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THE EDITOR'S CORNER

Beginning with the End in Mind

A phrase I have heard quoted repeatedly in widely divergent venues, from high-school commencement ceremonies to self-help seminars to lectures on orthodontic biomechanics, is this: "Begin with the end in mind." My Internet search for the coiner of this dictum proved inconclusive; Stephen Covey's name came up repeatedly, since this is the second of his *Seven Habits of Highly Effective People,* but I doubt that Covey invented the axiom. I distinctly remember hearing it when I was in college in the early '70s, and Covey's book came out in 1989. No matter who originated it, however, the wisdom of this advice is unquestionable. The reason the phrase is so ubiquitous is that it is so applicable in virtually every human endeavor. No matter what we are trying to do, where we are trying to go, or what we wish to accomplish, the establishment of a clearly defined goal is one of the most critical steps toward success.

Of course, in clinical orthodontics, as in life in general, it is possible to stumble along without goals, without any end in mind, and achieve success—once in a while. But the setting of goals, along with the visualization of those goals, allows for the development of a clear road map. The implementation of a determinant course of action—or, in our phraseology, determinant tooth movement—is what makes a "highly effective" orthodontist.

In this issue of JCO, Part 2 of Dr. Ravindra Nanda's interview with Dr. Charles Burstone focuses on Dr. Burstone's concept of "scientific biomechanics". As Dr. Burstone explains, "'Scientific biomechanics' relates forces and stresses to our orthodontic problems. . . . The nice thing about scientific biomechanics is that it is not dependent on any given appliance or technique. No matter what appliance you use, it allows you to use it better with more predictable results." He further elaborates that "the application of scientific biomechanics as we daily treat our patients can pay big dividends. The quality of treatment improves, and we work much more efficiently." In summing all of this up, Dr. Burstone once again invokes the time-honored phrase, "Begin with the end in mind."

Throughout my orthodontic training at Eastman Dental Center, the mere mention of the name Burstone by one of our professors implied that we had darned well better know our theoretical biomechanics backward and forward before making a case presentation. One of the most valuable exercises we had to undertake at Eastman was when we charted out a patient's proposed treatment plan, step by step, month by month, explaining in detail what we intended to accomplish at each monthly appointment. We were expected to have a clear mental picture of just where every tooth should be at every stage of the process, and just what forces and moments would be involved in getting it there, according to "Burstonian mechanics". All that was done before we placed the first separator.

To my mind, this kind of exercise represents the ideal approach to orthodontic treatment planning, and perhaps the ultimate in determinant orthodontic biomechanics. As Dr. Burstone advises, we had to begin with the end in mind. Visualizing just what that end should look like is not an easy matter for me even now, 20 years into this profession. It requires a thorough and complete understanding of the forces, vectors, and moments involved in tooth movement, an understanding predicated on the fundamentals of Newtonian physics and sound bioengineering principles—which, as Dr. Burstone points out, are independent of any appliance or "treatment philosophy". It may demand more of our time and intellectual energy, as well as a critical analysis of our treatment results to make sure we really did reach the end we had in mind, but such an understanding of "scientific biomechanics" is what good orthodontics is all about.

As I have said several times before in this column, all of us have our heroes. Dr Burstone has been one of mine since I entered this great specialty. I hope you enjoy reading the final installment of the interview as much as I did.

RGK

CORRECTION

In the Case Report, "Bimaxillary Protrusion Treated Without Extractions", by Drs. Celli, Garcovich, Gasperoni, and Deli (JCO, January 2007), the article should have stated that the authors recommended extraction of the mandibular third molars before treatment, but the parents agreed to the extractions only after treatment was completed, as the final panoramic radiograph shows.