Clinical Trial Protocol
Iranian Registry of Clinical Trials

09 Nov 2026

A comparison study on the Immediate Effects of Dry Needling and Static Stretching on Hamstring Flexibility in Healthy Subjects with shortness of hamstring.

Protocol summary

Summary

Purpose of this study: A comparison study on the immediate effects of dry needling and static stretching on hamstring flexibility in healthy subjects with shortness of hamstring. Study design was randomize control trial. Participants recruited from the students of rehabilitation school of Tehran University of Medical Sciences. All participants signed an informed consent form prior to entrance in the study. And then 40 participants were assigned to either static stretch(20 subjects, 4=male and 16=female) or dry needling(20 subjects, 4=male and 16=female) through a random selection, which in turn was based on sortition. Outcome measurements included flexibility, passive compliance, passive peak torque and stretch tolerance before, immediately after and 15 minutes after intervention were measured. Inclusion criteria: Hamstring shortness ≥ 20° using the Active Knee Extension Test (AKET), ages between 18-40 years, no history of orthopedic/neurological disorders in the lower extremity, no history of low back pain for the last year. Exclusion criteria: Fear of needling, and not consenting to participate in this study. interventions include: dry needling and static stretching of hamstring muscles. Outcome measurements of this study were flexibility, passive compliance, passive peak torque and stretch tolerance

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016112231018N1**
Registration date: **2017-10-03, 1396/07/11**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2017-10-03, 1396/07/11

Registrant information

Name
Parisa Alaei
Name of organization / entity
Rehabilitation faculty of Tehran University of Medical Sciences
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Recruitment status

Recruitment complete

Funding source

Deputy for Research of Tehran University of Medical Sciences

Expected recruitment start date

2016-12-19, 1395/09/29

Expected recruitment end date

2017-02-17, 1395/11/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

A comparison study on the Immediate Effects of Dry Needling and Static Stretching on Hamstring Flexibility in Healthy Subjects with shortness of hamstring.

Public title

A comparison study on effects of dry needling and static

stretching on hamstring flexibility.

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria: Hamstring shortness ≥ 20° using the Active Knee Extension Test (AKET); ages between 18-40 years; no history of orthopedic/neurological disorders in the lower extremity; no history of low back pain for the last year; no contraindication for using dry needling (e.g. pregnancy, diabetes mellitus); no joint limitation in the lower extremities. Exclusion criteria: Fear of needling; not consenting to participate in this study.

Age
From **18 years** old to **40 years** old

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **40**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

1

Registry name
-

Secondary trial Id
-

Registration date
empty

Ethics committees

1

Ethics committee

Name of ethics committee
ethics institute in research of Tehran University of Medical Sciences

Street address
4th Floor, No. 23, before Pour Sina St. 16th Azar St. Keshavarz Blvd, Medical Ethics Section

City
tehran

Postal code

Approval date
2016-11-19, 1395/08/29

Ethics committee reference number
IR.TUMS.FNM.REC.1395.1048

Health conditions studied

1

Description of health condition studied
hamstring tightness

ICD-10 code
M62.4

ICD-10 code description
Contracture of muscle

Primary outcomes

1

Description
Flexibility

Timepoint
Before, immediately after and 15 min after intervention

Method of measurement
Goniometer

2

Description
Passive compliance

Timepoint
Before, immediately after and 15 min after intervention

Method of measurement
Goniometer and hand held dynamometer

Secondary outcomes

1

Description
Passive peak torque

Timepoint
Before, immediately after and 15 minutes after intervention

Method of measurement
Hand held dynamometer

2

Description
Stretch tolerance

Timepoint
Before, immediately after and 15 minutes after intervention

Method of measurement
Goniometer

Intervention groups

1

Description

Dry needling includes using of 6 cm needle specified for dry needling. Three point of hamstring muscle will choose for needling. Duration of needling for each point is 1 minute. The needle was deeply inserted perpendicular to the skin using fast-in and fast out cone shape technique.

Category

Treatment - Other

2

Description

Static stretching includes a slow and passive stretching of hamstring muscles in position of Active Knee Extension test. Investigator ask the subject to endure as much stretching force as possible without pain. Static stretching lasted for 30 seconds. This sequence repeats 3 times with 10-second rest intervals between each trial.

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

rehabilitation faculty of Thran University of Medical Sciences

Full name of responsible person

Dr. Nureddin Nakhostin Ansari

Street address

rehabilitation faculty of tehran university of medical science, Piche shemran, Enqelab st

City

tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Deputy of Research in School of Rehabilitation of Tehran University of Medical Sciences

Full name of responsible person

Dr. Azadeh Shadmehr

Street address

Deputy of Research in School of Rehabilitation of TUMS, Piche shemiran, Enqelab st

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Tehran

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Deputy of Research in School of Rehabilitation of Tehran University of Medical Sciences

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

Rehabilitation faculty of Tehran University Of Medical Sciences

Full name of responsible person

Parisa Alaei

Position

performer

Other areas of specialty/work

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty
Study Protocol
empty
Statistical Analysis Plan
empty
Informed Consent Form
empty
Clinical Study Report
empty
Analytic Code
empty
Data Dictionary
empty