

Infrapatellar strap reduces pain in athletes with patellar tendinopathy (jumper's knee)

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Introduction

- Athletes with patellar tendinopathy (jumper's knee) often use an infrapatellar strap (fig.1) to reduce their pain during sports activities like jumping and landing.
- However, no studies have been performed to investigate the effectiveness of this orthosis.

Aim: To determine if an infrapatellar strap reduces pain in athletes with patellar tendinopathy during functional loading of the patellar tendon.



Fig. 1. The infrapatellar strap used in this study



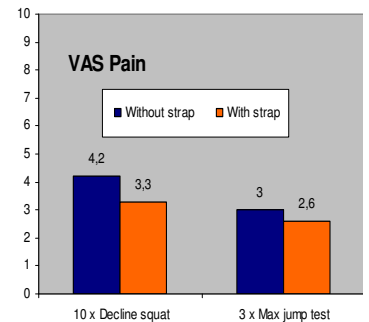
Fig. 2. Single leg decline squat

Methods

- 53 adult athletes (♂ 39 and ♀ 14), mean age 28.5 (18-48) years with patellar tendinopathy (mean VISA-P 55.0±14.5) and median duration of symptoms 24 (3-300) months performed ten single leg decline squats (fig.2), the maximal jumping test with and without an infrapatellar strap.
- Pain during this functional patellar tendon loading tests was recorded on a Visual Analogue Scale.
- Athletes also used the straps during one training week and game and were asked for satisfaction with and side effects of the strap.

Results

- Pain differed significantly when performing 10 single leg decline squats without and with a strap, 4.2±2.4 and 3.3±2.2 (p<0.001), and when jumping 3 times on one leg, 3.0±2.1 and 2.6±2.0 (p=0.02).
- Jump height on the painful leg differed significantly with and without a strap, 28±8 and 25±8 cm respectively (p<001).
- 60% of the athletes reported that the strap reduced their pain during and after their sporting activities.
- The only side effects reported were a feeling of compression in the popliteal fossa when using the strap and sliding down of the strap.



Discussion

With an infrapatellar strap, athletes with a jumper's knee experience less pain when performing functional patellar tendon loading test and are able to jump higher. Furthermore, the majority of the athletes were satisfied using the strap and reported reduced pain during sport activities. No serious side effects were reported. Future research should focus on why a patellar strap reduces pain and whether prolonged use of a strap influences patellar tendon pathology.

Conclusion

An infrapatellar strap can reduce pain experienced by athletes with a jumper's knee who perform patellar tendon loading activities.



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