

# Pilot study to investigate the EMG activity and energy expenditure during sitting and standing in children with cerebral palsy

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To gain insight in the muscle activity and energy expenditure during sitting and standing in children with CP.

<b>Ethical review</b>	Approved WMO
<b>Status</b>	Recruitment stopped
<b>Health condition type</b>	Neurological disorders NEC
<b>Study type</b>	Observational non invasive

## Summary

### ID

NL-OMON38869

### Source

ToetsingOnline

### Brief title

EMG activity and energy expenditure in children with CP

### Condition

- Neurological disorders NEC

### Synonym

cerebral palsy, spastic children

### 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:** cerebral palsy, energy expenditure, muscle activity, sedentary behaviour

## Outcome measures

### Primary outcome

EMG registration and Energy Expenditure (expressed in METs)

### Secondary outcome

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## Study description

### Background summary

Recent position stands and advice from expert bodies identify the potential importance of reducing sedentary time and emphasizing a whole-day approach to physical activity promotion. This approach includes not only increasing moderate-intensity physical activity but also reducing sedentary time. So, in the health care of children and adolescents with CP we need to work on both. The definition of sedentary behaviour is any waking behaviour characterized by an energy expenditure  $\leq 1.5$  METs while in a sitting or reclining posture. This definition of sedentary behaviour includes two components: 1) posture (sitting or reclining) and 2) energy expenditure (expressed in METs). It may not be appropriate to extrapolate the sedentary behaviour definition developed for healthy children and adults to children with CP. For children and adolescents with CP we first need to know the operational definition of sedentary behavior. Therefore, we need to start building foundational knowledge.

### Study objective

To gain insight in the muscle activity and energy expenditure during sitting and standing in children with CP.

### Study design

cross-sectional observational study

### Study burden and risks

There will be 30 minute test session (under school hours) where the children have to wear a facemask for gas analyses and up to 8 EMG stickers (placed on legs) to monitor their muscle activity during standing and sitting. The measurements are not different from their normal daily life activities. So the risks of this study are negligible and the burden is minimal.

## Contacts

### Public

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### Scientific

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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

Diagnosed with Cerebral Palsy, classified at GMFCS level I-V  
Capable of following simple commands  
Aged between 7 and 18 years  
Informed consent of parents and children

## Exclusion criteria

known allergy to EMG stickers

## Study design

### Design

**Study type:** Observational non invasive

Masking: Open (masking not used)

Control: Uncontrolled

Primary purpose: Treatment

### Recruitment

NL

Recruitment status: Recruitment stopped

Start date (anticipated): 01-05-2013

Enrollment: 20

Type: Actual

## Ethics review

Approved WMO

Date: 22-04-2013

Application type: First submission

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

CCMO

### ID

NL43410.041.13