# Play with the IROMEC robot during rehabilitation and special education for children with severe physical disabilities - an explorative feasibility study.

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This study aims to examine the feasibility and an indication of possible effects of an IROMEC robot based play therapy within rehabilitation and special education on the level of playfulness of children with severe physical disabilities.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Bone and joint injuries
Study type	Interventional

# Summary

### ID

NL-OMON42388

**Source** ToetsingOnline

**Brief title** Playing with the IROMEC robot

# Condition

- Bone and joint injuries
- Muscle disorders
- Neuromuscular disorders

#### Synonym

motor impairment, physical disability

#### **Research involving**

Human

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### **Sponsors and support**

### Primary sponsor: Zuyd Hogeschool Source(s) of monetary or material Support: Stichting Innovatie Alliantie RAAK Pro

### Intervention

Keyword: physical disabilities, play, rehabilitation, robot

### **Outcome measures**

#### **Primary outcome**

Video-observation will offer a method for scoring each participant on the Test of Playfulness, showing one aspect of being engaged in play of a child with severe physical disabilities. The Test of Playfulness (ToP) will be conducted based on observation of the video data of the sessions. For each group or individual participating in the study the ToP analysis will be done with the videos of the fifth session. Researchers will be calibrated for this test before doing this analysis.

### Secondary outcome

A 10-point scale to assess playfulness from a therapists/special educators view will be used. Children\*s viewpoint on the play sessions will be taken into account as well. Before and after every session the child will be asked to give a description of their feelings (like, neutral, dislike) using 3 different symbols (smileys). The Individually Prioritized Problem Assessment (IPPA) will be used to assess to what extent the goals established before the series of IROMEC sessions by the therapist/special educator are being reached. A qualitative evaluation (using qualitative interviews) with the professionals who have been using the IROMEC robot regarding the feasibility, usability, barriers and facilitators will be performed. Furthermore they can give their own impression of the possible effect of the robot. Observations and video analysis will also be used to assess the (technical) performance of the robot, the interaction between the robot and the child(ren) and the therapist/educator.

# **Study description**

### **Background summary**

Play is essential in the development of every child and is a fundamental right for every child. It is related to children\*s cognitive, social, physical and emotional development. Free play gives children the possibility to discover their capabilities, try out objects, make decisions, understand cause and effect relationships, learn, persist, and understand consequences of actions. Research has shown that the abilities to play for children with severe physical disabilities are limited. For many reasons children with disabilities experience difficulties in starting, developing and performing play activities in a natural way. The experience of play may be frustrating or may even be impossible for children with physical disabilities. According to research, a robotic toy might be able to function as a tailor made toy for children with disabilities. A robot can provide various stimuli in a controlled manner that could promote the child to interact and learn in different ways. The IROMEC robot is developed to support play in children with disabilities. Until now some studies with the IROMEC robot have been conducted with promising results, especially for children with severe physical disabilities.

### **Study objective**

This study aims to examine the feasibility and an indication of possible effects of an IROMEC robot based play therapy within rehabilitation and special education on the level of playfulness of children with severe physical disabilities.

### Study design

A multi-centre explorative feasibility study will be conducted over a three month period (September 2015 - November 2015) involving children with severe physical disabilities with a developmental age from 2-8 years old.

#### Intervention

Playing with the IROMEC robotic toy during therapy sessions or group sessions (educational/therapy). Predefined play scenarios are explained in this protocol.

#### Study burden and risks

Negligible

# Contacts

Public Zuyd Hogeschool

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# **Trial sites**

### **Listed location countries**

Netherlands

# **Eligibility criteria**

#### Age

Adolescents (12-15 years) Adolescents (16-17 years) Children (2-11 years)

## **Inclusion criteria**

Child with physical disability, developmental age 2-8 years

### **Exclusion criteria**

sensory impairments (deafness and blindness), epilepsy and severe aggressive behaviour

# Study design

### Design

Study type: Interventional	
Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Treatment

### Recruitment

NL	
Recruitment status:	Recruitment stopped
Start date (anticipated):	01-10-2015
Enrollment:	12
Туре:	Actual

# **Ethics review**

Approved WMO	
Date:	30-09-2015
Application type:	First submission
Review commission:	METC Z: Zuyderland-Zuyd (Heerlen)

# **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 CCMO **ID** NL54310.096.15