

SHOULDER IMPINGEMENT SYNDROME

Anatomy

The shoulder or glenohumeral joint (GHJ) is a ball and socket joint. Unlike the hip joint, which has a deep socket, the shoulder has a shallow socket and therefore, requires additional stability to keep the ball in the socket. This additional stability is provided by:

- Static structures i.e. ligaments and capsule
- Dynamic structures i.e. Rotator cuff muscles

A Normal Shoulder

Acromion (top back part of the shoulder blade)

Coracoacromial ligament (fibrous connective tissue that extends to the coracoid process)

Bursa (flat membrane that keeps shoulder parts from rubbing against each other)

Supraspinatus (tendon and muscle that help form the rotator cuff)

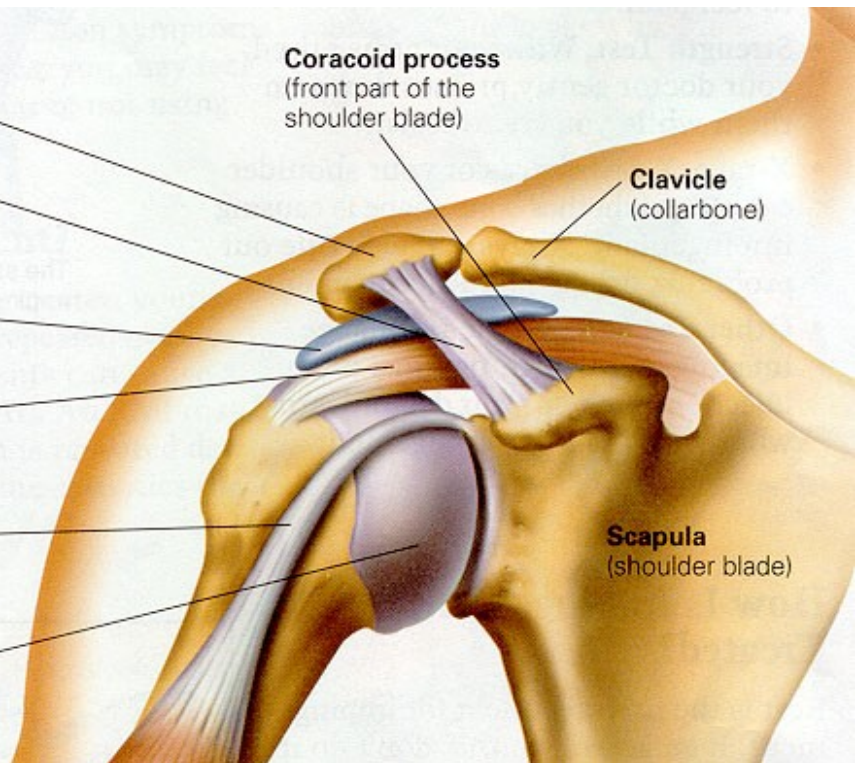
Long biceps tendon (fibrous connective tissue that attaches biceps muscle to shoulder blade)

Humerus (upper arm bone)

Coracoid process (front part of the shoulder blade)

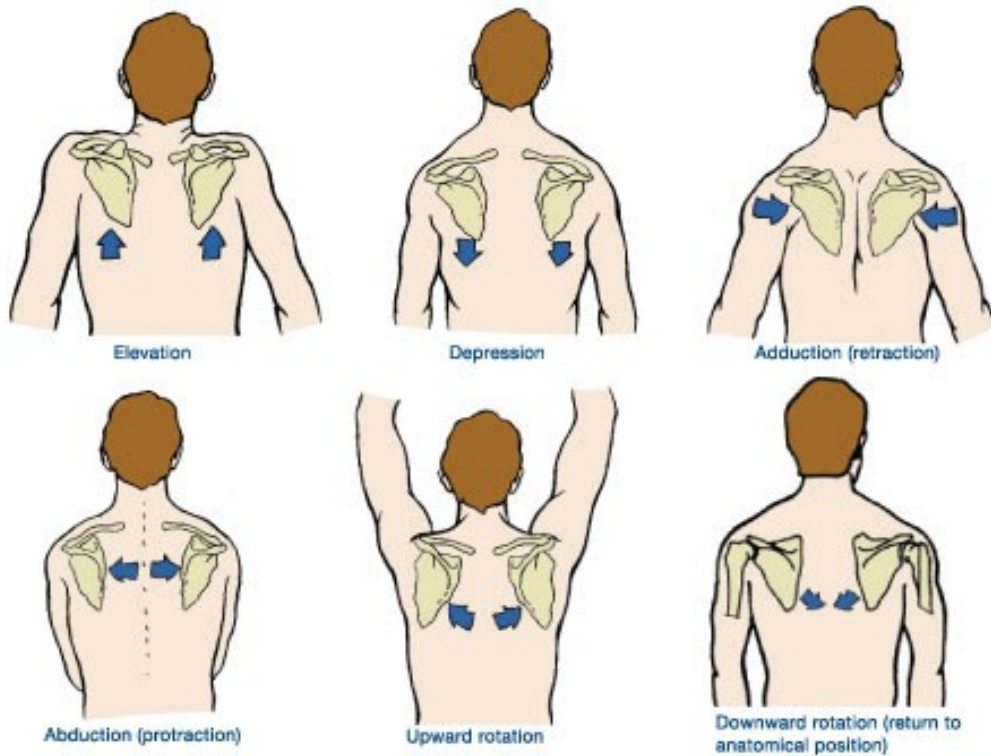
Clavicle (collarbone)

