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Shoulder Arthritis

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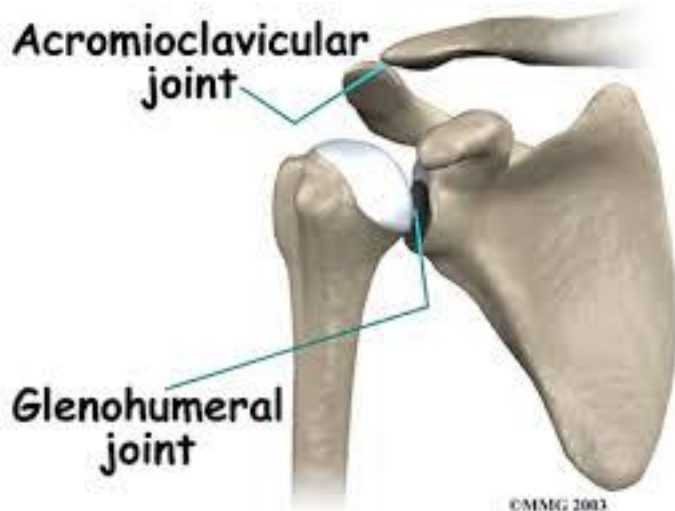
Symptoms

Shoulder arthritis causes pain and stiffness in the shoulder and typically occurs in people over the age of 50. The hallmark of arthritis is pain and reduced range of motion, which may be constant or increase with activity. The diagnosis is typically obvious on X-rays which show reduced joint space and bone spurs.

Causes and Anatomy

Arthritis is loss of the cartilage that normally pads the joint. The most common causes of shoulder arthritis are age and genetics. In addition, arthritis can occur after trauma. For instance, people who dislocate their shoulder at a young age are more likely to have arthritis in later years. Other medical conditions such as rheumatoid arthritis may increase the risk of shoulder arthritis.

The two common locations for arthritis are the acromioclavicular (AC) joint and the glenohumeral joint. Arthritis of the AC joint is essentially universal and is rarely painful. It does not result in loss of motion. Glenohumeral arthritis, on the other hand, is less common and affects the ball-and-socket joint. This handout focuses on glenohumeral arthritis.



Treatment

In the case of mild arthritis conservative treatment should be attempted. Severe arthritis may require surgery if someone is in good health and has limitation in quality of life. Deciding to perform surgery is based on quality of life rather than X-rays. For the most part, arthritis progresses slowly over years. While progression that changes treatment can occur, for the most part, this is a slow process. Age is also a factor in treatment, but in today's world health is more important than age. Because the diagnosis is obvious on X-rays, an MRI or CT scan is only needed if surgery is being considered.

Treatment options include:

Medications: Anti-inflammatories such as ibuprofen (Motrin or Advil) and naproxen (Aleve) are used to reduce pain and inflammation. The max does for ibuprofen is 800 mg three times per day. The max does for naproxen is 500 mg twice daily. Prolonged usage should be avoided and these should be taken with food since they can affect the stomach lining. If one experiences an upset stomach these should be stopped. Also, if patients are on blood thinners the use of these medications may be contraindicated.

Injection: An injection of steroid (cortisone) into the glenohumeral joint is one of the most common means to provide pain relief. One of the keys is the location of the injection. Most non-orthopedic providers place an injection into the subacromial space between the rotator cuff and acromion bone when they do an injection. However, the proper location of an injection for arthritis is into the shoulder joint itself which lies beneath the rotator cuff. I perform glenohumeral

joint injections with an ultrasound machine. This allows direct visualization of the joint and improved accuracy of the injection. Up to 3 injections over a 2 year period are allowed. Beyond this there are typically diminishing returns and excessive injections may be detrimental to the tissue. Additionally, injection within 3 months of surgery raises the risk of infection so they should be limited if someone is seriously considering surgery.

