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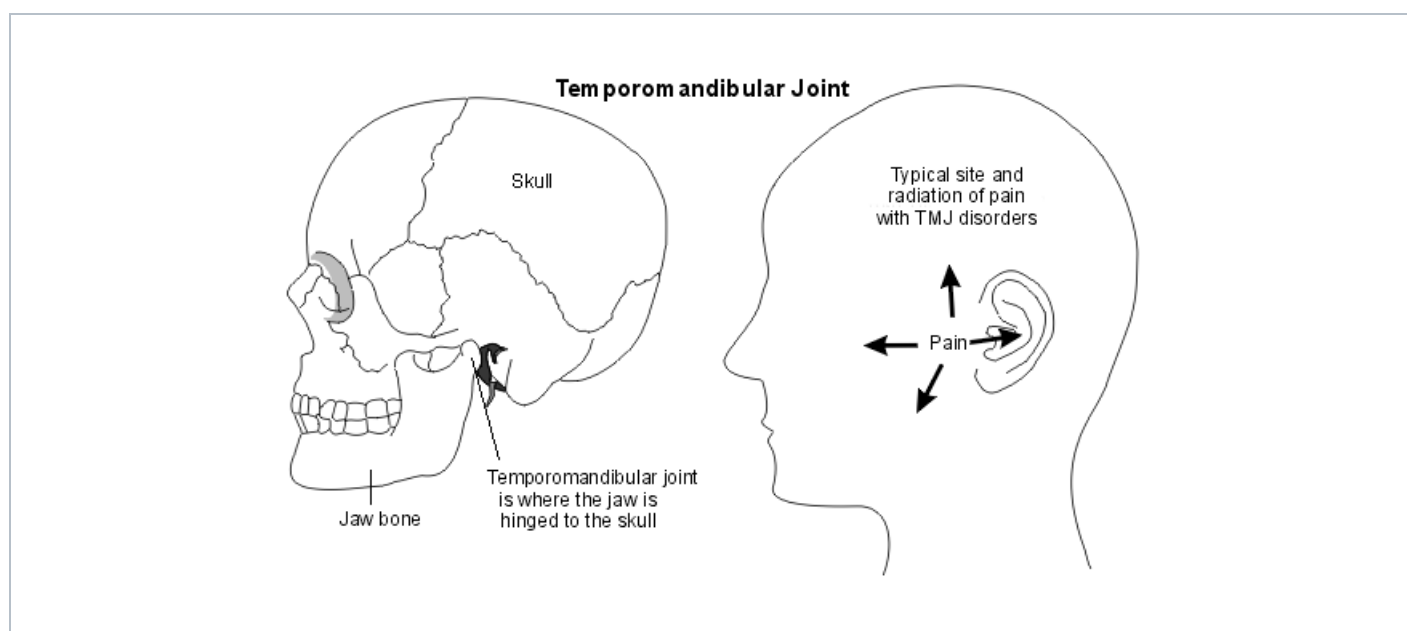
Temporomandibular Joint Disorders

Temporomandibular joint disorders are problems affecting the jaw joint - usually pain or reduced movement of the joint. There are various causes but generally it is not a serious condition and often improves with simple treatments.

What are temporomandibular joint (TMJ) disorders?

TMJ disorders are problems which affect the jaw joint.

The jaw joint is located just in front of the ear, and it joins the jaw bone (mandible) to the skull near to the temple. The jaw joint is also called the 'temporomandibular joint'. Problems affecting this joint are usually known as TMJ disorders. However, there are various other medical terms for this condition - for example, TMJ dysfunction, TMJ pain and myofascial pain disorder.



Understanding the jaw joint

A joint is the place where two bones meet. Joints allow movement and flexibility between two bones. The jaw joint allows movement between the jawbone (mandible) and the skull. Muscles attached to the skull and jawbone cause the jawbone to move as the mouth is opened and closed.

Inside the jaw joint, there is a smooth material called cartilage, covering part of the bones. There is also a cartilage disc within the joint. The joint is lubricated by fluid called synovial fluid.

What are the symptoms of temporomandibular joint (TMJ) disorders?

- Pain in the joint area or nearby. The pain is usually located just in front of the ear and it may spread to the cheek, the ear itself and the temple.
- Jaw movements may be reduced. This may be a general tight feeling or a sensation of the jaw getting stuck. Very rarely, the jaw may become 'locked', causing difficulty in opening or closing the mouth.
- Clicks or noises can sometimes be heard coming from the jaw joint when you chew or move your mouth. These noises can be normal, so they are only relevant if you have other symptoms in the joint, such as pain or reduced movement.
- Because the ear is very close to the jaw joint, some people develop ear symptoms such as:
 - Noise in the ear.
 - Sensitivity to sound.
 - Dizziness (vertigo).

How common are temporomandibular joint (TMJ) disorders?

They are fairly common. About 1 in 4 people have symptoms in the jaw joint at some time in their lives. Of these people, only about 1 in 20 consult a doctor for this problem.

What causes temporomandibular joint (TMJ) disorders?

In general, TMJ disorders are thought to have a 'multifactorial' cause, meaning that there are usually a number of factors contributing to the cause. These factors can be grouped into two types:

- Problems linked to the muscles working the joint.
- Problems inside the joint itself.

