

JOHN A CASALETTO

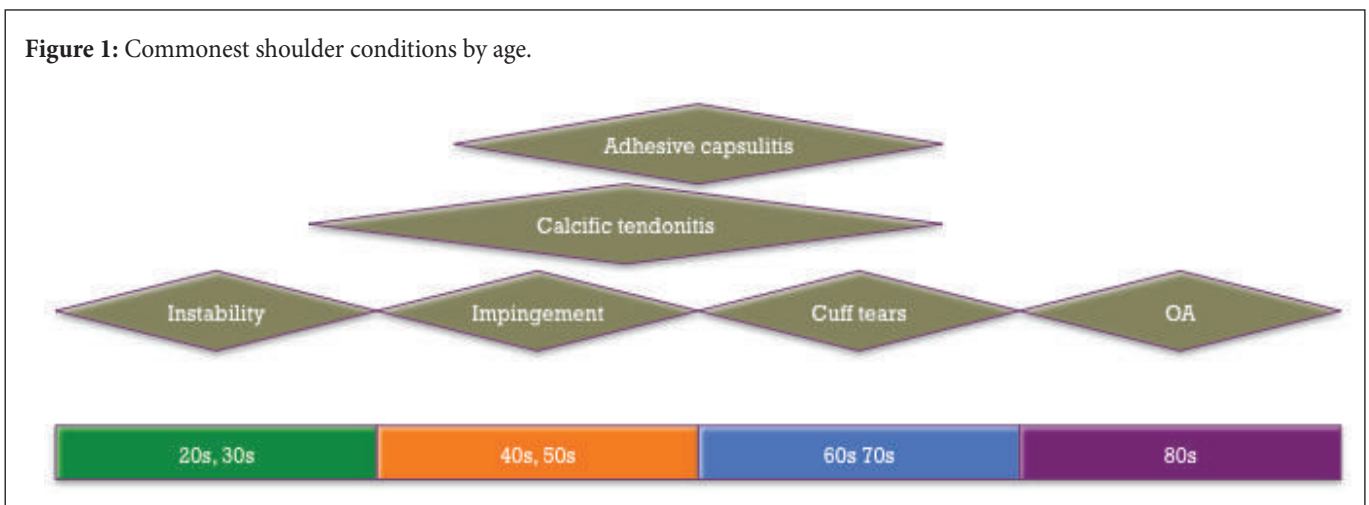
ARTHROSCOPIC SHOULDER SURGERY – PART I

Arthroscopic shoulder surgery is probably the area of orthopaedics that has evolved the fastest in recent years. Better understanding of shoulder pathology coupled with new surgical techniques have pushed the boundaries of how shoulder conditions are treated. Beyond the times when every shoulder problem was diagnosed as a frozen shoulder, specific pathologies are now easier to recognise and treat. Rotator cuff tears, sub-acromial impingement, calcific tendonitis, and arthritic and instability problems can all be addressed through the ‘keyhole’.

AGE AND SHOULDER PROBLEMS

The shoulder anatomy lends itself easily to diagnosis by age, although pathologies can present in various shades of grey. Subacromial impingement is common in the 4th and 5th decade, rotator cuff tear pathology in the 6th and 7th decade, whilst degenerative pathology tends to present in the 7th and 8th decade. The guide in figure 1 is helpful in the differential diagnosis of shoulder pain. One would, for example, hesitate to make a diagnosis of subacromial impingement in an eighteen year old.

Figure 1: Commonest shoulder conditions by age.



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SUB-ACROMIAL IMPINGEMENT

This condition is primarily caused by impingement between the greater tuberosity and the undersurface of the acromion,¹ often giving rise to pain on the outer aspect of the shoulder joint radiating down to just above the elbow. Typically the pain is exacerbated by forward flexion and abduction and patients experience a painful arc of movement between 80-120 degrees. One often finds that the shoulder is less painful at maximum elevation unless the acromioclavicular joint is degenerate. Pain is reported to be worse at night with the patient unable to sleep on the affected shoulder.

