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TruNatomy™

Clinical cases and testimonials

True, Natural, Anatomy

Discover a solution that follows the shape of the various canals, preserving the natural tooth structure.[1]

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[1] Internal Data

THE DENTAL SOLUTIONS COMPANY™

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TruNatomy™

Table of cases

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TruNatomy™

TruNatomy™ is a comprehensive endodontic solution that offers:

- **Smooth feeling during preparation**
- **Improved performance and efficacy**[1]
- **More space for debridement and debris removal**[1]
- **Respect of the natural tooth anatomy**
- **Preservation of tooth structure**

TruNatomy™ combines Swiss precision with advanced engineering to offer the benefits of improved performance with increased respect of the tooth anatomy.[1]

TruNatomy™ has been developed with skilled practitioners, Dr. George Bruder and Dr. Ove Peters, leaders in the field of endodontics.

In this collection of testimonials, clinicians are sharing their experiences with TruNatomy™. From simple cases[2] to complex ones[3], TruNatomy™ is a solution that follows clinicians in their daily practice.

A design adapted to difficult anatomies
They found that TruNatomy™ was particulary well adapted to thin, curved and calcified canals[3,4,5] thanks to the increased flexibility, smaller MFD and design of the instruments.

Conservative and efficient
Their experiences highlight that the strength of the instrument lies in its ability to keep the tooth strength and integrity[4,3,6] while still allowing deep cleaning[2,3,6].

Smooth feeling and ease of use
The preparation is smooth and gives a feeling of satisfaction to clinicians[5,6].

A restorative pathway
They have been able to focus on dental structure preservation (e.g. peri-cervical dentin preservation) during both the endodontic and restorative steps to increase tooth longevity[3].

1 Compared to ProTaper Next*
2 Dr. Filippo Santarcangelo (S. 8)
3 Dr. Jonathan Cowie (S. 12)
4 Dr. Pradyumna D Joshi (S. 6)
5 Dr. Mauro Amato (S. 14)
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A clinical case by Dr. Pradyumna D Joshi

Acute apical periodontal abscess with narrow roots and calcified pulp chamber

About Dr. Joshi

Dr. P. D. Joshi graduated from Nair Hospital Dental College, Mumbai: BDS in 1980, MDS (Conservative Dentistry) in 1983. He is an eminent consultant endodontist practicing in Mumbai since 1980.

He offers his services as Head of the Dept of Dentistry and Hon. Consultant endodontist at Lilavati Hospital & Medical Research Centre. He is on the panel of Bhabha Atomic Research Centre as consultant endodontist.

Dr. Joshi runs his own private practice mainly focusing on micro-endodontics, implants & restorative dentistry for which he has taken training at various centers across world including University of Pennsylvania.

He runs his own endodontic training centre in Mumbai. He has taught at the University of Kebangsaan at Kuala Lumpur, Malaysia. He is an international speaker & lecturer in South Asia. He has published original research articles, and writes in many national and international journals.

About the patient

Male, aged 61
Tooth: 46 lower right mandibular first molar

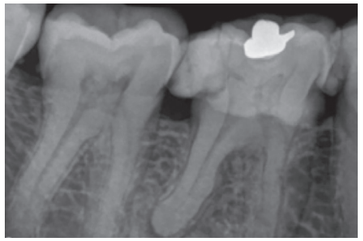
Chief complaint
Acute pain when biting and chewing

Notable dental history
Patient with hypertension but under control. Previously treated (endo, extraction). Periodontal condition: average.

Diagnostic findings
Cold test: negative
Percussion: 8/10

Diagnosis

Preoperative radiograph indicates a periapical lesion and a carious tooth. The roots were very narrow, the canal walls thickness were diminished and I feared that a greater taper instrument would weaken even more the tooth.



Preoperative radiographs

"I did not want to compromise the tooth strength and integrity"

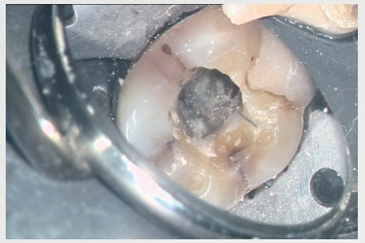
Treatment plan

Access opening performed with a round bur and modified with the EndoZ bur. Calcifications were removed thanks to an ultrasonic tip (Start-X™ #3).

