Activity of hip flexors and transverse abdominal muscles in postpartum Pregnancy-related Pelvic girdle Pain (PPP)

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A better understanding of the pathology of PPP, in particular the mechanisms responsible for the problems with hip flexion

Ethical review	Approved WMO
Status	Pending
Health condition type	Musculoskeletal and connective tissue deformities (incl intervertebral disc disorders)
Study type	Observational invasive

Summary

ID

NL-OMON30177

Source
ToetsingOnline

Brief title
Hip flexion in PPP

Condition

- Musculoskeletal and connective tissue deformities (incl intervertebral disc disorders)

Synonym
posterior pelvic pain, pregnancy-related pelvic girdle pain

Research involving
Human

Sponsors and support

Primary sponsor: Vrije Universiteit Medisch Centrum

Source(s) of monetary or material Support: 52.800,82.800

Intervention

Keyword: gait, muscle activity, pregnancy-related pelvic girdle pain, reflex inhibition

Outcome measures

Primary outcome

1. Questionnaires

2. Anamnesis and physical examination by the orthopaedic surgeon

3. The H-reflex of the m. rectus femoris

4. Kinematics of Active Straight Leg Raising:

how high can participants raise the leg, how long can they keep the leg in

that

position, is this dependent on experimental condition?

5. Muscle activity during Active Straight Leg Raising:

relative timing, amplitude, dependence on experimental condition

6. Gait kinematics on the treadmill

what are maximal and comfortable walking velocity, what are the relative

phases

of horizontal rotations during walking, what is the step frequency, how are

these

dependent on experimental condition?

7. Muscle activity durinig walking on the treadmill

relative timing, amplitude, dependence on experimental condition

Secondary outcome

Relationships between primary study parameters--such as relative timing of hip

flexors with respect to transverse abdominal muscles.

Study description

Background summary

About 12.5% of all pregnant women, and 2.5% of all women postpartum, suffer from Pregnancy-related Pelvic girdle Pain (PPP) that is serious enough to warrant medical attention. More than 99% of the cases recover spontaneously, but still, many women suffer from it for some time during their lives, and in some, the problem turns chronic. Most women with PPP have trouble flexing their hip, stating that it feels as if something "stops" the movement, or that it is "as if the leg is paralysed". So far, no research has been performed to elucidate the underlying mechanisms of these problems with hip flexion.

Study objective

A better understanding of the pathology of PPP, in particular the mechanisms responsible for the problems with hip flexion

Study design

We will invite women with PPP (six weeks postpartum) to perform Active Straight Leg Raising under 3 different conditions (normal, with weights attached to the lower legs, and with a pelvic belt), and to walk on a treadmill under 2 conditions (normal, with a pelvic belt). We will measure the activity of a large number of muscles (3 deep muscles, with fine wire EMG, and 15 superficial muscles, with surface electrodes), and during gait we will determine 3D full body kinematics. Moreover, participants fill-in questionnaires (SF-36 and Tampa), are seen by an orthopaedic surgeon (anamnesis plus physical examination), and the H-reflex of the m. rectus femoris is determined by a clinical neurophysiologist.

Study burden and risks

The study will cost participants about half a day. Experimental Straight Leg Raising and walking on the treadmill will be as painful or difficult as it is for the participants in their deaily life; they are, however, always allowed to indicate that, for instance, a certain walking velocity is too high for them, and then we stop.
Inserting the wire electrodes will probably be an unusual sensation. It is possible that some participant will experience pain and/or numbness. If that happens, the electrodes are immediately removed. The literature did not report

any lasting damage.

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

pregnancy-related pelvic girdle pain arose during pregnancy or just after delivery and is still present 6 weeks after delivery

Exclusion criteria

other locomotor pathology that would affect walking

cardiac or pulmonary problems that would affect walking

Study design

Design

Study type:	Observational invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	01-01-2007
Enrollment:	40
Type:	Anticipated

Ethics review

Approved WMO

Application type:	First submission
Review commission:	METC Amsterdam UMC

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	NL13908.029.06