What is the Temporomandibular joint?

Temporomandibular joint (TMJ) connects the mandible or the lower jaw to the skull and regulates the movement of the jaw. The TMJ is one of the most complex, delicate and highly used joints in a human body.

The most important functions of the TMJ are mastication (chewing) and speech, but it is also involved in movements such as yawning, swallowing, singing and coughing.

The bony structure of the TMJ consists of the articular fossa and the condylar process of the mandible which sits within the fossa (see image). Between the condyle and the fossa is a fibrocartilagenous disc which acts to help absorb stress, distribute force and allow the condyle to move easily when the mouth opens and closes.

Movement of the TMJ is guided by strong muscles along with the shape of the bones, ligaments and occlusion of the teeth. Major muscles that control movement of the jaw include the masseter muscle which closes the jaw and is the main muscle of mastication, the temporalis muscle which helps elevate the jaw, the pterygoids which help move the jaw side to side and digastric which helps open the jaw.

Temporomandibular Disorder (TMD)

Temporomandibular disorder (TMD) is a term used to describe any problem involving the jaw joint. It includes a variety of conditions associated with pain and dysfunction of the temporomandibular joint (TMJ), masticatory muscles or muscles of the head and neck.

Temporomandibular disorder is seen most commonly in people between the ages of 20 and 40 and is more common in women than men. It is estimated that 20 – 25% of the population is affected by TMD.

Signs and symptoms TMD

- Facial pain
- Pain in or around jaw or ears
- Joint sounds including clicking, clunking, popping
- Limitation in jaw movement
- Muscle tenderness
- Pain is the most common symptom of TMJ problems, although not everyone gets pain. Symptoms can include: Headaches, swelling on the side of the face, neck, shoulder and back pain

Possible causes or contributing factors to TMD

- Injury or trauma to the jaw
- Grinding or clenching teeth
- Stress
- Poor postures
- Injury to muscles of the head or neck
- Hypermobility
- Osteoarthritis or rheumatoid arthritis
- Dental work
- Pain elsewhere in the body
- Cervical spine dysfunction
**TMD can be classified into three categories**

**Muscle disorders:** This involves the imbalance or overuse of muscles around the TMJ. This may be as a result of teeth clenching and grinding or overload due to poor prolonged postures. Pain with palpation, alterations in mandibular control.

**Disc disorders:** This occurs when the articular disc of the TMJ becomes displaced or moves out of its normal position. It most commonly moves anteriorly and can result in pain as pressure is put onto the retrodiscal tissue which is sensitive. Disc disorders can be split into 2 categories; one where when opening the jaw the disc relocates causing a clicking sound or secondly where the disc remains displaced resulting in a blocking of jaw movement. Both of which can result in pain and dysfunction.

**Articular disorders:** This relates to the temporomandibular joint itself and can include osteoarthritis or wear and tear of the joint surfaces which causes crepitus or a grinding sound of the TMJ. Hypermobility is another articular disorder and involves increased or excessive TMJ movement. It can result in a clicking sound at the end of opening and may or may not be symptomatic. Hypermobility may lead to a disc displacement disorder.

---

**The Physiotherapy Clinic**

**Assessment**

At The Physiotherapy Clinic we perform a thorough subjective history and physical assessment. Our physical assessment involves a full body postural and biomechanical assessment as well as a specific TMJ assessment. We assess TMJ movements, coordination, and strength and palpate the jaw and surrounding muscles.

This allows us to understand the patient’s symptoms, determine an accurate diagnosis and provide us with information about contributing factors to the temporomandibular dysfunction. With this information and working closely the patient’s dentist or prosthodontist we are able to develop an appropriate treatment plan.

**Goals of physiotherapy**

The goals of physiotherapy are to restore the normal movement of the TMJ and cervical spine, improve postural awareness, improve function, decrease pain and headaches, education and to teach patients how to prevent future occurrences of temporomandibular dysfunction.

---

**Treatment**

Treatment will be based on what we find in our subjective and objective assessment. It may involve muscle release techniques, joint mobilisation, dry needling, postural education, relaxation techniques and TMJ motor control rehabilitation.

Postural retraining and education is an important part of treatment because the way that you sit, stand and move can contribute to increased pressure on the TMJ and muscles of mastication. This not only involves your TMJ posture but your overall posture including neck, shoulders, thoracic spine and lower body.

You may be taught how to position your tongue and jaw at rest and to be aware of your TMJ position throughout the day. You will be provided with a home exercise program which is aimed at retraining the coordination and activation and muscles, stretching tight structures and self-treatment techniques. Education regarding your mouth habits such as chewing gum or biting nails is an important part of your treatment.

Although physiotherapy treatment can be effective in improving temporomandibular dysfunction, one of the most important contributors to recovery is participation by the patient themselves.

Other treatment options which are outside the field of physiotherapy include Splinting to provide improved jaw alignment and prevent the teeth from coming together, lessening the effect of clenching and grinding or surgical options.