

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Comparison of the effectiveness of dry needling and myofascial release methods in improve pain, with hamstring trigger Football Playersin and ultrasonic changes of hamstring muscle functional ability points

#### Protocol summary

##### Study aim

Comparing dry needling and myofascial release in improving pain, function, and ultrasonic changes of the hamstring muscle in soccer players with hamstring muscle trigger points.

##### Design

Clinical trial, with parallel groups, single-blind, randomized

##### Settings and conduct

Football players, after consenting to participate in the study, pain, functional ability of partnering, distance between finger and toe, functional reach, and hamstring muscle thickness will be measured. For blinding, the evaluator and the therapist are not the same. Finally, participants were block randomly divided into dry needling and myofascial release groups.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria: males between the ages of 18 - 35, The professional football athletes with hamstring trigger points diagnosed by a physiotherapist using Travell-Simons criteria. Exclusion criteria : history of lower limb fracture or surgery within the past year, presence of any lower limb pathologies like vascular diseases or osteoarthritis, fear of needles, pain score (VAS) between 4-7, recent physiotherapy treatment for the lower limb in the last 6 months, diabetes, lower limb deformities, unwillingness to follow intervention protocol or outcome measures, receiving other treatments for pelvic pain trigger points in the past 4 weeks.

##### Intervention groups

Dry needling group: In this group, the Deep DN technique will be used with sterile needles on points at the end of the hamstring muscle. Sessions will occur twice a week for 10 minutes each. Myofascial release group: In this group, Myofascial release technique exercises will be performed for two weeks (4 sessions), with each session consisting of a 60-second massage on

the hamstring from the distal to the proximal hamstring area.

##### Main outcome variables

pain, functional ability of hamstring, finger to floor distance Functional reach, Hamstring strength and thickness

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20180314039086N1**

Registration date: **2024-11-14, 1403/08/24**

Registration timing: **prospective**

Last update: **2024-11-14, 1403/08/24**

Update count: **0**

##### Registration date

2024-11-14, 1403/08/24

##### Registrant information

##### Name

Marzieh Mortezaejad

##### Name of organization / entity

##### Country

Iran (Islamic Republic of)

##### Phone

+98 23 3332 8502

##### Email address

mmortezaejad98@yahoo.com

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2024-12-21, 1403/10/01

##### Expected recruitment end date

2025-04-19, 1404/01/30  
**Actual recruitment start date**  
empty  
**Actual recruitment end date**  
empty  
**Trial completion date**  
empty  
**Scientific title**  
Comparison of the effectiveness of dry needling and myofascial release methods in improve pain, with hamstring trigger Football Playersin and ultrasonic changes of hamstring muscle functional ability points  
**Public title**  
dry needling and myofacial release on hamstring trigger point  
**Purpose**  
Treatment  
**Inclusion/Exclusion criteria**  
**Inclusion criteria:**  
Professional athlete in the field of football Football players with hamstring trigger points whose trigger points have been diagnosed by a physiotherapist using Travell & Simons criteria. Age between 18 -35 years  
**Exclusion criteria:**  
A history of fracture and surgery in the lower limb in the last year Presence of any pathology in the lower limbs such as vascular diseases and osteoart hritis Fear of needles Having a pain score (VAS) in the range of 7-10 receiving physiotherapy treatment for the lower limb during the last 6 months Having diabetes Sensitivity to needles The presence of any type of lower limb deformity Athletes who cannot or do not want to comply with the intervention protocol or outcome measures Received any other treatments for joint trigger points or pelvic pain in the past 4 weeks, such as medicine, injection, acupuncture, or physiotherapy Football players who have other neurological or musculoskeletal conditions that may affect the hamstring muscle or hip area, such as lumbar disc herniation, sciatica, piriformis syndrome, or hip disease, and have received physiotherapy treatment for the lower limb in the last 6 months  
**Age**  
From **18 years** old to **35 years** old  
**Gender**  
Male  
**Phase**  
N/A  
**Groups that have been masked**  

- Outcome assessor

**Sample size**  
Target sample size: **44**  
**Randomization (investigator's opinion)**  
Randomized  
**Randomization description**  
Stratified Permuted Block Randomization will be utilized with 11 blocks of 4 individuals assigned to each group. Group A will receive hamstring needling, while Group B will receive hamstring myofascia release. The order of

interventions A and B within blocks numbered 1 to 11 will be determined by the project's methodological consultant and provided to the project's executive supervisor, who will then assign each qualified participant.

