The effect of blood flow restriction with and without resistance exercise on muscle protein synthesis

No registrations found.

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

Summary

ID

NL-OMON24024

Source
NTR

Brief title
BFR study

Health condition

blood flow restriction, resistance exercise, muscle protein synthetic rate

Sponsors and support

Primary sponsor: NUTRIM
Source(s) of monetary or material Support: STW

Intervention

Outcome measures

Primary outcome

Muscle protein synthesis (MPS) rate

Secondary outcome

The early (0-2h) and late (2-5h) muscle protein synthesis rates

Study description

Background summary

The combined application of blood flow restriction and low load resistance exercise has been found to stimulate muscle protein synthetic rate to a similar extent as the traditional high load resistance exercise without blood flow restriction. However, it is still unclear whether blood flow restriction alone (without exercise) is a strong enough stimulus to significantly increase muscle protein synthesis.

The main aim of the current study will be to assess the effect of acute blood flow restriction and blood flow restriction combined with resistance exercise on the muscle protein synthetic rate in healthy young male subjects

Study design

The early (0-2h), late (2-5h) and total (0-5h) muscle protein synthesis

Intervention

Blood flow restriction of lower extremity with or without low load resistance exercise

Contacts

Public
School of Nutrition and Translational Research in Metabolism (NUTRIM)

J. Nyakayiru
Maastricht University Medical Centre+ P.O. Box 616

Maastricht 6200 MD
The Netherlands
+31 43 388 1617
Scientific
School of Nutrition and Translational Research in Metabolism (NUTRIM)

J. Nyakayiru
Maastricht University Medical Centre+ P.O. Box 616

Maastricht 6200 MD
The Netherlands
+31 43 388 1617

Eligibility criteria

Inclusion criteria

-Males - Aged between 18-35 years - Healthy - 18.5≤BMI ≤30 kg/m2

Exclusion criteria

- Smoking - Resistance exercise >1 session/week - Sports/exercise >3 session/week - Lactose intolerant - A history of neuromuscular problems - Recent (<1 y) participation in amino acid tracer studies - Individuals on any medications known to affect protein metabolism (i.e. corticosteroids, non-steroidal anti-inflammatories, or prescription acne medications).

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):	01-07-2016
Enrollment:	20
Type:	Actual

Ethics review

Positive opinion

Date:	30-06-2016
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

ID: 43514
Bron: ToetsingOnline
Titel:

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

No registrations found.

In other registers

Register	ID
NTR-new	NL5727
NTR-old	NTR5914
CCMO	NL56003.068.15
OMON	NL-OMON43514

Study results