# Exogenous creatine kinase and platelet aggregation

Published: 04-06-2014
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In this study, we will assess the reproducibility of the observed dose-dependent inhibiting effect of CK on platelet aggregation.

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| **Ethical review** | Approved WMO |
| **Status** | Recruitment stopped |
| **Health condition type** | Coronary artery disorders |
| **Study type** | Observational invasive |

## Summary

### ID

NL-OMON40674

**Source**
ToetsingOnline

**Brief title**
Exogenous CK and platelets

### Condition

- Coronary artery disorders
- Embolism and thrombosis

**Synonym**
Bleeding, platelet aggregation disorder

**Research involving**
Human

### Sponsors and support

**Primary sponsor:** Academisch Medisch Centrum
**Source(s) of monetary or material Support:** Ministerie van OC&W

## Intervention

**Keyword:** bleeding, creatine kinase, creatine phosphate, platelet aggregation

## Outcome measures

### Primary outcome

ADP induced platelet aggregation (area under curve and final aggregation) with

different concentrations of creatine kinase added in vitro.

### Secondary outcome

Endogenous plasma CK activity levels.

# Study description

### Background summary

People of African descent are reported to have attenuated platelet aggregation and high creatine kinase (CK) activity. Creatine kinase affects the ADP/ATP ratio through catalysis of the reaction: ADP + creatine phosphate (CrP) ó ATP + creatine. A greater flux through the reaction may lead to lower ADP and affect platelet aggregation. In a pilot study, we found that adding human CK to platelet-rich plasma attenuated ADP induced platelet aggregation.

### Study objective

In this study, we will assess the reproducibility of the observed dose-dependent inhibiting effect of CK on platelet aggregation.

### Study design

Observational study.

### Study burden and risks

The participants will attend once. After a short questionnaire, 6 tubes of blood will be drawn for the measurement of the endogenous plasma CK activity level and the platelet aggregation tests. With a low burden to the participant, the resulting data might help explain clinically relevant ethnic differences in platelet aggregation.

# 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

Women between 18 and 50 years old, with no known disease or drug use.

## Exclusion criteria

Current disease, personal and family history of bleeding or coagulation abnormalities, intensive exercise in the three days prior to participation, drug use, use of acetylsalicylic acid or other non-steroidal anti-inflammatory drugs (NSAIDs) in the two weeks prior to participation, usage of the supplement creatine (or a creatine analogue), current smoking.

# Study design

## Design

**Study type:** Observational invasive

| | |
|---|---|
| Masking: | Open (masking not used) |
| Control: | Uncontrolled |
| Primary purpose: | Basic science |

## Recruitment

NL

| | |
|---|---|
| Recruitment status: | Recruitment stopped |
| Start date (anticipated): | 12-06-2014 |
| Enrollment: | 6 |
| Type: | Actual |

# Ethics review

Approved WMO

| | |
|---|---|
| Date: | 04-06-2014 |
| Application type: | First submission |
| 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 | NL48880.018.14 |