

Kinetic motor imagery training during immobilization to improve wrist functional outcome after a distal radius fracture in women of 45-75 years of age

Published: 12-07-2011

Last updated: 29-04-2024

The objective is to improve the functional outcome in distal radius fracture patients, specified as an increase in function, dexterity, grip strength, range of motion, and decrease of pain.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Fractures
Study type	Interventional

Summary

ID

NL-OMON39978

Source

ToetsingOnline

Brief title

Motor imagery in rehabilitation after distal radius fracture

Condition

- Fractures
- Bone and joint therapeutic procedures

Synonym

'wrist fracture' 'broken wrist'

Research involving

Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Groningen

Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: fracture, imagery, motor, radius

Outcome measures

Primary outcome

The main study parameter is function.

Secondary outcome

Secondary study parameters are dexterity, range of motion, grip strength, and pain.

Study description

Background summary

Distal radius fracture (DRF) is a common injury that may lead to prolonged function restrictions, decreased range of motion, reduced grip strength and pain. These symptoms may be caused by physical changes due to the injury and/or by the 4-6 weeks immobilization that is part of the conservative treatment. However, it might also be that neural changes during the immobilization play an important role. Such changes might be prevented by motor imagery training during the immobilization period. So, when neural changes are prevented, this may lead to a better functional outcome.

Study objective

The objective is to improve the functional outcome in distal radius fracture patients, specified as an increase in function, dexterity, grip strength, range of motion, and decrease of pain.

Study design

Parallel group randomized controlled trial, with a post-test only control group design. Patients in the experimental group perform motor imagery training during the immobilization period, in addition to the regular treatment. Patients in the control group receive regular treatment.

Intervention

Motor imagery training; 4 times a day 7 minutes of motor imagery training for 3 weeks (depending on duration of immobilization period).

Study burden and risks

During the immobilization period, the patients in the experimental group are asked to perform motor imagery 4 times a day, whereby each session takes 7 minutes, so the time expenditure is 28 minutes a day. The outcome measures are determined twice in each group; directly after cast removal and two weeks after cast removal. The measurements take place at the moments that the patients visit the hospital for a protocolized outpatient visit. Thus, the measurements do not require extra hospital visits.

Although there is only one study that examined the effectiveness of motor imagery training in peripheral injuries, many studies are conducted that demonstrate the effectiveness of motor imagery training in stroke patients, athletes and healthy subjects. Based on these studies, it is expected that motor imagery training will benefit recovery after a distal radius fracture. To our knowledge, there are no studies that identified the risks of motor imagery training. Since motor imagery training does not contain motion, it is highly unlikely that the intervention is harmful to the patients.

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

- distal radius fracture patients
- female
- 45-75 years old
- conservatively treated
- low energy trauma caused by fall

Exclusion criteria

- Vividness of Motor Imagery Questionnaire-score ≥ 72
- communitive intra-articular fractures of distal radius
- complications likely resulting in worse functional outcome
- high energy trauma
- pre-existent upper-extremity disorders
- no understanding of Dutch language

Study design

Design

Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Open (masking not used)

Primary purpose: Treatment

Recruitment

NL	
Recruitment status:	Recruitment stopped
Start date (anticipated):	13-07-2011
Enrollment:	52
Type:	Actual

Ethics review

Approved WMO	
Date:	12-07-2011
Application type:	First submission
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)
Approved WMO	
Date:	17-03-2014
Application type:	Amendment
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)
Not approved	
Date:	23-09-2015
Application type:	Amendment
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)

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	NL36638.042.11