

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.)

1. *Do you overcorrect rapid palatal expansion, and if so, how long do you usually retain the expansion?*

All clinicians reported that they overcorrected the arch when using RPE. The vast majority (82%) retained the expanded palate for a period of three to six months. The remainder of responses ranged from six weeks to one year or longer. Those who favored longer periods often stated that retention was continued with fixed transpalatal arches or removable retainers, rather than the RPE devices. Specific comments were:

- "Expansion should be done as early as possible, preferably as a first phase. This should be maintained during treatment, followed by two to three years of conventional retention."
- "I retain the expansion with the RPE for at least three months, or even longer if I can't place a heavy edgewise archwire at the time of the RPE removal."

Does rapid palatal expansion correction relapse? Only to a normal relationship, or more than that?

There was nearly unanimous agreement



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that RPE would relapse to some extent; only one clinician felt it would not. A little less than half of the respondents thought the relapse would be limited to normal occlusal relationships, while 16% indicated that it could relapse more than what would be considered normal. Comments included:

- "I believe relapse is somewhat correlated with age. Very little in younger patients (7-11 years), more in the teen years (12-16 years), and quite significantly with adults."
- "Nowhere does Dr. Moss's functional matrix theory apply more than in RPE. An expanded maxilla will return to approximately its original form unless held long enough to allow the neuromuscular environment to adapt."

Is the amount of time you retain the expansion with the RPE appliance a factor?

There was an impressive consensus (82%) that time is a factor. Considering that virtually every respondent believed in retaining an overcorrection, however, the minority view was somewhat surprising. Some specific comments:

- "No one knows how long is enough; therefore, it would seem reasonable to retain as long as possible, consistent with common sense. In a nutshell, better more than less."
- "I believe this is why full-treatment palatal expansion cases appear to be more stable. Expansion followed by fixed appliances and, in turn, followed by retention offers the extended time that should improve stability."

Do you overcorrect slow palatal expansion?

The majority of those who used slow palatal expansion did overcorrect. Nevertheless,

12% of the clinicians said they did not use slow palatal expansion often, and 11% did not use it at all.

Does slow palatal expansion relapse less than rapid palatal expansion?

About a third of the respondents (31%) thought that slow expansion relapsed to a greater extent than RPE; 15% believed the relapse would be less, and 18% did not know. The remainder felt there was no difference in the amount of relapse between slow and rapid palatal expansion. A typical comment was:

- "I overcorrect both RPE and SPE to at least lingual maxillary cusp to buccal mandibular cusp. If the teeth are tipped with SPE beyond their basal bone support, they will relapse more."

Other than speed, is there an advantage of rapid palatal expansion vs. slow palatal expansion?

The most common reply was that other than speed, there was no particular advantage to rapid expansion. However, a number of clinicians cited benefits of RPE including, in decreasing frequency of replies: more bodily movement and less tipping; more skeletal change; fewer cooperation problems because RPE devices are fixed; and more predictable results. Several of the respondents felt that the difference between rapid and slow palatal expansion is age-related—in other words, slow expansion is indicated more in younger patients. Comments included:

- "The efficiency of opening the midpalatal suture is more obvious with RPE. Spacing between the central incisors confirms orthopedic widening in RPE. This may or may not occur in SPE."
- "If there is a skeletal discrepancy to begin with, RPE is the treatment of choice. If there is just dental tipping, SPE is the preferred treatment."
- "Overall, patients do not like having the expander in their mouth. The less time the expander is in the mouth, the greater the patient's appreciation. With this in mind, I prefer RPE."

Is there a difference in the amount of tipping vs. bodily movement between slow and rapid maxillary expansion?