Alternative injections include Toradol (an anti-inflammatory agent similar to ibuprofen), prolotherapy, or platelet-rich plasma (PRP). I use Toradol in people who do not tolerate steroids. Prolotherapy involves injecting a substance such as sugar into tissue to “stimulate a healing response.” I do not perform prolotherapy as it has not been shown to improve symptoms in shoulder arthritis.

PRP involves taking a small amount of blood from a patient, spinning in a centrifuge to separate the growth factors from the red blood cells, and then injecting the growth factors back into the shoulder to potentially decrease pain. This is done in the clinic and takes about 15-20 mins to perform. PRP is believed to have anti-inflammatory properties and the injection is a safe, low-risk procedure. However, at this time studies have only been done on the knee. In the knee PRP has been shown to be effective. But since there are no studies in the shoulder to date, it is not covered by insurance and is an out-of-pocket expense. Typically, a series of 3 injections are performed, each done one to two weeks apart.

Stretching: In most cases I do not prescribe aggressive strengthening with physical therapy as this can aggravate the arthritis. Rather, gentle stretching is encouraged. The most essential stretches are provided at the end of this document. You can see examples of these online under “Shoulder Stretches” at www.ksshoulder.com.

Surgery: In the event that symptoms do not improve with conservative care, surgery is an option. Two options exist.

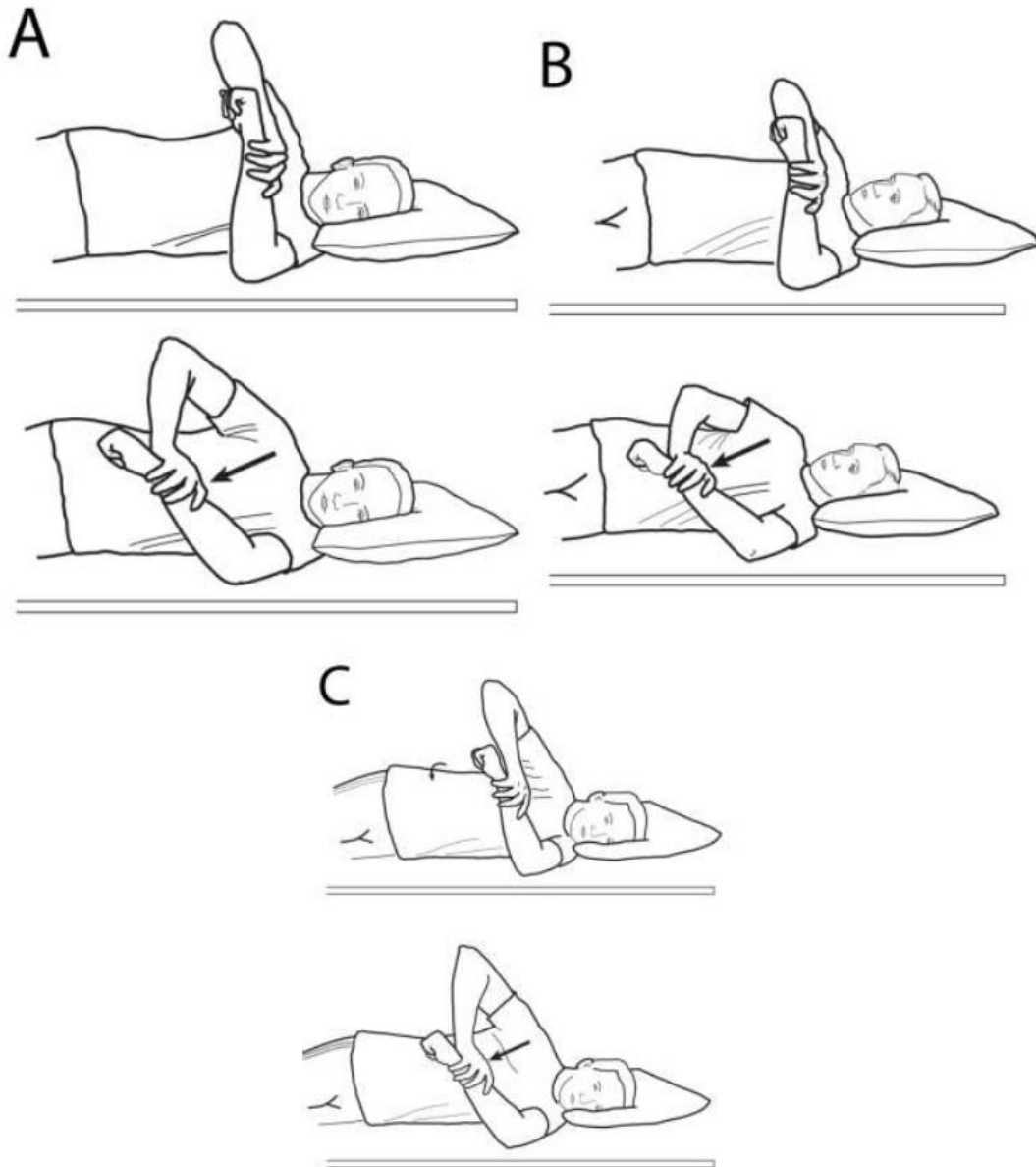
The first is an arthroscopic procedure. This procedure requires general anesthesia, takes about 1 hour to perform, and patients go home the same day. Two to three small incisions are made in the shoulder, a scope is inserted, and the adhesions and bone spurs are directly released. This is most likely to be successful in patients with mild arthritis. While the procedure is low risk, it does not alter the underlying condition. A sling is worn for 2 weeks after surgery and immediate motion is encouraged. Strengthening is allowed at 4 to 6 weeks and full activities are progressed at 3 months after surgery. This is most successful for patients have >2 mm of joint space remaining. The success rate is about 2 in 3.

