Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparing the immediate effects of kinesio taping alone and in combination with dynamic stretching on the dynamic balance and functional performance of male athletes with anterior cruciate ligament reconstruction: A randomized clinical trial

Protocol summary

Study aim
Comparison of the immediate effects of kinesio taping alone and in combination with dynamic stretching on dynamic balance and functional performance in male athletes with anterior cruciate ligament reconstruction.

Design
A single-blind clinical trial, 42 people will be randomly assigned to one of the two groups of kinesio tape, and kinesio tape with dynamic stretching. Randomization will be done by block method.

Settings and conduct
Place of study: Musculoskeletal Rehabilitation Research Center, Faculty of Rehabilitation, Ahvaz University of Medical Sciences; study population; Recreational athletes with anterior cruciate ligament reconstruction; Type of blinding: single blind; Method of blinding: The evaluator will be unaware of which intervention the participants are receiving. A physical therapist with a master's degree will perform the assessments and a master's student in sports physical therapy will perform the interventions. Assessment and treatment will be done in two separate rooms.

Participants/Inclusion and exclusion criteria
Inclusion criteria: male recreational athletes; aged 18 to 45 years; who have passed at least 6 months of anterior cruciate ligament surgery; Exclusion criteria: having pain; swelling and limited movement in the knees; dizziness and involvement of the vestibular system; history of cardiovascular or respiratory diseases and sensitivity to kinesio tape.

Intervention groups
Intervention group: they will receive facilitatory kinesio tape on the quadriceps muscle and immediately perform dynamic stretching of the hamstring muscle. Control group: they will receive facilitatory kinesio tape on the quadriceps muscle.

Main outcome variables
Modified star excursion balance test score; single leg hop test score; jumping performance test score

General information

Reason for update
Acronym
IRCT registration information
IRCT registration number: **IRCT20230730058979N1**
Registration date: **2023-08-28, 1402/06/06**
Registration timing: **prospective**

Last update: **2023-08-28, 1402/06/06**
Update count: **0**

Registration date
2023-08-28, 1402/06/06

Registrant information
Name
Gholamhossain nassadj
Name of organization / entity
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Iran (Islamic Republic of)
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Recruitment status
Recruitment complete
Funding source

Expected recruitment start date
2023-09-06, 1402/06/15
Expected recruitment end date
2023-12-22, 1402/10/01

Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Comparing the immediate effects of kinesio taping alone and in combination with dynamic stretching on the dynamic balance and functional performance of male athletes with anterior cruciate ligament reconstruction: A randomized clinical trial

Public title
The effect of kinesio taping and dynamic stretching in persons with anterior cruciate ligament reconstruction
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Males 18- 45 years Tegner questionnaire scores 5-7 6 month after ACL reconstruction Recreationally active participants Hamstring tendon graft technique were performed on them Knee range of motion greater than 90° flexion and complete extension
Exclusion criteria:
Pain, swelling and range of motion limitation in the knees Dizziness and involvement of vestibular system History of cardiovascular or respiratory disease History of neurological problems in lower extremities History of musculoskeletal disorders of the lower extremities during the last 12 months History of previous surgery in the lower extremity and difference in leg's length Skin sensitivity to kinesio tape
Age
From **18 years** old to **45 years** old
Gender
Male

Phase
N/A
Groups that have been masked

- Outcome assessor

Sample size
Target sample size: **42**
Randomization (investigator's opinion)
Randomized
Randomization description
Randomization will be done by block method. In this way, quadruple blocks will be considered, in which the number of treatments is equal in each block, and we will display the two treatment groups as letters A and B, and we will write their different permutations on cards. 6 permutations are obtained, which will be written on 6 cards (AABB- BBAA- ABAB-ABBA-BABA-BAAB). And for the first time, when we randomly remove one of these cards from the envelope, the treatment group of the first to fourth person will be determined. We will put the card in the envelope again and use these cards until the sample size is completed.
Blinding (investigator's opinion)
Single blinded
Blinding description
The evaluator will be unaware of which intervention the participants are receiving. A physical therapist with a master's degree will perform the assessments and a master's student in sports physical therapy will perform the interventions. Assessment and treatment will be done in two separate rooms.
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics Committee of Jundi Shapur Ahvaz University of Medical Sciences
Street address
Golestan highway
City
Ahvaz
Province
Khouzestan
Postal code
61357-15794
Approval date
2023-07-24, 1402/05/02
Ethics committee reference number
IR.AJUMS.REC.1402.252

