

## A Remedy for TMJ pains?

By Daniel Cheng, DDS

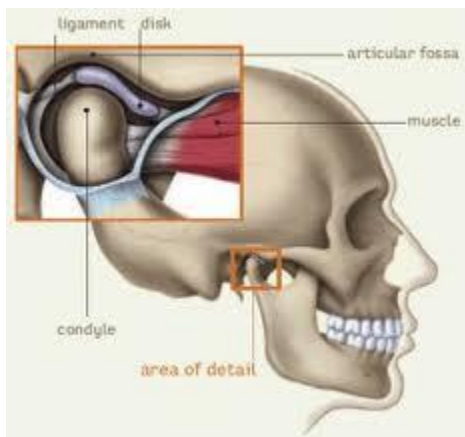
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Many of us can identify with the following pains:

- Teeth: sensitivity, prematurely worn out, unevenly worn, breaking, weakening/loosening teeth.
- Headache, jaw pain, limited ability to open mouth, jaw popping, jaw noises, ear ringing/pain.

If you suffer from any of the above symptoms, you could have a failing TMJ system.

Temporomandibular joints (TMJ) are a set of hinges located on either of the face by our ears that connect the jaw to the base of the skull. Between these joints, a set of TMJ discs allows the TMJ to glide without unwanted stress on our muscles, tendons, and bones. Each component contributes to the smooth operation of the TMJ; when they work in harmony with each other, we are able to talk, chew, swallow or open mouth without pain.



[http://www.youtube.com/watch?v=itm8j4sqNnU&feature=player\\_detailpage](http://www.youtube.com/watch?v=itm8j4sqNnU&feature=player_detailpage)

There are two main causes of TMJ failure which leads to pain.

1. One is self-inflicted. Bruxism (night grinding or clenching of teeth), habitual gum chewing, heavy chewing or fingernail biting, missing teeth, or lack of quality dental care.
2. The other is caused by trauma to the face or Malocclusion (misalignment of teeth or bad biting position). Unfortunately, dentists could create bad bites. If a dental restoration was not performed correctly, or orthodontic treatment was poorly planned, patients may have difficulty finding a comfortable bite or find that the way their teeth fit together has changed. Changing biting habit to accommodate misalignment of teeth can lead to TMJ problems.

To simplify our discussion of oral mastication system, I would propose that we have two biting positions. One position (#1) is where all teeth fit closely together regardless of the position of temporomandibular joints. **This is our current biting position. The other position (#2) is where our jaw joints dictate how teeth come close together. For some people at the position #2, teeth might not close together at all. The greater the difference between position #1 and #2, the higher chance of having TMJ problem and greater severity of TMJ pain.** TMJ work together like a swing, articulating in a smooth arc. But when teeth are in the wrong position (malocclusion), the disturbance from teeth contacts could permanently disrupt the placid movement of TMJ. Ideally, we want teeth to close together where TMJ are in an ideal resting position (When there is no disruption in movement. **Position #1 is exactly the same as position #2**). However, **if teeth close in an uncomfortable position for TMJ**, it would place stress on TMJ. Instead of working harmoniously like a pair of sharp scissors cutting down foods effortlessly, our mastication becomes rocks churning in a blender. If such a mismatch continues for a prolonged period of time, then something will have to give out - teeth, TMJ, or both.

Most people are adaptable to certain degrees of mismatched positions of TMJ vs. teeth. We learn to chew on the side that does not hurt. After a while, most of us learn to self-adjust for the imperfection and bear the nuisance. However, some can never adapt to the mismatch. Even worse, some eventually develop persistent dental pains like me.

After undergoing countless courses and readings and practicing on myself, I discovered a "band-aid" for my symptoms.

### **Orthopedic Stabilizing Appliance Therapy (O.S.A.)**

What does the appliance do?

