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 CRUICIATE 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
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Pakistan
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+92 309 6670876
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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
38000
Phone
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Email
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
Priniciple Investigator/Student

Latest degree
Medical doctor

Other areas of specialty/work
Physiotherapy

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C483+95F, Block A People's Colony No 1, Faisalabad, Punjab

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Person responsible for scientific inquiries

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Person responsible for updating data

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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