

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Comparative Effects of McConnell Taping and Kinesio Taping on Pain and Gait Parameters in Patients with Patellofemoral Pain Syndrome

#### Protocol summary

##### Study aim

Primary purpose of this research to investigate the effects of the McConnell taping on pain and gait parameters with patello-femoral pain syndrome To investigate the effects of the Kinesio taping on pain and gait parameters with patello-femoral pain syndrome To compare the effects of the Kinesio taping and the McConnell taping on pain and gait parameters with the patello-femoral pain syndrome such pain, activities, gait parameters, and cadence.

##### Design

Randomized clinical trial

##### Settings and conduct

Study will be conducted in Allied Hospital, District HQ Hospital, Madinah Teaching Hospital Faisalabad

##### Participants/Inclusion and exclusion criteria

**INCLUSION CRITERIA** Age 20-40 Persons those are experiencing the knee pain anteriorly Pain at worst once, within the last three months in two or more movements throughout prolonged squatting, sitting, stair climbing, kneeling, running, and jumping Unilateral(one sided) PFPS BMI 20 to 32 kg Patellar apprehension test  
**EXCLUSION CRITERIA** History of subluxation moreover dislocation of the patella Surgery of Lower extremity (LE) within the last year Due to damage of neurological damage, Sensory or motor paralysis On anterior knee pain scale, score of 80 or high Meniscal injury Osteoarthritis of Knee joint old fractures in the knee region with or without internal fixation tendon pathology of patella Any deformities of lower limb Pain is referred from the area of spine

##### Intervention groups

Both group MT group and KT group will receive McConnell taping & Kinesio taping with baseline treatment stretching, strengthening as well as patellar mobilization

##### Main outcome variables

pain, activities, gait parameters and cadence

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20230706058701N1**

Registration date: **2023-08-08, 1402/05/17**

Registration timing: **retrospective**

Last update: **2023-08-08, 1402/05/17**

Update count: **0**

##### Registration date

2023-08-08, 1402/05/17

##### Registrant information

##### Name

Ayesha Aslam

##### Name of organization / entity

The University of Faisalabad

##### Country

Pakistan

##### Phone

+92 41 8750971

##### Email address

ayeshaaslam7625@gmail.com

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2023-03-28, 1402/01/08

##### Expected recruitment end date

2023-06-15, 1402/03/25

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

## Scientific title

Comparative Effects of McConnell Taping and Kinesio Taping on Pain and Gait Parameters in Patients with Patellofemoral Pain Syndrome

## Public title

McConnell Taping and Kinesio Taping on Pain and Gait Parameters in Patients with Patellofemoral Pain Syndrome

## Purpose

Treatment

## Inclusion/Exclusion criteria

### Inclusion criteria:

Age 20-40 Persons those are experiencing the knee pain anteriorly Pain at worst once, within the last three months in two or more movements throughout prolonged squatting, sitting, stair climbing, kneeling, running, and jumping Unilateral PFPS BMI 20 to 32 kg Patellar apprehension test

### Exclusion criteria:

History of subluxation moreover dislocation of the patella Surgery of Lower extremity (LE) within the last year Due to damage of neurological damage, Sensory or motor paralysis On anterior knee pain scale, score of 80 or high Meniscal injury Osteoarthritis of Knee joint old fractures in the knee region with or without internal fixation tendon pathology of patella Any deformities of lower limb Pain is referred from the area of spine

## Age

From **20 years** old to **40 years** old

## Gender

Both

## Phase

N/A

## Groups that have been masked

- Participant
- Investigator

## Sample size

Target sample size: **30**

## Randomization (investigator's opinion)

Randomized

## Randomization description

As per the inclusion and exclusion criteria of the study , patients will be divided into two groups randomly by Random lottery method. The randomization process in this study followed a simple randomization method at the individual level. The unit of randomization was the individual participant, meaning that each participant was randomly assigned to either the MT group or the KT group.

## Blinding (investigator's opinion)

Double blinded

## Blinding description

The patients taking part in the study would be blinded, they would not be able to know the group they have been allocated to, either McConnell taping and Kinesio taping. Principal investigator, who is responsible for the overall conduct and supervision of the study, is also blinded in a double-blind trial. In investigator-initiated trials, the principal investigator may have a vested interest in the study outcomes. By blinding the principal

investigator, the risk of conscious or unconscious bias in data interpretation and analysis is minimized.

