

Truths and consequences of orthodontic diagnostics

Cone-beam radiography is steering orthodontists in the right direction — leading straight to the most effective diagnosis for the patient. Treatment planning can only begin if the practitioner has a true picture of all of the facts, and cone-beam radiography provides those details that may be missed on 2-D images.

For diagnostics and treatment planning, 3-D images can be sliced and rotated to discover such vital information as precise tooth positions and bone dimension and quality. Many orthodontists report extraordinary findings that alter the original perception of necessary treatment. The scope of information gained from a 3-D image is not available with 2-D radiography.

The opportunity to capture these dental structures with such precision is also invaluable for a range of dental practitioners — oral surgeons, periodontists and general dentists.

Here are some eyewitness examples of how cone-beam scans uncovered the “truth” of the patients’ dental mysteries, avoiding the possible “consequences” of alternative treatments.

Bradford Edgren, DDS, MS, (Orthodontic Associates of Greeley, PC, Greeley, Colo.)

“In this case [Fig. 1], before starting phase II treatment, we were waiting patiently for the second permanent molars to erupt. Between finishing phase I treatment and the time at which the other three second molars erupted, we acquired our

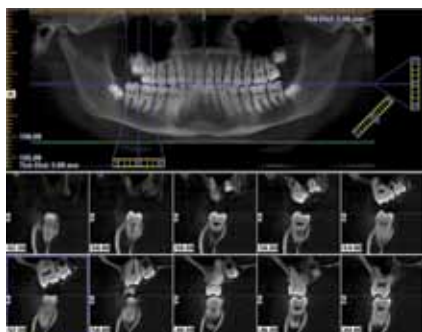


Fig. 1, Edgren

OT At the AAO

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3-D cone-beam scanner (i-CAT®) and took an EFOV [extended field of view] scan as part of our progress records.

“The scan showed that an impacted third molar was impeding the eruption of the maxillary right second molar. The fourth third molar was not evident on previous pan X-ray because of its perfect superimposition palatally to the second molar. This second molar may never have erupted, or worse yet, could have been presumed to be ankylosed. To date, all four thirds have been extracted and the right second molar has fully erupted.”

John Graham, DDS, MS, (Graham Orthodontics, Litchfield Park, Ariz)

“This patient [Fig. 2] was referred to my office for an orthodontic eval-

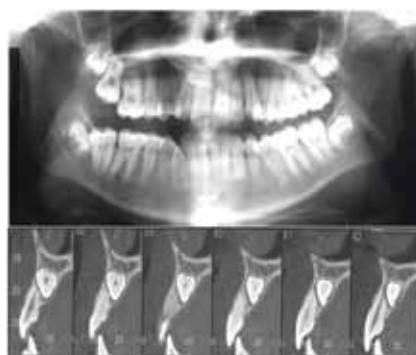


Fig. 2, Graham

uation by her general dentist. Her 2-D panoramic X-ray demonstrates an impacted maxillary right cuspid located horizontally above the incisors. CBCT cross-section images reveal the relationship between the impacted and adjacent teeth, as well as any associated root involvement.

“While the 2-D pan shows the impaction as a mere superimposition, with the i-CAT scan, it is possible to discern the exact location of the tooth relative to the surrounding teeth and bone as well as the pre-existing apical root resorption. This vital information allowed for a less-invasive surgery and guided me to the most appropriate treatment plan.”

Edward Y. Lin, DDS, MS, (Apple Creek Orthodontics, Appleton, Wis.)

“This patient [Fig. 3] lived with an abscess that had gone undetected for some time. I received this 2-D panoramic image from the patient’s pediatric dentist. If you look really closely, you can see what appears



Fig. 3, Lin (Photos/Provided by Imaging Sciences)

to be a radiolucency under the LR5, LR4 (mandibular first molar and second premolar), but the same could said for his LL5, LL4 area.

“However, a year later when we took the i-CAT scan, it is clearly evident that there is a large radiolucency. With a cone-beam scan, the condition would probably have been detected and treated much more quickly.”

All of these cases underscore the importance of utilizing precise and detailed 3-D images in orthodontics. This truth in imaging can save the patient from unforeseen consequences — the pain of unnecessary surgery, undiagnosed conditions and more. CBCT puts the most concise information at the orthodontist’s fingertips and on the computer screen. **OT**

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AD

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If you are going to the American Association of Orthodontists Annual Session in Washington, D.C., you’ll want to stop by the OrthoBanc booth (No. 2535). OrthoBanc, a payment drafting and management company, always creates a buzz at the AAO with its city-themed booth activities.

Last year, OrthoBanc’s Boston Tea Parties were standing room only. Clever giveaways and attention to detail landed OrthoBanc’s Marla Merritt an All Star Award in Exhibitor Magazine, a national publication directed at the trade show industry.

Merritt says D.C. promises to

be even more exciting and informative as she delivers campaign promises in a political rally setting.

“OrthoBanc can provide real change for a practice looking to become more efficient and profitable. We love telling our story in a fun setting, and we have some great plans for our D.C. rallies in the ‘Choose OrthoBanc’ booth.”

At the AAO

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