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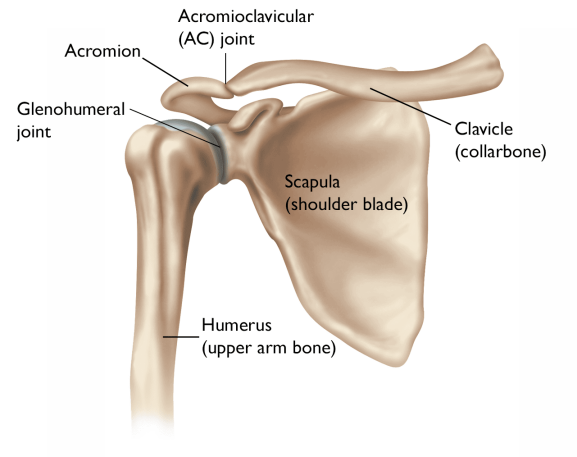
Medicine for Managers

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Shoulder Pain

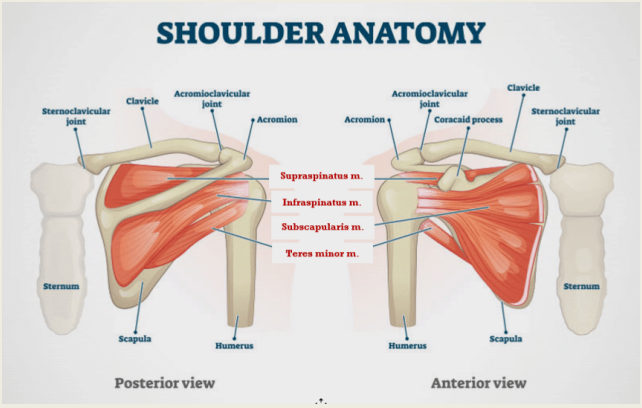
After the hip, the shoulder is the largest joint in the body and is one of the most complex. It is formed where the humerus (bone of the upper arm) fits into the scapula (shoulder blade). It is a shallow ball and socket joint. Shoulder pain is a common symptom and may be caused by specific shoulder issues, more generalised joint issues or pain which radiates to the shoulder.

Because of the complexity of the joint, it is worth reviewing the anatomy to fully understand how the structure works.



The humerus joins the scapula by a ball and socket joint, called the ***gleno-humeral joint***. It is a shallow joint and is held in place by the tough muscles and tendons which surround it.

They provide support and stability whilst allowing the joint to make a wide range of movements. However, although the shallowness of the joint does facilitate the considerable mobility, it does also make the joint more vulnerable to injury. There are about eight muscles that attach to the scapula, the humerus



and the clavicle and it is they which form the outer shape of the shoulder and the underarm.

The scapula has a bony projection above the site of the humeral head, which is called the acromion.

The clavicle (collar bone) meets the acromion at the acromio-clavicular joint.

The scapula also has a bony hook-like prominence projecting outwards and forwards and called the coracoid process.

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The principal muscles at the back of the shoulder are ***supraspinatus***, ***infraspinatus*** and ***teres minor***. At the front of the shoulder the major muscle is ***subscapularis***.

These four muscles are known collectively as the ***rotator cuff*** and they stabilise the shoulder and retain the head of the humerus in the glenoid cavity to maintain the principal shoulder joint. In effect they are anchored to the chest and attached to the head of the humerus like straps on both sides and on top of the head.

Other muscles associated with shoulder movements are ***biceps***, which is located on top of the humerus and rotates the forearm and flexes the elbow, and ***triceps***, a large muscle on the back of the upper arm and which helps straighten the arm.

Also, at the front of the chest is the ***pectoralis major***, a large fan-shaped muscle which stretches from the armpit to the collarbone and to the lower part of the chest, where it connects to the sternum (breastbone). ***Latissimus dorsi*** is a large flat rectangular muscle overlying the back and helps the arms to rotate and assists with other movements as well.

