

Commentary

An orthodontist's perspective on the use of habit appliances

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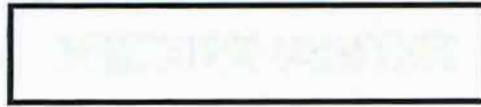
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GUEST EDITORIAL

AN ORTHODONTIST'S PERSPECTIVE ON THE USE OF HABIT APPLIANCES

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The inclusion of the article by Nicholas L. Moore in this issue of the **IJOM** is a signal event in the history of the Journal. Mr. Moore is a librarian in the United Kingdom. His concerns related to oral appliance use for the treatment of various myofunctional habit patterns, especially thumb sucking, motivated him to address this treatment regime through literature review, analysis, and commentary. The preparation of these materials by the author represents the most extensive and comprehensive treatise on this topic within the past decade and beyond. Previous professional authors on this topic were sought out in several instances for updated comments or to address specific questions posed by Mr. Moore. The resulting manuscript received a minimum of editorial modifications by the **IJOM** editorial staff. Mr. Moore's admonitions and conclusions were mostly honored in the form submitted.

As an orthodontist, I share the conclusions of Mr. Moore and defend this challenge to the dental community to adequately justify the use of habit appliances, many of which can cause potential harm to the oral environment and children selected for appliance treatment. I have no knowledge of the current frequency of use of habit appliances in the USA or elsewhere, hoping that they are employed sparingly. The impact of this impressive effort by Mr. Moore will hopefully stimulate a dialogue within dentistry that will be positive and beneficial to patients.

As a practicing orthodontist with considerable experience as a professor, researcher and clinician in speech-language pathology, I strive to blend information and perspectives from the dental sciences with those of speech-language pathology and

orofacial myology. As a result of these interactions, I am strongly opposed to the use of oral appliances for habit patterns for the reasons cited by Mr. Moore. In addition, however, there is a well-established concept in dentistry, germane to this issue but mostly ignored in dental examination and practice; the concept of the **freeway space**.

The freeway space (or interocclusal space) represents the typical resting position of the teeth and jaws for well over 95% of each day. At rest, the teeth are parted about 3-4 mm at the molars, and about 2 mm at the incisors. Conversely, the total time that teeth normally touch, or are in occlusion during a day is around 4 to 6 minutes. Occlusion of teeth is not the significant characteristic position of teeth and jaws during the vast majority of daily life. In spite of this, dental practitioners evaluate the dentition in a teeth-together relationship. Currently, no consideration is routinely given to the freeway space.

If the freeway space is opened excessively for hours per day, as from habit pattern or airway problem, dental eruption can continue and malocclusion may result. Conversely, if the interocclusal space is closed excessively, clenching and grinding and trauma to the periodontium can result (Hanson and Mason, 2002). I know of no current evaluation or treatment protocol in dentistry that considers the freeway space dimension as a specific entity or goal. The closest we come to this in orthodontics is to recognize that habit patterns can lead to differential eruption patterns and that some habit patterns (including forward tongue posture) need to be eliminated to maintain or recapture a normal occlusion. Such clinical situations are not currently addressed in terms of creating or recapturing a specific, normal freeway space dimension.

It can be postulated that myofunctional disorders (especially tongue thrusting, forward tongue posturing, thumb sucking) involve an increase in the interocclusal space (Hanson and Mason, 2002). The appropriate goal of myofunctional therapy in such instances is to recapture or reestablish a normal freeway space so that, in the growing child, normal processes of dentofacial growth and development can occur (Hanson and Mason, 2002).

I oppose the use of habit appliances, in part, because they serve to open the freeway space and increase rather than diminish the opportunity for a malocclusion to develop from unwanted, continued eruption of teeth. Hanson and Mason (2002) discuss the manner in which the tongue can act as a functional appliance, open the freeway space, and create an anterior openbite or Class II malocclusion from a forward, or forward and lateral posture. The perspective of the tongue acting as a functional appliance is not widely discussed in dentistry, although based on established and accepted principles of orthodontic theory and treatment.

We in dentistry have many exciting challenges ahead in recasting our evaluation procedures and treatment choices. My thanks to Mr. Moore for his important impetus to improve this area of patient care. I endorse the recommendation of Mr. Moore that behavioral approaches for the elimination of thumbsucking and other myofunctional problems are appropriate. Further, I recommend that certified myofunctional clinicians provide such services.

REFERENCE: Hanson, M., and Mason R.: OROFACIAL MYOLOGY. Charles C. Thomas, Publisher, Springfield, Illinois (in press).