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TMJ Orofacial Pain

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Temporomandibular Joint Disorders

Introduction

Temporomandibular joint (TMJ) pain and related symptoms are conditions you will likely see in the acupuncture clinic. The temporomandibular joints are the two joints connecting the lower jaw to the skull. TMJ *is a blanket term we commonly hear to refer* to a collection of joint-related symptoms that affect the face creating mild to severe discomfort. Technically, the TMJ is the anatomical structure, and temporomandibular joint disorder is the pathology. The terms temporomandibular joint disorder (TMD) and temporomandibular joint syndrome are also often used interchangeably. Additionally, you may see the condition referred to as temporomandibular joint dysfunction.

The temporomandibular joint is a complicated structure and it appears the naming of its disorder has been equally complicated. At one time, Costen's syndrome was considered to be the cause of TMD. In some older literature, you may find TMD also called Costen's syndrome, a condition named after Dr. James Costen, the otolaryngologist who earlier described many of the symptoms in relation to dental malocclusion. Later, it was referred to as temporomandibular pain and dysfunction syndrome (TMPD) and then just 'TMJ' or TMD. For many years, the condition was considered a dental pathology. Now, the medical field recognizes TMD as a condition involving a number of symptoms not necessarily dental-related, such as facial pain and earache. The current trend of referring to the condition as temporomandibular joint disorder(s) seems more appropriate.

The American Academy of Orofacial Pain (AAOP), the American Dental Association (ADA), and most research sponsor groups prefer the term TMD. However, the National Institute of Dental and Craniofacial Research uses the combined abbreviation

temporomandibular joint disorder (TMJD). The National Institute for Health refers to the condition as either TMD or TMJ syndrome. For simplicity sake and to follow AAOP and ADA preference, the author of this course will refer to the condition as TMD and the joint as TMJ.

Since TMD involves an area of the body which may be treated by either dentists or medical doctors, your patients may come to you already having experienced a variety of therapies. Acupuncture for some patients may be a last resort before surgery. Besides surgery some other common treatments include pain medication, orthodontics, crown and bridge work, bite guards, and even Botox®. For the acupuncture practitioner, understanding how to treat TMD with Traditional Chinese Medicine (TCM) may provide patients in many cases an important alternative to more costly or invasive treatments.

This course will cover in detail the anatomy and physiology of the joint, the pathophysiology of TMD, symptoms, differential diagnosis, treatment options both Western and TCM. Some other holistic methods will also be suggested, but the focus of this course will be on how to use acupuncture to treat TMD.

Biomedicine

TMJ Anatomy and Physiology

The TMJ is the most used joint in the body, closing and opening on average 1500 – 2000 times a day. It allows the mouth to open and close, as well as allowing the lower jaw to protrude, retract, and move side to side. The TMJ has an important job assisting us in talking and eating.

This joint is formed where the mandibular condyles and mandibular

fossa meet with the articular tubercles of the temporal bone. The two temporal bones are major bones of the head, forming the inferior lateral aspects of the cranium and part of the floor of the cranium. The mandible is the largest and strongest bone of the head. Besides the auditory ossicles, the mandible is the only other bone in the head that moves. The bony surfaces of this joint may be seriously affected by trauma, bruxism (grinding of the teeth), arthritis, poor alignment of the teeth, and congenital defects.

The TMJ is classified anatomically as a synovial joint (fluid-filled cavity) comprising of hinge and planar joints. The joint cavity is actually divided into two parts by a meniscus, which is a fibrocartilaginous disc. The TMJ is classified by function as being a diarthrosis joint. Joints classified as diarthrosis are all freely movable and contain synovial fluid. Recall, synarthrosis joints are classified as immovable joints. Amphiarthrosis refers to slightly movable joints.

Diarthrosis joints may function spatially as nonaxial (e.g., intertarsal joints), monaxial (e.g., elbow joint), biaxial (e.g., radioulnar joints), or multiaxial (e.g., hip joint). Diarthrosis joints may also vary significantly in size and shape, but as mentioned above, they all move freely. Also, these type of joints are further categorized by sub-classes of movement, such as:

