

# Temporo-mandibular joint disorders and homoeopathy

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**Abstract:** TMDs are the second most common musculoskeletal problem resulting in pain and disability. It can be really painful and disturbing in day today activities. People usually ignore the symptoms and opt for treatments only in severe cases. The homoeopathic literature is filled with lots of drugs that can help to manage signs and symptoms of this disorder and produce effective cures based on simillimum. This article deals with homoeopathic approach to management of TMDs.

**Keywords:** temporo-mandibular joint, temporo-mandibular joint disorders, treatment, homoeopathy

**Abbreviations:** TMJ- temporo-mandibular joint, TMD- temporo-mandibular disease, DC/TMD- diagnostic criteria for temporomandibular disorders

## Introduction

The temporo-mandibular joint is one of the most heavily utilised and underappreciated joints in the human body. Mechanically, the TMJ is what allows you to open and close your mouth, and extend and move your jaw from side to side. Functionally, it facilitates chewing, talking, and facial expressions.

TMJ is formed by the articulation of the mandible and the temporal bone of the cranium, located anteriorly to the tragus of the ear, on the lateral aspect of the face. The squamous portion of the temporal bone articulates with the condyle of the mandible at a juncture, separated by an intra-articular meniscus. It is a synovial joint capable of both hinge and sliding movements. The mandible has a horizontal part (the body) and a vertical part (the ramus) meeting at the mandibular angle.

## Temporomandibular Joint Disorders:

Temporo-mandibular joint disorders are any disorder that affects or is affected by deformity, disease, misalignment, or dysfunction of the temporo-mandibular articulation. TMD includes anatomical, histological, and functional anomalies in the functioning of the muscular and/or articular components of the system.

Depending on the practitioner and the diagnostic methodology, the term TMD has been used to characterise a wide range of conditions diversely presented as pain in the face or the jaw joint area, limited mouth opening, closed or open lock of the TMJ, abnormal occlusal wear, clicking or popping sounds in the jaw joints, and other complaints.[1]

## Epidemiology:

Epidemiological studies have estimated that approximately 50%–75% of the population exhibit signs of TMDs. Internal derangement (36.8%) may be subclinical and the patient might not try to relate this to an underlying jaw problem. In <15%–20% of the patients, the signs changed into symptoms for which the patient will seek treatment. The frequency to seek treatment increases if the symptoms interfere with day-to-day activities[2]. The prevalence of TMD is high in general population (40%–60%).

According to a World Health Organization (WHO) report, TMD is the third somatological disorder, after dental caries and periodontal diseases, to be considered a populational disease. The symptoms of temporo-mandibular joint dysfunction are more common

in the female population, compared to males. Scientists relate to the female jaw structure, vitamin deficiencies, varying hormones, pain gene variant and internal stress management. Young females less than 30 years old are at increased risk of temporo-mandibular joint disorder. In contrast to the previous reports, some recent studies have shown that temporo-mandibular joint disorder prevalence reaches its peak between 45 to 64 years of age, before decreasing with older age as older adults seemed to have milder symptoms of temporo-mandibular joint disorder.[3]

## Pathophysiology:

The etiology of TMD is multifactorial and includes biological, environmental, social, emotional, and cognitive triggers. Causes include parafunctional habits like clenching, grinding, cheek and tongue biting, emotional distress, sudden or direct trauma due to blows or impacts, whiplash injuries and occlusal factors. There is a constant association with other pain conditions (like chronic headaches), fibromyalgia, autoimmune disorders (like Sjogren syndrome, rheumatoid arthritis, and lupus erythematosus), psychiatric illness, and sleep apnea.

TMD is categorised as intra-articular (within the joint) or extra-articular/masticatory muscle disorders (involving the surrounding musculature). Musculoskeletal conditions are the most common cause of TMD, accounting for at least 50% of cases. Articular disc displacement involving the condyle–disc relationship is the most common intra-articular cause of TMD.<sup>[4]</sup>

The displaced disc can degenerate, become mis-shaped, perforated, or even torn. If the patient cannot achieve proper treatment, internal derangement gets progressively worse with time, inflammation accompanied, and osteoarthritic changes (abrasion of articular cartilage and underlying bone, flattening of articular surfaces, less pronounced articular eminence, osteophyte formation, subchondral cyst, and resorption of the condyle) occur. Several inflammatory mediators such as tumor necrosis factor- $\alpha$ , interleukin 1- $\beta$ , prostaglandin E2, etc. play crucial roles in the pathogenesis.<sup>[6]</sup>

