Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

The acute effect of dynamic stretching followed by foam roller and a vibration foam roller on the function of squash players

Protocol summary

Study aim
The aim of this study was to investigate the effect of dynamic stretching exercises and vibrating foam roller in the warm-up program on the function of squash players

Design
The clinical trial will be conducted in parallel groups, single-blinded, randomized, on 32 men, and sealed envelopes will be used for randomization by an anonymous person with research conditions.

Settings and conduct
The participants will be male athletes between the ages of 16 and 25 who will be selected from athletes with a history of playing squash. This research will be conducted in the Sports injury and Corrective exercise Laboratory of the Faculty of Physical Education, University of Guilan. After obtaining consent from the participants, they will be divided into two groups using sealed envelopes. The subjects will not be informed of the group in which the other subjects are present. The research process will be carried out within a week and assessments will be made.

Participants/Inclusion and exclusion criteria
participants will be in the age range of 16 to 25 years. participants in this study will be male squash players only. participants will complete the warm-up program.

Intervention groups
Intervention group 1: will receive dynamic stretching exercises along with exercises using a vibrating foam roller. Intervention group 2: will receive dynamic stretching exercises along with exercises using a foam roller.

Main outcome variables
Quadriceps and hamstring flexibility, agility and reaction time

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20250703066358N2**
Registration date: **2025-11-04, 1404/08/13**
Registration timing: **prospective**

Last update: **2025-11-04, 1404/08/13**
Update count: **0**

Registration date
2025-11-04, 1404/08/13

Registrant information

Name
Omid Shahani

Name of organization / entity
University of Guilan

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Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2025-11-07, 1404/08/16

Expected recruitment end date
2025-11-15, 1404/08/24

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The acute effect of dynamic stretching followed by foam roller and a vibration foam roller on the function of squash players

Public title
The effect of stretching exercises combined with foam roller on the function of squash players
Purpose
Prevention
Inclusion/Exclusion criteria
Inclusion criteria:
The participant's were male and range in age from 16 to 25 years The participant's had a regular sports history in squash for at least three years
Exclusion criteria:
Unwillingness to participate in research Presence of musculoskeletal injuries
Age
From **16 years** old to **25 years** old
Gender
Male

Phase
N/A
Groups that have been masked

- Participant

Sample size
Target sample size: **32**
Randomization (investigator's opinion)
Randomized
Randomization description
Randomization of participant's into groups will be done using sealed envelopes. Inside the envelopes will be papers A and B. The participant's who chooses envelope A will be placed in the first group (stretching exercises with foam roller) and the participant's who chooses envelope B will be placed in the second group (stretching exercises with vibrating foam roller).
Blinding (investigator's opinion)
Single blinded
Blinding description
Blinding of participant's using sealed envelopes labeled A and B, indicating the training group of stretching exercises with vibrating foam roller (A) and stretching exercises with regular foam roller (B). participant's will randomly select an envelope and be assigned to the desired group. Participants will not be informed of the placement of other participant's in the groups.
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Research Ethics Committees of University of Guilan
Street address
Guilan University Complex, 5th km of Tehran Road, Persian Gulf Highway, Rasht.
City
Rasht
Province
Guilan
Postal code
4199613776
Approval date
2024-07-13, 1403/04/23
Ethics committee reference number
IR.GUILAN.REC.1403.067

Health conditions studied

1

Description of health condition studied
The disease will not be investigated
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Quadriceps flexibility
Timepoint
In two stages pre-test and after applying the desired intervention in the post-test
Method of measurement
The flexibility of the quadriceps will be measured with the Alley test. The participants will lie prone and the evaluator will place a plastic goniometer on the participants knee. The fixed arm of the ruler will be positioned in line with the greater trochanter of the femur, the movable arm will be positioned in line with the lateral ankle. The pelvis will be prevented from lifting off the floor while the knee is flexed. The average of the two measurements will be recorded as the standard.

