

Tendinopathies?

What is tendinopathy?

Tendinopathy is a confusing condition which can bring frustration for both the client and therapist. It is a term used to describe chronic damage to a tendon (tendons join muscles to bone). What makes this a frustrating condition is the length of time it takes a tendon to heal, as a single molecule of the protein that makes up tendon (collagen) takes up to 100 days to mature. Tendons also take a long time to respond to stimuli unlike muscles which can increase and decrease in size within days. When I get to see a tendon injury the client has usually had the condition for at least 1 month before seeking out treatment, some even years.

What makes it confusing is not only sports people develop this condition but those with a sedentary lifestyle as well. Research is only just starting to peel back the layers to this common injury. The main finding so far is that the term tendinitis should no longer be used to describe this injury but tendinosis. The reason is there has been no inflammatory cells found in the injured tendons, the condition is degenerative. Most common sites are the Achilles, patella tendon, elbow (golfer and tennis), and rotator cuff (shoulder).

The tendinosis cycle

The tendinosis cycle begins when breakdown exceeds repair. Repetitive motion causes micro injuries that accumulate with time. Collagen breaks down and the tendon tries to repair itself, but the cells produce new collagen with an abnormal structure and composition.

The new collagen has an abnormally high Type III/Type I ratio. Experiments show that the excess Type III collagen at the expense of Type I collagen weakens the tendon, making it prone to further injury. Part of the problem is that the new collagen fibers are less organized into the normal parallel structure, making the tendon less able to withstand tensile stress along the direction of the tendon.

Therefore, tendinosis is a slow accumulation of little injuries that are not repaired properly and leave the tendon vulnerable to yet more injury. This failed healing process is the reason many people with tendinosis don't completely heal from it and can't go back to their previous level of activity. Once the tendinosis cycle starts, the tendon rarely heals back to its pre-injury state.

Although rest is an essential part of the healing process for tendinosis, too much rest causes deconditioning of muscles and tendons. The weaker muscles and tendons leave the area more vulnerable to injury. Thus, the area becomes weaker on a large scale as well as on a cellular scale. This cycle of injury/rest/deconditioning/more injury can be difficult to break. Gradual, careful physical therapy exercises can help.

Management of Tendinosis

Modified rest and physiotherapy procedures should be implemented. The important thing to remember with this type of injury is yes you can still train but avoid any activities which cause pain. There have been many research studies done into tendon injuries but not many have found the ultimate treatment recipe. One treatment which has come out on top for a while is eccentric strength training which is strengthening a muscle as its lengthening. Even with this treatment it can take 3 months to show effect.

Many people find massage helpful, research does not show much in this area but many feel a lot looser as many tendon problems are caused through tight muscles. Treatment at Pro-Am would look at your overall posture and body mechanics to see if a cause can be found and corrected. Massage can also be helpful in breaking down excess scar tissue. Taping with kinesio tape can help rest the area.

Usually a 6 week period with the therapist to get you started is required and then you can self manage the condition. This will also help in the future if it starts to flare up again. You should never leave a tendon injury to heal its self it will only get worse seek out treatment.