Verification of the Multi Photodiode Array (MPA-16)

Published: 21-05-2012
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The Objective of this study is to validate the new developed sensor fotoplethysmografie (MPA-16), that later can be used to better understand the local vasculature. And determining the feasibility / applicability of this test setup for patients.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Other condition
Study type	Observational non invasive

Summary

ID

NL-OMON38327

Source
ToetsingOnline

Brief title
Verification of the MPA-16

Condition

- Other condition

Synonym
n.a.

Health condition

Verificatie op gezonde vrijwilligers

Research involving
Human

Sponsors and support

Primary sponsor: Erasmus MC, Universitair Medisch Centrum Rotterdam
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: Photoplethysmography (PPG), Pulse wave velocity (PWV), Vascular transit time (VTT)

Outcome measures

Primary outcome

The main study parameter is the reliability and repeatability of the

measurement with the MPA-16.

Secondary outcome

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Study description

Background summary

Photoplethysmography (PPG) is an optical technique for volumetric measuring of an organ. PTT is determined as the time interval between the R-wave of the electrocardiogram (ECG) to the foot of the photoplethysmogram. The PTT consists of two components: the pre-ejection period (PEP), and the vascular transit time (VTT). The VTT is the time for an arterial pressure wave to cover a predefined distances. The VTT is known to be related to the local compliance of the artery. Therefore the VTT can be used to assess the effect of diseases on the peripheral vascular compliance and for example the vasomotor response. The new developed sensor consists of a photodiode-array with 16 photodiodes with a total distance of 12.5mm. The light source is a RED-led and an IR-led. Each of the photodiode elements within the array measures a local PPG signal.

Study objective

The Objective of this study is to validate the new developed sensor fotoplethysmografie (MPA-16), that later can be used to better understand the local vasculature. And determining the feasibility / applicability of this test

setup for patients.

Study design

A observational, single center study conducted in the Erasmus Medical Center.

Study burden and risks

The measurents are without risk, they are all non-invasive.

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

Healthy volunteers, aged 20-30 years old.

Exclusion criteria

o Cardiovascular diseases
o Peripheral vascular disease
o Diabetes
o Muscle or skeletal injuries in upper and lower limb

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):	21-05-2012
Enrollment:	25
Type:	Actual

Ethics review

Approved WMO Date:	21-05-2012
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	15-05-2014
Application type:	Amendment

Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	25-08-2014
Application type:	Amendment
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)

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	NL37054.078.11