Muscle activity during general movements of healthy young infants

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to describe neurophysiological characteristics of *writhing* and *fidgety* GMs in typically developing young infants by means of multiple surface EMG recordings and kinematics.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Congenital and peripartum neurological conditions
Study type	Observational non invasive

Summary

ID

NL-OMON37295

Source ToetsingOnline

Brief title Muscle activity during general movements

Condition

• Congenital and peripartum neurological conditions

Synonym

Cerebral palsy (CP; layterm: spasticity), Developmental Coordination Disorder (DCD; lay term: clumsiness)

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: EMG, general movements, infants, kinematics

Outcome measures

Primary outcome

General Movements: parameters of complexity and variation in muscle activity

and kinematics

Secondary outcome

General Movements (GMs): phasic burst duration and amplitude, degree of

antagonistic co-contraction

Study description

Background summary

Around 180.000 infants are born in the Netherlands every year (CBS). Most of them are healthy and will develop typically, but some children will develop a motor disorder. It is important to determine as early as possible which infants are at risk for developmental motor disorders in order to be able to provide optimal treatment and guidance for those infants and their parents. The assessment of general movements (GMs) is a non-invasive clinical tool trying to identify infants at risk for developmental disorders. In clinical practise the quality of general movements is based on video-recordings. It is important to investigate the neurological characteristics of typically developing infants more precisely in order to get a better understanding of typical and atypical neuromotor behaviour.

Study objective

to describe neurophysiological characteristics of *writhing* and *fidgety* GMs in typically developing young infants by means of multiple surface EMG recordings and kinematics.

Study design

small descriptive cohort study

Study burden and risks

The infants will be assessed twice (at 1 and 3 months of age). The assessments will take place at home. Surface EMG electrodes and small markers will be attached to the skin of the infant. Previous studies indicated that infants tolerate these small devices well. If the child gets tired, crying or hungry, the assessment is stopped and, if possible, continued at a later point in time. There are no risks associated with participation. Parents will fill out a short questionnaire on prenatal, perinatal and neonatal history (10 minutes). The benefit of the study in general consists of novel information on neurophysiology underlying parts of the infant neurological examination. This information can only be obtained by studying infants. Benefits of participation for infant and family consist of getting detailed information on the child*s current developmental status.

Contacts

Public

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age Children (2-11 years)

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Inclusion criteria

Healthy full-term infant, i.e. an infant born after a gestational age of at least 37 weeks without prenatal, perinatal or neonatal complications, younger than 1 month of age (first assessment at age of 1 month)

Exclusion criteria

Admission to the paediatric department of a hospital; Severe congenital abnormalities, such as serious congenital heart disorders or a chromosomal condition; Birthweight below the tenth percentile; Neurological abnormalities; Parents have insufficient understanding of the Dutch language

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):	17-10-2012
Enrollment:	20
Туре:	Actual

Ethics review

Approved WMO	
Date:	14-09-2012
Application type:	First submission

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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
ССМО	NL41373.042.12