

TMJ Dysfunction and Massage Therapy

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Researchers have strived for many years to understand the function of the temporomandibular joint. The physician, massage therapist, physical therapist, orthodontist and dentist will each have their own ideas as to the treatment of the TM joint. Since perspective can create narrow focus, there is diverse disagreement as to the cause of pain. Each practitioner tends to approach it from only one angle, the one of his/her most extensive training. The dentist or orthodontist will consider the joint itself, the psychologist the emotional factors. The massage therapist or physical therapist will consider the muscles and postural alignment and the chiropractor the spine's alignment and head position. Who is right? They are possibly all correct, since perspective is everything! What the treatment of this syndrome needs is a practitioner who knows it all OR a team who works together, understanding the importance of each component and how they interrelate.

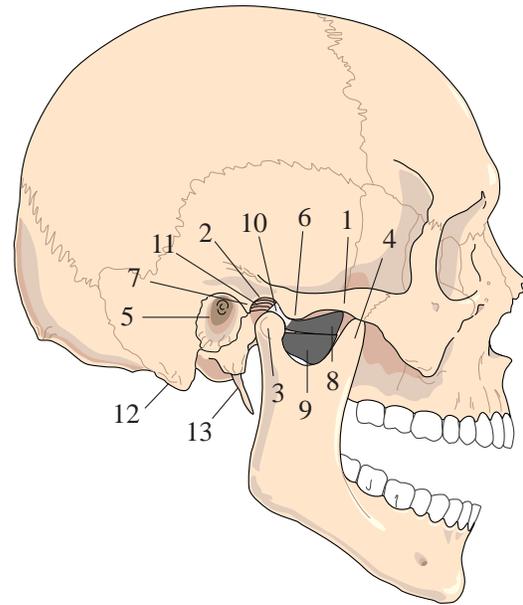
Successful and unsuccessful treatment of craniomandibular pain syndromes has included dental equilibrations, oral surgery, extraction of teeth, extensive bridgework, facial surgery, physical therapy, injections, craniosacral therapy, chiropractic therapy, massage, ophthalmology, ENT evaluation, medications, acupuncture, biofeedback, and an abundance of other less known procedures, all of which will have unpredictable success or failure. Many cases will respond to a particular therapy, and then, for no apparent reason, stop responding and return to a point of misery and discomfort.

What, then, is the practitioner to do in order to achieve a longlasting result that creates a healing change rather than a temporary remission of symptoms? Where do the varying fields of treatment overlap? How much "therapy" is enough, without being too much for a patient to handle when considering time, effort and money? Many of these questions can be addressed by a thorough examination of the soft tissues and cooperation with the dental team treating this condition.

Skeletal Anatomy of a Functional TM Joint

Temporo refers to the temporal plate. Mandibular is the mandible. Temporomandibular joint is the articulation of the condyle of the mandible into the fossa of the temporal plate.

The articular fossa (2) is an indentation on the temporal plate located just in front of the ear. The mandibular condyle (3), the most posterior/superior portion of the mandible, has a rounded top which fits into that indentation. In between these two structures is a disc (10). The disc is a bit smaller than and more ovoid than a Lifesaver™ candy, and, instead of a hole in the middle, the round pad of fibrous material is thinner in the center and thicker around the edges. This allows the disc to be "seated" onto the condyle and to be carried forward by the condyle as it translates during movements of the jaw.



Anatomy of Temporomandibular Joint

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| 1. Zygomatic Arch | 8. Lateral pterygoid superior division |
| 2. Articular fossa | 9. Lateral pterygoid inferior division |
| 3. Mandibular condyle | 10. Disc |
| 4. Coronoid process | 11. Bilaminar zone |
| 5. Auditory meatus | 12. Mastoid process |
| 6. Articular eminence | 13. Styloid process |
| 7. Tympanic portion of temporal bone | |

The lower head of lateral pterygoid (9) attaches onto the neck of the mandibular condyle. The upper head of the lateral pterygoid (8) usually attaches onto the anterior aspect of the disc. As the mouth opens, the condyle and disc simultaneously move forward and down the slope of the articular eminence (6). The disc in a healthy joint will glide forward with the mandibular condyle as it descends the articular eminence. The condyle's ride down the posterior aspect of this upside down mountain is what actually gives the mandible its opening effect since forward pull by the lateral pterygoid would only cause protrusion of the jaw.

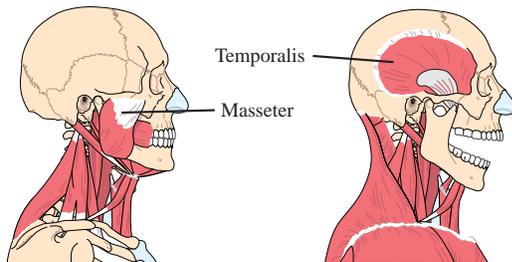
The TM joint is a synovial joint filled with a slippery synovial fluid that allows gliding motion and also nourishes the joint. Considering that this motion occurs every time the mouth is opened, not only for chewing, but for talking, drinking, singing, etc., this disc must be made of a resilient substance, indeed.