Scapula (shoulder blade)



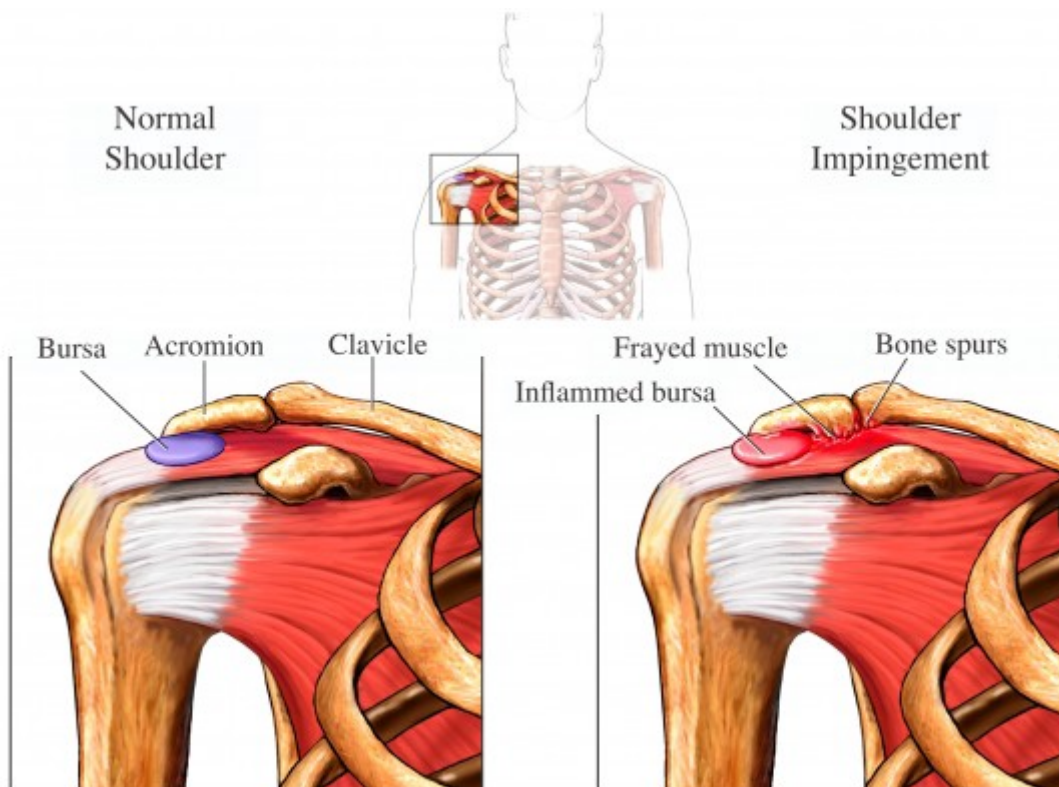
The rotator cuff muscles serve to control the position of the humeral head ('ball') in the shallow socket.

The shoulder joint also works closely together with the shoulder blade to bring about smooth movement in the arm.

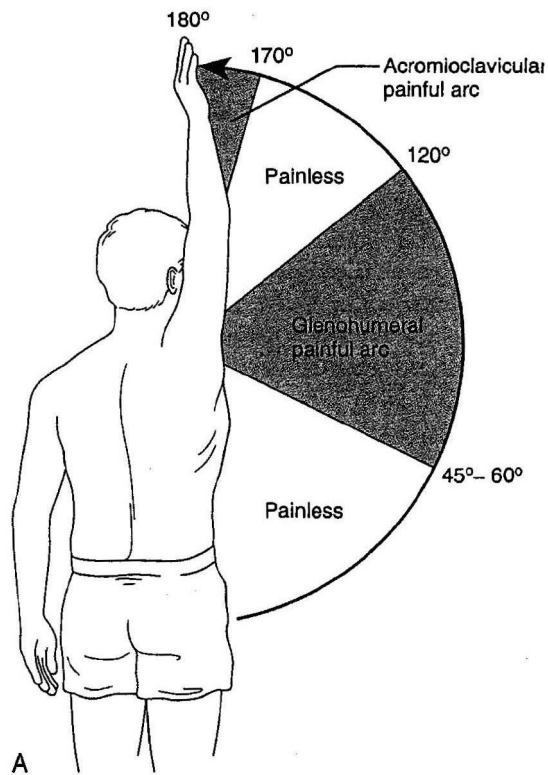


What is impingement syndrome?

Impingement occurs when the space between the acromion and the “ball” (humeral head) is narrowed. This impingement (‘pinching’ or entrapment) irritates the various structures that lie in this space i.e. rotator cuff tendons, bursa, and biceps tendon.



