Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparison of Mulligan Bent Leg Raise Technique versus Static Stretching to Increase the Flexibility of Hamstring

Protocol summary

Study aim
To compare the effectiveness static stretch technique and bent leg raise technique to increase the flexibility of hamstrings.

Design
It was an experimental Randomized Clinical Trial, pretest/post-test study.

Settings and conduct
study was conducted at Syed Medical Complex, Sialkot Pakistan.

Participants/Inclusion and exclusion criteria
Inclusion criteria were 20 to 45 years of age, both males and females, failing to fully extend knee by 25 degree or more and having pain during walk was included. Exclusion criteria were subjects having hamstring tightness but with recent trauma, surgery or any signs of PIVD.

Intervention groups
Subjects were distributed to two groups with use of Coin Toss Method of randomization. Group classification were such as Group 1, Bent Leg Raise Groups, Group 2, and Static Stretch Group.

Main outcome variables
Back-Saver Sit and Reach Test

General information

Reason for update

Acronym
Mulligan BLR

IRCT registration information
IRCT registration number: **IRCT20201031049207N1**
Registration date: **2020-12-07, 1399/09/17**
Registration timing: **retrospective**

Last update: **2020-12-07, 1399/09/17**
Update count: **0**

Registration date
2020-12-07, 1399/09/17

Registrant information

Name
Wajida Perveen

Name of organization / entity
Sialkot college of Physical Therapy, Amin Welfare &Teaching Hospital, defence Road, Sialkot Pakistan

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Pakistan

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2017-04-01, 1396/01/12

Expected recruitment end date
2017-09-30, 1396/07/08

Actual recruitment start date
2017-04-01, 1396/01/12

Actual recruitment end date
2017-09-30, 1396/07/08

Trial completion date
2017-09-30, 1396/07/08

Scientific title
Comparison of Mulligan Bent Leg Raise Technique versus Static Stretching to Increase the Flexibility of Hamstring

Public title
Mulligan BLRT versus Static Stretching for Hamstring

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Unable to fully extend the knee joint Difficulty in raising the foot dorsally Pain in Walking patients with age 20-45

years

Exclusion criteria:

History of trauma Presence of red Flag signs Any surgery Prolapsed Intervertebral Disc patients below 20 years and above 45 years of age any neurological deficits.

Age

From **20 years** old to **45 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant

Sample size

Target sample size: **75**

Actual sample size reached: **75**

Randomization (investigator's opinion)

Randomized

Randomization description

Subjects were distributed to two groups with use of Coin Toss Method of randomization. Group classification were such as Group 1, Bent Leg Raise Groups, Group 2, and Static Stretch Group.

Blinding (investigator's opinion)

Single blinded

Blinding description

Allocation of groups was concealed by having the procedure done by a person not linked with any of the apparatus of study, patients.

Placebo

Not used

Assignment

Parallel

Other design features

Subjects in two groups were blinded from other group options, however, were instructed to report any adverse effects during trial.

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

SCPT-IRB

Street address

Umer Street

City

Sialkot

Postal code

51310

Approval date

2017-03-27, 1396/01/07

Ethics committee reference number

IRB-SCPT-DPT-107-2017

Health conditions studied

1

Description of health condition studied

Today’s life style involving increased and prolonged use of computers/ office work have lead the population to decreased flexibility in terms of muscle and joint stiffness. Among these problems of musculoskeletal system, decreased flexibility of hamstrings is significant; which can result in many problems.

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Back-Saver Sit and Reach Test was used as outcome measure.

Timepoint

One Pre-Treatment and three Post Treatment scores were taken.

Method of measurement

for measurement Shoes should be removed first. patient Sits on the floor with one leg out straight and the other leg with the knee bent and its foot flat on the floor (see image). The outstretched foot is placed flush against the measurement box. With hands placed on top of each other and palms facing down, the subject reaches slowly forward along the measuring line as far as possible. After three practice reaches, the fourth reach is held for at least one second while the distance is recorded

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group-A: Bent Leg Raise Mulligan Technique Group. The BLR technique consists of three repetitions of pain-free, 5 sec, isometric contraction of the hamstrings, performed in five progressively greater positions of hip flexion.

Category

Treatment - Other

2

Description

Intervention group -B: static stretching technique group. Static stretches is used as part of cool-down routine to help prevent injury. static stretching is also used as a maintenance stretching program to reduce your risk of injury.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center
Syed Medical Complex
Full name of responsible person
Riaz Hashmi
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Sponsors / Funding sources

1

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Grant name
Nil
Grant code / Reference number
Nil
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
Nil
Proportion provided by this source
1
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
Sialkot College of Physical Therapy
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Position
Assistant Professor
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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
No - There is not a plan to make this available
Statistical Analysis Plan
No - There is not 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
No - There is not a plan to make this available
Data Dictionary
No - There is not a plan to make this available
Title and more details about the data/document
Comparison of Mulligan Bent Leg Raise Technique versus Static Stretching to Increase the Flexibility of Hamstring
When the data will become available and for how long
Data will be available for one year after Publication of this study
To whom data/document is available
Principal Investigator Riaz Hashmi
Under which criteria data/document could be used
only for citation purpose
From where data/document is obtainable
By sending a request to the Principal Investigator only.
What processes are involved for a request to access data/document
formal email request.
Comments