Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 2026

Immediate effects of patellar taping on electromyographic indices of Vastus medialis oblique and Vastus lateralis muscles in Patellofemoral pain syndrome

Protocol summary

Study aim

Evaluation of the immediate effectiveness of patellar taping on electromyographic indices of Vastus medialis oblique(VMO) and Vastus lateralis(VL) muscles in Patellofemoral pain syndrome(PFPS)

Design

In this randomized, blinded study, 35 patients aged 20-50 years with PFPS are selected. KT on patella will be used for all people.The muscular activity of individuals in closed and open chain kinematic will be examined with an EMG device that the order of these activities is done randomly for individuals. A secondary evaluation is performed on the same day after patellar taping to evaluate the immediate effects of patellar taping on knee muscle activity.

Settings and conduct

Emg data analyzer will not know if the recorded information is pre- or post-taping.

Participants/Inclusion and exclusion criteria

In. criteria : Anterior knee pain for at least a month; Feeling of pain when touching the medial and lateral borders of the patella; Exacerbation of symptoms during prolonged sitting, climbing stairs, squatting, running and jumping activities; positive Clark test; Pain during resistance knee extension ex. criteria : History of direct trauma to the patella; History of patella dislocation; Any rheumatic conditions (OA, RA); Diabetes; Any trauma and injury of meniscus; Ligament instability; Referral pain from the lower back, hip, pelvis, and SI region; Significant inflammation and effusion of the knee joint; knee surgery; Steroid injection; knee physiotherapy; Severe knee pain; Lower limb malalignment (anteversion of femur, genovarum and genovalgum, flat foot)

Intervention groups

In order to evaluate the immediate effectiveness of kinesiotaping(KT) on muscle activity, a Y-shaped tape will be used on the patella.

Main outcome variables

Onset time of EMG activity and the amount of amplitude of EMG activity of VMO and VL muscles and the ampltude ratio of them during closed and open chain kinematic

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20091214002851N6**
Registration date: **2021-11-24, 1400/09/03**
Registration timing: **prospective**

Last update: **2021-11-24, 1400/09/03**
Update count: **0**

Registration date

2021-11-24, 1400/09/03

Registrant information

Name

Mohammad Taghipour

Name of organization / entity

Babol University of Medical Sciences

Country

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-12-18, 1400/09/27

Expected recruitment end date

2022-09-23, 1401/07/01

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

Scientific title
Immediate effects of patellar taping on electromyographic indices of Vastus medialis oblique and Vastus lateralis muscles in Patellofemoral pain syndrome

Public title
Immediate effects of patellar taping in Patellofemoral pain syndrome
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Anterior knee pain for at least a month Feeling of pain when touching the medial and lateral borders of the patella Exacerbation of symptoms during prolonged sitting, climbing stairs, squatting, running and jumping activities positive Clark test Pain during resistance knee extension
Exclusion criteria:
History of direct trauma to the patella History of patella dislocation Any rheumatic conditions (osteoarthritis, rheumatoid arthritis) Diabetes Any trauma and injury of meniscus Ligament instability Referral pain from the lower back, hip, pelvis, and sacroiliac region Significant inflammation and effusion of the knee joint knee surgery Steroid injection knee physiotherapy Severe knee pain Lower limb malalignment (anteversion of femur, genovarum and genovalgum, flat foot)
Age
From **20 years** old to **50 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Data analyser

Sample size
Target sample size: **35**
Randomization (investigator's opinion)
Randomized
Randomization description
In this study, muscle activity in closed and open chain kinematics will be examined during 6 tests. The sequence of these tests is done randomly for individuals based on a table of random numbers.
Blinding (investigator's opinion)
Single blinded
Blinding description
The person who will analyze the electromyographic data will not know if the recorded information is relevant before or after taping.
Placebo
Not used
Assignment
Single
Other design features
Investigation of the effect of patellar taping on all three electromyographic indicators (onset-amplitude-amp ratio) simultaneously؛Comparison of the effect of taping on open and closed chain kinematic of the lower limb؛Comparison of the effect of taping in different positions of the lower limb, including internal and external rotation of the hip

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of Babol University of Medical Sciences
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Mazandaran, Babol, Ganj Afrooz St., Babol University of Medical Sciences
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Babol
Province
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Approval date
2021-10-09, 1400/07/17
Ethics committee reference number
IR.MUBABOL.HRI.REC.1400.064

Health conditions studied

1

Description of health condition studied
Patellofemoral pain syndrome
ICD-10 code
M22.2
ICD-10 code description
Patellofemoral disorders

Primary outcomes

1

Description
Delayed onset time of Vastus medialis oblique activity
Timepoint
Before patellar taping and immediately after patellar taping
Method of measurement
Electromyograph

Secondary outcomes

1

Description
Intensity of pain
Timepoint
Before patellar taping and immediately after patellar taping
Method of measurement
Analog visual scale

2

Description
Amplitude of Vastus medialis oblique
Timepoint
Before patellar taping and immediately after patellar taping
Method of measurement
Electromyograph

3

Description
Amplitude of Vastus lateralis
Timepoint
Before patellar taping and immediately after patellar taping
Method of measurement
Electromyograph

4

Description
The ratio of VMO/VL amplitude
Timepoint
Before patellar taping and immediately after patellar taping
Method of measurement
Dividing the maximum amplitude of the Vastus medialis oblique muscle into the maximum amplitude of the Vastus lateralis muscle

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Description
Delayed onset time of Vastus lateralis activity
Timepoint
Before patellar taping and immediately after patellar taping
Method of measurement
Electromyograph

Intervention groups

1

Description
Intervention group: The Y-shaped kinesiotape strip will be placed on the patella. The patient will be seated or supine while the affected knee is bent. The base of the Y-shaped strip will be placed without stretching on the surface of the Quadriceps femoris half muscle. The tape continues with a slight stretch(25%) in the direction of the patella. After correcting the location of the patella, the inner tail of the tape is placed along the medial border of the patella and the outer tail is placed along the lateral border of the patella and ends without stretching on the patellar tendon.
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Orthopedic and Physiotherapy clinic of Shahid Beheshti hospital
Full name of responsible person
Mohammad Taghipour
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Sponsors / Funding sources

1

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Name of organization / entity
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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
Babol 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
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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 can potentially be shared after unidentified individuals
When the data will become available and for how long
Access period starts 2 months after the results are published
To whom data/document is available
Researchers working in academic, scientific and medical institutions

Under which criteria data/document could be used

To cite other researchers from the results of our research

From where data/document is obtainable

Dr. Mohammad Taghipour, Babol University of medical sciences, college of Rehabilitation, 00989126899352 ,taghipour@mubabol.ac.ir Asal Hasanpour Moqaddam, Babol University of medical sciences, college of Rehabilitation, 00989120526725, pt.asalmoqaddam@gmail.com

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

2-4 weeks after request by email

Comments