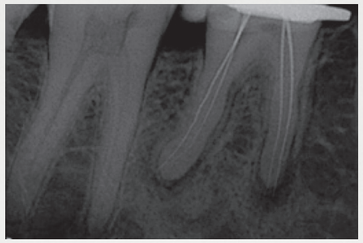
The TruNatomy™ Orifice Modifier was used to modify the 1/3rd of the canals and the initial scouting was done with a K-file #10; followed by TruNatomy™ glider, small and prime. The canals were obturated with appropriate GP cones and warm vertical compaction technique once disinfected.

Patient was given a temporary cement dressing prior to definitive restoration.

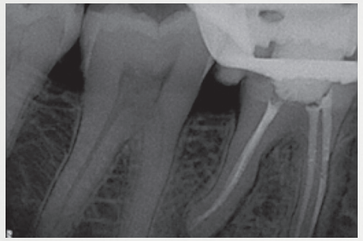
Core build up was carried out with a combination of SDR® and bulkfill. Patient was given a PFM crown in the following appointment.



Access cavity after the removal of the calcifications



WL radiograph



Post operative radiographs

Conservative shaping following a trauma

About Dr. Santarcangelo

Dr. Santarcangelo graduated from the University of Bari School of Medicine and Surgery in 1996.

He was trained in Endodontics by Dr. Arnaldo Castellucci' Postgraduate course in Florence.

He is an active member of the Italian Endodontic Society.

Speaker at numerous conferences and congresses in Italy and abroad.

Speaker at the AAE (American Association of Endodontists) in the San Diego 2010 and San Antonio 2011 editions, invited speaker in the Hawaii edition 2013.

Invited Lecturer at the Harvard University, Boston (USA).

Adjunct professor in Endodontics at the degree course in dentistry and dental prosthetics at the University of Padua.

Professor at the Two years Postgraduate course in Madrid (Spain), University Rey Juan Carlos.

He maintains a clinical practice limited to endodontics in Bari, Italy.

About the patient

Male, aged 55
Tooth: upper canine

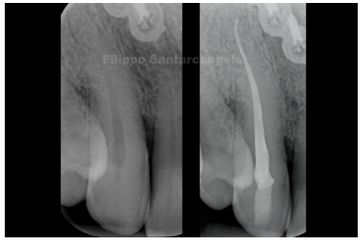
Chief complaint
None

Notable dental history
The tooh did not have caries but had become necrotic after a car accident. A metallic structure had been placed to stabilize the bone after a fracture.

Diagnostic findings
Cold test: negative

Diagnosis

Despite the X-ray appearance, the tooth is fragile. It lost its vitality after the trauma and this is synonymous of damage.



Pre and Post X-Rays
The Root canal anatomy has been perfectly respected and filled with warm vertical compaction with GuttaSmart.

"A simple but very significant case."

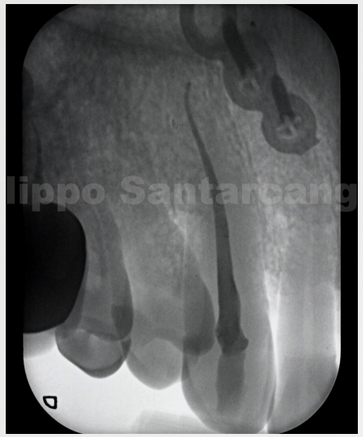
Treatment plan

The objective is to limit as much as possible extra damages:
A conservative shape is therefore needed .

The coronal third of the tooth is large by nature. Thanks to its slim design, the instrument did not enlarge unnecessary the coronal third .

The post operative X-ray shows that in the coronal third there was no shaping.

On top of being conservative, TruNatomy™ allows deep cleaning following the dedicated irrigation protocol.



The smooth curvatures of this canine were beautifully shaped by TruNatomy™, ensuring high respect of the original anatomy

"TruNatomy™ is conservative and still allows deep cleaning"

Symptomatic apical peridodontisis associated with irreversible pulpitis

About Dr. Ikram

Dr. Omar Ikram is a Specialist Endodontist and director of Specialist Endo Crows Nest in Sydney. He works as a senior Specialist at Sydney Dental Hospital.

