

## More Transitions...and Parachutes

Dental scholarship is comprised of several solitudes. The balkanization of dental education has ensured this, but the twin solitudes of clinical and laboratory science remain the major challenge for our academic institutions. With one or two notable exceptions, most deans I have known or worked with have devoted their tenures to managing the present rather than molding the clinical future. As a result, clinical education stumbles on, lacking the bold and incisive initiatives required to revivify its necessary leadership. I recognize that educational changes are more conveniently achieved through vacuous moving around of curriculum furniture or titular designations. So-called comprehensive care clinics (invariably led by generalists without advanced clinical education) have been top-of-the-pops on many decanal agendas, but the real issue—finding the best clinically trained and qualified individuals with superb skills to teach the best evidence available—continues to be peripheralized.

My predilected discipline has played a seminal role among clinical specialties in its efforts to conciliate most of the above concerns. We built on the solitude of our laboratory research-directed materials studies, and reached out for rigorous directions from the new science of clinical epidemiology ad modum Sackett, in our effort to never lose sight of that other solitude of clinical scholarship or management of patient needs. Subtly, yet profoundly, we emerged from a world of prosthetics (where all that glistened *was* gold and all that shone *was* porcelain) and changed into a domain of oral architecture or prosthodontics. We also realized early on, in our new and evolving culture, that laboratory rigor was not a constant partner in the discipline's mandate. My 4 decades of clinical pursuits taught me that clinical practice invariably moves at one rate and that hard data are likely to trail.

Consider the example of osseointegration. Several so-called educational purists, including numerous dental school deans, were absurdly slow to recognize the merits and extraordinary societal significance of Brånemark's groundbreaking clinical research. Glaring shortcomings related to different degrees of bias in his team's early publications were cited as reasons for their noncompliance, while to its credit, one dental specialty went completely compliant and sought to redefine its clinical task as almost exclusively determined by the

technique. A few enlightened dental schools actually sought to ban 3-unit fixed prostheses (that mainstay of fixed prosthodontic education, indeed the *raison d'être* of entire departments) from their vaunted requirements list as it became apparent that the single implant was the better oral ecological prescription. And other equally enlightened schools selected patients with whom the heroic efforts to prolong the useful life of failing dentitions were traded for forceps and implants strategies. Neither of these 2 examples is supported by the sort of studies that are likely to make the EBD purists stand up and cheer. But an emerging jury of clinicians has already voted on these decisions—a reminder that patients' concerns married to prudent deductions from clinical experience make for compellingly successful and measurable clinical outcomes.

I keep recalling with a mixture of amusement and some disappointment a distinguished colleague's cursory dismissal of my attempts to research the efficacy and effectiveness of implant treatment for a group of “prosthetically maladaptive” edentulous patients throughout the 1980s. We were both in attendance at the pivotal McMaster University courses at the time, and I was sternly reminded that after all, mine was not a randomized clinical trial. The colleague remains a dear friend, although his predilected type of research is far from a recurrent reality all these years later. I delight in schadenfreude reminders to him that prosthetically maladaptive patients have also become virtually obsolete as a result of the introduction of implant prosthodontic treatment. I have no doubts at all about the significance of EBD for all of the clinical dental solitudes. It synthesizes sensible and rigorous analytical approaches to whatever we do clinically on a daily basis. Together with our patients we have been beneficiaries of the Sackett formula; yet we have also risked throwing out the baby with the bathwater as we pursue this new scholarly direction a little too rigidly. Hence this *IJP* issue's attempt to revisit the transition that has occurred since those heady days on the McMaster campus.

I chose the Smith and Pell paper because of the delightful tongue-in-cheek manner in which they debunk the insistence on a specific hierarchical avenue to justify treatment interventions. Their choice of the parachute metaphor is brilliantly apt. I also invited

2 old friends and colleagues, Steven Eckert and Gary Goldstein, to write related commentaries. Dr Eckert recently left the *IJP* for our Quintessence sister journal, *JOMI*, where he is the new editor-in-chief; while Dr Goldstein is a professor and highly respected clinical educator at the New York University College of Dentistry. In addition, 2 other unique colleagues—Dr Birgitta Bergendal from Sweden and Dr Haralampos Petridis from Greece—were asked to offer their special insights into topics in which they are experts, but which do not readily lend themselves to manuscript acceptance given this journal's publication requirements.

I would also remind our readers of a few disconcerting events that impact overall research design and ultimately publication concerns. In July 2005, the *Journal of the American Medical Association* published a study by the Greek epidemiologist John Ioannidis, who reported that 14 out of 49 articles published in widely read medical journals between 1990 and 2003 were later refuted by other works. Each of the papers had been cited by other scientists hundreds of times. While one science fiction writer's statement that "95% of everything is crap" is a brutal overstatement, Ioannidis' benchmark of 50% may not be an unfair estimate of the number of scientific papers that may turn out to be wrong. The sad case of Hwang Woo Suk, the South Korean scientist who falsified his research evidence, is already an international cause célèbre. It is also a strong reminder that cloning is a science and not an industry, a message which we need to repeatedly assert for implant manufacturing in particular. Finally, in January of this year, the *Lancet* reported that its editors had been told that research published in the *New England Journal of Medicine*, by a Norwegian scientist Jon Sudbo, had been fabricated. This author's papers had dealt with

NSAIDs and the risks of oral cancer, an alarming claim given the wide use of the medications.

All of this is very sobering indeed, perhaps even a cynical realization that the standards of science we covet may indeed be flawed because they are ultimately based on many individuals' interpretations. Yet a mere holding of our scientific nose is far from the only option. Clearly, dental science, like the medical scientific behemoth and its evidence-based culture we seek to copy, is not the be-all and end-all of research. Its frequently uncertain theoretical foundations and well-defined methods and endpoints render it vulnerable to numerous biases and over interpretation. It is necessary to accept the fact that almost everything we do for our patients is never risk free as we become increasingly aware of the interplay between relative and absolute risks, especially when clinical techniques move out of the controlled confines of RCT into the Wild West of everyday practice, particularly in non-specialist offices. Furthermore, absolute as opposed to relative benefits change as our patient cohort ages, and our older patients prove to be less robust than those in the clinical trials.

There are still many clinical questions that will continue to demand the best scientifically-determined answers possible. But the patients on whose behalf we articulate these questions also continue to require immediate answers—prudent response interventions that reflect common sense, compassion, and the best collective knowledge available. I sense that the "parachute" of critical case history analyses will occupy an even more important, let alone welcome, place in the EBD clinical hierarchy.

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