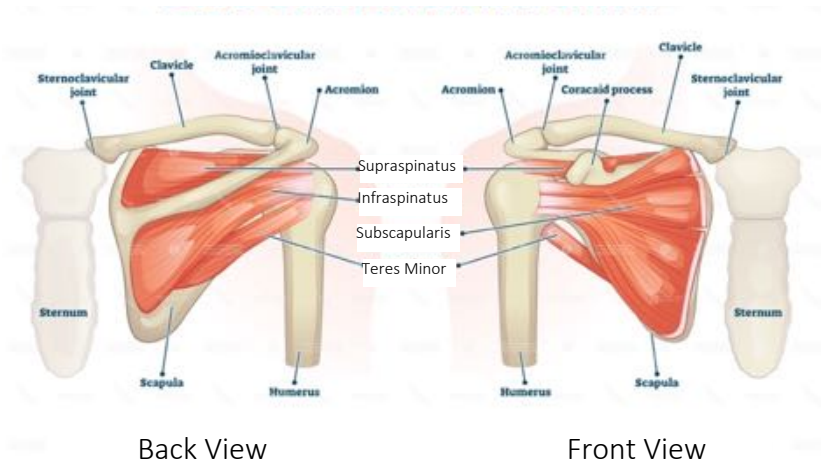




Anatomy of the Shoulder

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

These bones form three joints in the shoulder: **glenohumeral joint** (ball and socket joint), **acromioclavicular (AC) joint** between your collarbone and shoulder blade, and the **sternoclavicular joint** between your middle end of the collarbone and your sternum. The shoulder blade also moves over the rib cage to provide the full range of motion of the shoulder.



What is arthritis?

Arthritis refers to 'joint pain and disease' and is the result of a breakdown of the cartilage (lining of the joint). Characteristic features of arthritis are stiffness, pain that is generally worse with increased activity and crepitus (cracking, clicking or grinding).

Osteoarthritis is related to 'wear and tear' and can be related to a number of different factors including age and genetics. This type of arthritis results from gradual wear and breakdown of the smooth cartilage in the joint over time. This is more common in the AC joint and in people over the age of 50.

Arthritis can also develop secondarily in the shoulder related to previous injuries or conditions, which include:

Rotator Cuff Arthropathy – Patients with longstanding large rotator cuff tears can develop this type of glenohumeral arthritis. It occurs because the rotator cuff muscles no longer stabilize the ball and socket joint, leading to destruction of the cartilage and joint structures.

Post-Traumatic Arthritis – Previous history of fractures or dislocations can lead to glenohumeral arthritis.

Inflammatory Arthritis – This type of arthritis is more commonly known as Rheumatoid Arthritis, which is an autoimmune disorder. The body attacks the lining of the joint making it swollen and inflamed, which can lead to joint destruction. Rheumatologists who have expertise in treating inflammatory arthritis are generally involved in the assessment of inflammatory arthritis.

Avascular Necrosis – This occurs when blood supply to the head of the humerus is disrupted. Without blood supply the bone cells die and over time the bone may collapse. This leads to damage of the cartilage in the joint and arthritis. Avascular necrosis can result after injury, steroid use, heavy alcohol use or from sickle cell disease. In some cases, there is no identifiable cause.

Assessment

A detailed history and assessment can help determine the nature of your shoulder arthritis and treatment plan. Depending on your presentation, your healthcare professional will determine if and what imaging may be necessary, with an x-ray being the first step. Further imaging, including ultrasounds and CT scans may be helpful when surgery is being considered.

Treatment Options

Treatment of shoulder arthritis initially focuses on **non-surgical options**. There are a number of treatments that can help slow the progression of the arthritis and improve your pain:

Cortisone injections and/or medications can be used to help reduce pain and improve your ability to do your exercises. It is important to engage in an exercise program in conjunction with pain relief techniques in order to provide long lasting benefits.

Physiotherapy and home exercises are the most important part of your treatment plan. Performing gentle range of motion exercises and improving the strength of the muscles supporting the joint often can lead to improved pain and function. Isometric exercises can be done to help keep your rotator cuff muscles strong without moving the shoulder joint.

SURGICAL MANAGEMENT – If your symptoms progress and non-surgical options does not provide relief of your symptoms, surgery may be an option. In some cases where the arthritis is mild, a shoulder arthroscopy to remove the damaged tissue may be an option. This can help reduce symptoms but does not stop the arthritis from progressing. Results from this type of surgery are highly variable.

The other surgical option to address arthritis is an arthroplasty, or joint replacement. This is performed when all other treatment options have failed to provide relief. There are many different options including a hemiarthroplasty, total shoulder replacement or reverse total shoulder replacement. Your surgeon will discuss which option is best for you and the associated risks and benefits.

MANAGING YOUR SHOULDER ARTHRITIS – KEY TIPS

PAIN CONTROL – Consider using heat or ice for short term pain relief – use whatever feels best to you! Pain medication such as acetaminophen, aspirin, ibuprofen, topical anti-inflammatories or other prescription medications can help reduce your pain and allow you to start exercising. Check with your doctor to decide what pain medication is right for you. Take the recommended dose at the recommended intervals to manage your pain. If you have inflammatory arthritis, your doctor may prescribe a disease modifying medication (DMARD's).

STAY ACTIVE! – Staying active with activities that don't increase your shoulder pain can be helpful in your recovery. Go for a walk, ride a stationary bike or work on lower body and core strengthening exercises.

POSTURE – In sitting and standing, gently draw your shoulder blades together towards your spine. This can help with your shoulder range of motion, especially when lifting your arms overhead.

DO's and DON'Ts – As a general rule, **if it hurts don't do it**. Consider doing gentle stretching and postural exercises often throughout the day to keep your shoulder moving and to prevent further stiffness. When doing exercises don't push into pain.



Consider trying this pendulum exercise, which some patients have found helpful for their pain.

Bend at the waist so your arm is dangling down. You may want to hold onto a table or chair for support. Gently rock your body weight in a circular motion to move your arm in a circular pattern about the size of a dinner plate. Do this 10 times in both a clockwise and counter clockwise direction.

Here are a few additional things to consider to help reduce aggravation / pain in your shoulder:

- Keep all arm and hand movement in front of your body (i.e. do not reach into the back seat of your car)
- Minimize prolonged repetitive positions and activities at or above shoulder height initially
- Avoid heavy lifting, pushing or pulling with the affected arm at home or at the gym
- Avoid long lever lifting. Keep anything of weight or load close to your body. Think of the 'front burner of the stove' rule by bringing the objects you are lifting closer to you and not lifting with your arms extended.

POSITIONING – You can help relieve your pain by using positions that reduce tension on the shoulder. Here are some ideas to try when sitting and lying down:

Sitting: use an arm rest or pillow under your elbow to support your arm.

Lying on your back: place a pillow or folded towel under your elbow and upper arm to keep it level or above the midline of your body. You may also find having the pillow placed under your arm and chest more comfortable.

Side Lying: Many people find it very uncomfortable or painful to lie on the injured or painful side. When lying on your unaffected side, you may want to place a large pillow in front of you to support the arm. Some patients have found it helpful to sleep in a more upright position such as in a recliner or propped up on pillows.



For more information, check out the resources on our website!



ACCESS
ORTHOPAEDICS
PHYSIOTHERAPY
SPINE

www.accessorthopaedics.ca/patients

Special thanks to the physiotherapists at Access Orthopaedics and Edmonton Bone and Joint Clinic for their contributions to this resource.
© Access Orthopaedics, 2022. Exercise photos courtesy of Simpleset, used with permission.