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People who frequently receive routine dental x-rays are at an increased risk of developing the most commonly diagnosed brain tumor, according to a new report from the American Cancer Society. Dr. Nancy Snyderman, NBC's chief medical editor, reports.

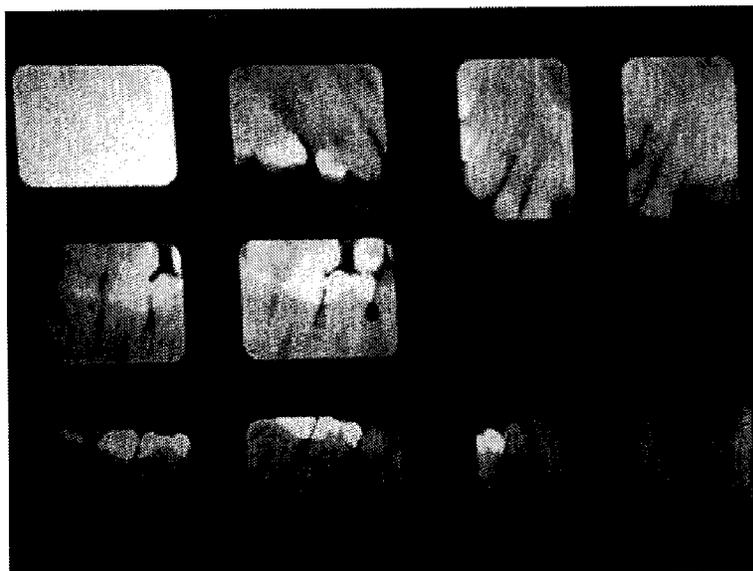
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Dental X-rays could double the risk for the most common brain tumor, according to a study released Tuesday from scientists and doctors at Yale, Harvard and other prestigious institutions published in *Cancer*, a scientific journal of the American Cancer Society.

It sounds frightening -- and there is no question it invokes a serious warning -- but even those who carried out the research urge people not to overreact.

"Our take home message is don't panic. Don't stop going to the dentist," said the lead author of the study Dr. Elizabeth Claus, a neurological surgeon at Brigham and Women's Hospital in Boston and the Yale School of Public Health.

But people "should have a conversation with their dentist" about the need to use X-rays as little as possible to keep teeth healthy, Claus says. That's a conclusion few would dispute, with or without the new study.



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Ask your dentist to use X-rays as little as possible.

The tumor studied is meningioma, a type that is usually not malignant, meaning it can grow but not spread. To be sure, it can cause severe problems in some patients. But people with meningiomas often live long, healthy lives with no treatment, dying of some other cause. Doctors diagnose about 5,000 cases a year in the United States, about three times as often in women as in men.

Significantly, the study is the weakest type of epidemiology, a so-called "case control" study. The researchers interviewed 1,433 people diagnosed with meningioma and compared them with 1,350 people with no such diagnosis. The two groups were matched for age, gender, race, income and places of residence. In a tiny portion of the cases the researchers actually looked at dental records. But, most often, they asked the study subjects – whose average age was 57 -- to recall their history of dental X-rays going back to childhood.

The increased tumor risk increased in people who reported receiving bitewing exams, which use X-ray film held in place by a tab between the teeth, on a yearly or more frequent basis. There was also a greater risk from the panorex dental exam which uses an x-ray outside the mouth to get an image of all the teeth. Adults who had this type of dental X-ray when they were younger than 10 years had a five times greater risk of developing meningioma.

The well-known pitfall of case control studies is "recall bias." People with a tumor or any other unwanted health outcome are far more likely to remember that they had X-rays, air pollution or pesticide exposure, cell phone use or anything else that might be suspected of causing the problem.

Dr. Otis W. Brawley, scientific director of the American Cancer Society, told me "the strongest thing you can say about this study is that there is a suggestion of a link between dental X-rays and meningioma."

In guidelines published in 2006, the American Dental Association declared X-rays should not be used for "detecting disease before clinical examination." If the dentist thinks X-rays are warranted, they should be administered with "the ALARA Principle (As Low as Reasonably Achievable) to minimize the patient's exposure," the guidelines say.

It is also comforting that the dose for most dental X-rays has dropped hundred of times in recent decades.

"Our study," Claus told me, "refers to exposures in the past rather than exposures that people are receiving in this day and age."

Still, the ALARA principle is wise advice for all medical and dental procedures that submit a patient to radiation. This latest study is yet another reason why.