In a healthy, functional joint, symmetrical movement and good synovial fluid lubrication is needed. As the condyle translates forward, the disc translates with it down the articular

eminence with the right and left joints moving at the same time. As the mouth closes, each disc returns to the fossa with its condyle, being pulled there by elastic fibers which attach the disc posteriorly to the tympanic portion of the temporal bone (7) and to the condyle. The upper head of the lateral pterygoid may stabilize the disc during closure.

Within the joint itself are two chambers, one above the disc, the other below it. Both of these chambers need healthy lubrication (synovial fluid) and good proprioceptive (pressure) information. When the jaw bites hard on anything, the receptors inside the joint signal to the brain how much pressure is being used. Without that information, damage could result to the disc, joint surfaces or to the teeth.

The mouth is closed by the contraction of the masseter, medial pterygoid and temporalis muscles. These powerful muscles exert a tremendous force which masticates food, protects by biting and serves as an incising tool. Excessive distress of these muscles may lead to bruxism (clenching and grinding the teeth) which contributes to TMJ pain and dysfunctions of the joint.



Dysfunctional TM Joints

In dysfunctional joints, non-symmetrical movement or loss of range of motion may be displayed due muscular imbalance or to a derangement of one or both discs. If the disc has become displaced anteriorly or torsioned on the condyle, the patient may experience a popping or clicking sound or a jerking or zigzag movement when opening or closing. Range of motion may be reduced significantly and pain may or may not accompany the symptoms. The disc may also be completely or partially destroyed or the condylar head may be eroded by osteoarthritis.

Symptoms reported with a dysfunctional TM joint may include pain which is constant or sporadic, masticatory muscle tenderness, a clicking or popping sound, head pain, a locking sensation, and limited opening with or without deviations of the mandible. Any or all of these symptoms, as well as others, may be present.

Causative Factors of TMJ Dysfunction

Some of the most common factors include:

- ❑ Intrajoint dysfunction - adhesions, scarring, displacement or destruction of disc(s), arthrosis, deposition of calcium
- ❑ Musculoskeletal - hypertonic muscles, referred pain from trigger points, postural distortions, skeletal misalignments

- ❑ Occlusal factors - loss of vertical dimension, premature contacts, other malocclusal conditions
- ❑ Psychological - stress load, emotional distress, depression, neurosis
- ❑ Biochemical - hormonal, neurostimulants, allergies/food sensitivities (both known and hidden), chemical exposures, drugs (prescription, OTC, recreational), mineral and vitamin deficiencies, biochemical imbalances or toxicity

There are many causal factors of chronic facial pain. Injuries may occur from direct trauma, such as a blow across the face, overstretching the mouth when biting, or from extensive bridgework. Immobilization of the mandible when the mouth is wired shut, or pressure applied when traction equipment, head gear or cervical collars are worn, may distress the joint. Pulpal inflammation may lead to abscess of the tooth and related swelling. Neural compression of the trigeminal nerve as it passes through a muscle or by the base of the skull may irritate the nerve supply.

The parotid gland (superficial salivary gland), the joint capsule, the pre-auricular lymph nodes and muscles of the TM joint all need consideration when massaging the craniomandibular area. Many massage therapists work on and around this joint. An understanding of the structures and precautions will help prevent irritation to the area and may assist to eliminate some of the causes of pain and dysfunction.

Reconstructive dentistry may be necessary for the many people suffering with craniomandibular dysfunction (TMJ syndrome). Vertical dimension may need to be restored. The position of the teeth may need to be changed (orthodontics). Bite splints or night guards, worn over a period of time, may assist to decompress the joint. These procedures can be expensive, yet necessary for recovery.

TM joint dysfunction needs a full team approach, with massage therapy being an important component to rehabilitation. Practitioner training for treatment of the TM muscular tissues is highly recommended, however, knowledge of postural distortions and structural compensations are imperative. Treatment of the remainder of the body and of existing structural dysfunction usually results in a better outcome.

About the author: Judith (Walker) DeLany, founder/director of the NMT Center, is an international speaker on the treatment of soft tissue pain and dysfunction. Her extensive training in the area of TMJ dysfunction includes seven years as a chairside dental assistant and almost two decades of instructing advanced massage techniques.

Judith has co-authored two texts (with Dr. Leon Chaitow) titled *Clinical Application of Neuromuscular Techniques*, (vol 1, the upper body, and vol 2, the lower body). She serves as associate editor of *Journal of Bodywork and Movement Therapies*, a peer-reviewed publication by Elsevier Science.

Judith has presented TMJ material for many conferences, including the Florida Chiropractic Association, Florida State Massage Therapy Association and AMTA National Convention as part of a team approach for practitioners who address cervicocraniomandibular dysfunction. She can be contacted through the NMT Center, 900 14th Ave. N., St. Petersburg, FL 33705, by calling (727) 821-7167, or by visiting her website at www.nmtcenter.com.