Health conditions studied

1

Description of health condition studied
Dynamic balance, performance
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Modified star excursion balance test score
Timepoint
before and 15 minutes after intervention
Method of measurement
By measuring the distance traveled in the modified star excursion balance test using a tape measure

2

Description
Single leg hop test score
Timepoint
before and 15 minutes after intervention
Method of measurement
By measuring the distance traveled during jumping with one leg using a tape measure

3

Description
Jumping performance test score
Timepoint
before and 15 minutes after intervention
Method of measurement
By measuring the height during the vertical jump using a tape measure

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: Kinesio tape with a width of 5 cm will be applied on the skin on the quadriceps muscle using the facilitation technique. Before the intervention, the skin sensitivity of the patients will be tested using a small piece of kinesio tape in a 24-hour period, and a few hours after shaving the area, the kinesio tape will be applied. For this purpose, the person will be asked to lie down in the supine position with the leg hanging from the bed, while the knee is in 90 degrees of flexion. Then the kinesio tape will be applied with 50% elongation from the origin to the insertion of the quadriceps muscle, and then to the two parts on both sides of the patella. Then, in order to modify the knee movements and stimulate the surface receptors, an I-shaped kinesio tape piece will be used as the distance between the tibial tuberosity and 5 cm above the femoral condyles. It will be used in such a way that the knee is bent 80 to 90 degrees, open the tape in the middle and stick it on the tibial tuberosity with maximum tension. Then we will reduce the elongation of the two ends to 50% and attach them to the femoral condyles. Before and 15 minutes after the application of the kinesio tape, the dynamic balance and functional performance of the people will be evaluated.
Category
Rehabilitation

2

Description
Intervention group: at first, Kinesio tape with a width of 5 cm will be applied on the skin on the quadriceps muscle using the facilitation technique. Before the intervention, the skin sensitivity of the patients will be tested using a small piece of kinesio tape in a 24-hour period, and a few hours after shaving the area, the kinesio tape will be applied. For this purpose, the person will be asked to lie down in the supine position with the leg hanging from the bed, while the knee is in 90 degrees of flexion. Then the kinesio tape will be applied with 50% elongation from the origin to the insertion of the quadriceps muscle, and then to the two parts on both sides of the patella. Then, in order to modify the knee movements and stimulate the surface receptors, an I-shaped kinesio tape piece will be used as the distance between the tibial tuberosity and 5 cm above the femoral condyles. It will be used in such a way that the knee is bent 80 to 90 degrees, open the tape in the middle and stick it on the tibial tuberosity with maximum tension. Then we will reduce the elongation of the two ends to 50% and attach them to the femoral condyles. Immediately after application of the kinesio tape, dynamic stretching will be performed. To perform dynamic stretching according to Nelson et al.'s method, persons will be instructed to lie supine, while the intact lower limb is fully extended, a 3 foot long piece of black Theraband (0.91 m) hold around the heel of the operated lower limb with both hands. The exercise will begin with the operated knee locked in full extension and the hip in zero degree extension. Then the person will take the hip into flexion by pulling the theraband with his hands and he will be asked when he feels a gentle stretch, to take the hip to zero degree extension without stopping and repeat this 6 times alternately. Dynamic stretching will be done for a total stretch of 30 seconds .Before and 15 minutes after intervention the dynamic balance and functional performance of the people will be evaluated.
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Musculoskeletal Research Center, Faculty of Rehabilitation, Jundishapur University of Medical Scienc
Full name of responsible person
Gholam Hossain Nassadj
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Ahvaz University of Medical Sciences
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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
Ahvaz 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
Ahvaz University of Medical Sciences
Full name of responsible person
Gholam Hossain Nassadj
Position
Assistant professor
Latest degree
Ph.D.
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Person responsible for updating data

Contact
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Fatemeh Bakhshizadeh
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Master's student in sports physiotherapy
Latest degree
Bachelor
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available
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

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

Data Dictionary

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

Title and more details about the data/document

All data is potentially shareable after de-identifying individuals

When the data will become available and for how long

6 months after the results are published

To whom data/document is available

Researchers working in academic institutions

Under which criteria data/document could be used

If someone wants to do a similar research project

From where data/document is obtainable

Gholam hossain nassadj

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

By email, stating the reason and purpose

Comments