Clinical Trial Protocol
Iranian Registry of Clinical Trials

25 Sep 2026

Evaluation of changes due to application of lumbar support belts in thickness of lateral abdominal muscles measured by ultrasound in healthy subjects: a single blinded randomized controlled trial

Protocol summary

Summary

The purpose of this study is to find the effect of lumbar support belts, on the thickness of transverse abdominis, internal oblique and external oblique. The target population that will be studied consists of sixty volunteer healthy men. Some of the inclusion criteria are: age between 18 to 55 years; having no history of low back pain before the study; having no history of systemic and local diseases that might affect the abdominal muscles. Also some of the exclusion criteria are: 1) beginning regular abdominal resistance training during the study; not wearing the belt for 24 hours or more. Subjects will be randomly recruited in two groups: a group that will wear the lumbar support belt (intervention) and a group that will not wear the belt (control). At the beginning of the study and after 4 and 8 weeks of the intervention all subjects will be evaluated to measure their lateral abdominal muscles thicknesses in rest and drawing-in maneuver by ultrasound.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201107314231N2**
Registration date: **2011-08-28, 1390/06/06**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2011-08-28, 1390/06/06

Registrant information

Name

Pardis Noormohamadpour

Name of organization / entity

Sport Medicine Research Center, Tehran University of Medical Sciences

Country

Iran (Islamic Republic of)

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+98 21 8863 0227

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Recruitment status

Recruitment complete

Funding source

Tehran University of Medical Sciences and Health Services - Vice chancellor for research

Expected recruitment start date

2011-08-01, 1390/05/10

Expected recruitment end date

2011-10-01, 1390/07/09

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Evaluation of changes due to application of lumbar support belts in thickness of lateral abdominal muscles measured by ultrasound in healthy subjects: a single blinded randomized controlled trial

Public title

Effect of lumbar support belts on the lateral abdominal muscle thickness

Purpose

Other

Inclusion/Exclusion criteria

inclusion criteria : age between 18 to 55 year; having no history of low back pain before the study; having no

history of systemic and local diseases that might affect the multifidus and abdominal muscles like systemic scleroderma, muscular dystrophy, abdominal wall hernia and open abdominal or lumbar surgery. Exclusion criteria: beginning regular abdominal resistance training during the study; not wearing the belt for 24 hours or more; employing medication or methods that could affect the abdominal muscles such as abdominal vibrators, massage ; skin wound or problems in the ultrasound area.

Age
From **18 years** old to **55 years** old

Gender
Male

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **60**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Single blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Tehran University of Medical Sciences and Health Services - Ethics committee

Street address
Faculty of Medicine, Tehran University of Medical Sciences, Keshavarz Blvd

City
Tehran

Postal code

Approval date
2008-12-14, 1387/09/24

Ethics committee reference number
87-04-53-8181

Health conditions studied

1

Description of health condition studied
Diseases of the musculoskeletal system and connective tissue

ICD-10 code
M54.5

ICD-10 code description
Low back pain

Primary outcomes

1

Description
lateral Abdominal muscles thicknesses (transverse abdominis, internal oblique, and external oblique thickness)

Timepoint
Before the intervention, 4 week after & 8 week after

Method of measurement
ultrasound

Secondary outcomes

empty

Intervention groups

1

Description
Control: They will not use the belt

Category
N/A

2

Description
Intervention: using lumbar support belts during the day except when sleeping, for 8 weeks.

Category
Treatment - Devices

Recruitment centers

1

Recruitment center

Name of recruitment center
Sport Medicine Research Center, Tehran University of Medical Sciences and Health Services

Full name of responsible person
Dr. Ramin Kordi

Street address
No. 7, Opposite Shariati Hospital Clinic, After the overpass Nasr, Crossing Jalal Al Ahmad

City
Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tehran University of Medical Sciences and Health Services - Vice chancellor for research

Full name of responsible person

Dr. Akbar Fotouhi

Street address

Faculty of Medicine, Tehran University of Medical Sciences, Keshavarz Blvd

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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

Tehran University of Medical Sciences and Health Services - Vice chancellor for research

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

Sport Medicine Research Center, Tehran University of Medical Sciences and Health Services

Full name of responsible person

Dr. Ramin Kordi

Position

Assistant Professor of Tehran University of Medical Sciences and Health Services

Other areas of specialty/work

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Sport Medicine Research Center, Tehran University of Medical Sciences and Health Services

Full name of responsible person

Dr. Pardis Noormohammadpour

Position

Resident of sports and exercise medicine, Sport Medicine Research Center, Tehran University of Medic

Other areas of specialty/work

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Person responsible for updating data

Contact

Name of organization / entity

Tehran University of Medical Sciences and Health Services - Sport Medicine Research Center

Full name of responsible person

Dr. Mohsen Rostami

Position

Medical Student & Research Fellow, Tehran University of Medical Sciences and Health Services

Other areas of specialty/work

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty