Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparison of Skill and Landing Technique in Basketball Players with Pes Planus: When Using Taping and Kinesiology Taping

Protocol summary

Study aim
To compare skill and landing error of basketball players with flat flexible pes planus when using taping and kinesiology taping

Design
Randomized crossover design

Settings and conduct
Among 112 basketball players who volunteered and met the inclusion criteria, 12 will be randomly selected as subjects. This is a randomized crossover study.

Participants/Inclusion and exclusion criteria
Inclusion criteria included a score of 0.89 on the Stahely Index, ankle problems, age range 18 to 25 years, and at least three years of regular participation in basketball. Exclusion criteria included a history of lower extremity injury in the past 12 months.

Intervention groups
The control group represents the no-taping condition, intervention group 1 represents the post-taping condition, and intervention group 2 represents the post-kinesio taping condition. Low-dye taping is an effective method to increase the height of the navicular and correct overpronated feet or flat feet. A two-inch-wide, hard, white zinc oxide adhesive plaster will be used for Low-dye taping. Depending on the size of the athlete's foot, about 5 to 6 strips can be used to completely cover the metatarsal part of the foot. The navicular sling kinesio taping method is also used to correct overpronated feet or flat feet. To perform navicular sling kinesio taping, a two-inch-wide blue kinesio tape from Rock Tape will be used. The taping site should be clean, dry, and hair-free. The evaluations include the assessment of landing errors and skills in different conditions (without taping, taping, and kinesio taping) and in a randomized and crossover manner (with a half-hour interval in each group and two minutes between each test) in three groups.

Main outcome variables
Skill, Landing errors

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20250622066219N1**
Registration date: **2025-10-20, 1404/07/28**
Registration timing: **retrospective**

Last update: **2025-10-20, 1404/07/28**
Update count: **0**

Registration date
2025-10-20, 1404/07/28

Registrant information
Name
Hemn Mohammadi
Name of organization / entity
University of Kurdistan
Country
Iran (Islamic Republic of)
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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2025-07-20, 1404/04/29

Expected recruitment end date
2025-09-21, 1404/06/30

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Comparison of Skill and Landing Technique in Basketball Players with Pes Planus: When Using Taping and Kinesiology Taping

Public title
The effect of pes planus taping on landing and skill

Purpose
Prevention

Inclusion/Exclusion criteria

Inclusion criteria:
Score 0.89 (Stahali Index) No ankle problems or misalignments. Age range 18–25 years. Having at least three years of regular basketball participation.

Exclusion criteria:
History of lower extremity injury in the past 12 months

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

Gender
Male

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **36**
More than 1 sample in each individual
Number of samples in each individual: **3**
Taping, No taping, Kinesiotaping

Randomization (investigator's opinion)
Randomized

Randomization description
Random number generation software: Using the software (Random.org) and the numbers 3, 2, 1, three-digit numbers were generated as many as the number of subjects. For example, if subject number one came up with the number 312, the ones digit (no tapping condition), the tens digit (tapping condition), and the hundreds digit (kinesio-tapping condition) in the number 312 each represent a test condition. Therefore, in subject number one with the random number 312, the tests were first performed in the tapping condition (1), then in the no tapping condition (2), and finally in the kinesio-tapping condition (3).

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Crossover

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Research Ethics Committee of the University of Kurdistan

Street address
University of Kurdistan,Pasdaran Boulevard, Sanandaj City, Kurdistan Province, Iran

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6617715175

Approval date
2024-04-27, 1403/02/08

Ethics committee reference number
IR.UOK.REC.1403.012

Health conditions studied

1

Description of health condition studied
flexible pes planus

ICD-10 code
M95.9

ICD-10 code description
Acquired deformity of musculoskeletal system, unspecified

Primary outcomes

1

Description
Skill

Timepoint
Before taping, another half hour and after taping, another hour and after kinesio taping

Method of measurement
Throw test

2

Description
Landing error

Timepoint
Before taping, another half hour and after taping, another hour and after kinesio taping

