rays).

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Source	Estimated Exposure (mSv)
Man Made	
Dental X-rays	
Bitewing radiographs	0.038
Full-mouth series	0.150
Medical X-rays	
Lower gastrointestinal tract radiography	4.060
Upper gastrointestinal tract radiography	2.440
Chest radiograph	0.080
Natural	
Cosmic (Outer Space) Radiation	
Average radiation from outer space In Denver, CO (per year)	0.510
Earth and Atmospheric Radiation	
Average radiation in the U.S. from Natural sources (per year)	3.000

Source: Adapted from Frederiksen NL. X-Rays: What is the Risk? Texas Dental Journal. 1995;112(2):68-72.

**What are the benefits of a dental radiograph examination?**

Because many diseases of the teeth and surrounding tissues cannot be seen when your dentist examines your mouth, an X-ray examination can help reveal:

- small areas of decay between the teeth or below existing restorations (fillings);
- infections in the bone;
- periodontal (gum) disease;
- abscesses or cysts;
- developmental abnormalities;
- some types of tumors.

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Finding and treating dental problems at an early stage can save time, money and unnecessary discomfort. Radiographs can help your dentist detect problems in your mouth that otherwise would not be seen.

We want to help our patients to understand that there are a lot of factors that can cause cancer. A walk in a park or a trip to a beach can be more dangerous than dental x-rays. Without dental imaging we cannot diagnose problems or propose proper dental treatment. *Also we want to let you know that we use digital radiography, which takes much less radiation exposure than film x-rays.* However, we care for the well being of our patients and take only the necessary dental images.

For more information please refer to the following websites that have a lot of scientific facts about x-rays:

<http://www.radiationanswers.org/radiation-myths.html>

<http://www.bt.cdc.gov/radiation/prenatal.asp>

<http://www.epa.gov/>

<http://www.ada.org>

### **DID YOU KNOW, THAT!!!**

The human body of 150 pounds contains 0.2 mg of gold!

Your brain weight about 2 % of your body weight, though uses about 20 % of the oxygen you breathe and about 15 % of the body's blood supply!

Coca-cola originally contained cocaine!

Apples are more effective at waking you up in the morning than coffee!

**A sense of humor is a major defense against minor troubles.**

**Mignon McLaughlin**

And more dental humor!

