Do changes in foot and ankle structures relate to plantar fasciitis?

No registrations found.

Ethical review	Not applicable
Status	Other
Health condition type	-
Study type	Observational non invasive

Summary

ID

NL-OMON28453

Source
NTR

Health condition

Plantar fasciitis; Atrophy intrinsic foot muscles; Foot and ankle joint mobility; gait

Plantaire fasciitis; atrofie voet spieren, voetgewricht mobiliteit; gangbeeld

Sponsors and support

Primary sponsor: Roessingh Research and Development
Postbus 310
7500 AH Enschede
The Netherlands
Source(s) of monetary or material Support: no funding

Intervention

Outcome measures

Primary outcome

The passive mobility of the hindfoot and forefoot segment in sagital, frontal and transverse planes
Range of motion mobility of the hallux

Mobility of the hindfoot, midfoot, forefoot and hallux during gait.

Secondary outcome

Cross-sectional area of the intrinsic forefoot muscles; foot function score, intrinsic foot muscle force, pain assessment (VAS) and thickness of the plantar fascia.

Study description

Background summary

Rationale: Plantar fasciitis is the most common foot impairment and affects approximately 10% of all adults during their life. This disease is tedious and very painful due to degeneration or inflammation of the plantar enthesis of the plantar fascia at the calcaneus insertion site. Multiple hypotheses are formed about alterations in foot structures in order to describe the etiology of plantar fasciitis. Mostly, studies are performed on patients with a chronic form of plantar fasciitis. Therefore, up to this moment it is not clear what the role of these structural changes are in the formation of plantar fasciitis.

Objective: The goal of this study is gaining insight in the foot structures that may play a role in the formation of plantar fasciitis and the consequences on the gait pattern of patients with plantar fasciitis. In the future, such insights may result in more specific and more efficient conservative therapies.
Study design: This study has a cross-sectional design with one measurement session for assessing gait parameters and clinical scores.

Study population: 20 patients with acute or sub-acute plantar fasciitis participate in this study. The control group exists of 15 healthy persons without complaints to the lower extremities. The age, Body Mass Index and Foot Posture Index in the control group is comparable to that of the patient group. Patients are only included when foot complaints are present for less than four weeks and the thickness of the proximal plantar fascia is at least 4 mm and age must be within the range of 18 to 55 years old. Patients with a systemic disease, other conditions that have a negative influence on walking, or when patients already make use of walking aids are excluded from the study.

Main study parameters/endpoints: The main study parameters of this study are passive and active motion between different foot segments in different planes: motion of segments of the foot during walking, maximal dorsiflexion of the ankle, the height of the medial longitudinal arch of the foot in relation to weight loading and passive foot mobility in the frontal plane). In addition, the cross-sectional area of the intrinsic forefoot muscles will be studied.

Nature and extent of the burden and risks associated with participation, benefit and group relatedness: Participation of a subject in this experiment has no direct benefit for him or her. However, insights from the measured parameters may indicate impairments and enable

distinct and personalised therapy. The risk in participation is small because walking is a natural and familiar act and participation will not get in the way of recovery. Regarding the use of ultrasound, Merrit (Merritt, 1989) reports that ultrasound is a safe imaging modality. The World Health Organization supports that ultrasound is a safe and highly flexible imaging tool (World Health Organization, 1998). Therefore, no risks are associated with ultrasound when used once. Furthermore, during all the measurements a physiotherapist will accompany the subjects. Subjects can take rest between the measurements any time they like and may stop the experiment at any time desired.

Study objective

Patients with plantar fasciitis will have impaired foot and ankle joint mobility and hypotrophy of the intrinsic foot muscles. These structural pathologies can be related to kinematic and kinetic gait parameters such as joint range of motion and ground reaction force.

Study design

One measurement time point for assessment of clinical and gait parameters.

Intervention

Not applicable

Contacts

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Eligibility criteria

Inclusion criteria

1. Unilateral (sub-)acute plantar fasciitis: less than one week after diagnosis and less than four weeks foot complaints
2. Thickness of the proximal plantar fascia is more than 4 mm
3. With or without the presence of a heel spur
4. Pain symptoms (Visual Analog Scale > 5)

Exclusion criteria

1. Patients with long lasting or chronic complaints (> 1 month)
2. Plantar fasciitis complaints that occur after trauma or when other diagnosis as neuropathies or bone- or tendon diseases occur as well: for example tarsal tunnel syndrome, stress fracture of the calcaneus, Achilles tendinitis
3. Patients with systemic or metabolic diseases
4. Use of insole or other walking aids
5. Age: younger than 18 or older than 55 years (to exclude elderly patients with degenerative changes)
6. Other foot and ankle conditions that affect joint movements of the ankle during walking

Study design

Design

Study type:	Observational non invasive
Intervention model:	Parallel
Allocation:	Non controlled trial
Masking:	Open (masking not used)
Control:	Active

Recruitment

NL

Recruitment status:	Other
Start date (anticipated):	01-04-2014
Enrollment:	35
Type:	Unknown

Ethics review

Not applicable
Application type: Not applicable

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
NTR-new	NL4287
NTR-old	NTR4431
Other	CCMO : 4824

Study results

Summary results
N/A