The effect of real-time feedback on running technique by instrumented insoles on running injuries and running performance: A randomized controlled trial

Published: 03-06-2020 Last updated: 15-05-2024

Objective: The primary aim of this study is to investigate real-time feedback on the running technique provided by a phone connected to pressure-sensitive insoles is effective at reducing running injuries. A secondary aim is to investigate whether...

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Other condition
Study type	Interventional

Summary

ID

NL-OMON49135

Source ToetsingOnline

Brief title The effects of real-time feedback on running injuries and performance

Condition

Other condition

Synonym Running injuries; running pain

Health condition

Sportblessures

1 - The effect of real-time feedback on running technique by instrumented insoles on ... 1-06-2025

Research involving

Human

Sponsors and support

Primary sponsor: Universiteit Maastricht **Source(s) of monetary or material Support:** ARION, Eindhoven, Eurostarts subsidie

Intervention

Keyword: Gait retraining, Real-time feedback, Running injuries, Training load

Outcome measures

Primary outcome

Main study parameters/endpoints: 1) running-related injury

Secondary outcome

2) motivation, and 3) running performance

Study description

Background summary

Rationale: A poor running technique is considered an important risk factor for running-related injuries. Wearables offer a promising method to quantify, and provide real-time feedback on running technique outside of the lab. This feedback may in turn reduce injury rates and enhance performance. However, little research has investigated the effectiveness of in-field real-time feedback on running injuries and running performance.

Study objective

Objective: The primary aim of this study is to investigate real-time feedback on the running technique provided by a phone connected to pressure-sensitive insoles is effective at reducing running injuries. A secondary aim is to investigate whether real-time feedback is also more effective at improving running performance and motivation.

Study design

Study design: Randomized-controlled trial

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Intervention

Real-time feedback on the running technique

Study burden and risks

Nature and extent of the burden and risks associated with participation, benefit and group relatedness: The procedures are non-invasive and require only little time investment. The research will directly benefit the participants, by potentially reducing injury rates, performance and motivation in the intervention group, as well as indirectly benefit the participants by expanding our knowledge on risk factors of running injuries.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age

Adults (18-64 years) Elderly (65 years and older)

Inclusion criteria

Inclusion criteria were: 1) self-assessed novice /recreational runner that was running minimum twice per week with a minimum total distance of 10 km per week, and maximum 45 km per week at the time of inclusion, 2) age between 18-65 years, 3) proficient in English language, and 4) interest in training towards being able to run a distance between 10 km and half marathon.

Exclusion criteria

Exclusion criteria were 1) no email address or access to internet, 2) smartphone that was not suitable for real-time feedback (i.e. older operating systems), 3) participating in other sports for more than 3 hours per week, 4) major or minor lower extremity injury in the last six or three months, respectively, 6) contraindications for vigorous physical activity such as pregnancy or having been pregnant in the previous six months, discomfort during running, and cardiovascular, metabolic or pulmonary adverse health conditions (e.g., stroke, heart disease, pain in the chest, diabetes, COPD), 7) BMI of >27.5, and 8) participating in trail running for more than once a week.

Study design

Design

Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Double blinded (masking used)
Control:	Active
Primary purpose:	Prevention

Recruitment

NII

Recruitment status:	Recruitment stopped
Start date (anticipated):	31-05-2020
Enrollment:	208
Type:	Actual

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Ethics review

Approved WMO	
Date:	03-06-2020
Application type:	First submission
Review commission:	METC academisch ziekenhuis Maastricht/Universiteit Maastricht, METC azM/UM (Maastricht)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

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

ID: 28506 Source: Nationaal Trial Register Title:

In other registers

Register	ID
ССМО	NL72989.068.20
Other	NL8472
OMON	NL-OMON28506