

THE USE OF X-RAYS IN DENTIST

There is a huge variation in image quality as produced by a dental x-ray unit. All equipment performance degrades with the passage of time. The National Council on Radiation Protection (NCRP) in the USA is developing dental x-ray standards as well as similar standards are under development in Europe.

Protocols have been developed and refined for the medical radiology clinic with measurable success. Image Quality and Dose Protocols IQ(D)P are under development to meet these standards for dental x-ray imaging. These protocols cannot be implemented in dental offices for x-ray imaging without the use of a properly designed "Phantom" device. Such a phantom has been designed, accompanied with a short and concise IQ(D)P protocol. Both basic and advanced operator manuals describe the processes required to improve and/or keep good images consistent.

The following is the process of digital imaging of a patient

Step 1: The patient is first positioned as illustrated below.

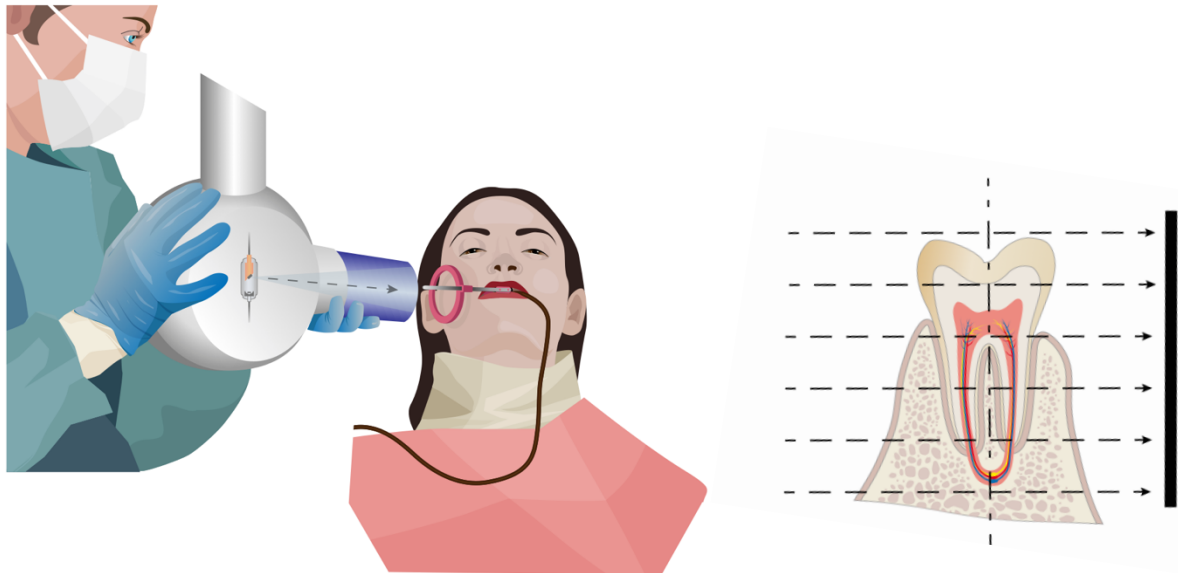


Figure 1: Position X-Ray Tube and the Sensor for Procedure

Step 2: Set the technique, IQ(D)P and Clinical Imaging.



Figure 2: Set the technique as specified by sensor and expose

Step 3: Display of image of teeth on Monitor.



Figure 3: Display image (enhanced, normalized...) on the monitor

Step 4: Use Visual Grading Analyses (VGA) to inter-compare dental patient clinical x-ray picture with standard image of healthy teeth and make the clinical diagnoses. The same VGA method will be applied by Nosil DSc on Phantom Dental x-ray images and is a part of the IQ(D)P method.