



Orthopedic Associates OF PORT HURON

Impingement Syndrome of the Shoulder

What structures are involved in an Impingement Syndrome?

There are three bones that make up the shoulder complex: the scapula (shoulder blade), the humerus (the upper arm bone) and the clavicle (the collar bone). The rotator cuff attaches the humerus to the scapula. The muscles that make up the rotator cuff are: supraspinatus, infraspinatus, teres minor and subscapularis.

A tendon is the part of the muscle that attaches it to the bone. The purpose of the rotator cuff is to rotate the humerus as well as to pull the head of the humeral down during arm elevation in order to avoid pinching any structures. The rotator cuff is also responsible for holding the humerus tightly into the socket of the scapula (the glenoid fossa).

The upper part of the scapula that makes up the roof of the shoulder is called the acromion. A bursa is located between the acromion and the rotator cuff tendons. A bursa is a lubricated sac of tissue that cuts down on the friction between two moving parts. This bursa (the subacromial bursa) protects the acromion and the rotator cuff from grinding against each other.

What are the causes of shoulder impingement?

- Weakness in the rotator cuff muscles, which increases the frequency and pressure of contact between the rotator cuff, the bursa and the acromion.
- Constant rubbing of these structures with increased friction can cause bone spurs to form on the acromion. This further reduces the space for these structures.
- Oddly sized acromion where the acromion tilts too far down, which reduces the space between it and the rotator cuff.

Symptoms

- Generalized shoulder aches
- Difficulty sleeping because of pain
- Stiffness in the joint
- Catching sensation when raising the arm overhead

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- Weakness in the arm with the reduced ability to raise the arm overhead

Treatment Options

- Non-Surgical
 - Anti-inflammatory medication
 - [Cortisone injection](#) into the rotator cuff tendon or the bursa
 - [Physical Therapy](#) consisting of modalities to decrease pain and/or inflammation, stretching exercises, strengthening exercises for the rotator cuff as well as functional retraining to avoid further or repeated injury
- Surgical
 - Decompression
 - The goal of surgery is to increase the space between the acromion and the rotator cuff tendons. The surgery may first remove any bone spurs that may have developed under the acromion that are rubbing on the rotator cuff tendons and the bursa. Usually the surgeon removes a small part of the acromion to give the tendons even more space. In patients with a downward tilt to the acromion, more of the bone may need to be removed.
 - Rotator Cuff Repair
 - If the rotator cuff is seen to be torn, it may be from constant rubbing on the acromion, or from a traumatic injury such as a fall. Small tears located within the tendon are repaired utilizing sutures. If the tear is complete and is torn away from the bone (humerus), the surgeon creates a raw bony area by removing soft tissue from the bone. Drill holes are made in the humerus for attaching sutures. The tendon is then sewn together and stitched to the humerus by looping the sutures through the drill holes. Fasteners may also be used during this part of the procedure. The tendon then heals to the bone over time, reattaching itself.

During an open decompression and/or rotator cuff repair, the surgeon must first cut through the muscles and tissues on the front of the shoulder in order to view the rotator cuff tendons. After repairing the tendon, the muscle on the front of the shoulder (deltoid) is reattached to the bone.

It is important to note that not all rotator cuff tears can be repaired. In some cases the tear is so old that the tendons and muscles have retracted and cannot be stretched enough to be reattached. In other cases, the tendon tissue has simply worn away, and the remaining tendon is not strong enough to hold the necessary sutures. In these instances, simply removing all the torn tissue and repairing any other problems in the shoulder may reduce pain. This will probably

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not increase the strength or motion of the shoulder. In some of these cases, the range of motion of the shoulder may be reduced.

In most cases, these surgical procedures are performed on an outpatient basis. Medication may be pumped through a small tube into your shoulder joint for pain control. This is called a pain pump and will be removed by your physical therapist during the initial visit. Upon discharge the following instructions should be followed.

- Wear a sling as prescribed by your surgeon
- Avoid getting the incision wet
- Ice the shoulder for 15 minutes every two hours that you are awake
- Avoid active movement of the arm away from your body

Sutures will be removed during the first postoperative visit with your surgeon.

Rehabilitation

In most cases, rehabilitation following a decompression and a rotator cuff repair will begin three days postoperatively. The [physical therapy](#) will include:

- Inspection of the incision
- Passive range of motion during the first couple of weeks to maintain movement in the shoulder while protecting the structures that have been sutured
- Strengthening exercises when appropriate
- Home exercises

In some cases, where the rotator cuff repair is fragile, the surgeon may recommend an abductor pillow, which maintains the shoulder in a position to protect the repair. In these cases, the surgeon may wait a couple of weeks prior to beginning [physical therapy](#).

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