

A New Occlusal Splint for Treating Bruxism and TMD During Orthodontic Therapy

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Nightguards or occlusal splints are widely used for treatment of bruxism and associated TMD.¹⁻¹⁵ In general, clinicians prefer to use full-arch, flat-plane splints as opposed to repositioning splints.¹⁶⁻²⁰ Holmgren and colleagues found that full-coverage splints do not stop bruxism, as evidenced by wear facets on the occlusal surfaces of the splints, but that they can reduce the signs and symptoms of TMD.²⁰ Explanations for this effect include: the splint puts the mandible in a more open position, thus stretching the jaw elevator muscles and reducing postural activity of those muscles²¹; the splint “unlocks” the mandible and permits it to move freely in a more comfortable postural position²²; or the splint distracts and unloads the TMJ.^{23,24}

When bruxism and TMD occur during orthodontic treatment with fixed appliances, conventional splints that conform closely to the teeth are difficult to use because of tooth movement and interference from the appliances. Previous methods for treating bruxism during orthodontic treatment have included anterior biteplanes and loose-fitting mouthguards. Some clinicians simply postpone treatment of the problem until fixed appliances are removed, even though this can result in extensive wear of incisal edges and cusp tips.

New Occlusal Splint

The new Bruxism “S” Splint* is unique in that it attaches directly to fixed orthodontic appliances. This full-coverage, flat-plane occlusal splint allows tooth movement to continue while preventing excessive tooth wear. It can be used in either the maxillary or mandibular arch (Fig. 1).

The Bruxism “S” Splint does not require

*Glenroe Technologies, Inc., 1912 44th Ave. E., Bradenton, FL 34203.

any impressions or lab work and is easily adjusted at chairside by dipping it in hot water and bending the clips to conform to the patient’s fixed appliances (Fig. 2). Archform can be cus-

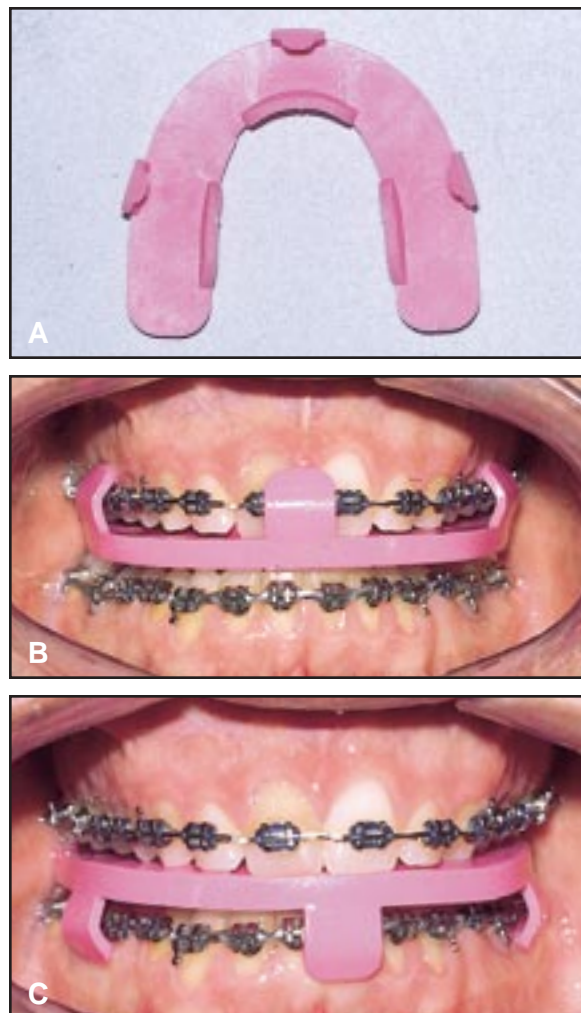


Fig. 1 A. Unmodified Bruxism “S” Splint. B. Splint fitted to maxillary arch. C. Splint fitted to mandibular arch.



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Fig. 2 A. Splint dipped in 180°F water to soften clips for adjustment. B. Clips bent inward with pinching motion. C. Clips adjusted to fit over fixed appliances.



Fig. 3 Distal end of splint, inner flanges, and retentive clip edges trimmed for fit and patient comfort.

tomized somewhat, but the standard form of the splint seems to fit most patients.

The distal ends, inner flanges, and retentive clip edges of the splint can be trimmed with a scissor for further patient comfort (Fig. 3), and the anterior clip can also be cut off if the patient feels it is uncomfortable. The two posterior clips, when properly adjusted, usually provide adequate retention for the appliance. The occlusal surface of the splint can be modified with an acrylic bur if necessary (Fig. 4).

Clinical observations and reports from patients in my practice indicate that the appliance is comfortable and effective when properly adjusted. Some patients have reported that they



Fig. 4 Occlusal surface of splint adjusted with bur.

have to take the appliance out during the night at first. My experience has been that this tends to occur with many types of removable appliances, including bionators, headgears, and positioners. I simply instruct the patients to keep putting the splint in before they go to sleep, and eventually they will get used to it so it can stay in all night. If retention of the splint is a problem, the clips can be tightened.

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