

Digital Convergence Standardized Reporting Format for Endodontic Treatment

Part of the difficulty with the science of endodontics is that the specialty, like so many others, is guru-driven. North Americans have one philosophy, Europeans had another. Warm vertical advocates battled with the cold lateral proponents. The patency advocates saw no problem with an apical puff while others half way around the world worried about getting sued for exactly the same violation of the biologic space. Single appointment advocates fought with multiple appointment advocates.

As the world moves to digital convergence, the time has come for endodontics to seriously look at a report format that allows rudimentary comparison of the results of treatment. Dr. Shimon Friedman's analysis of 40 years of endodontics shows that although we believe that we are doing a better job in Endodontics, the statistics simply are not there to validate the statement. Success rates have remained surprisingly static during that time. When Dr. Friedman reviewed the literature, few studies could qualify for proper consideration. The primary problem with the more accepted studies was the sample sizes were simply too small, calling into question the validity of the conclusions.

Serious researchers seem never take clinicians seriously because of the lack of "controls" that cannot occur in private practice. Private practitioners will continue to regard serious research with a jaundiced eye because most of the research is not done "in the trenches". Private practitioners say "I do it every day" and researchers respond with "You need evidence based studies." Until this chasm is bridge, there will be no resolution between the two sides. As long as neither group takes the other seriously, the means of assessing the efficacy of clinical endodontics will be indeterminate.

As clinical practice becomes increasingly digitized, perhaps it is time to structure a Nexus and develop a standardized reporting format that would address this problem. The form would incorporate digitized pre, post op and recall images. The basic information would be included such as:

1. Initial Diagnosis_____
2. LEO present Y/N
3. Number of treatment appointments_____
4. Ca OH used inter-appointment? Applied with_____
5. Instrumentation technique – e.g./ Hand files with step back, Rotary Ni-Ti crown down etc.
6. Method of WL confirmation – Film/EAL/Paper points etc.
7. Irrigants used & %s.
8. Obturation Method
9. Obturation material & Sealer type
10. Obturation location – ie/ short/RT/Long
11. Orifice Bonded?
12. Restored at time of treatment or temporized
13. Recalls performed?

Numerous other areas can be included. The form should be limited in size to encourage compliance and available on the Internet at a central database. Space for notes can be structured to make even unexpected complications a valuable component of the research. The idea would be to provide a means for clinicians to describe how the case was done, to provide radiography to facilitate case assessment and to create a database of cases that allow rudimentary comparisons.

Surely a path can be found that addresses the contributions of practicing clinicians in the analysis of endodontic results. Otherwise, the gulf between pure science and practical clinical experience will remain. This distance will forever be an impediment to learning, create bias in results and prevent meaningful communication between the groups.

By providing a standardized report format, we may obtain suitable sample sizes (hundreds, perhaps thousands) that enable answers to the more basic questions related to treatment of the root canal system. There still may be subtleties that prevent intimate comparisons and these areas should be studied using evidence-based techniques. By using the reports of hundreds of dentists the world over, we may be able to answer the most basic Endodontic questions; one versus two appointment treatment, the rationale for Ca(OH)₂ use, efficacy of different obturation materials, success rates of cases with pre-op lesions of endodontic origin, the influence of working length and location of fill termination, the influence of orifice bonding on success etc. The mix of sponsored research and empirical clinical evidence may never tread the same path, however, their points of intersection may prove to be more fruitful than previously accepted.