

## **Dental Causes of Headache**

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### **Orofacial Pain and Headache**

The most likely source of pain in the orofacial region is the teeth and jaws. Although not well understood, pain in these structures is often reported to cause or aggravate headache. Dental pain is characterized by an intense aching, throbbing in and around the offending tooth. The pain is aggravated by palpating, percussing or biting on the tooth and often, an abscessing tooth becomes acutely sensitive to heat stimulation and is relieved with cold application. Dental pain may radiate to adjacent teeth but rarely crosses the midline. Usually the dentist is able to make an accurate diagnosis with x-ray and pulp testing and successfully treat the tooth. However, due to the complexity of innervation in the orofacial region, it is not always clear that the pain is due to a miscreant tooth but the tooth should be the primary suspect until proven otherwise. Patients commonly report that their toothache is aggravating or causing a headache. Primary headache disorders such as migraine, cluster or paroxysmal hemicranias are known to present with pain in the facial region, including toothache. Treatment of these facial headaches is accomplished using the same medications used in the classic primary headache disorders. Neuropathic pain is commonly seen in the mouth and its associated structures. Trigeminal neuralgia and trigeminal neuropathies are excruciating types of neuropathy that occur in the face and mouth. When a persistent and unresponsive facial pain or toothache does not present with clearly defined and reproducible symptoms and does not respond to typical medication regimens, the diagnosis of Persistent Idiopathic Facial Pain is made. The term Atypical Facial Pain was previously used to describe this condition but was changed to Persistent Idiopathic Facial Pain in the International Classification of Headache Disorders. This represents a challenging form of neuropathic pain. Neuropathic pain is differentiated from headache by testing for nerve damage symptoms such as allodynia, hyperalgesia, and dysesthesia as well as a positive response to somatic and sympathetic nerve blocks. Management is achieved through pharmacology, nerve blocks and sometimes, surgical strategies.

### **Temporomandibular Disorders (TMJ)**

Temporomandibular disorders (TMD), commonly called TMJ, are a collection of clinical problems that involve the masticatory musculature and/or the Temporomandibular joint (TMJ) and associated structures. These disorders are common and not all patients need therapy. Up to 12% of TMD sufferers report pain on wide opening, 7% report limited jaw range of motion, 39% have joint noise, and 2% complained of joint pain and stiffness. Facial pain and headache occurs in 24% of TMD sufferers. TMD is more common in females.

Myofascial pain, which is considered a regional pain syndrome, is the most common form of TMD. Myofascial pain is characterized by discrete tender areas (trigger points) that reproduce classical patterns of pain referral when palpated. Masticatory muscle tenderness may cause or aggravate headache including migraine. Trauma and emotional stressors are common etiological factors. Managing myofascial pain is achieved through posture and stretching exercises accompanied by vapocoolant spray and stretch and, if needed, trigger point injections. This may be supplemented with centrally acting

medications such as tricyclic antidepressants or muscle relaxants. Cognitive Behavioral Therapy (CBT) and mindfulness practices are helpful as in all other chronic pain conditions.

The ICHD III-Beta classification, section 11.7, defines TMJ disorders as follows:

Description: Headache caused by a disorder involving structures in the temporomandibular region.

Diagnostic criteria:

- A. Any headache fulfilling criterion C.
- B. Clinical and/or imaging evidence of a pathological process affecting the temporomandibular joint (TMJ), muscles of mastication and/or associated structures.
- C. Evidence of causation demonstrated by at least two of the following:
  1. headache has developed in temporal relation to the onset of the temporomandibular disorder
  2. either or both of the following:
    - a) headache has significantly worsened in parallel with progression of the temporomandibular disorder
    - b) headache has significantly improved or resolved in parallel with improvement in or resolution of the temporomandibular disorder
  3. the headache is produced or exacerbated by active jaw movements, passive movements through the range of motion of the jaw and/or provocative maneuvers applied to temporomandibular structures such as pressure on the TMJ and surrounding muscles of mastication.
  4. headache, when unilateral, is ipsilateral to the side of the temporomandibular disorder
- D. Not better accounted for by another ICHD-III beta diagnosis.

General management principles for TMD include pain control with muscle relaxants, anti-inflammatories or other medications, increasing mandibular mobility with stretching exercises, reducing joint loading with splint therapy, and behavioral interventions. Rarely when there is locking (inability to open the jaw due to disk displacement), surgical interventions with arthrocentesis or arthroscopy are needed. The use of diagnostic criteria evolved by the International RDC/TMD Consortium Network and Orofacial Pain Special Interest Group is recommended.

When and where to refer: For patients with persistent TMD/orofacial pain, refer to a dentist who is a board certified orofacial pain specialist and has graduated from one of the accredited orofacial pain programs. Avoid dentists who want to change the occlusion, alter jaw position, extract the teeth or do jaw surgery to treat orofacial pain. To find a boarded dentist, contact The American Academy of Orofacial Pain. ([www.aaop.org](http://www.aaop.org))

References:

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