TMD is characterised by clinical signs of pain or malfunction occurring jointly or separately:

- pain in the temporo-mandibular joint(TMJ),
- articular sounds,
- pain in the muscles of mastication, anomalies in mandibular movements,
- signs and symptoms that may be associated with orofacial pain and/ or cervico-scapular problems.<sup>[5]</sup>

#### Diagnosis:

No universal diagnostic criteria have yet been established. A comprehensive version, known as the diagnostic criteria for TMDs (DC/TMDs), has been proposed by Schiffman *et al.* in 2014. DC/TMD includes a valid and reliable screening questionnaire and diagnostic algorithms for the most common pain-related

TMDs. The protocol is intended for use within any clinical setting and supports the full range of diagnostic activities from screening to definitive evaluation and diagnosis. It has two components, Axis I and Axis II. Axis I protocol is used for screening and differentiation of most common pain related TMDs and intraarticular disorders. The Axis II protocol is an easy method to assess jaw physical functioning and to screen behavioral and additional psychosocial status.<sup>[7]</sup>

The DC/TMD classification is as below:

#### I. Temporomandibular Joint Disorders

1. Joint pain
  - A. Arthralgia
  - B. Arthritis
2. Joint disorders
  - A. Disc disorders
    1. Disc displacement with reduction
    2. Disc displacement with reduction with intermittent locking
    3. Disc displacement without reduction with limited opening
    4. Disc displacement without reduction without limited opening
      - B. Other hypomobility disorders
        1. Adhesions / adherence
        2. Ankylosis
          - a. Fibrous
          - b. Osseous
        - C. Hypermobility disorders
          1. Dislocations
            - a. Subluxation
            - b. Luxation
          3. Joint diseases
            - A. Degenerative joint disease
              1. Osteoarthrosis

2. Osteoarthritis
  - B. Systemic arthritides
  - C. Condylolysis/idiopathic condylar resorption
  - D. Osteochondritis dissecans
  - E. Osteonecrosis
  - F. Neoplasm
  - G. Synovial chondromatosis
4. Fractures
5. Congenital/developmental disorders
  - A. Aplasia
  - B. Hypoplasia
  - C. Hyperplasia

#### II. Masticatory Muscle Disorders

1. Muscle pain
  - A. Myalgia
    1. Local myalgia
    2. Myofascial pain
    3. Myofascial pain with referral
      - B. Tendonitis
      - C. Myositis
      - D. Spasm
  2. Contracture
  3. Hypertrophy
  4. Neoplasm
  5. Movement disorders
    - A. Orofacial dyskinesia
    - B. Oromandibular dystonia
  6. Masticatory muscle pain attributed to systemic/central pain disorders
    - A. Fibromyalgia/ widespread pain

#### III. Headache

1. Headache attributed to TMD

#### IV. Associated Structures

1. Coronoid hyperplasia

The diagnosis of TMD is based largely on history and physical examination findings. Clinicians

should be vigilant in diagnosing TMD in patients who present with pain in the TMJ area. Conditions that sometimes mimic TMD include dental caries or abscess, oral lesions (for example, herpes zoster, herpes simplex, oral ulcerations, lichen planus), conditions resulting from muscle overuse (for example, clenching, bruxism, excessive chewing, spasm), trauma or dislocation, maxillary sinusitis, salivary gland disorders, trigeminal neuralgia, postherpetic neuralgia, glossopharyngeal neuralgia, giant cell arteritis, primary headache syndrome, and pain associated with cancer.

Acute fractures, dislocations, and severe degenerative articular disease are often visible in plain radiography (transcranial and transmaxillary) views. Computed Tomography scan is superior to plain radiography for evaluation of subtle bony morphology. Magnetic resonance imaging is done for comprehensive joint evaluation in patients with signs and symptoms of TMD. Ultrasonography is a low-cost technique to diagnose internal derangement of the TMJ when magnetic resonance imaging is not readily available.<sup>[4]</sup>

## General Management

Supportive patient education is the recommended initial treatment for TMD. Adjunctive measures include jaw rest, soft diet, moist warm compresses, passive stretching exercises and occlusal splints.

