

## 46. SWACSM Abstract

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### Comparison of Plantar Fascia Thickness and Foot Pain in People with Plantar Fasciitis: A Preliminary Analysis

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#### ABSTRACT

Researchers have found that people with plantar fasciitis have lower stiffness in their plantar fascia than healthy people. However, the relationship between perceived pain and plantar fascia stiffness has not been well documented. **PURPOSE:** The aim of this study was to observe the correlation between plantar fascia stiffness and self-reported foot pain scores. **METHODS:** Sixteen people with plantar fasciitis (PFis) participated in this study. Screening criteria included a score of > 25 on the Plantar Fasciitis Pain Scale (PFPS) and plantar fascia (PF) thickness > 0.40 cm on a Brightness-Ultrasound image recorded prior to the start of data collection. At the start of data collection, subjects completed a 10-unit visual analog scale (VAS) based on their current foot pain. PF stiffness (kPa) was measured at 3 locations (Location 1: insertion at the calcaneus; Locations 2: 1 cm distal from calcaneal insertion; Location 3: 2 cm distal from calcaneal insertion) using shear wave elastography (SWE). A total of 9 measurements were taken from 3 SWE images and the average of all 9 measurements was used to represent the SWE value for statistical analysis. Pearson's correlations were run to determine relationships between SWE and VAS score, and SWE and PFPS score. **RESULTS:** There were moderate correlations between SWE and PFPS ( $29.15 \pm 15.62$  kPa,  $47.76 \pm 11.26$ ;  $r=0.35$ ,  $p=0.19$ ) and SWE and VAS ( $29.15 \pm 15.62$  kPa,  $2.38 \pm 2.12$ ;  $r=0.49$ ,  $p=0.05$ ). **CONCLUSION:** The moderate correlation between SWE measurements and VAS was observed to be stronger than the correlation between SWE and PFPS. This may be due to the fact that the SWE measurements were taken within minutes of the VAS score, while the PFPS score is based on pain over a longer period of time. As our study's data collection is ongoing, a larger data pool may reveal a different correlation between VAS and SWE measurements.