Subacromial Impingement

What is the condition?

Subacromial Impingement is a common problem. This condition occurs when one of the tendons surrounding the shoulder, known as the rotator cuff, rubs on the under surface of the acromion (the bone at the point of the shoulder). Normally there is enough room for the tendons to glide freely under the surface of the acromion, separated from the overlying bone by a fluid filled sac known as a bursa.

With repeated rubbing of the tendons the bursa may become inflamed (Bursitis) or the tendons themselves may become scuffed and damaged. This may cause a generalised ache in the upper arm, pain in certain positions particularly overhead or reaching behind and may make lying on that side difficult.

What are the causes?

There are various reasons that can lead to the development of this condition. It could be due to:

1. **Muscle imbalance**: This can lead to the arm riding up in the joint and so squashing the tendons beneath the acromion. This is often secondary to an injury of the neck or the shoulder.
2. **Mechanical reason**: This can cause a loss of the usual space beneath the acromion needed for the smooth running of the tendons.

The causes for the loss in this space between the humerus and the scapula are:

a) A direct injury to the tendon causing the tendon to become swollen and therefore too big for the space for it to glide freely.
b) Spur formation with age on the undersurface of the acromion.

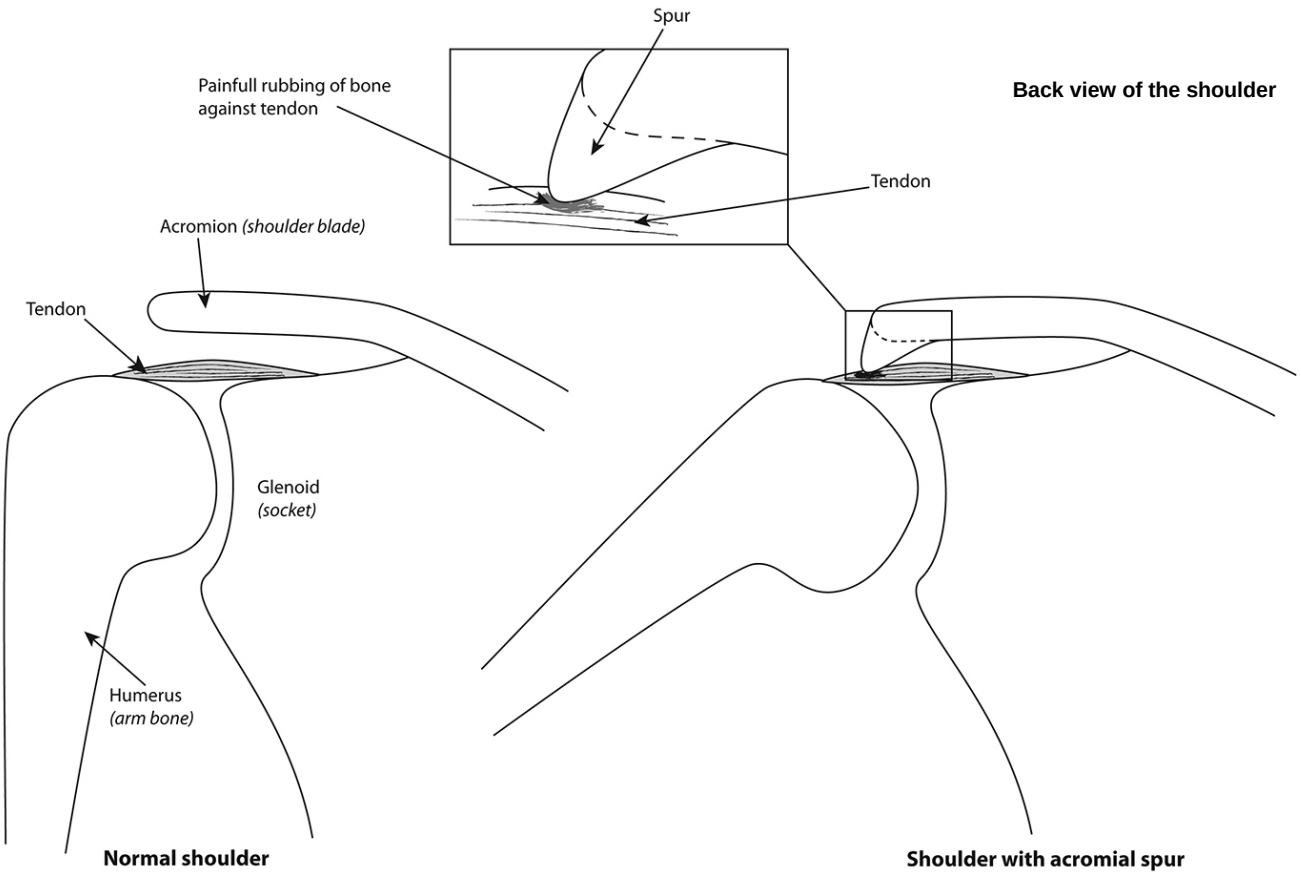
What are the symptoms?

