

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Comparative Study on the Effects Of Low Level Laser Therapy and Ultrasound Therapy in Sportsmen with ACL Reconstructive Surgery

Protocol summary

Study aim

To evaluate comparison between the effects of low level laser therapy and ultrasonic therapy in sportsmen with ACL reconstructive surgery, improving ROM and functionality.

Design

Single Blinded Quasi Experimental Clinical Design

Settings and conduct

Faisal Hospital, Faisalabad, Punjab, Pakistan Allied Hospital, Faisalabad, Punjab, Pakistan Hospitals mentioned above are the settings used to conduct the research. Participants will be allocated in groups who fulfill the inclusion criteria and those who are in exclusion criteria will be excluded. Participants will be assessed on the basis of NPRS and Cincinnati knee rating system and the ROM will be measured by using universal goniometer. Trials will be performed and results will be noted at the end of every week for four weeks

Participants/Inclusion and exclusion criteria

Inclusion Criteria: Both genders are included. Sportsman of age ranging from 18-35 years old plying for the past 3-5 years having ACL reconstructive surgery. Patient scoring pain on NPRS at least 3 Those who were active in their respective sports and has recent ACL injury. Minimum 7 days post-operative ACL reconstructive sportsman after opening of stitches. Exclusion Criteria: Athletes having any surgery such as fractures, dislocation. Sportsman suffering from any previous trauma for the past 6 months. Person having DVT (deep vein thrombosis). Contraindications of Mobilization (Hypermobility, Joint Effusion and Inflammation).

Intervention groups

Treatment will be provided for 3 times a week for 4 weeks for both groups. Group A will be given low level laser therapy.

Main outcome variables

Numerical Pain Rating Scale, Universal Goniometer, Cincinnati Knee Rating System

General information

Reason for update

Acronym

ACL(ANTERIOR CRUCIATE LIGAMNET)

IRCT registration information

IRCT registration number: **IRCT20220510054804N1**

Registration date: **2022-07-30, 1401/05/08**

Registration timing: **registered_while_recruiting**

Last update: **2022-07-30, 1401/05/08**

Update count: **0**

Registration date

2022-07-30, 1401/05/08

Registrant information

Name

Muhammad Farhan

Name of organization / entity

Government College University Faisalabad, Pakistan

Country

Pakistan

Phone

+92 309 6670876

Email address

farhangujjar607@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-03-10, 1400/12/19

Expected recruitment end date

2022-08-25, 1401/06/03

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparative Study on the Effects Of Low Level Laser Therapy and Ultrasound Therapy in Sportsmen with ACL Reconstructive Surgery

Public title

Comparative Study on the Effects Of Low Level Laser Therapy and Ultrasound Therapy in Sportsmen with ACL Reconstructive Surgery

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Sportsman of age ranging from 18-35 years old plying for the past 3-5 years having ACL reconstructive surgery. Patient scoring pain on NPRS at least 3 Those who were active in their respective sports and has recent ACL injury Minimum 7 days post-operative ACL reconstructive sportsman after opening of stitches Both genders are included

Exclusion criteria:

Athletes having any surgery such as fractures, dislocation Sportsman suffering from any previous trauma for the past 6 months Person having DVT (deep vein thrombosis) Contraindications of Mobilization (Hypermobility, Joint Effusion and Inflammation)

Age

From **18 years** old to **35 years** old

Gender

Both

Phase

0

Groups that have been masked

No information

Sample size

Target sample size: **34**

More than 1 sample in each individual

Number of samples in each individual: **17**

Patients will be randomly assigned into two groups. Each group will comprise of 17 patients.

Randomization (investigator's opinion)

Randomized

Randomization description

Non-probability purposive sampling technique will be utilized for collecting sample and sample will be allocated to treatment group A and B by using online randomization generator. 2 sets of 17 unique numbers per set Range: From 1 to 34— Sorted from Least to Greatest Group A: Low Level Laser Therapy [1,2,6,7,10,11,15,17,18,19,20,22,23,24,29,32,33] Group B: Ultrasonic Therapy[3,4,5,8,9,12,13,14,16,21,25,26,27,28,30,31,32, 34]

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Government College University Faisalabad

Street address

C389+CXH, Kotwali Rd, Gurunanakpura, Faisalabad, Punjab

City

Faisalabad

Postal code

38000

Approval date

2022-03-10, 1400/12/19

Ethics committee reference number

GCUF/ERC/1025

Health conditions studied

1

Description of health condition studied

ACL (Anterior Cruciate Ligament) injury is a tear or sprain of the anterior cruciate ligament — one of the strong bands of tissue that help connect your thigh bone (femur) to your shinbone (tibia) which is then reconstructed surgically.

