

# THE EDITOR'S CORNER

## Answering the Questions about Miniscrews

Over the last few years, JCO has published a number of articles dealing with skeletal anchorage, including the comprehensive treatment by Drs. Carano, Velo, Leone, and Siciliani in this issue. Most of these papers have been submitted from Asia, particularly South Korea; others have come out of Italy, Germany, and Scandinavia. Although the United States led the world in orthodontic innovations throughout the 20th century, it now seems that we have fallen behind other countries in adopting a new technology. Despite my initial reluctance to embrace this procedure, I think I will finally have to admit that the time has come for the acceptance of skeletal anchorage as a mainline clinical technique.

One stumbling block to the acceptance of miniscrews in this country has been the issue of who should place the implants. Dr. Carano and his colleagues advocate direct placement by the orthodontist and offer a number of valid points in favor of that position. A little over a year ago, the same question was addressed at a joint meeting I attended of the AAO Council on Orthodontic Education and the analogous council from the American Association of Oral and Maxillofacial Surgeons, held in conjunction with the annual session of the American Dental Education Association. The surgeons, as might be expected, maintained that since screw placement was indeed a surgical procedure, miniscrews should be placed by oral surgeons. I was somewhat surprised that with only minor dissension, the orthodontists in the room concurred. No one seemed to believe that orthodontists lack the necessary skills to place miniscrews, but the prevailing attitude was that orthodontists are busy enough with orthodontic procedures and would prefer to leave anything surgical to the surgeons. Since that time, I have spoken to a number of American orthodontists who are now using miniscrews, and most have agreed that the implantation should be done by oral surgeons or periodontists. I have concluded that while Asian and European orthodontists seem to prefer placing their own miniscrews, American orthodontists would rather not. If surgeons are going to be per-

forming these procedures, though, orthodontists have to take responsibility for keeping them up to date on the current literature and for carefully monitoring the screw selection and placement for each individual patient. As many authors have illustrated, the location and angle of implantation are critical to the success of a case.

There are many other questions that need to be answered; JCO is currently conducting a Readers' Corner survey on these questions, and a more comprehensive study is under consideration. For example, the published articles on mini- and microscrews have demonstrated beautiful results in a wide variety of applications—molar intrusion, molar extrusion, Class II correction, cuspid retraction, crossbite correction, anterior segment intrusion. But with all these spectacular successes, have there been some failures? Have any patients developed infections as a result of screw application? Is post-operative antibiotic coverage necessary, and if so, what is the protocol? How many screws loosen and fall out before the completion of treatment? If they are replaced, what is the long-term effect of repeatedly implanting self-tapping screws into cortical bone? Has there been any intraosseous breakage

of miniscrews? If so, is recovery necessary, and what is the procedure? What about patient acceptance? Has anyone surveyed patients on whether they would readily agree to having screws inserted into their jaws? What should be included in an appropriate informed-consent document? Are there any underlying medical, dental, or psychiatric conditions that would contraindicate the use of miniscrews?

I recently spoke to an orthodontist who works full-time in the R&D division of one of the largest orthodontic manufacturers. After conducting an in-depth survey of the research on various miniscrews in the United States, Korea, Japan, and Europe, his impression was that, in many ways, the situation is much like that of the Wild West in the late 1880s—with a great deal of braggadocio and lawlessness, but with a bright future awaiting once order is established. Of course, this has been the scenario for many of the important innovations made in orthodontics over the past century. As devices are developed and refined in the offices of creative and meticulous clinicians, they gradually become standardized components of the orthodontic armamentarium.

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