Our mission is to deliver endodontic products and solutions, at a more affordable price which in turn benefits practitioners and patients everywhere.

EDGEENDO®

HENRY SCHEIN®

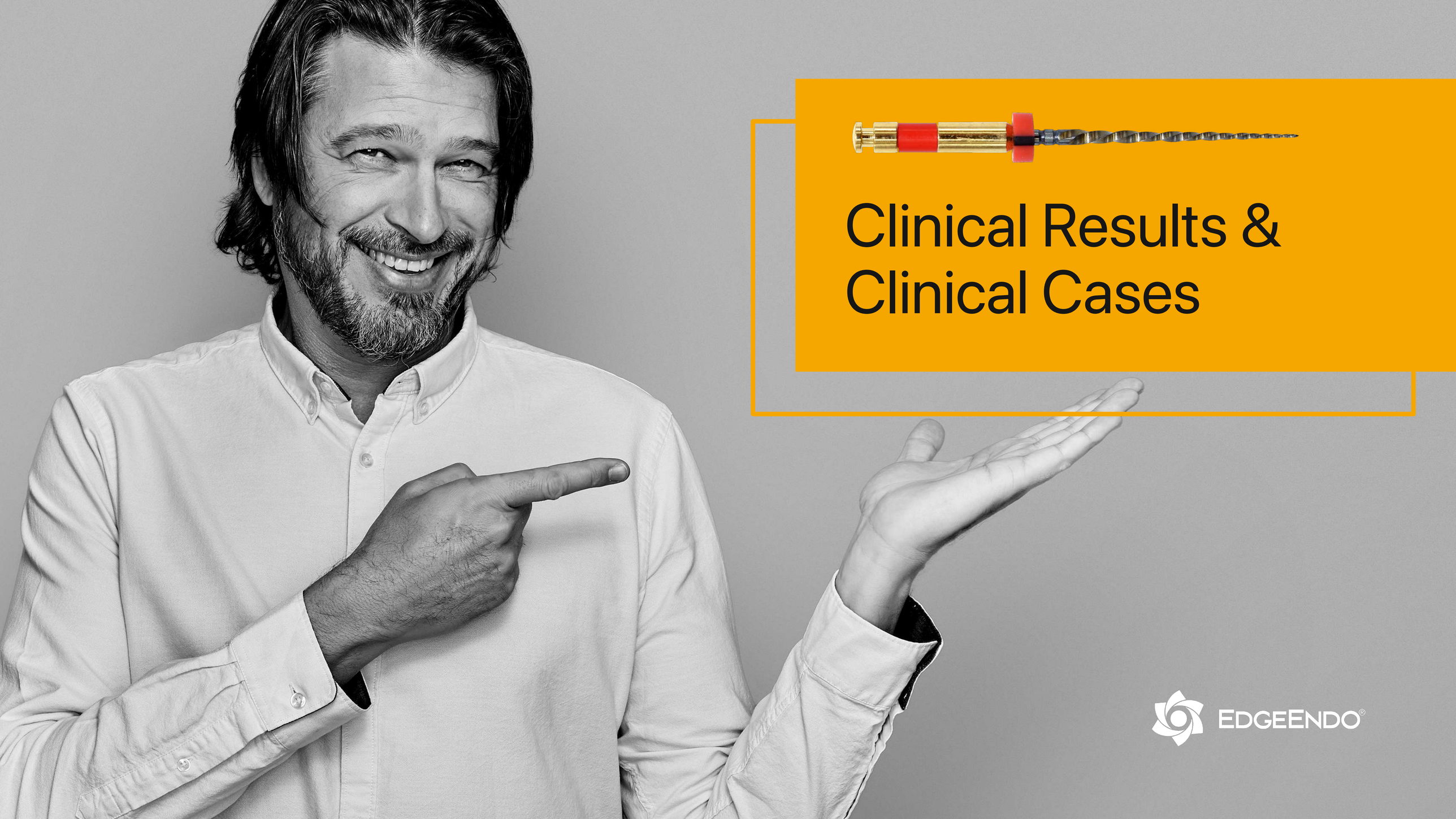
EDGEFILE® X7

About EdgeEndo

EdgeEndo was founded in 2012 by US based Endodontist, Dr. Charles Goodis. Conducting business in 30+ countries around the world, EdgeEndo's mission is to deliver high quality dental products and solutions, at affordable prices which in turn benefits practitioners and patients everywhere. Innovation is the heart of EdgeEndo, we believe premium technology shouldn't have to come with a premium price tag.

