

# Relationship between the anteroposterior diameter of the patellar tendon. Pain and functionality in volleyball players

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Rev Fisioter Invasiva 2019;2:67.

## Abstract

**Introduction and Aim** Overuse injuries in volleyball represent between 50% and 80% of total injuries, of which, 80% are patellar tendinopathies. Volleyball is the sport with the greatest prevalence of patellar tendinopathy, estimated at 44.6%, followed by basketball with 31.9%. The tendon thickness bears a close and direct relationship with abnormal and diffuse images with accumulation of ground substance, and affecting both sexes, although less marked in women.

**Aim** To determine whether the antero-posterior diameter of the patellar tendon in volleyball players is associated with a greater sensation of pain and reduced functionality.

**Material and Methods** An observational, descriptive, cross-sectional study on volleyball players. The scores on the VISA-P scale, the visual analog scale (VAS) and, using musculoskeletal ultrasound, the anteroposterior diameter of the patellar tendon at 5 and 10 mm distal to the inferior pole of the patella. Multiple linear regression models were constructed to adjust the effect of the anteroposterior diameter on the VAS and the VISA-P scores.

**Results** The final sample comprised 112 players. The anteroposterior diameter was greater in men and was significantly associated with scores on the VAS and the VISA-P for both tendons, and therefore, the greater the score of the diameter, the greater the score on the VAS and the lesser the score on the VISA-P.

**Conclusions** The measurement of the antero-posterior diameter of the patellar tendon using musculoskeletal ultrasound may be useful for the prevention of sports injuries in volleyball players, as it is significantly associated with a greater perception of pain and reduced functionality.

## Keywords

- volleyball
- patellar tendon
- sports injuries