ICD-10 code

S83. 512A

ICD-10 code description

Code S83. 512A is the diagnosis code used for Sprain of anterior cruciate ligament of left knee. A condition leads to anterior dislocation of knee joint (Femur and Tibia). Thus patient is unable to walk because of extreme pain.

Primary outcomes

1

Description

The numerical pain rating scale was utilized to measure intensity of pain. Pain Intensity was rated on 0-10 scale at a horizontal bar. NPRS consists of 11 points, which range from 0= no pain, 1-4= mild pain, 4-7= moderate pain 7-10= severe pain.

Timepoint

5 timepoints including Baseline, 1st week post treatment, 2nd week post treatment, 3rd week post treatment, 4th week post treatment.

Method of measurement

Numerical Pain Rating Scale will be utilized to assess pain.

2

Description

Universal Goniometer will be used to measure Knee ROM.

Timepoint

5 timepoints including Baseline, 1st week post treatment, 2nd week post treatment, 3rd week post treatment, 4th week post treatment

Method of measurement

Universal Goniometer will be used to measure Knee ROM.

3

Description

Cincinnati Knee Rating System will be used to measure improved functionality of Knee

Timepoint

5 timepoints including Baseline, 1st week post treatment, 2nd week post treatment, 3rd week post treatment, 4th week post treatment

Method of measurement

Cincinnati Knee Rating System will be used to measure improved functionality of Knee

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: 1. After giving participants the base line treatment. Group 1 will receive low level laser therapy of wavelength 810 nm, frequency with continuous output, spot size of 0.0364cm², energy per point upto 6 J, and number of irradiation points are 6. Low level laser therapy at each point will be applied for 30 seconds. Readings will be noted at the end of each week for four weeks and results will be drawn.

Category

Rehabilitation

2

Description

Intervention group: 2. After giving participants the base line treatment. Group 2 will receive ultrasonic therapy. And the power ultrasound device with a sound head area of 5 cm² and frequency of the device is 1-MHz, effective radiating area is 3.5-5 cm² and ultrasonic therapy will be implemented for 5 minutes on each participant. Readings will be noted at the end of each week for four weeks and results will be drawn.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Faisal Hospital Faisalabad

Full name of responsible person

Dr. Ramisha Tahir

Street address

673-A Lower Canal Rd E, Block A People's Colony No 1, Faisalabad, Punjab

City

Faisalabad

Postal code

38000

Phone

+92 41 8536999

Email

fihsfsd@outlook.com

2

Recruitment center

Name of recruitment center

Allied Hospital Faisalabad

Full name of responsible person

Dr. Rashid Maqbool

Street address

Dr. Tusi Rd, Faisalabad, Punjab

City

Faisalabad

Postal code

38000

Phone

+92 41 9210082

Email

principalpmc09@yahoo.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Faisal Institute of Health Sciences

Full name of responsible person

Dr. Ramisha Tahir

Street address

673-A Lower Canal Rd E, Block A People's Colony No 1, Faisalabad, Punjab

City

FAISALABAD

Postal code

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Phone

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fihsfsd@outlook.com

Grant name

Grant code / Reference number

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

No

Title of funding source

Self Financed
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

Faisal Institute of Health Sciences

Full name of responsible person

Dr. Ramesha Tahir; PT

Position

Principle Investigator/Student

Latest degree

Medical doctor

Other areas of specialty/work

Physiotherapy

Street address

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Faisal Institute of Health Sciences

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Person responsible for updating data

Contact

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

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

Study Protocol

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

Statistical Analysis Plan

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

Informed Consent Form

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

Clinical Study Report

Not applicable

Analytic Code

Not applicable

Data Dictionary

Not applicable