MRI protocol development for all field strengths

Published: 04-12-2015
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The development and optimization of new and existing MRI protocols and processing techniques required for advanced anatomical and functional imaging in the research and clinical setting.

Ethical review	Approved WMO
Status	Recruiting
Health condition type	Other condition
Study type	Observational invasive

Summary

ID

NL-OMON50552

Source
ToetsingOnline

Brief title
MRI protocol development

Condition

- Other condition

Synonym
Protocol development; Image processing

Health condition

geen specifieke aandoening te benoemen. de ontwikkelde protocollen en beeldverwerkingstechnieken kunnen voor verschillende aandoeningen worden gebruikt.

Research involving
Human

Sponsors and support

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

Intervention

Keyword: Image processing, MRI, Protocol development, Spectroscopy

Outcome measures

Primary outcome

The development and optimization of new and existing MRI protocols and processing techniques required for anatomical and functional imaging in the research and clinical setting. In addition new methods will be developed for image processing.

Secondary outcome

Not applicable.

Study description

Background summary

Currently several MRI systems from different magnetic field strengths are available at the UMCU. The systems offer a wide range of opportunities for non-invasive studies of anatomy, structure, function and metabolism in patients. For a number of diseases new, improved imaging techniques are required. To be able to apply these (new) clinical improvements, further technical improvements are required. Before the improved techniques can be used, various technical issues will have to be solved before the technology can be used for clinical research and patient care. During this proces, there is a need for (healthy) subjects to optimize the techniques before the technology can be used in patients. In this study healthy volunteers will be included in studies that aim to optimize the technique and the use of MRI in all field strengths and to develop new processing techniques.

Study objective

The development and optimization of new and existing MRI protocols and processing techniques required for advanced anatomical and functional imaging in the research and clinical setting.

Study design

This is an observational study in which the possible applicability of newly developed MRI scanning and processing techniques is assessed.

Study burden and risks

No benefits are expected for the volunteers. The study can lead to insights about the possible added value of using MRI techniques for patients and of new methods of image processing in the future.

No risks or adverse effects are known for patients undergoing MRI when they are screened according to the MRI safety criteria.

Participants will be scanned during 60 to 90 minutes.

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

- >= 18 years
- Capable and prepared to sign an informed consent

Exclusion criteria

- Contraindication for MRI scanning as listed in the MRI screening form, according to the current MR safety guidelines
- Neurological or psychiatric diagnosis
- (possible) pregnancy
-Refusal of subjects to be informed of chance findings possibly relevant to their health

In the event that the RespirAct system is used for a sub-study:
- Unwilling or unable to cooperate with breathing protocol or keeping still;
- Medical contraindications to limited hypercapnia (known metabolic acidosis or alkalosis);
- Standard contraindications for using the RespirAct RA-MRTM MRI UNIT (see D2 IMDD 2.5 contraindications);
- Known cerebrovascular, cardiovascular or pulmonary (or other) disease
- concurrent severe or uncontrolled medical disease (e.g., active systemic infection);

Study design

Design

Study type: Observational invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Diagnostic

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	02-01-2016
Enrollment:	75
Type:	Actual

Medical products/devices used

Registration:	No

Ethics review

Approved WMO Date:	04-12-2015
Application type:	First submission
Review commission:	METC NedMec
Approved WMO Date:	04-01-2018
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	01-10-2020
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	17-12-2020
Application type:	Amendment
Review commission:	METC NedMec
Approved WMO Date:	14-06-2024
Application type:	Amendment
Review commission:	METC Universitair Medisch Centrum Utrecht (Utrecht)

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	NL53099.041.15