Method of measurement
Landing Error Scoring System Test

Secondary outcomes

1

Description
Landing technique

Timepoint
Before taping, another half hour, and after taping, another hour, and after kinesio taping

Method of measurement
Landing Error Scoring System Test

Intervention groups

1

Description

Control group: This group represents the condition where no tapping is performed. Assessments in this condition include landing error and skill tests in the pre-tip condition. At the beginning, landing error tests and skill tests are taught, and then each test will be performed two to three times as a trial to familiarize yourself with the test. Initially, athletes will perform the Landing Error Test (LESS test), and after a two-minute rest, randomly perform all three skill tests (freestyle, jump shot, and layup tests) with a two-minute rest interval. Each test will be performed three times, and the best record for the athlete will be recorded as the test score.

Category

Prevention

2

Description

Intervention Group 1: This group represents the post-taping condition. The intervention in this group includes taping using the Low-dye method. Low-dye taping is an effective method for increasing navicular height and correcting overpronated or flat feet, and is also used to increase explosive power in jumping activities. This taping method appears to have a direct effect on the jumping pattern of flat-footed basketball players. A two-inch-wide, hard, white zinc oxide adhesive plaster will be used to perform Low-dye taping. In this method, the subject places their ankle in a neutral position. To apply taping, a tape is applied as an anchor, from the medial head of the first metatarsal joint, under the medial ankle, and behind the heel. It then continues from the medial ankle to the lateral head of the fifth metatarsal joint. Then, the tapes continue from the outer part of the foot and inward in parallel. All of these tapes extend from the outer part of the anchor to the sole and the inner part of the anchor. Depending on the size of the athlete's foot, about 5 to 6 tapes can be used to completely cover the metatarsal part of the foot. All assessments (landing errors and skills) in this situation are performed in a random and cross-over manner, half an hour after the assessment of the control group, and in the condition after applying the taping method by the Low-dye method, with a two-minute rest interval between each test.

Category

Prevention

3

Description

Intervention group 2: This group represents the situation after kinesio taping. The intervention in this group includes kinesio taping using the navicular sling method. This method is used to correct an overpronated foot or flat feet. To perform kinesio taping with the navicular sling, a two-inch wide blue kinesio tape from the Rock Tape brand will be used. The taping site should be clean, dry, and hairless. The kinesio taping method begins on the top of the foot, so that the kinesio tape continues from the middle of the foot outward and over the metatarsals and extends to the fifth metatarsal bone, then extends from the bottom of the foot inward and over the first metatarsal, continuing under the navicular and upward, and then passing over the medial ankle. Then it is pulled outward and upward from the front of the ankle, passing over the outer ankle and stretching towards the back of the foot and above the Achilles tendon, and ends. All assessments (landing errors and skills) in this situation are performed in a random and cross-over manner, one hour after the assessment of the control group and half an hour after the assessment of the Low-dye taping group, in the conditions after applying kinesio taping using the Navicular Slink method, and with a two-minute rest interval between each test.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Physical Education Laboratory, University of Kurdistan

Full name of responsible person

Hemn Mohammadi

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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Full name of responsible person

Ali Akbar Mozafari

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Grant name
Annual supervisor grant

Grant code / Reference number
1403-1404

Is the source of funding the same sponsor organization/entity?
Yes

Title of funding source
University of Kurdistan

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
The University of Kurdistan

Full name of responsible person
Hemn Mohammadi

Position
Associate professor

Latest degree
Ph.D.

Other areas of specialty/work
Sports injury and corrective exercises

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Person responsible for updating data

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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
Yes - There is a plan to make this available

Data Dictionary
Yes - There is 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
Access period begins three months after results are published.

To whom data/document is available
In addition to academic researchers, people involved in sports medicine can also apply for them.

Under which criteria data/document could be used
After receiving the request email, if approved by the university's central library, the data will be sent within a week.

From where data/document is obtainable
Corresponding author's email address

What processes are involved for a request to access data/document
After approved by the university's central library, the data will be sent within a week.

Comments
no