Symptoms include generalised pain in the region of the shoulder that is made worse by movement; especially elevation of the arm above the shoulder level or positions that involve the arm behind the back. This makes it difficult to drive, hang clothes, comb one's hair or even to lie on the affected shoulder.

How does the problem start?

The problems can start by a single traumatic event, such as a fall onto the elbow which can result in the tendon being squashed against the acromion. The arm being suddenly wrenched which can result in tearing of the tendons. Overuse can also damage the tendons such as with activities like swimming and throwing. Jobs that involve the arms to be outstretched (hedge trimming) or raised overhead for long periods of time (ceiling painting & decorating) may all bring on the problem.

How does the situation progress?



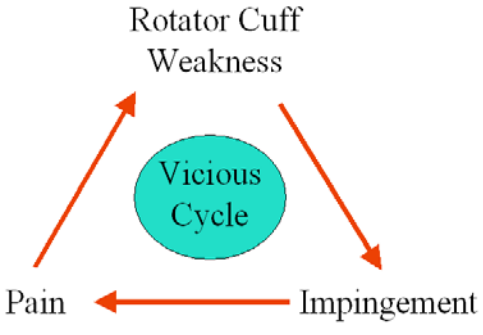
Once the tendons have been damaged they become inflamed and swollen. This further narrows the space for their smooth running so that impingement occurs with even less movement. As a result, the ache gets worse, particularly noticeable at night, and movement is increasingly restricted as the damaged and swollen tendon continues to rub.

It is possible for the tendon to become damaged to the point that it may tear altogether (known as tendon rupture). In most cases this weakens the previously painful shoulder but remarkably may go unnoticed by some individuals. Full thickness tears of the rotator cuff are common over the age of seventy years and do not always lead to disability.

Treatment for this condition?

Most cases of subacromial impingement will respond to non-operative measures and only a small proportion of patients will come to surgery. The treatment options are:

- **Pain relief:** Subacromial impingement is often self-limiting. Treatment with simple painkillers such as paracetamol or anti-inflammatory such as ibuprofen may be sufficient.
- **Physiotherapy:** Appropriate avoidance of any precipitating cause and physiotherapy programme to strengthen and rebalance the muscles of the rotator cuff may be helpful.
- **Cortisone injection:** In cases that do not respond to



the above measures, an injection of a corticosteroid into the subacromial bursa may reduce inflammation. It also helps prevent the repeated impingement of the supraspinatus tendon. By breaking this 'vicious circle', an injection will often result in a long term cure.

Patients often perceive injections to be painful. Whilst patients may experience some increased discomfort for 48 hours following injection, this is rarely severe.

- **Subacromial decompression:** When all conservative treatment options have failed surgery may be considered. This is an operation to increase the space between the humerus and the acromion in order to prevent impingement of the tendons.

  This is a surgical procedure performed arthroscopically (using a small telescope). Through two or three small holes the shoulder joint is inspected and the under surface of the acromion reshaped and any prominent areas removed to increase the space for the tendons to move. This is usually done as a day case and it should be possible to achieve a full range of shoulder movement within 48 hours.

Some recent research has suggested that results may be similar with time and an exercise programme rather than an operation. Each person is unique, so this will be discussed with you. https://www.boa.ac.uk/resources/statement-in-response-to-recent-studies-regarding-subacromial-decompression-by-bess-and-boa.html.
It is important to prepare for an operation to reduce the risks of complications. There is information about how to do this at: https://www.cpoc.org.uk/patients.

When can I return to work?

Return to desk height tasks should be possible by two weeks though the shoulder will still be painful. Performing full heavy manual tasks without pain usually takes six weeks and may take longer. Driving is not advised in the first two weeks after the operation.

Surgery will help the majority of patients who have a subacromial impingement due to the fact that the gap between the acromion and humerus is narrow. If the rubbing of the tendons is due to the fact that the tendons are inflamed or damaged then recovery may take longer and may be less complete. Even then, approximately 85% of patients will be happy within 6 months of their surgery.

Sources of information

British Elbow and Shoulder Society - **www.bess.org.uk**
Cookson Attenborough Ward, Conquest Hospital

Important information

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