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

No registrations found.

Ethical review	Positive opinion
Status	Recruitment stopped
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON23003

Source
NTR

Health condition

Muscle mass growth; which can be related to sarcopenia

Sponsors and support

Primary sponsor: Maastricht University
Source(s) of monetary or material Support: Maastricht University

Intervention

Outcome measures

Primary outcome

Muscle protein synthesis

Secondary outcome

Plasma amino acid concentrations

Study description

Background summary

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.

Study objective

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.

Study design

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

Intervention

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

Contacts

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Eligibility criteria

Inclusion criteria

Healthy males

Age between 18 and 35 y inclusive

BMI between 18.5 and 30 kg/m2

Exclusion criteria

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)

Study design

Design

Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Open (masking not used)
Control:	Active

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	01-12-2017
Enrollment:	45
Type:	Actual

IPD sharing statement

Plan to share IPD: Undecided

Ethics review

Positive opinion

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

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

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

No registrations found.

In other registers

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

Study results

Summary results
n/a