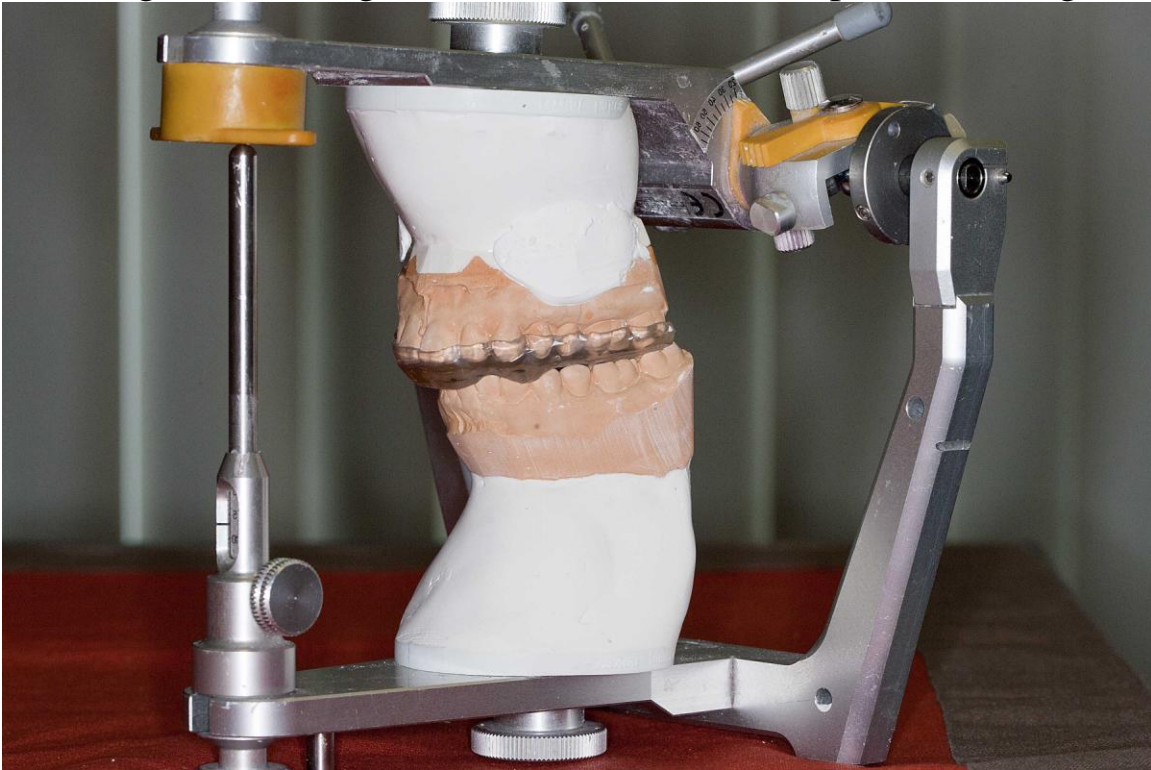
Provide a temporary ideal bite position where upper and lower teeth can meet without putting stress on TMJ and facial muscles. This would eliminate the mismatch of teeth contact and TMJ position which could lead to TMJ problems. It is a great diagnostic tool for bite-related problems. It's 100% reversible and non-invasive. The stability it provides will strengthen loose teeth caused by bad bite as well as other symptoms such as chipping teeth and sensitivity to cold or touch. The worst side effect is nothing.

Who might benefit from it?

- Patients who use post-orthodontic retention. OSA is a lot more stable and comfortable than orthodontic retainers.
- Patients who have had complex restorative or cosmetic treatment. OSA can prevent premature breaking and chipping.
- Patients who experience TMJ pain, headache/ neck pain, grinding, clenching, jaw popping, and jaw sounds.

Why not just buy a \$20 Wal-mart splint, or one size fits all mouthguard?

Our teeth can detect thicknesses as small as 10 micrometer (0.000010 M). The average thickness of hair is 100 micrometer. Over-the-counter splints have the accuracy of a couple of millimeter at best (2000 to 4000 micrometer). Accuracy isn't there! A poorly-fitted splint can cause more bite interference (hence it would wear out faster), distressed muscles, tendon, joint, and intruding or extruding teeth, all of which are irreparable damages.



