Evaluation of boiled vs raw eggs for stimulating post-exercise muscle protein synthesis

Gepubliceerd: 07-09-2017 Laatst bijgewerkt: 18-08-2022

We hypothesize that the ingestion of boiled eggs will lead to significant higher rates of muscle protein synthesis compared to raw egg ingestion or a low-protein control meal.

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

Samenvatting

ID

NL-OMON23003

Bron
NTR

Aandoening

Muscle mass growth; which can be related to sarcopenia

Ondersteuning

Primaire sponsor: Maastricht University
Overige ondersteuning: Maastricht University

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Muscle protein synthesis

Toelichting onderzoek

Achtergrond van het onderzoek

Eggs are considered as a conventional “high-quality” dietary protein source as they contain all of the essential amino acids (EAA) and are highly digestible. Hence, the ingestion of eggs has been shown to stimulate skeletal muscle protein synthesis and is therefore considered as an optimal protein source to ingest after exercise. Eggs are generally boiled before consumption. However, they can also be ingested in other ways (e.g., raw). There is a lack of information in the way eggs might differ in their potential to stimulate skeletal muscle protein synthesis when ingested either boiled or raw. Therefore, the aim of the present study is to assess the capacity of egg protein either boiled or raw in stimulating post-exercise skeletal muscle protein synthesis and support protein anabolism in vivo in humans.

Doel van het onderzoek

We hypothesize that the ingestion of boiled eggs will lead to significant higher rates of muscle protein synthesis compared to raw egg ingestion or a low-protein control meal.

Onderzoeksopzet

Muscle biopsies will be taken at timepoints: 0, 2, 5 h after ingestion of the eggs or control meal

Onderzoeksproduct en/of interventie

Effect of raw vs boiled eggs ingestion vs low-protein control meal after exercise on muscle protein synthesis

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 18 and 35 y inclusive

BMI between 18.5 and 30 kg/m2

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Allergies to egg proteins

Smoking

Phenylketonuria

Diabetes Mellitus

Diagnosed GI tract disorders or 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).

Use of certain anticoagulants (use of thrombocyte aggregation inhibitors such as acetylsalicylic acid and carbasalaatcalcium is permitted. Use of other thrombocyte

aggregation inhibitors will be discussed with the responsible physician)

Blood donation within 2 months of study initiation

Hypertension (according to WHO criteria)

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	Gerandomiseerd
Blindering:	Open / niet geblindeerd
Controle:	Geneesmiddel

Deelname

Nederland

Status:	Werving gestopt
(Verwachte) startdatum:	01-12-2017
Aantal proefpersonen:	45
Type:	Werkelijke startdatum

Voornemen beschikbaar stellen Individuele Patiënten Data (IPD)

Wordt de data na het onderzoek gedeeld: Nog niet bepaald

Ethische beoordeling

Positief advies

Datum:	07-09-2017
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

Register	ID
NTR-new	NL6506
NTR-old	NTR6694
Ander register	METC azM/UM : METC173030

Resultaten

Samenvatting resultaten
n/a