The concurrent validity of surface EMG compared to intramusculair EMG of the multifidus activity.

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What is the correlation between intramuscular and surface EMG of the mm. multifidi in different clinical tests in healthy subjects and non-specific lower backpain patients?

Ethical review	Approved WMO
Status	Will not start
Health condition type	Muscle disorders
Study type	Observational invasive

Summary

ID

NL-OMON43365

Source
ToetsingOnline

Brief title
Surface EMG vs. intramusculair EMG

Condition

- Muscle disorders

Synonym
non-specific lower back pain

Research involving
Human

Sponsors and support

Primary sponsor: anesthesiologie- onderzoeksbureau
Source(s) of monetary or material Support: NWO

Intervention

Keyword: EMG, intramusculair, multifidus, surface

Outcome measures

Primary outcome

The primary study parameter is the amount of EMG, with parameters relative

rEMG, amplitud (mV), frequency amount (Fmed) in Hz. These parameters will be

measured by surface and intramuscular EMG.

Secondary outcome

not applicable

Study description

Background summary

Non-specific lower backpain is a painsyndrome, however the exaclty cause is not known. Probably there are several factors that contribute to this painsyndrom. The last several years, people are interest to devide non-specific lower backpain patients in different subgroups. Because these different subgroups need probably different specific treatments. In regular treatment the most attention focused on disbalans between back and belly muscles. The activity pattern and power of mm. multifidi and m. obliquus abdominis can be measured by electromyografy (EMG), intramuscular and surface EMG. There is a lack of clarity how surface EMG and intramuscular EMG correlate in clinical tests in healthy volunteers and non-specific lower backpain patients. This study will controbute to create new knowlegde about EMG in back muscles in clinical tests and improve diagnostics for physiotherapist in function and morfology of back muscles in non-specific lower backpain patients.

Study objective

What is the correlation between intramuscular and surface EMG of the mm. multifidi in different clinical tests in healthy subjects and non-specific lower backpain patients?

Study design

cross sectional study design

Study burden and risks

The burden of the subjects are limited. Subjects will be measured once at the clinical neurophysiology at the UMCG. This will be taken a maximum of one houre. The risks that could be arise during the measurement: a local intramuscular bleeding and/or a sensitive skin neuron could be hit by using intramuscular EMG. This could result in extra pain during the measurement for the subjects. These risks are minimalized, because the intramuscular EMG measurements will performed by an experienced clinical neurophysiologist. The advanced of participating in this study for the subjects is, they will contribute to create more knowledge about to diagnostic non-specific lower backpain patients in the physiotherapy. The subjects will get traveling expenses and a cheque of 15 euros for participation in this study.

Contacts

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Selecteer

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Scientific
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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age

Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

Patients
• Between 18 and 65 years old
• non-specific lower back pain
• Patients with chronic non-specific lower back pain (>12 weeks)
• Motivated for participation;Healthy subjects
• Between 18 and 65 years old
• Motivated for participation

Exclusion criteria

Patients
• Presence of red flags and lumbarsacral radicular syndrom
• Pregnancy
• Previous backsurgery
• Psychiatric diagnosis
• Insufficient knowledge of the Dutch language
• Body mass index > 30;Healthy subjects
• non-specific lower back pain
• Presence of red flags and lumbarsacral radicular syndrom
• Pregnancy
• Previous backsurgery
• Psychiatric diagnosis
• Insufficient knowledge of the Dutch language
• Body mass index > 30

Study design

Design

Study type: Observational invasive

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

Recruitment

NL

Recruitment status:	Will not start
Enrollment:	30
Type:	Anticipated

Ethics review

Approved WMO Date:	14-02-2017
Application type:	First submission
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	NL58616.042.16