In 1997 he completed his BDS at Otago University. His interest in Endodontics lead him to studying a Masters of Clinical Dentistry in Endodontology, at Kings Collage, UK and during this he gained the Membership of Restorative Dentistry, from the Royal College of Surgeons Edinburgh.

For his work in the wider dental community, he was inducted into the International College of Dentists in 2019.

About the patient

Male, aged 28
Tooth: upper first molar 26

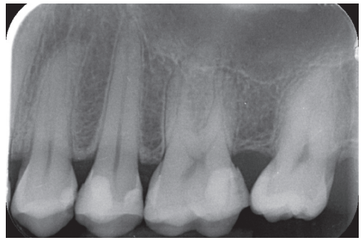
Chief complaint
Sensitivity to cold liquids on the upper left side of his mouth

Notable dental history
Caries associated with tooth 25. The tooth had been restored by the general dental practitioner, yet the sensitivity remained. A restoration in tooth 26 had been placed a long time ago.

Diagnostic findings
Cold test: positive
Percussion test: positive

Diagnosis

Symptomatic apical periodontitis associated with an irreversible pulpitis.



Preoperative radiograph showing deep restorations in teeth 25 and 26

Treatment plan

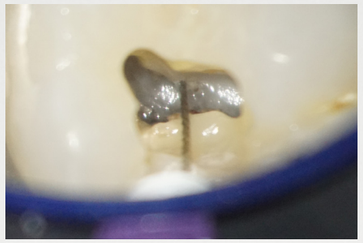
Root canal treatment of tooth 26, followed by restoration of the access with a core material. The patient was advised to have a full crown fitted by his general dental practitioner to prevent fracture, once tooth 26 had become asymptomatic, following root canal treatment.

The TruNatomy™ Prime (26/04v) was used to complete preparation of the mesiobuccal[1] mesiobuccal[2] and distobuccal canals.

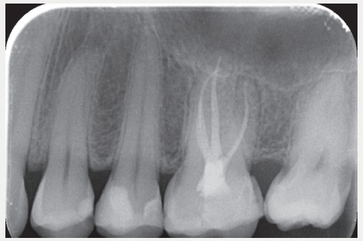
Due to the straight and wide anatomy of the palatal canal a ProTaper Next® X3 (30/07) was used to complete preparation. Irrigation was carried out using 6% sodium hypochlorite and 15% EDTA with the TruNatomy™ Irrigation Needle.

Activation of sodium hypochlorite, using the EndoActivator® was performed. Calcium hydroxide was placed in the canals and the access cavity closed with a base of Cavit in the pulp chamber and a glass ionomer temporary restoration.

4 weeks later, as the resolution of symptoms had occurred, it was decided that the canals could be filled and the core restoration placed. Phosphoric acid 37% was used to etch the dentin and Prime&Bond active® was applied to the etched dentinand cured, using the SmartLite® Pro. SDR® flow was used as a base over the gutta-percha and this was light cured. Composite was then placed in the access cavity, over the cured SDR® flow and light cured.



Location of all 4 canals in tooth 26 was possible with minimal loss of peri-cervical dentine



Postoperative radiograph showing satisfactory filling of the canals and restoration

A complex case with long roots and a calcified system

About Dr. Cowie

Jonathan Cowie is a Specialist Endodontist working in private practice in Bath, UK.

He has worked in endodontic referral practice for the last decade and completed both a Diploma in Endodontics at The Royal London Hospital and subsequently Specialist Endodontics Training at Kings College, London.

Alongside his clinical work, Jon is a very active educator. He runs many hands-on courses through his joint education venture, Contemporary Endodontics and teaches as a clinical demonstrator on the MSc in Endodontics at Kings College, London. The hands-on courses always focus on restoratively driven endodontics and the key philosophy of dentine preservation.

Jon and his colleague Luca Moranzoni were one of the first clinicians to put together training for dentists showcasing the end-to-end endodontic-restorative workflow in these intensive short courses.

About the patient

Male, aged 48
Tooth: Lower molar (LL6)

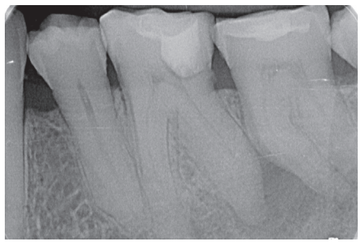
Chief complaint
Discomfort on biting from the lower left first molar (after having an acute flare-up with swelling).

