THE DENTAL
SOLUTIONS
COMPANY™

Dentsply Sirona

User Case Abstract

3D Endo™ Software – safety through planning

Based on a case history, the clinician describes how he offers patients added value and greater safety in the planning of root canal treatment due to an innovative combination of 3D X-rays with a high level of detail and acceptable radiation exposure together with the 3D Endo™ endodontic software.

Methods

The author describes the development of endodontology and shows how greater safety had already been achieved by using X-ray technology. However, only one level - 2D X-rays - was available prior to DVT. Additional information was generated with eccentric X-rays, which displayed more, but not everything. The rest was left up to the experience and skills of the dentists, who quickly reached their limits in difficult clinical situations.

It is therefore useful to be able to represent the full topography with a third dimension. This can be achieved with 3D X-rays and the 3D Endo™ planning software which enables the ideal course of planning. This minimizes risks as all the work steps are known in advance and can be run through in the dentist's head. In other words, the dentist can take precautions for difficult situations in advance.

Result

Using the 3D Endo™ Software (Dentsply Sirona), the number of root canals and the expected curvature can be represented at all levels, as can the length of the root canal with the respective reference points. Dangerous zones can be marked, for example, as to when perforation of the chamber floor is threatened. The ideal trepanation cavity can be determined to save valuable tooth structure during the procedure.

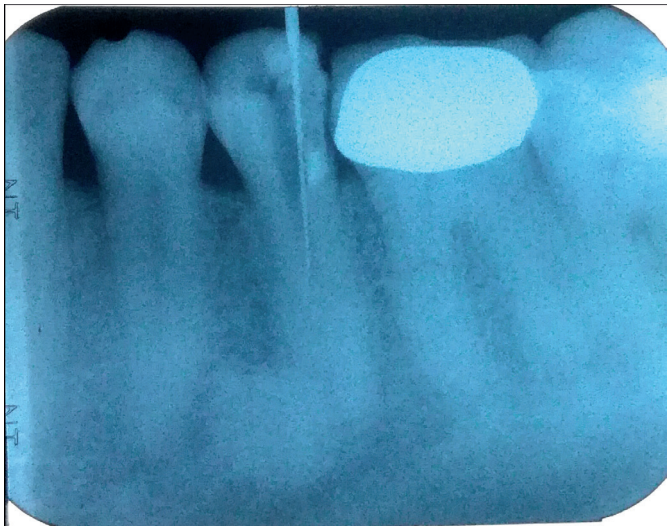


Fig. 1 Intraoral image taken by the referring dentist.

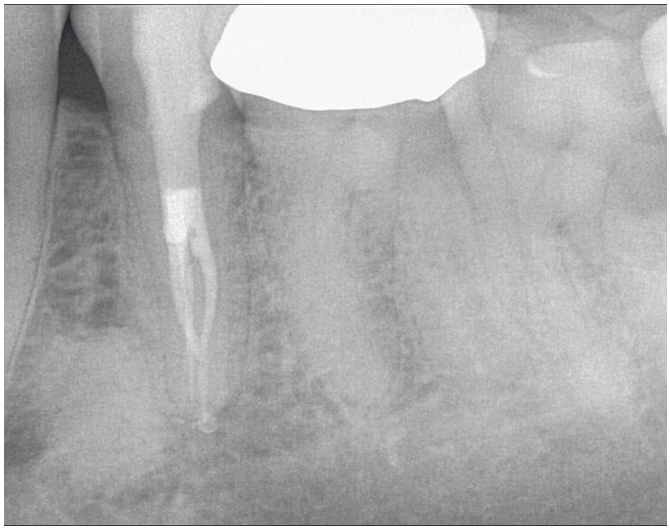
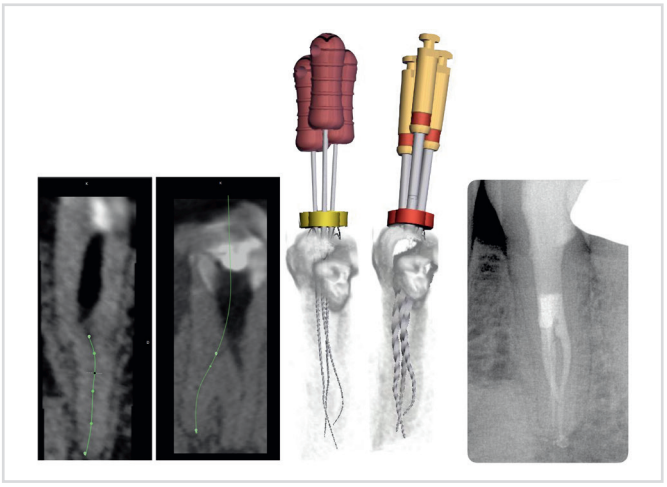


Fig. 2 Intraoral image created with DVT.

Case history

A 52-year old male patient suffered from acute complaints due to caries penetrans on tooth 35. After removal of the caries, his family dentist was unable to instrumentalize the root canal to its full working length (Fig. 1). An intraoral measurement showed no findings. Therefore, the patient was referred to the author's practice.

Two canals were identified on the initially prepared eccentric intraoral image. Two vestibular root canals were displayed on the clinical canal representation, which led to the initial suspicion that a third root canal was present lingually. To verify this suspicion, a small volume DVT (Orthophos SL, Dentsply Sirona) was made which confirmed the suspicion. In view of the complex situation, preplanning with the 3D Endo™ Software (Fig. 2) seemed advisable. Treatment proved successful due to the precise visualization of the root canal and the detailed planning (Figs. 3 to 5).



Positional relationship of tooth 38 to the mandibular canal.

Summary

Using the 3D data, and due to the special visualization in the endodontic software, the requirements for root treatment can be recognized for specific cases, allowing good analysis of the root canal profiles. Two-dimensional representation is often not sufficient for clarifying the anatomy. In the presented case history, the third canal could only be detected by involving DVT. The combination of DVT and 3D Endo™ enabled clinically correct treatment. This approach is both efficient and also economical. In view of the large number of endodontic treatments and the high workload of endodontic specialists, this combination is a valuable step towards better dentistry.

Contact

Günther Schmidhuber
PR Manager
+43 662 2450566
Guenther.Schmidhuber@dentsplysirona.com

Author

Dr. Thomas Lang
Heisinger Str. 1, 45134 Essen
www.dr-lang.org

Marketing Hub

Text und Bilder zu finden unter: XXXX