Title:
Standardized assessment of fascial tissue properties related to achillodynia and plantar fasciosis. A proposed study design.

Introduction:
Achillodynia and plantar fasciosis are widespread fascial pathologies. They tend to be associated with changes in the biomechanical properties in associated connective tissues. Several self-help modalities have been proposed for their treatment. However, a lack of congruence exist between different assessment protocols in related evaluations.

Methods:
We compared existing assessment protocols related to these pathologies in terms of their reproducibility, accuracy of measurement, and practicality. Preference was given to protocols that can easily be implemented in the context of a standard physiotherapeutic practice. Based on that we conducted exploratory pilot examinations on three individuals using the methods described below. Preference was given to assessment protocols that promise a high degree of precision, reproducibility and practicality.

Results:
Range of Motion (ROM) measurement, algometry and assessment of stiffness and elasticity via indentometry and/or myometry appear as most promising. However, precise application protocols should be standardized in the following manner. ROM: knee-to-wall test as described by O’Shea et al. Myometry, indentometry and algometry assessment should best be performed with the patient in prone position with relaxed feet hanging over the table edge while the feet are arrested by external fixation in their anatomical position (a.k.a. 90 degrees dorsiflexion), see Fig. 1. Standardized measurement should then be formed on the following locations: middle of plantar side of foot (using a line between the base of the 3rd toe and the middle of the heel as orientation as well as the total foot length measured with a conventional
shoe size measurement tool); 1/10th as well as ¾ of the distance between the most prominent aspect of the calcaneus (in lateral view) and the upper end of the lower leg (using a horizontal line through the fibular head as orientation).

**Conclusion:**
The described assessment protocol promises a high degree of precision, reproducibility and practicality within the context of a physiotherapist practice. It will also be chosen by our group for a related clinical study comparing different therapeutic interventions.

**References:**