Notable dental history
None

Diagnostic findings
Tenderness on palpation and on percussion but no mobility.

Diagnosis

Periapical radiolucency associated primarily with the distal root and loss of lamina dura on the mesial root.



Preoperative radiograph

"TruNatomy™ respects the anatomy without compromising the ability to irrigate."

Treatment plan

Access cavity approach with a leveraged access utilising the distal restoration to gain access preserving mesial pericervical dentin.

Instrumentation with TruNatomy™ files in a conventional approach.

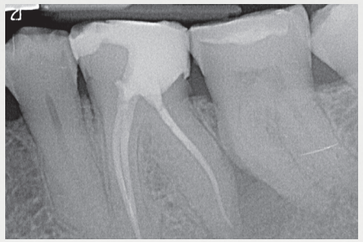
Irrigation with 5.25% Sodium Hypochlorite throughout the procedure with the TruNatomy™ Irrigation Needle

Obturation with TruNatomy™ Prime GP and AH Plus®. Warm vertical compaction technique.

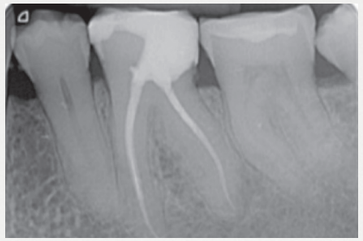
Direct restoration using Palodent® Plus Matrices, SDR® and Ceram.x Spectra™ ST.

TruNatomy™ was chosen in this case to allow a caries leveraged approach and a focus on pericervical dentin preservation especially on the mesial aspect where the tooth had a more minimal restoration.

The 14 months review confirmed the success of treatment. Final restoration with a ceramic onlay with margin elevation to again minimize the impact of dentin preparation that would reduce the thickness of dentin at the base of the cusp.



Post operative radiograph



14 month follow up showing resolution of the periapical radiolucency

"A patient and process centered success."

Shaping long curved and thin roots

About Dr. Amato

Dr. Mauro Amato graduated in dentistry from the University of Basel in Switzerland. He works as a senior physician at the Department of Conservative dentistry with a focus on endodontology and is involved in teaching and research in addition to patient treatment.

He is a lecturer at various Endo Curricula in Germany and gives advanced training courses with a focus on endodontology.

He has been a board member of the Swiss Society of Endodontology (SSE) since 2014.

2005–2011 Assistant and research assistant with focus on Endodontics at the Clinic for Periodontology, Endodontology and Cariology, University of Basel (Prof. Dr. R. Weiger).

2011 Dissertation on root canal irrigation.

Since 2015, he has been a member of the Basel Dental Trauma Centre.

Today he works in his private clinic in Basel, Switzerland.

About the patient

Female, aged 46
Tooth: Lower first molar

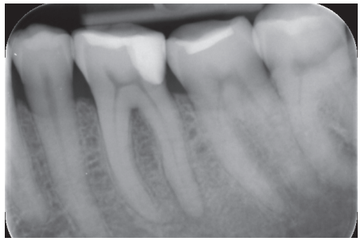
Chief complaint
Constant pain

Notable dental history
Deep filling a few years before

Diagnostic findings
Cold test: overreacting positive
Percussion test results: positive
Palpation test results: negative

Diagnosis

Acute pulpitis



Preoperative radiographs

“TruNatomy™ is a conservative and flexible root canal shaping system: a larger tapered instrument would have weakened the tooth.”

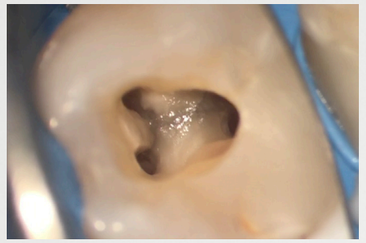
Treatment plan

Conservative access cavity followed by the TruNatomy™ sequence (Orifice Modifier, Glider and Prime).

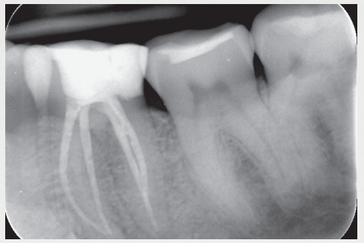
Irrigation with TruNatomy™ Irrigation Needle and ultrasonic irrigation.

Obturation using single cone without a post.

