Calcific Tendinopathy (Shoulder)

What is it?
Calcific tendinopathy occurs when tendons of the rotator cuff and the sub acromial bursa (a fluid-filled sac which sits on top of the tendons) becomes 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. Sometimes the tissue responds by laying down calcium deposits within the tendon. This can be excruciatingly painful. Because of the severity of pain and disability it is often treated more aggressively than typical shoulder bursitis / tendinopathy.

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What are the symptoms?
Sometimes calcific tendinopathy can be asymptomatic, meaning that the calcium and tendon degeneration are present without any pain or dysfunction. In other cases however, it can be one of the most intense forms of shoulder pain, causing weakness and reduced range of motion.

How did I get it?
Calcific tendinopathy 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. This process is very common but only sometimes results in calcium deposits. It is not understood why some people are more susceptible to calcific deposits than others.
What should I do?
Calcific tendinopathy generally does not get better on its own, if the cause is not addressed and you continue to participate in provocative activities. If you have or suspect you have calcific tendinopathy, you should consult your nearest sports medicine professional. In the meantime, you can begin initial treatment which should consist of icing the injury. 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.

If not managed appropriately calcific tendinopathy can lead to prolonged pain in the upper arm and a prolonged layoff from participation. Sometimes the symptoms are so bad they require surgery.

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

What does rehab involve?
Physical / exercise-based therapy must always be the mainstay of treatment. The tendons function and strength must be preserved. While injections should only be used after an appropriate trial of exercise therapy in normal shoulder tendinopathy, calcific tendinopathy can be extremely painful and very debilitating. When pain is severe early intervention with an injection is often important.

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 sub acromial pain syndrome. A trial of anti-inflammatories or simple pain relief medication like paracetamol may however be initially worthwhile 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.

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. 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 return when the injection wears off.

Shock wave therapy:
Shock wave therapy may be very useful in trying to break up the calcification in an attempt to avoid surgery.

Surgery:
Surgery can be quite effective for this condition but should be used as a last resort.