Let Us Help You Do Great Root Canals.

– Charles J. Goodis,
DDS, Endodontist, Albuquerque, NM, USA, Founder & Owner, EdgeEndo®



Clinical Results & Clinical Cases

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Clinical Case

Dr. med. dent. Philipp Eble
- 2015: State exam RWTH Aachen,
- 2019: post graduate program in endodontics DGET,
- Certified Member DGET.

Preparation of complex canal systems in primary and secondary treatment with the aid of a martensitic file system.

The chemomechanical preparation of the root canal system is an elementary part of endodontic therapy. The purpose of mechanical preparation is to remove infected dentin and make the canal system accessible for cleaning and disinfection with irrigation fluids. The success of endodontic therapy depends largely on the complete cleaning of the entire root canal system. The preparation should always be adapted to the degree of infection of the endodontic. Severe or abrupt curvatures, calcification of the canals or similar anatomical peculiarities can make it difficult to produce an adequate apical diameter and cone thus placing high requirements on the file systems. Heat treatment of endodontic nickel-titanium file systems can decisively change the material properties to avoid iatrogenic damage through increased flexibility and reduced recovery effect. In the following, the systematic preparation of complex root canal systems is demonstrated using three case studies.

Case 1: Primary treatment of a first lower molar with radix entomolaris

A 34-year-old female patient was referred to us for further treatment of tooth 36. After the diagnosis of irreversible pulpitis by the general dentist, initial pain therapy was carried out in the form of caries excavation, trephination of the pulp chamber, medicinal insertion and adhesive build-up filling. The patient presented to our practice with significantly reduced symptoms.

Clinical findings:

Tooth 36 had no increased probing depths circularly and was conservatively restored with an adhesive pre-endodontic build-up filling.

Radiographic findings:

The diagnostic radiograph taken preoperatively shows an insufficient amalgam filling in the distal proximal space. The mesial root shows periapical osteolysis (Figure 1).

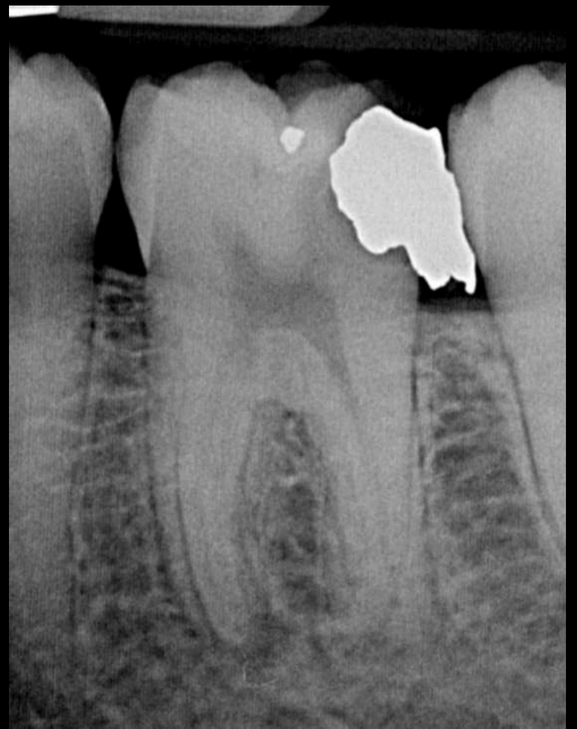


Figure 1: Preoperative diagnostic image

Therapy

The endodontic treatment took place in one session. After anaesthesia and placement of the rubber dam, the provisional filling was removed and the initial intracoronal diagnosis was made. A mesiobuccal, mesiolingual, distobuccal and distolingual root canal was probed using a microopener. The preparation of the primary access cavity for better accessibility of the canals was carried out with long-neck carbide round bur. Based on the preoperative diagnostic X-ray, the length of the root canals could be preliminarily approximated. The canals were continuously rinsed with 6% NaOCl during the further course of therapy. After preparation of the access cavity, coronal expansion of the root canals followed using EdgeEndo X7 files size 17.06. Electrometric determination of the canal length using a Morita Root ZX Mini Apex Locator was performed with C-Pilots size 8-10. After the working length was determined, the glide path was rotationally extended with EdgeFile X7 size 17.04 and 25.04 and finally prepared to 30.04 (Figure 2).