The most common pathology causing impingement is a subacromial spur on the undersurface of the acromion, which decreases the subacromial space and impinges onto the rotator cuff and the long head of the biceps tendon. Impingement leads to bursal inflammation, tendonosis and eventually to tears in the rotator cuff. The pain arising from impingement and the subsequent restricted movement can lead to secondary frozen shoulder.

Neer's test can be carried out when the patient presents with a painful arc in abduction and forward flexion (Neer's sign), which is then relieved by injecting local anaesthetic into the subacromial space (Neer's test). In practice it is often more useful to give a corticosteroid and local anaesthetic injection into the subacromial space and check how response over the course of a few weeks.

Figure 2: Plain radiograph showing subacromial sclerosis and a large spur (blue arrow). The subacromial space is narrowed (by approximately half) suggestive of a rotator cuff tear. Coincidental acromioclavicular joint arthritis (orange arrow) is also seen in this film.

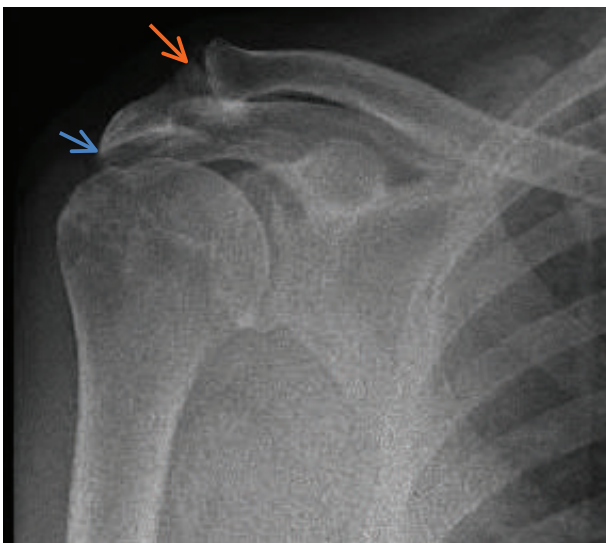
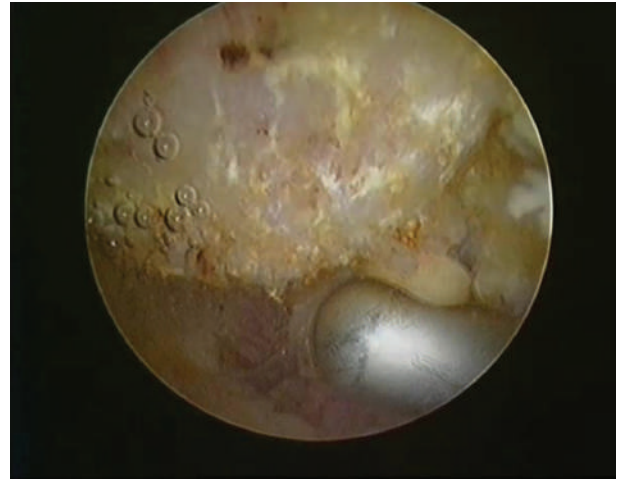


Figure 3: Arthroscopic view of the subacromial space showing a large subacromial spur which was uncovered after removing bursal tissue with the use of a radio-frequency ablator.



Plain radiography can show bony sclerosis or spur formation of the undersurface of the acromion and the greater tuberosity (figure 2).

In the early stages, the condition responds well to physiotherapy and corticosteroid injections. It is advisable to ensure that there is no tear of the rotator cuff as corticosteroid injections can lead to deterioration of the condition of the cuff which can affect future surgical repair.

Patients who have a significantly hooked acromion or a spur visible on X-ray tend to respond briefly or very poorly to non-surgical treatment but do well with arthroscopic subacromial decompression. The anterolateral acromial spur (figure 3) and the thickened bursa are removed using a radio-frequency ablator and an arthroscopic bone burr. Recovery from arthroscopic surgery is generally swift^{2,3} with the majority of patients reporting decreased pain and markedly improved shoulder function within a few weeks of surgery. ❄️

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