### **Orthopedic Stabilizing Appliance Therapy (O.S.A.)**

#### Case #1



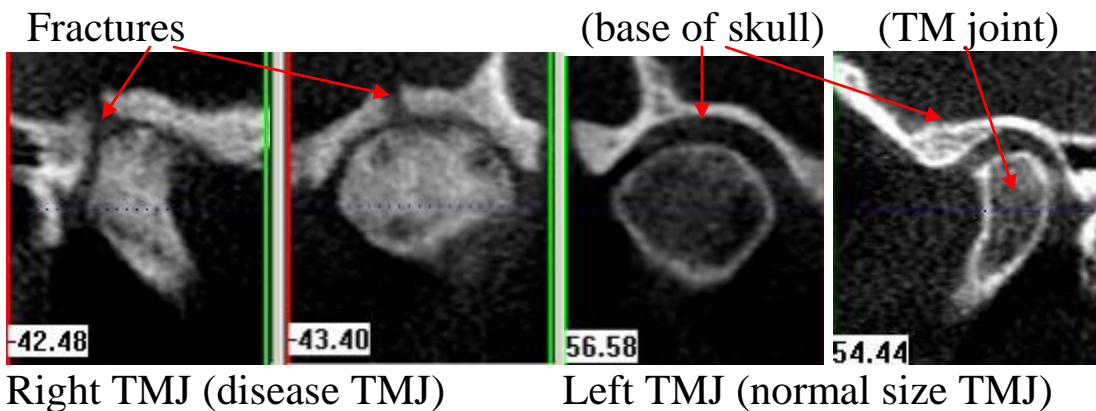
2006 Pre Therapy



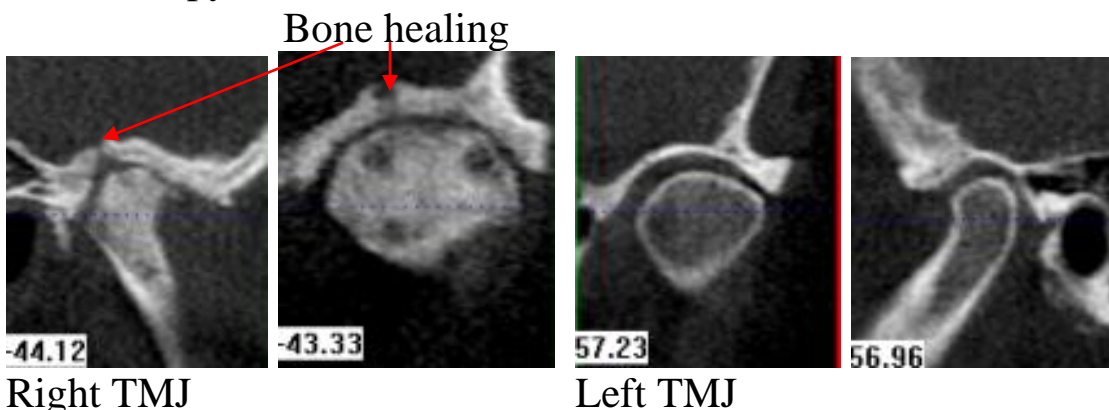
2010 Post OSA Therapy

A retired teacher has experienced head & neck pain for as long as she could remember. She was taking several over-the-counter analgesic as well as prescription pain killers and steroids for her

TMJ pains. The medication did nothing to relieve her symptoms. She was treated by a TMJ specialist from Arcadia without any positive improvement. After examining her, I ordered a 3-D CT scan for her. Her radiologist diagnosed her for advanced degenerative joint disease. Her TMJ shows signs of severe sclerosis, erosion, and flattening. Worst of all, excessive forces from her malocclusion have actually fractured the base of her skull!



Soon after she started OSA therapy, she began feeling a lot better and was able to stop taking OTC and prescript drugs for her TMJ pains. Here's a 3-D CT scan done after one year of night-time OSA therapy.





The communication at the base of the skull seemed to be repairing itself. Quoting her Oral & Maxillofacial Radiologist: “For the most recent scan, there was NO radiographic evidence of active DJD as compared to the previous scan.”

