Many changes have occurred in endodontics during my career. I remember when it was considered necessary to culture root canals and ensure no organisms were present in the canals before filling them. Silver points were considered state-of-the-art not too many years ago. Patients dreaded the pain associated with root canal therapy, which was present on a regular basis. You and I still hear laypersons relate anything bad with “having a root canal.” Rapid and frequent changes have come about, and the acceptance and predictability of endodontic therapy in the United States has improved significantly. Most of the past problems and challenges present in endodontic therapy have been overcome. In spite of the limited scope of endodontics, the American Dental Association has recognized it as a dental specialty.

Endodontics is a major part of dental practice, comprising a significant portion of income in the typical general dental practice. It is well recognized that general dentists accomplish the majority of this therapy. Endodontists are involved primarily with the most difficult endodontic procedures, retreatment of previously treated teeth, treatment of patients referred by dentists who do not do endodontic therapy, and teaching. This article will discuss the current state-of-the-art techniques and appliances in endodontics and make suggestions about the technical and practice administration aspects of this area of dentistry.

ENDODONTIC THERAPY SKILLS OF NEW DENTISTS

It has been my observation that most new dentists entering practice at this time have adequate skills in simple endodontic therapy for single rooted, anatomically average teeth. Some have gained minimal ability and experience with multi-rooted teeth. This level of skill meets the needs of a limited percentage of the dental public. Since the majority of endodontic therapy is not difficult, most interested dentists progress rapidly in their abilities to treat most endodontic needs.

Education about surgical procedures, including apicoectomy is lacking in some educational programs for pre-doctoral students. Again, interested new dentists learn these relatively simple procedures soon, and incorporate them into their practices.

CROWN-DOWN TECHNIQUE

A few years ago several endodontists pioneered a new technique that reduced the number and shape of files and significantly simplified the endodontic procedure. Root length was determined first, and root canal filing starts coronally and progresses apically. Rotary instruments, long shunned by the endodontic community, have become a routine part of this procedure. Those dentists who have changed to the crown-down technique claim that this concept has decreased the time necessary to accomplish routine endodontic procedures by as much as one-half when compared to previous techniques. The predictability of the crown-down technique has been reported to be significantly better than previous techniques. Dentsply Tulsa Dental Products has led the manufacturing world in purchasing, developing, and providing the supplies and equipment to accommodate this concept to the dental profession. I strongly suggest that those dentists accomplishing endodontic therapy change to the crown-down procedure.

APEX LOCATORS

The concept of finding the apices of teeth using differences in electrical resistance of tooth structure, bone, and soft tissue, has been slow to evolve into dental practice. The first devices to accomplish this task were invented several decades ago and had many limitations, but the newer instruments have been well accepted by most of the dentists who have purchased them.

A product that has achieved significant popularity because of reliability and ease of use is the Root ZX by J. Morita. The newer devices have been designed to reduce or eliminate the previous frustrating false recordings caused by presence of electrolytes that conduct electricity.

MICROSCOPES USED IN ENDODONTIC THERAPY

In past decades, dentists felt lucky to find the canals in some difficult teeth. However, with the advent of microscope use in endodontics, clinicians are able to locate canals better than ever before. Because of the limited working area of a given endodontic procedure, microscope use simplifies this procedure. When a canal is found, the clinician needs only to focus up and down to travel down the canal in a well-lighted field.

Some dentists experienced in endodontics do not feel use of a microscope is necessary, and the success of their procedures would seem to validate their beliefs. But the majority of dentists who have started to use microscopes have found them to be valuable adjuncts to endodontic practice. Global Surgical Corporation has been a leader in promoting microscopic use for endodontics.

POSTS

This subject continues to be controversial. In recent years there has been a tendency to use posts less in root canal chambers, and to use flexible posts. As with any change, there has been opposition and controversy expressed on the topic. Reading some of the literature on the subject can be confusing. Many of the research projects have been in-vitro and have questionable clinical relevance. In spite of the continued need for evidence-based practice, the fact is that few research projects have even considered all of the factors related to posts, and very few researchers have had the needed years of clinical experience and observation of success and failure related to posts to make valid clinical conclusions.

After accomplishing about 40,000 crowns myself, with a significant percentage of the teeth under them having required...
endodontic therapy, I have made the following conclusions about endodontically treated teeth for my own practice based on a combination of research and many years of clinical experience:

- Abutment teeth for fixed or removable prostheses should have posts.
- Teeth in heavy occlusion, including bruxers and clenchers should have posts.
- Teeth with more than one-half of the coronal tooth structure missing should have posts.
- Teeth with nearly all or all of the coronal tooth structure missing should be extracted, or in rare cases should receive orthodontic extrusion and posts.
- Titanium or titanium alloy posts are the current choice for teeth requiring additional strength.
- Nickel-chrome posts should be avoided because of the allergic potential.
- Currently popular flexible resin reinforced posts have great tensile strength but they provide little lateral resistance to breakage. Flexible posts may be desirable in athletes because of the expectation of facial trauma.

- Teeth with most of the coronal tooth structure remaining usually do not require posts, but they serve longer without breakage when crowns are placed instead of intracoronal restorations.
- The majority of moderately broken-down endodontically treated teeth serve longer with posts and subsequent crowns on them.

**DIGITAL RADIOGRAPHY**

Two areas of dentistry benefit most from digital radiography, because of the immediacy of the image. These areas are implant surgery and endodontic therapy. I suggest that those practitioners accomplishing significant numbers of endodontic procedures invest in digital radiography. This concept will decrease the time for endodontic procedures, and will increase the quality of the endodontic results.

**COST OF ENDOdontIC THERAPY**

The majority of endodontic therapy is relatively easy to accomplish, yet endodontic fees are among the highest of all dental procedures in the United States, and they are the highest endodontic fees in the world. Millions of people need endodontic therapy, and many cannot afford it. May I suggest that good judgment be used when setting endodontic fees? In my opinion, all dental fees should be based on time involvement and difficulty. When an endodontic procedure or any other dental procedure is more simple or complex than normal, set the fee accordingly.

**SUMMARY**

Endodontics has progressed fantastically in recent years. The predictability, speed, and ease of these procedures have increased at a rapid pace. Practitioners who have not changed their endodontic procedures need to update themselves about the new concepts that are now available. With the changes in techniques, the quality of service to the public has increased significantly. Endodontic procedures comprise a significant percentage of income for typical general practices, it is logical that the need and demand for endodontic services will continue to grow.

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Practical Clinical Courses offers a recently made video, C-100A – “Posts & Cores for All Situations”, that demonstrates new techniques and answers questions for the new concepts in posts. Contact us at (800) 223-6569, (801) 226-8637 FAX or visit our website at www.pccdental.com.