Background
Calcific tendonitis or tendinopathy is a rather uncommon disease. It affects predominantly Caucasian populations, women between ages 30 to 50 years old, diabetics, and individuals with thyroid disease. It can be found at multiple locations, the most common being the rotator cuff in the shoulder (supraspinatus tendon), the patellar tendon in the knee, and Achilles tendon in the ankle. There are several theories to why a calcification develops inside the tendon, but there is no consensus. The key reason is an interruption of the normal repair process, leading to the forming of crystals inside the tendon. This affects proper function and causes pain.

Symptoms
The most common symptoms are pain related to activity, loss of range of motion, and tenderness to palpation at the involved tendon. This will affect the shoulder when elevating the arm above shoulder height and pain with high-impact activities such as running and jumping when it involves patellar or Achilles tendon.

Sports Medicine Evaluation and Treatment
When you see your sports medicine specialist, you will have the painful structure evaluated. Generally, that will be an assessment of the location of pain, range of motion, and strength.
An x-ray may also be used to reveal the calcification in the area of the tendon. Sometimes the calcification will not show in the x-ray, but will appear on ultrasound or MRI.

Treatment of the calcific tendonitis is focused on decreasing pain and improving function. The first step is commonly pain control with oral medications, such as anti-inflammatory medications, followed by physical therapy. Eccentric strengthening, a specific modality of tendon rehabilitation, will work to strengthen the tendons and rearrange the diseased fibers.

Should the symptoms fail to improve with rehabilitation, your doctor may elect to try a steroid injection, or try an ultrasound-guided procedure in an attempt to break-up or remove the calcification. Extracorporeal shockwave therapy uses a machine to generate shock waves which are directed through the body towards the calcification with the intention of breaking-up the calcification. There are a couple of procedures used to try and remove the calcification. This can be done with a one- or two-needle injection and aspiration procedure called a barbotage, or with a special oscillating needle that breaks up the calcification and aspirates out the material. When non-operative treatment has failed, surgery is considered.

Injury Prevention
In order to prevent calcific tendinopathy, athletes should not repeat a painful repetitive motion, play through pain, or play while taking anti-inflammatory (NSAIDs) medications. If the injured tendon continues to be used, there can be worsening of symptoms with additional tendon tearing and prolonged recovery.

For athletes that have thyroid disease or diabetes, hormone and sugar levels should be adequately treated and monitored, respectively.
**Return to Play**
If the athlete treats with a short course of NSAIDs followed by physical therapy and responds well, the return to play can generally occur in six to eight weeks. If an ultrasound-guided needle procedure is required, it will take an additional 8-12 weeks for full recovery and return to sport.

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**References**