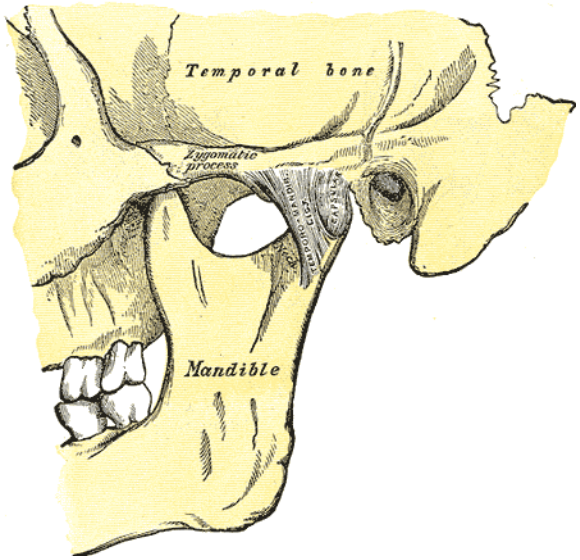
- Hinge – Monaxial diathrosis, angular motion
- Planar – Nonaxial diathrosis, gliding motion
- Pivot – Monaxial diathrosis, rotating motion
- Condyloid – Biaxial diathrosis, angular motion
- Saddle – Biaxial diathrosis, angular motion
- Ball-and-socket – Multiaxial diathrosis, angular and rotating motion

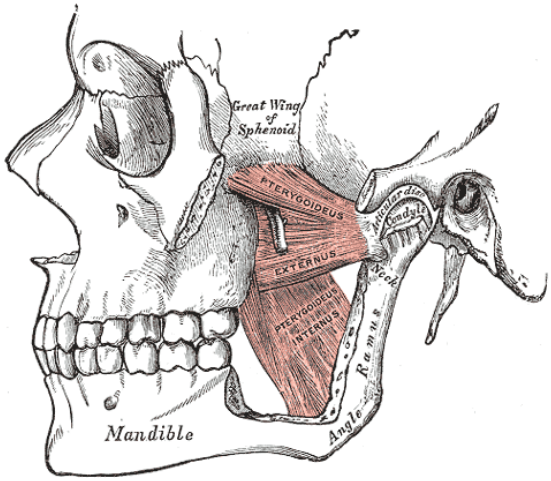
The mandible itself is interesting because it has many physical landmarks, including three major openings (two mandibular foramina

and the mental or chin foramen). Many nerves and blood vessels pass through these foramina to the teeth. In fact, the V3 section of the Trigeminal nerve innervates the mandible; which is why sometimes TMJ pain is confused with trigeminal neuralgia.

Dentists use the mandibular foramen when accessing nerves to inject dental anesthesia. An important thing for acupuncturists to note is that the mandible has a very rich blood and nerve supply since it supplies nutrients and innervation for the teeth. Acupuncturists should also be aware TMJ pain may be mistaken for trigeminal neuralgia.

Temporomandibular Joint





Pathophysiology

TMD is a condition often characterized by a clicking or popping noise

when opening and closing the mouth, dull pain at the location of the temporomandibular joint, reduced range of joint motion, earache, headache, toothache, and/or grinding of the teeth. So, what causes TMD? To date, biomedical experts have not delineated an exact mechanism for TMD. Specific causes vary from patient to patient. What experts do know is that certain patterns are evident with the condition, and they have been able to identify at least two sub-categories of TMD:

- Muscular – relates to the fascia and muscles of the jaw and neck
- Arthritic – refers to degenerative joint disease and autoimmune disease, which may affect a single temporomandibular joint or both joints.

Muscle Strain and Trauma

Mastication and movement of the mouth or jaw depend on a large number of muscles. The temporalis, masseter, buccinator, and pterygoid muscles are important muscles of mastication. The sternocleidomastoid and trapezius are other significant craniocervical muscles responsible for moving the head and neck. The platysma muscle helps pull the lower lip down and depress the mandible among other functions.

Trauma can occur to the muscle or other soft tissue (such as the TMJ ligament) as well as to the mandible itself. Trauma to the jaw may lead to pain and inflammation and even mandibular fracture or dislocation at the joint. Muscle trauma via clenching of the jaw muscles or grinding of the teeth (bruxism) may contribute significantly to the TMD. However, as aforementioned no one has determined the exact cause of TMD because symptoms and pain levels can be difficult to assess.

Moreover, trauma can be classified as macrotrauma or microtrauma. Macrotrauma usually occurs as a result of a direct punch or

accidental impact to the jaw. Macrotrauma can cause bruising, damage the TMJ meniscus, or dislocate the actual joint. Microtrauma results, on the other hand, from internal dysfunction such as constant clenching of the jaw muscles or excess grinding. Microtrauma may eventually lead to misalignment of the teeth.

Teeth grinding and clenching are habits initially causing muscle spasms, inflammation and pain, but eventually these poor habits can lead to severe damage to the teeth and actual TMJ damage. Both bruxism and clenching are often due to pyscho-emotional causes and may occur subconsciously. When addressing these symptoms, the acupuncturist will want to address stress and anxiety factors.