## Case #2

A 36-year old woman had severe head & neck pain starting a few years after orthodontic treatment at age of 16. Since then, she had several molars fractured and replaced with crowns. After gaining relief of TMJ pain from her night time therapy, she started full time therapy for a more permanent fix. Though she is now comfortable with her TMJ position, her bite is far off. Her poorly planned orthodontic treatment has locked her TMJ in a mismatched position for 20 years!

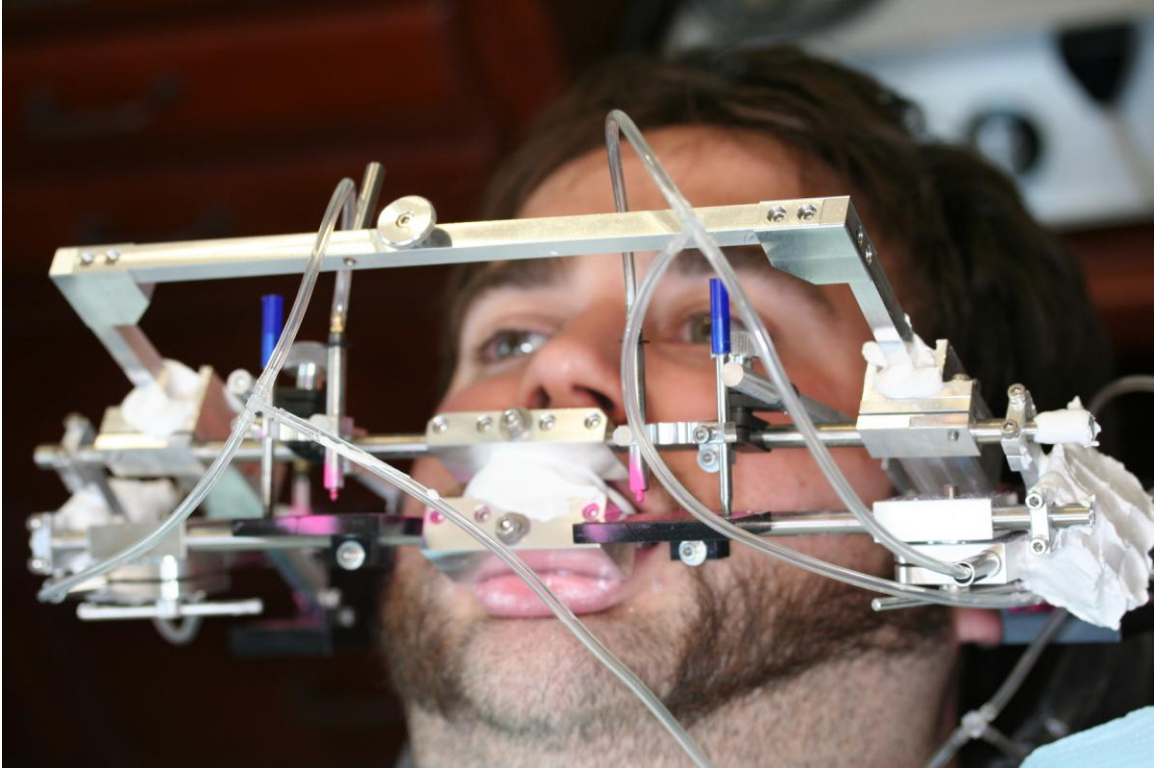




Note that only two of the back teeth in her mouth are actually touching, nothing in between! She would require orthognathic surgery, a new orthodontic treatment, and full mouth rehabilitation to correct the damage from the bad braces she had done 20 years ago.

I strongly recommend anyone who's in need of any major dental work, i.e. multiple implants, crowns, dentures, and orthodontic treatment - have your TMJ and biting position analyzed prior to commencing treatment. Within a few days after any restorative or orthodontic dental treatment, patients should not feel any discomfort when teeth are put to work. Patients should inform their dentists to the contrary. Our delicate TMJ system does not tolerate imperfection. Neither should you.

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