Pain in the shoulder may be classified into one of three groups:

1. Conditions specific to the shoulder
2. Generalised joint disorders which may affect the shoulder
3. Conditions causing pain in the shoulder but unrelated to it.

1. <u>Conditions Specific to the Shoulder</u>

Frozen Shoulder: This condition is also called ***adhesive capsulitis***. It is characterised by pain and stiffness in the shoulder joint. Typically the symptoms gradually worsen over time as pain and limitation in movement develops. All movement may become severely limited. The cause is thickening of the tissue covering the shoulder.

Its cause is not fully understood but it is more likely in people with diabetes or with prolonged shoulder immobility. It may persist for months and gradually resolve over one to two years.

Treatment is with graded exercises, with steroid injections if helpful and occasionally with arthroscopic surgery to release and loosen the joint.

Rotator Cuff Tear: This is a tear in one of the muscles or tendons surrounding the head of the humerus. It may occur as a result of a sudden injury or through repeated strain (overuse). It causes a deep dull ache and limits movement.

It is normally treated symptomatically and with exercises.

Shoulder Dislocation: The ball-shaped head of the humerus slips out of position in the cup shaped socket part of the shoulder blade.

It follows injury and is usually obvious because the shoulder looks visibly deformed and swollen or bruised.

It is intensely painful and the joint cannot be moved. It can sometimes be manipulated back into position but may need surgery to replace it.

Shoulder Impingement: This condition occurs as a result of a vicious cycle of rubbing of the upper part of the rotator cuff between the head of the humerus and the top outer edge of the shoulder.

The rubbing leads to increasing swelling and inflammation and narrowing of the space, resulting in increasing pain. Treatment is rest, ice, non-steroidal anti-inflammatory medication, steroid injections and sometimes surgery.

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2. <u>More Generalised Joint Disorders</u>

Osteoarthritis: Occurs with ageing. It causes pain and limitation of movement. It is less common than arthritis in the knee.

Rheumatoid Arthritis can affect any joint including the shoulder, causing inflammation and pain.

Gout can affect the shoulder and results from accumulation of urate crystals in the joint. It is uncommon in the shoulder

Septic Arthritis is a serious type of arthritis arising as a result of bacterial entry into the joint. It can occur as a result of injury or dog bite producing high temperature, fever, pain and swelling. It is normally treated by intra-venous antibiotics and rest with about two weeks in hospital.

Polymyalgia Rheumatica: An inflammatory disorder causing muscle pain and stiffness normally in the shoulders and hips. It is most common in people over 70 and normally is worst in the mornings. It is treated with steroids

3. <u>Conditions where pain is felt in the shoulder</u>

A variety of general conditions or those involving disorders in other areas may be felt as pain in the shoulder. They include:

- Fractured collarbone
- Damage to the nerves in the neck as a result of arthritic or other change
- Heart attack. Chest pain may radiate to the shoulder or down the arm

Treatment of Shoulder Pain
The causes of shoulder pain are diverse and treatment may be by one or several techniques

- ***RICE*** treatment is **<u>R</u>**est, **<u>I</u>**ce, **<u>C</u>**ompression (not often necessary) and **<u>E</u>**levation. The techniques can improve symptoms and assist recovery in a number of conditions

- ***Physical Therapies*** can include a variety of graded exercises to strengthen and improve the degree and range of movement of the shoulder joint. It is effective and non-surgical.

- ***Steroid Injections*** into the shoulder will reduce the inflammation, pain and swelling when the joint is inflamed.The effects of cortisone can last for several weeks.

- ***Arthroscopic Surgery***. Undertaken through an endoscope, it involves only small incisions into the shoulder joint. The recovery time is more rapid than conventional surgery.

- ***Shoulder Surgery***. Open surgery is generally performed to stabilise and repair the shoulder where more extensive intervention is needed.

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