Arthritic

Arthritic conditions can also contribute to TMD. Degenerative joint disease (osteoarthritis) may affect one or both of the TMJs just as it does anywhere elsewhere in the body. Aging may cause the articular processes to wear and degrade or dislocation of the meniscus may occur. The patient may experience limited range of movement, dull achy pain, and difficulty chewing. Generally, osteoarthritis of the TMJ occurs on one side. Like other joints in the body, the TMJ may also be susceptible to rheumatoid conditions. With rheumatoid TMD, the patient may experience times of relapse followed by flares of inflammation and pain. The condition will also be bilateral.

Malocclusion and other causes

Malocclusion means misalignment of the teeth or jaw resulting in problems with the way the teeth articulate (commonly called the ‘bite’). Currently, there is a debate whether malocclusion is a true cause of TMD. The fact stands that not everyone who has malocclusion develops TMD. At this time, the research to support a causal relationship between TMD and malocclusion is inconclusive.

TMD affects women more than men. Some researchers have

proposed a hormonal cause to TMD. However, the data is currently inconclusive and of insufficient amount to support a direct correlation between TMD and gender related hormonal secretions.

TMD may be related to a number of other factors in addition as those already mentioned. A condition called retrodiscitis can occur as an inflammatory response to trauma or malocclusion. Ankylosis, tumors, and congenital deformities may also lead to TMJ dysfunction or facial pain.

Symptoms

Patients may experience one or a combination of TMD symptoms. The symptoms may be acute or chronic in nature. When ear pain is associated with TMD, the condition tends to become chronic. The following are some the symptoms you may see in TMD:

- Bruxism
- Malocclusion
- Clicking or popping in the ear with jaw movement (crepitus). Crepitus often occurs in more advance stages of the disorder.
- Chronic, dull pain involving the muscles of mastication (i.e., masseter, temporalis, and pterygoid)
- Jaw or face pain that worsens with chewing
- Earache that is usually exacerbated by chewing or bruxism
- Tinnitus
- Headaches triggered by chewing
- Facial pain with tenderness of the masticatory muscles, usually pain is triggered by jaw movement
- Neck, shoulder, and back pain
- Unilateral facial swelling

- Limited range of joint motion
- Muscle spasms
- Tenderness of the TMJ area
- Deviation of the mandible to one side (lateral deviation)

In the majority of cases, the discomfort and symptoms are not significant and may occur only occasionally. However, in some instances the pain can be quite severe and chronic. For some individuals, TMD can interrupt their daily activities such as sleeping and eating, and even working.

Incidence

TMD is a common condition with as many as 10 million (25%) of the US population suffering from some degree of TMD. TMD is more prevalent in females than males in a ratio of about 4:1, some experts suggest women may be as much as 5 times more likely to have the condition. The condition is not more prevalent in a specific race or ethnicity, but the condition does seem to more commonly affect people between the ages 20 – 40 years. In a study of 299 women age 18 – 60, data revealed that female smokers under age 30 may be more likely to develop the condition than older women.

TMD is considered the second most common cause of facial pain behind toothache, and it's considered by some as the second most common musculoskeletal condition after lower back pain resulting in pain and disability. A person's ability to eat, sleep, or concentrate may be considerably impaired with TMD. In a Brazilian study evaluating the effect of TMD pain on the quality of life, TMD patients reported the condition significantly affects their lives in a variety of activities. The four main areas surveyed included work, school, sleeping, and appetite/eating.

Diagnostic Exam

The clinician should perform a thorough assessment to determine TMD. Depending on the specialty of the clinician, a variety of tests may be performed. At the minimum, a physical exam is required. The physical exam should check for:

- Inability of the jaw to fully open
- Unilateral swelling
- Lateral deviation of the jaw
- Spasms or twitches of the facial muscles. Calcium levels should be checked since low levels of calcium may also lead to facial twitches.
- Improper motor reflexes
- Tenderness of the TMJ area to palpation
- Dislocation or improper movement of the TMJ
- Clicking or popping of the joint (crepitus)

Diagnostic Tests for TMD

Diagnostic Test	Description
Chvostek's test (Hypocalcemia)	• The clinician can use this test to check for hypocalcemia by gently tapping over the parotid gland area of the masseter muscles. Abnormal spasms elicited by light tapping may indicate hypocalcemia.
Reflex test	• The clinician can check for pathology of Cranial Nerve V or motor neuron lesions by placing a finger on the patient's chin with the patient's mouth open and gently tapping with a reflex hammer. If the patient's mouth closes, it may indicate Cranial Nerve V pathology. If the patient has an excessive or hyper-reflex, it may indicate a motor neuron lesion.
Joint tenderness	• The clinician can gently press on the tragi and press gently forward while the patient opens his or her jaw.
Dislocation	• The clinician can place his or her index fingers in the auditory canal and have the patient open and close the jaw.
Crepitus	• The clinician can have the patient open and close his jaw and listen for clicking or popping noises. Crepitus is usually due to a type of internal derangement of the joint called an anterior disc displacement. Crepitus is more common in advanced stages.

