Evaluation of different methods to measure muscle mass and strength in a population with class II/III obesity: A Cross-Sectional Study

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Finding methods that are more accessible and cheaper, can be helpful in tracking changes in muscle mass during weight loss in these patients.

Ethische beoordeling	Positief advies
Status	Werving gestart
Type aandoening	-
Onderzoekstype	Observationeel onderzoek, zonder invasieve metingen

Samenvatting

ID

NL-OMON28423

Bron
NTR

Verkorte titel
MUSCLE-study

Aandoening

Obesity

Ondersteuning

Primaire sponsor: 1. University of Groningen/Campus Fryslân 2. Medical Center Leeuwarden 3. Center Obesity Northern Netherlands
Overige ondersteuning: 1. University of Groningen/Campus Fryslân 2. Medical Center Leeuwarden 3. Center Obesity Northern Netherlands

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

correlation between muscle mass measured by DEXA and one of the parameters.

Toelichting onderzoek

Achtergrond van het onderzoek

Background: Weight loss therapies should aim to reduce fat mass while preserving both muscle mass and muscle strength. Consequently, there is a need for validated methods to measure muscle mass and strength. Current methods are either expensive and require trained technicians, or have not been validated in populations with class II/III obesity (BMI: 35-45 kg/m2). Therefore, the aim of this study is to validate other methods or a combination of methods to measure muscle mass in a population with class II/III obesity.
Secondary Objectives:
1. To assess which combination of methods for measuring muscle mass and muscle strength is most reliable compared to the DEXA scan in a population with class II/III obesity.
2. To assess the variance in muscle mass measured by DEXA in a population with class II/III obesity.
3. To assess the influence of nutrition, exercise and hormones on muscle mass.

Study design: This study is a prospective cross-sectional study and will take place in the Center Obesity Northern Netherlands (CON) at the Medical Center Leeuwarden (MCL).
Study population: The population will consist of 120 people, either patients scheduled for a first intake at the Center Obesity Northern Netherlands (CON) or people invited through ads in local newspapers. All patients people between 18 and 65 years of age and a body mass index (BMI) above 40 kg/m2 or above 35 kg/m2 with obesity-related comorbidities are eligible to participate in this study.
Main parameters: muscle mass measured by DEXA, ultrasound (US), bioelectrical impedance analysis (BIA), anthropometric methods and 24-hour urine creatinine.
Main endpoint: correlation between muscle mass measured by DEXA and one of the parameters.
Secondary parameters: muscle strength measured by handgrip strength; biochemical measures; protein intake; and physical activity measured with movement sensors and short questionnaire to assess health-enhancing physical activity (SQUASH).
Secondary endpoint: the correlation between multiple parameters for muscle mass and muscle strength and the muscle mass measured by DEXA.

Doel van het onderzoek

Finding methods that are more accessible and cheaper, can be helpful in tracking changes in muscle mass during weight loss in these patients.

Onderzoeksopzet

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Contactpersonen

Publiek

Medisch Centrum Leeuwarden
Dionne Sizoo

0582861968

Wetenschappelijk

Medisch Centrum Leeuwarden
Dionne Sizoo

0582861968

Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

- Between 18 and 65 years of age.
- BMI above 40 kg/m2 or above 35 kg/m2 with obesity-related comorbidities.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- History of bariatric surgery
- Inability to perform physical tests e.g.:
o Conditions limiting them from physical test
o Inability to walk or stand
- Inability to communicate in either Dutch or English
- Weight over 204 kilograms (due to limitations of the DEXA)
- BMI above 50 kg/m2
- Pregnancy

- Pacemaker

Onderzoeksopzet

Opzet

Type:	Observationeel onderzoek, zonder invasieve metingen
Onderzoeksmodel:	Anders
Toewijzing:	N.v.t. / één studie arm
Blindering:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Werving gestart
(Verwachte) startdatum:	01-06-2020
Aantal proefpersonen:	120
Type:	Verwachte startdatum

Voornemen beschikbaar stellen Individuele Patiënten Data (IPD)

Wordt de data na het onderzoek gedeeld: Nee

Ethische beoordeling

Positief advies

Datum:	16-10-2019
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 54850
Bron: ToetsingOnline

Titel:

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL8086
CCMO	NL71609.099.19
OMON	NL-OMON54850

Resultaten