Clinical Trial Protocol
Iranian Registry of Clinical Trials

09 Nov 2026

Investigating the effect of faciliatory kinesiotaping technique on latent trigger points of the Quadriceps and Gastrocnemius muscles on jump height and agility in Volleyball and Basketball players: A randomized clinical trial study

Protocol summary

Study aim
Investigating the effect of faciliatory kinesiotaping technique on latent trigger points of the Quadriceps and Gastrocnemius muscles on jump height and agility in Volleyball and Basketball players

Design
A controlled clinical trial with parallel groups, double-blind (participant and assessor), randomized, conducted on 44 patients. Randomization was performed using the Random Allocation Software.

Settings and conduct
Male volunteers who attend Pouya Physiotherapy Clinic in Kashan during the study will be enrolled if eligible and will be randomly allocated to intervention and control groups using block randomization. This study will be conducted in a double-blind manner, such that both the participants and the assessor will be unaware of the type of intervention.

Participants/Inclusion and exclusion criteria
Inclusion criteria: Men aged between 18 and 35 years. Presence of at least one latent myofascial trigger point in the quadriceps and gastrocnemius muscles of both lower limbs Exclusion criteria: trauma or injury to the lower limb muscles or joints within the last 6 months that resulted in at least 2 weeks of absence from activity, or in which the athlete still experiences pain.

Intervention groups
Group 1: Participants receive kinesiotaping using the facilitation method, in which the tape is applied with 50% stretch from the muscle's origin to its insertion while the muscle is placed in a stretched position. Group 2: Participants receive kinesiotaping using the sham method. In this group, the tape is applied without stretch and perpendicularly to the muscle fibers, while the muscle is kept in its normal resting length. For both groups, a single treatment session is considered, and the kinesiotape remains on the tissue for 24 hours after application.

Main outcome variables
Countermovement jump height, T-sprint test time, Pressure pain threshold

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20180711040419N3**
Registration date: **2025-10-11, 1404/07/19**
Registration timing: **registered_while_recruiting**

Last update: **2025-10-11, 1404/07/19**
Update count: **0**

Registration date
2025-10-11, 1404/07/19

Registrant information

Name
Katayoon Rezaei

Name of organization / entity

Country
Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2025-10-07, 1404/07/15

Expected recruitment end date
2025-12-01, 1404/09/10
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Investigating the effect of faciliatory kinesiotaping technique on latent trigger points of the Quadriceps and Gastrocnemius muscles on jump height and agility in Volleyball and Basketball players: A randomized clinical trial study

Public title
Investigating the effect of kinesiotaping on jump height and agility
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Male gender. Participation in at least one 2-hour volleyball or basketball training session or match per week, or two 1-hour sessions per week, during the last 2 years. Age between 18 and 35 years. Presence of at least one latent myofascial trigger point in the quadriceps and gastrocnemius muscles of both lower limbs
Exclusion criteria:
The presence of musculoskeletal problems (such as pain in the lower limbs) that prevent the individual from performing the tests. Lack of willingness to participate in the study. trauma or injury to the lower limb muscles or joints within the last 6 months that resulted in at least 2 weeks of absence from activity, or in which the athlete still experiences pain.
Age
From **18 years** old to **35 years** old
Gender
Male

Phase
N/A
Groups that have been masked

- Participant
- Outcome assessor

Sample size
Target sample size: **44**
Randomization (investigator's opinion)
Randomized
Randomization description
For randomization and allocation of participants into the intervention and control groups, block randomization with 11 blocks, each consisting of 4 participants, will be used. Accordingly, 44 eligible volunteers will be randomly selected from the study population. Using the Random Allocation Software, which generates a random sequence of groups A and B, participants will be assigned to either the intervention or control group. Group A will be labeled as the facilitation kinesio taping group and Group B as the sham kinesio taping group. Participants will be allocated to one of the two groups in the order of their enrollment, based on the generated randomization list.
Blinding (investigator's opinion)
Double blinded
Blinding description
The study participants will not be aware of whether they are assigned to the intervention or control group, since kinesiotaping is applied to the same muscles in both groups and the participants are not informed about the technique or the purpose of the kinesiotaping application. In addition, the assessor will also be blinded to the group allocation of the participants.
Placebo
Used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Research Ethics Committees of Shiraz School of Rehabilitation Sciences
Street address
Sadra City Road,after Amir al-Momenin (AS) Burn Injuries Hospital, Shahid Doran Campus, Faculty of Rehabilitation Sciences
City
shiraz
Province
Fars
Postal code
7198754361
Approval date
2025-07-30, 1404/05/08
Ethics committee reference number
IR.SUMS.REHAB.REC.1404.011

Health conditions studied

1

Description of health condition studied
Presence of latent trigger points
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Jump Height: The maximum distance of the individual from the ground after jumping off the surface.
Timepoint

1. Before the intervention 2. 24 hours after the intervention

Method of measurement

Measuring tape

2

Description

T-test sprint time: The duration it takes for the participant to complete the designated course and cross the finish line.