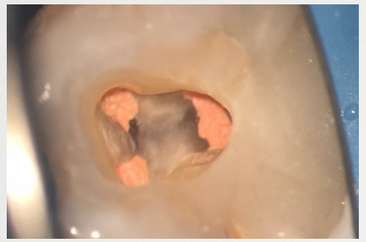
Restoration using an adhesive filling.



Root canals with a conservative access cavity



Post operative radiograph



Root canals filled

“The preparation is smooth and I like the way the instrument works in the root canal.”

Conservative management of a premolar with Irreversible Pulpitis with narrow roots and multiplanar curves in bucco lingual direction

"The irrigation needle is a game changer in conservative canal preparation."

About Dr. Vyas

Dr. Krishna Vyas is a distinguished Endodontist & Smile designer from Central India. She got her bachelor of Dental Surgery from prestigious SDM Dental College in India and practiced general dentistry for 5 yrs.

Thereafter, she went on to do masters in Endodontics and restorative dentistry and attained her MDS degree in 2011 bagging a Gold medal.

Since then she does specialty practice focusing on Micro Endodontics and Smile enhancement.

She is Director of Vyas Dental Inn and Raipur Multispeciality Dental Clinic, Research centre and Endodontic training centre with in-house CBCT facility.

She is also involved in teaching as an associate professor at Maitri Dental College, Durg, India. She empowers fellow colleagues with her Youtube channel where she posts educational videos. To her credit, she has won several awards including "Highly Commended Outstanding Dentist of the Year" Famdent Award in 2017.

About the patient

Female, aged 41
Tooth: Maxillary left 2nd premolar.

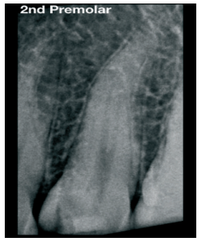
Chief complaint
Pain in left upper back region of jaw

Notable dental history
Restoration done a few years before

Diagnostic findings
Inspection: mesial deep decay
Percussion test: positive
Cold test: positive with extreme sensitivity.

Diagnosis

Symptomatic apical periodontitis associated with Irreversible Pulpitis in relation to Max. Left 2nd premolar



Preoperative radiographs

Treatment plan

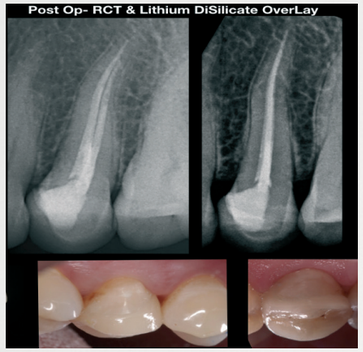
Root canal therapy and cuspal coverage in a conservative approach.

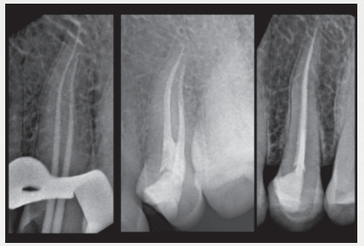
Treatment: Caries driven access cavity prepared; deep isthmus refined with Start-X™ No3 ultrasonic tip. Buccal and palatal canals were located, and manual glide path achieved with #8 followed by #10 hand files with the help of Glyde chelating agent. Both the canals were multiplanar in bucco lingual direction, which could not be seen in 2D radiographs. TruNatomy™ file system was used with the sequence of 3 files. Orifice modifier (#20.08v) followed by TruNatomy™ glider (#17.02v) to achieve mechanical glide path and

TruNatomy™ Prime (#26/.04) for shaping the canals. Continuous irrigation was done with sodium hypochorite throughout the instrumentation with TruNatomy™ Irrigation Needle and finally liquid EDTA, activated with endoactivator sonic device and obturated in the same visit.

Direct composite post endo restoration done and finally LithiumDiSilicate all ceramic cuspal coverage overlay was bonded to reinforce the tooth in a conservative approach.

Thanks to the pretreatment planning of access cavity, I have been able to preserve a healthy crown structure and structural root dentin integrity with the objective of long term tooth survival.





Post Operative radiographs with multiplanar in bucco lingual direction

"TruNatomy™ system is safer, simpler, faster and effective."

Coronal fractures of lower anterior teeth

"My objective was to be as gentle as possible on the dentin, yet still offering a proper disinfection in order not to endanger the stability of the teeth."

