

# **Scottish Muscle Network**

## **Patient Information Leaflet**

### **Jaw tightness (Trismus) in neuromuscular disorders**

## Jaw tightness (Trismus) in neuromuscular disorders

Jaw tightness, or trismus, is a symptom experienced in some neuromuscular disorders such as Spinal Muscular Atrophy (SMA) and Muscular Dystrophy.

### How do I know if I have jaw tightness?

Some people describe jaw tightness as not being able to open their mouth as fully as they used to. Normal ranges for mouth opening are usually around 35mm (about three finger widths between your top and bottom teeth) and in those affected by trismus it can be significantly reduced.



In some cases, it is first noticed at a routine dental visit when the dentist will find it a bit trickier to gain access to the teeth. Most people will start to notice it a little earlier when they have difficulty with opening the mouth fully to yawn or to brush their teeth and as symptoms progress, opening the mouth to place food on the tongue and chewing can feel like much harder work. When jaw tightness limits mouth opening, speech can also be affected.

Trismus can be caused by a variety of reasons such as trauma to the jaw joint (temporomandibular joint) arthritis and surgery. The jaw joint is where the jaw bone (mandible) connects to the skull (temporal bones) and you can feel it when you open and close your mouth if you place your fingers just in front of your ear.

In neuromuscular conditions, we believe trismus is caused by a combination of weak muscles, tightening of the ligaments supporting the jaw joint (or temporomandibular joint) and fibrosis of the synovial membrane and joint capsule which surrounds the joint. This tightening happens over a period of time and does not usually cause pain.

### What causes jaw tightness?

The temporomandibular joint (TMJ) is like many other joints in the body. It is surrounded by ligaments and has a synovial membrane that produces synovial fluid which fills the joint space. Synovial fluid contains protein which nourishes joints and keeps them healthy. We tend to make synovial fluid through active use of the muscles and joints. The joint is surrounded by a very thin membrane called the capsule and that keeps all the fluid within the joint.

When muscles start to weaken in the arms and legs for example, the joints become less able to move through their full range of movement. Muscles that are not as strong as they were (i.e. due to a neuromuscular condition) will tend to fatigue quicker. Weak muscles will often mean that the joints they support not only have less range of movement but also less activity in general. This means the joints are not

## **Scottish Muscle Network**

### **Jaw tightness (Trismus) in neuromuscular disorders - Information Leaflet**

making as much synovial fluid as they should, and our joints receive less nutrition. This also happens in the TMJ.

The ligaments that support the joint are also undergoing less movement and in order to keep them healthy they need particular “stress” caused by activity i.e. movement through the full range. If ligaments are not stressed through movement, they can become fibrotic and this further complicates the integrity of the joint structure leading to tightness. Fibrosis is like scar tissue and does not allow much movement.

Finally, the TMJ contains a disc which is a soft round cartilaginous structure and the purpose of this is to cushion the space between the bones and absorb pressure (for example when chewing something hard). Some people can have a click when they are eating, and this can be caused by disc issues or disc displacement within the jaw as it moves in and out of the tiny joint space. This is not felt to cause pain and is a common symptom within the general population. The disc can also become compromised over time if joint health is an issue.

### **What can I do about jaw tightness?**

There are several things you can do to help trismus and there are also a number of healthcare professionals who can advise.

#### **Dentist**

It is good to speak with your dentist in the first instance to make sure your dental hygiene needs are being met. They may suggest different styles of toothbrushes, for example, to help reach the spaces in between your back teeth. If you need help to brush your teeth, you may learn new strategies to help with your dental hygiene. Some people find a smaller toothbrush like a child’s toothbrush is more helpful to get into the teeth at the back of the mouth. You may need to have dental checks more often so the dentist can help you with a thorough clean and help prevent the build up of plaque.

#### **Physiotherapists**

Just as physiotherapists advise stretches of your arms and legs, they may also advise jaw stretches and exercises. Your physiotherapist might suggest specific facial exercises that you can do to help maintain the muscle and movement within the TMJ. These may include blowing and sucking through a straw, opening and closing the mouth and sideways movement of the jaw bone (mandible).

#### **Jaw jack**

A jaw jack is a little device that is used to help with stretching the tightness in your jaw. The TheraBite® Jaw Motion Rehabilitation System™ is one such model and when used daily, initially in the improvement phase followed by 3-4 times per week in the maintenance phase, it has been successful for some people. For example, they have found eating burgers easier or reporting that brushing their teeth is easier to get the toothbrush to the back of their mouth.

## Scottish Muscle Network

### Jaw tightness (Trismus) in neuromuscular disorders - Information Leaflet



However, just like all stretches as soon as you stop, the joints will start to tighten again so it is important to keep going and make this a regular part of your activity routine.

## Transcutaneous Electrical Nerve Stimulation

Transcutaneous Electrical Nerve stimulation or TENS machines are commercially available and used by many to help manage pain. A TENS machine sends electrical pulses through the skin to stimulate the release of the body's own pain killers. The electrical pulses can help the release of endorphins and other substances to reduce pain signals in the brain. This can have a very positive effect on chronic pain issues.

More recently, TENS machines have been used in trismus to help “loosen off” the tightness in the jaw. There is little information on exactly how this works, but some people have reported daily use of the TENS machine for about 10 minutes at a time has helped regain a little more movement.

Like many strategies to help tightness, this machine would need to be used daily until the jaw has loosened off and then usage can be reduced to three or four times a week to maintain it. It is important to remember that the initial issues that have led to the tightness are still present so continued use will be necessary.

## Acupuncture

Acupuncture has also shown in some cases to be helpful and again this alongside the other techniques within this leaflet can all work together to help you achieve better mouth opening range or indeed prevent further tightness.

## Speech and Language Therapists

Speech and Language Therapists have an in-depth knowledge of the facial muscles and the TMJ and will be able to provide practical advice about movement, stretches and any chewing and swallowing problems that may be present.

## Oral and maxillofacial surgeons

In some cases where the trismus is severe, you may be referred to an oral and maxillofacial surgeon. The surgeon will carry out a detailed examination, including x-rays, to determine whether a surgical option is possible. This can be discussed with the wider neuromuscular team who know your condition as with all surgery, a detailed risk /benefit analysis should be undertaken.

## **Scottish Muscle Network**

### Jaw tightness (Trismus) in neuromuscular disorders - Information Leaflet

#### **Summary**

As with any symptom, it is much easier to treat trismus when you address it early so if you have started to notice changes in your mouth opening, please do speak with any of the above healthcare professionals as well as discussing further with your Neurologist or Rehabilitation Consultant. It may be that some of the healthcare professionals you meet may not have come across this before and this leaflet will help inform the decision-making process about the best person to help support your needs.

#### **Further information**

If you have further questions, please contact me:

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