The Use of D-Speed Film

The College of Dental Surgeons of Saskatchewan

A survey conducted by the Radiation Safety Unit in 2008 showed that about half of the dentists in Saskatchewan were still using D-speed film. The same survey also showed that the patient radiation dose from E/F-speed film was up to 50% less than the dose from D-speed film and that the radiation dose from digital systems was lower still.

Let's say that you have two methods that you could use to take a radiograph but one needs twice as much radiation as the other. Now, instead of you taking the x-rays, let's imagine another dentist is preparing to take a full-mouth series and it's your child in the dental chair. Knowing that either imaging method would produce radiographs with the same diagnostic information, which imaging procedure would you want your colleague to employ? If your colleague is still using D-speed film, this is the quandary that you are in.

Studies have shown that the diagnostic quality of the images acquired with faster films is equivalent to those obtained using the slower D-speed film. The E/F-speed images may not be as aesthetically pleasing but let's keep in mind that your patient is being exposed to radiation to assist you with your diagnosis, not to provide you with a pretty picture. Once you've thought about it, you may ask yourself, "How can I justify my ongoing use of D-speed film?"

It's time to make a change. You now have two paths that you can take. One is to switch to a faster film while the other is to abandon film entirely and go digital. If you stay with film, there will be no significant outlay of cash. The cost of the faster films is the same as that for D-speed. The cost of maintaining the film processing equipment will also remain constant. You will, however, have to develop a technique chart that will take patient's size into consideration. The upside of this conversion is that the dose to your patients should be cut in half.

Now if you pay heed to the rumours that the future will no longer hold a place for film, you might decide to go digital now. Transitioning to digital will involve some upfront costs for the imaging sensors, computer systems and monitors, but ongoing costs for film and processing will no longer be line items in your budget. When implemented correctly, digital imaging will result in your patient's exposure being about a third of what they would have received if D-speed film were used. Even if you convert from E or F-speed film to digital, there should still be a noticeable reduction in dose.

While researching what is in the digital market place, you hear that unlike film, too much radiation won't spoil your digital image. In fact, it may improve its quality. But now you're back to square one – do you overexpose your patient and get a pretty picture or do you dial down your technique so that your patient gets the least amount of radiation required for you to get a diagnostic image? If your answer is *'overexpose'* then you might as well have stayed with D-speed.

The College has been advised that the Government's Radiation Safety Unit is assessing the use of D-speed film in other jurisdictions and that disallowing the use of D-speed film is being considered. It is noteworthy that in 2003, the National Commission on Radiation Protection and Measurements (NCRP) stated in NCRP Report No. 145 that "image receptors of speeds slower than ANSI Speed Group E films ***shall not*** be used for intraoral radiography." Also, one country in Europe has banned the use of D-speed as of January of this year.

For those of you still in the D-speed boat, it may now be time to start thinking about abandoning ship and charting a new course in a quicker craft. By planning your switch to a faster imaging system, you will have control over the transition. If you wait for an imposed change, you will be working to the timelines of others rather than your own. For the present, the choice is still yours.