Dental X-rays

Are dental X-rays necessary? Yes, they often provide information essential for detection, diagnosis, and treatment of conditions that can threaten your oral and general health. Many diseases of the teeth and surrounding tissues cannot be seen when your dentist examines your mouth. If X-rays are not used, small cavities between teeth, abscesses, cysts, tumors, and other diseases may be impossible to detect until obvious signs and symptoms have developed and serious damage has been done to your health.

How often are dental X-rays needed? Your dentist will first review your history, examine your mouth, and then decide whether you need X-rays. If you are a new patient, the dentist may ask you to have complete X-rays to determine the present health of your mouth. Afterwards, you may need X-rays only when information is needed about a particular problem. Children may need X-rays taken more often (every 6 months) than adults because their teeth and jaws are still developing.

Should I have my previous X-rays sent to my new dentist? Yes, if possible. Sometimes your new dentist can use earlier X-rays to evaluate changes that have taken place in your mouth.

If I am pregnant or think I may be pregnant, should dental X-rays be postponed? Not necessarily. Tell your dentist that you are, or think you may be, pregnant. When a pregnant woman wears a leaded apron during dental X-rays it is unlikely that the developing baby receives any detectable radiation from outside the body.

What are the different types of X-rays?

1. Bitewing- These show the crowns of several upper and lower teeth on one small film. This type of X-ray is especially useful for showing cavities between teeth and changes in bone caused by periodontal disease.

2. Periapical- This X-ray shows entire teeth, including all of the roots and surrounding tissues on one small film. These X-rays show many kinds of disorders, including impacted teeth, fractures, abscesses, cysts, tumors.

3. Full-mouth series- This is a complete set of bitewing and periapical X-rays that show all of the teeth, roots, and related areas of the jaws. The number of pictures taken varies depending on the size and shape of the mouth and teeth. Generally, at least 18 X-ray pictures are needed, but a full-mouth series may consist of as few as 6 or as many as 21.

4. Panoramic- A panoramic view X-ray shows all the upper and lower teeth, large portions of the jaws and other structures in one large picture. It is often used to find unerupted teeth, cysts, fractures, retained root fragments, and other conditions of the jaw. It does not generally show enough detail to be useful for detection of decay and bone loss from periodontal disease.

5. Cephalometric- These X-rays are sometimes called headfilms. They show all of the bones of the face and skull. This type of X-ray is used to evaluate growth, development, and skeletal relationships.

Do people receive radiation from sources other than medical and dental X-rays? Yes, people are exposed to natural background radiation all their lives. This radiation comes primarily from outer space (cosmic radiation) and secondarily from naturally radioactive substances in the earth's surface. It has been estimated that the average person receives about 80 millirem (mrem) of radiation every year. Natural background radiation cannot be directly compared to X-ray examinations, however, because background radiation affects the entire body continuously, while diagnostic X-rays affect only a small part of the body for a very short time.

What effects can X-rays have on the body? Exposure to large amounts of X-radiation is harmful. But with modern techniques and equipment, the amount of radiation received in a dental examination is extremely small. The other factor is the type of tissue exposed to radiation. Radiation damage is mostly only a consideration with rapidly dividing tissues such as reproductive organs, bone marrow, etc. The tissues exposed to dental x-rays (teeth, jaw, cheeks) are not as succeptible to radiation damage. Therefore, the risk of harmful effects from dental X-rays is negligible.

Does having a dental X-ray examination increase my risk of cancer? It is difficult to determine whether small doses of X-rays increase the individual patient's risk of cancer because enormous numbers of people would have to be studied for long periods of time. However, the chances are extremely small that dental X-rays contribute to cancer, because the exposure of the tissues of the head and neck is so small. Even so, X-ray examinations should be made only when necessary.