

## DENTAL X-RAYS ARE SAFE FOR OUR PATIENTS

Recent articles in the Bulletin and other media have addressed concerns about the safety and use of dental x-rays as a result of the April article in the medical journal "Cancer" titled "Dental X-rays and the Risk of Meningioma". Meningioma is growth of the tissue lining the brain. The study was done as ionizing radiation exposure is a predisposing factor in tumor growth and formation. Sources of IR are many and examples to reduce exposure include sunscreen and lead aprons at the dental office.

The article compared dental x-ray history between a group of patients with a diagnosis of meningioma and a group without. In comparison the meningioma group has slightly higher recalled x-ray exposure than the control non meningioma group. The study did not find dental x-rays to be a cause of any tumor or advise patients not to have dental x-rays. The conclusion of the study was to minimize exposure to any form of ionizing radiation. Dentistry has continually strived to reduce radiation exposure to the patient through improvements in film, technology and yes, the lead blanket was first used in dentistry.

Problems with the study include "hearsay" evidence as patients recalled their dental x-ray history. The data was not actual facts from review of any patients actual dental record, nor was the actual number of films known, nor was the exposure settings on the machines. Also, there was no way to isolate dental x-rays as a source and the fact that dental x-ray exposure is hundreds of times less than our normal background radiation exposure was not considered.

The risk of a dental x-ray is the ionizing radiation. To put into perspective we can compare radiation sources using a unit of effective radiation dose called a micro sievert (mSv). From radiologyinfo.org, the following values are given to demonstrate the low risk from dental x-rays:

Natural background radiation exposure – 2mSv per year average

Common Medical Imaging: Mammogram - .4 mSv, Chest x-ray - .1 mSv, Hospital CT- .6 mSv

Dental Imaging: 1 Dental x-ray -.005 mSv , Panorex - .019mSv, Dental Cone Beam - .068 mSv

The benefit of dental –x-rays include diagnosis of cavities, gum disease, and jaw tumors and abnormalities. Check-up x-ray exams document oral health and provide information for treatment, prevention, and maintaining the teeth for a life time. How often x-rays will be prescribed is based on an individual patients oral health issues and dental history. American Dental Association guidelines recommend films every 6 months for high cavity risk patients and up to 3 year intervals for patients with more stable dental health. The very low radiation exposure risk provides a very large benefit in preventing pain, infection and loss of teeth.

A Bulletin article and editorial suggests dentists are inflexible in demanding their patients receive the proper diagnosis and thus deprive patients of their right to make health care decisions. Dental licensure is granted by the state and has inherent responsibilities, including providing a diagnosis before treatment. Current dental x-rays are needed for diagnosis and to develop treatment options for the patient. Dentists cannot be released from the responsibility of providing diagnosis by a signed waiver from the patient. Insisting on obtaining the most accurate information to provide the patient basis for their dental care decisions is a foundation for the best dental care.

Dental x-rays expose the patient to the lowest amount of ionizing radiation of any mode of medical radiographic imaging. Advances in film and dental technology have continued to reduce exposure significantly. Bottom line is dental x-rays today are a safe and effective diagnostic tool.