

# CBCT takes gamble out of diagnosis

By Bradford Edgren, DDS

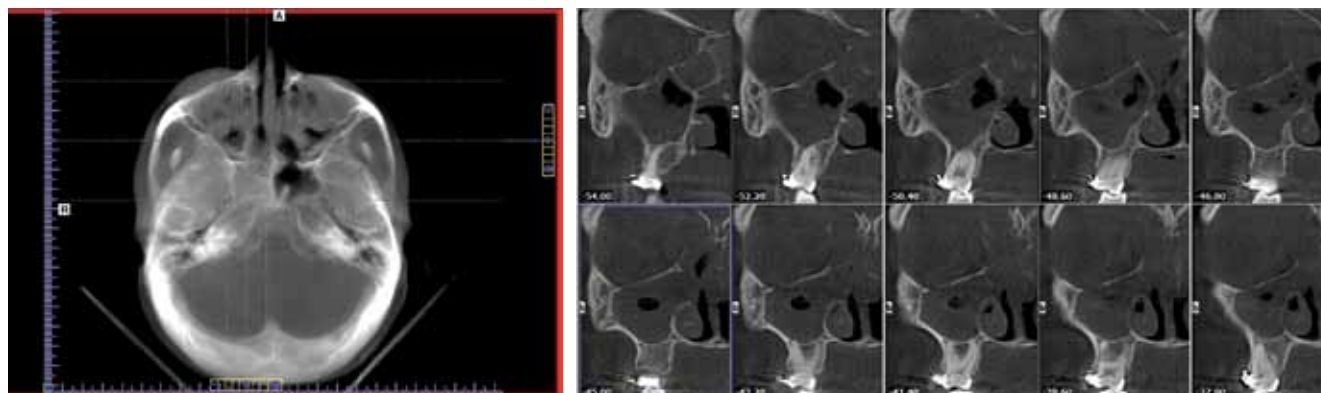
In certain situations, it is fine to take a gamble. But in this “poker” story, a CBCT scan tipped the odds in favor of the proper diagnosis.

The patient, a 33-year-old woman, was suffering from severe headaches, dizziness, blurred vision, pain and swelling around her right eye. Initially, she consulted with two different physicians. The family physician suggested the source of the problem must lie with an orthodontic wire “poker” that she had experienced three months earlier when her problems began. An ophthalmologist only offered eye drops to resolve the problem.

Strangely enough, at the time, when the pain became so intense that the prescription pain medication didn't work, she resorted to Benadryl to reduce the inflammation and help her sleep at night. Moreover, during this period the patient had her mandibular thirds removed and an impacted maxillary right canine exposed and bonded for guided eruption. When she underwent the surgical exposure of the canine and was put on antibiotics, she noted the swelling around her eye improved — until the antibiotics were depleted.

Exasperated from her previous opinions and lack of improvement, she returned to my office for help. Up until this point, she had not informed me of her plight.

By this time, the right side of her face was swollen and hot, she was experiencing pain around the temple, and the teeth were sore on the upper right. After witnessing her distress and ruling out the poker as



CBCT's axial, left, and cross-sectional views — a true picture of the sinus region. (Photos/Provided by Dr. Edgren)

## OT Contact

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the source of her problems, I consulted with Dr. Rick Mellin, the oral surgeon who exposed her canine. He met the patient and me in my office the next day, on a Saturday morning, and I took a complimentary CBCT scan with my i-CAT® scanner.

The scan revealed she had a severe sinus infection. This patient had “three of a kind” working on four: both maxillary sinuses were filled with polyps, the right ethmoid sinus was totally occluded, and the inflammation was spreading into the left ethmoid sinus. The CBCT scan changed her luck, and the diagnosis was no longer just another game of chance.

Already being placed on oral antibiotics since the day before, the patient was referred back to her general physician, who requested an additional medical CT scan that confirmed our diagnosis.

Following the medical CT scan, she was immediately hospitalized and given IV antibiotics. Thirty-six hours later, an ENT removed the polyps from the right ethmoid and both maxillary sinuses. Since the surgery, the patient is pain-free, and her sight is restored.

In this case, CBCT imaging gave me, the orthodontist, and the oral surgeon the winning hand over the other diagnoses. Without precise, accurate cone-beam imaging, the patient would have continued to have endured discomfort and, at the very least, would have lost her eyesight.

The volumetric data obtained from the CBCT scan is extremely accurate. CBCT scanners scan both jaws simultaneously using a narrow, collimated beam utilizing only two to eight times the radiation used in a panoramic X-ray and at the fraction of a medical CT.

The patient is still amazed and grateful to her orthodontist who provided the images that led to a cure. The stakes were high, and the CBCT image was my “ace in the hole” that provided the greatest winnings of all: a happy, loyal and, above all, healthy patient. **OT**

## OT About the author



Dr. Bradford Edgren earned a doctorate of dental surgery from University of Iowa, College of Dentistry and a master of science in orthodontics. He is

certified by the American Board of Orthodontics, is a diplomate of the American Board of Orthodontics and is a member of the College of Diplomates of the American Board of Orthodontics. He is also a member of the American Association of Orthodontists, Rocky Mountain Society of Orthodontists, Colorado Orthodontic Association, The Edward H. Angle Society of Orthodontists — Southwest Component, American Dental Association, Colorado Dental Association, and Weld County Dental Association.