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

No registrations found.

Ethical review	Positive opinion
Status	Recruitment stopped
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON28506

Source NTR

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

Health condition

Running injuries

Sponsors and support

Primary sponsor: Eurostars Source(s) of monetary or material Support: Eurostars

Intervention

Outcome measures

Primary outcome

1 - The effect of real-time feedback on running technique by instrumented insoles on ... 3-05-2025

The primary outcome of interest is a running-related injury. After each training session, each participant is required to complete a pop-up about any running-related pain (using a numerical pain rating scale from 1-5 with 1 being no, 2 light, 3 mild to moderate, 4 fairly severe, and 5 severe pain/discomfort, respectively), and the location of the pain (as indicated by clicking on a body part of a human body model). An injury is defined as a rating of ≥ 1 for a similar body part for at least 7 days.

Secondary outcome

Running performance as measured by 1) the personal best times of the runners in the year prior to intervention and during the intervention are converted to IAAF scores, and 2) the average running speed during the first two intervention weeks and the last to intervention weeks during low-intensity sessions, with a higher average running speed being interpreted as an improved performance.

Motivation as measured using an online questionnaire (Behavioral Regulation in Exercise Questionnaire-2 [BREQ-2]

Study description

Background summary

Rationale: A poor running technique and inappropriate workload are considered to be important risk factor for running-related injuries. Wearables offer a promising method to quantify, and provide real-time feedback on running technique and workload 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.

Objective: The primary aim of this study is to investigate whether real-time feedback on the running technique and intensity of running provided by a phone connected to pressuresensitive insoles is effective at reducing running injuries compared to no real-time feedback. A secondary aim is to investigate whether real-time feedback is also more effective at improving running performance and motivation compared to no real-time feedback. A tertiary aim is to investigate physiological mechanisms responsible for potential improvements in running performance and injuries in a sub-sample of participants using lab-based measurements.

Study design: Randomized-controlled trial

Study population: 208 adult runners between 18-65 years old

Main study parameters/endpoints: 1) running-related injury 2) motivation, and 3) running performance

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.

2 - The effect of real-time feedback on running technique by instrumented insoles on ... 3-05-2025

Study objective

Real-time feedback on the running technique and workload provided by a phone connected to pressure-sensitive insoles is more effective at reducing running injuries compared to no real-time feedback

Study design

pre and post intervention (6 month intervention)

Intervention

Real-time feedback vs no real-time feedback

Contacts

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Eligibility criteria

Inclusion criteria

- 1) Age between 18-65 years;
- 2) Proficient in English language;

3) Self-assessed novice/beginner/intermediate runner that is running maximum twice per week at the time of inclusion, and has not run more than twice per week for the last 2 months;

4) Interest in training towards being able to run a distance between 10 km and half marathon.

Exclusion criteria

1) No email address or access to internet;

2) Smartphone that is 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;

5) Contraindications for vigorous physical activity such as pregnancy or having been pregnant in the previous six months, discomfort during running, and cardiovascular or pulmonary adverse health conditions (e.g., stroke, heart disease, pain in the chest COPD);
6) BMI of >30

Study design

Design

Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Single blinded (masking used)
Control:	Active

Recruitment

NII

Recruitment status:	Recruitment stopped
Start date (anticipated):	30-04-2020
Enrollment:	208
Туре:	Actual

IPD sharing statement

Plan to share IPD: Yes

Plan description Not yet determind

Ethics review

Positive opinion

4 - The effect of real-time feedback on running technique by instrumented insoles on ... 3-05-2025

Date: Application type:

Study registrations

Followed up by the following (possibly more current) registration

ID: 49135 Bron: ToetsingOnline Titel:

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

No registrations found.

In other registers

Register	ID
NTR-new	NL8472
ССМО	NL72989.068.20
OMON	NL-OMON49135

Study results

Summary results

The results from this research will be submitted to peer-reviewed journals for publication and the results will be disclosed unreservedly.