The following tests may also be performed to differentiate TMD from other conditions:

- Lab analysis – including but not limited to: complete blood count (CBC), uric acid buildup for presence of gout, calcium and phosphates for bone disease, serum creatinine levels for myopathy, and rheumatoid factors
- Imaging – Individual and panoramic x-rays, CT scan, and MRI
- Nerve block – a diagnostic nerve block of the auriculo-temporal nerve can help determine the origin of orofacial pain.

Differentiation of TMD

Comparative Disease	Description
Dental Infection	Throbbing pain, redness, and swelling of the gums or soft tissue of the mouth. May have pain when applying pressure to specific teeth.
Mandible Dislocation or Fracture	*Dislocation* – Pain and difficulty moving the jaw. The condylar head may be palpable with lateral dislocation. *Fracture* – May occur as result of trauma, trauma may involve fracture in two or more locations, a large percentage of mandibular fractures are open. The fracture may be palpable in some cases. The patient may have tenderness, swelling, and malocclusion.

Cluster, Migraine or Tension Headache	*Cluster* – Occurs more commonly in middle-aged men; episodic, unilateral periorbital pain; severe pain may be accompanied by nasal congestion, lacrimation, and redness of the eyes. *Migraine* – Pulsatile headache; typically unilateral pain that may be accompanied by nausea vomiting, and sensitivity to both light and sound; transient neurological symptoms (aura) may in some cases precede the pain. *Tension* – Most common type of headache; headache may be accompanied by cranial tenderness, difficulty concentrating, muscle tightness, or gripping non-pulsatile pain.
Otitis Media	Earache usually occurs with viral respiratory infection, which leads to secondary bacterial infection of the middle ear; the secondary bacterial infection causes purulent discharge and otalgia (ear pain). Frequent bouts of *acute* otitis media can lead to *chronic* otitis media with tympanic membrane perforation. The strains of bacteria differ in acute and chronic otitis media.
Sinusitis	Usually occurs with an upper respiratory infection, fever, discharge.

Trigeminal Neuralgia	Stabbing, episodic pain near one side the mouth, unilateral pulling of the facial muscles; pain may radiate to the eye, ear, or nose; disorder of second and third divisions of trigeminal nerve.
Mandible (jaw) claudication	Facial pain as a result of giant cell arteritis, pain develops progressively as result of chewing.

Biomedical Treatment

Most temporomandibular joint disorders are temporary and symptoms may resolve with or without treatment. About 50% of patients are better within a year and 83% of patients find the symptoms have improved within 3 years. Initially, most treatment is conservative and may simply begin with the recommendation to rest the jaw, to avoid chewing gum, and to use warm or cold compresses.

The dentist may fit the TMD patient with a bite guard/plate or splint. Non-steroidal anti-inflammatory drugs (e.g., ibuprofen) or muscle relaxants may be prescribed. Some patients may receive injections of Botox® to relax the muscles or cortisone to help relieve the inflammation and pain. In more severe cases, the patient may be referred to pain specialist, oral surgeon, or maxillofacial specialist. As a last resort, invasive methods such as surgery are necessary to correct improper alignment of the mandible or congenital defects. Trigger point therapy, Swedish massage, gentle jaw exercises and acupuncture are some non-surgical/non-pharmacological methods providing relief for patients.

Who Treats TMD?*

Massage Therapists
Acupuncturists
General Physician
General Dentists
Orthodontists

Complex cases may require:

Maxillofacial Surgeons
Pain Specialists
Neurologists
Rheumatologists

*Dentists are often the first healthcare provider the TMD patient sees. However, patients may also seek help from other healthcare practitioners since there is not a medical specialty devoted to TMJ disorders. The National Institutes of Health suggest patients suffering from TMJ problems choose a provider who at least understands musculoskeletal disorders and has received training in treating pain.

