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THE EDITOR'S CORNER

The Only Constant

Special congratulations are due to the planning committee for this year's annual session of the AAO. Despite the horrific tragedy of Hurricane Katrina, which necessitated a late-hour change in venue from New Orleans to Las Vegas, this proved to be one of the best annual meetings I have attended in quite a while. One thing that stood out to me was the significant international presence—even more pronounced than the usual mixture of orthodontists from all over the world. In fact, I enjoyed robust discussions on a variety of topics with friends and colleagues from across the globe. Topics included many of the old standbys—bonding, functional appliances, early treatment—as well as newer entries such as skeletal anchorage (of course), three-dimensional imaging, self-ligation, and “braceless orthodontics”. I appreciated discussing the pros and cons of myofunctional therapy with orthodontists from Italy. My friends from Korea keep me abreast of what's new with miniscrews, and my German colleagues always amaze me with their analytical approach to orthodontic engineering.

Perhaps the uninhibited atmosphere of Las Vegas itself contributed to the creativity of the participants, but whatever it was, this year's annual session was remarkably productive in generating new ideas. In my discussions, one overriding philosophical theme kept emerging: Has orthodontics reached a plateau? Have we bumped up against the end of our envelope of possibilities? Are there any remaining frontiers? These are crucial questions that deserve deeper exploration. Some might argue that we have already solved all our major problems. With existing technologies, we can successfully treat almost any malocclusion that comes our way. Coupling orthognathic surgery with orthodontics can rectify the most disabling of craniofacial anomalies. Temporary anchorage devices now allow us to bring about orthodontic movements that were previously considered impossible, and to reduce or even eliminate the need for patient compliance. Cone-beam imaging gives us a much more realistic picture of a patient's craniofacial anatomy in three dimensions than a

two-dimensional radiograph can. Practically any mild-to-moderate malocclusion can now be treated with computer-designed aligner appliances.

All that said, have we really reached a plateau? The debate reminds me of a historian who wrote, in the late '80s, that the progression of history had come to an end. As he saw it, a stable balance had been achieved between the two ultimate political systems: Soviet-dominated communism and American-dominated capitalism. What could possibly disturb that equilibrium? Of course, within a few years of the book's publication, the Berlin wall had come down, the Internet was born, and militant Islam had emerged as a major player in geopolitics. History again proved the old truism: The only constant is change.

Outstanding clinicians eventually reach comfortable personal plateaus where they really can treat just about anything effectively. I once met one of the Old Masters of the Tweed philosophy, a doctor whose clinical outcomes were utterly amazing, and asked him how he had attained that level of excellence. His reply was that you just find an orthodontic technique that works well in your hands and spend the rest of your career perfecting that technique. The results of his philosophy were undeniable. But even if we could all reach that level of comfort and professional excellence, the progression of history would continue. If we ever reached a plateau as a specialty, orthodontics as we know it would essentially be over.

Of course, orthodontics as we know it is heavily influenced by market forces, and our patients' wishes and demands will certainly influence our future direction. The most common question I hear during case presentations is, "How long will this take?" When I respond that

treatment generally takes 20-30 months, I invariably get a wince of displeasure. Every manufacturer knows that any technology that promises to reduce treatment time bears investment in research and development. Combined surgical approaches involving periodontal detachment and corticotomies have been promising, but carry the stigma of the word "surgery". About 98% of the time when I suggest surgical intervention to a patient, the immediate response is, "No thanks".

It seems to me that the answer to speeding up treatment lies in the realm of the microscopic. Molecular mechanisms for accelerated remodeling of the periodontal ligament and alveolar bone could well allow us to reduce treatment times to less than a year for the vast majority of our cases. In the near future, orthodontists may well use prescription drugs, custom-designed by molecular engineers, to focally accelerate the activity of osteoblasts and osteoclasts. The field of nanotechnology also holds promise in this area. Bioengineers already envision armies of micro-robots that could be programmed to remove plaque from arterial walls, eliminating the need for bypass surgeries to prevent strokes and heart attacks. Why couldn't similar robots be programmed to remodel the periodontal ligament and alveolar bone? The possibilities are endless.

It was clear at this year's annual session that if you put a lot of gifted people together in an enjoyable environment, ideas will flourish and, indeed, the possibilities are endless. I'm sure that many of us have reached our own personal plateaus in practice, and that many of those plateaus are high and respectable, but I'm equally sure that our profession has plenty of surprises in store. After all, the only constant is change.

RGK