

TENDINOPATHY

INTRODUCTION

Tendons join muscle to bone. When the muscle is contracted or loaded, it shortens pulling the tendon which in turn moves the bone. Therefore, tendons need to be able to withstand high volume of tensile forces. The biomechanical structure of tendons is designed for this purpose.

Tendons differ from muscles in their response to injury: when muscle tissue is injured it goes through a triphasic response including the inflammatory phase characterized by swelling, redness, heat and pain, the regenerative phase and lastly remodelling of the injured tissue. However, tendons do not follow this logical progression and end up in a permanent state of failed healing which can last for up to twelve months.

Both Achilles and patella tendinopathy are characterized by a history of insidious onset often with a change in activity such as increased frequency (more exercise sessions per week), duration (increase in length of exercise session) and increase in the exercise load (i.e. hill running). During running and jumping activities tendons can be exposed to forces ranging from six to 14 times body weight.

Athletes with tendinopathy often report pain local to the tendon after loading it. In the initial stages, pain is apparent at the beginning of the exercise session and subsides with continued activity. However, with progression of the condition, pain can be felt throughout the entire session and eventually leads to cessation of the activity. Another common feature of tendinopathy (especially in the Achilles tendon) is morning pain or stiffness.

How do I get it better?

Successful rehabilitation of tendinopathy involves the gradual exposure to loads that mimic functional activities. It is very important to ensure that the body is working efficiently and not overloading any particular structure. Therefore, a comprehensive physio assessment and rehabilitation plan is very important if symptoms are to resolve.

There are three important components in the assessment of tendinopathy.

1. The evaluation of muscle – tendon function
2. Lower limb kinetic chain function
3. Lumbo pelvic control.

Your Physio assessment will establish a base level for loading the affected tendon and also identify aberrant movement and control patterns.

Rehab principles:

- Regular progressive loading aimed at returning to functional activities is key to successful rehabilitation
- Weakness in the quads calves and gluteal must be addressed before more complex tasks.
- The programme must address strength and endurance. Therefore high loads and low loads with increased repetitions should be performed.
- There must be an increase in speed of exercises to mimic functional activities.
- Lumbo pelvic control must be addressed.
- The programme must be maintained until full function is restored.
- A maintenance programme must continue even after return to full function.

Pain during loading

Traditionally, pain during rehabilitation was considered detrimental. However, recent research has shown some very good results during rehabilitation that allowed exercise through pain. However, there are some rules to this.

Consider the 24-hour pain pattern. This includes the severity and duration of symptoms during the 24-hour period after exercising. Ideally there should be no change in the pain pattern however; an increase of 2-3 points on the pain scale which settles after 24 hours is acceptable.