TCM Treatment

A number of well-designed studies show the effectiveness of various forms of acupuncture (e.g., scalp, body, laser, electro-acupuncture, etc.) in treating TMD. A 2010 meta-analysis of several studies conducted at the Universidad European de Madrid revealed acupuncture as being a “reasonable adjunctive treatment” for TMD. Studies in Sweden and Norway showed acupuncture as being an effective treatment for TMD and TMD – related tinnitus when used with dental appliances. A study in Brazil showed acupuncture improved neuromuscular activity of the masseter after 3 months. A pilot study by the University of Arizona researchers in 2008 showed a significant reduction in pain and psychogenic symptoms with TCM and naturopathic methods compared to “state-of-the-art specialty care.” Initial research in Taiwan has shown laser acupuncture as improving symptoms in patients with “treatment-resistant TMD.” Acupuncture and TCM can definitely help your TMD patients find relief from their pain and discomfort.

Mechanism

According to TCM theory, TMD can develop via a number of mechanisms. As discussed earlier, there is not one singular cause of TMD. However, degeneration or deformity of the actual joint can occur as well as stress and trauma leading to obstruction of qi and blood. Stagnation of qi can lead to heat. As mentioned earlier in this course, stress and trauma play a significant role in the development of the symptoms.

A major TCM view is that TMD is a disorder of the Stomach meridian. The Stomach meridian runs through the jaw. When stress causes the muscles in the jaw to tense, this action leads to obstruction or stagnation in the Stomach meridian. Stress can further create muscle tension in the cervical region leading to TMD symptoms. The Small Intestine, Gallbladder, and San Jiao all traverse the

temporomandibular joint area, so obstruction or problems in these meridians may also lead to TMD. Many of the treatment protocols you will see in TCM resources tend to emphasize treating the Stomach, Small Intestine, Gallbladder, San Jiao, and/or Stomach meridians.

Pattern Differentiation

Several patterns may lead to TMD. In this course, we explain only seven possible patterns. The following are those seven possible patterns, but please note, other patterns may also apply:

- Liver qi stagnation due to stress and emotional issues.
- Local Qi and blood stagnation due to trauma
- Wind-cold bi (painful obstruction) syndrome
- Heat bi (painful obstruction) syndrome
- Damp-heat bi (painful obstruction) syndrome
- Cold bi (painful obstruction) syndrome
- Liver and Kidney Deficiency with damp retention (Rheumatoid Type TMD)

The following are some primary symptoms you may see with each of the seven patterns:

1. **Liver Qi stagnation** - Anxiety, depression, anger, frustration, facial muscle tension, neck pain, earache, may have tenderness along the Gallbladder meridian, tinnitus, headaches (especially temporal headaches if the Gallbladder involved)
   T – Normal body; thin, white coating
   P – Wiry

2. **Local Qi and blood stagnation due to trauma** – History of direct blow to the jaw or other trauma, bruising, swelling, facial pain, earache, tinnitus, deviation of the jaw, limited jaw

movement
T – Purplish body; thin, white coating (veins underneath may be distended)
P – Choppy or wiry

3. **Wind-cold bi** – Pain that changes position, acute onset, may have aversion to wind or cold, slight fever or slight chills, earache, tinnitus, pain in occipital region
   T – Normal body; white coating
   P – Soft or superficial, possibly slow

4. **Hot bi** – Skin feels hot around the joint, redness, fever, facial pain, earache, may desire cold liquids
   T – Red body or tip; thin, yellow or thick, greasy yellow coating
   P – Slippery or fast

5. **Damp-heat bi** – Acute or chronic onset, heat is trapped in dampness, skin feels hot around joint, numbness, tingling, swelling, dull achy pain, foggy brain (usually damp sinks but heat may be trapped in dampness)
   T – Normal or pale body; thin, yellow or thick, yellow greasy coating
   P – Slippery

6. **Cold bi** – Skin feels cold around the joint, acute onset, muscle tightness, stabbing pain, facial pain, headaches, spasms, aversion to cold, pain alleviated by warmth, pain worse in cold weather
   T – Normal or pale body; thin, white coating or wet
   P – Tight, superficial or deep, slow

7. **Liver and Kidney Yin Deficiency (Rheumatoid Type TMD)** – May have joint deformity in severe cases, chronic onset, irritability, insomnia, morning stiffness, headaches, joint pain elsewhere in the body, better after exercise, tinnitus, dry eyes
   T – Small cracks, red or thin body with a mapped coating

P – Thin, rapid or weak, thin

Acupuncture Treatment

Some basic local body points for TMJ are GB 2, ST 6, and ST 7. Distal body points include SI 1, SI 3, and LI 4. The acupuncturist can also use auricular points such as TMJ, upper jaw, lower jaw, cervical spine, trigeminal nerve, and occiput. The following are suggested protocols based on the seven patterns listed above:

