

Dental X-Rays

Dental radiographs or x-rays are an important part of a complete dental examination. They are among the most valuable tools a dentist has for keeping your mouth and teeth healthy. They do not however replace the need of a visual and tactile examination. The combination of x-rays, a visual exam and patient descriptions of symptoms allows the dentist to diagnose dental disease and determine the treatment required for our patients. If patients decline to have x-rays taken then the exam is incomplete and problems can arise which could have been prevented earlier.

Dental x-rays give dentist a tremendous amount of information regarding their patient's teeth. X-rays show areas of decay that may not be able to be seen with just a visual examination, such as tiny pits of decay that occur between teeth. They also help diagnose decay that is developing underneath a filling, alert the dentist about bone loss associated with periodontal (gum disease), and reveal problems in the root canal, such as infection. They also help your dentist plan and prepare for crowns, bridges and dental implants and can also reveal abnormalities such as cysts, cancer, and metabolic diseases.

For children, radiographs are not only used to detect cavities between teeth but also to monitor tooth growth and development. They can show whether extra (supernumerary) teeth are present or whether any teeth are impacted. They also help to determine if there is sufficient space in the mouth to fit all the new teeth.

One main concern people have regarding dental x-rays is exposure to radiation. It is important to note that we are exposed to radiation every day from various sources, such as frequent airplane travel and high altitudes, minerals in the soil and appliances in our homes like smoke detectors and television screens. The average radiation in the U.S. from natural sources per year is 3.6 mSv*, a set of four bitewings (regular film) is 0.038 mSv. If your dentist uses digital x-rays your radiation exposure is reduced by another 80 to 90 percent to around .0038 mSv. The annual effective dose of radiation from cosmic radiation which occurs from traveling in an airplane is 0.27 mSv. As you can see the exposure to x-rays from dental x-rays is a very small fraction of what we are exposed to from natural sources. To reduce exposure further dentists use lead shielded aprons to cover the patient and they also use collimation to limit the area directly exposed to the target area by reducing x-ray that strays from that path. Dental assistants leave the room during an x-ray because they might take hundreds of x-rays every week.

There are some groups who should have dental x-rays taken more often. They include children as they are more likely to develop caries. Adults with extensive restorative work as all the conditions that helped create caries to begin with continue, making it necessary to check for decay beneath existing fillings or new locations. Anyone who drinks sodas or snacks frequently as frequent ingestion of sugar will increase bacterial plaque build up and the acids in sodas erode teeth both of which increase the chances of caries and gum disease. People with periodontal disease in order better monitor progression and treatment of periodontal disease. People who are taking medications that lead to dry mouth because dry mouth increases the risk of caries. Medications that decrease saliva are those prescribed for hypertension, anti-depressants, anti-anxiety, antihistamines, diuretics, narcotics, anticonvulsants and anti-cholinergics. Smokers and smokeless tobacco users as tobacco use increases the risk of periodontal (gum) disease.

Since your dentist gains valuable information from dental radiographs to aid you in keeping your teeth healthy, it is not in your best interest to refuse dental radiographs. One of the key benefits of taking dental radiographs are to catch small problems early before they become major and require more extensive and costly treatment. The benefits far outweigh the risks.

*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 radiographs).