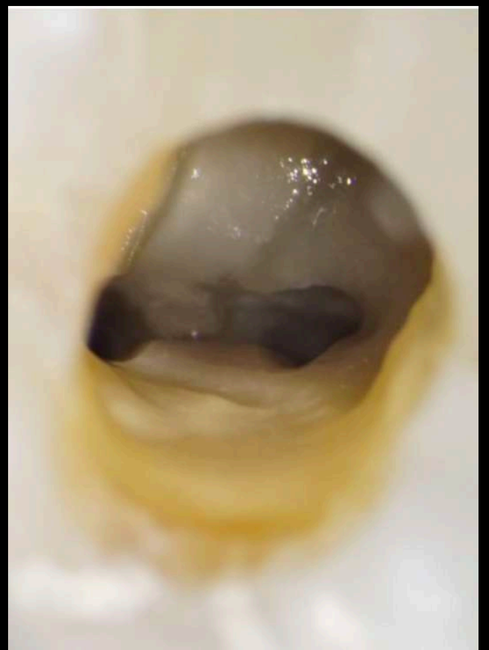


Figure 2: View of the mesial canal system after preparation

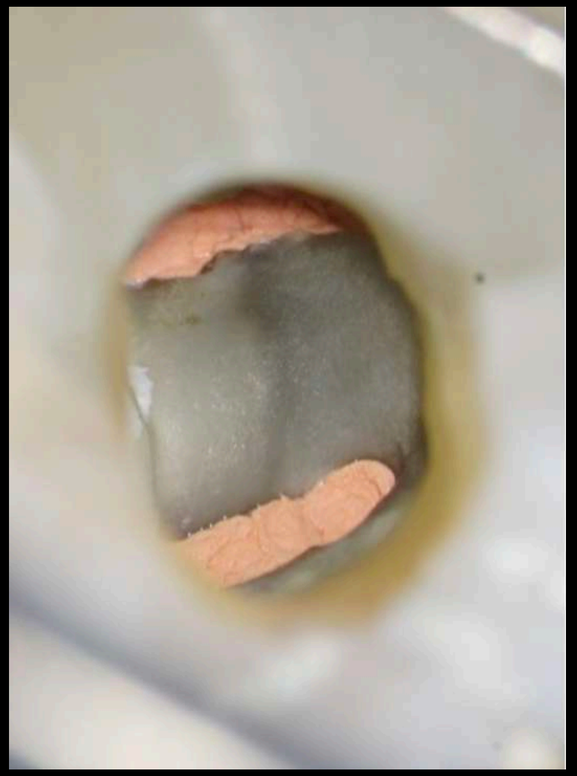


Figure 3: View after obturation

Figure 4: Masterpoint image

Figure 5: After root filling and adhesive closure

Case 2: Primary treatment of an upper second molar.

Medical history:

The 61-year-old patient presented for primary root canal treatment at 27 after referral by his general dentist. The tooth had been crowned about 2 years ago and the patient was symptom-free. In the course of the radiological check-up after apicoectomy of tooth 26, a periapical osteolysis had been detected on tooth 27.

Clinical findings:

Tooth 27 showed a sufficient restoration. No increased probing depths were palpable and both cold and percussion tests were negative.

Radiographic findings:

Tooth 27 shows periapical osteolysis in the sense of chronic apical periodontitis (Figure 6).

Figure 6: Preoperative diagnostic image

Therapy

The primary endodontic treatment of tooth 27 was also performed in one session. After trephination, the initial intracoronal diagnosis and visualisation of the four canal orifices was performed using a long-neck carbide round bur. An EdgeFile X7 size 17.06 was used for coronal expansion of the canals. The creation of the glide path could be done purely mechanically. For this purpose, EdgeFile X7 sizes 17.04, 17.06 were used in an alternating manner until the approximately radiographically determined preliminary working length was reached. After electrometric determination of the working length with C-Pilot files size 8 and 10, further preparation was carried out with EdgeFile X7 size 20.06, 25.06 and 30.06. After final preparation, the canals were rinsed with 17% EDTA for 60 seconds. As a final rinse 6% NaOCl was sonically activated. A masterpoint image was taken to verify the preparation and the fit of the adapted gutta-percha tips (figure 7). After drying with micro aspiration and paper tips, all canals were obturated with bioceramic sealer using a warm vertical filling technique (figure 8). Adhesive closure was carried out with Bulk Fill Flow composite (figure 9).

