

CLINICAL CASE
KODAK 9000C 3D Panoramic and Cephalometric System

Digital Cone Beam Computed Tomography and Differential Diagnoses in Endodontic Therapy

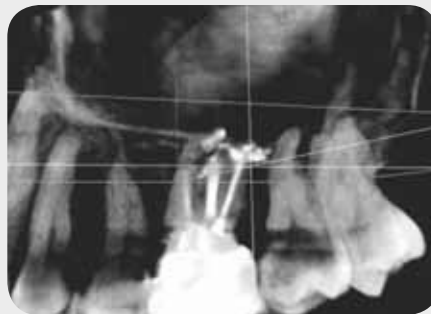
Case Overview

A routine dental and radiographic exam was performed on a 43-year-old patient whose dental history revealed a previous root canal therapy on the upper left first maxillary molar. The patient was asymptomatic and the periapical digital radiograph failed to demonstrate periradicular pathology.

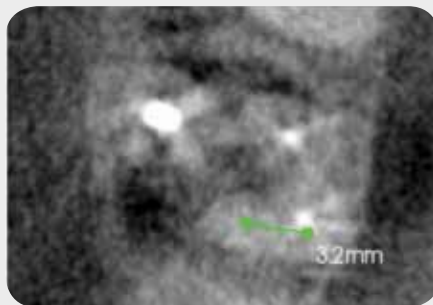
Upon clinical examination, tooth number 14 was tender to percussion and palpation. Further radiographic examination, using 3D CBCT technology, demonstrated significant sealer extrusion from the DB root which was not evident in the conventional 2D digital radiograph.



Conventional periapical radiograph taken with KODAK RVG 6100 Digital Radiography System



3D reconstruction with KODAK 9000C 3D Panoramic System



A transaxial view of the mesiobuccal root revealed the presence of a second mesiobuccal canal (MB2) at 3.2 mm lingual from the main canal. The coronal view further exhibited the length of the unfilled canal was 9 mm, and the distance between the filling of the MB1 and the radiographic apex 2.9 mm.

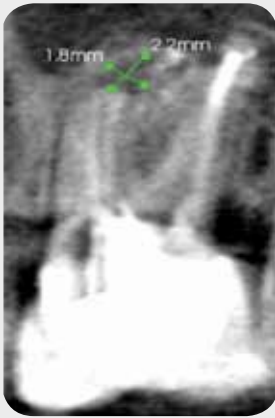


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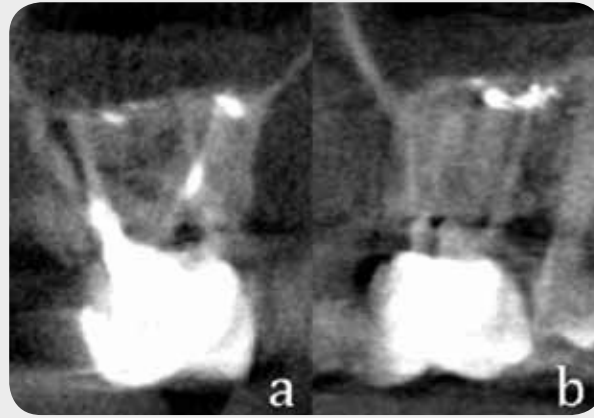
Dr. Nestor Cohenca received his dental degrees from the National University of Asuncion, Paraguay. In 1994 he graduated cum laude from the Endodontic Program at the Hebrew University and become Board Diplomate from the Israel Board of Endodontics in 1995. He was an active member of the Department of Endodontics at the Hebrew University Hadassah Faculty of Dental Medicine, Jerusalem, Israel. He served as a Clinical Assistant Professor, Division of Surgical, Therapeutic and Bioengineering Sciences and Coordinator of Trauma at the Center for Urgent Care, Trauma and Sports Dentistry, USC School of Dentistry. He is Past-President of the Israel Endodontic Society and former member of the National Board of Examiners in Endodontics. Dr. Cohenca joined the faculty at the University of Washington School of Dentistry in 2005.

KODAK Product

- KODAK 9000C 3D System
- KODAK RVG 6100 System



A periradicular post-treatment pathology is clearly observed and measured (1.8 x 2.2 mm) in this sagittal view.



A coronal view (a) combined with a sagittal view (b) clearly shows the overfilling material to be related to the DB root. The periapical radiograph failed to demonstrate any overfilling related to the DB root.

Testimonial

Because panoramic radiographs are historically screening aids, 3D images for initial radiographic diagnostics would have allowed for more efficient care through a more immediate referral to the oral surgeon.

Additionally, had 3D images not been available, orthodontic treatment would have proceeded and probably would have been influenced by the presence of these two fully-formed and undetected teeth.