## Homoeopathic Approach

As mentioned by Dr Hahnemann in his *Organon of medicine*, 'Homoeopathy treats the patient and not the disease'. Homoeopathic treatment involves giving minimum

doses of the simillimum selected according to the patient's totality of the symptoms and his individuality. One can select remedies according to the total picture of the patient, including not only symptoms but lifestyle, emotional and mental states, and other factors. Based on the same, homoeopathic medicines can be effectively used not only in the palliation of symptoms of temporomandibular joint disorders but produce effective cures and recovery following the constitutional approach.

Some rubrics related to TMJ from different repertories based on type of pain.<sup>[13]</sup>

1. Face - pain, jaws joint, opening the mouth agg.  
alum. Am-c. am-m. CAUST. Cor-r. dros. Dulc. Hep. Nicc. Sabad. Verat. Zinc.
2. Mouth - open difficult to  
Caust. LACH. Merc-c. Phos.
3. Face - pain jaws joints  
Arum-t. Bapt. Bry. Caust. Cham. Rhus-t. Stry.
4. Face - pain, jaws  
Aids. Alum. CAUST. Nux-v. Rhus-v. Sphing.
5. Face - pain, jaws joints, chewing agg  
acon. Alum. Am-c. am-m. bar-c. bell. Calc. coc-c. cor-r. dulc. Kali-s. puls. Sil. Spig. V-a-b. zinc.
6. Face - pain, jaws upper  
Amph. Calc-ar. Calc-caust. Calc-p. Calc-s. Cham. Euph-a. Kali-bi. Kali-cy. Kali-i. Kreos. Lyc. Spig. Spong. Verb.
7. Face - pain, jaws lower  
Agn. Am-m. Anac. Anthraci. Ars. AUR. Bell. Bov. Bry. Carb-an. Carb-v. Caust. Cocc. Colch. Coloc. Dulc. Gels. Kalm. Lach. M-ambo. M-arct. Meny. Merc.

Mez. Nat-m. Nux-v. Phos. Plat. Rat. Rhus-t. Sars. Sel. Sil. Spig. Verat. Zinc.

8. Face - stiffness jaws  
Arum-t. CAUST. Cupr. Cupr-act. Gels Hyper. Ign. Kali-i. Lach. Merc. Merc-c. Merc-i-f. Mez. Morph. Nat-c. NUX-V. Phyt. RHUS-T. Sil. STRY. Ther. Verat.
  9. Face - stiffness jaws lower  
CAUST. Cupr. Cupr-act. Gels. Hyper. Ign. Kali-i. Lach. Merc. Merc-c. Merc-i-f. Mez. Morph. Nat-c. NUX-V. Phyt. RHUS-T. Sil. STRY. Ther. Verat.
  10. Face - pain, jaws, drawing pain  
Alumn. Aur. CARB-V. Con. Nux-v. Rhus-v.
  11. Face - pain jaws lower drawing pain Sil.
  12. Face - pain, jaws, burning anac. Bov. Caust. Daph. Fl-ac.
  13. Face - pain jaws pressing pain dulc. Rutasymph. Tritic-vg. Vanil.
  14. Face - pain, jaws, stitching pain acon. Agath-a. aids. Ambr. Arge-pl. berb. Carb-an. Cimx. Ham. Heroin. Kalm. Op. thuj. Verat. Zinc.
- Homoeopathic therapeutics: [9,10]

*Angustura vera*: It is indicated in tense pain in temporal muscles when opening jaws. There is pain in articulation of jaw, in masseter muscles, as if fatigued by chewing too much. Person experiences cramp-pain on the zygomatic arch. The greatest craving for coffee is a characteristic symptom for the drug. Patient complains of headache, with heat of face. Acute pain in cheeks and drawing in facial muscles.

*Alumina*: Suited for tense pain in articulation of jaw when opening mouth or chewing. There is twitching of lower jaw. Patient

experiences rush of blood to face after eating. Tension in skin of the face as if egg albumen had dried thereon. Patient feels extraordinary lassitude and fatigue, particularly from talking. Many complaints are in afternoon and when sitting. He feels best during moderate exercise, in evening and in open air.