The entrapment of these structures on arm movement results in pain in/around the shoulder joint and this pain may refer down the side/back/front of the upper arm.



Painful arc syndrome

Subacromial dysfunction

The diagram shows a person's arm in a 60-120 degree arc, with a yellow and orange shaded area. An inset shows a cross-section of the shoulder joint with a red circle highlighting the subacromial space, where the acromion, coracoclavicular ligament, and coracoacromial ligament are shown compressing the supraspinatus tendon. The text 'B.E.Ltd' is visible on the arm in the inset.

60-120°

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Why does impingement occur?

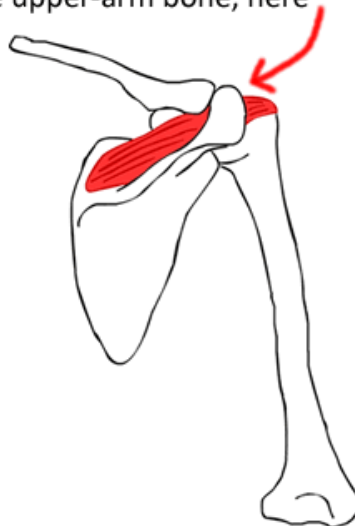
- Encroachment from above the shoulder joint i.e. bony outgrowths, shape of the acromion
- Swelling of the rotator cuff tendons
- Poor control of the humeral head during arm movement (weak rotator cuff muscles)
- Poor control of the shoulder blade during arm movement (weak shoulder blade muscles)
- Tight muscles causing trigger points and referred pain

Shoulder Impingement Syndrome

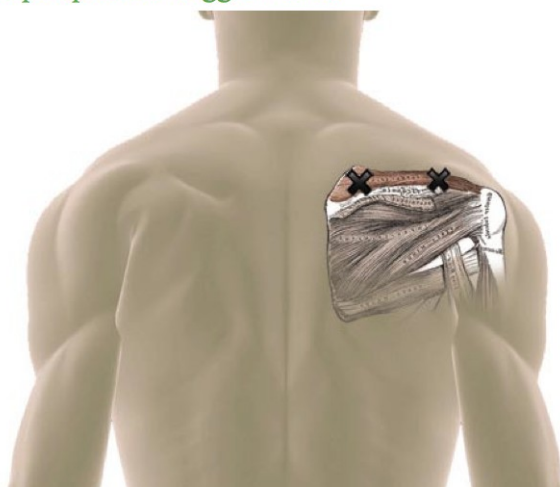


Cause

Due to muscular imbalance/weakness, the **Supraspinatus** muscle is pinched between the shoulder-blade and the head of the upper-arm bone, here



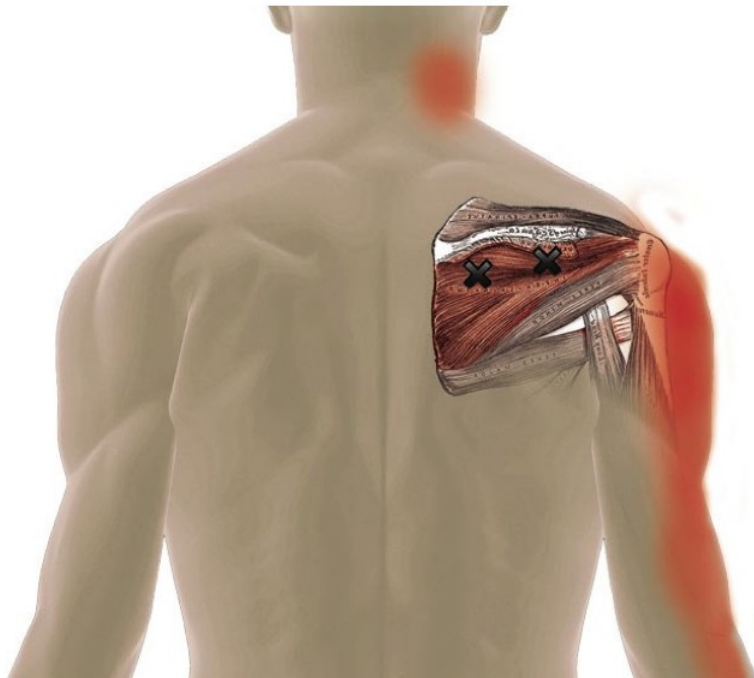
Supraspinatus Trigger Points



Supraspinatus Pain Patterns



Infraspinatus Pain Patterns



Who gets it?

Impingement may occur at any age, in young athletes or weekend sports people whose activity involves repeated overhead activities such as tennis, swimming or throwing. Daily activities such as dressing and housework can also be implicated.

Impingement may also occur secondary to a shoulder injury as well as poor posture.

What can be done?

Your physiotherapist will assess you and establish a suitable treatment program. This treatment program will consist of:

- Becoming aware of the way you move and changing any bad movement patterns/habits e.g. poor posture when sitting, driving or doing computer work
- Strengthening and stretching exercises to improve your ability to control your arm movement in everyday activities like dressing, bathing, housework etc