Practice prudence and cone beam imaging

For more on this topic, go to **www.dentaleconomics.com** and search using the following key words: *cone beam imaging, CT scans, technology, Dr. Terry L. Myers.*

My neighbor is a lineman supervisor at the electric company. Many of the concerns of his workday involve safety — making sure his crew takes the necessary precautions. In any business, prudence makes perfect. **In my practice, TECHNOLOGY COUNTS TOWARD BUILDING NOT ONLY A MORE PROFITABLE PRACTICE, BUT ALSO A SAFER ONE.** One way that I have taken safety one step further is by implementing 3-D or cone beam technology.

Lately, some articles have emerged regarding the safety of medical CT scans. Unfortunately, the media is not differentiating the important differences between medical CT scans and the dental cone beam scanners. Years of research have resulted in the dental office version of the cone beam scanner. There are significant differences — most importantly, radiation exposure during an in-office dental cone beam scan is much lower than a medical CT. For instance, medical scans expose patients to up to 12 times the dosage of an i-CAT® or Gendex GXCB-500™ scan.

Effective Dose Comparison

	2D FMX (Full Mouth Series)	2D Digital Pan	Medical CT	Gendex GXCB-500 CBCT 3D	i-CAT CBCT 3D
Radiation Dose (µSv)	150*	4.7-14.9*	1200-3300**	31†	36†

* Dr. Sharon Brooks, Department of Radiology, University of MI

** Dr. Stuart White, Department of Radiology, UCLA - scanned area approximates MFOV

† Standard scan mode, medium resolution

Safety in numbers — establishing an imaging protocol

With a dental CBCT 3-D scan, dentists obtain more information about patients' anatomy for procedures such as implants. The three-dimensional view affords general dentists more insight on how to expand in-office procedures, as well as a greater understanding of those cases we need to send out. Entering into a procedure with the additional information provided by a 3-D scan raises the level of confidence for both the patient and the practitioner.

Even with these benefits, some dentists are still hesitant to add this technology. With the wealth of information gained from scans, we must take the time to properly learn how to read them, and we should also know what experts to ask for advice if we are unsure in any way. As clinicians, we have learned to read PAs to discern what normal, hard tissue looks like, and we can tell decay has eaten through the enamel and dentin. We know how to read our pans and cephs. My philosophy about 3-D is that we need to take the time to learn to read our scans as well as we read our 2-D images.

Many wonderful resources are available to help us increase efficiency in reading cone beam scans: The 3-D Imaging Institute in Raleigh, N.C., the annual 3-D Imaging Congress, as well as seminars and webinars on 3-D imaging. In addition, Web sites such as www.IMAIOS.com also educate health-care professionals on normal anatomy and radiography.

Most importantly, you are free to establish your own imaging protocol. If you are uneasy reading the scans yourself, don't hesitate to refer them to an oral radiologist. Personally, I don't send every scan out, but I know some colleagues who do. And why would we hesitate to ask the opinion of a radiologist? When we do a biopsy, we send it on to a pathologist to take advantage of his or her expertise with no questions asked. I consider the fee for sending my scans out like the fee for a pathology report. With the proper explanation, patients understand and truly appreciate that an expert is reading their scans to ensure safety and, in my experience, they are comfortable spending the extra money to put their minds at ease.

After I have started surgery on an implant patient, I don't want to find a cyst or other hidden problem. The scans expand my knowledge along with my horizons, and I never hesitate to ask for an outside opinion because safety is always foremost on my agenda. In my practice, cone beam definitely counts as a practice builder.

Back to my neighbor, the lineman supervisor: he doesn't want to find anything shocking in his business, and neither do I. The information that I get from cone beam scans gives me the "inside information" that I need to expand my treatment options with confidence. DE

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