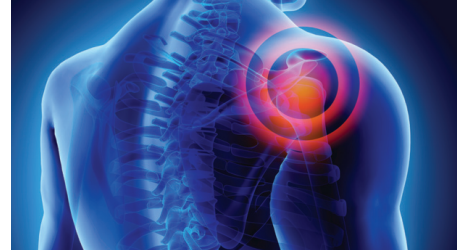


# Shoulder Arthritis



## Anatomy

The shoulder complex is made up of three joints and one articulation. What we think of as the shoulder joint, referred to as the glenohumeral joint, consists of both a ball and socket. The ball, or humeral head, is much bigger than the socket, or glenoid. This joint allows the shoulder to move more than any other joint in the body. The glenoid is part of the shoulder blade, or scapula. The shoulder blade forms an articulation with the rib cage that is also called the scapulothoracic articulation. Total shoulder movement is primarily made up of the movement from both the glenohumeral joint and scapulothoracic articulation. The remaining two joints constitute the connection between the collarbone, or clavicle, and acromion on one end (acromioclavicular or AC joint), and the clavicle and sternum on the other end (sternoclavicular or SC joint).

## Shoulder Arthritis

Arthritis can affect any of the joints in the shoulder, but it most commonly occurs in the acromioclavicular joint or in the glenohumeral joint. There are a number of different types of arthritis, each of which has non-surgical and surgical options for treatment.

## Types of Arthritis

**Osteoarthritis** – Osteoarthritis is a common form of arthritis that occurs more often in the acromioclavicular joint than the glenohumeral joint. Its occurrence is due to many different factors, but is commonly thought of as “wear and tear” arthritis. The joint surfaces that are made up of smooth articular cartilage, begin to wear away, leading to bone rubbing on bone, which may cause pain, stiffness, and mechanical symptoms (e.g. catching or cracking) within the joint. The incidence of osteoarthritis generally increases with age and becomes more common in people 50 years of age and older.

**Rotator Cuff Tear Arthropathy** – Patients with long standing large rotator cuff tears, may develop a specific form of glenohumeral arthritis known as rotator cuff tear arthropathy. It occurs because the rotator cuff no longer stabilizes the humeral head within the glenoid and excess movement leads to destruction of the joint. Pain, weakness, and loss of shoulder movement, are the common symptoms of rotator cuff tear arthropathy.

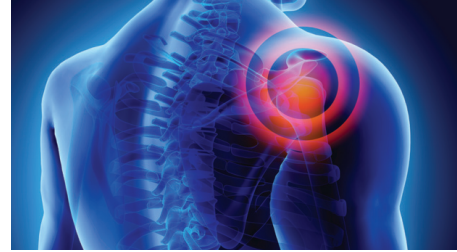
**Post-Traumatic Arthritis** – A previous fracture of either the humeral head or glenoid, as well as a history of shoulder dislocations, may result in arthritis developing in the glenohumeral joint. A history of shoulder separations, or acromioclavicular joint injury, can lead to arthritis of the acromioclavicular or AC joint. Pain, stiffness, and catching or cracking, are the common symptoms of post-traumatic arthritis.

**Inflammatory Arthritis** – More commonly known as Rheumatoid Arthritis, inflammatory arthritis causes the joint lining, or synovium, to become swollen and inflamed. This leads to destruction of the joint surface and the bone around the joint. Joint swelling, pain, and stiffness may occur with inflammatory arthritis. Inflammatory arthritis is an autoimmune disorder and generally attacks all the joints in the body, although not all joints will be equally affected. Rheumatologists, who have expertise in treating inflammatory arthritis, are generally involved in the assessment and treatment of inflammatory arthritis.

**Avascular Necrosis** – Avascular necrosis or AVN occurs when the blood supply to the head of the humerus is disrupted. This may occur after an injury, with steroid use, with heavy alcohol use, or from sickle cell disease. The bone in the humeral head dies and the bone may collapse, leading to destruction of the head of the humerus. Over time, this can lead to damage to the socket of the shoulder, and the development of arthritis.



