

# Functional analysis of molecular mechanisms underlying parasympathetic regulation of human adipose

Published: 25-02-2010

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To characterize the molecular mechanisms underlying parasympathetic regulation of adipose tissue.

<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 non invasive

## Summary

### ID

NL-OMON56908

### Source

ToetsingOnline

### Brief title

Parasympathetic regulation of adipose tissue

### Condition

- Glucose metabolism disorders (incl diabetes mellitus)
- Lipid metabolism disorders

### Synonym

diabetes, Obesitas

### Research involving

Human

### Sponsors and support

**Primary sponsor:** Leids Universitair Medisch Centrum

**Source(s) of monetary or material Support:** CMSB2

## Intervention

**Keyword:** adipocytes, adipose tissue, obesity, type 2 diabetes mellitus

## Outcome measures

### Primary outcome

The adipose tissue specimens will be used for the determination of the following parameters: mRNA measurements by real time PCR, protein identification by western blot and immunohistochemistry, glycerol release (lipolysis) and cytokine release from isolated adipocytes, adipocyte size, cell type identification in adipose tissue by FACS analysis, signal transduction analysis in isolated adipocytes using specific agonists and antagonists in vitro.

### Secondary outcome

not applicable

## Study description

### Background summary

Obesity is a serious health problem with epidemic proportions. Fatty acids and adipokines that are released by the expanding adipose tissue mass play a key role in the development of type 2 diabetes and cardiovascular diseases. However, the molecular mechanisms responsible for adipose tissue (dys)function have yet to be fully characterized. This study will investigate the molecular mechanisms underlying parasympathetic regulation of adipose tissue.

### Study objective

To characterize the molecular mechanisms underlying parasympathetic regulation of adipose tissue.

## Study design

In human subcutaneous and visceral adipose tissue and adipocytes

- 1) receptors of parasympathetic neurotransmitters or neuropeptides will be identified,
- 2) signaling pathways by which the neurotransmitters exert their effects will be investigated in vitro,
- 3) effects of these signaling pathways on metabolic and endocrine function will be studied in vitro.

## Study burden and risks

There is no burden for the patient other than the surgery for their disorder. Within 30 minutes after the abdominal wall is opened for surgery a specimen of ~5-g of subcutaneous and visceral adipose tissue will be obtained. There is no risk associated with the removal of the tissue.

## Contacts

### Public

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### Scientific

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## Trial sites

### Listed location countries

Netherlands

## Eligibility criteria

## Age

Adults (18-64 years)

Elderly (65 years and older)

## Inclusion criteria

Patients referred for open elective abdominal surgery for hernia or gall stones which are healthy except for surgical diagnosis

## Exclusion criteria

Any significant infectious disease

Any significant chronic disease

Minors aged under 18 y

Incapacitated adults

## Study design

### Design

**Study type:** Observational non invasive

Masking: Open (masking not used)

Control: Uncontrolled

Primary purpose: Other

### Recruitment

NL

Recruitment status: Recruitment stopped

Start date (anticipated): 10-10-2010

Enrollment: 60

Type: Actual

## Ethics review

Approved WMO

Date: 25-02-2010

Application type:

First submission

Review commission:

METC Leids Universitair Medisch Centrum (Leiden)

## 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	NL29149.058.09