

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Difference between Neuromuscular Electrical Stimulation and Kinesio Taping® in Decreasing Ankle Swelling in Athletes with Lateral Ankle Sprain

Protocol summary

Summary

Backgrounds and Objective: The purpose of the study was to compare the effectiveness of Kinesio Taping® (KT) and neuromuscular electrical stimulation (NMES) on AS in such individuals. Materials & methods: Thirty-one athletes with a unilateral ligamentous ankle sprain from various sports were allocated to either KT (N=16) or NMES (N=15) groups. During five consecutive days, KT was applied over the ankle medial and lateral surface in a Fan cut pattern; however, NMES was performed for Tibialis Anterior and Gastrocnemius muscles in 30 minutes. Outcome measurements to evaluate the extent of AS included volumetry, perimetry, relative volumetry, and the difference in both ankles volumetry and perimetry at baseline, after receiving the interventions, and 15 days following the treatment completion.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017050233772N1**

Registration date: **2017-06-07, 1396/03/17**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2017-06-07, 1396/03/17

Registrant information

Name

Pouya Rabiei

Name of organization / entity

Islamic Azad University, Karaj Branch, karaj

Country

Iran (Islamic Republic of)

Phone

+98 918 361 1802

Email address

pouya.rabiei@kiau.ac.ir

Recruitment status

Recruitment complete

Funding source

Investigator

Expected recruitment start date

2015-07-23, 1394/05/01

Expected recruitment end date

2015-08-21, 1394/05/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Difference between Neuromuscular Electrical Stimulation and Kinesio Taping® in Decreasing Ankle Swelling in Athletes with Lateral Ankle Sprain

Public title

Decreasing Ankle Swelling in Athletes

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Diagnosis of lateral ankle sprain by the physician. Exclusion criteria: fractures; open wounds; swelling systemic lower limbs due to heart disease, kidney or intravenous; skin's sensitivity to tape Kinesiotape; a piece of metal on foot; injured his ankle against the need to have surgery during the past year; taking blood pressure; and pacemakers.

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked*No information***Sample size**Target sample size: **31****Randomization (investigator's opinion)**

Randomized

Randomization description**Blinding (investigator's opinion)**

Not blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids****1****Registry name****Secondary trial Id****Registration date**

2017-11-22, 1396/09/01

Ethics committees**1****Ethics committee****Name of ethics committee**

Semnan University Medical Sciences And Health

Street address

University Medical Sciences And Health, semnan

City

semnan

Postal code**Approval date**

2014-09-23, 1393/07/01

Ethics committee reference number

۳۲۵۹۰-۷۸۷

Health conditions studied**1****Description of health condition studied**

Ankle Sprain

ICD-10 code

s93.4

ICD-10 code description

Sprain and strain of ankle

Primary outcomes**1****Description**

Ankle Swelling

Timepoint

at baseline, after receiving the interventions, and 15 days following the treatment completion.

Method of measurement

evaluate the extent of AS included volumetry, perimetry, relative volumetry, and the difference in both ankles

Secondary outcomes**1****Description**

no secondary outcome measure

Timepoint

no secondary outcome measure

Method of measurement

no secondary outcome measure

Intervention groups**1****Description**

Intervention group 1: Based on the sheet by the person that a number written on it was (number 1 represents the electrical stimulation group and the number 2 represents the group Kinesiotape), the two treatment groups neuromuscular electrical stimulation (n = 18) and Kinesiotape (n = 17) groups. Interventions were done during 5 days. Electrical stimulation of neuromuscular electrical stimulation device in the new company 710 P model comes with four electrodes were used. The interventions were as follows: one in the supine position to sleep and affected leg above heart level are high and on a seat placed using a rubber band tightly around the ankle it was connected. To minimize any movement of the ankle joint, the foot was placed against the wall. The type of electrode used in this study was Carbonflex disk with a thickness of 10 cm are made of carbon rubber and covered by a foam pad were not put directly on the skin. Two electrodes on muscle bulk and two electrodes were placed on the tibialis anterior muscle. Feeling that the person will experience during the application process, he explained. Each of the two electrodes placed on the muscles targeted by a separate cable to two output devices was connected directly. Low-voltage electrical stimulation applied with rectangular waves (Rectangular waveform) with Modulation in frequency and duration of pulses were applied. Neuromuscular electrical stimulation test time by 30 minutes (360 cycles of 5 seconds) was determined. Each cycle of 400 pulses with different combinations of pulse period to the next pulse (Pulse-to-pulse intervals) and size it was time. The average frequency of 80 Hz electrical stimulation was calculated, but actually received electrical stimulation in Burst of short-term muscle contractions that cause for every 25/1 seconds (8.0 Hz) was. During each Burst, a pulse duration between 60 and 240 Myly-Sanyh varied

and ranged from pulse to pulse the next 8 ms (125 Hz), respectively.

Category

Rehabilitation

2**Description**

Intervention group 2: Intervention in Kinesio taping (n=17) using tapes with a width of 5 cm Kinesio taping Tem Tex model and a thickness of 5 mm was carried out. High adhesion and is also waterproof with minimal skin irritation, the model was chosen because it was, because in this study Strips for 5 days on the body, and separating it from the skin during this time for researchers were important. kinesio taping applies for Fan cut the pattern. Days before the Kinesio taping person was asked to create maximum adhesion, to shave the hair area. For intervention, subjects were placed in the supine position and 13 cm above the ankle 10 cm high external and internal ankle injured ankle was checked. Another brigade that was on the inside of the ankle was cut to the size of the type. Kinesio taping both domestic and foreign bands marked the start of the leg and the foot metatarsal stress were 20 percent will continue. kinesiotape bar with four bars became thinner and each of them was placed a distance of about 1 cm from the adjacent bar. Kiesiotape bar slightly toward the inner surface of Tibia miles and sort order of the bands was as follows: the internal malleolus, on the inner ankle, ankle domestic front, and in line with the little finger.

Category

Rehabilitation

Recruitment centers**1****Recruitment center****Name of recruitment center**

Niki physical therapy clinic

Full name of responsible person

Dr. Vahid Mazloun

Street address

Haftetir street

City

karaj

Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

investigator

Full name of responsible person

Dr. vahid Mazloun

Street address

haftetir street

City

karaj

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

investigator

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**

Islamic Azad University of Karaj

Full name of responsible person

pouya rabiei

Position

master of sports injury

Other areas of specialty/work**Street address**

Islamic Azad University of Karaj. moazen street

City

karaj

Postal code**Phone**

+98 26 3418 2365

Fax**Email**

pouya_rabiei@yahoo.com

Web page address**Person responsible for scientific inquiries****Contact****Name of organization / entity**

Islamic Azad University of Karaj

Full name of responsible person

pouya rabiei

Position

master of sports injury

Other areas of specialty/work**Street address**

Islamic Azad University of Karaj. moazen street

City

karaj

Postal code**Phone**

+98 26 3418 2365

Fax**Email**

pouya_rabiei@yahoo.com

Web page address

Person responsible for updating data

Contact

Name of organization / entity

Islamic Azad University of Karaj

Full name of responsible person

pouya rabiei

Position

master of sports injury

Other areas of specialty/work**Street address**

Islamic Azad University of Karaj. moazen street

City

karaj

Postal code**Phone**

+34 182365

Fax**Email**

pouya-rabiei@yahoo.com

Web page address

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