Protein and endurance exercise

No registrations found.

Ethical review	Positive opinion
Status	Recruiting
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON21476

Source
NTR

Brief title
NutrEnd

Health condition

Endurance exercise performance,

Sponsors and support

Primary sponsor: HAN University of Applied Sciences
Source(s) of monetary or material Support: Friesland Campina

Intervention

Outcome measures

Primary outcome

VO2max (indirect calorimetry)

Secondary outcome

endurance performance (10-km time trial)

muscle function (isokinetic dynamometry)haematological and biochemical variables (blood)

body composition (dual x ray absorptiometry)

habitual food intake (repeated 24-h recalls)

habitual physical activity (wrist worn accelerometer)

Study description

Background summary

The maximal uptake and utilization of oxygen (VO2max) is fundamental to endurance exercise performance. The VO2max can be increased by long-term endurance exercise training. Recent research suggested that the impact of endurance exercise on VO2max can be augmented by the supplementation of protein during long-term endurance exercise training programs. The current study aims to assess the impact protein supplementation during long-term endurance exercise training on VO2max, endurance exercise performance, and muscle function in recreationally active young men. This is a double blind, randomized, placebo-controlled intervention trial. The study involves 12 weeks of endurance exercise training with pre- and post-measurements of exercise capacity and performance. During the 12-week exercise training programs, participants will be randomly assigned to a protein or placebo supplement group.

Study objective

Daily protein supplementation during long-term endurance exercise training augments the physiological adaptations to endurance exercise training.

Study design

Baseline and following 12 weeks of exercise training.

Intervention

Exercise training: During the 12-week exercise training program participants will complete three exercise sessions weekly. In the training programs continuous endurance exercise sessions will be alternated with interval exercise sessions.

Protein supplementation: All participants will be randomly assigned to the protein or placebo (isocaloric carbohydrate) group. The protein or placebo supplements will be ingested after each training session and each day before sleep.

Contacts

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Eligibility criteria

Inclusion criteria

• Male

• Age 18 and 40 years

• BMI < 30 kg/m2

• Untrained or recreationally active (i.e. performing sport activities on a non-competitive basis for a maximal duration of 6 hours per week).

• VO2max ≤ 55 ml●kg-1●min-1

Exclusion criteria

• Currently smoking

• Lactose intolerance and/or dairy protein allergy

• Severe allergy to nuts or intolerance to gluten, as supplements are produced in factory that may have used nuts or gluten previously

• Consumption of >21 alcoholic beverages per week

• Use of illicit drugs

• Use of antibiotics in the past month

• Medical condition that can interfere with the study outcome (i.e. cardiovascular disease, pulmonary disease, rheumatoid arthritis, orthopedic disorders, renal disease, liver disease, diabetes mellitus, inflammatory disease, cognitive impairment)

• Use of medications known to interfere with selected outcome measures (i.e. statins, fenofibrate, beta-blocker, corticosteroids)

• (Chronic) injuries of the locomotor system that can interfere with the intervention.

• Current participation in other biomedical research study.

Study design

Design

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

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	04-09-2017
Enrollment:	60
Type:	Anticipated

Ethics review

Positive opinion

Date:	07-09-2017
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

ID: 45348
Bron: ToetsingOnline
Titel:

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

No registrations found.

In other registers

Register	ID
NTR-new	NL6503
NTR-old	NTR6691
CCMO	NL60980.072.17
OMON	NL-OMON45348

Study results