

Thermoregulatory behaviour and mild heat acclimation

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1. There are differences of thermoregulatory behavior and thermo-physiology between healthy lean and obese subjects. 2. Healthy lean and obese individuals can be classified based on individual thermal preference, which is a result of distinct...

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

Samenvatting

ID

NL-OMON20162

Bron

NTR

Verkorte titel

TRB_ACCL

Aandoening

human thermoregulation, thermoregulatory behaviour, thermophysiology, mild heat, mild heat acclimation, acclimation

Ondersteuning

Primaire sponsor: Maastricht University Medical Center+

Overige ondersteuning: Agentschap NL, EOS LT project

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

thermoregulatory behavior, thermal sensation, thermal comfort, thermo-physiological

parameters (energy expenditure, core temperature, skin temperature, skin blood perfusion, local sweat rate, total sweat rate, skin conductance, shivering) and body composition

Toelichting onderzoek

Doel van het onderzoek

1. There are differences of thermoregulatory behavior and thermo-physiology between healthy lean and obese subjects.
2. Healthy lean and obese individuals can be classified based on individual thermal preference, which is a result of distinct thermoregulatory behavior and thermo-physiology.
3. A seven-day mild heat acclimation affects thermal physiology, alertness and cardiovascular health of healthy lean and obese subjects.

Onderzoeksopzet

The study will consist of 11 testing days at the laboratory (Figure 1). Day 1 will consist of a screening. During day 2 and 3, baseline measurements of the so-called SWITCH protocol (experimental protocol to measure thermoregulatory behavior) as well as protocol TNZwarm and TNZcold (thermo-neutral zone measurements) will take place. TNZwarmpre and SWITCHpre will be carried out at the same day (day 2) and TNZcoldpre at a separate day (day 3), followed by the first mild heat exposure. During the next 6 days, participants will visit the laboratory for an acclimation period that consists of 6.5h mild heat exposure per day. After completing day seven of the acclimation, participants will undergo protocol TNZwarm (TNZwarmpost), SWITCH (SWITCHpost) and TNZcold (TNZcoldpost) for a second time.

Onderzoeksproduct en/of interventie

The study will take place between March 2014 and December 2015. The measurements will be conducted at the Metabolic Research Unit (MRUM) of Maastricht University. The study will consist of 11 testing days at the laboratory (Figure 1). Day 1 will consist of a screening. During day 2 and 3, baseline measurements of the so-called SWITCH protocol (experimental protocol to measure thermoregulatory behavior) as well as protocol TNZwarm and TNZcold (thermo-neutral zone measurements) will take place. TNZwarmpre and SWITCHpre will be carried out at the same day (day 2) and TNZcoldpre at a separate day (day 3), followed by the first mild heat exposure. During the next 6 days, participants will visit the laboratory for an acclimation period that consists of 6.5h mild heat exposure per day. After completing day seven of the acclimation, participants will undergo protocol TNZwarm (TNZwarmpost), SWITCH (SWITCHpost) and TNZcold (TNZcoldpost) for a second time.

Contactpersonen

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

Caucasian healthy lean volunteers

- Generally healthy
- male or female
- Age: 18 to 35 years
- BMI: 20-25 kg/m²
- Women using Microgynon 30 or levonorgestrel/ethinylestradiol

Inclusion criteria obese volunteers

- Generally healthy

- male or female
- Age 18 to 35 years
- BMI 28-35 kg/m²
- Women using Microgynon 30 or levonorgestrel/ethinylestradiol

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- Participants that do not want to be informed about accidental medical findings, which might occur during the study.

o If participants do not want us to inform their general practitioners about unexpected medical findings, they cannot participate in the study.

- Participate in physical activity more than 2x/week

o We will exclude individuals that participate in endurance sports (like swimming, running, cycling) more than two hours per week. Endurance-trained athletes seem to have differing thermo-physiology, which has, amongst others, been recently confirmed by another study of our laboratory (Vosselman et al, submitted).

- Participation in another biomedical study within 1 month before the first screening visit

- Diabetes mellitus type I and II

- Pregnancy

- Unstable weight (weight gain or loss > 5 kg in the last three months)

- Hypertension (systolic/diastolic blood pressure >140/90)

- Hypotension (systolic/diastolic blood pressure <90/60)

- General feeling of illness at day of experiment

- (History of) cardiovascular diseases

- Contraindications for the telemetric pill:

o In the presence of any known or suspected obstructive disease of the gastrointestinal tract,

including but not limited to diverticulitis and inflammatory bowel disease

o A history of disorders or impairment of the gag reflex

o Previous gastrointestinal surgery

o Hypo motility disorders of the gastrointestinal tract including but not limited to Ileus

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	N.v.t. / één studie arm
Blinding:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland	
Status:	Werving nog niet gestart
(Verwachte) startdatum:	01-06-2014
Aantal proefpersonen:	48
Type:	Verwachte startdatum

Ethische beoordeling

Niet van toepassing	
Soort:	Niet van toepassing

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 40666

Bron: ToetsingOnline

Titel:

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL4388
NTR-old	NTR4519
CCMO	NL47779.068.14
OMON	NL-OMON40666

Resultaten