# Protein and endurance exercise

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

| | |
|---|---|
| **Ethische beoordeling** | Positief advies |
| **Status** | Werving gestart |
| **Type aandoening** | - |
| **Onderzoekstype** | Interventie onderzoek |

## Samenvatting

### ID

NL-OMON21476

**Bron**
NTR

**Verkorte titel**
NutrEnd

**Aandoening**

Endurance exercise performance,

### Ondersteuning

**Primaire sponsor:** HAN University of Applied Sciences
**Overige ondersteuning:** Friesland Campina

### Onderzoeksproduct en/of interventie

### Uitkomstmaten

**Primaire uitkomstmaten**

VO2max (indirect calorimetry)

# Toelichting onderzoek

### Achtergrond van het onderzoek

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.

### Doel van het onderzoek

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

### Onderzoeksopzet

Baseline and following 12 weeks of exercise training.

### Onderzoeksproduct en/of interventie

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.

# Contactpersonen

## Publiek

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### Wetenschappelijk

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## Deelname eisen

### Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

• 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

### Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

• 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.

# Onderzoeksopzet

## Opzet

| | |
|---|---|
| Type: | Interventie onderzoek |
| Onderzoeksmodel: | Parallel |
| Toewijzing: | Gerandomiseerd |
| Blindering: | Dubbelblind |
| Controle: | Placebo |

## Deelname

Nederland

| | |
|---|---|
| Status: | Werving gestart |
| (Verwachte) startdatum: | 04-09-2017 |
| Aantal proefpersonen: | 60 |
| Type: | Verwachte startdatum |

# Ethische beoordeling

Positief advies

| | |
|---|---|
| Datum: | 07-09-2017 |
| Soort: | Eerste indiening |

# Registraties

## Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 45348
Bron: ToetsingOnline
Titel:

## Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

## In overige registers

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

# Resultaten