Two-thirds of the respondents thought there was less tipping and more orthopedic movement with rapid palatal expansion, while 10% took the opposite view. Another 10% were ambivalent, and the remaining 10% indicated that there was no difference between slow and rapid expansion in this regard. Some specific replies:

- "If the rigidity of the appliance counts for anything, the more rigid RPE should produce much less tipping than the resilient slow expanders."
- "Supposedly with RPE one initially gets more bony changes, and this is followed by dental tipping. SPE initially causes greater tipping that is, in turn, followed by bony changes."
- "Who knows? There's some fair-to-partly cloudy data that argues each side. However, there are too many variables (age, musculature, cooperation, etc.). There is no long-term data that I am aware of to solidly substantiate either side of the question, so I'll go with my observations and those of respected colleagues."

Do you use frontal x-rays in palatal expansion cases?

Eighty-two percent of the sample reported that they did not take frontal x-rays, while 8% said they did. An additional 8% used frontal x-rays occasionally.

Is expansion in the molar region stable? In the bicuspid region?

An overwhelming majority of respondents (88%) believed that the molar region was stable after expansion, and even more (92%) thought there was stability in the bicuspids. These replies are somewhat at odds with the concept of over-expansion to allow for some degree of relapse, which indicates that the clinicians were referring to ultimate stability rather than immediate post-expansion stability.

2. *Do you occasionally extract one mandibular anterior tooth, and if so, under what circumstances?*

Ninety-two percent of the respondents reported that they did occasionally extract mandibular anterior teeth, but there were many remarks indicating that such extractions were performed only rarely and under specific conditions.

The decision to extract mandibular incisors seemed to be based on a combination of three factors: (1) tooth-size discrepancy (large mandibular incisors and/or small maxillary lateral incisors), (2) severe crowding in the mandibular incisors, and (3) Class III dental or skeletal tendency. Additionally, a substantial number of respondents thought mandibular incisor extractions were best reserved for adults, especially if periodontal disease (severe tissue loss) were evident and if interproximal reduction would not be adequate to alleviate the crowding. A typical comment was:

- "I reserve lower incisor extraction for the Class III skeletal and dental tendency that could benefit from some reduction of crowding and with a minimal amount of incisor retraction. My strongest indication would be the adult patient with the above indications and one lower incisor that's completely crowded out of archform."

Does extraction of one mandibular incisor inevitably lead to bite closure?

Two-thirds of the respondents believed that mandibular incisor extraction would not necessarily cause bite closure, while one-third felt that it would. Many of those who thought the bite would not deepen added comments such as:

- "For the open-bite patient with minimal overjet, bite closure is exactly what I'm looking for."
- "If acceptable interincisal coupling can be established, why would the bite close more than in any other treatment plan in which satisfactory incisal relationships occur?"
- "This depends on case selection. If the bite closes slightly, it might be a reasonable compromise to alternative treatment plans, e.g., extrac-

tion or expansion. This would be especially true for the adult patient."

What diagnostic regimen do you use to determine if a mandibular incisor is to be removed?

By far, the primary diagnostic tools were the setup, closely followed by the Bolton analysis and intuition. One respondent used occlusograms, and a few measured the difference in width of the maxillary and mandibular incisors. If there was a maxillary incisor discrepancy, then a mandibular incisor extraction became a more attractive treatment option.

Are the results more stable than in cases of mandibular anterior crowding treated without extractions, or with the extraction of four bicuspids?

A slight majority believed that treatment of mandibular incisor crowding would be more stable after extractions. However, this was nearly balanced by the combination of those who thought that the incisors would not necessarily be more stable, those who felt the stability would be about the same, and those who didn't know which treatment plan would be more stable. Individual comments were:

- "The main objective is to achieve a nice overbite/overjet relationship with the teeth in a good periodontal environment. Quality of treatment and retention determine stability, not simply which teeth were extracted or not extracted."
- "There might be slightly more stability with extractions; however, it's not significant enough to use stability as a reason for extraction. Without retention, most cases relapse to the point that it's unacceptable to the patient or myself."
- "I guess it depends on the amount of crowding. If I had a choice I would rather ARS and possibly expand a little rather than extract. The problem is trying to predict which cases will hold and which will fold. I know of no system or person who can consistently predict the amount and location of relapse."

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