The new Swiss Endo Academy Training Centre

FKG Dentaire is proud to announce the opening of its new Training Centre in Dubai

By FKG Dentaire

FKG Dentaire SA (La Chaux-de-Fonds, Switzerland), leader in innovation and production of high-tech rotary Ni-Ti systems, is highly committed to worldwide Continuing Education for dentists.

After having set up its Training Centre in 2014 (Swiss Endo Academy), based at the company’s headquarter, FKG Dentaire is proud to announce a new Continuing Education Centre, located at its representative office, FKG Dentaire DMCC (Dubai, UAE).

This Centre exhibits the latest generation of high-end equipment (operating microscopes, phantom heads,…) and offers a real simulation laboratory, allowing general dentists and specialists, to enhance their clinical experience while exposed to the latest endodontics Ni-Ti systems, more particularly to 3D Ni-Ti treatments range: the XP-Endo® sequence.

The centre of the Swiss Endo Academy in Dubai has been inaugurated on February 5, just before the AEEDC congress, in the presence of the top management of the mother company and the entire IMEA team of FKG Dentaire.

Training table with 24 seats, monitors, FKG training kits, Endo motor and Apex Locator, Labomed Microscopes, Phantom Heads, Surgery LED lights, Dental Stools

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Internal resorption treatment using MTA-based endodontic sealer

Clinical Case Report

By Dr. Fábio Duarte da Costa Aznar, Brazil

Male patient, 32 years old, presented with clinical classification of pulp necrosis of dental elements 11 and 12 (Fig. 1), associated with the presence of internal resorption, being subjected to endodontic treatment on both elements. He reported a history of dental trauma in childhood, and had previously undergone an urgent intervention in element 21 by another professional, due to edema and pain in the apical region. Due to the presence of fistula in this region, it was traced and found to originate from dental element 21 (Figs. 2 and 3).

After the initial approach of the patient, he was anesthetized and absolute isolation was prepared. Afterward, the coronal access was made, during which the pulp necrosis of both teeth was clinically identified. A crown-down disinfectant penetration was done, using NaOCl at 5% as an irrigating agent, with obturation performed by the X-ray method (Fig. 4) due to the infrequency of using a foraminar locator in these anatomical conditions, which could influence its precision. The preparation was done by the step-back preparation technique, using K Files (Maillefer/Switzerland) and NaOCl 2.5% as an irrigating agent, seeking to dilate the whole root canal formation. With each change of instrument, ultrasonic irrigation was done with smooth inserts (Reaxis/Relief/Brassler) using the PUI and CUI concept (Fig. 5). As a complement to the intra-canal decon- tamination process, two fifteen-day exchanges of calcium hydroxide were done (UltraCal/Unicore/ USA), also aiming at analysis of the quality of cleaning obtained in the area of resorption by the radiopac- ity of this medication (Fig. 6).

The obturation was done using the Tagger Hybrid thermome- chanical technique (Figs. 7 and 8), through the use of Guttaconden- sor (Maillefer/Switzerland), cones of TP gutta percha (Dentsply/Bra- zil), and Fillapex MTA-based sealer Angelus/Brasil (Fig. 9). After the thermocompaction, the cut of the obturation, vertical condensation with the use of CCL, cleaning of the pulp chamber, and immediate pro- visional restorations were done (Fig. 10). The sealing of the ramifications and resorptive areas was observed radiographically, as well as the presence of silent postoperative pain.

The preservation was done after three months. It demonstrated re- sorption of the Fillapex sealer and new bone formation in the apical region of both teeth (Fig. 11).

Interview: “Endodontic treatment is an invaluable therapeutic technique”

By DfR

From 4 to 7 October, the world of endodontics will be meeting in the South Korean capital of Seoul for the 13th International Federation of Endodontic Associations (IFA) World Endodontic Congress (WEC). In light of the event, which has attracted dental professionals from all around the world for many years, Dental Tribune Online spoke with IFA WEC 2018 Chairperson Dr Andy Euiseong Kim.

Dr Kim, how would you describe your experience as chairperson of the IFA WEC 2018 Seoul local organising committee?

First of all, it is my great honour and privilege to act as chairperson of the local organising committee. I’ve learnt so much while preparing for this gathering. I would like to express my sincere appreciation to everyone for the support they’ve shown us so constantly. I feel so blessed, and it could not have been done without that cooperation and support.

Second, I have been pleased to see Korean dentists demonstrating their excellent capability. They perform excellent endodontic treatment, even in poor environments, and all the techniques of endodontic treatment are controlled under the government-led health insurance system. I can confirm that these researchers are conducting world-class research. Finally, it has been a valuable experience to feel the unity of the members of the Korean Academy of Endodontics.

The theme of this year’s meeting is “Endodontics: The utmost values in dentistry”. Can you explain what is behind this and how you identify with it?

