



Musculoskeletal

Progressive tendon loading in chronic patellar tendinopathy

Are progressive load exercises superior to eccentric exercises?

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After 24 weeks, patients who perform exercises that progressively load the tendon score significantly better on pain, function and ability to play sports than those who perform eccentric exercises.

Both programmes show no differences in adherence or patient satisfaction. Thus, at least for this time frame, progressive tendon loading exercises seem superior to eccentric exercise therapy in the conservative management of patients with chronic patellar tendinopathy.

Patellar tendinopathy is a common load-related condition in activities with frequent jumping, affecting as many as 45 percent of athletes in such sports. Moreover, 58 percent of patients face difficulties in performing physically demanding work. Although eccentric exercise therapy (EET) has proven to be effective, it is pain-inducing and hard to perform within competitive periods. Progressive tendon loading exercises (PTLE) have therefore been proposed as an alternative.



This trial included 76 patients between 18-35 years with a confirmed clinical and ultrasound diagnosis of patellar tendinopathy who participated in sports at least three times a week. The primary outcome was the VISA-P score at 24 weeks. The PTLE programme included four progressive stages composed of isometric, isotonic, explosive and sport-specific exercises, while the EET programme included pain-provoking single-leg decline squats and sport-specific exercises.

Patients in the PTLE group had a significantly better VISA-P score (28 points) than those in the EET group (18 points). Both programmes showed no differences in adherence (40 vs. 49 percent) or patient satisfaction (81 vs. 83 percent).

The authors suggest that the introduction of isometric exercises in the PTLE programme allowed for better muscle strengthening and increased pain sensitivity.

Another issue of note is that both programmes improved VISA-P scores, which include pain, function and ability to play sports despite the low adherence (40 percent for PTLE and 49 percent for EET).

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Expert opinion

This is a nice randomised trial showing the importance of load as a therapeutic tool in tendinopathy. Adequately managing load through the stages of treatment (including load during treatment but also of sporting/ leisure/ work activities) is increasingly being found as the most important factor in conservative tendinopathy management, especially in chronic cases.

Here we see that a multi-stage programme from isometric to explosive exercises led to improved results at 6 months. Nevertheless, the low adherence seen in both groups is a matter of concern, as the results may have been more pronounced if this value was higher. Actually performing the prescribed exercises is a massive issue in daily practice, and clinicians still need to find strategies to ensure this.

Patients in this study had both a clinical and ultrasound diagnosis of patellar tendinopathy. Having the clinical diagnosis is crucial, since tendon imaging findings have shown high variability even in asymptomatic individuals (see for example [this study](#)). For further details on outcomes and on the exercise programmes used on the summarised study, a link to the free full text version can be found above.

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