Training en eiwit om gezond ouder te worden

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Ethische beoordeling	Niet van toepassing
Status	Werving nog niet gestart
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON25434

Bron
Nationaal Trial Register

Aandoening

Sarcopenia, anabolic resistance, muscle protein synthesis.
Sarcopenie, anabole resistentie, spiereiwitsynthese.

Ondersteuning

Primaire sponsor: NUTRIM, Maastricht University
TI Food and Nutrition
Overige ondersteuning: TI Food and Nutrition

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Muscle protein synthesis rates

Toelichting onderzoek

Achtergrond van het onderzoek

Rationale: The progressive loss of skeletal muscle mass with aging, or sarcopenia, has a major impact on our health care system due to increased morbidity and a greater need for hospitalization and/or institutionalization. It is clearly established that a combination of a resistance exercise program and adequate dietary protein intake are both effective measures to stimulate protein synthesis and counteract sarcopenia. With regards to optimally stimulating muscle protein synthesis, it is also understood that the short time period immediately following a resistance exercise session is the most opportune time to ingest a bolus of dietary protein. What is less understood, however, is the optimal amount of dietary protein that is required to maximize the stimulation of post-exercise muscle protein synthesis in elderly individuals.

Objective: To identify the amount of dietary protein that will optimally stimulate post-exercise muscle protein synthesis in the older population.

Study design: double-blind, placebo-controlled intervention study

Study population: 60 healthy lean (BMI 18.5-30 kg/m2) older males (age: 55-80 y)

Intervention: A beverage (500 mL) containing milk protein in the amount of 0, 15, 30, 45 g protein or 15 g + 1.5 g leucine (n=12 per group) will be ingested immediately after a single resistance exercise session. The exercise bout will consist of a 5-minute warm-up on a cycle ergometer, followed by 3 sets of chest press and lat pulldown and 4 sets of leg-press and leg-extension. Muscle biopsies will be taken and blood will be drawn at several time points during the day.

Main study parameters/endpoints: Primary study parameters are the rates of muscle protein synthesis. Secondary study parameters include whole-body protein synthesis, breakdown, oxidation, and net balance.

Doel van het onderzoek

We hypothesize that ingesting 30 g of milk protein will have an optimal effect in stimulating post-exercise muscle protein synthesis when compared to 0, 15 and 45 g milk protein. In addition, we hypothesize that co-ingestion of 1.5 g additional free leucine with 15 g of milk protein will be as effective in stimulating post-exercise muscle protein synthesis compared to 30 g of milk protein.

Onderzoeksopzet

t=0 hrs drink, t=0 and t=6hrs muscle biopsy.

12 blood draws.

Onderzoeksproduct en/of interventie

Exercise bout and protein drink

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

- Healthy males
- Age between 55 and 80 y
- BMI between 18.5 and 30 kg/m2

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- Celiac disease
- Lactose intolerance
- Smoking
- Diabetes
- Cancer

• Cardiovascular Disease
• Donated blood within the last 3 months
• Diagnosed GI tract diseases
• Arthritic conditions
• A history of neuromuscular problems
• Any medications known to affect protein metabolism (i.e. corticosteroids, non-steroidal anti-inflammatories, or prescription strength acne medications).
• Participation in exercise program
• Hypertension, high blood pressure that is above 140/90 mmHg.

Onderzoeksopzet

Opzet

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

Deelname

Nederland

Status:	Werving nog niet gestart
(Verwachte) startdatum:	01-05-2014
Aantal proefpersonen:	75
Type:	Verwachte startdatum

Ethische beoordeling

Niet van toepassing

Soort:	Niet van toepassing

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 41601
Bron: ToetsingOnline
Titel:

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL4254
NTR-old	NTR4492
CCMO	NL47671.068.14
OMON	NL-OMON41601

Resultaten