1. **Liver Qi stagnation** - Soothe Liver and Gallbladder, clear heat if needed, promote circulation, alleviate pain
   - LV 3 – Expels interior wind, promotes circulation, subdues Liver yang, calms the mind
   - LI 4 – Command point for mouth and face, treats facial problems, especially treats toothache and headaches, unblocks the channels, harmonizes descending of Yin and ascending of Yang, promotes circulation, releases the exterior
   - SJ 5 – Master point of the Yang Wei channel, releases the exterior, expels wind-heat, unblocks the channels, benefits the ear (coupled with GB 41)
   - GB 41 – Master point of Dai channel, treats headaches, resolves damp-heat, promotes smooth flow of Liver Qi (coupled with SJ 5)
   - GB 34 – Influential point for sinews (ligaments), relaxes the sinews, major point for all musculoskeletal issues, promotes smooth flow of Qi, resolves damp-heat, unblocks the channels
   - GB 2 – Unblock the channels, expels exterior wind-heat, use for ear pain, tinnitus and jaw impairment, major TMJ point

- SI 3 – Benefits the sinews and tendons, expels exterior wind, treats stiff neck, strongest distal point on the SI meridian, unblocks the DU, clears the mind
- ST 6 – Treats spasms of the masseter muscle, major TMJ point
- ST 7 – Clears obstructions, major TMJ point
- Taiyang – Major temporal headache point, opens channels, relieves pain, reduces swelling, expels wind, treats headache and deviation of mouth

2. **Local Qi and blood stagnation due to trauma** – Move Qi, move blood, alleviate pain
   - LV 3 – Expels interior wind, promotes circulation, subdues LV yang, calms the mind
   - LI 4 – Command point for mouth and face, treats facial problems, especially treats toothache and headaches, unblocks the channels, harmonizes descending of Yin and ascending of Yang, promotes circulation, releases the exterior
   - UB 17 – Invigorates and moves blood anywhere in the body
   - SP 10 – Cools blood, dispels blood stasis
   - GB 34 – Influential point for sinews (ligaments), relaxes the sinews, major point for all musculoskeletal issues, promotes smooth flow of Qi, resolves damp-heat, unblocks the channels
   - GB 2 – Unblocks the channels, expels exterior wind-heat, use for ear pain, tinnitus and jaw impairment, major TMJ point
   - SI 3 – Benefits the sinews and tendons, expels exterior wind, treats stiff neck, strongest distal point on the SI meridian, unblocks the DU, clears the mind
   - ST 6 – Treats spasms of the masseter muscle, major TMJ

point

- ST 7 – Clears obstructions, major TMJ point

3. **Wind-cold bi** – Expel wind-cold pathogen, promote circulate, alleviate pain
   - UB 10 – Expels wind, clears the head
   - UB 12 – Early stages wind-cold invasion with chills, aversion to cold, and headaches
   - LI 4 – Command point for mouth and face, treats facial problems, especially treats toothache and headaches, unblocks the channels, harmonizes descending of Yin and ascending of Yang, promotes circulation, releases the exterior, clears wind-heat
   - GB 20 – Expels wind, benefits the ears, treats tinnitus and stiff neck, opens the entire head
   - GB 21 – Relaxes the sinews, treats stiff neck
   - GB 2 – Unblocks the channels, expels exterior wind-heat, used for ear pain, tinnitus and jaw impairment, major TMJ point
   - SI 3 – Benefits the sinews and tendons, expels exterior wind, treats stiff neck, strongest distal point on the SI meridian, unblocks the DU, clears the mind
   - ST 6 – Treats spasms of the masseter muscle, major TMJ point
   - ST 7 – Clears obstructions, major TMJ point
   - ST 36 – One of the 4 Sea Points (Sea of Nourishment), tonifies Qi and blood, activates channel, alleviates pain, raises the Yang, tonifies SP and resolves dampness
   - Taiyang – Opens channels, relieves pain, reduces swelling, expels wind, treats headache and deviation of mouth

4. **Hot bi** – Clear heat, promote circulation, alleviate pain
   - DU 14 – Clears heat, releases the exterior, expels wind, clears the mind, treats stiff neck and neck pain
   - LI 11 – Expels exterior wind-heat, clears internal heat, cools the blood, resolves dampness, benefits sinews and joints
   - LI 4 – Command point for mouth and face, treats facial problems, especially treats toothache and headaches, unblocks the channels, harmonizes descending of Yin and ascending of Yang, promotes circulation, releases the exterior, clears wind-heat
   - SJ 5 – Master point of the Yang Wei channel, releases the exterior, expels wind-heat, unblocks the channels, benefits the ear (often coupled with GB 41)
   - GB 2 – Unblocks the channels, expels exterior wind-heat, use for ear pain, tinnitus and jaw impairment, major TMJ point
   - SI 3 – Benefits the sinews and tendons, expels exterior wind, treats stiff neck, strongest distal point on the SI meridian, unblocks the DU, clears the mind
   - ST 6 – Treats spasms of the masseter muscle, major TMJ point
   - ST 7 – Clears obstructions, major TMJ point
   - ST 44- Expels wind from the faces, clears ST heat, treats toothache, Trigeminal neuralgia, and deviation of the mouth