## Placebo

Not used

## Assignment

Parallel

## Other design features

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

The University of Faisalabad

##### Street address

Canal road Faisalabad

##### City

Faisalabad

##### Postal code

38610

#### Approval date

2023-03-25, 1402/01/05

#### Ethics committee reference number

TUF/Addl Reg/SB/355

## Health conditions studied

### 1

#### Description of health condition studied

Patellofemoral Pain Syndrome (PFPS) is an umbrella term used for pain arising from the Patellofemoral joint itself, or adjacent soft tissues. It is a chronic condition that tends to worsen with activities such as squatting, sitting, climbing stairs, and running. Historically it has been referred to as anterior knee pain but this is misleading as the pain can be felt in all aspects of the knee (including the popliteal fossa). Symptoms can develop slowly over time or brought on acutely. PFP tends to reoccur after 2 years in 40% of cases.

#### ICD-10 code

M22.2X

#### ICD-10 code description

Patellofemoral disorders

## Primary outcomes

### 1

#### Description

Primary outcomes is Pain

#### Timepoint

Measure by Visual Analogue Scale (VAS)

#### Method of measurement

The Visual Analogue Scale (VAS) measures pain intensity. The VAS consists of a 10cm line, with two end points representing 0 ('no pain') and 10 ('pain as bad as

it could possibly be'). Ask the patient to rate their current level of pain by placing a mark on the line.

## 2

### **Description**

Activities

### **Timepoint**

Activities measure by Kujala/Anterior Knee Pain Scale (AKPS)

### **Method of measurement**

The Kujala Score or Anterior Knee Pain Scale (AKPS) is a 13-item self-report questionnaire that assesses subjective reactions to particular activities and symptoms that are known to correlate with anterior knee pain syndrome. The AKPS is graded on a scale of 0 to 100, with 100 being the highest possible score.

## 3

### **Description**

Gait parameters (cadence)

### **Timepoint**

Gait parameters by Rivermead Visual gait assessment form, (cadence) measure by Stopwatch

### **Method of measurement**

Rivermead Visual Gait Assessment is regarded as the most clinically helpful measurement since it evaluates the kinematic component of gait abnormalities. The clinical and economically method of visual gait observation is particularly helpful in identifying walking abnormalities. It consists of 20 items that measure the deviations on the affected side over 2 arms, 11 stance phases, and 7 swing phases. Each question is graded on a four-point scale with a range of 0 to 3 (normal value = 0, mild deviation value = 1, moderate deviation value = 2, and severe deviation value = 3). The overall score ranges from 0 (normal gait) to 59 (severely altered gait) because only item 2 is rated up to significant alteration (21). A stopwatch is a timing tool used to measure the passing of time. It is also employed to assess cadence, which refers to the frequency of steps or strides taken during activities like walking or jogging. By counting the number of steps within a designated timeframe, typically a minute, a stopwatch provides a convenient method for monitoring cadence. While there are more advanced wearable devices for precise cadence measurements, a stopwatch can still provide approximate measurements when such technology is not available.

## **Secondary outcomes**

empty

## **Intervention groups**

### 1

#### **Description**

Intervention group: Group A McConnell Taping: Taping was performed on the participants in the MT group while the patella is pulled medially. It started at the middle of the lateral border, then carried over the front of the

patella and finally attached to the middle of the medial border of the medial hamstring tendons. The medial soft tissues shift down the medial femoral condyle and towards the patella in order to provide a more secure fixation (15). The patient was lying on his or her side with the extended leg and the thigh muscles are just relaxed when the tape was applied. Several strips of hypo-allergenic tape were applied throughout the region of knee to Antero-posterior tilt and medial glide: The tape was applied to the knee's lateral surface at the level of the patella's tops facet. cover the patella and the medial and lateral knee regions before each piece of rigid tape was applied. As the tape was pushed medially, the skin on the medial side of the knee was gradually raised towards the patella. Short of the hamstring, the tape was fastened to the medial side of the knee (17). After the medial correction, McConnell taping with the weight bearing on the lower leg demonstrated that neither the patellofemoral joint's area of contact nor the patella's alignment were altered by the tape method. The McConnell taping technique improves dynamic balance, increases the activating of the (Vastus Medialis Obliquus) compared to the (Vastus Lateralis muscles), and corrects patellar alignment in addition to reducing pain during activity (43).

