RUDDLE ON
The Radar

Endodontic controversies

Never before in the history of endodontics have dentists had the capacity to do so much with such predictability. This enormous potential for success may be attributable to the fact that rational treatment approaches are available, precise treatment techniques have been perfected, and success rates approaching 100% are attainable. Yet, the dominant clinical reality is that the best that endodontics has to offer is only sporadically performed in everyday practice.

The concepts we believe, armamentarium we select, and techniques we utilize to perform endodontic treatment are directly related to where we were trained, who trained us, and our accumulating post-dental-school experiences. This background can be summarized by the expression, "Who you are is where you were when." Another significant factor that serves to influence endodontic outcomes is the gold-standard mandate to practice in accordance with the best available evidence. Even though most dentists practice endodontics utilizing the newer technologies, many dentists rely on information published in peer-reviewed journals to guide their clinical actions.

Regrettably, so many of the published so-called evidence-based articles have generated an abundance of misinformation, misconceptions, and perpetuated endodontic myths. The reasons we have so much clinical misinformation in the peer-reviewed literature is directly related to the era of publication, study design flaws, ignorance, or, at times, bias-driven results that border on scientific misconduct. As an example, many of the frequently quoted peer-reviewed clinical articles were published prior to the introduction of microscopes, ultrasonic instrumentation techniques, NiTi files, MTA, CBCT, or advancements in disinfection methods and endodontic materials.

By perusing the peer-reviewed clinical literature, one will note there is no consensus on virtually every procedural step that comprises start-to-finish endodontics. To support this assertion, consider the following. There is no agreement regarding the best and most reliable diagnostic schemes. We do not agree as to the size of the access cavity for any given tooth; yet, canals are frequently missed, and restrictive access preparations lead to many subsequent iatrogenic events. We do not agree on the sequence of the preparation, glide path management, working length, patency, shaping files or sequences.

There is great controversy on how large to prepare the apical foramen, the importance of deep shape, or how apical one-third taper directly influences 3-D cleaning and filling root canal systems. Critical for fulfilling disinfection protocols are the intracanal irrigants; yet again, there is no consensus whatsoever on the frequency, volume, strength, temperature, or time required for any given reagent to fulfill its intended purpose. There is growing debate and confusion regarding the critical factors that influence disinfection, such as active vs. passive irrigation, sonics vs. ultrasonics, hard- vs. soft- tissue lasers, and the efficacy of many of the most recently released products.

We have no agreement on the best methods for filling root canal systems, including cold lateral vs. warm vertical, gutta percha vs. Resilon®, carrier-based filling methods, and best sealers. We have no consensus on the most proven materials and procedures to achieve the coronal seal post-endodontics. When an endodontically treated tooth fails, we have no agreement whether to nonsurgically re-treat, perform surgical correction, or extract. The debate on endodontics vs. implants becomes foolish if the treatment choice is actually based on what is ethically best for the patient. Good or bad, the treatment plan communicated to the patient is largely influenced by our own judgment, training, and experience, or is at times financially motivated.

This editorial is not intended to disparage research and the quest to produce meaningful evidence-based clinical articles or to berate endodontic educators who deliver vastly different messages. Rather, this editorial is written to bring attention to the question: How does a dentist choose best clinical practices? Most of the great changes that have served to positively influence clinical endodontics have been validated through long-term observations by countless dentists who have performed endodontic treatment on hundreds of millions of teeth. This vast body of international work provides a level of evidence far more reliable than much of what has been published. Additionally, think about all the products, instruments, and techniques that have received massive marketing hype and passionate speaker support, yet have abruptly left the market or quietly faded away.

It is normal to have disagreements, but our disagreements should not create a different kind of endodontics where the potential for success is diminished. How we see endodontics is dominantly filtered by our own experiences. We need to appreciate that experience is not good or bad; rather, it just is. Ideally, experience would allow us to measure results, make adjustments as necessary, and move progressively closer to our full potential. Regrettably, experience can be bad if we continue to practice endodontics utilizing concepts that are incongruent with the biological and mechanical objectives for predictably successful results.

Endodontic controversies are normal and frequently require dentists to hold two or more conflicting ideas simultaneously. There is an expression, "Model success; success leaves clues." Predictably successful endodontics does, in fact, leave clues; when recognized, these clues can help guide you through the gateway to enlightenment. Importantly, on your journey, be sure to keep common sense on your radar. EP

Clifford J. Ruddle, DDS, FACD, FICD, is founder and Director of Advanced Endodontics (www.endoruddle.com), an international educational source, in Santa Barbara, California. Additionally, he maintains teaching positions at various dental schools. Dr. Ruddle can be reached at info@endoruddle.com.