5. **Damp-heat bi** – Clear heat, resolve dampness, promote circulation, alleviate pain
   - DU 14 – Clears heat, releases the exterior, expels wind, clears the mind, treats stiff neck and neck pain
   - LI 11 – Expels exterior wind-heat, clears internal heat, cools the blood, resolves dampness, benefits sinews and joints

- LI 4 – Command point for mouth and face, treats facial problems, especially treats toothache and headaches, unblocks the channels, harmonizes descending of Yin and ascending of Yang, promotes circulation, releases the exterior, clears wind-heat
- LI 6 – Opens water passages, treats facial edema and tinnitus
- SP 6 – Resolves dampness, tonifies the SP and ST, calms the mind, moves blood
- SP 10 – Cools blood, dispels blood stasis
- ST 40 – Resolves phlegm and dampness, calms the mind, treats congested headaches, swelling
- GB 2 – Unblock the channels, expels exterior wind-heat, use for ear pain, tinnitus and jaw impairment, major TMJ point
- ST 6 – Treats spasms of the masseter muscle, major TMJ point
- ST 7 – Clears obstructions, major TMJ point

6. **Cold bi** – Warm the Yang, expel, promote circulation, alleviate pain (Use moxa to dispel cold)

- LI 4 – Command point for mouth cold and face, treats facial problems, especially treats toothache and headaches, unblocks the channels, harmonizes descending of Yin and ascending of Yang, promotes circulation, releases the exterior, clears wind-heat (Use moxa on LI 4 to expel cold)
- ST 36 – One of the 4 Sea Points (Sea of Nourishment), tonifies Qi and blood, activates channel, alleviates pain, raises the Yang, tonifies SP and resolves dampness (Use moxa on ST 36 to expel cold)
- GB 2 – Unblock the channels, expels exterior wind-heat, use for ear pain, tinnitus and jaw impairment, major TMJ point
- ST 6 – Treats spasms of the masseter muscle, major TMJ

point

- ST 7 – Clears obstructions, major TMJ point

7. **Liver and Kidney Yin Deficiency (Rheumatoid Type TMD)** – Strengthen the Kidney and Liver, tonify yin, promote circulation

- KD 3 – Tonifies the KD, benefits the essence
- KD 6 – Nourishes the Yin, cools blood, calms the mind
- LV 8 – Nourishes Liver blood
- SP 6 – Resolves dampness, tonifies the SP and ST, calms mind, moves blood
- GB 39 – Benefits the essence, treats stiff neck when used with GB 20 and 21
- BL 23 – Tonifies KD (Kidney), nourishes KD essence
- BL 52 – Tonifies the KD
- UB 11 – Influential point of the bones, benefits the bones
- GB 2 – Unblocks the channels, expels exterior wind-heat, use for ear pain, tinnitus and jaw impairment, major TMJ point
- ST 6 – Treats spasms of the masseter muscle, major TMJ point
- ST 7 – Clears obstructions, major TMJ point
- ST 36 – One of the 4 Sea Points (Sea of Nourishment), tonifies Qi and blood, activates channel, alleviates pain, raises the Yang, tonifies SP and resolves dampness

Herbs: Juan Bi Tang

(Remove Painful Obstruction Decoction)
Based on the classic text *Medical Revelations*

Juan Bi Tang is a traditional herbal decoction for painful obstruction syndrome in the upper body. It addresses joint pain with wind, cold, and damp obstruction. The pain may increase with exposure to cold, and it may seem to change positions. The patient may present with a thick, white tongue coating and slow, superficial or even a slippery pulse. Due to damp pathogenic influences, the patient may feel numbness or a heavy sensation.

CAUTION: This formula should NOT be used during pregnancy.

The formula's herbs and their functions are as follows:

- **Qiang Huo**, *Radix et Rhizoma Notopterygii*, 3 g, relieves painful obstruction in the upper body. It is one of the two chief herbs.
- **Du Huo**, *Radix Angelicae Pubescentis*, 3 g, relieves painful obstruction in the lower body. It is one of the two chief herbs.
- **Qin Jiao**, *Radix Gentianae*, 3 g, helps expel wind-dampness. It is one of the three deputy herbs.
- **Sang Zhi**, *Ramulus Mori Albae*, 9 g, helps expel wind-dampness. It is one of the three deputy herbs.
- **Hai Feng Teng**, *Caulis Piperis Futokadsurae*, 9 g, helps expel wind-dampness. It is one of the three deputy herbs.
- **Dang Gui,** *Radix Angelicae Sinensis,* 9 g. Dang Gui with Chuan Xiong invigorates the blood, help expel wind-dampness and relieve pain. It is one of the assistant herbs.