Figure 7:
Masterpoint image

Figure 8:
Control image after root canal filling

Figure 9:
Control image after adhesive closure

Case 3: Revision of an upper second molar

Case history:

A 54-year-old patient presented with acute complaints on tooth 27. He had been referred by his general dentist for further treatment after he had, according to his own statement, unsuccessfully searched for a second mesiobuccal canal.

Clinical findings:

Tooth 27 had a provisionally closed access cavity. The tooth responded positively to the percussion test and palpation of the vestibule revealed a pressure dolence in the area of the mesiobuccal root.

Radiographic findings:

The preoperative radiograph (Figure 10) shows tooth 27 already trephined by the previous practitioner. The root filling appears inhomogeneous. The root filling material in the mesiobuccal canal is extended beyond the radiographic apex and there is periapical osteolysis of the mesiobuccal root.

Figure 10: Preoperative diagnostic image

Therapy

The revision treatment was carried out in two sessions. After placing the rubber dam, the temporary filling was removed and the access cavity was cleaned. This was followed by intracoronal diagnostics (figure 11). Bacterial colonized root filling material was found in the mesiobuccal, distobuccal and palatal canals. The orifice of the mesiobuccal canal was widened in the palatal direction. Removal of a mesial dentin overhang with a long-shaft round bur exposed the orifice of the second mesiobuccal canal, which was displaced far in the palatal direction. The root filling material was removed using EdgeFile X7 size 25.06 and 17.06 in a crown-down technique to reduce the spread of germs and bacterial colonized root filling material apically. The opening and initial preparation of the second mesiobuccal canal was carried out using the EdgeFile X7 size 17.04, 17.06 in an alternating manner as described above. After electrometric determination of the working length of all canals, the preparation was continued with EdgeFile X7 at full working length. In the first mesiobuccal canal, distobuccal and palatal preparation was completed with EdgeFile X7 size 40.06, while the second mesiobuccal canal was prepared to 30.06 (Figure 13).

Figure 11: After working out the primary access cavity; showing the mb2 near the palatal canal.

After completion of the preparation, the canals were dried, calcium hydroxide was placed to full working length and the tooth was provisionally closed with an adhesive composite filling. Further treatment took place after two weeks when the patient was symptom-free. After renewed electrometric control of the working length, preparation of a master point image (figure 12) and sound-activated final rinsing with 17% EDTA and 6% NaOCl, the canals were filled with bioceramic sealer using the warm vertical filling technique (figure 15). The direct adhesive closure of the access was carried out with a bulk fill flow composite (figure 14).

Figure 12: Masterpoint image

Figure 13: Root canal system after treatment

Figure 14: After obturation and adhesive closure

Figure 15: Access cavity after obturation

Discussion:

Systematic preparation of the root canal system includes opening up the canal system and securing a glide path as well as consecutive expansion of the canal system from coronal to apical. Minimally invasive endodontic concepts focus on preserving the coronal pericervical dentin.

However, a rational approach to a minimally invasive endodontic procedure should include sufficient preparation of the apical zone in addition to reduced coronal substance removal. It should allow sufficient contact with irrigation fluids for tissue dissolution and disinfection and should therefore be adapted in size and conicity to the degree of infection of the endodontic site. A coronal-to-apical approach offers the advantage of increased tactility and reduced stress on the file due to reduced contact with the canal wall and can also reduce the spread of bacteria to the apical side. Newer heat-treated file systems with reduced maximum diameter such as EdgeFile X7 from EdgeEndo offer increased safety and efficiency due to their improved material properties and geometry. In our practice, initial mechanical glide path setting with EdgeFile X7 size 17.04 and 17.06 has proven to be particularly effective in canal systems that are difficult to access..

