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THE EDITOR'S CORNER

Skeletal Anchorage in the Mainstream

The use of skeletal anchors—variously known as temporary anchorage devices (TADs) or miniscrew implants (MSIs)—has revolutionized the concept of orthodontic anchorage compared to the precepts of a generation ago. Evidence is mounting that miniscrew anchorage may well be the best approach to the resolution of many different clinical situations. Being an old dog myself, I can fully appreciate the reluctance of many veteran practitioners to learn new tricks, but the advantages of learning to use MSIs in a safe and predictable manner now outweigh the challenges of adding new tools to an old and established office armamentarium. Miniscrews have entered the mainstream.

Most of the May 2009 issue of JCO was devoted to the theme of new developments in skeletal anchorage, with articles from a number of contributors "illustrating innovative applications of TADs to solve commonplace malocclusions", as I noted in that month's Editor's Corner. Dr. Stephen Weisner, in presenting a successfully treated Class III case, pointed out that "the use of TADs allows the application of force vectors that were previously difficult or impossible to achieve. This enables the clinician to produce the desired dentoalveolar or skeletal changes without detrimental side effects." Indeed, many clinical situations that were once deemed "surgical" cases can now be addressed successfully without the need for major orthognathic surgery. Perhaps the most dramatic demonstration of that capability appeared in our March and April 2006 issues, when Dr. John P. DeVincenzo presented a pair of articles entitled "A New Non-Surgical Approach for Treatment of Extreme Dolichocephalic Malocclusions". But avoidance of a surgical procedure isn't the only reason for seeking an alternative to orthognathics. Many patients simply cannot afford the surgery, and many dental and medical plans don't cover it. Miniscrews are much, much less expensive.

Another significant advantage of skeletal anchorage relates to the eternal problem of patient compliance. It is extremely frustrating for any orthodontist to know that

proper headgear wear would result in the correction of an unsightly Class II malocclusion, only to have this beautiful outcome made impossible by the patient's refusal to wear the headgear as prescribed. I've even had parents scold me for suggesting that their child be required to wear "such a barbaric device". I haven't had any such problem convincing parents to allow me to place a couple of TADs, nor have I noticed any difference in the quality of the outcome when using TADs instead of headgears. If anything, the cases treat faster when TADs are used. In that same May 2009 issue, Drs. Anamaria Munoz, Giuliano Maino, Jeffrey Lemler, and David Kornbluth showed how skeletal anchorage from the zygomatic buttress can be used to correct a Class II malocclusion without the need for compliance-dependent headgear. Many practitioners, myself included, may still choose to employ Kloehn-type, facebow, J-hook, or reverse-pull headgears, but this choice is now based on personal preference rather than treatment necessity.

The biggest problem with the routine use of MSIs has been a relatively high failure rate of the devices themselves. Failure rates of 25% or more have caused many clinicians to give up on MSIs prematurely. To help overcome these problems, in the March and August 2011 issues of JCO, Dr. Björn Ludwig and colleagues presented a pair of Overviews of the best anatomical sites for miniscrew insertion. After taking their advice, I saw my own success rate jump considerably. In our current issue, Drs. Roberto Carrillo and Peter Buschang follow up with a strong, evidence-based Overview of palatal and mandibular miniscrew placement methods. Their two standardized insertion techniques have reduced their failure rate to an impressive 4%—the lowest reported in the literature to date. In another article this month, Dr. Patrick Anhoury presents two cases illustrating the use of a retromolar insertion site for successful distalization of the entire lower denture, eliminating the need for a mandibular setback procedure in a skeletal Class III patient who cannot or will not undergo orthognathic surgery.

I look forward to applying all these techniques in my own practice as soon as possible.

RGK