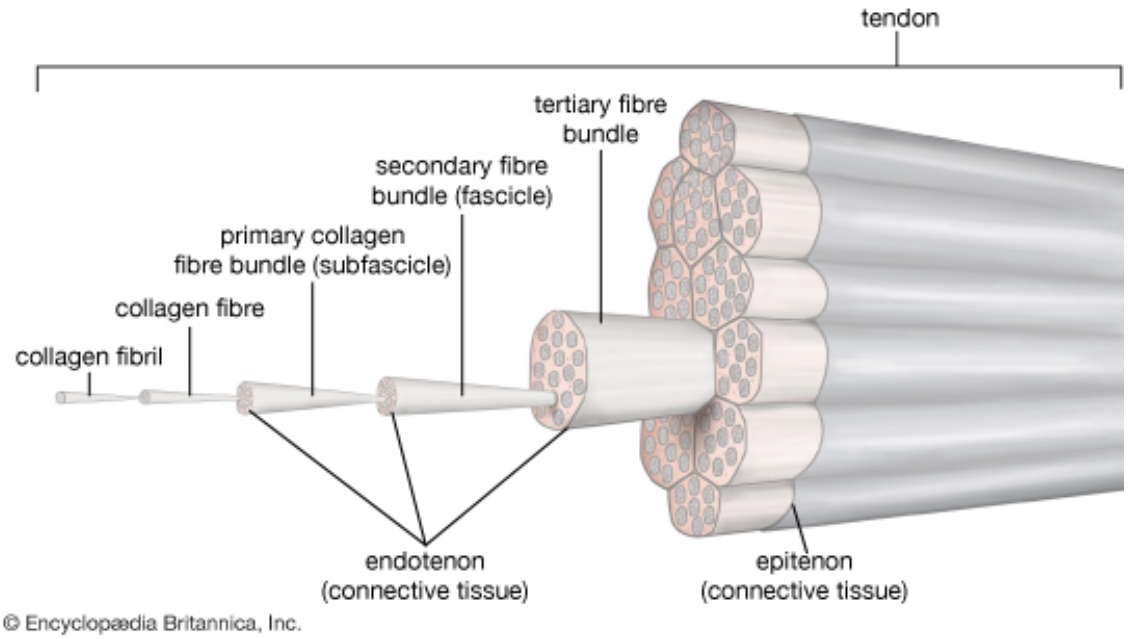
How to manage tendinopathy

Tendinopathy is a common injury which is often poorly managed. Tendons are fibrous connective tissue that attach muscles to structures in the body in order for the muscle to be able to exert force on and move the structure in question. Generally, these structures will be bones but may include structures such as the eyeball. Tendons are remarkably strong, having one of the highest tensile strengths found in any soft tissue.



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A tendon is composed of dense fibrous connective tissue, made up primarily of bundles of collagen fibres. Much like other tissue in the body, tendons will adapt to loading by getting stronger. Conversely during period of inactivity, the body will not waste energy maintaining a strong tendon, the tendon will weaken and its load bearing capacity will diminish.

In the past, the term tendonitis was commonly used, with the ítis' part of the word indicative of an inflamed tendon. It was thought that the tendon had become inflamed and symptomatic as a result of poor loading of the tendon. We now know this to be inaccurate. When a tendon is struggling to cope with either tensile or compressive loads being placed on it, it begins to react in a continuum of changes, now described more correctly as a tendinopathy. This increased load may be due to increased activity or simply returning to the same level of activity after a period of rest in which the tendon has weakened, essentially increasing the load on the remaining tendon fibres.

The first stage of tendinopathy is a reactive tendinopathy. In response to increased load, the body draws water into the body of the tendon around the collagen fibres to stiffen and strengthen the tendon. This reactive tendinopathy is a completely reversible process and management involves simply resting from activity that loads to the tendon and it will settle to its original state. Importantly, while rest from loading will decrease pain and return the tendon to its original state, the tendon is still not strong enough for the level of load that was being placed on it. A common mistake once pain has settled is returning to the same levels of activity resulting in a return of pain.

Following a period of poorly managed reactive tendinopathy, the collagen matrix of the tendon starts to breakdown and the

E: admin@ibphysio.com.au | T: 02 9976 3540 | F: 02 9976 3290 | Suite 14, Level 2, 22 Darley Road, Manly, NSW 2095 Australia

injury progresses to a degenerative tendinopathy. Given the right conditions, the body will re-model the tendon, improving its strength and load capacity, however this is a permanent change to the tendon structure and it will never look the same on scans. For this reason, repeat scanning of the tendon to look for improvement or change does not provide any useful clinical information.

It is important to correctly diagnose the stage of the condition to be able to safely implement return to activity timeframes and to determine whether a program of rehabilitation exercises is required. Other than reactive tendinopathies, loading the tendon in a controlled and gradual way is an essential component of management. Importantly this loading needs to be up to but not beyond the load capacity of the tendon. This stimulates the body to strengthen the tendon by laying down more collagen fibres. Over time this results in a thicker, stronger tendon which is better able to deal with the loads being placed on it.

Often poor biomechanics have contributed to excessive loading and subsequent breakdown of the tendon tissue. Identification and correction of these biomechanics is essential in order to achieve a safe return to activity without risking re-injury. Your physiotherapist is able to assess the stage of tendinopathy that you are in and provide you with a graduated rehab program to have you safely returning to activity.

Article by Jim Burke

E: admin@ibphysio.com.au | T: 02 9976 3540 | F: 02 9976 3290 | Suite 14, Level 2, 22 Darley Road, Manly, NSW 2095 Australia