Improving Patient Comfort and Compliance Utilizing the "Auxiliary Slider"

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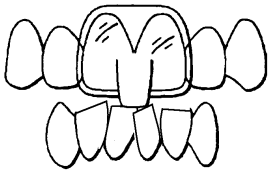
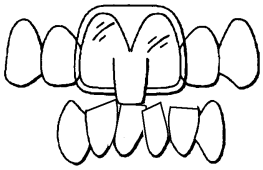
Utilizing an Auxiliary Slider in NTI Therapeutic Protocol can prevent the problems presented by irregular opposing incisors, eliminates the occasional necessity of having an elongated Discluding Element, and provides a smooth, sliding surface, enhancing patient comfort and compliance.

When the incisors that oppose the Discluding Element of an NTI device are not "ideal" (i.e., rotated, elevated, tilted, etc), the contact of the opposing incisors on the Discluding Element, especially during excursive movements, can be disruptive. For example, although two central incisors may be contacting the Discluding Element equally and comfortably (1), the incisal edge corner of an elevated lateral incisor may dig and grind into the Discluding Element upon excursive movement (2), producing considerable resistance and strain on a joint complex as a Lateral Pterygoid isometrically pulls on the condyle.

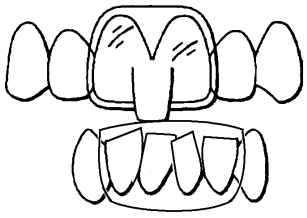
1) 

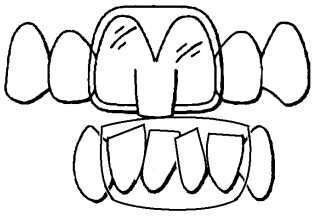
2) 

Although this may not be problematic for the patient with mild to moderate symptoms, it can be a significant-enough source of nociception to prevent the maximum beneficial outcome for the migraine sufferer, as the goal in reducing migraine frequency and intensity is to minimize nocioceptive input to the trigeminal sensory nucleus.

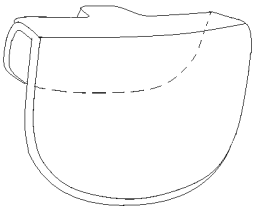
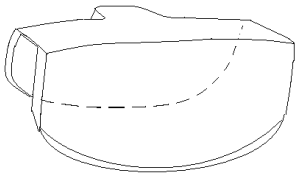
The traditional remedy (or prevention) has been to "adjust" the Discluding Element's shape and contour, or to alter the opposing irregular incisal edge(s) in order to achieve smooth, unresisted movements of the incisors across the Discluding Element. Physical alterations of the Discluding Element and/or the opposing incisors has its considerable drawbacks, but there is a superior alternative. By providing for an "Auxiliary Slider" on the opposing incisors, all of the critical necessities for clinical success can be met. An Auxiliary Slider is any smooth and continuous surface over the opposing incisor's edges, that interface against the Discluding Element. Contrary to the misunderstanding that an NTI device exploits the "opening reflex" during sleep (there is no such thing), the use of an Auxiliary Slider over the opposing incisors continues to maintain the absence of posterior and canine contact (which is the actual method of minimizing muscle contraction intensity).

However, the provision of an Auxiliary Slider can increase the VDO (3) so it is the practitioner's obligation to confirm that the VDO is not excessive, and may need to reduce the height of the opposing Discluding Element (4) (this is done by instructing the patient to clench intensely on the devices(s) to confirm absence of joint pain. VDO of the DE is reduced until clenching does not illicit pain).

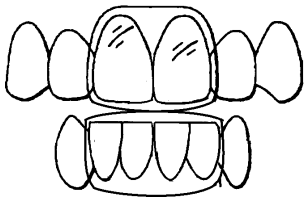
3) 

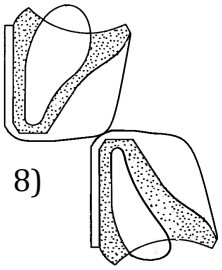
4) 

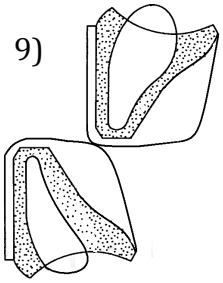
The Auxiliary Slider device *does* require slight modification prior to its delivery. The incisal occluding surface of the Auxiliary Slider is flat from end to end (5). In order to obtain a point contact during parafunctional occluding, the ends of the occlusal surface should be tapered to a thin edge (6), while maintaining the center area, resulting in the midpoint of the Auxiliary Slider being slightly thicker than the ends. The labial wall is shortened for comfort when used on the mandibular incisors. This can be easily and quickly performed prior to delivery.

5)  6) 

With the implementation of opposing devices, the list of variables to overcome becomes much shorter; in fact, it simplifies the standard NTI protocol. The more I began to provide an opposing Auxiliary Slider, the more it became part of my standard delivery protocol and I now provide an opposing Auxiliary Slider routinely. In fact, my current standard protocol is to look to provide *two* opposing Auxiliary Sliders! (7) (note the midline contact due to the tapered ends). When the mandible is in its retruded position, the incisal edge of the Lower Slider is occluding on the DE of the Upper Slider (8). When the mandible is in a protruded position, the Upper Slider's incisal edge is occluding on the DE of the Lower Slider (9). (ensure to slope the DE's as necessary to minimize VDO in extreme protrusion and retrusion.

7) 





What has turned out to be the biggest benefit is the absence of a DE that extends labially, so there is nothing impinging into the patient's lip, thereby enhancing patient comfort and compliance.

Implementation of two Auxiliary Sliders still obligates the practitioner to confirm that the opposing devices creates a point contact (the surfaces of both devices should be altered prior to delivery), and that VDO is minimized (both DE's can be ramped and confirmed at try-in).