Intermuscular coordination of the leg during a maximal vertical jump related to hamstring muscle injury, a pilot study

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Do athletes with hamstring injuries have different intermuscular coordination of the lower limb when compared to the intermuscular coordination of the lower limb of athletes without hamstring injury during maximal vertical jumping? Also, is the...

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Muscle disorders
Study type	Observational non invasive

Summary

ID

NL-OMON39030

Source
ToetsingOnline

Brief title
Intermuscular coordination during vertical jumping, a pilot study

Condition

- Muscle disorders

Synonym
Hamstring injury

Research involving
Human

Sponsors and support

Primary sponsor: Reinier de Graaf Groep
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: hamstring injury, maximal vertical jumping, muscular coordination

Outcome measures

Primary outcome

Main study parameters are EMG measurements of eight different muscles and

ground force measured on the force plate.

Secondary outcome

not applicable

Study description

Background summary

It is hypothesized that intermuscular coordination of the lower limb in athletes with hamstring muscle injury is significantly different from the intermuscular coordination of the lower limb in athletes without injury, measured with a maximum voluntary vertical jump.

Study objective

Do athletes with hamstring injuries have different intermuscular coordination of the lower limb when compared to the intermuscular coordination of the lower limb of athletes without hamstring injury during maximal vertical jumping? Also, is the intermuscular coordination of the lower limb different of the leg with hamstring injury when compared to the leg without hamstring muscle injury when performing a maximal vertical jump?

Study design

This study is an observational pilot study, comparing the outcomes of intermuscular coordination of the lower limb of athletes with hamstring muscle injury to the intermuscular coordination of the lower limb of athletes without hamstring muscle injury.

Study burden and risks

Athletes with hamstring muscle injury as well as athletes without hamstring muscle injury have to visit the laboratory of the Sophia Rehabilitation Centre once to perform 3 maximal vertical jumps. Risks are negligible for both groups.

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

Injured athletes:
- Hamstring injury (defined as not being able to fully participate in training or match plays because of the hamstring problem)
- Athlete (defined as a person who participates in sports for at least 3 times a week)
- Aged 18-40 years
- BMI < 25

- No other injury of (one of) legs
- Willing to participate
- No history of surgery on the legs;Healthy athletes (volunteers):
- without injury of (one of) the legs
- volunteer and in no relation to the researchers
- To be able to perform 3 maximal vertical jumps without pain or other sports-related injuries.
- Athlete (defined as a person who participates in sports for at least 3 times a week)
- Aged 18 to 40 years
- Willing to participate
- BMI < 25
- No history of surgery on the legs

Exclusion criteria

Injured athletes:
- Unwilling to participate
- Not participating in sports for at least 3 times a week
- Mentally retarded
- BMI>25
- Aged <18 or >40 years
- History of surgery on (on of) the legs
- When it is not possible for the injured athlete to perform a maximal vertical jump
- Other injury of the legs present;Healthy athletes (volunteers):
- Unwilling to participate
- Not participating in sports for at least 3 times a week
- Mentally retarded
- BMI>25
- Aged <18 or >40 years
- History of surgery on (on of) the legs
- When it is not possible for the athlete to perform a maximal vertical jump
- Other injury of the legs present
- Any dependency relationship to the researcher

Study design

Design

Study type:	Observational non invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)

Primary purpose: Basic science

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	17-04-2012
Enrollment:	30
Type:	Actual

Ethics review

Approved WMO

Date:	29-03-2012
Application type:	First submission
Review commission:	METC Leiden-Den Haag-Delft (Leiden) metc-ldd@lumc.nl

Approved WMO

Date:	02-10-2013
Application type:	Amendment
Review commission:	METC Leiden-Den Haag-Delft (Leiden) metc-ldd@lumc.nl

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	NL38683.098.11