

Introduction

Shoulder impingement syndrome is a painful condition in the shoulder. It occurs when the tendons in the shoulder are irritated, inflamed or degenerated from repetitive overhead motions or structural abnormalities in the shoulder. Shoulder impingement syndrome is treated with activity modification, medication, and therapy. When non-surgical options fail, surgical treatment may be used to relieve symptoms and restore function.

Anatomy

Your shoulder is composed of three bones. The humerus is your upper arm bone. The clavicle is your collarbone. The scapula is the shoulder blade that moves on your back. A prominent edge of the scapula, the acromion, forms the top of the shoulder.

The head of the humerus is round. It rotates in a shallow basin on the scapula called the glenoid. A group of ligaments, called the joint capsule, hold the head of the humerus in position. Ligaments are strong tissues that connect bones and provide stability. In other words, the joint capsule is responsible for holding your upper arm in place at your shoulder.

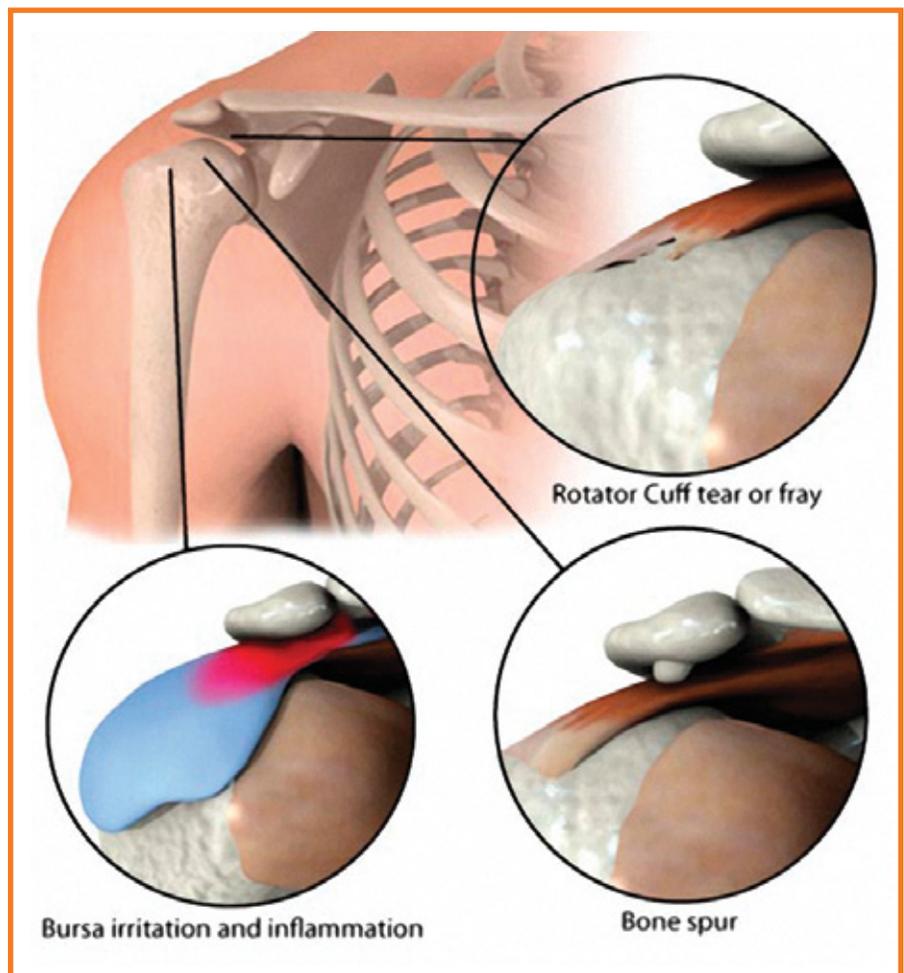
Four muscles at the shoulder form the rotator cuff of tendon that connects to the head of the humerus. The muscles allow the arm to rotate and move upward to the front, back, and side. A gliding membrane, the bursa, lubricates the rotator cuff tendons and reduces friction around them when they move.

You use your rotator cuff muscles when you perform overhead motions, such as lifting your arms up to put on a shirt or reaching for an item on a shelf. These motions are used repeatedly during sports, such as serving in tennis, pitching in baseball, stroking in swimming, and passing in football. Overhead motions may also be used for job duties, such as for construction.

Causes

Impingement syndrome usually occurs as a result of muscle imbalance around the shoulder that place increase stress on the rotator cuff tendons. Secondary impingement syndrome results from the rubbing or pinching of the tendons and bursa during repetitive overhead movements. Shoulder impingement syndrome occurs when the space beneath the acromion is too small for the rotator cuff tendons. The space may be too narrow because of structural abnormalities in the shoulder bones, bone spurs, or thickened tissues.

When the tendons and bursa rub together during normal movement, it causes friction, pain, and limited motion. Degenerated tendons can become painful. Tendons may develop tendonitis, and the bursa may develop bursitis. Both are painful conditions. Continued inflammation can cause the rotator cuff tendons to tear or detach from the top of the humerus.



Symptoms

Shoulder impingement syndrome causes a generalized aching pain in the shoulder and upper arm. You may feel weakness and pain when raising your arm for activities, such as combing your hair or putting on a shirt. Pain at night is typical and may interfere with your sleep.

Diagnosis

Your doctor can diagnose shoulder impingement syndrome by reviewing your medical history and examining your shoulder. X-rays are ordered to check for bone spurs or acromion abnormalities. A magnetic resonance imaging (MRI) scan may be used to show more detailed pictures of your shoulder, particularly the rotator cuff, the muscles and joint capsule.

Treatment

Treatments for shoulder impingement syndrome include rest from the irritating activity and ice packs or medication for pain and inflammation. Cortisone injections are often used. Physical therapy is often used to regain motion and strengthen weakened muscles, thereby decreasing pain.

Surgery

Surgery may be recommended when non-operative treatments have provided minimal or no improvement of your symptoms. Surgery may be necessary to enlarge the space beneath the acromion to allow the tendons to glide freely or to trim degenerated tendon. This can be accomplished with surgery to remove bone spurs and the undersurface of the acromion (acromioplasty), remove some of the bursa and occasionally a small part of the clavicle.

During an open surgical repair, the surgeon makes a three or four inch incision over the shoulder to access the joint. Arthroscopic surgery is a less invasive surgical procedure. It uses an arthroscope and narrow surgical instruments that are inserted through small incisions. An arthroscope contains a lens and lighting system that allow a surgeon to view inside of a joint. The arthroscope is attached to a miniature camera. The camera allows the surgeon to view the magnified images on a video screen or take photographs and record videotape.

With arthroscopic technology, your surgeon will not need to open up your joint fully. The arthroscope can be used to remove bone spurs and excess bone. It can also be used to repair torn tissues.

Recovery

Arthroscopic surgery usually leads to less pain in the early post operative period. It has a reduced risk of infection, less blood loss, and less pain and stiffness because only small incisions are used and less surrounding tissue is affected or exposed. The recovery process is different for everyone, but typically it takes several months to recover from surgery with participation in rehabilitation therapy. Your doctor will let you know what to expect.

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vermontorthoclinic.org



VERMONT ORTHOPAEDIC CLINIC

3 Albert Cree Drive, Rutland, VT 05701

802.775.2937 • 800.625.2937