

A New Age of Professional Responsibility

Teaching and mentoring have reached a new age in professional responsibility. Gone are the days when “This is the way I was taught,” or “This is what works in my hands,” or “This is what I think or hear” are accepted phrases in education. Gone are the days when the number of procedures performed, years in practice or number of lectures given lends credence to a particular treatment or recommendation. A high school coach once reminded me long ago that practice does not necessarily “make perfect,” it just “makes permanent.” Teaching to a high level of skill in a particular treatment or procedure is laudable, but that skill only has value to patients if it is properly chosen and applied. Today’s emphasis on scientific evidence has made all of us who provide undergraduate, graduate and continuing education step back and take a much closer look at the basis for what we teach and what we profess.

While we may have given evidence-based dentistry a new label, it is certainly not a new concept. Many of the great leaders in dentistry professed the value of science in clinical decision-making. George Paffenbarger, Ralph Phillips and Marjorie Schwartz are just a few of the names of leaders who made science the foundation of their teachings. I recall once hearing a comment made by the late Dr Miles Markley, who determined the average lifetime of zinc phosphate cement to be 37 years and 26 days, give or take a few days, simply because his clinical records were of the quality that he could make such a proclamation. Reading the early papers of George Paffenbarger and Wilmer Souder, with their deliberations on the importance of science, makes it sound as if they were part of a current discussion on evidence-based dentistry. The most obvious difference between these writings and the current literature has been the degradation in quality of prose occurring over those seven or eight decades.

Clinical observations and experience were the basis for most treatment decisions during an era when that was mostly what we had to rely upon. Historically, clinical observations and experience served the profession well, as most treatments were based upon a good empirical understanding of dental anatomy, physiology

and disease process. There are examples we can all point to, however, where this was not always the case. Our colleges in medicine experienced how empirical treatments not only failed, but occasionally were detrimental. Treating syphilis with arsenic, performing prophylactic appendectomies and tonsillectomies and pre-medicating patients with antibiotics for rheumatic fever or mitral valve regurgitation were common procedures until science proved them ineffective. Fortunately, dental science has gained ground, and we now have new tools, such as on-line literature searches, systematic reviews, meta analyses and some of our first evidence-based guidelines to help us sort through the myriad of science. The recent revisions of guidelines for prophylactic use of antibiotics and topical fluoride application are just the beginning of a growing trend of applying an evidence-based approach to daily practice. The American Dental Association recently announced the development of an enhanced website, where evidence-based information from a variety of sources will be compiled and catalogued within a single site.

As educators, mentors and practitioners, this puts a new, but welcome, burden upon all of us. Clinical instructors will need to put as much emphasis on teaching the “why” as we place upon demonstrating the “how.” Study clubs will need to integrate science along with technique. We will be forced to take a critical look at procedures in a new light, one where clinical outcomes carry as much weight as technical excellence. This should not take away from our constant pursuit of excellence, but rather lend credibility and confidence to this pursuit. It is time for the expertise within this Academy to take a fresh look at everyday clinical issues, such as early caries diagnosis, sealant use in adults, management of root caries and root defects, restoration of endodontically-treated teeth and the diagnosis and treatment of cracked teeth. Lecturers need to demonstrate that they understand the state of the science, even when it is so often lacking. Opinion leaders need to also become leaders in science, providing supporting evidence for their opinions and experience, or acknowledging when an evidence base does not yet exist. Researchers need to support this effort by

focusing far more attention on comprehensive studies with clinical elements or strong clinical relevance. The flood of “science fair” papers seen in the literature today is a direct result of poor training in experimental design, inadequate mentoring and the increased pressure on publication numbers over quality. Most systematic reviews on dental topics conclude that the available studies are incomplete, inconsistent and often poorly conducted. If clinicians are going to be held to a higher level of evidence, we need science with a higher level of quality.

We have indeed entered a new age of professional responsibility. As a profession based upon science, we need to challenge many of the assumptions that provide the basis for our standards of care. Dentistry is, and will continue to be, held to a much higher level of science-based decision-making. Those of us who are responsible for educating and mentoring our colleagues need to live up to this challenge.

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