The muscle problems are the most common type, particularly for younger people.

Problems with the muscles may be caused by:

- Tension of the jaw muscles. This can occur if you clench your jaw a lot during sleep, which is quite common. People also clench their jaw during the day if they are feeling tense or anxious.
- Overuse of the jaw muscles, such as habitually chewing gum, or biting nails.
- Rarely, other conditions make the jaw muscles overactive. For example, there are some rare kinds of movement disorders (called orofacial dystonias) which cause excessive jaw clenching.
- Increased sensitivity to pain. We don't know why this happens but it may be linked to stress, or to some other process which affects pain sensitivity. Some doctors call this type of problem a pain syndrome because the exact cause of the pain is not known.

Problems in the joint may be caused by:

- Wear and tear to the inside of the joint - for example, wear and tear to the cartilage. Sometimes this is due to a type of arthritis called **osteoarthritis**. This problem tends to affect older rather than younger people.
- Certain other types of arthritis. Arthritis means inflammation in a joint. There are different kinds of arthritis. For example, **rheumatoid arthritis** and **gout** are both types of arthritis which may affect various joints in the body and they can sometimes affect the jaw joint.
- Injury to the TMJ or to its cartilage disc can cause TMJ pain.

How are temporomandibular joint (TMJ) disorders diagnosed?

Often, the diagnosis is made on the basis of your symptoms and a doctor's examination. In many cases, no tests are necessary if you are healthy and have symptoms that are typical of a TMJ disorder. Possible tests are:

- **Blood tests** which may be helpful to look for signs of inflammation, or to rule out other causes of pain in that area.
- **An MRI scan** which can be used to give a detailed picture of the joint. **X-rays** are another option but are used less often now that MRI scans are available.
- A diagnostic nerve block which may help to clarify whether the pain is coming from the joint or the muscles. Local anaesthetic is injected near the nerve which goes to the jaw joint. If this relieves the pain then it suggests that the pain comes from the joint itself.
- **Use of a fibre-optic device (arthroscopy)** to look inside the joint. This may be used if other tests do not show the cause of the pain.

What is the treatment for temporomandibular joint (TMJ) disorders?

Most problems in the jaw joint can be helped with simple treatments such as painkillers and advice on how to rest the joint. There are various treatments which are often used in combination:

Resting the jaw joint

- At rest, try to keep your teeth slightly apart and your tongue resting in the bottom of your mouth.

- You can rest the joint by eating soft food and not using chewing gum.
- Also, avoid opening the mouth very wide - so don't do too much singing and try not to yawn too widely.
- Massaging the muscles and applying warmth can help.
- Improving posture can help - for instance, when sitting in front of a computer for a long time.

Other treatments are **relaxation** and stress-reducing therapies - presumably because people tend to clench their jaw when they are stressed, or because stress makes pain worse.

Splints or bite guards are sometimes suggested. These cover the teeth at night to reduce clenching of the jaw and can be made by dentists. There is no definite evidence from research trials that they work but some people find them helpful.

Medication

Painkillers such as **paracetamol**, **ibuprofen** or **codeine** can help. If these are not enough, **muscle relaxants** or a small dose of a medicine called a **tricyclic antidepressant** can give added pain relief.

Physiotherapy

Physiotherapy treatments, such as ultrasound and gentle jaw exercises, can be helpful.

Exercises for jaw pain:

- Before you start, warm the jaw area up with a hot water bottle or wheatbag. This will help the muscles to move more easily.
- Place your fingers on the front of your chin and try to move the lower jaw forward against the resistance of your fingers. Hold this position for a few seconds, then relax. Repeat three times.
- Place your fingers under your chin and try to open your jaw against resistance. Hold this position for a few seconds, then relax. Repeat three times.
- Place your fingers on one side of your lower jaw and try to move your lower jaw sideways against the resistance of your fingers. Hold this position for a few seconds, then relax. Repeat three times. Then do the same on the other side.
- Place your fingers over the jaw joint and gently open your mouth as far as you can. Take care that your jaw opens straight and not to one side.

You can repeat these exercises several times a day until the symptoms ease.

Treatment of other conditions

If there is an underlying condition - for example, a type of arthritis which is contributing to the TMJ disorder - this may need treating in its own right.

Injections or surgery

- An injection of a medicine called a **steroid** into the joint may help, when symptoms are due to inflammation in the joint.
- If the jaw muscles are overactive to a severe degree (such as with a movement disorder), an injection of **botulinum toxin** (Botox®) can reduce symptoms. There is debate about how effective this treatment is.
- Inserting a fibre-optic device (arthroscopy) can be used for some types of treatment or surgery to the joint.
- For a very few patients, surgical repair of the joint may be suggested. Various operations can be done, depending on the individual situation.

Other treatments

Some other treatments have been tried and may be available in some areas. These treatments include kinesio taping and acupuncture.

What is the outlook (prognosis)?

Generally the outlook is good. Most temporomandibular joint (TMJ) disorders improve over time and do not become worse. It is very rare to have any complications with this condition. Some people do have symptoms that last longer or come back (recur). However, even these can usually be improved with the treatments described above. Most people do not need injections or surgery and will get better with simple treatments and time.

Further reading & references

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