Endodontic treatment is an invaluable therapeutic technique. We can keep natural teeth healthy. The reach of its use depends on the country, and I have felt sorry that endodontic treatment has been more neglected than other fields, given its importance. We have various difficulties, especially with the limited choices for dentists, because of the government’s medical insurance system. With this point of view, we came to the idea of going back to the basics and asked ourselves a fundamental question: what is most important for national oral health? A healthy build- ing may be nice to look at, but it will not last long if the groundwork is not done properly. Likewise, our efforts to keep our natural teeth healthy for the patient should never be underestimated.

Why do you think meetings such as the IFA WEC are important for the endodontic community?

This is an absolutely necessary meeting. The American Association of Endodontists meeting, and the WEC of IFA are the standard meetings of international endodon- tic societies, but while the meetings arranged by the first two associations are locally constrained, the IFA gather- ing is the only academic congress that covers international endodontic treatment. Memberships of IFA con- tinue to increase, and 36 countries have enrolled in IFA as member countries.

It is natural that there’s level of dif- ference depending on the country, and I believe everyone will level up through this kind of meeting. By doing so, we can contribute to the posi- tive development of human beings, which is IFA’s primary value. Also, the meeting promotes fellowship among endodontists and exchange of experiences and ideas. We will maximise synergy in our field by sharing information with one an- other.

What are your expectations/hopes for the meeting, and what are you most looking forward to personally?

I am so excited about the meeting. The largest number of participants of all the past IFA WECs will come to Korea from 70 countries all over the world. Personally, I am thrilled to meet endodontists from all over the world. I know that it will be a wonder- ful experience to meet participants from far away and from closer to home. Furthermore, I hope that IFA will continue to grow into a global organization representing the whole world.
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Diagnosis and Outcome in Endodontics in the 3D Imaging era

Professor Francesco Mannocci, specialist in endodontics and restorative dentistry, discusses how 3D Imaging is streamlining the endodontic workflow.

**By Dentsply Sirona**

In recent years, a team at King’s College London has completed a number of clinical trials highlighting the importance of CBCT (Cone Beam Computed Tomography) in diagnosis and outcome assessment in endodontics. As endodontists, we are all now familiar with the benefits of using CBCT scans to identify where the problems are within the tooth. We use this technology to help us view trauma such as tooth fracture or examine where a root canal treatment has failed.

It is well known that the presence of radiolucencies at the apex of a root is symptomatic of endodontic infection such as granulomas or cysts. In the majority of endodontic cases, the assessment of outcomes is reliant on the detection of these apical radiolucencies or exposing any change in their size.

A radiographic technique (CBCT) demonstrates far better sensitivity and specificity at detecting radiolucencies than traditional periapical radiographs. With periapical radiographs, it has been demonstrated that the number of roots cannot be seen clearly, so we are not just missing radiolucencies at the apex of the root, but missing entire root canals. It is important to remember that the radiation dose delivered to the patient must also be considered when assessing treatment modalities. A periapical radiograph delivers 0.14% of annual background radiation, rising to 0.2% with panoramic, whilst a conventional CT scan delivers 35%. A small field of view CBCT scan delivers barely 0.5%, which although around 7 times higher than a traditional scan, is in fact, much less than taking a long-haul flight, say from Paris to Tokyo, that delivers 4 times this radiation dose.

Preserving the vitality of the pulp helps to preserve the structure of the tooth, thereby improving the healing process. Indirect pulp capping and we can use CBCT to help determine when indirect capping is likely to be a success or failure. Indirect pulp capping guided by CBCT can help avoid the loss of tooth structure, significantly improving the success rate of this procedure and potentially increasing the chances of survival for the tooth.

We can now also use CBCT in the actual design of root canal treatment, effectively planning access to the pulp chamber, and 2017 sees the launch of 3D endo, a new software by Dentsply Sirona, which will improve individual treatment planning using CBCT. This software will help us to visualize the direction and position of the canal and the ideal shape of the access cavity. 3D endo enables the user to isolate the tooth being treated and locates the orifice and apex of the canals. This makes it possible to add more points to the computer image, resulting in more precise tracking of each individual canal, no matter how curved they may be. The final 3D representation can be rotated 360° and allows us to determine the working length, analyze the natural shape of the canal and select the appropriate file using the integrated file database.

In root canal treatment, there is always a need for strict infection control to prevent bacteria getting into lesions and creating infection that can lead to failures. A tight coronal seal is especially important to prevent bacteria penetrating the tooth at a later stage. The tooth is partially damaged it is more difficult to achieve an adequate coronal seal and makes the tooth more prone to failure through bacterial infection. CBCT imaging plays a vital role in such cases, as these teeth are likely to be more prone to small cracks and fractures which are difficult to detect using traditional scanning methods.

**IN CONCLUSION**

- In diagnosing external/internal resorption.
- In diagnosing traumatic injuries of teeth.
- In the assessment of endodontic outcomes in the context of clinical trials.
- For pre-surgical assessment.
- In detecting small radiolucencies in teeth with deep caries.
- As a pre-treatment radiograph before the endodontic treatment of molars, lower incisors and retreatment of premolars.
- For looking more closely at the loss of tooth structure and the success of root canal treatment.

**Complex cases, nothing left to hide?**

The first CBCT based software designed to improve endodontic treatment planning for more predictability.

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**AD**