Splints For Temporomandibular Joint Dysfunction

When Temporomandibular Joint relationships do not coincide with dental occlusion or teeth occlude abnormally, muscles may become tender and other symptoms such as headaches, sinus pain, clicking jaw joints, and chronic neck and shoulder pain can occur. Temporomandibular Joint problems, when left untreated, lead to osteoarthritis, osteoarthrosis, and degenerative joint disease.

The technical staff at Great Lakes has seen many changes in the design of appliances to treat TMJ symptoms throughout the years. Our technical staff consistently attends seminars given by leading international clinicians. This expertise is reflected in the quality and broad range of applications that are provided as part of the Great Lakes’ standard of excellence.

Our normal in-lab fabrication time is five days; however, we realize that on occasion you may need an appliance fabricated in a shorter period. Feel free to call our toll-free number to prearrange any priority cases.

Please refer to the specific appliance for fabrication requirements. For the highest degree of accuracy and fewer chairside adjustments, a set of facebow-mounted models is recommended.

When unmounted models are received, our technical staff will mount them to a SAM® articulator. This is done with a jig, which provides average measurements of the distances between the condyles and the lower incisal edge, degree of inclination of the mandible, and centering of the midlines. These distances were derived from a measurement study of human skulls. In this way, we can provide you with the most accurate splint without facebow-mounted models. Great Lakes technicians have experience with nearly every type of articulator currently on the market.

Full Contact Splint with Anterior Guidance

J102
This splint is also known as the Superior Repositioning Splint. It is used for symptoms as stated above, without the presence of a clicking jaw joint.

This Splint is usually fabricated of clear Splint Biocryl material to fit over the maxillary or mandibular arch. Cold cure acrylic is added to achieve centric stops from the lower posterior buccal tips or upper lingual tips. Acrylic is added to the anterior region to form a ramp, providing incisal guidance and cuspid protection. The grinding of the ramp is accomplished on a semi-adjustable articulator which duplicates, as precisely as possible, the range of motion of the human jaw.

Material Options: Can be fabricated using Splint Biocryl (standard), Variflex™, or Hard/Soft.

Fabrication Requirements: Upper and lower stone models with a centric relation wax bite open a minimum of 2mm.

Lab Tip: Always provide an opposing model when bite planes are ordered or occlusal interferences are a concern.
**Overlay Splint**

**J104**

The Overlay Splint is fabricated on the Biostar® machine on either arch. It is usually constructed of an exceptionally hard polycarbonate material known as Splint Biocryl. As an option, the overlay can be made of Hard/Soft material. Hard/Soft is a dual laminate of hard polycarbonate and soft vinyl laminate material. The appliance is formed so that the soft side contacts the teeth on the arch the appliance fits onto and the hard side faces the opposing arch. This appliance can be used for bruxing patients or can be used as a base onto which acrylic can be added for other splint designs.

**Material Options:** Can be fabricated using Splint Biocryl (standard), Variflex™, or Hard/Soft.

**Fabrication Requirements:** Either an upper or lower stone model.

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**Flat Occlusal Plane Splint (Full Contact)**

**J105**

The Flat Occlusal Plane Splint is also known as a hard nightguard. The symptoms for using this splint are the same as for the Full Contact Splint with Anterior Guidance with no clicking joint present.

It is fabricated on the maxillary or mandibular arch. It is a full-coverage splint with an even, flat occlusal surface for the opposing teeth to contact. The Flat Splint opens the vertical slightly and allows the mandibular arch to sit comfortably in its own position coinciding with the Temporomandibular Joint.

**Material Options:** Can be fabricated using Splint Biocryl (standard), Variflex™, or Hard/Soft.

**Fabrication Requirements:** Upper and lower stone models and a centric occlusion bite open a minimum of 2mm.

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**Anterior Repositioning Splint**

**J103**

The Anterior Repositioning Splint, also known as the Pull Forward Splint, is used for the same symptoms as the Full Contact Splint with Anterior Guidance, coupled with a presence of a click in the joint. This splint is used to recapture anteriorly displaced discs.

This full coverage maxillary splint is used for night wear. These splints are usually fabricated with a wax bite bringing the mandible into a protrusive position.

The upper splint position is maintained by means of an acrylic flange, which rests lingual to the lower anterior and indexes the lower buccal cusps. The flange maintains position even at night when the jaw relaxes.

The lower splint maintains position with deep buccal, lingual, and incisal indexing of the upper cusp tips.

**Material Options:** Can be fabricated using Splint Biocryl (standard), Variflex™, or Hard/Soft.

**Fabrication Requirements:** Upper and lower stone models and a protrusive bite open a minimum of 2mm.

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**Tanner Splint**

**J109**

The Tanner or Combination Splint is fabricated, using cold cure, on the posterior segments on the mandibular arch. A lingual bar connects the acrylic segments and ball clasps are customarily used for retention. An acrylic cap is placed over the lower anterior teeth that also contacts the lingual of the upper anterior. Incisal guidance and cuspid protection are built onto the cap. Slight contact of the upper posterior lingual cusps are present to help maintain mandibular positioning.

**Fabrication Requirements:** Upper and lower stone models with a centric relation bite open a minimum of 2mm.
Splints

**Gelb Splint**
J106
The Gelb Splint is used to reposition the mandible and can also be used to recapture the disc. The Gelb is fabricated on the mandibular arch. It is usually fabricated in cold cure to a wax bite that brings the condyle into a more anterior, inferior position in the fossa and increases the vertical opening. There is posterior coverage connected by a lingual bar. The standard clasping is two ball claps for retention. Slight indexing of the upper lingual cusps is used to maintain the position.

*Fabrication Requirements:* Upper and lower stone models and a bite to the desired protrusive position open a minimum of 2mm.

**Kois Deprogrammer**
A125
The Kois Deprogrammer features a small anterior stop contacting the lower central incisors and slightly discludes all teeth. It can be worn at night to relieve muscle fatigue and headaches. It can also be used as a diagnostic tool as well as to determine centric relation and facilitate centric relation records.

*Fabrication Requirements:* Upper and lower stone models. Models will be mounted in the maximum intercuspal position.

**Cranham Deprogrammer**
A123
The Cranham Deprogrammer can be used for equilibration, centric relation records, or as a nightguard. This appliance features a small anterior stop contacting the lower central incisors and slightly discludes all teeth. It is comfortable for the patient, requires no retention clasping, and is easy to use. It is thermal-formed on the Biostar®, using 1.5mm Splint Biocryl, for exceptional retention and fit.

*Fabrication Requirements:* Upper and lower stone models. Models will be mounted in the maximum intercuspal position.

**Soft Biteplate**
A126
The Soft Biteplate is used for bruxing habits or bite disclusion.

**Mini Deprogrammer**
J111
Highly effective, the Mini Deprogrammer eliminates muscle-related TMJ facial pain for the vast majority of patients. Designed with an anterior bite plate contacting the centrals and laterals only, the appliance takes posterior teeth slightly out of contact to remove any interferences that can cause muscle disharmony and allows the condyles to properly seat. A flat bite plate option is also available but will require a greater anterior opening. To prevent super-eruption of posterior teeth, the appliance should not be worn more than 10 hours per day. The Mini Deprogrammer is thermal-formed on the Biostar®, using Splint Biocryl, for exceptional retention and fit. Designed for optimal comfort, the splint covers only the anterior teeth and palate. May be contraindicated for patients with internal derangement.

*Material Options:* Can be fabricated using Splint Biocryl (standard), or Hard/Soft.

*Fabrication Requirements:* Upper and lower stone model.