Effect of PESF on speedskaters.

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We hypothesize that PESF improves aerobic and anaerobic performance in talented speedskaters.

Ethische beoordeling	Positief advies
Status	Werving nog niet gestart
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON22212

Bron NTR

Verkorte titel EPEFS

Aandoening

Sporters, Athletes Schaatsers, Speedskaters Schaatsen, Speedskating Pulserend elektrostatisch veld, Pulsating electrostatic field (PESF)

Ondersteuning

Primaire sponsor: Sponsor Ziekenhuis Tjongerschans Sponsor GLNP life sciences **Overige ondersteuning:** Fund = sponsor

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

To analyse the effect of six weeks PESF treatment on aerobic and anaerobic performance, measured with an maximum exercise test on the bicycle ergometer (VO2max and Wingate 30) in speedskaters aged between 18-23.

Toelichting onderzoek

Achtergrond van het onderzoek

Dutch speedskating teams are innovative and always looking for improvements. Recently pulsating electrostatic field (PESF) treatment has been suggested to improve aerobic performance and reduce exercise induced muscle soreness. The underlying physiological mechanism could be improved peripheral muscle perfusion due to decreased erythrocyte aggregation as well as by increased mitochondrial function. However well-designed studies on this topic are lacking. In the current study, we hypothesize that PESF improves aerobic and anaerobic performance in talented speedskaters.

This is a single center, double-blind randomized controlled trial. Study population: 20 talented Dutch speedskaters between 18-23 years from the regional training centers in Groningen and Heerenveen. All participating on a regional and/or national level, in different kind of distances in long track speedskating. The intervention group will receive one PESF session of 30 minutes weekly during six weeks. The sham group will receive a sham treatment with the modified PESF device which is turned on but has no power output. Participants will undergo two maximal exercise tests at baseline and after six weeks. Besides the exercise challenge the skaters fill in a quality of life questionnaire (RAND-36). Both groups (PESF and sham) will receive once a week a 30 minute treatment preceded by a not invasive measure of body composition. Before each session the skaters will also fill in a form about their feeling of fatigue. During the six weeks of treatment the training load is also registered on a daily base to monitor the equivalence of both groups. The New Health 9000 is able to generate a PESF with intensity between 2000 to 9000V at extremely low current levels at a 50 Hz pulsating frequency. The PESF device is not invasive and has a European safety certificate. To date, no adverse events are reported. If this study demonstrates significant positive effects due to PESF, speedskaters may improve their training conditions and competition results.

Doel van het onderzoek

We hypothesize that PESF improves aerobic and anaerobic performance in talented speedskaters.

Onderzoeksopzet

Baseline tests first week: Wingate, VO2max, and Quality of life questionnaire.

Speedskating competition after four weeks.

Final tests in week six: the same as at baseline.

Treatment: will be preceded by measuring body composition. Parameters as bloodpressure, saturation and heartrate will be monitored. Fatigue (locally in lower extremity and general) and possible adverse events will be monitored as well. During the six weeks of treatment the training load is also registered on a daily base. Duration of training was recorded in minutes and perceived exertion was measured on a scale from 1 to 10. Training load is calculated by multiplying duration and perceived exertion scores.

Onderzoeksproduct en/of interventie

Treatment: Pulsating electrostatic field therapy for 6 weeks, one treatment of 30 minutes per week.

Sham: same procedure as treatment group only with a modified device. Which is turned on but has no power output. So the sham has the same features but doesn't work. Dosage is also 30 minutes per week.

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

Age 18 years or older.

Skating at a regional and/or national level.

Training a minimum of 6 times per week.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Presence of implanted electronic devices (pacemaker).

Injuries whereby training and competition are different from normal.

Presence of osteosynthesis material (pins, screws, metal plates).

Be treated with similar therapy.

Signs of infection or acute disease.

Possible pregnancy.

Participating in another medical research that will be interfering.

Signs and symptoms of a possible oncological disease.

Onderzoeksopzet

Opzet

Туре:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	Gerandomiseerd
Blindering:	Dubbelblind
Controle:	Placebo

Deelname

Nederland	
Status:	Werving nog niet gestart
(Verwachte) startdatum:	11-12-2017
Aantal proefpersonen:	20

Ethische beoordeling

Positief advies	
Datum:	14-10-2017
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

RegisterIDNTR-newNL6633NTR-oldNTR6819Ander register / 201700744 - Research register UMCG : M17.220491 - METc UMC

Resultaten