



Thoracic Outlet Syndrome

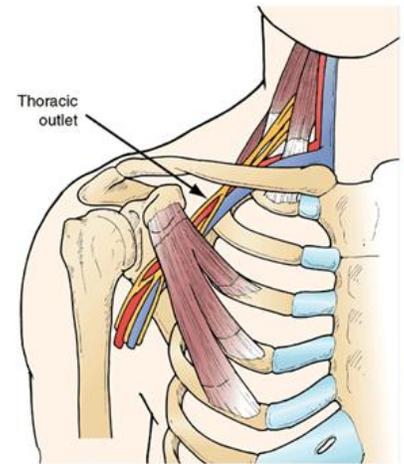
Thoracic outlet syndrome is a group of symptoms produced by pressure on the nerves and/or blood vessels as they pass through the thoracic outlet. The thoracic outlet is the space between the base of the neck and the armpit. Thoracic outlet syndrome affects women more frequently than men. It typically appears between ages 20 and 50 years.

Causes

Thoracic outlet syndrome occurs due to a variety of reasons. Some of the more common causes are being born with an extra rib or muscle in the neck, being involved in activities that require stooped posture or repetitive shoulder movements, or having enlargement of the neck and shoulder muscles from weight lifting or weight gain. Swimmers, volleyball players, tennis players, baseball pitchers and musicians are particularly at risk. Tumors at the top of the lung or in the neck are very rarely the cause.

Symptoms

Your child may complain of a dull, aching pain in the shoulder and neck that gets worse with activity. If the nerves are being compressed, your child may have numbness or tingling in the fingers and muscle weakness. When blood vessels are compressed, children often have puffiness, color change or a feeling of heaviness in the arm or hand. Symptoms can often be provoked when the arm is positioned above the shoulder or extended.



Diagnosis

Your doctor will do a physical examination of the neck and shoulder and review your child's symptoms. Certain maneuvers of the arm and neck can be done to reproduce your child's symptoms during the physical exam. X-rays of the shoulder and chest may reveal an extra rib. An MRI may show muscular abnormalities and may clarify the area of compression. Electromyography (EMG) and nerve conduction study may be used to see how your child's muscles and nerves are working.

Treatment

Your child will need to rest from irritating activities until the pain and other symptoms improve. Physical therapy and an exercise program can help reduce the compression in the thoracic outlet by strengthening the chest and back muscles, stretching tight tissue, and improving posture. The physical therapist may recommend avoiding certain activities that can aggravate symptoms. If physical therapy and exercise do not improve your child's symptoms, your doctor may recommend surgery to relieve compression of the nerve and blood vessels.

Returning to Sports & Activities

The goal is to return your child to their sport as quickly and safely as possible. If your child returns to sports or activities too soon, the injury may worsen, which could lead to permanent damage, chronic pain and difficulty with sports. Everyone recovers from injury at a different rate. Your child's return to sport or activity will be determined by



how soon their symptoms resolve, not by how many days or weeks it has been since the injury occurred. In general, the longer you have symptoms before treatment, the longer it will take to get better.

Once the child's symptoms have resolved, they can start basic sport-specific activities and gradually progress to full activity. Your child may need to modify their activity level or technique if returning to sports causes their symptoms to recur.

Prevention

- Stand and sit with an upright posture. Avoid activities that require stooped shoulders and a dropped head for long periods of time.
- Avoid activities that can increase pressure on the thoracic outlet such as repetitive overhead movements, lifting heavy objects, or carrying heavy book bags or purses.
- Stretch tight muscle groups as tight muscles are more prone to injury. Tight muscles also put more stress on the attached tendons and bones putting these at risk for injury as well. The ideal time to stretch is **after** your workout. Be sure to include all major muscle groups. Hold each stretch for 30 seconds. Don't bounce.
- **Do not play through pain.** Pain is a sign of injury, stress or overuse. Rest is required to allow time for the injured area to heal. If pain does not resolve after a couple days of rest, consult your physician. The sooner an injury is identified, the sooner proper treatment can begin. The result is shorter healing time and faster return to sport.