

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

The comparative study of three stretching methods of static, ballistic and PNF in hamstring length changes in female and male students of Semnan University of Medical Sciences.

Protocol summary

Summary

The aim of this study is the comparison between three stretching methods on hamstring length. 80 volunteers with short hamstring muscles in 90-90 test will divide randomly in 4 groups of static stretch, ballistic stretch, PNF and control group. 10 male and 10 female will be placed in each groups. The hamstring interventional groups will be stretched 3 times a week during 4 weeks. Each stretching technique will last 30 second each session and 360 second totally. The participants in static stretching group will take a 30 second stretching each session and participants in ballistic stretching group will take three stretching techniques that last 2 seconds with 8 seconds rest between each trial. The participants in PNF group will be stretched 10 seconds during 2 trials with 10 seconds rest between them. The control group will receive no stretching techniques. The range of motion will be measured before, immediately after and 4 weeks after intervention.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201110255112N3**

Registration date: **2013-06-30, 1392/04/09**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2013-06-30, 1392/04/09

Registrant information

Name

Rozita Hedayati

Name of organization / entity

Semnan University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 23 1335 4180

Email address

hedayati@sem-ums.ac.ir

Recruitment status

Recruitment complete

Funding source

Semnan University of Medical Sciences

Expected recruitment start date

2012-06-09, 1391/03/20

Expected recruitment end date

2013-09-05, 1392/06/14

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The comparative study of three stretching methods of static, ballistic and PNF in hamstring length changes in female and male students of Semnan University of Medical Sciences.

Public title

Comparison of three different stretching techniques on hamstring length.

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion Criteria: Presence of hamstring muscles shortening without pain in 90-90 test. Exclusion Criteria: Orthopedic and neurologic disorders; Operation in lower limb; Fracture in lower limb; Hamstring injury in 1 past

years; Diseases such as arthritis, menisci and ligament injury; Operation of vertebral columns; Injury of vertebral columns; The athletes

Age

From **18 years** old to **25 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **80**

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

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Semnan University of Medical Sciences

Street address

Semnan University of Medical Sciences, The 5th kilometers of Damghasn road

City

Semnan

Postal code

Approval date

2012-06-26, 1391/04/06

Ethics committee reference number

191311/91

Health conditions studied

1

Description of health condition studied

Musculoskeletal disorders

ICD-10 code

m95

ICD-10 code description

Other disorders of the musculoskeletal system and connective tissue

Primary outcomes

1

Description

hamstring muscles length

Timepoint

Beginning of the study, First Day, 4 weeks after

Method of measurement

Goniometer

Secondary outcomes

empty

Intervention groups

1

Description

static group : one 30 s static stretch during a four weeks period, three days a week

Category

Rehabilitation

2

Description

ballistic group ; 3 ballistic stretch during a four weeks period, three days a week

Category

Rehabilitation

3

Description

pnf group : 2 PNF stretch during a four weeks period, three days a week

Category

Rehabilitation

4

Description

control group : routine activities

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Neuromuscular Rehabilitation research center

Full name of responsible person

Dr. Rozita Hedayati

Street address

Semnan University of Medical Sciences, The 5th Kilometers of Damghan Road

City

Semnan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Dr Raheb Ghorbani

Street address

Research Deputy, Semnan University of Medical Sciences, The 5th kilometers of Damghan Road

City

Semnan

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Semnan 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**

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Full name of responsible person

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Position

Assistant Professor / Ph.D

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Web page address

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