Long Thoracic Nerve Palsy

Long thoracic nerve palsy is a condition that occurs when damage or compression occurs to the long thoracic nerve, causing winging of the shoulder blade (scapula). The long thoracic nerve runs from the neck and supplies the serratus anterior muscle, the muscle that holds to scapula to the chest wall, and assists with specific forearm activities, including lifting things overhead.

With long thoracic nerve palsy, shoulder and forearm movements may be challenging. Additionally, it could lead to the development of winged scapula, which usually does not cause any pain but can have an unappealing look when wearing certain clothes.

What are the Causes of Long Thoracic Nerve Palsy?

Typically, long thoracic nerve palsy occurs if the long thoracic nerve is injured or damaged. When it comes to injury, direct trauma (such as getting hit in the rib or neck areas), car accidents, repetitive movements, and overstretching are the most common causes. Trauma occurring during sports such as rugby and American Football can also occur.

Damage can also occur after certain surgical procedures, particularly those involving the chest, neck, or arms. Even deep tissue massages can lead to long thoracic nerve palsy.

What are the Symptoms of Long Thoracic Nerve Palsy?

Symptoms of long thoracic nerve palsy can vary from one person to the next. However, the most common include:

- Winged scapula
- Reduced overhead mobility or capacity
- Muscle weakness
- Shoulder pain

Only a doctor or healthcare practitioner can diagnose long thoracic nerve palsy. Usually, this involves taking a medical history, including questions about past or present injuries, as well as a physical exam which may include your physician asking you to make specific movements to review your mobility. Diagnostic imaging, such as electromyography (EMG) or MRI, may also be necessary, as well as a nerve conduction study.

Treating Long Thoracic Nerve Palsy

Recommended treatments for long thoracic nerve palsy can vary depending on the severity of the symptoms and root cause. For milder cases, physical or occupational therapy may be sufficient. Typically, you'll be given a series of exercises to complete, allowing you to strengthen surrounding muscles.

1. **Exercises**

   Performing shoulder-blade strengthening exercises can help to stabilize the scapula, and also help to activate the long thoracic nerve to send new nerve signals. Typically exercises strengthening the rhomboid muscles, the lower and mid-trapezius, latissimus dorsi, and the rotator cuff muscles may be used in the exercise plan. In addition, exercises that improve posture can also help to put the shoulder in an anatomically better position.

2. **Posture**

As mentioned above, posture can be important for scapula position. When the shoulders drop too far forwards, the scapula protrudes backwards making winging more apparent. Improving posture with good habits and exercises can make a significant difference.

3. **Pain Relievers**

Pain relievers and muscle relaxants may be prescribed, or over-the-counter options may be recommended if you are in pain. However, in most cases with the chronic nature of the problem, patients are encouraged to self-manage with exercises and therapy.

4. **Therapy**

Physical therapy, osteopathy, physio, chiropractic and sports massage may help to improve symptoms and improve posture. Working with your rehab therapist can help do exercises to stimulate firing of the nerve, and to strengthen the correct muscles, as well as to mobilise any stiff joints.

5. **Surgery**

Surgery may also be presented as an option, though generally only for severe cases or where the nature of the injury makes nonsurgical approaches less effective. A nerve and muscle transfer, involving taking tissue or nerves from other areas of the body and relocating them to repair the damaged areas, may be recommended for long thoracic nerve palsy.

In severe cases, your doctor may recommend scapulothoracic fusion, a surgical procedure designed to stabilize the scapula by attaching it to three to five underlying ribs. However, this approach will permanently limit mobility in the shoulder area, so it is usually only recommended if especially challenging cases or when other treatment options fail to provide relief.

Tips:

Recovering from long thoracic nerve palsy can taking anywhere from several months to years depending on the severity of the damage, the initial cause, and the chosen course of treatment. Additionally, while full recovery is possible for some, others may not get back their full range of motion. However, by seeing your doctor as soon as you notice symptoms, you can increase your odds of a positive outcome, making it wise to schedule an appointment quickly if you notice any changes or discomfort in the shoulder region.

In many cases, it just takes time. Letting the body “sort itself out” can be one of the best ways to deal with it, and by having the expectation that it will take time to heal will help you to be realistic with the time-frames of recovery.