

INPLASY PROTOCOL

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**Review Stage at time of this
submission:** Preliminary
searches.

Conflicts of interest:
None declared.

INTRODUCTION

Review question / Objective: The aim of this meta-analysis is to investigate the utility of sonoelastography in diagnosing plantar fasciitis.

Sonoelastography for Evaluating Plantar Fasciitis: a Protocol for Systematic Review and Meta-analysis

Chang, KV¹.

Review question / Objective: The aim of this meta-analysis is to investigate the utility of sonoelastography in diagnosing plantar fasciitis.

Condition being studied: To examine the usefulness of sonoelastography for the assessment of plantar fasciitis.

Information sources: PubMed, Cochrane CENTRAL, EMBASE, Clinical.gov. and Web of Science databases will be searched for the relevant studies without language restriction. Case reports, case series, conference abstracts, animal studies or those performed in laboratory settings will be excluded from the present meta-analysis.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 05 March 2022 and was last updated on 05 March 2022 (registration number INPLASY202230019).

Condition being studied: To examine the usefulness of sonoelastography for the assessment of plantar fasciitis.

METHODS

Search strategy: The combinations of the following keywords will be used for

literature search, including elastography, elastogram, shear wave, strain, ultrasound, ultrasonography, echography, plantar fasciitis, plantar fasciopathy and heel pain.

Participant or population: Participants with plantar fasciitis.

Intervention: Sonoelastography.

Comparator: Participants without plantar fasciitis.

Study designs to be included: Cross-sectional, case-control, or cohort studies.

Eligibility criteria: (1) patients with a clinical diagnosis of plantar fasciitis; (2) at least one arm encompassing a healthy/asymptomatic population; (3) diagnostic or interventional studies with US elastography measurement of the plantar fascia.

Information sources: PubMed, Cochrane CENTRAL, EMBASE, Clinical.gov. and Web of Science databases will be searched for the relevant studies without language restriction. Case reports, case series, conference abstracts, animal studies or those performed in laboratory settings will be excluded from the present meta-analysis.

Main outcome(s): The weighted mean difference (WMD) and standardized mean difference (SMD) for the absolute and relative disparity of tissue stiffness between the diseased and asymptomatic heels.

Quality assessment / Risk of bias analysis: The Newcastle-Ottawa Scale is adopted to evaluate the quality of included studies. The following aspects will be evaluated: (1) selection of the study groups (representative of patients with plantar fasciitis and healthy/asymptomatic controls), group comparability, and exposure/outcome of interest.

Strategy of data synthesis: A random effect model is employed to pool the effect size. A sensitivity analysis will be conducted by removing one included study to see if there

is a significant deviation of the pooled effect size. The level of heterogeneity across the enrolled studies is appraised by I² and Cochran's Q statistics.

Subgroup analysis: A subgroup analysis may be performed based on the difference in the sonoelastography parameters.

Sensitivity analysis: We may perform a sensitivity analysis to evaluate the influence of each study on the overall effect by eliminating them individually.

Country(ies) involved: Taiwan.

Keywords: Ultrasound; elastography; plantar fascia; shear wave; strain.

Contributions of each author:
Author 1 - Ke-Vin Chang.