

THE READERS' CORNER

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(Editor's Note: The Readers' Corner is a quarterly feature of JCO in which orthodontists share their experiences and opinions about treatment and practice management. Pairs of questions are mailed periodically to JCO subscribers selected at random, and the responses are summarized in this column.)

How have you learned about skeletal anchorage?

Many respondents reported more than one way of acquiring knowledge about skeletal anchorage. A substantial majority (83%), however, learned about skeletal anchorage by reading articles about it. Many fewer clinicians said they gained familiarity with the technique from continuing education courses or from trying it on patients. Only a few respondents reported receiving formal training in skeletal anchorage.

Do you think skeletal anchorage will become a routine part of the orthodontic armamentarium?

The prevailing opinion was that skeletal anchorage would become part of the orthodontic armamentarium, but not a "routine" procedure.

The primary reason for believing that skeletal anchorage would gain widespread acceptance was its potential to provide absolute stability for tooth movement. Additionally, it was said to be effective in non-compliant patients and in adults for whom the establishment of anchorage would be difficult, if not impossible, due to missing posterior teeth.

Those who felt that skeletal anchorage



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would not become a routine treatment modality cited the significant cost to the patient, the high risk-to-benefit ratio, the legal implications, the inadequate training offered to date, and the availability of traditional anchorage mechanisms that are equally effective.

Individual comments included:

- "After attending a lecture on skeletal anchorage, I believe it will be the biggest advancement in orthodontics in my practice lifetime."
- "It's relatively easy to use skeletal anchorage with miniscrews, not painful or really expensive, very effective and reliable, and adds much to our tooth movement possibilities."
- "As a last-resort anchorage, just not 'routine'."
- "I recently attended an excellent course by Dr. Eugene Roberts, but I feel that if I wanted to attempt such treatment, I would first have to educate the oral surgeon or periodontist and would have to inform the patient that this procedure is far from 'routine'."
- "Not in the near future. For my part, I am not interested enough to deal with the risk and potential liability of placing screws. I have not seen enough evidence that this approach provides a significantly better treatment result."
- "Skeletal anchorage is excellent for the non-compliant patient."

If you have not used skeletal anchorage, what is your reason?

The most common reason for not having used skeletal anchorage was the lack of hands-on courses. This was followed by the clinician not wanting to place the screws and the belief that the temporary anchorage devices are too invasive. Also mentioned was that other anchorage meth-

ods are adequate and that skeletal anchorage has not been perfected. Fewer respondents cited patient resistance to an uncomfortable, tissue-invasive procedure, the cost involved, and the need for a protocol for teaming with oral surgeons or periodontists if they are to place the screws.

Some specific remarks were:

- “The cost to the patient. I believe that insurance companies will not pay for this treatment and the cost may be deducted from the orthodontic benefit.”
- “All articles have been anecdotal and have not presented enough information about the problems and failures of the technique.”
- “I want to know why failures occur and what the impact on a growing child is.”
- “Most local surgeons are not up to speed with the procedure, and there is patient resistance due to lack of education.”
- “The lack of local dental companies that supply screw sets. In the articles I read, the supply companies are usually in Korea, Japan, and Italy, not in the United States and Canada.”

Who should perform the insertion of miniscrews?

The clear majority of respondents believed that an oral surgeon or periodontist should place the miniscrews, with a slight bias toward the oral surgeon. Many of the orthodontists indicated that they did not want to get involved with the procedure. Still, 9% of the clinicians felt that since only the orthodontist knows all the ramifications of the biomechanics, the orthodontist should be placing the screws.

Typical comments were:

- “I have enough problems without getting into what amounts to oral surgery in my bay area. And what if something goes wrong, bad wrong? I don't even want to think about that.”
- “A distinction must be made between miniscrews and implants such as palatal implants.”
- “The orthodontist should place the screws because he knows what the desired vector of insertion should be.”
- “With improved screws and technique, I can see no reason that the orthodontist could not

place the screws. However, I hope it becomes routine for the oral surgeon and periodontist so we can sidestep this added responsibility.”

Do you think skeletal anchorage has the potential to avoid extraction or surgeries in certain cases?

About 85% of the respondents thought that extractions could be avoided in cases where absolute anchorage could be established, while 82% believed that there was the potential to avoid certain surgeries.

Interesting replies included:

- “Potential is the key word here. There must be more evidence-based research before we get carried away with promise rather than logic.”
- “If my patient is going to have surgery, I want to see a positive soft-tissue (facial) change. I do not think screws are going to provide enough facial change to avoid surgery.”

If you have used skeletal anchorage, what types of cases have you treated?

Most of the respondents had not used skeletal anchorage, but of those who had, the most common uses were for distalization of maxillary and mandibular molars, molar intrusion, Class II treatment, and conservation of anchorage. The temporary anchorage devices were used more infrequently in Class I and Class III cases, in partially edentulous patients, and for open bites, bimaxillary protrusion, distal movement of mandibular bicuspid, and cleft-palate cases.

Two representative replies:

- “Molar advancement to compensate congenitally missing teeth such as lower second bicuspid.”
- “Skeletal anchorage will be especially valuable in the ever-increasing aging population with missing teeth, when nonextraction and distalization will be more important.”

Have you been satisfied with the outcome of these cases?

The majority of respondents who had used skeletal anchorage were satisfied with the outcome of their cases. There were isolated reports of dissatisfaction with implants being placed in

unsatisfactory positions, screws having to be removed due to patient discomfort, and relapse of teeth that had been intruded with skeletal anchorage. An enthusiastic comment was:

- “New forces, vectors, and alveolar remodeling are possible. A completely new paradigm shift in treatment planning is here.”

If you have used skeletal anchorage, what problems have you encountered?

Few problems were reported, with most of them involving patient discomfort, screws loosening or falling out, or improper placement. Less mentioned was the issue of infection associated with miniscrews. A few comments related to the difficulty of attaching elastics or springs to the screw heads, and to problems with removing or positioning the screws.

What are the ages of your youngest and oldest skeletal anchorage patients?

The age range for skeletal anchorage cases was relatively broad, including adolescents, middle-aged patients, and senior citizens. There was a slight skew toward patients over 50, but it was apparent that skeletal anchorage was not limited to any particular age group.

How much resistance from patients and parents have you encountered to the use of skeletal anchorage?

There appeared to be little or no resistance from patients and parents, but what concerns there were centered on the cost and invasiveness of the procedure. A few clinicians stated that more patients declined than accepted the technique, or that some patients were initially hesitant, but accepted treatment when the benefits were clearly explained.

Some specific comments were:

- “Most adults would like to avoid any surgery, even minor procedures.”
- “The main problem is cost. In private practice the surgery fee is expensive, must be paid at once, and is not usually covered by insurance.”

What do you think needs to be done to encourage

the use of skeletal anchorage in everyday practice?

The three most prevalent responses called for more published articles, more courses demonstrating the technique, and inclusion in university graduate curricula. These were followed by clinical trials in orthodontic offices (with appropriate informed consent) and by randomized clinical trials. Respondents also mentioned the need for insurance coverage, patient testimonials, more training for the vendors of the screws, and more training for the oral surgeons and periodontists who may place the screws.

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