

### Effective, reversible treatment for TMJ and craniomandibular disorders!

Disorders of the jaw along with myofacial pain have become subjects of great concern for the dental practitioner today. More and more adult patients are suffering from Temporomandibular Joint (TMJ) dysfunction, local (neck, shoulder or sinus) pain, clicking in the joints, pronounced malocclusion, impaired excursion in the opening of the mouth or deviant motions of the jaw. Treatment alternatives may include orthopedic appliances, surgery, patient behaviour modification or the formation of scar tissue within the joint by electrical or chemical methods. However, because of the nature of many craniomandibular disorders, dental professionals are reluctant to make irreversible changes in condylar position without first having a reversible trial phase of therapy to determine if the desired benefits accrue and/or if the mechanical aspects of the masticatory system are stable. Of the currently available modes of therapy, orthopedic splints accomplish the greatest control with the least expense and the best reversibility.



*Dual-Flex.*

### Wide Variety of Designs

Traditionally made from hard acrylic and/or a soft polyvinyl material, splints are classified according to their function: disengaging splints, occlusion correcting splints and mandibular repositioning splints. Disengaging splints induce revelation of the masticatory muscles. This is accomplished by reducing, modifying or more widely distributing the afferent neural input from the occluding teeth. Occlusion correcting

splints temporarily eliminate chronic and acute malocclusion. Mandibular repositioning splints are used to prevent the disc-condyle complexes from returning to the fully occluded position or to set the condyles in a more favorable position. Some techniques require a smooth bite plane, others call for the occlusal facets to be ground into the completed splint, still others involve cuspid rise or anterior guidance inclines.



*MORA Appliance.*



*Clear-Flex.*

### Available:

*Disengaging and/or Occlusal Correcting Splints:*

- Clear-Flex
- Dual-Flex
- Maxillary Bruxism
- Mandibular Bruxism
- Horseshoe
- Protective
- Soft Bruxism
- Proform™ Soft Nightguard
- May T.M.J.
- Superior Repositioning

*TMJ Splints – Repositioning:*

- MORA/Gelb Appliance
- Anatomical
- Anterior Repositioning
- Levanoski Stabilization Repositioning

\* In addition to the designs listed here, the splint department at Space Maintainers Laboratories — Pacific Northwest fabricates a wide variety of other appliances.

## Indications:

- Screening for craniomandibular disorders is indicated for patients with head pain, at all initial dental examinations and for patients who are candidates for extensive dental repair.
- The objective of the splint is:
  - to reproduce the mandibular rest position as a centric occlusion position
  - to provide a therapeutic occlusion in harmony with the neuromuscular patterns
  - to provide disclusion guidance which frees the masticatory system from noxious posterior interferences
  - to provide a masticatory machine which can apply maximum force with minimum self destruction or pain.

## Contraindications:

- Long edentulous spans where denture teeth are required in the splint

## Treatment Procedures:

1. Conduct a comprehensive dental examination including:
  - complete medical and dental history
  - thorough dental exam
  - occlusal analysis
  - orthodontic survey
  - TMJ screening. A screening evaluation can be simply accomplished by a nurse or assistant in less than two minutes by utilizing the following process:
    - A. **FEEL jaw movement.** Use bimanual technique. From behind the patient, place your hands so the little finger rests against the ascending ramus. The other three fingers should be against the lower border of the mandible. Ask the patient to open wide, then close slowly. Do this passively and then with firm pressure applied coronally. Any pop, click, bump, grind or erratic movement will alert you to TMJ problems.

B. **ASK the patient.** Specifically ask about the following symptoms:

- Headache
- Grinding noise in TMJ
- Neckache
- History of jaw locking
- “Sounds in the ear”
- Pain in the TMJ area
- History of jaw pop/click
- Unable to open mouth
- Arthritis
- Pain in the TMJ/ear area

A positive answer suggests a possible craniomandibular disorder and requires follow-up.

C. **LOOK at the patient.** Visually evaluate for:

- Facial asymmetry
- Teeth missing
- Deviation on opening
- Teeth worn
- Open bite
- Teeth clash in movement
- Short lower jaw
- Mandibular dyskinesia

The presence of one or more of these conditions requires follow-up.

D. **LISTEN to the TMJ.** With a stethoscope, listen to the TMJ, first on one side, then the other. Use an open bell without a diaphragm to avoid confusion from skin and whisker sounds. Healthy joints are silent throughout the entire range of function. Any sounds such as clicks, pops or grating indicate the need for follow-up.

- E. Radiographic techniques such as transcranial or tomogram should be used for the purpose of confirming your clinical diagnosis.
2. Complete all caries removal and necessary restorative work before impressions for splint taken. The decay process can be accelerated if the splint is worn over carious lesions.
3. Upon delivery of the appliance, do any necessary occlusal adjustments.

4. Discuss with the patient how to insert, remove and care for the appliance.

## General Rules of Splint Adjustment

### Adjustment Interval

1. Adjust the splint at intervals of 1 week or less for the first month. This may mean 24 hour intervals on some patients and 7 day intervals on others.
2. Adjust when/if there is a change detectable with the shim stock.
3. Adjust when/if there is a change visible as a CR-CO shift on the splint.
4. Adjust if the splint is broken.
5. Adjust if there is wear at the border movement mark in lateral excursions from the cuspids.
6. Adjust when/if the patient reports any of the following:
  - Pain returning to the joint or teeth.
  - Headaches returning.
  - Soreness in front teeth – especially lower incisors.
  - “Loose” feeling of the splint.
  - Teeth no longer seem to have any place to rest against the splint.

### Grinding Rules

1. If you can't get back to the ideal occlusion in 3 minutes – reline the splint.
2. Generally, a thinner splint is a better splint (within the bounds of strength of materials).
3. Generally, the more shallow the disclusion, the better.
4. Severe splinting should be disrupted with some kind of central bearing or anterior guidance device which only allows anterior contact for a period of time prior to the splint adjustment.

### Stability

1. Stability is never certain.
2. Three months without detectable change is the minimum to accept as evidence that it is reasonable to begin any irreversible modification of tooth position or of the occlusal surfaces of the teeth.

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