About Dr. Radmacher

Dr. Uwe Radmacher graduated in 1992 from Johann Wolfgang Goethe-University in Frankfurt where he studied dental medicine.

1995–1996 Oral surgical training with a registered surgeon.

1996–1997 microsurgical education PSI 1-3.

1995–2011 private practice Lampertheim / Südhessen and Mannheim.

Main areas: Endodontology, Microsurgery, guided Implants, high end prosthodontics.

Since 2012, he has been working in his private practice in Mannheim.

He presented various national and international lectures, workshops, publications on various topics in the field of endodontology, guided implantology, bone replacement, 3D dentistry, CAD/CAM and prosthodontics.

About the patient

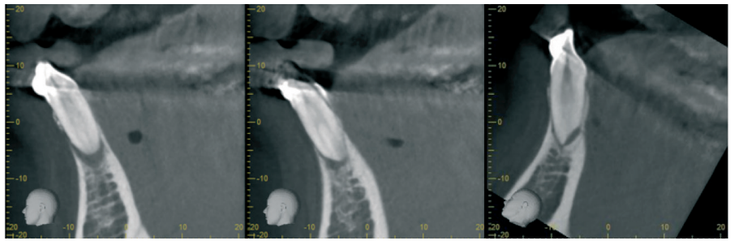
Female
Teeth: lower anterior (41, 31,32)

The patient presented in the practice after rough contact with an antenna of a military vehicle and primary treatment after maxillary fracture with osteosynthesis plates and the loss of 3 maxillary anterior teeth. The lower anterior teeth 41,31,32 were coronally fractured, built up with composite, avulsed, repositioned and stabilized with splinting for approx. 4 weeks.

Diagnosis

To avoid any bad surprise during the treatment, canal length and depth of the beginning of canals were determined in advance thanks to CBCT.

Lengths were constantly monitored with an electronic apex locator.



Preoperative CBCT

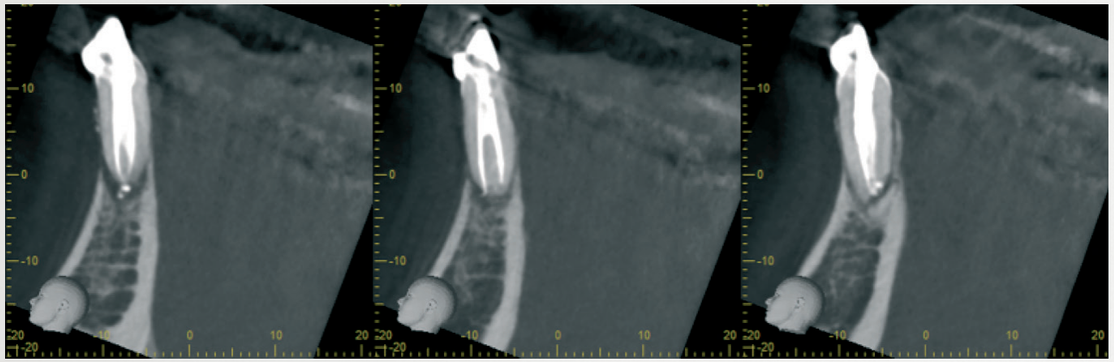
Treatment plan

After initial preparation with the Orifice Modifier, which extended the inputs to a maximum of ISO 80 instead of the usual ISO 120, the glide path was prepared manually with a Profinder hand instrument ISO 10 and then extended mechanically with the glider.

The preparation was performed with the TruNatomy™ prime 26/04v file.

At 31, the fracture site was prepared with the TruNatomy™ medium 36/03v and the fractured root tip was left. Irrigation was done with the TruNatomy™ Irrigation Needle and allowed even in this narrow preparation to bring Sodium hypoclorite in sufficient volumes in the apical area. The solution was activated with the EndoActivator and the SiroLaser Blue to increase efficiency.

Each tooth was filled and sealed using the warm vertical technique. AH Plus® was used as a sealer, and a bioceramic sealer was used on tooth 31.
The teeth were then restored with the dual cement core-X® flow and the splint was removed. The patient was already pain-free immediately after the treatment.



Postoperative CBCT

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ZKD / B EN TNMY BRC 002 / 00 / 2021 – created 01/2021

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Irrigation Needle

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