2

Description
Hamstring flexibility
Timepoint
In two stages pre-test and after applying the desired intervention in the post-test
Method of measurement
The knee extension angle test is performed to measure hamstring flexibility with the participants lying on their back with both legs in full knee extension. The participants hip and knee are flexed to 90 degrees and the opposite leg is fixed to the bed. Clinically, the endpoint is reached when the examiner feels slight resistance or the subject reports a strong but tolerable stretch in the hamstring muscle. The goniometer is placed on the participants knee, with the fixed arm at maximum knee extension and the other arm in line with the lateral ankle.

3

Description
Agility
Timepoint
In two stages pre-test and after applying the desired intervention in the post-test
Method of measurement
The T-test is used to measure the agility of individuals. This test will be performed in such a way that four marks are placed on the ground in the form of a T and the participants will stand behind the initial mark. Then, with the whistle, he will run 10 yards towards the opposite mark and then change direction to the left and go 5 yards in a footbox manner towards the next mark. After reaching the next mark, he will go 10 yards to the right of the footbox and after touching the 5-yard mark, he will go to the left of the footbox and after reaching the next mark, he will run 10 yards back and after passing the initial mark, his time in seconds will be recorded as a measure for assessing agility.

4

Description
Reaction time
Timepoint
In two stages pre-test and after applying the desired intervention in the post-test
Method of measurement
Dropping a ruler is a method of estimating reaction time. The participants will be asked to place their dominant hand horizontally on a table in a resting position. The examiner will hang the ruler vertically so that the other end of the ruler is in line with the top of the participants open hand. When the examiner drops the ruler, the participants must pick it up as quickly as possible. The time will be recorded in seconds and will be used as a measure of reaction time.

Secondary outcomes

empty

Intervention groups

1

Description
First Intervention group : The participants will run for 3 minutes at a moderate pace (so that the person can talk easily). Then they will perform dynamic stretching exercises in the lower and upper limbs. After performing dynamic stretching exercises, the participants will perform vibrating foam roller exercises. These exercises include 5 movements in the hamstring, gastrocnemius, rotator cuff, quadriceps, and back and lumbar muscles, each lasting 20 seconds. The vibrating foam roller exercises will be performed at an intensity of 30HZ.
Category
Prevention

2

Description
Second Intervention group: The participants will run for 3 minutes at a moderate pace (so that the person can talk easily). Then they will perform dynamic stretching exercises in the lower and upper limbs. After performing dynamic stretching exercises, the participants will perform foam roller exercises. These exercises include 5 movements in the hamstrings, gastrocnemius, rotator cuff, quadriceps, and back and lumbar muscles, each lasting 20 seconds.
Category
Prevention

Recruitment centers

1

Recruitment center
Name of recruitment center
Sports injuries and Corrective Exercise Laboratory, Faculty of Physical Education and Sport Science
Full name of responsible person
Ali Shamsi Majelan
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Guilan University Complex, 5th km of Tehran Road, Persian Gulf Highway, Rasht.
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
University of Guilan
Full name of responsible person
Dr Ali Bani
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Grant name

Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
Laboratory facilities
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
Persons

Person responsible for general inquiries

Contact
Name of organization / entity
University of Guilan
Full name of responsible person
Ali Shamsi Majelan
Position
Associate professor
Latest degree
Ph.D.
Other areas of specialty/work
Sport injury and corrective exercise
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Guilan University Complex, 5th km of Tehran Road, Persian Gulf Highway, Rasht.
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Person responsible for updating data

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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 further information.
Study Protocol
Yes - There is 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
No - There is not a plan to make this available
Data Dictionary
No - There is not a plan to make this available
Title and more details about the data/document
The analyzed data from the research results will be used for publication in scientific studies and will be published in general.
When the data will become available and for how long

After the study is published in a reputable, international journal, the data resulting from the analysis that have been peer-reviewed will be made available in accordance with the journal's publication policies.

To whom data/document is available

In accordance with the publication's publishing policies, any person requesting to use the data in question must act in accordance with the same policies.

Under which criteria data/document could be used

Necessary measures must be taken in accordance with the publication policies of the journal.

From where data/document is obtainable

The person in charge of this research is Dr. Ali Shamsi Majelan. Requests can be sent via the email address Alishamsim@yahoo.com

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

Submitted requests will be reviewed and responded to within a maximum of 2 business days.

Comments