# platelets under pressure

No registrations found.

Ethical review	Positive opinion
Status	Pending
Health condition type	-
Study type	Interventional

# **Summary**

### ID

NL-OMON23327

Source NTR

#### **Health condition**

rapid transfusion (snel transfusie), platelet function (platjes functie), heat application (wamrte aplicatie), pressure application (druk applicatie)

### **Sponsors and support**

Primary sponsor: Maastricht University Medical Center Source(s) of monetary or material Support: no external funding

### Intervention

### **Outcome measures**

#### **Primary outcome**

In vitro platelet function measurement assessed by multiple impedance aggregometrie (MEA-Multiplate Multiple aggregometer Dynabyte Medical Munich, Germany)) and light transmission aggragometrie (LTA-platelet aggregometer PAR-4 Hart Biologicals Ltd Hartlepool, UK)). Both function tests will be performed before and after the test condition (see above).

#### Secondary outcome

microparticle content measured by ELISA (ZYMUPHEN, MP-activity kit, Aniara, Mason, Ohio,

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USA)

pH, glucose and lactate measured in the Chiron rapid lab 850 blood gas analyser (Siemens Healthcare Diagnostics, Breda, the Netherlands)

# **Study description**

#### **Background summary**

In emergency clincical condition transfusion of blood products is frequently enhanced by applying pressure and warmth or the combination of both to increase the speed of tansfusion. However platelet concentrates are known to be the most fragile blood products which might might be disrupted in function by applying warmth, pressure or the combination of both. Aim of the study is to investigate the functional status of platelet concentrates before and after applying pressure or warmth (37-39 degree Celsius) or the combination of both. The in vitro function will be assessed by aggregometrie (impedance and light transmission) and by surrogate parameters (microparticles, glucoes, pH and lactate).

#### **Study objective**

pressure, heat and the combination of both do not negatively influence platelet function.

#### Study design

before and after applying of the experimental conditions

#### Intervention

We mimick the rapid infusion of blood products in urgent situations where red packed cells are warmed and infusied under pressure by applying

- 1. pressure (150 mmHg)
- 2. heat (37-39 degree Celsius)
- 3. combination of both

on platelet concentrates through a mock system.

# Contacts

#### Public

dept of anesthesiology MUMC+ P.Debeyelaan 25

M.D. Lancé Maastricht 6202 AZ The Netherlands **Scientific** dept of anesthesiology MUMC+ P.Debeyelaan 25

M.D. Lancé Maastricht 6202 AZ The Netherlands

# **Eligibility criteria**

### **Inclusion criteria**

10 platelet concentrates with the same age

### **Exclusion criteria**

concentrate with different ages

# Study design

### Design

Study type:	Interventional
Intervention model:	Crossover
Allocation:	Non controlled trial
Masking:	Open (masking not used)
Control:	N/A , unknown

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# Recruitment

NL	
Recruitment status:	Pending
Start date (anticipated):	14-10-2013
Enrollment:	10
Туре:	Anticipated

# **Ethics review**

Positive opinion	
Date:	08-10-2013
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	NL4046
NTR-old	NTR4235
Other	: METC 13-4-087
ISRCTN	ISRCTN wordt niet meer aangevraagd.

# **Study results**

#### **Summary results**

N/A