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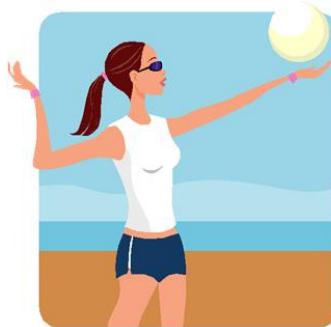
Subacromial Impingement Syndrome—a common patient complaint

Shoulder pain accounts for over 30% of physician visits for musculoskeletal pain in the U.S. The prevalence of shoulder pain is 7-27% with a sharp increase in prevalence in persons aged over 50 years. Subacromial Impingement Syndrome (SAIS) is a frequent cause of shoulder pain. With summer upon us, overhead or repetitive loads such as gardening, DIY, swimming and throwing sports such as cricket and softball can often lead to the onset of SAIS.

SAIS is often characterised by painful functional limitation of the shoulder. It manifests in the subacromial space, between the humeral head inferiorly, and the superior acromion and coracoacromial ligament (figure 1). SAIS involves the entrapment and eventual compromise of the subacromial bursa or rotator cuff, either due to pathomechanics (bursitis, rotator cuff tendinosis or partial thickness tear), inflammatory or osseous protrusions into the subacromial space. Injury to the rotator cuff commonly involves the supraspinatus tendon, due to direct compression to the tendon within the subacromial space, and by tension overload applied to the tendon leading to tendon degeneration during repetitive activities. Therefore, it is important to highlight that SAIS is not a diagnosis, but a term given to pain arising from a structure within the subacromial space. The patient presenting with SAIS can often not recall a painful trauma, but further questioning into recent changes in routine can often highlight the reason for the onset of their symptoms.

Accurate and early identification of the factors causing the subacromial impinge-

ment symptoms is essential for appropriate management. This will establish whether the injury will respond to physiotherapy or require further intervention. Initial use of the ACC shoulder management algorithm will assist in identifying any red flags or indications for early referral. Differential diagnosis can be achieved by subjective and objective assessment tests used to load the subacromial structures, of which the impingement tests have been proven to have good reliability and diagnostic accuracy (1). Radiography and ultrasound imaging have also shown excellent correlation with diagnostic testing (1,2). It is important that both x-ray and ultrasound imaging are performed when indicated, to gain a complete diagnostic picture, including variances in the acromion and any osseous protrusions.



Repetitive overhead tasks, sedentary postures (characterised by increased thoracic kyphosis, protracted chin and rounded shoulders), poor work-place ergonomics, and poor lifting or training technique can compromise the integrity of the subacromial space and lead on to SAIS. Muscle imbalances in both the scapulotho-

racic and scapulothoracic regions can decrease the subacromial space. SAIS can be managed surgically or conservatively, although in the majority of cases conservative management precedes surgery (3). Early intervention for those presenting with mild impingement signs can include correction of scapula position through stretching and scapula stability exercises. Postural taping and cues like mirrors can also prove highly beneficial to provide bio-feedback on correct postures, movement patterns and scapula position. Rotator cuff strength, specifically subscapularis, is important for maintaining glenohumeral depression. Those that present with more advanced stages of SAIS may also require other strategies such as joint mobilisation to assist with any glenohumeral joint capsular restriction, or acupuncture to desensitise painful structures. The key is early intervention to prevent the onset of any of these secondary conditions associated with the impingement.

A successful conservative outcome relies on the identification of factors that may be contributing to the onset of an individual's subacromial symptoms, and relies on compliancy with a rehabilitative programme. Early subacromial symptoms do respond well to conservative physiotherapy management with a good long term outlook.

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