

TOOTHFULLY. *speaking*



Dr. Preeti Desai

DENTAL X-RAYS! REAL FACTS AND ACRONYMS! *Part I of III*

Dental x-rays are beams of ionizing (cell absorbing) radiation that pass through the body and capture valuable information about your mouth. The beam passing through the mouth is changed slightly and then absorbed on the other side in “multiple shades of grey” on the film. These shades depend on how thick the tooth, bone or filling is. For instance, silver fillings appear completely white as they reflect the x-ray beam and no radiation is captured while bone and teeth are grey and air is black as 100% of the beam hits the film. In the past protective lead shielding in rooms and aprons were needed to reduce radiation scatter to other body parts not being imaged. Today’s machines are so precise that scatter is negligible and lead lining is only required to be in a room with a CBCT (cone beam computerized tomograph)... more in part III

Dental X-ray machines located most commonly in a dental office look like a tube cantilevered off the wall. The most common films taken are traditionally called intraoral films and there are two types: bitewings and periapical films. Both of which require the film/sensor to be placed inside your mouth. Digital sensors may or may not have a chord direct to the computer or communicates by bluetooth to the computer software.

Bitewing films are most often taken at your dentist to check for cavities in between teeth. These x-rays DON’T capture the whole tooth (only the top half) so you cannot check for root canal problems at the bottom of the tooth or accurately check for bone loss in between teeth surrounding the tooth due to gum disease.

Periapical films capture the whole tooth and its surroundings so you can see parts of the tooth missing on the bitewing film. In order to have a more thorough picture of what is going on in your mouth you will need something called a full mouth series (FMS) (using both bitewings and periapicals) in order to correctly diagnose a problem. Often if you are a new patient this FMS gives your dentist a very important basis upon which to execute and complete and accurate treatment plan.

Panoramic or Cephalometric X-ray machines are different looking and are called extraoral films (outside the head) and are more often needed by an orthodontic or oral surgeon’s office to capture the whole jaw or side views of the profile of the head. From the panoramic film, you can identify missing teeth early in a child’s development or view wisdom tooth impactions and the need for extraction. You can also see the TMJoints to identify arthritis or jaw fractures in MVAs when a patient cannot open their mouth for various reasons. But panoramic films have distortion and < 70% accuracy in some cases so these are not films that a dentist can see things extremely accurately. Incidentally they were designed by the US military to just screen soldiers before battle for any major problems

Next month X-ray Safety Part II!



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t. 778.471.6001

a. 101-775 McGill Rd, Kamloops
www.kamloopsperiodontist.com