

Mild heat and insulin sensitivity

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We hypothesize that in pre-diabetic participants (impaired fasting glucose, IFG and/or impaired glucose tolerance, IGT), passive mild heat acclimation (35°C) will improve insulin signalling and affect heat shock protein 72 expression, which...

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

Samenvatting

ID

NL-OMON27050

Bron

NTR

Verkorte titel

HeatIn

Aandoening

Prediabetes

Ondersteuning

Primaire sponsor: Maastricht University Medical Center+

Overige ondersteuning: Maastricht University Medical Center+, Faculty of Health, Medicine and Life Sciences

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

- o Insulin sensitivity as measured by a 1-step hyperinsulinemic euglycemic clamp
- o Insulin signalling and heat shock protein expression in muscle tissue

Toelichting onderzoek

Doel van het onderzoek

We hypothesize that in pre-diabetic participants (impaired fasting glucose, IFG and/or impaired glucose tolerance, IGT), passive mild heat acclimation (35°C) will improve insulin signalling and affect heat shock protein 72 expression, which might be involved in the changes in insulin resistance. We furthermore hypothesize that passive mild heat acclimation will alter thermophysiological parameters (energy expenditure, total sweat loss, sweat rate, core body temperature, skin temperature distribution, skin blood flow), cardiovascular parameters and subjective perception of the thermal environment in pre-diabetic participants.

Onderzoeksopzet

pre and post intervention (days 1, 2 11 and 12)

Onderzoeksproduct en/of interventie

The intervention consists of 10 days (2 half days and 8 full days) of passive mild heat acclimation to 35°C.

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

- o Men
- o Caucasian race
- o Age 40-70 years
- o BMI between 25 and 30 kg/m²
- o Steady dietary habits
- o Generally healthy, no medication use that interferes with metabolism. If volunteers need medication (e.g. statin drugs, NSAIDs), it will be reviewed with the dependent physician on individual basis.
- o Impaired fasting glucose levels between 6.1 and 7.0mmol/L and/or blood glucose values >7.8-11.1mmol/L 2h after sugar drink consumption during OGTT (screening)

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- o Fasting plasma glucose >7.0 mmol/L
- o Haemoglobin <8.4mmol/L
- o No signs of active uncontrolled hypertension, liver or kidney malfunction
- o Cardiac problems and cardiovascular diseases, such as angina pectoris, cardiac infarction and arrhythmias
- o Any medical condition requiring treatment and/or medication that interferes with investigated parameters. All medical conditions/medications will be reviewed with the dependent physician and in-/exclusion will be decided on individual basis
- o Unstable body weight (weight gain or loss >3kg in the past three months)
- o Participation in another biomedical study within 1 month prior to screening visit

- o Participants, who do not want to be informed about unexpected medical findings, or do not wish that their treating physician will be informed, cannot participate in this study
- o Blood donation three month prior to study and three month after finishing study

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Anders
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:	01-04-2016
Aantal proefpersonen:	12
Type:	Verwachte startdatum

Ethische beoordeling

Niet van toepassing	
Soort:	Niet van toepassing

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 43282
Bron: ToetsingOnline
Titel:

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL5590
NTR-old	NTR5696
CCMO	NL56876.068.16
OMON	NL-OMON43282

Resultaten