# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

22 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

**City**

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*