# Shoulder Arthritis



## Arthritis Symptoms

**Pain** – Pain is the most common symptom of arthritis, and tends to be worse with activity. Usually the pain progresses as the arthritis progresses. If the arthritis involves the glenohumeral joint, it is usually located deep and towards the back of the shoulder. It may radiate down the arm or into the shoulder blade area. It may also change with changes in the weather. If the arthritis involves the acromioclavicular joint, the pain is located at the top of the shoulder, and may be made worse with overhead or across the body activities. It may also radiate down the arm or up into the neck. Pain at night is common with arthritis in both locations, and is often made worse by lying on the affected side.

**Stiffness** – Arthritis that involves the glenohumeral joint is often accompanied by stiffness or limited shoulder motion. This may make doing things overhead or behind the back difficult. The stiffness usually worsens as the arthritis progresses.

**Crepitus** – Crepitus is the cracking, clicking, or grinding that is felt and heard as the arthritic shoulder moves. Crepitus often occurs with the pain and stiffness associated with arthritis.

## Physician or Health Professional Assessment

Your doctor or therapist will ask you questions about your shoulder symptoms and your medical and social history as part of the assessment of a painful shoulder. You will also be examined after describing your symptoms and history to your doctor or health professional. The examination will include an assessment of the position of your shoulder and your posture and whether there is any deformity, wasting, or changes to the skin. Your other joints will be examined for the presence of arthritis elsewhere. Your shoulder girdle will be assessed for areas of tenderness and you will be asked to demonstrate the range of motion of your shoulder by moving your shoulder and arm in a number of different directions. Your shoulder and arm will also be moved passively to see if there is also a limitation of movement from the arthritis. The strength of the shoulder girdle muscles will also be examined. A number of special tests or maneuvers will also be performed to further assess your shoulder.

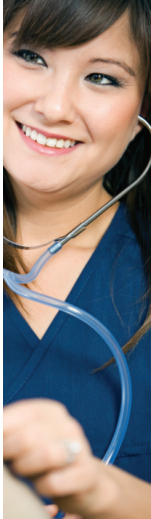
## Imaging

The shoulder can be imaged in a number of different ways.

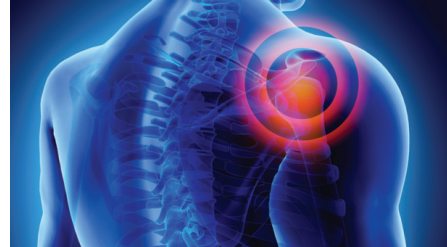
**X-rays** – X-rays of the shoulder provide a picture of the bones and joints that make up the shoulder girdle, but do not show any of the soft tissues around the shoulder. They x-rays can provide information on the presence of arthritis and any abnormalities of the bone. When arthritis is present, the joint space is narrowed, changes in the bone including cysts, and the presence of bone spurs.

**Computed Tomography (CT)** – If surgery, such as a joint replacement, is being considered, your surgeon may order a CT scan of your shoulder. This provides further information of the location and severity of the arthritis, as well as the quality of the bone. These images may help your surgeon plan the operation if one is being considered.

**Injections** – Your doctor may order an injection, done with or without X-ray or Ultrasound guidance, of local anaesthetic and other medications to confirm the arthritis is the source of your pain. If the freezing takes away the pain following the injection, this helps to confirm that the arthritis in the joint that is injected is causing your pain. Other medications, such as a corticosteroid or synovial fluid replacement, may be injected as a way of treating the arthritis.



# Shoulder Arthritis



## Treatment

### Non-Surgical Treatment

Treatment depends on the cause of the shoulder pain and other shoulder symptoms. Arthritis is most commonly treated first by non-surgical means. There are a number of different options for treating the arthritic shoulder non-surgically.

**Rest and Activity Modification** – Adjusting how certain activities are performed, avoiding activities that cause symptoms, and short periods of rest, may help to reduce shoulder symptoms from arthritis. It is important to recognize that complete avoidance of use of the shoulder may be detrimental and risk further shoulder stiffness.

**Heat and Ice** – Both heat and ice may provide a relief of the symptoms associated with arthritis. Icing the shoulder for 30 minutes three times a day or after activity, may reduce the pain of arthritis.

