# Morfologie en functie van de hypothalamus na glucose inname door proefpersonen voor en na het gebruik van een hoogcalorisch dieet gedurende vijf dagen.

No registrations found.

**Ethical review** Positive opinion **Status** Recruiting

**Health condition type** -

Study type Interventional

# **Summary**

#### ID

NL-OMON21031

Source

NTR

**Brief title** 

N/A

#### **Health condition**

diabetes type 2 suikerziekte ouderdomssuikerziekte diabetes

## **Sponsors and support**

**Primary sponsor:** Prof. dr. H. Pijl, internist-endocrinoloog **Source(s) of monetary or material Support:** CMSB

#### Intervention

#### **Outcome measures**

#### **Primary outcome**

- 1. FMRI scans of hypothalamus;
- 2. Polysomnography/MSLT.

#### **Secondary outcome**

- 1. Metabolomics;
- 2. Inflammatory markers;
- 3. Oral glucose tolerance test;
- 4. Gut hormones.

# **Study description**

#### **Background summary**

It has long been recognized that the hypothalamus plays a crucial role in metabolism. It is thought that the hypothalamus and brain stem get input from the periphery about the available food sources and that, thereafter, efferent neuroendocrine systems come in action to regulate food intake.

Several groups have focused on the effect of glucose ingestion on blood oxygen level-dependent (BOLD) signals in the hypothalamus (detected by MRI). Although there have been some contradicting papers, most studies found that the BOLD signal is diminished after the ingestion of glucose.

In 1999 Matsuda et al. looked at the effect of glucose ingestion in obese people on BOLD signals in the hypothalamus. The results were compared to healthy controls. It was found that the hypothalamic (paraventricular and ventromedial nuclei) BOLD signal decreases significantly in healthy people compared to obese people.

Similarly, in healthy individuals the BOLD signal diminishes after the ingestion of a glucose

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load. In diabetic patients however, the BOLD signal does not decline. This suggests that the hypothalamic response in these patients is altered – which could mean that metabolic and endocrine cues about the metabolic state are erroneously interpreted in diabetic patients.

Therefore, in this study we will evaluate the hypothesis that overfeeding disrupts the hypothalamic response to glucose ingestion in healthy men.

#### **Study objective**

Overfeeding disrupts the hypothalamic response to glucose ingestion in healthy men.

#### Study design

28-02-2009 start of study.

#### Intervention

High caloric diet during 6 days.

### **Contacts**

#### **Public**

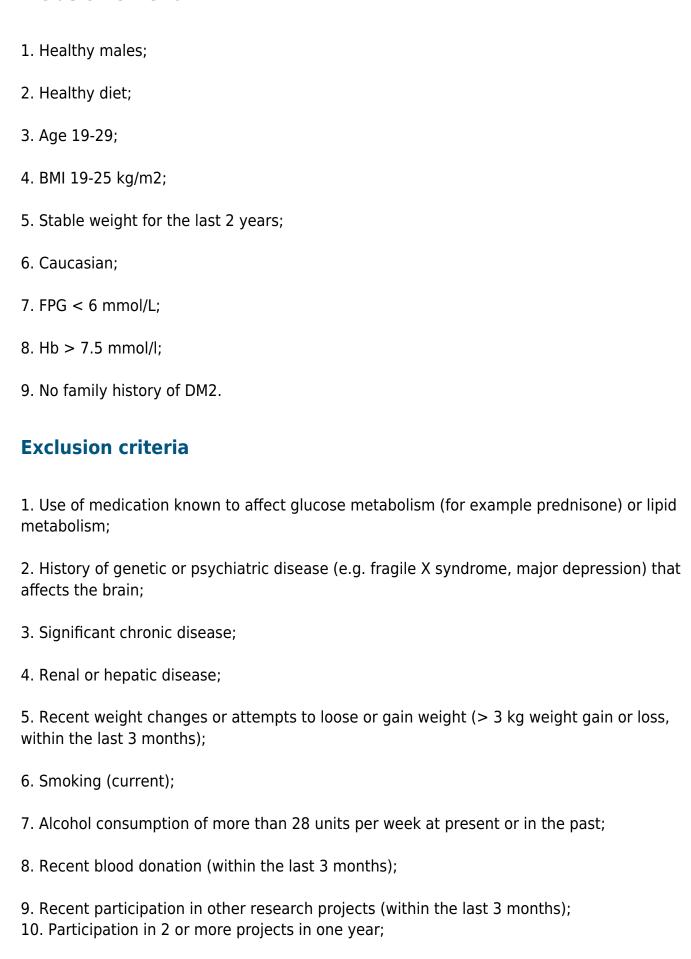
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#### Scientific

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# **Eligibility criteria**

#### Inclusion criteria



11. Sleep disorders;
12. Contra-indication to MRI scanning:
A. Claustrophobia;
B. Pacemakers and defibrillators;
C. Nerve stimulators;
D. Intracranial clips;
E. Intraorbital or intraocular metallic fragments;
F. Cochlear implants;
E. Ferromagnetic implants.

# Study design

## **Design**

Study type: Interventional

Intervention model: Crossover

Allocation: Randomized controlled trial

Masking: Open (masking not used)

Control: Active

#### Recruitment

NL

Recruitment status: Recruiting
Start date (anticipated): 28-02-2009

Enrollment: 10

Type: Anticipated

# **Ethics review**

## Positive opinion

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Date: 27-03-2009

Application type: First submission

# **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

NTR-new NL1642 NTR-old NTR1740

Other METC LUMC: P08.195

ISRCTN wordt niet meer aangevraagd

# **Study results**

#### **Summary results**

N/A