

# Myofascial Pain-Dysfunction Syndrome

## Craniomandibular Syndrome

### Temporomandibular Joint Dysfunction

Patients with severe ear, face and head pain may have normal examinations of their ears, nose and throat. To most patients, this is both unbelievable and frustrating. Earache with a normal ear exam is a common complaint. However, in healthy adults without a history of ear problems, ear infection and eustachian tube problems are actually uncommon and often misdiagnosed. The most common reason for a normal exam is because the pain is referred from another part of the head or neck. If the pain originates in a muscle or tendon it is called Myofascial Pain. If the pain originates in the jaw joint, it is called Temporomandibular Joint Dysfunction. Problems that are initially muscular in origin may cause physical changes or damage to the jaw joint or teeth and are better described as a Craniomandibular syndrome.

#### **Referred Pain**

Referred pain is pain that originates in one part of the body, but is felt in an entirely unrelated part of the body. It is a result of the wiring of nerves. It is especially common in the head and neck area because during embryological development the cranial nerves branch and grow in many directions. For example, ear pain may be caused from dental or tonsil infections or canker sores in the throat mouth or tongue. It is possible to have the ear pain without feeling any symptoms in the mouth or throat. Other causes of referred ear pain include the deep jaw and throat muscles and the jaw joint itself. For many patients it is hard to believe that the pain they are feeling is not actually coming from the ear.

#### **Trigger Point**

A trigger point is a point within a muscle or tendon that is the focus of pain or initiates muscle spasms. Trigger points can cause intense spreading pain as a result of neural feedback.

#### **Neural Feedback**

This is an involuntary reflex mediated by the spinal cord, and sometimes altered by the brain. In myofascial pain, the pain is sensed by the spinal cord, which in turn creates muscle contraction, which may intensify the pain. Pain stimulates contraction and contraction exacerbates pain, a vicious cycle. Factors such as stress and anxiety may intensify the neural feedback, making problems worse and difficult to treat. Unless the neural feedback is suppressed, the problem will not improve and may worsen, leading to possible permanent physical damage.

## **Myofascial Pain**

Myofascial pain can vary from very localized pain, to a diffuse headache with neck pain. Ear pain is probably the most common initial complaint for patients seen by an ENT physician. Sinus pain, headache, neck complaints and sore throat are also common.

Perhaps the features of Myofascial Pain Syndrome that are most difficult for a patient to understand are the complaints of dizziness, ringing in the ears (tinnitus) and hearing loss. As many as 60-70% of patients with Myofascial Pain Dysfunction may have one or more of these ear complaints. Other common observations of myofascial pain include:

- It may either improve or worsen with sleep.
- It usually worsens with stress.
- It will usually intensify in the cold.
- It will usually improve with heat.
- It may come and go with what may seem like a random pattern.
- It may intensify with jaw manipulation, for example: popping the ears or gum chewing.
- May be associated with tooth grinding (Bruxism)
- May be triggered by a change in diet, activity or lifestyle.
- It may occur after injury, surgery or dental work.

In many patients with myofascial pain, a distinct cause or trigger cannot be identified.

## **Diagnosis**

Myofascial pain is an extremely common and frustrating problem and a common reason that adult patients seek out an Ear, Nose and Throat doctor. However, myofascial pain is a diagnosis of exclusion, meaning that an ear nose and throat doctor will look for other reasonable causes of pain prior to making the diagnosis. Although myofascial pain is common, a thorough physical exam is required to rule out other causes of referred pain. For example, ear pain can be the only symptom of a throat or voice-box cancer.

A thorough exam will include a detailed exam of the deep throat and voice box, which may require endoscopy. Although rarely needed, other studies like CT scans or blood work may be required. The first priority is to rule out anything serious (fortunately rare) before initiating treatment.

## **Natural Course**

In the majority of patients, the pain is self-limited and may even resolve without treatment in 2-12 weeks. However, without treatment, the condition can escalate to a level that is very hard to treat. Physical changes may occur in the jaw joint, leading to severe pain that won't respond to medications.

## **Treatment**

Probably the most important factor for successful treatment is acceptance. In general, patients have a hard time accepting the diagnosis of myofascial pain. The concept of treatment is simple, break the viscous cycle of neural feedback and the condition improves. When a patient fails to accept the diagnosis, it is unlikely that he/she will be able to prevent the neural feedback.

The brain can modulate neural feedback. Factors like stress and emotional reactions can significantly amplify the feedback. Additionally, a patient's response to situations, pain or sensations may make the problem worse. For example, ear pain or fullness may cause a patient to try to pop their ears by moving or manipulating the muscles of the jaw and the throat. This irritates the jaw joint and strains the muscles responsible for the pain. Other habits may include jaw clenching with stress or vigorous gum chewing with emotion or stress.

Factors that break the viscous cycle of neural feedback:

- Heat – relaxes muscles (a warm electric heating pad on the affected area minimum 60 minutes per day)
- Massage – this is a form of biofeedback, a patient can train themselves to identify when muscles are tight and to relax a muscle or a group of muscles.
- Soft Diet – avoiding foods difficult to chew like steak, carrots or any other durable foods will help. Gentle jaw exercises may be helpful, but gum chewing is usually harmful.
- Anti-inflammatory medications – like ibuprofen or prednisone. These medications need to be taken well beyond the termination of symptoms for maximal benefit. For ibuprofen it is usually 800mg three times a day on a regular schedule for ten days.
- Muscle relaxant medications – may reduce neural feedback, pain and reduce bruxism (jaw grinding – usually during sleep)
- Dental appliance – Dentists can make a bite guard that can reduce pressure on the jaw joint and reduce or eliminate the effect of bruxism.
- Trigger point injections – if a distinct spot can be identified a simple injection of local anesthetic and anti-inflammatory steroid may improve or cure myofascial pain.
- Physical Therapy

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The sole purpose of this pamphlet is to provide patients with practical education about referred pain in the head and neck.