Subacromial Pain Syndrome

What is it?
Subacromial pain syndrome occurs when tendons of the rotator cuff and the subacromial bursa (a fluid-filled sac which sits on top of the tendons) become irritated and painful. The rotator cuff refers to a group of four small muscles which run from the shoulder blade to the top of the arm bone which support and move the shoulder joint. The role of the bursa is to decrease friction but sometimes gets so irritated that it becomes a source of pain.

What are the symptoms?
Subacromial pain syndrome results in pain felt in the top of the upper arm. This is usually felt when lifting your arm above shoulder height and typically develops gradually. Pain is usually worse when bringing your arms out to the side. Often the pain will decrease as your arms reach vertical. Initially, the tendon/bursa may only be painful following exercise e.g. it may be first felt on rising the day following participation. Stiffness and tightness in the shoulder may also be associated with the pain. Typically, these initial signs of rotator cuff tendinopathy are ignored, as they disappear quickly with use of the arm or applying heat i.e. a hot shower over the shoulder. However, as you continue to participate, the irritation of the tendon and bursa progresses and the pain within the tendon becomes more intense and more frequent. As you continue to participate, the tendinopathy worsens and your pain may begin to be present for longer periods until it is present each time you lift your arm. This may interfere with your performance and even become debilitating.

How did I get it?
Subacromial pain syndrome results from overuse or injury to a rotator cuff tendon. The most commonly involved tendon is that of the supraspinatus muscle which helps to raise the arm into the air. Its tendon passes through a small space between the top of the arm bone and the point of the shoulder and is susceptible to ‘wear and tear’. Repetitive use of the supraspinatus muscle and, therefore, the supraspinatus tendon can rub the tendon and bursa against the edges of the bony space resulting in microscopic tears within the substance of the tendon.

How is a diagnosis made?
A diagnosis is made on the history of the injury and examination findings. Occasionally x-rays, ultrasound and or an MRI are ordered to rule out other injuries.

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What should I do?
Subacromial pain syndrome generally does not get better on its own if the cause is not addressed and you continue to participate. If you have or suspect you have subacromial pain syndrome, you should consult your nearest sports medicine professional. In the meantime, you can begin initial treatment. This should consist of icing following participation. Icing may consist of crushed ice wrapped in a moist towel applied to the sore area for 15—20 minutes.

If you have or suspect you have rotator cuff tendinopathy, you shouldn’t ignore the problem. Your pain may get better as you exercise however, the exercise you are doing may be interfering with the healing process and causing further damage. This can lead to your injury getting worse such that your pain does not disappear after ‘warm up’ and you feel it throughout participation. If this occurs, your recovery may be prolonged and it may take a number of weeks or months for you to return to full participation.

Subacromial pain syndrome does not produce any long-term effects as long as it is properly diagnosed and appropriately treated. If not, it can lead to prolonged pain in the upper arm and a prolonged layoff from participation. Sometimes the symptoms are so bad they require surgery.

What does rehab involve?
Physical / exercise based therapy must always be the mainstay of treatment. Tendon function and strength must be preserved. Sometimes medications in the form of tablets, patches or injections are useful. However, these are only used in more severe cases and can be avoided most of the time.

Activity Modification:
Reducing provocative activities such as overhead activity is usually very beneficial and allows the irritated tissue to settle down.

Pain Medication:
Pain medication tends not to be particularly effective for subacromial pain syndrome. A trial of anti-inflammatory or simple pain relief medication like paracetamol may however be worthwhile initially or if the symptoms are severe.

Physical therapy:
Exercise therapy, in particular strengthening exercise should be the mainstay of treatment. Exercise therapy should focus on the control of the arm, rotator cuff strength and control of the shoulder blade - this is often neglected but crucially important. Good shoulder posture and shoulder blade positioning increases the gap that the tendon and bursa have to sit in and decreases pinching.

GTN Patch:
GTN patches are a patch originally intended for heart disease and blood pressure. They have been shown to increase nitric oxide which is an important healing chemical. GTN patches are relatively cheap and are non-invasive. Their main side effect is headaches due to lower blood pressure and should only persist for the first 2 weeks. GTN patches may be worth considering if initial activity modification and exercise therapy has not helped.

Cortisone injection:
An injection of cortisone, which is an anti-inflammatory steroid medication, may be given to relieve pain. Relief from a cortisone injection is usually highly effective but temporary. It may last as long as many months but as little as a few weeks. There is some contention regarding how many times an injection can be repeated but generally it will be considered twice before pursuing surgical options. The injection can be painful and has an extremely small risk of causing infection. One theoretical side effect of a cortisone injection is that it can weaken the tissue and result in a rupture of the tendon. The risk of this is low, approximately 1/1000.

A cortisone injection is usually used in two groups of patients. The first group have milder symptoms or can alternate their duties so they can work around the pain. In this group an injection is performed when the pain has been present for a long period of time and an extensive trial of physical therapy has failed. The second group is patients with extreme symptoms or who for some reason cannot wait for physical therapy to become effective. This group usually receives an earlier injection but must also engage in physical therapy or the pain will just return the injection wears off.

Shock wave therapy:
Shockwave therapy can be considered. It may offer some benefit in calcific tendinopathy where a bone spur is present.

Surgery:
Surgery can be quite effective for this condition.