

Concord Sport & Spine Newsletter



Calcific Tendinopathy of the Shoulder

A condition that I see commonly is calcific tendinopathy. While presentations may vary, the clinical picture is often a patient in severe pain with limited mobility. It is the acute nature and severity of the pain that guides the clinical diagnosis. Diagnostic imaging is certainly useful, but often pain and disability resolve so quickly this may be unnecessary. Spontaneous resolution of symptoms and return to normal function will usually occur, often within days to weeks. Evidence suggests that pain represents the resorptive phase of the condition, where healing is already under way.

Below is an overview of this condition and its recommended management.

Calcific tendinopathy has been found to affect between 2.5% to 7.5% of adults, usually between the 4th to 5th decades of life. Around 70% of cases occur in females, and 10-20% of sufferers have bilateral disease. Calcific deposits develop in the rotator cuff tendons, and sometimes within the subacromial bursa. In 80% of cases the deposits are in the critical zone of the supraspinatus tendon. Up to 20% of cases occur asymptotically.

Pathophysiology

The cause of the condition is unknown. It is said to be a cell-mediated disease where calcification is induced by the transformation of tenocytes into chondrocytes. The resorptive phase after calcium deposition is associated with oedema and increased intra-tendinous pressure that leads to acute pain. Remodeling of the tendon follows, with replacement of calcium with granulation tissue, and ultimately complete healing.

Imaging

Plain x-ray, with AP, outlet and axillary views will usually demonstrate the extent and location of the calcification. Ultrasound imaging is also diagnostic. Surprisingly, MRI may



represent the least useful of these three modalities, being associated with false negative findings or misdiagnosis with other pathology, particularly tendon tears.

Management

The recommended initial treatment is relative rest, physiotherapy, and NSAIDs. Physiotherapy involves ice and soft-tissue techniques for pain relief, and passive &/or active-assisted range of motion exercises for maintenance and improvement in mobility. This is followed by active range of motion, and resistance exercises when necessary.

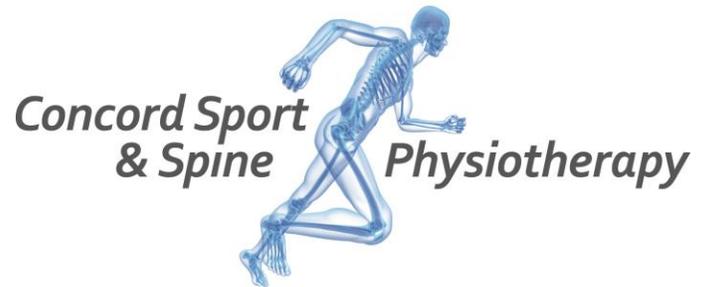
When symptoms persist beyond 3 months or are disabling and not resolving in a satisfactory timeframe, other interventions may be considered.

These include:

1. Subacromial corticosteroid injection. This has been found to be useful for pain relief, however in many studies it has been used in combination with other therapies, such as needle aspiration.
2. Ultrasound guided percutaneous needle aspiration has been found to be superior to subacromial injection when used as a stand-alone treatment. This involves irrigation of

the calcium deposit with fluid (local anaesthetic or saline) to help dissolve the deposit, followed by aspiration. It said to be an effective technique with minimal side-effects.

3. Dry needling. This should be performed under ultrasound guidance. Proponents of this approach claim that direct needling will result in deposit fragmentation, induce local bleeding and promote resorption.
4. Extra-corporeal shock wave therapy. This therapy is the 'flavor of the decade' for the conservative management of various tendon conditions. Unfortunately, studies have so far been of poor quality and have demonstrated questionable benefits. Results in calcific tendinopathy have shown minimal benefit.
5. Surgery. Arthroscopy is performed as a last resort when symptoms persist beyond 6 months.



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3. Zhang, T et al (2018). Efficacy of ultrasound-guided lavage of rotator cuff calcific tendinopathy. Medicine, 98, 21, p e15552.

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