

## CS 9300 Extraoral Imaging System

# Misdiagnosed maxillary sinusitis of dental origin from undiagnosed molar endodontic lesion: 2D vs. 3D radiography

### Case Overview

A 65-year-old male with excellent health history and no daily medications had been unable to breathe through his left nostril for the past 19.5 years. He was referred for the uncovering of a previously placed implant on tooth #30 and periodic periodontal maintenance. For his chronic congestion, the patient had been referred for consultation with an ear, nose and throat physician who diagnosed the patient with a deviated septum. Surgery was recommended to repair the deviated septum at that time with no guarantee of success. A medical grade CT scan revealed only nasal abnormalities and did not pick up any dento-alveolar issues.



**Steven J. Feldman, DDS  
Venice, FL**

Dr. Feldman has been in private practice in Venice since 1974. He introduced implantology into his practice in 1986 and earned fellowship status in the International Congress of Oral Implantology in 1989. In 1993, he co-founded a technique to perform Periodontal laser surgery without anesthetics. One year later, he earned diplomate status in the International Congress of Oral Implantology. He is a member of several other professional organizations, including the American Dental Association, the Florida Dental Association, the American Academy of Periodontology and others.

A 1970 graduate of Marquette University Dental School, Dr. Feldman received his post-graduate Certificate of Periodontics from Tufts University in 1972. From 1972-1974, he served as a Captain in the U.S. Army Dental Corps, training general dentists in Periodontics, and was a clinical instructor of Periodontics at the Medical College of Virginia Dental School in Richmond.

## Clinical Case Study



2009 analog radiograph showing no sign of periapical lesion.

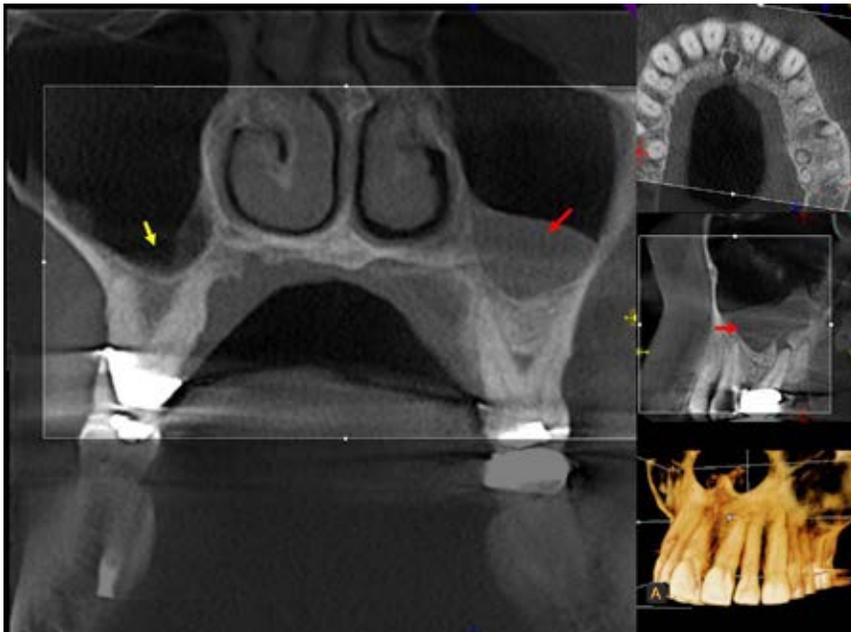


2012 initial digital radiograph showing periapical lesion (Carestream Dental RVG 6100 system).



# Clinical Case Study

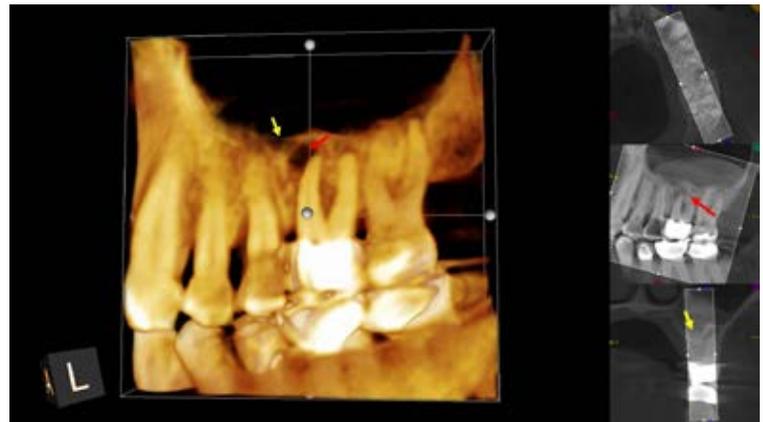
The clinical exam revealed pain upon percussion and atypical toothache-like symptoms on teeth #14 and #15. A 10 cm x 10 cm Cone Beam Computed Tomography (CBCT) scan (CS9300 Carestream Dental, Atlanta, Georgia) was performed (eventually followed by postoperative 5 cm x 5 cm scan to confirm progress), revealing large periapical lesions on the maxillary left molars #14 and #15, with a unilateral partial opacification of the maxillary left side sinus. The CBCT examination was invaluable in determining the definitive diagnosis, the treatment plan and materials needed for the patient's care.



