

STEVEN CHUDIK MD

SHOULDER, KNEE & SPORTS MEDICINE

Scapular Winging

(Serratus Anterior Palsy, Long Thoracic Nerve Injury)

Scapular winging is an uncommon nerve condition, causing pain and occasionally weakness in the shoulder. It often involves injury to the long thoracic nerve along the chest walls and the shoulder blade. The long thoracic nerve runs from the neck along the chest wall to the serratus anterior muscle. The nerve can be stretched due to a fall on the shoulder while the neck bends toward the other shoulder, it can be the result of repetitive injury, or it may occur without injury; sometimes it is associated with a viral illness. Injury to this nerve results in weakness of the serratus anterior muscle, causing the scapula (shoulder blade) to move abnormally away from the chest wall with attempted shoulder movement, called winging. The scapula is the base from which the shoulder functions. With winging, the shoulder works off a weak base, making shoulder function weak and painful as well.

Frequent Signs and Symptoms

- Pain and discomfort (burning or dull ache) that is poorly localized, often in the back of the shoulder or shoulder blade
- Heaviness or fatigue of the arm
- Loss of power of the shoulder
- Difficulty raising the arm above shoulder level
- Pain in the back when sitting in a chair with a high back due to the scapula hitting the back of the chair
- Bump in the back of the shoulder (the scapula) that is more obvious when trying to do push-ups or reach forward overhead

Etiology (Causes)

- Viral illness
- Repetitive stretch injury
- Fall onto shoulder with the head and neck stretched away from the shoulder

Risk Factors

- Contact sports
- Sports that require repetitive overhead throwing or hitting type activity, such as baseball, volleyball, and tennis
- Poor physical conditioning (strength and flexibility)



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Prevention

- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
 - Shoulder flexibility
 - Muscle strength and endurance

Outcomes

With proper rest and treatment, there is usually complete spontaneous recovery within 18 months. Rarely surgery is necessary.

Potential Complications

- Permanent weakness of the shoulder, particularly in lifting power and when working with the arm overhead
- Persistent pain in the shoulder
- Stiffness of the shoulder
- Increasing weakness of the extremity
- Disability and inability to compete
- Failure of the nerve to recover

Treatment Considerations

Initial treatment consists of rest from the offending activity and nonsteroidal anti-inflammatory medications to help reduce inflammation and pain. The nerve usually spontaneously recovers, although this may take up to 12 to 24 months. Performing shoulder range-of-motion exercises while waiting for nerve recovery is of paramount importance. Referral to a physical therapist or an athletic trainer may be recommended for further treatment to restore strength after the nerve recovers. If this conservative treatment is not successful, surgery may be necessary to replace the lost function of the serratus anterior muscle with the function of another muscle or fuse the scapula to the chest wall. These surgeries are considered salvage operations; they are not meant to allow the athlete to return to sports, just to allow pain-free activities of daily living.

Possible Medications

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within 7 days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Pain relievers may be prescribed as necessary by your physician, usually only after surgery. Use only as directed and only as much as you need.



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Modalities (Heat and Cold)

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 15 to 20 minutes every two to three hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage with a cloth between the ice and your skin to prevent burning /freezing your skin.
- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.

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