#### **Category**

Treatment - Other

### 2

#### **Description**

Intervention group: Group B Kinesio Taping : Before beginning the taping process, alcohol was used to disinfect the skin. The position of patient was in the supine position, the taping was done with the 30 degrees hip flexed and 50 degrees knee flexed. The first part of adhesive tape was at the linea aspera medial lip since here is where the VM begins. After that, it will attach this to the side middle of patellar\_tendon, as well as serves as the putting point for the VM (34). On the quadriceps femoris muscle, kinesio tape was applied using a tonus regulation technique, commonly known as muscle technique. We observed the tape length with the tissue stretched to its maximum extent. In a supine position, the individual was advised to extend their leg as far as possible below the bed, and the starting end of a Y-shaped of tape was attached to the middle of the thigh, 5 cm below the line of the inguinal region. Alongside the knee joint in a place of 90° flexion, the tape was fastened along a line that went above the kneecap, and the split end's two tips were fastened to the kneecap and wrapped around it (17). By stimulating the cutaneous mechanoreceptors and boosting afferent signals to the central nervous system, KT can significantly reduce pain. Additionally, according to , KT elevates the skin and encourages blood and lymph flow. Additionally, it is believed to support joint health and muscle repair. Additionally, KT may improve emotional stability and self-assurance, which can lead to improved performance. It is thought that KT regulates muscle tone, activates skin afferent receptors, and has an impact on how muscles work. Better limb strength can result from these elements in turn. By attracting muscle spindles via

the sensorimotor pathway, KT can also enhance muscular tone. One of the theories behind KT is that it strengthens proprioceptive sensibility to assist weak muscles, enhancing muscular function, reducing discomfort, realigning subluxated joints, and promoting blood and lymph circulation (44).

#### Category

Treatment - Other

### Recruitment centers

#### 1

##### Recruitment center

**Name of recruitment center**

Allied Hospital Faisalabad

**Full name of responsible person**

Sobia Nawaz

**Street address**

Jail Road adjacent to Faisalabad Medical University,  
Near Sargodha Road, Faisalabad.

**City**

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sobia.nawaz56@gmail.com

**Web page address**

#### 2

##### Recruitment center

**Name of recruitment center**

Madinah Teaching Hospital

**Full name of responsible person**

Dr.Kishwar

**Street address**

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#### 3

##### Recruitment center

**Name of recruitment center**

District HQ Faisalabad

**Full name of responsible person**

Shaista Bano

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### Sponsors / Funding sources

#### 1

##### Sponsor

**Name of organization / entity**

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**Full name of responsible person**

Ayesha Aslam

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**Grant name**

no

**Grant code / Reference number**

no

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

No

**Title of funding source**

my parents supporting me

**Proportion provided by this source**

100

**Public or private sector**

Private

**Domestic or foreign origin**

Domestic

**Category of foreign source of funding**

empty

**Country of origin****Type of organization providing the funding**

Other

### Person responsible for general inquiries

##### Contact

**Name of organization / entity**

The University of Faisalabad

**Full name of responsible person**

Ayesha Aslam

**Position**

Student

**Latest degree**

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**Other areas of specialty/work**

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## Person responsible for scientific inquiries

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## Person responsible for updating data

### Contact

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**Other areas of specialty/work**  
Physiotherapy  
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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

Comparative effects of McConnell Taping and Kinesio Taping on pain and gait parameters in patients with Patellofemoral pain syndrome

### When the data will become available and for how long

Data will be available after the completion of study and will remain available till 6 months

### To whom data/document is available

Data will be available for other people almost 6 months after the completion of study

### Under which criteria data/document could be used

The data/document could be used by communicating with the principle investigator Ayesha Aslam gmail : ayeshaaslam7625@gmail.com

### From where data/document is obtainable

Ayesha Aslam gmail : ayeshaaslam7625@gmail.com

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

The data/document could be used by communicating with the principle investigator Ayesha Aslam ayeshaaslam7625@gmail.com

### Comments