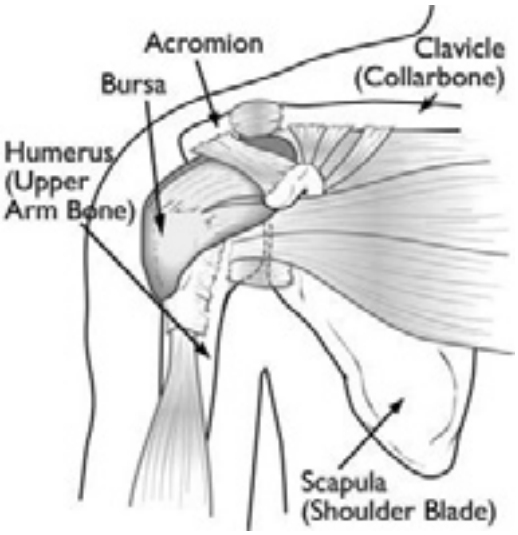
Shoulder Impingement



One of the most common physical complaints is shoulder pain. Your shoulder is made up of several joints combined with tendons and muscles that allow a great range of motion in your arm. Because so many different structures make up the shoulder, it is vulnerable to many different problems. The rotator cuff is a frequent source of pain in the shoulder.

Anatomy

Your shoulder is made up of three bones: your upper arm bone (humerus), your shoulder blade (scapula), and your collarbone (clavicle).

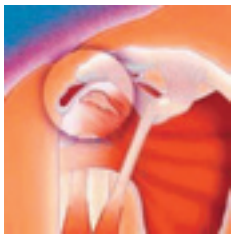
Your arm is kept in your shoulder socket by your rotator cuff. These muscles and tendons form a covering around the head of your upper arm bone and attach it to your shoulder blade.

There is a lubricating sac called a bursa between the rotator cuff and the bone on top of your shoulder (acromion). The bursa allows the rotator cuff tendons to glide freely when you move your arm.

Description

The rotator cuff is a common source of pain in the shoulder. Pain can be the result of:

- **Tendinitis:** The rotator cuff tendons can be irritated or damaged.
- **Bursitis:** The bursa can become inflamed and swell with more fluid causing pain.
- **Impingement:** When you raise your arm to shoulder height, the space between the acromion and rotator cuff narrows. The acromion can rub against (or "impinge" on) the tendon and the bursa, causing irritation and pain.



The acromion "impinges" on the rotator cuff and bursa.

Cause

- Overuse, strenuous shoulder activities
- Young athletes
- Minor injury
- Idiopathic (unknown reason)

Symptoms

Rotator cuff pain commonly causes local swelling and tenderness in the front or side of the shoulder. You may have pain and stiffness when you lift your arm. There may also be pain when the arm is lowered from an elevated position. You may have sudden pain with lifting and reaching movements.

Examination

Your doctor will perform a comprehensive history and examination to find the source of your pain. This will include testing strength and range of motion as well as localizing tender spots. Certain specific tests also help confirm the diagnosis and rule out other pathology.

OAM Orthopaedic Associates of Muskegon

West Michigan Spine Center

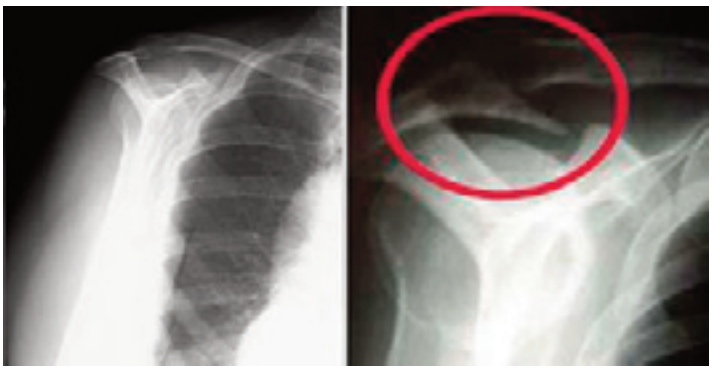
Grand Haven Bone & Joint

☐
1400 Mercy Drive, Ste 100
Muskegon, MI 49444
231-733-1326

☐
1445 Sheldon Rd, Suite G1
Grand Haven MI 49417
616-296-9100

www.oamkg.com
www.wmspinecenter.com

Imaging Tests



(Left) Normal outlet view x-ray. (Right) Abnormal outlet view showing a large bone spur causing impingement on the rotator cuff.

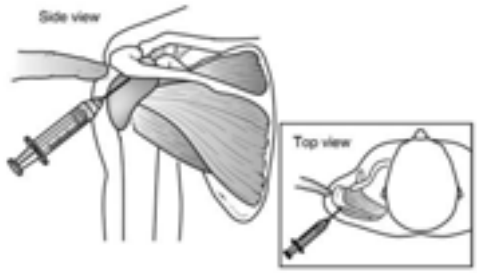
X-rays: Because x-rays do not show the soft tissues of your shoulder like the rotator cuff, plain x-rays of a shoulder with rotator cuff pain are usually normal or may show a small bone spur. A special x-ray view, called an "outlet view," sometimes will show a small bone spur on the front edge of the acromion.

Magnetic resonance imaging (MRI) and ultrasound: These studies can create better images of soft tissues like the rotator cuff tendons. These may be needed if other conditions, such as a torn rotator cuff, are suspected.

Nonsurgical Treatment

The goal of treatment is to reduce pain and restore function. In planning your treatment, your doctor will consider your age, activity level, and general health. In most cases, initial treatment is nonsurgical. Although nonsurgical treatment may take several weeks to months, many patients experience a gradual improvement and return to function.

- Rest
- Medications: NSAIDS
- Physical therapy
- Steroid injection: Cortisone is a very effective anti-inflammatory medicine. Injecting it into the bursa beneath the acromion can relieve pain.



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Surgical Treatment

When nonsurgical treatment does not relieve pain, your doctor may recommend surgery.

The goal of surgery is to create more space for the rotator cuff. To do this, your doctor will remove the inflamed portion of the bursa. He or she may also perform an acromioplasty, in which part of the acromion is removed. This is also known as a subacromial decompression. These procedures can usually be performed arthroscopically.

Arthroscopic surgery. In arthroscopy, thin surgical instruments are inserted into two or three small puncture wounds around your shoulder. Your doctor examines your shoulder through a fiberoptic scope connected to a television camera. He or she guides the small instruments using a video monitor, and removes bone and soft tissue. In most cases, the front edge of the acromion is removed along with some of the bursal tissue.

Your surgeon may also treat other conditions present in the shoulder at the time of surgery. These can include arthritis between the clavicle (collarbone) and the acromion (acromioclavicular arthritis), inflammation of the biceps tendon (biceps tendonitis), or a partial rotator cuff tear.

Rehabilitation

- After surgery your arm is placed in sling for comfort typically for 2-3 days
- Unless other procedures are also performed, you will be provided with exercises to get the shoulder moving as you are able
- Pain relief is gradual; typically 2-4 months but may take up to a year for maximum recovery

Adapted from American Academy of Orthopaedic Surgeons. For more information, see orthoinfo.aaos.org