Transparent teeth: A powerful educational tool

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Since the early days of dentistry, dentists have explored the morphology of the internal root anatomy. From the pre-X-ray period to the technological present, the study and examination of the root-canal system has become an obsession for endodontists. Several methods such as radiographic, histological examinations, and observations under dental operating microscopes are performed to light up the dark confines of the dental pulp.

The tooth-clearing technique

Over the last 100 years, the tooth-clearing technique was utilised in human dental pulp morphology studies, as it provides a 3-D view of the pulp cavity in relation to the exterior of the teeth and allows a thorough examination of the pulp chambers and root canals. It was also utilised in the study of apical leakage. Today, the clearing technique remains useful not only as a teaching and research tool, but also for the study of internal root morphology.

The clearing process consists of three basic steps: demineralisation, dehydration, and clearing of the root structure.

Sample preparation

- Store extracted teeth in 10% formal saline until use.
- Scale calculus and any remains of periodontal tissue.
- Decorate samples and negotiate canals with a #10 file (this will enhance acid penetration).
- Store samples in 4.2% NaOCl solution (the organic tissue removal can be enhanced by placing the solution with the samples in the Ultrasonic Cleaner for 20 minutes).
- Wash under running water and dry.
- Indian ink can be drawn through the root-canal system by applying negative pressure to the apical end.
- Dipping the samples in xylene.

About the author

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Trends & Applications
Imparting knowledge, creating knowledge!
Opening of the “AG training center Middle East” in Beirut

“Being a pioneer in innovation” - that’s not only the motivation of AmannGirrbach but also of the Antonine University in Beirut as Father Antoine Rajeh, President of the Antonine University, pointed out in his inaugural address at the opening of the “AG training center” on 22 of October in Beirut. The long guest list including ambassadors, agents, presidents of the syndicate, directors, dealers, trade unionists and students left no doubt that this important event was a tremendous step for the Antonine University and moreover for the future of the dental industry in the Middle East.

AmmannGirrbach is one of the leading companies in the dental sector. The company, which arose out of the merger of the companies Amann and Girrbach Dental, is based in Pforzheim, Germany, and Koblach, Austria with an independent company in Tampa, in the USA.

The University’s CAD/CAM chair now functions concurrently as an official training center of AmannGirrbach. True to the motto “imparting knowledge, creating knowledge” and as an absolutely unique aspect the project combines business and science. Students of the Antonine University and participants of AG trainings will take technical and business knowledge, knowledge that they will have experienced live, discovered for themselves and learnt intensively.

Provided with updated products of AmannGirrbach, the training center offers 10 working stations, ideal conditions for training sessions, exchanging knowledge and learning more about dental technology.