Shoulder Problems in Sport

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Shoulder problems not infrequently occur in association with sporting activities in all age groups. The diagnosis can often be predicted from knowledge of the mechanism of the trauma and the age of the patient. For example older patients tend to develop more capsulitis following acute trauma.
A shoulder problem in sport can, in general, be related to either acute macro-trauma or repetitive micro-trauma.

Acute trauma in sport:
This results in immediate disruption of soft tissues, a fracture of bone, or both.

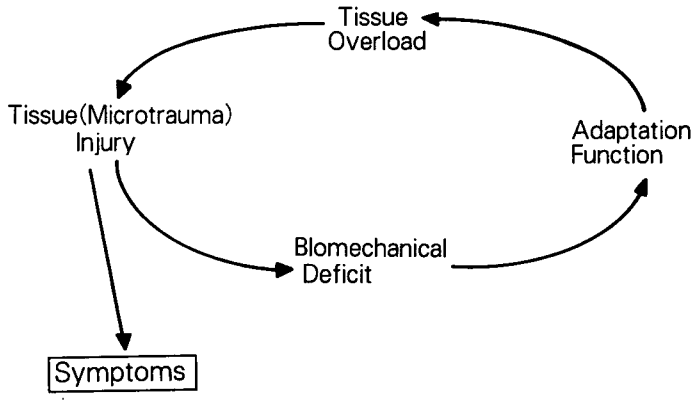
Acute shoulder dislocation:
This very commonly produces a complete disruption of the anterior capsulolabra, structures, usually with avulsion of the anterior inferior glenoid labrum.
It has been shown in a number of studies that there is a high incidence of recurrent dislocation in young patients treated conservatively who return to the at risk sport. The alternative option is arthroscopy of the shoulder to diagnose the extent of soft tissue damage, in particular the state of the capsulolabral structures and where appropriate in young patients arthroscopic stabilization can be considered. This has been shown to be fairly effective in reducing the rate of recurrent dislocation.
J. Salmon reviewed 17 of my patients with acute arthroscopic stabilization following dislocation using the Caspari technique. Minimun follow-up was 2 years. One only patient had a recurrent episoide of dislocation. 47% of patients had returned to their previous sport, including Australian rules football and rusby.
The overall conclusion is that a young person (less than 25 years old) who has an acute traumatic dislocation in a contact sport to which he wishes to return should be considered for arthroscopic assessment

and, if appropriate, stabilization.
Middle aged patients who have an acute shoulder dislocation tend to develop post-dislocation stiffness (capsulitis) rather than instability. This can be very effectively treated with arthrographic capsular distension (hydrodilatation). 7 patients with this problem were reviewed and all had an improvement in their range of motion to almost normal within 2 months.

Acute rotator cuff tears: In most cases, where the person is fit and wishes to return to their previous sporting activity, the tear should be repaired within 6 weeks of injury.

Acute SLAP lesions: These are very difficult to diagnose immediately following acute trauma. If pain continues then early arthroscopy and repair of the SLAP lesion should be considered.

Chronic Problems:
The more difficult management problem in sport is the patient with a slowly developing chronic shoulder problem. In many cases this is related to repetitive micro-trauma to the shoulder from the sporting activity. The micro-trauma in particular affects the rotator cuff and the capsular structures. This creates a vicious cycle with the micro-trauma producing adaptation of function with further damage to the tissues which results in symptoms, usually pain.
This is particularly seen in the throwing athlete.



Impingement:
Tissue damage and altered shoulder function produces secondary problems, in particular shoulder impingement with can be of many types.
Subacromial crowding: Particularly in the older patient who has developed a secondary acromial hook, this is often best dealt with by a subacromial decompression.

Poor muscle function: Commonly related to intrinsic cuff damage. Conservative management, in particular a strengthening programme, is often quite effective.

Anterior instability: Pain with throwing is often associated with anterior instability. The signs of severe instability are often obvious, however subtle instability can be hard to assess clinically. The relocation test is fairly reproducibie and helpful. In most cases if the anterior capsulolabral structures are intact, but stretched, then the problem can often be dealt with using conservative measures , in particular by a strengthening programme, and by improving the kinematics of the throwing/serving action. If there is capsulolabral disruption, particularly a labral avulsion, then conservative measures will often fail and a stabilization operation is usually necessary. This involves a labral reattachment and some anterior capsular tightening. It is important in the overhead throwing athlete not to over tighten the structures. In some cases it is necessary to hold the arm in an abduction/external rotation splint for a period following the surgery. In most cases a closely supervised post-operative rehabilitation programme will avoid too much anterior tightness.
The best method of anterior shoulder stabilization in the over head athlete is still fairly controversial. The arthroscopic techniques have at times been satisfactory, but are probably still not as reliable as open surgery. I prefer an open approach where the subscapularis is split rather than divided. This not only preserves the strength of the subscapularis, but it also maintains its proprioceptive capacity and the muscle does not need protecting in the post-operative period.

Posterior capsular contracture: This can produce impingement,

particularly in the throwing athlete.
Hydrodilatation plus a stretching programme is often quite effective treatment. In some cases an arthroscopic posterior capsule release is necessary.

Internal impingement: This is often secondary to other biomechanical derangements. Arthroscopic debridement of the involved areas may be necessary, however most cases can be controlled with an appropriate physiotherapy programme.

Rotator Cuff Tears:
If poor shoulder kinematics and progressive degeneration has been present for many years then ultimately rotator cuff tearing can occur. This initially commences as partial thickness tearing, most commonly on the joint side, and can usually be dealt with by arthroscopic surgery and an appropriate rehabilitation programme. If the problem has progressed to a full thickness tear then this is best dealt with, in the sporting population, with a repair of the tear and a subacromial decompression. Although arthroscopic techniques are available for cuff repair the standard management is with arthroscopic decompression and a "mini incision" cuff repair. 28 of my cases were recently reviewed who were keen sportsmen who had mini incision cuff repairs. 22 had returned to their previous sport and only 2 patients. 22 had returned to their previous sport and only 2 patients reported that the shoulder was not adequate for their previous sport. Tibone (1986) demonstrated that 56% of 45 athletes returned to their previous sport, but only 32% returned to elite throwing.

Slap Lesion:
Avulsion of the superior glenoid labrum (SLAP lesion) can occur either acutely or secondary to chronic recurrent injury. Pain is often fairly ill-defined and a diagnosis can be missed for some time. Diagnostic tests include:
- Resisted elevation in adduction causing pain
- Click with producing the sulcus sign
- Crunch on rotation and compression.

Although CT or MRI scan can at times demonstrate the lesion in most cases it can only be definitively diagnosed at arthroscopy. Degenerative tears in the older population usually only require debridement. In the younger age group a repair of the tear is necessary, which is carried out arthroscopically using fixation anchors and knot tying techniques.

Acromio-clavicular joint:

A-C joint pain in sportsmen particularly affects weightlifters. The most common cause is distal clavicular osteolysis. Old grade 2 subluxations can also be painful Surgical treatment involves excision of the distal end of the clavicle, as either an open or arthroscopic procedure, normally with good result.