- **Chuan Xiong**, *Radix Ligustici,* 2.1 g. Chuan Xiong with Dang Gui invigorates the blood, help expel wind-dampness and relieve pain. It is one of the assistant herbs.
- **Ru Xiang**, *Gummi Olibanum,* 2.4 g, breaks up stagnant blood and relieves localized pain. It is one of the assistant herbs.
- **Mu Xiang**, *Radix Aucklandiae,* 2.4 g, stimulates the Spleen and helps treat dampness. It is one of the assistant herbs.
- **Rou Gui**, *Cortex Cinnamomi Cassiae,* 1.5 g, improves Yang Qi circulation and guides the other herbs to the shoulders and extremities. It is one of the assistant herbs.
- **Zhi Gan Cao,** *Radix Glycyrrhize Uralensis,* 1.5 g, prevents the Qi from being injured and harmonizes the actions of the other herbs in this formula.

Self-care for TMJ Disorder

1. Avoid chewing gum.
2. Try to reduce or avoid daily stressors.
3. Relax the jaw as much as possible; avoid chewing hard foods.
4. Remember to wear dental appliances at night if needed to prevent grinding of the teeth.
5. Exercise the jaw by gently opening, closing, projecting, retracting, and moving it side-to-side.
6. Massage the masseter muscle in a circular the motion at least three times a day for at least a minute. To find the masseter, gently clench the jaw. The masseter is the muscle that bulges.
7. Apply acupressure or massage the area between the thumb and index finger (LI 4) until pain resides.

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Research

The news department at www.healthcmi.com is accessible by clicking “News” in the main menu. News features recent research and other information about acupuncture, herbs, and other aspects affecting traditional medicine. It is a free service and the news department publishes original translations of up-to-date research. The following is an article from the news department:

Laser Acupuncture Alleviates TMD Pain

Laser acupuncture alleviates pain for patients with temporomandibular disorders (TMD). Laser acupuncture employs the use of cold lasers and does not burn the skin or involve the use of needles. TMD disorders include structural abnormalities and muscular disorders of the temporomandibular joint region. Internal view of the face and jaw. TMD is a major cause of orofacial pain. Researchers demonstrate that noninvasive laser acupuncture therapy applied to acupuncture points on the face and hand significantly reduce pain levels.

The acupuncture laser therapy not only reduced pain levels but also improved range of motion. The maximal mouth opening demonstrated clinically significant improvements. There were no side effects. The researchers conclude that “TMD symptoms improved with LAT (laser acupuncture therapy).” The

beneficial effects were in both acute and chronic patients with treatment-resistant temporomandibular disorders.

Researchers from China Medica University Hospital (Taiwan), Kaohsiung Medical University College of Medicine (Taiwan), et. al., note that laser acupuncture's analgesic effects are "mediated by peripheral opioid receptors." They add that low level cold laser therapy increases pain tolerances by inducing biological changes to cellular membranes. The researchers note other biological responses induced by low level laser therapy (LLLT) including vasodilation, increasing intracellular metabolism and decreasing edema. The researchers also cite important biomodulatory effects of LLLT; it "improves local microcirculation and oxygen supply to hypoxic cells in the painful areas…, tissue asphyxia is reduced…, it restores the normal physiological condition of the tissue."

Low level laser acupuncture therapy was applied to patients three times per week for four weeks in this investigation. Protective goggles were worn by the practitioner and patient. Yangming channel acupuncture points ST7 (Xiaguan), ST6 (Jiache), and LI4 (Hegu) plus local Ashi points were stimulated using pulsed waves. Five seconds of stimulation was applied to the stomach and large intestine Yangming points and forty seconds of LLLT stimulation was applied to each Ashi point. The researchers note that the treatment principle was based on the Traditional Chinese Medicine (TCM) concept that "pain results from blood stasis due to qi stagnation." The goal was to "restore internal homeostasis" by restoring the "flow of qi and blood."

TMD is a widespread illness that can be very painful and impacts the quality of life. External view of jaw pain. Symptoms include facial pain, jaw clicking and popping, locking and catching of the jaw, decreased mouth opening and pain upon chewing. Other symptoms associated with TMD include headaches and neck pain. This study suggests that a simple, noninvasive application of laser acupuncture significantly benefits patients with treatment-resistant type TMD.

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