



# SUBACROMIAL IMPINGEMENT

## INJURY DESCRIPTION:

Subacromial impingement (SAI) is defined as the mechanical compression of subacromial structures between the coraco-acromial arch and the humerus during active arm elevation about shoulder height. The rotator cuff tendons and subacromial bursa are often impinged.

## ANATOMY:

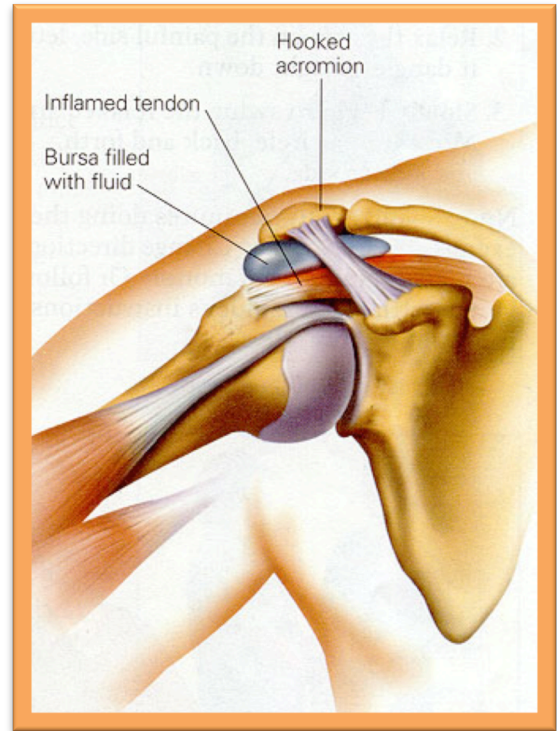
Common structures involved include the humerus, long head of biceps, subacromial bursa, tendons of the rotator cuff and the shoulder capsule.

The shape of the acromion can contribute to this condition. The common shapes are:

- Type 1 – flat
- Type 2 – curved
- Type 3 – hooked (main contribute to SAI)

## CAUSES OF SAI:

- Anatomical variations such as narrow spacing and bony growths
- Abnormal muscle patterns
- Weak rotator cuff muscles
- Posterior shoulder capsule tightness
- Poor posture
- Chronic rotator cuff dysfunction



## CLINICAL PRESENTATION:

Shoulder pain during arm elevation is the most common reported issue. Activities with the arm below shoulder height normally doesn't present any concerns, although patients often report increases symptoms following sleeping on the symptomatic side.

An insidious onset of pain is usually reported as opposed to acute injury. The following classification system can help with appropriate treatment choices:



The  
Physio  
Movement

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- Stage 1 – Moderate pain during exercise, no loss of strength or movement;
- Stage 2 – Pain during ADL-activities and during the night. Loss of mobility is evident;
- Stage 3 – large movement restrictions due to chronic inflammation, calcification and loss of muscle strength and function.

## TREATMENT OPTIONS:

- |                              |                                       |
|------------------------------|---------------------------------------|
| ➤ Taping                     | ➤ Electrotherapy                      |
| ➤ Dry Needling               | ➤ Fascia scrapping                    |
| ➤ Strengthening programs     | ➤ Mobilisation techniques             |
| ➤ Massage                    | ➤ Biomechanical analysis              |
| ➤ Healing foods education    | ➤ Education                           |
| ➤ Postural assessments       | ➤ Pilates                             |
| ➤ Pain management strategies | ➤ Proprioception training             |
| ➤ Active release techniques  | ➤ Rotator cuff strengthening programs |

## DIAGNOSIS:

The physiotherapist will perform some clinical tests looking for pain, weakness, and dysfunction. These may include the Neer impingement, Hawkins-Kennedy, Painful Arc, Empty Can and external rotation tests. Diagnostic US can be helpful when viewing an inflamed bursa and X-ray can show the acromion type and any osteophyte formations.

## OTHER TREATMENT OPTIONS:

Occasional surgical intervention or injection may be warranted if a patient isn't getting better.

Some possibilities include:

1. Bursectomy – Removal of bursa.
2. Subacromial decompression – ligament, scarring removed to increase SA space.
3. Acromioplasty – removing part of the acromion process
4. Cortisone injection – Injecting the thickened, inflamed bursa to decrease impingement opportunities.

