

# Ten treatments to avoid in patients with lower limb tendon pain

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Tendon pain and dysfunction are the presenting clinical features of tendinopathy. Research has investigated many treatment options, but consistent, positive, clinical outcomes remain elusive. We know that treatment should be active (eg, exercise-based), and that a consistent and ongoing investment in rehabilitation is required. It is important to maximise this investment by understanding (and conveying to patients) treatments that do not help. The following 10 points highlight treatment approaches to avoid as they do not improve lower limb tendinopathy.

## 1. Don't rest completely.

Rest decreases the load tolerance of tendon, and complete rest decreases tendon stiffness within 2 weeks.<sup>1</sup> It also decreases strength and power in the muscle attached to the tendon and the function of the kinetic chain,<sup>2</sup> and likely changes the motor cortex, leaving the person less able to tolerate load at multiple levels. Treatment should initially reduce painful, high tendon load (point 2) and introduce beneficial loads (eg, isometrics<sup>3</sup>). Once pain is low and stable (consistent on a loading test each day), load can be increased slowly to improve the capacity of the tendon.<sup>4</sup>

## 2. Don't prescribe incorrect exercise.

Understanding load is essential for correct exercise prescription. High tendon load occurs when it is used like a spring, such as in jumping, changing direction and sprinting.<sup>5</sup> Tendon springs must be loaded quickly to be effective, so slow exercises even with weights are not high tendon load and can be used early in rehabilitation. However, exercising at a longer muscle tendon length can compress the tendon at its insertion.<sup>6</sup> This adds substantial load and should be avoided, even slowly, early in rehabilitation.

## 3. Don't rely on passive treatments.

Passive treatments are not helpful in the long term as they promote the patient as a passive recipient of care and do not increase the load tolerance of tendon.

Treatments like electrotherapy and ice temporarily ameliorate pain only for it to return when the tendon is loaded.<sup>7</sup>

## 4. Avoid injection therapies.

Injections of substances into a tendon have been shown to be no more effective than placebo in good clinical trials.<sup>8</sup> Clinicians who support injection therapies incorrectly suggest they will return a pathological tendon to normal. There is little need to intervene in the pathology as there is evidence that the tendon adapts to the pathology and has plenty of tendon tissue capable of tolerating high load.<sup>9</sup> Injections may change pain in the short term as they may affect the nerves, but should only be considered if the tendon has not responded to a good exercise-based programme.

## 5. Don't ignore tendon pain.

Pain usually increases 24 hours after excess tendon load. An increase in pain of 2 or more (out of 10) on a daily loading test should initiate a reduction in the aspects of training that are overloading the tendon (point 2). The overload is likely to be due to excessive spring-like movements such as jumping, running and changing direction.

## 6. Don't stretch the tendon.

Aside from the load on a tendon in sport, there are compressive loads on the bone-tendon junction when it is at its longest length. Stretching only serves to add compressive loads that are detrimental to the tendon.<sup>10</sup>

## 7. Don't use friction massage.

A painful tendon is overloaded and irritated (reactive tendon pathology). Massaging or frictioning the tendon can increase pain and will not help pathology.<sup>7</sup> An effect on local nerves may reduce pain in the short term only for it to return with high tendon loads.

## 8. Don't use tendon images for diagnosis, prognosis or as an outcome measure.

Abnormal tendon images (ultrasound and MRI) in isolation do not support a diagnosis of tendon pain as asymptomatic pathology is prevalent. There are also no aspects of imaging, such as vascularity and 'tears', that allow a clinician to determine outcome.<sup>11</sup> Pathology on imaging is usually very stable and does not change with treatment and reduction

in pain, so images are not a good outcome measure.<sup>12</sup>

## 9. Don't be worried about rupture.

Pain is protective as it causes unloading of a tendon. In fact most people who rupture a tendon have never had pain and do not present clinically, despite the tendon having substantial pathology.<sup>13</sup>

## 10. Don't rush rehabilitation.

Tendon needs time to build its strength and capacity. So does the muscle, the kinetic chain and the brain. Although this can be a substantial time (3 months or more), the long-term outcomes are good if the correct rehabilitation is completed.<sup>14</sup>

## SUMMARY

The above 10 treatment approaches take valuable resources and focus away from the best treatment for tendon pain—exercise-based rehabilitation. A progressive programme that starts with a muscle strength programme and then progresses through to more spring-like exercises and including endurance aspects will load the tendon correctly and give the best long-term results.

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