



MANAGEMENT OF LOWER BODY TENDINOPATHY IN ATHLETES

Lower body tendinopathies (LBT), specifically those that involve the Achilles and patellar tendon are common in sports that involve running, jumping, and change of direction activities. Often symptoms are triggered by acute spikes in training load such as increasing the frequency, intensity, or density of training. Subsequently, the tendon is overloaded in a setting of reduced tendon capacity. Symptoms related to tendinopathy such as pain can lead to deficiencies with muscle firing, loading and movement dysfunction. Historically, the treatment of lower body tendinopathies has focused on eccentric exercise. A multi-modal approach to treatment of LBT should address kinetic chain dysfunction, eccentric and progressive resistance training, and other non-exercise therapies. Reducing training load and tendon loading is often the first line of defense when managing these injuries.

RESOURCES

Consensus Statement: [ICON 2019: International Scientific Tendinopathy Symposium Consensus: Clinical Terminology](#)

JAT Podcast: [Clinical Management of Patellar Tendinopathy](#)

JOSPT Insights: [Up to speed on managing load in Achilles tendinopathy, with Dr Karin Silbernagel](#)

VISA-P Questionnaire:

- [Patellar Tendinopathy](#)
- [Achilles Tendinopathy](#)

FREE COMMUNICATIONS PROGRAM

Ultrasound Imaging of Collegiate Gymnasts Achilles Tendons Offers Insight Into Potential Risk Factors for Tendinopathy: A Pilot Study (*Thompson Murray et al, 2023*) S-59. The study examined clinical risk factors for Achilles tendinopathy in collegiate gymnasts. Results demonstrated that gymnasts' dominant leg Achilles tendon was thicker than the contralateral side. Reported history of low back pain was also a significant predictor of Achilles tendon thickness.

The Effectiveness of Extracorporeal Shockwave Therapy on Reducing Pain and Improving Function in Athletes With Patellar Tendinopathy: A Critically Appraised Topic (*Zwart et al, 2023*) S-63. There is a lack of evidence supporting ESWT for reducing pain and improving function in athletes with patellar tendinopathy. Clinicians should consider a multi-faceted approach including therapeutic exercise, injection therapy, pharmaceutical intervention, and therapeutic modalities to improve patient outcomes. Clinicians who have access to ESWT should acknowledge the lack of standardized treatment protocols. Protocols ranged from three sessions of ESWT at 48-72-hour intervals to three sessions at 1-week intervals. Dependent upon patient's tolerance, energy dose fluctuated between 0.02 to 0.58 mJ/mm², for a total of 1,000-2,500 impulses at a frequency of 4 Hz. With a financial burden of purchasing a unit, clinicians should consider other financially viable treatment options.

from RECENT ARTICLES

"Clinical Management of Patellar Tendinopathy" *Rosen et al, 2022.*

- Load management strategies – such as reducing the volume and frequency of activities are effective in managing symptoms of patellar tendinopathy.
- Exercise based therapies and progressive loading strategies are superior to rest and passive modalities.
- Eccentric quadriceps exercises have been the most studied and demonstrated to be effective, however heavy, slow resistance exercises including concentric and isometric contractions have demonstrated long-term pain reduction.

"Current Clinical Concepts: Conservative Management of Achilles Tendinopathy" *Grävare Silbernagel et al, 2020.*

- Exercise based rehabilitation has the highest level of evidence for the treatment of Achilles tendinopathy with a focus on providing mechanical load to the tendon to promote remodeling, decrease pain, and improve calf and lower leg muscle function.
- Exercise programs have historically consisted of eccentric exercises at heavier loads with longer durations, however concentric and isometric exercise programs have also shown to be effective.
- A pain-monitoring model has been successfully used to guide for tendon loading and exercise progression in patients with Achilles tendinopathy.

"Management of Patellar Tendinopathy: A Systematic Review and Network Meta-Analysis of Randomised studies" *Challoumaset al, 2021.* Across 37 studies, results demonstrated that isometric exercises appear to be as effective in reducing immediate post-intervention pain when compared to isotonic exercises. However, eccentric exercises remain as the first-line treatment for individuals with patellar tendinopathy.

"Altered Strength Profile in Achilles Tendinopathy: A Systematic Review and Meta-Analysis" *McAuliffe et al, 2019.* Results demonstrated that individuals with Achilles tendinopathy had deficits related to maximal, reactive, and explosive strength when compared to their unaffected limbs or asymptomatic controls. Understanding strength deficits across the continuum will lead to improved efficacy of rehabilitation programming and improved outcomes.

"Effectiveness of Progressive Tendon-Loading Exercise Therapy in Patients with Patellar Tendinopathy: A Randomised Clinical Trial" *Breda et al, 2021.* The progressive loading group used a combination of isometric, isotonic, plyometric, and sport-specific exercises with progressive loading, whereas, the eccentric exercise group performed decline step downs and sport specific exercises only. Results demonstrated a higher return to sports rate and lower reported pain related to exercises in the progressive loading group.

