

CLINICAL CASE  
KODAK 9500 Cone Beam 3D System

# Midline Sympheseal Fracture

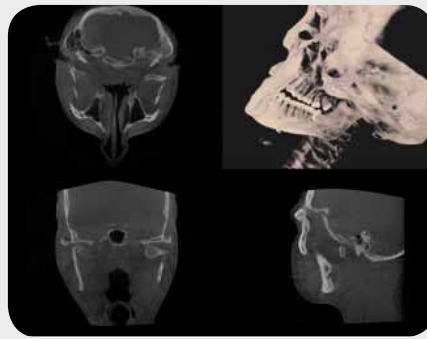
## Case Overview

This 27-year-old male fell off his bike. He knew something was broken, but had no clue as to the extent of his damage. I saw him for the first time more than 3 weeks after the date of his injury. At that time, his chief complaint was only an open bite.

The reconstructed panorex clearly shows the bilateral condylar fractures, but it is unknown as to the degree of displacement or extent of injuries.



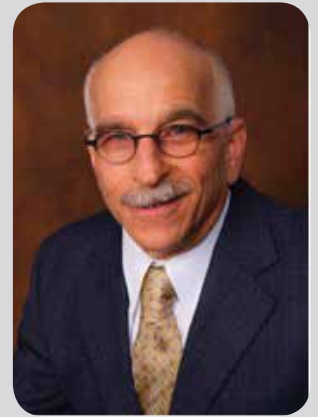
When viewing the 3D volume (looking from left posterior), a midline sympheseal fracture is readily seen.



Also in the 3D skull, a free floating condylar head is seen floating medially. The axial, coronal, and sagittal views further confirm the significant displacement.

## Treatment Plan

The treatment plan recommendation includes left sided TMJ open reduction and closed reduction on the right side (versus open reduction). Also note a sympheseal fracture on the 3D skull which was not clear on the panorex. This was correlated with the clinical evaluation and was seen in thinner slides. If CBCT was not immediately available, the patient definitely would have been referred for a medical CT prior to any surgery, at a higher financial cost and greater radiation exposure to the patient.



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Dr. Daniel E. Levin graduated from UCLA with honors in 1971 with a Bachelor of Arts Degree in Bacteriology. He continued his studies at UCLA, graduating from the School of Dentistry in 1975. He completed his internship and residency in Oral and Maxillofacial Surgery at the Albert Einstein College of Medicine/Montefiore Hospital and Medical Center in 1978. He is married with two children. His wife, Dr. Patrice Punim (Levin), has an active practice in orthodontics also in Huntington Beach.

### KODAK Product

- KODAK 9500  
Cone Beam 3D System

## Testimonial

Traditionally, panorex has been the standard for most offices. It does give an excellent gross view of the mandible and is usable for several dentoalveolar diagnostic procedures. However, it is a 2D image and cannot be manipulated to any significant extent. Important pathological findings may be hidden from overlapping of anatomical structures, the inferior alveolar nerve may not be well visualized, and the extent of any lesion may not be well appreciated. Cone beam CT has the definite advantage of expanding the diagnostic quality and quantity of any scan. It is extremely convenient for the patient. Most importantly, the radiation dosage is nearly 1/5th the dose of a traditional hospital-based CT of the same area. Besides implant planning, CBCT is useful in the diagnostic treatment planning of orthognathic surgery, TMJ dysfunction, sleep apnea, jaw tumors, dentoalveolar issues such as impacted teeth, and facial bone injuries. No doubt this list will expand with continuous usage.

Obviously, there are many modalities in which imaging can be obtained. However, CBCT is fast and convenient for the patient and provider, very cost-effective (especially when compared to medical CT), and generates significantly less radiation to the patient. I personally chose the Kodak 9500 system since it seamlessly integrates into OMS imaging in my WinOMS CS practice management software. In addition, it has an available full volume scan, high resolution, and technical support for both the software and hardware. Its usage is very similar to taking a standard panorex, with the patient either standing or sitting. The included software is intuitive with a fairly fast learning curve. Since all images are in a DICOM format, they can easily be shared with other technical software.

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## Carestream Dental

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