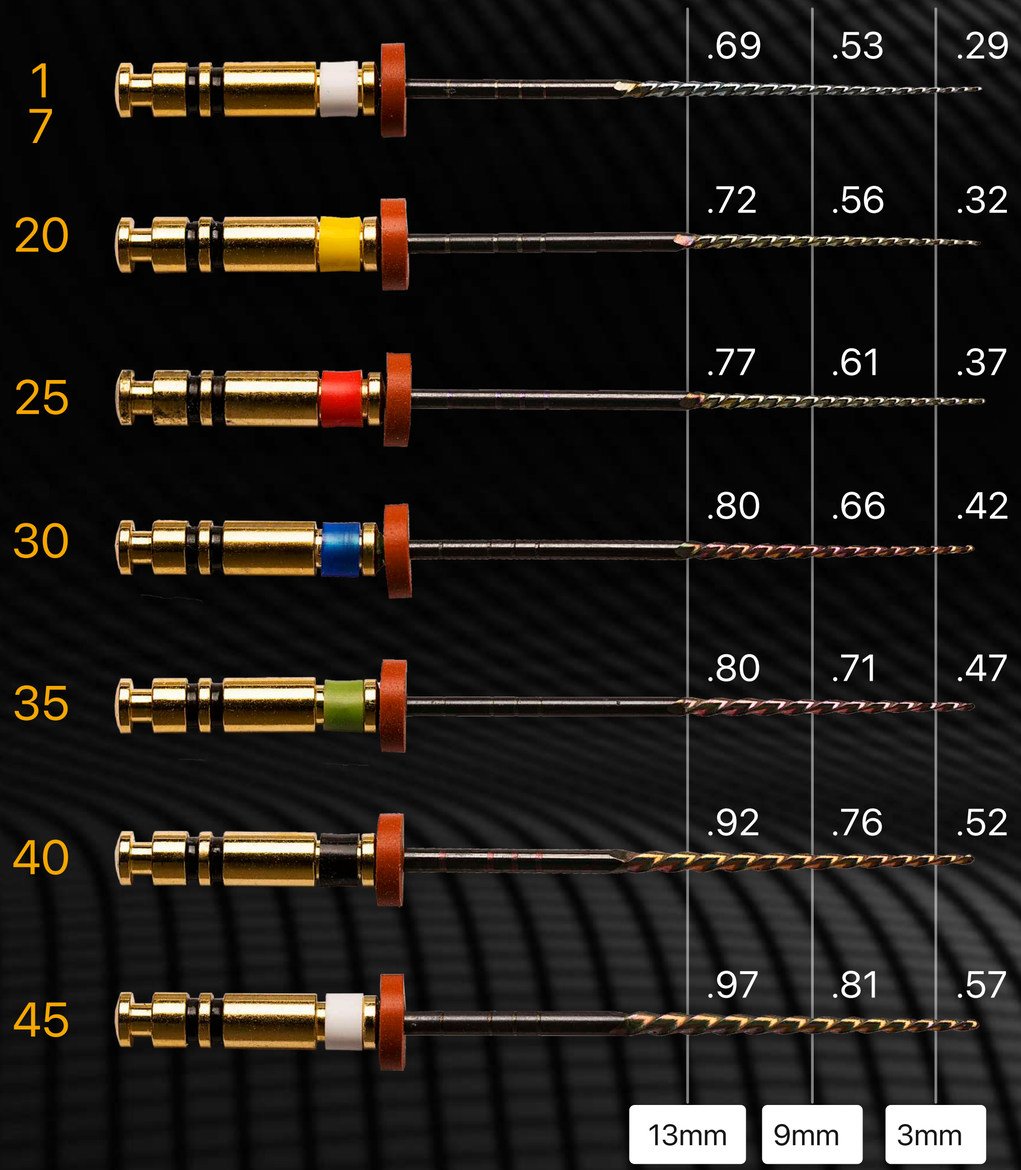
The files are used alternately for this purpose. After coronal expansion of the 17.06, the change to the file of size 17.04 is made, which is used in short pecking working movements until the preliminary radiographically determined working length is reached. In case of resistance, the file 17.06 is passively brought to the previously achieved length and then allows further advancement of the 17.04. In many cases, time-consuming manual glide path preparation can thus be dispensed with. Further preparation is carried out in taper 04 or 06, depending on the anatomical situation, the degree of infection and the planned filling technique. The maximum cross-section of the EdgeFile X7, reduced to 1 mm, allows the substance of the pericervical dentin to be preserved even when preparing large apical diameters and offers increased flexibility in curved root canals. In the present cases, due to the above-mentioned advantages, both difficult-to-access and multiplanar curved root canals could be prepared in a safe, efficient and rational minimally invasive manner with the help of a simple file protocol.

Files with Incredible Strength & Flexibility

Learn more

EDGEENDO®

EDGEFILE® X7



The revolutionary EdgeFile X7 uses our own flexible FireWire™ NiTi forged with our proprietary heat-treating process. The FireWire™ NiTi Alloy improves strength and flexibility.
Best selling system.

