Ann & Robert H. Lurie Children's Hospital of Chicago™

Rotator Cuff Tendinitis (Impingement Syndrome)

Rotator cuff tendinitis is inflammation (swelling) or irritation of the rotator cuff tendons, which leads to pain and restriction of motion at the shoulder joint. There also often is swelling of the subacromial bursa; this is called bursitis. The bursa is the small fluid-filled sac that helps to reduce friction created by the rotator cuff tendons as they move back and forth under the acromion. Inflammation can weaken the tendons, making them more susceptible to tears. Rotator cuff tears are rare in children and adolescents.

Background Information About the Rotator Cuff

The scapula (shoulder blade) forms a ball and socket joint with the humerus (upper arm bone). These bones are held together by four muscle-tendon units, which together form the rotator cuff. The muscles are as follows: the supraspinatus, infraspinatus, teres minor and subscapularis. The tendons (thick fibrous tissue that attaches muscle to bone) form a "cuff" which wraps around the ball and socket. The rotator cuff helps control motion at the joint, allowing you to rotate your shoulder in a full circle, and also helps to stabilize the shoulder joint.

Causes

Rotator cuff tendinitis usually results from repetitive use of the rotator cuff muscles, which commonly occurs in sports such as baseball, volleyball, tennis and swimming that involve repeatedly raising the arm above the head. This overhead motion can pinch the rotator cuff tendons between the ball and socket joint and the coraco-acromial arch. As the tendons become irritated and swell, they occupy more space in the joint, which leads to further pinching. When this pinching of the tendons occurs, it is called impingement.

Signs & Symptoms

There is pain along the front and side of the shoulder. Raising the arm out to the side or overhead causes pain. Movements that cause pain at home might include reaching for objects on high shelves or brushing your hair. Pain worsens with activity. There also may be stiffness, weakness or inability to raise the arm completely. Lying on the involved shoulder can cause discomfort, and there may be achy pain at rest or at night.

Diagnosis

Your doctor will examine your child's shoulder and arm to assess strength, joint stability and range of motion, and to check for pinching or a tear of the tendons. Most cases of rotator cuff tendonitis can be diagnosed by a doctor's review of your child's history and examination of the shoulder. In cases where the diagnosis is unclear, a MRI can be performed to confirm to presence of inflammation in the tendons and determine whether there is a tear or other injury.

Treatment

The most effective treatment is rest from overhead motions to allow the swelling and inflammation of the tendons to resolve. Rest is also important to prevent further injury, since inflamed tendons are more likely to tear. Ice and anti-inflammatory medication also can help reduce swelling and pain. After a period of rest, physical therapy helps to re-establish range of motion at the joint and strengthen all of the shoulder muscles, including the rotator cuff. Athletes with strong rotator cuff muscles are less likely to develop rotator cuff tendonitis.

Returning to Sports & Activities

The goal is to return your child to sports and activities as quickly and safely as possible. If your child returns too soon, or pushes through pain, the injury may worsen, which could lead to chronic pain and difficulty with sports.

Everyone recovers from injury at a different rate. Return to sport or activity will be determined by how soon your child's shoulder recovers, not by how many days or weeks it has been since the injury occurred. In general, the longer your child has symptoms before starting treatment, the longer it will take to get better. Your child should be pain-free with everyday overhead activities before return to sports.

Prevention

- Strengthening the rotator cuff muscles and complementary shoulder muscles, such as the rhomboids and trapezius, can help prevent injury.
- Do not play through pain. Pain is the first sign that the tendons are becoming inflamed and irritated. Rest is needed to allow those tendons to heal and prevent further injury. If pain does not resolve after a couple days of rest, then consult your child's physician. The sooner an injury is identified, the sooner proper treatment can begin. The result is shorter healing time and faster return to sport.
- Avoid rapid increases in training frequency, intensity or duration.
- Little league pitchers should follow recommended pitch counts to prevent overuse injuries.
- Tennis players should make sure their racquet is the proper size and string tension is appropriate.