**Blinding (investigator's opinion)**

Single blinded

**Blinding description**

The evaluator of the results is not the same as the subject who sampled.

**Placebo**

Not used

**Assignment**

Parallel

**Other design features****Secondary Ids**

empty

**Ethics committees****1****Ethics committee****Name of ethics committee**

Ethic committee of semnan university of medical sciences and health service

**Street address**

Headquarter of Semnan University of Medical Sciences and Health Services, Bassij Blvd, Semnan, Iran.

**City**

Semnan

**Province**

Semnan

**Postal code**

35147-99442

**Approval date**

2024-10-23, 1403/08/02

**Ethics committee reference number**

IR.SEMUMS.REC.1403

**Health conditions studied****1****Description of health condition studied**

Trigger points in the hamstring

**ICD-10 code**

M79.1

**ICD-10 code description**

Myalgia

**Primary outcomes****1****Description**

Hamstring functional assessment, Hamstring thickness ultrasonography

**Timepoint**

Before the treatment and immediately after the treatment

#### Method of measurement

single leg hamstring bridge test, finger floor distance, functional reach test, ultrasonigraphy

## Secondary outcomes

### 1

#### Description

pain and strength assessment in hamstring

#### Timepoint

before and immediately after the treatment

#### Method of measurement

visual analog scale, dynamometer

## Intervention groups

### 1

#### Description

Intervention group:En Dry needling group: In this group, the Deep DN technique will be used with sterile needles on points at the end of the hamstring muscle. Sessions will occur twice a week for 10 minutes each. the proximal hamstring area.

#### Category

Treatment - Devices

### 2

#### Description

Intervention group:Myofascial release group: In this group, Myofascial release technique exercises will be performed for two weeks (4 sessions), with each session consisting of a 60-second massage on the hamstring from the distal to proximal

#### Category

Treatment - Devices

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

Neuromuscular Rehabilitation Research Center of Semnan University of Medical Sciences and Health ser

##### Full name of responsible person

Ziaeddin Safavi Farrokhi

##### Street address

Tabatabaee clinic, ghods Blvd, mashahir square, semnan, iran

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## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

Semnan University of Medical Sciences

##### Full name of responsible person

Dr Abbasali Vafaei

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Headquarter of Semnan University of Medical Sciences and Health Services, Bassij Blvd, Semnan, Iran.

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sem.ums.res@gmail.com

#### 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

Public

#### Domestic or foreign origin

Domestic

#### Category of foreign source of funding

empty

#### Country of origin

#### Type of organization providing the funding

Academic

## Person responsible for general inquiries

#### Contact

##### Name of organization / entity

Semnan University of Medical Sciences

##### Full name of responsible person

Mahmood Bagheri

##### Position

Student

##### Latest degree

Bachelor

##### Other areas of specialty/work

Physiotherapy

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## Person responsible for scientific inquiries

### Contact

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**Other areas of specialty/work**  
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## Person responsible for updating data

### Contact

**Name of organization / entity**  
Semnan University of Medical Sciences  
**Full name of responsible person**  
marzieh mortezanejad  
**Position**  
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**Latest degree**  
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**Other areas of specialty/work**  
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mmortezanejad98@yahoo.com

## Sharing plan

### Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

### Justification/reason for indecision/not sharing IPD

there is no more information

### Study Protocol

No - There is not a plan to make this available

### Statistical Analysis Plan

No - There is not a plan to make this available

### Informed Consent Form

No - There is not a plan to make this available

### Clinical Study Report

No - There is not a plan to make this available

### Analytic Code

No - There is not a plan to make this available

### Data Dictionary

No - There is not a plan to make this available