*Belladonna*: There is faceache, with intense cutting pains and half open mouth. Pain is sharp and cutting in nature, come and go quickly. The slightest touch renews the attacks and intensifies the pains. All complaints are consequences of taking cold. The symptoms are intensified in the afternoon and at night. Patient experiences restlessness, delirium and somnolency.

*Causticum*: It is suited for pain in jaws, with difficulty in opening mouth. There is pain in facial bones. Rheumatism of articulation of lower jaw. This remedy manifests its action mainly in chronic rheumatic, arthritic and paralytic affections, indicated by the tearing, drawing pains in the muscular and fibrous tissues, with deformities about the joints; progressive loss of muscular strength, tendinous contractures. Sensitive to drafts and cold. The symptoms are intensified in evening, in open air and after drinking coffee.

*Calcarea flourica*: This remedy is useful in hard swelling on the cheek, with pain or toothache and hard swelling on jaw-bone.

*Euphrasia officinalis*: It is indicated in stitches and stiffness of cheeks and lower jaw when talking and chewing. Suited for bad effects of falls, blows or mechanical injuries to external parts. Fleeing, itching stitching here and there through entire night, with great restlessness. Most complains are worse in evening.

*Ignatia amara*: There is extraordinary spasmodic yawning with pain in maxillary joint as though it would be dislocated. Sleep so light that patient hears everything. Restless sleep and great restlessness at night. Extraordinary changeableness of all the symptoms. Patient experiences dislocative pains in joints. There is cutting stitches, as from a sharp knife. Coffee, tobacco and brandy aggravate the symptoms. The attacks are renewed after dinner, in evening after lying down, and early in morning immediately upon awaking, they are diminished when lying upon back, upon painful parts, or in general by a change of posture.

*Magnetis polus rrticus*: There is violent, spasmodic yawning, with pain in maxillary joints, as though they would be torn out. Patient complains throbbing pain in lower jaw with burning while there is chilliness. Cramp – like pain in hollow teeth, with single jerks in right lower jaw. Jaws ache, with violent jerks, as they would be torn out. Complaints are worse after eating, in a warm room and better in open air.

*Magnes artificialis*: This remedy is suited for dislocative pains in the maxillary joint. There is bruised pain in joints, especially in side on which he does not lie. Patient has a sleep feeling in the limbs with great tendency to take cold.

*Menyanthes trifoliata*: It is indicated in pain and cracking in maxillary joint when chewing. Painless twitching of facial muscles. Person presents with pinching and sticking pain in the limbs and joints. Most symptoms are intensified during rest and toward evening, and are better during motion and from the laying on of hands.

*Mezereum*: This remedy is suited for affections of bones and

neuralgias especially about teeth and face. There is bruised, weary feeling in joints, with drawing and stiffness. There are pains of various kinds, with chilliness and sensitiveness to cold air. Bone pains. Hard work to talk. There is headache which is worse from talking. There is violent neuralgia about face and teeth, running towards ear, at night; worse, eating; better near hot stove. Pains shoot upward and seem to draw patient up out of bed. Semi-lateral complaints.

*Natrum sulphuricum*: It is suited for painfully stiff maxillary joints. There is tearing in cheek bones which is worse in cold air and better by hard rubbing. Patient experiences wandering and piercing pains, compressive, needle-like, boring or tearing pain in almost any part. Complaints are worse in wet weather and dampness, morning and evening during menses, lying on left side, walking, motion, pressure of clothes, rest, touch and better by dry, open air, cloudy weather, momentarily, unchanging position, after breakfast.

*Nux vomica*: It is indicated for bad effects of coffee, tobacco and spirituous liquors, of continuous mental exertion, night watching and sedentary habits. There is tearing in jaws, extending into bones of face, renewed by cold drinks. Swelling of one cheek. Great debility or irritability of entire nervous system. Feeling of illness in periodically returning attacks. Easily takes cold, sensitive to drafts of air, complaints from taking cold. Every mental exertion excites or heightens the symptoms. The complaints are by motion, slight touch and relieved by hard pressure. The symptoms are most intense early in morning upon awaking and after eating.

*Petroleum*: Indicated in cramp-like

pain in the maxillary joint, or as though it would be dislocated, especially when yawning. Inflammatory swelling of sub-maxillary glands. There is cracking, creaking and gouty stiffness of joints.