**Non-steroidal Anti-Inflammatory Medication** – Drugs like ibuprofen and naproxen, as well as topical anti-inflammatories, may reduce the pain and swelling that occurs in association with arthritis. This may be helpful with pain at nighttime or symptoms that occur during or after activities or therapy. The risks and benefits of these medications should always be discussed with your doctor.

**Disease Modifying Medications (DMARD's)** – If the arthritis is an inflammatory type of arthritis, your doctor may prescribe medication to reduce the impact of the inflammation on your joints. The newest type of medications can be very effective at limiting the damage to the joints by reducing the impact of the autoimmune disease. The risks and benefits of these medications should always be discussed with your doctor.

**Therapy** – Specific exercises will restore movement and strengthen your shoulder. Your exercise program will include stretches to improve flexibility and range of motion. Strengthening the muscles that support your shoulder can relieve pain and prevent further injury. This can be effective in early arthritis. Advanced arthritis is less commonly treated with therapy.

**Steroid Injections** – If rest, medications, and therapy do not relieve your shoulder pain, an injection of local anesthetic and cortisone or joint replacement fluid may be helpful. Cortisone is a very effective anti-inflammatory medication and may reduce the pain that occurs from the inflammation of arthritis. Joint replacement fluid helps to lubricate the joint, which allows the surfaces to move more smoothly, which reduce the symptoms associated with arthritis. Injections should only be used after discussing the risks and benefits with your doctor or health professional.

The advantage of non-surgical treatment is that it avoids the major risks of surgery, such as:

- Post-surgical pain
- Infection
- Permanent stiffness
- Anesthesia complications
- Lengthy recovery time

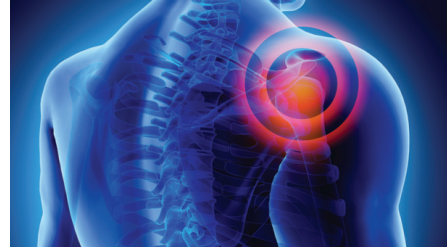
The disadvantages of non-surgical treatment are:

- Activities may need to be limited or modified (this may also be true with surgical treatment)
- The results may not be long-lasting and may be less effective if the arthritis worsens





# Shoulder Arthritis



## Surgical Treatment

Surgical treatment is generally recommended only when non-surgical treatment has been unable to provide a relief of symptoms. The types of surgical treatment include:

**Arthroscopy** – Arthroscopy is performed with a special camera and special instruments that allow your surgeon to view and work inside your joint through small poke holes or portals around the shoulder. Your surgeon can then remove the inflammatory tissue, bone, and bone spurs that may be causing the symptoms associated with arthritis. In early mild arthritis, this procedure can reduce the symptoms but does not stop the arthritis from progressing. If the arthritis progresses and the symptoms return or worsen, further surgery may be required for the shoulder arthritis. Your surgeon may not offer this procedure as the results of arthroscopy for arthritis are highly variable.

**Arthroplasty** – Arthroplasty, or joint replacement, is performed when all other treatment options have failed to provide a relief of the symptoms associated with the arthritis. It is generally felt to be a bigger, more complex surgery, with greater risk than other forms of treatment. The types of shoulder arthroplasty are discussed in a separate info sheet (Shoulder Arthroplasty). Your surgeon will discuss the benefits and risks of shoulder arthroplasty if it is being considered for treatment for your shoulder arthritis.

## The Future

Advances in the treatment of arthritis, including arthritis of the shoulder, continue to be made. Scientists and doctors are looking at ways to regrow or renew the articular cartilage or joint surface that is damaged and destroyed by arthritis. Unfortunately, there is further work to be done before an arthritic joint can be regrown or renewed. Joint replacement fluid, successfully used in the hip and knee, continues to be studied and used for shoulder arthritis. Advances in joint arthroplasty or replacement, are continually made in an attempt to ensure they last as long as possible. Biologic materials are also being studied as a way of replacing the surface of an arthritic joint. Your surgeon will discuss with you the best way to treat your arthritis based on your health and your unique situation.

**For more information:** The Canadian Orthopaedic Foundation provides a free booklet, *Shoulder Surgery – Planning For Your Best Results*, which outlines general preparations, complications monitoring, a diary of progress and more. Visit [www.movepainfree.org](http://www.movepainfree.org) to download your free copy.

