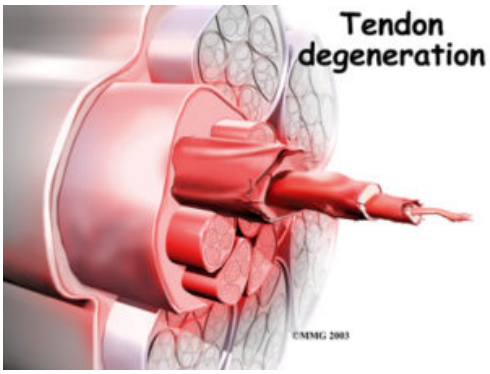
Proximal hamstring tendinopathy

Hamstring injuries are one of the most common afflictions in sport, and despite a vast amount of research and various rehabilitation programs, re-injury is common. Proximal hamstring tendinopathies (PHT) in particular are one of the most debilitating and troublesome forms of hamstring-related injury.

What is a Proximal Hamstring Tendinopathy?



PHT will present as a pain up under the gluteals, high up in the back of the thigh. Unlike a hamstring muscle strain or tear, it will often develop over time from repetitive loads through the hamstring tendon, from activities like hill running, soccer or football which will place repetitive loads through the attachment point. Tendons do not like compression and commonly the site of breakdown of the tendon is where is compressed against bone or other tissue. In the case of the hamstrings tendon, it is compressed against the sit bones is in hip flexion, thus aggravating activities sitting, squats, deadlifts and running up hill.

A tendinopathy is a complex and difficult injury which is most often caused by overuse or sudden increases in load. Previously tendinopathies were described as 'tendinitis' and explained as an inflamed tendon but recent research has shown this not to be the case. Tendinopathy is a continuum of changes in the tendon as a response to overload, resulting in pain and dysfunction. Ultimately this can result in changes to the structural integrity of the tendon when poorly managed for a period of time. The tendon will go through a stage of acute flare up in response to overload, where it will try to repair itself, but if the abnormal loads through the tendon are not reduced, then this process will continue until there is tendon breakdown. Hamstring tendinopathies occur at the insertion of the three hamstring muscles (biceps femoris, semimembranosus and semitendinosis) to the ischial tuberosity which is a bony prominence at the bottom of the pelvic bone as shown below, your sit bones.

Diagnosis of PHT

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Through a comprehensive musculoskeletal assessment including assessing nature, location and pattern of the pain, a physiotherapist will be able to accurately diagnose a hamstring tendinopathy. Imaging such as ultrasound and MRI may be used as they have the potential to show increased swelling and degeneration around the tendon tissue, especially in later stages of tendon disrepair. Research has shown however that the level of degeneration and swelling does not necessarily correlate to pain levels and that in fact even when completely rehabilitated to a pain free state, imaging of a degenerative tendon does not really look much different to when it was painful. Imaging should therefore not be relied upon completely for diagnosis, but rather should just add to the whole clinical picture.

Rehabilitation of a proximal hamstring tendinopathy

A multi-modal approach to rehabilitation is important in hamstring tendinopathy as it is a condition where the protocol will highly depend on both the individual involved and the stage of the condition. A comprehensive rehabilitation program should include:

- Unloading the tendon both in the reactive and degenerative stages of tendinopathy with strategies such as breaking up periods of sitting.
- Avoid other provocative positions such as stretching through the hamstring and reducing running (especially hills and tempo runs).
- Identification of and addressing any biomechanical issues that may have been placing undue load on the tendon with activity.
- A **progressive** strength training program. Muscle activation has been shown to have an analgesic effect, and improve lower limb biomechanics. Special attention should be applied to the hamstrings themselves, as well as the gluteal and core musculature. A controlled gradual increase in the load on the hamstrings tendon will result in the body responding by building a stronger more robust tendon.
- Improving muscle compliance through physiotherapy, and self-massage techniques like foam rolling
- Assessing any training errors that may have led to the issue originally. E.g. increasing training load too quickly, change in surface or footwear or inadequate recovery protocols.
- Last but not least, be patient, if you follow an appropriate rehab protocol, the tendon will get stronger but this is a gradual process!!!

If you suspect you already experience or have started to experience similar symptoms described above, be sure to contact In Balance Physiotherapy and Pilates to help get you back on track.

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