Patient complains of weariness early in the morning and evening. There is great emaciation. Aversion to open air and takes cold easily. There are complaints from riding in a carriage or ship. General internal, insufferably sick feeling, with trembling and great weakness.

*Phytolacca decandra*: There is pain in bones of face and in all joints with feeling of mumps coming on. Jaws ache. There is general soreness, with tired aching and restlessness. Great muscular debility, lassitude and desire to lie down. Affects the right side. Pains appear and disappear suddenly and are often followed by itching, burning or soreness. Smarting sensations and all symptoms are accompanied by heat. All the secretions are greatly increased, tears. Patient is worse from motion, raising up, wet weather, at night, open air, pressure, at 11am. Complaints are relieved by eating, warm and dry-weather.

*Rheum*: There is drawing, welling up, almost a bubbling sensation in lower jaw, extending into temples. Bubbling, gurgling sensation, as from small bubbles in muscles and joints. All joints pain when moved. Asleep sensation in parts wherein he lies. Weakness and heaviness of entire body, as after waking from a deep sleep.

*Rhus toxicodendron*: Suited for effects of excessive muscular exertion or contusions combined with over-exertion. There is dislocation and dislocative pains in joints. Cramp like pain in the maxillary joint, or as though it would be dislocated, especially when yawning. Tearing pains externally especially from

forehead and temples down to ears. Jaws crack when chewing. There is easy dislocation of jaw. There is swollen face with cheek bones sensitive to touch. Facial neuralgia, with chilliness which is worse in the evening. The patient has sensation, as though something were torn loose in inner parts. There is intolerance of cold (open) air as it excites stitches in joints. Convulsive twitching and other symptoms appear after cold baths. All the symptoms are intensified in the evening and at night, after midnight, during rest, from cold or becoming cold and from getting it while sweating.

*Sabadilla*: Person experiences cracking in both maxillary joints when opening mouth wide. There is burning heat, redness of face and sensitiveness to cold, which also intensifies the symptoms. Pains move from right to left. Aggravation of symptoms is there in forenoon or in hours before midnight as well as during rest and in the cold. There is painful drawing in limbs, seemingly in bones. Pains, especially in joints, are as though someone were scraping about or cutting them inside with a knife.

*Staphysagria*: This remedy is suited for bad effects of onanism or the abuse of Mercury. There is easy dislocation of the maxillary joint. Painful submaxillary glands with or without swelling. Inflammation of bones of face. Painfulness of muscles to touch, and of joints to motion. Person suffers from great weariness and stiffness of all joints with continual inclination to lie down. Heaviness of limbs and dullness after the noon - day nap.

*Thuja occidentalis*: This remedy is indicated for bad effects of the use of beer, fat, acids, sweets, tobacco, tea, wine and onions. Person experiences cracking in maxillary joint and swelled temporal arteries. There

is boring pain in zygoma which is better from touch. There are stitches in limbs and joints with aversion to motion. All symptoms are often unilateral especially on left side. Warmth of bed intensifies many symptoms. Attacks are usually worse in afternoon and at night and are better during rest. There is sensation of water tricking in many parts.

Complaints return annually. Many symptoms are relieved by turning from left to right side while lying down.

*Verbascum thapsus*: There is tension and violent pressure on zygoma and articular eminences of temporal bone, like prosopalgia. Face-ache. Burning pressure and tension extending over entire cheek, from zygoma and maxillary joint, especially worse or excited by a change of temperature. Pains are mostly associated with a feeling of numbness. The symptoms are excited and intensified by changes of temperature, namely, when going from open air into room and vice versa.

## Conclusion

Homoeopathy is an emerging field of dental medicine that is useful in management of conditions affecting orofacial structures. With advantages of minimal side effects and favourable treatment outcome, homoeopathy has emerged as one of the alternative therapy in cases of treatment failure or poor response to conventional drugs. The knowledge and understanding of homoeopathic approach of treatment is still an ongoing process and further research should be carried out in this regard. [8] Many clinical trials and case-control studies have been published about the effectiveness of homoeopathic remedies for oral and maxilla-facial problems, however, no specific study for TMDs and homoeopathy has been done.