The second option is shoulder replacement. Many people have heard of a hip or knee replacement but don't know about shoulder replacement. While less common than hip or knee replacement, the surgery is very effective and has a lower risk of complication than hip or knee replacement. This procedure requires general anesthesia with an incision in front of the shoulder and takes about 1-2 hours to perform. The ball and the socket joint are resurfaced with a metal and high-strength plastic prosthetic implants to remove pain and improve range of motion. This is an outpatient procedure, meaning that people go home the day of surgery. A sling is worn for 4 weeks after surgery with use of the elbow, wrist, and hand only for general activities. The patient may shower 2 days after surgery. Absorbable sutures are placed so that there is no need for suture removal. The sling is removed at 4 weeks and range of motion is started. Strengthening starts at 8 weeks and full activities are allowed at 4 months. The success rate is over 90%. Range of motion improvement can be substantial and pain relief can be complete since the arthritis is removed. Typical risks include infection (less than 1% in my patients), and component loosening over time (90% of the implants are still in 10 years after surgery and 70-80% are in 20 years after surgery).

For more information see the handout on the list of commonly asked questions after shoulder replacement.

Stretching: Sleeper Stretches

Hold each stretch for 10 seconds, 10 repetitions per set, 4 sets, twice daily



Sleeper stretches. These exercises stretch the posterior capsule and are performed with patient lying on the side and using the opposite arm to passive internally rotate the arm. The exercises are performed with the patient (A) lying directly on the side, (B) leaning back 30 degrees, and (C) leaning forward 30 degrees. The different orientations encourage stretching of different portions of the posterior capsule.

You can see examples of these online under “Shoulder Stretches” at: www.KsShoulder.com/rehab

Stretching: Miscellaneous

Hold each stretch for 10 seconds, 10 repetitions per set, 4 sets, twice daily



Supine passive forward flexion is accomplished by using the opposite arm to stretch the involved shoulder.



The doorframe stretch is performed by placing an abducted arm against a doorframe and leaning the body forward to passively externally rotate and horizontally abduct the arm, so that the elbow passes posterior to the plane of the scapula. The stretch can be performed with the arm at varying degrees of abduction to stretch different portions of the anterior shoulder.

You can see examples of these online under “Shoulder Stretches” at: www.KsShoulder.com