

A Slice of Everyday Life

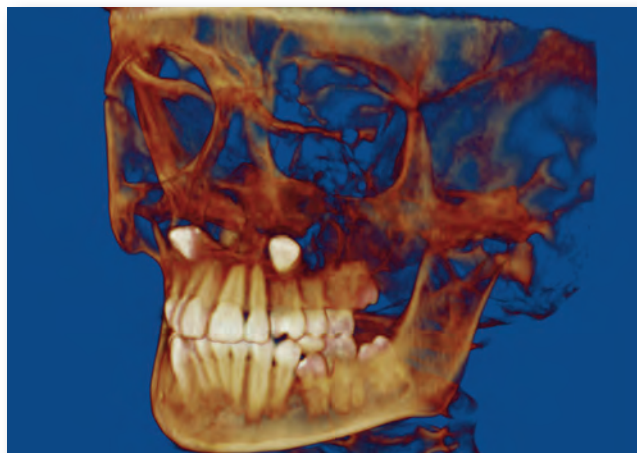
By Jim L. Caskey, DDS, MS

The field of orthodontics is continually evolving. When I went to dental school, no one wore magnifying loupes, and now, that is standard in most dental offices. Similarly, when I went to orthodontic school, no one had in-office 3-D. But, now that I have an i-CAT® in both of my offices in North Texas, I wouldn't dream of doing without it—it's just that useful.

Since I implemented Cone Beam technology, I repeatedly have been asked if there is one case that “saved the day” that justified my investment. My response is that it just doesn't work that way. Although there are cases that I was able to detect problems earlier, it is the day-in and day-out improvements in the practice that make the difference for me.

There are times when I utilize panoramics. However, when I choose my 3-D imaging option, I don't guess about what is happening with the eruption of permanent teeth, especially in the case of impactions. Parents appreciate that I have this leading-edge technology that provides more complete data. Before I enter the treatment room, the patient's 3-D volume is up on the screen. Usually, patient and parent are already talking about the image that they see on the screen; when I join them, I can rotate and slice the 3-D virtual model, and change the translucency to take away the bone and just show the teeth. In the case of an impacted cuspid, I can isolate just that area to view the impacted tooth and surrounding structures. Besides assisting me in determining the best course of treatment, this technology is excellent for communications—parents better understand their child's condition.

In the full volume, I can see the teeth in a one-to-one (accurate) ratio. With root shortening, I can measure and see the extent of resorption. Often, 2-D images cannot provide the data supplied by a 3-D scan. For example, frequently, flared teeth appear on a 2-D image as root shortening; however, on a 3-D rendering, I can tip the skull down and see that really is not the case.



Without the CBCT information, there were times when I would have halted treatment on such cases, but because I have a one-to-one ratio, I can determine more precisely when the condition warrants stopping treatment. Recently, I extracted a bicuspid and started to retract the cuspid, and after several weeks of attempting to distalize, I realized it wouldn't move. I reviewed the initial 2-D pan, and nothing suspicious was visible. I took a CBCT scan and saw a dense radiolucent mass at the apex of the cuspid. A biopsy showed that the mass was a florid osseous dysplasia. I would have never seen the real cause without the 3-D scan.

The i-CAT's collimation function gives me several field of view options to choose from. The 5-second scan exposes the patient to a lowered radiation, and allows me to see just enough of the skull and nasion for a cephalometric view. Usually, that is all I need. The “bread and butter” of having the i-CAT is being able to communicate my plans to my patients and share information. Sure, it is very satisfying to find unusual conditions, but the benefits that patients receive every day from the 3-D images captured by my i-CAT, makes the orthodontic experience for me and the patient so much better.