Timepoint

1. Before the intervention 2. 24 hours after the intervention

Method of measurement

Stopwatch

3

Description

Pressure pain threshold (PPT): The minimum amount of pressure that elicits an unpleasant pain sensation in the participant, measured using a pressure algometer.

Timepoint

1. Before the intervention 2. 24 hours after the intervention

Method of measurement

Pressure algometer

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Before the application of kinesio tape, participants are asked to shave the hair on the anterior thigh and posterior calf to avoid any interference with the application and effectiveness of the tape. In addition, prior to taping, the skin is thoroughly cleaned with alcohol and then dried. Throughout the study, kinesio tape of the brand Ares, Extreme model, 5 cm width, manufactured in South Korea is used. For the Intervention group, facilitation kinesio taping is applied to the latent trigger points of the quadriceps and gastrocnemius muscles of both lower limbs. The muscle containing the latent trigger point is placed in its lengthened position, and an 8 cm facilitation kinesio tape is applied over the trigger point. Specifically, 2 cm above the point the tape is applied without tension, then with 50% tension directly over the trigger point, and finally 2 cm below the point without tension. Quadriceps muscle – application of facilitation kinesio taping on the latent trigger point: The participant lies in a supine position on the bed, with the leg hanging off the edge so that the muscle is in its lengthened position. Facilitation kinesio tape with 50% tension is applied in the direction of the muscle fibers, from origin to insertion, over the latent trigger point. The edges of each tape strip are rounded before application. Gastrocnemius muscle – application of facilitation kinesio taping on the latent trigger point: For taping the gastro-soleus muscle, the participant lies in the prone position on the bed, with the foot extending off the edge. Then, by performing dorsiflexion to place the muscle in its lengthened position, facilitation kinesio tape with 50% tension is applied in the direction of the muscle fibers, from origin to insertion, over the latent trigger point. The edges of each tape strip are rounded before application. The kinesiotape is applied once for each participant and remains on the tissue for 24 hours.

Category

Treatment - Devices

2

Description

Control group: Before the application of kinesio tape, participants are asked to shave the hair on the anterior thigh and posterior calf to avoid any interference with the application and effectiveness of the tape. In addition, prior to taping, the skin is thoroughly cleaned with alcohol and then dried. Throughout the study, kinesio tape of the brand Ares, Extreme model, 5 cm width, manufactured in South Korea is used. For the Control group, Sham kinesio taping is applied to the latent trigger points of the quadriceps and gastrocnemius muscles of both lower limbs. The kinesio tape is cut to a length equal to one-third of the circumference of the patient’s thigh or calf at the trigger point site. For the sham group, after identifying the trigger point, the tape is applied without any tension, while the muscle remains in its neutral length, placed horizontally and perpendicular to the muscle fibers. First, the center of the tape is adhered, followed by the edges (61, 77, 78). The kinesio tape remains in place for 24 hours, after which the athlete returns for tape removal and reassessment. Quadriceps muscle – application of sham kinesio taping on the latent trigger point: For this purpose, an I-shaped kinesio tape strip is used. The participant sits on the bed; after removing the backing paper, the tape is applied horizontally over the latent trigger point of the quadriceps muscle without any tension. The center of the tape is adhered first, followed by the edges. The corners of each strip are rounded before application (61, 77).Gastrocnemius muscle – application of sham kinesio taping on the latent trigger point: The participant lies in a prone position with the foot in neutral. An I-shaped kinesio tape strip is applied horizontally, without tension, over the latent trigger point of the gastrocnemius muscle. First, the center of the tape is adhered, followed by both ends. The corners of each strip are rounded before application (77, 88).The kinesiotape is applied once for each participant and remains on the tissue for 24 hours.

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center
Pouya Physiotherapy Clinic
Full name of responsible person
Seyyed Mohammadhosein Abhari Moghadam
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Bahma Alley (Dead nEnd), Salman St., Amir Kabir St.
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Postal code
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M.h.abhari76@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Shiraz University of Medical Sciences
Full name of responsible person
Hamid Mohammadi
Street address
Research and Technology Vice-Chancellor, 7th floor, Central building of Shiraz University of Medical Sciences, Zand Street
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7134814336
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Email
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Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Shiraz 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
Shiraz University of Medical Sciences
Full name of responsible person
Katayoon Rezaei
Position
Assistant Professor
Latest degree
Ph.D.
Other areas of specialty/work
Physiotherapy
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Person responsible for scientific inquiries

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Person responsible for updating data

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Shiraz University of Medical Sciences
Full name of responsible person

Katayoon Rezaei

Position

Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

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School of Rehabilitation Sciences, Shahid Doran Campus, After Amir-al-Momenin Burn Accident Hospital, Sadra Town Road

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Not applicable

Data Dictionary

Not applicable

Title and more details about the data/document

Information collection form including primary outcomes, informed consent form and SPSS file

When the data will become available and for how long

After publication the results of the study

To whom data/document is available

Researchers working in academic and scientific institutions

Under which criteria data/document could be used

Only for recording information in scientific databases

From where data/document is obtainable

Correspondence with the project manager by email. rezaeik@sums.ac.ir

What processes are involved for a request to access data/document

Maximum one month after sending the request by email

Comments