

Calcific Tendinitis



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What is calcific tendonitis?

Calcific tendonitis is a condition that causes the formation of a small, usually about 1-2 centimeter size, calcium deposit within the tendons of the rotator cuff. These deposits are usually found in patients at least 30-40 years old, and have a higher incidence in diabetics. The calcium deposits are not always painful, and even when painful they will often spontaneously resolve after a period of 1-4 weeks.

What are the causes of calcific tendonitis?

The cause of calcium deposits within the rotator cuff tendon is not entirely understood. Different ideas have been suggested, including blood supply and aging of the tendon, but the evidence to support these conclusions is not clear.

How does calcific tendonitis progress?

Calcific tendonitis usually progresses predictably, and almost always resolves eventually without surgery. The typical course is:

Precalcification Stage

Patients usually do not have any symptoms in this stage. At this point in time, the site where the calcifications tend to develop undergo cellular changes that predispose the tissues to developing calcium deposits.

Calcific Stage

During this stage, the calcium is excreted from cells and then coalesces into calcium deposits. When seen, the calcium looks chalky, it is not a solid piece of bone. Once

the calcification has formed, a so-called resting phase begins, this is not a painful period and may last a varied length of time. After the resting phase, a resorptive phase begins--this is the most painful phase of calcific tendonitis. During this resorptive phase, the calcium deposit looks something like toothpaste.

Postcalcific Stage

This is usually a painless stage as the calcium deposit disappears and is replaced by more normal appearing rotator cuff tendon. Patients usually seek treatment during the painful resorptive phase of the calcific stage, but some patients have the deposits found incidentally as part of their evaluation.

What is the treatment of calcific tendonitis?

Nonoperative treatment is nearly always the first line of treatment for calcific tendonitis. The treatment protocol is similar to the treatment for impingement syndrome of the shoulder. This includes:

Physical Therapy / Exercises

Exercises and stretching can help prevent a stiff shoulder. One of the most difficult problems associated with calcific tendonitis is the development of a frozen shoulder because of pain. Exercises can help prevent this problem from occurring.

Anti-Inflammatory Medications

Anti-inflammatory medications can help treat the pain associated with the calcific tendonitis. No studies have shown a significant change in the time course of symptoms with these medications, but patients certainly have lessened symptoms. Cortisone injections act in similar fashion and may provide greater relief for certain patients.

Application of Moist Heat

The application of moist heat is tremendously helpful with pain relief from calcific tendonitis. A warm washcloth is a perfect way to deliver this warmth to the shoulder. As mentioned earlier, simply controlling the symptoms with these steps will allow sufficient time for resolution of the problem in most patients. The calcific deposit will often remain in these patients, but the goal of treatment is to control the symptoms caused by this condition, not necessarily make the calcium go away. Eventually, the calcium deposit will resolve.

When is surgery necessary?

Surgery is recommended in the following situations:

When symptoms continue to progress despite prolonged conservative treatment

When constant pain interferes with routine activities (dressing, combing hair)

When symptoms do not respond to non-operative care

Available treatment options include needling and aspiration of the calcium deposit and excision of the calcium deposit.

Needling is a procedure that is done under sedation or general anesthesia. Your surgeon will direct a large needle into the calcium deposit and attempt to aspirate, or suck out, as much of the calcium deposit as possible. Injections of saline, Novocaine, or sometimes cortisone is then performed into the calcium deposit. Patients can resume activity shortly after the procedure.

Excision of the deposit is a larger procedure, but may be necessary, especially in cases of chronic calcific tendinitis. Either through a small incision or through the use of shoulder arthroscopy, the calcium deposit is identified and removed. Physical therapy is usually necessary after this procedure to help regain strength and motion in the affected shoulder. With large calcium excisions tears in the rotator cuff can result requiring their repair and extended rehabilitation.

Are other treatments available for calcific tendinitis?

Over the last decade, several reports have shown successful treatment of chronic calcific tendinitis with the use of shockwave therapy. Shockwave therapy is thought to work by inducing so-called 'microtrauma' and stimulates blood flow to the affected area. Most reports on this method of treatment of calcific tendinitis show guarded success--perhaps 50-70% of patients improving after one or two high-energy shockwave treatments. This treatment of calcific tendinitis can be painful, and usually requires anesthesia in order for it to be tolerated by the patient. The good news is that there is a very low complication rate from shockwave therapy. Most patients will develop a hematoma (bruising) from the treatment, but otherwise there are few complications.

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