

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

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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

Ethische beoordeling	Positief advies
Status	Werving gestopt
Type aanpak	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON28506

Bron

NTR

Verkorte titel

Effects of real-time feedback on running injuries and performance

Aandoening

Running injuries

Ondersteuning

Primaire sponsor: Eurostars

Overige ondersteuning: Eurostars

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

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.

Toelichting onderzoek

Achtergrond van het onderzoek

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 pressure-sensitive 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.

Doel van het onderzoek

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

Onderzoeksopzet

pre and post intervention (6 month intervention)

Onderzoeksproduct en/of interventie

Real-time feedback vs no real-time feedback

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

- 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.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- 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

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	Gerandomiseerd
Blinding:	Enkelblind
Controle:	Geneesmiddel

Deelname

Nederland	
Status:	Werving gestopt
(Verwachte) startdatum:	30-04-2020
Aantal proefpersonen:	208
Type:	Werkelijke startdatum

Voornemen beschikbaar stellen Individuele Patiënten Data (IPD)

Wordt de data na het onderzoek gedeeld: Ja

Toelichting

Not yet determind

Ethische beoordeling

Positief advies

Datum: 22-03-2020

Soort: Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 49135

Bron: ToetsingOnline

Titel:

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

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

Resultaten

Samenvatting resultaten

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