

# CARDIOMETABOLIC RISK OF PROLONGED SITTING IN YOUNG ADULTS \* A PILOT STUDY

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Primary Objective: To investigate the feasibility of studying of the effects of 6 days of predominantly prolonged sitting on cardiometabolic health in young adults. Secondary Objective: To collect preliminary data on the effects of 6 days of...

<b>Ethical review</b>	Approved WMO
<b>Status</b>	Recruitment stopped
<b>Health condition type</b>	Glucose metabolism disorders (incl diabetes mellitus)
<b>Study type</b>	Observational invasive

## Summary

### ID

NL-OMON38241

### Source

ToetsingOnline

### Brief title

CARDIOMETABOLIC RISK OF SITTING - A PILOT

### Condition

- Glucose metabolism disorders (incl diabetes mellitus)

### Synonym

Indicators of dysfunction of glucose and triglyceride metabolism: elevated blood plasma levels of glucose, insulin and triglycerides.

### Research involving

Human

### Sponsors and support

**Primary sponsor:** Vrije Universiteit Medisch Centrum

**Source(s) of monetary or material Support:** Ministerie van OC&W

## Intervention

**Keyword:** BLOOD, CARDIOMETABOLIC RISK, PROLONGED SITTING, YOUNG ADULTS

## Outcome measures

### Primary outcome

The main outcome measures of this pilot study are blood pressure and plasma levels of glucose, insulin, triglycerides and NEFA in all blood samples.

Secondary outcome of this pilot study is the autonomic nerve

### Secondary outcome

N.A.

## Study description

### Background summary

Recent preliminary experimental findings in obese adults on the acute effects of prolonged sitting show a detrimental increase in triglycerides prolonged sitting during a 7-hr sitting day compared to a non-sitting day. Breaking up the 7-hr sitting every 20min can attenuate these detrimental acute effects on glucose metabolism. In the first part of our pilot study we additionally demonstrated in healthy young adults, that hourly interruptions in sitting can also attenuate these detrimental acute effects. However, no evidence exists on the detrimental effects of repeated uninterrupted sitting. This information is highly necessary to obtain insight in the detrimental health effects of a sedentary lifestyle, e.g. reflecting daily life.

### Study objective

Primary Objective:

To investigate the feasibility of studying of the effects of 6 days of predominantly prolonged sitting on cardiometabolic health in young adults.

Secondary Objective:

To collect preliminary data on the effects of 6 days of predominantly prolonged sitting on cardiometabolic health in young adults.

## Study design

Pilot study involving two laboratory sitting days, similar to the prolonged sitting condition in the first part of this pilot study. In addition, each participants will complete 6 days of 'lifestyle sitting', consisting of reducing the interruptions in sitting time as much as possible, in between the two sitting days.

## Study burden and risks

Participants will visit the laboratory on two occasions (two laboratory sitting days), having fasted for at least 10 hours. Anthropometrics (e.g. weight, height, waist- and hip circumference, body fat percentage) will be measured at baseline. Venous blood will be collected at baseline and hourly during the 8-hour laboratory days (9 samples in total for each sitting day), using an in-dwelling catheter. At similar time points blood pressure will be measured using an automatic oscillometric method. Participants will complete 6 days of lifestyle sitting in between the two laboratory sitting days. After completion of this pilot study, participant will be motivated to minimize their time spent on prolonged sitting and increase their time spent on physical activity. They will receive a pedometer, which they can keep, in order to increase motivation. There is no risk associated with participants in this pilot experiment.

## Contacts

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## Trial sites

## Listed location countries

Netherlands

## Eligibility criteria

### Age

Adults (18-64 years)

Elderly (65 years and older)

### Inclusion criteria

Being apparently healthy, having an active lifestyle (i.e. at least 30 minutes moderate to vigorous physical activity at each day of the week), aged 18-23, Dutch or English speaking, and signed informed consent.

### Exclusion criteria

Known physical activity contraindications, major illness/injury (acute or chronic) or physical problems that may limit the ability to perform the experiment.

## Study design

### Design

Study type:	Observational invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Basic science

### Recruitment

NL	
Recruitment status:	Recruitment stopped
Start date (anticipated):	02-12-2011

Enrollment:	10
Type:	Actual

## Ethics review

Approved WMO	
Date:	03-08-2011
Application type:	First submission
Review commission:	METC Amsterdam UMC
Approved WMO	
Date:	10-01-2012
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO	
Date:	20-04-2012
Application type:	Amendment
Review commission:	METC Amsterdam UMC

## 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
CCMO	NL37053.029.11