Our heat-treating process gives the EdgeFile X7, “Canal Contouring Technology,” making the files extremely flexible and reducing the shape memory and “bounce back” effect of other NiTi files. The flexible EdgeFile™ closely follows the anatomy of the canal without straightening out, reducing the risk of ledging, transportation, perforation and file separation. The flexible shaft reduces the need for excessive straight-line access, allowing more tooth structure to be preserved.

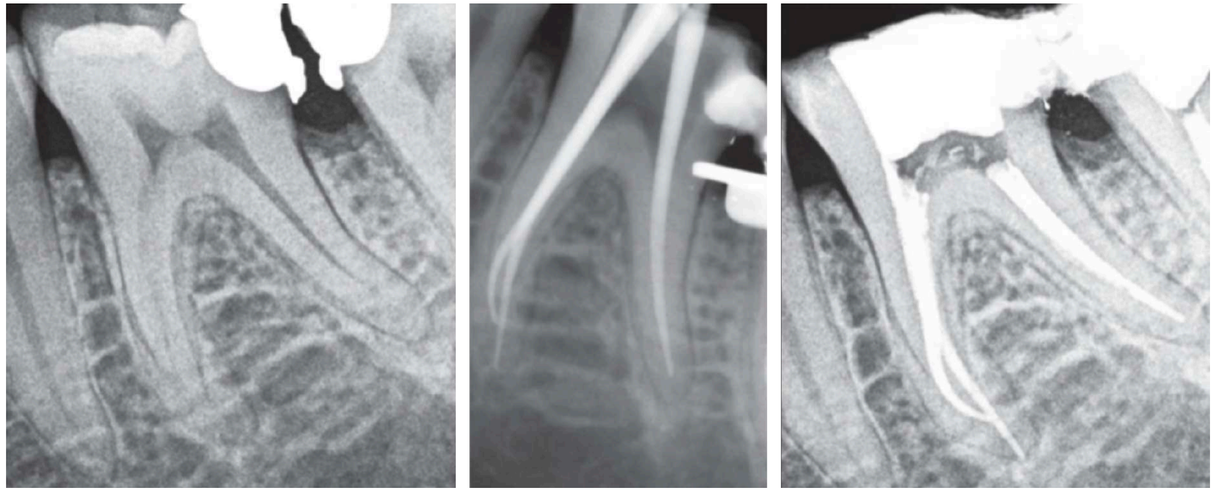
X7 is the most recognized and proven solution. It has repeatedly outperformed competitor files in peer reviewed published research.

EDGEFILE® X7 Features

1. Proprietary heat treatment process- FireWire™ NiTi Alloy improves strength and flexability
2. Available in .04 and .06 Constant Taper- Variable Pitch
3. Maximum flute diameter 1mm allows for minimally invasive preparation
4. Parabolic Cross Section non cutting tip- Maximizes file cutting efficiency
5. Electropolished file - Increases strength
6. Reduced handle length for increased posterior access
7. ISO tip size 17-45
8. Available lengths: 21, 25 & 29 mm

Keen to learn more?

A Novel Root Canal Preparation Technique Hybridizing Heat-treated Nickel-Titanium Rotary Instruments



Abstract

Aim

This study aimed to assess the potential of the hybrid heat treatment (HHT) technique for shaping severely curved canals.

Background:

This innovative HHT technique combines the use of both NiTi austenitic and martensitic NiTi files, with a simplified sequence, to properly utilize the different files' properties.

Case description:

The operative technique started with canal scouting and determination of working length using a size 10 SS K-file. Then, a specific sequence was applied using the F1 20.06v Ni-Ti austenitic file (EdgeTaper) for the preparation of the coronal and middle parts of the canal. This step was followed by S2 20.04 and F120.06v martensitic Ni-Ti files (EdgeTaper Platinum) to enlarge the canal until the apex reached. No intracanal breakage of any instruments or deformation of flutes was recorded.

Clinical significance:

The cases show the advantages of the newly proposed technique over a traditional approach to properly shape complex anatomies with only a few Ni-Ti rotary instruments number.

Conclusion:

The present study describes a new HHT technique aiming at simplifying procedures and taking most of the different characteristics of the different heattreatment; the clinical cases seem to show its potentialities in terms of safety, speediness, effectiveness, and preservation of original anatomy.

Keywords:

Endodontics, Hybrid heat treatment, Ni-Ti rotary instruments, Root canal treatment.

We believe premium technology shouldn’t have to come with a premium price tag.

Technology

Price

Performance