CBCT images with large oblique coronal view showing left side sinus pathology (Red Arrows) and a clear right sinus (Yellow arrow).



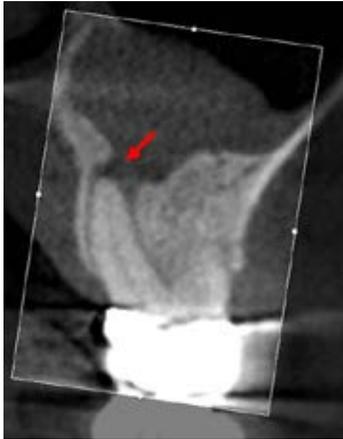
Pan view (20 mm slice thickness) showing evidence of periapical lesions and sinus involvement (10 cm x 10 cm, curved slicing) (tooth #15 not definitive).



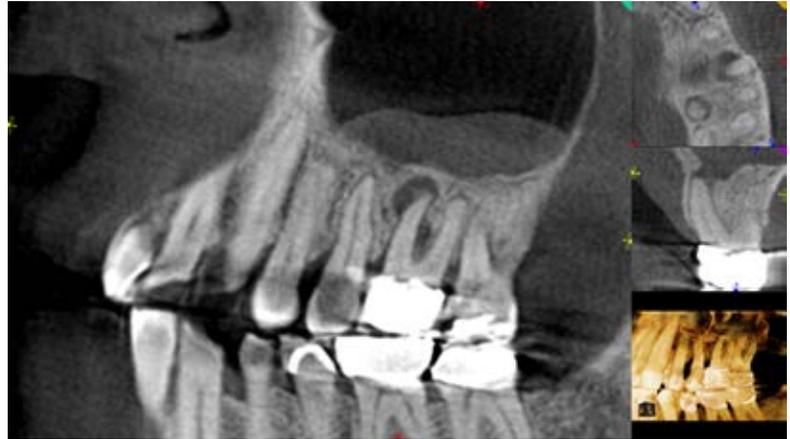
3D volumetric reconstruction and oblique cross section demonstrating visual evidence of sinus floor perforation (Yellow arrows) coincident with periapical lesion (Red arrows) on the tooth #14 mesial root area (10 cm x 10 cm).



# Clinical Case Study



Sinus pathology coincident with periapical lesion on tooth #14, showing loss of dense cortical bone floor (Red arrow) of maxillary sinus (10 cm x 10 cm, oblique slicing).



Additional oblique view showing breach of maxillary sinus and loss of cortical bone with inflammatory response of sinus (10 cm x 10 cm, oblique slicing, cropped).

## Treatment Plan:

Teeth #14 and #15 were extracted, and particulate and BMP-2 bone graft plus a membrane were implemented. The one-week postoperative clinical examination revealed that the patient was healing well, with minimal discomfort, and was able to breathe for the first time in more than 19 years through his left nostril.



Immediate postoperative 2D radiograph (RVG 6100, Carestream Dental, Atlanta, Georgia), showing extraction sites of teeth #14 and #15, and maxillary sinus repair and partial lift, with socket augmentation using combination of particulate and BMP-2 plus absorbable exposable membrane.



# Clinical Case Study



## Testimonial:

The CS 9300 was indispensable in this case. The patient was referred so I could uncover an unrelated implant, but with the CS 9300 I quickly discovered the cause of a long-term sinusitis causing breathing problems, one which had previously been missed. My diagnosis created the opportunity for an additional procedure and unexpected revenue. But more importantly, it gave me the chance to immediately improve the patient's quality of life.

Still, the financial benefits of owning a CS 9300 should not be overlooked. There is a definite patient educational benefit, as 3D images are more readily understood, increasing the likelihood they will agree to treatment. But the greater financial benefits come from the time you save; time is money, especially for a small business. Instead of referring patients away, you can quickly scan them in-house – itself an additional billable procedure – and then make a diagnosis and propose treatment that day. The images can also quickly be sent to insurance companies, which in turn often means that you can collect reimbursement more quickly.

Without a doubt, if you are a periodontist or dental specialist and/or consider yourself first and foremost a diagnostician, then owning a CBCT is not an option, but a necessity, in my opinion. The CS 9300 is like no other CBCT system on the market and delivers tremendous value. It is easy to understand and operate, and it captures high-quality images. If you are looking to effectively co-discover with your patients, then this is the CBCT scanner for you, unequivocally.

Would you like to know more? Visit us on the web at [www.carestreamdental.com/perio3D](http://www.carestreamdental.com/perio3D) or call **800.944.6365**.