

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

04 Jun 2026

### The Effects of TECAR Therapy on Pain, Range of Motion, Strength and Subscale of The Copenhagen Hip and Groin Outcome Scale Questionnaire in Athletes with Longstanding Adductor Related Groin Pain

#### Protocol summary

##### Study aim

The Effects of TECAR Therapy on Pain, Range of Motion, Strength and Subscale of Hip and Groin Outcome Scale Questionnaire in Athletes with Longstanding Adductor Related Groin Pain

##### Design

Double blinded randomized control trial. Allocation of patients to intervention and control groups based on random blocking method. The arrangement of the blocks is done based on the randomization website. The sample size was estimated using GPower 3.1 software and considering 10% dropout of 22 people.

##### Settings and conduct

Treatment protocol including a ten-minute warm-up with a treadmill, therapy and finally three stretching exercises three times a week and ten sessions in total. The experimenter is not aware of the grouping and treatment in each group. Placebo group are not aware of the output intensity of the TECAR device, so the current research is a double-blind type. Interventions are performed in the physiotherapy clinic of the Faculty of Rehabilitation Sciences of Iran.

##### Participants/Inclusion and exclusion criteria

Include Criteria: Athletes with unilateral and chronic adductor related groin pain, Ability to read and write in Persian language, Age 18-45, Tenderness and Pain in resistance test, Pain at the beginning of the study should be 3-7; non include criteria: unwillingness to continue the treatment, Accompanying injuries, Referral Pain, Received treatment in the last 1 months, Contraindications for using TECAR

##### Intervention groups

In the intervention group, the effectiveness of the TECAR on adductor related groin pain is investigated. In the control group, this device is used but with zero output intensity.

##### Main outcome variables

Pain, Range of Motion, Strength, Quality of Life, Symptoms, Participation in physical activities, Physical function on daily living, Function on sports and recreational activities

#### General information

##### Reason for update

Correction following preliminary study

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20220622055250N1**

Registration date: **2022-09-18, 1401/06/27**

Registration timing: **prospective**

Last update: **2023-03-24, 1402/01/04**

Update count: **1**

##### Registration date

2022-09-18, 1401/06/27

##### Registrant information

##### Name

Sara Nazari

##### Name of organization / entity

##### Country

Iran (Islamic Republic of)

##### Phone

+98 21 2222 7124

##### Email address

nazari.sara@iums.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2022-09-23, 1401/07/01

##### Expected recruitment end date

2023-03-20, 1401/12/29

**Actual recruitment start date**

empty

**Actual recruitment end date**

empty

**Trial completion date**

empty

**Scientific title**

The Effects of TECAR Therapy on Pain, Range of Motion, Strength and Subscale of The Copenhagen Hip and Groin Outcome Scale Questionnaire in Athletes with Longstanding Adductor Related Groin Pain

**Public title**

The Effects of TECAR Therapy in Athletes with Longstanding Adductor Related Groin Pain

**Purpose**

Treatment

**Inclusion/Exclusion criteria****Inclusion criteria:**

Athletes with Adductor related groin pain, at least one month after the injury Unilateral Injury of Adductor Muscles Ability to Read and Write in Persian language (Elementary First Period) Age 18-45 Tenderness in Adductor Muscles Pain during Resistance Test of Adductor Muscles Pain at the Beginning of the Study Should be 3-7. (Based on Visual Analogue Scale) Injury confirmation by a Sports Specialist Doctor

**Exclusion criteria:**

Unwillingness to Continue Treatment Suffering from Injuries and Fractures in the Lower Limbs in a Way that Prevents the Completion of the Treatment Process Urinary and Genital Infections Hernia (inguinal, femoral) Referral Pains to the Groin Area Malignant tumors Accompanying Problems in the Groin Area Received Treatment in the Last 1 Month Cases of Non-use of the TECAR Therapy Device Include Pregnancy, Tumor, Electrical Devices Placed Inside the Body Such as Cardiac Pacemaker, Fever, Having Transplanted Tissue.

**Age**

From **18 years** old to **45 years** old

**Gender**

Both

**Phase**

N/A

**Groups that have been masked**

- Participant
- Outcome assessor

**Sample size**

Target sample size: **22**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

Allocation of patients to intervention and control groups is based on simple random block method (block size of 4 and allocation ratio 1:1). In this way, at the end of all four samplings, the number of samples in both groups is equal. The arrangement of the blocks is done based on the randomization website between the number one and six

**Blinding (investigator's opinion)**

Double blinded

**Blinding description**

In the current research, the examiner is not aware of the allocation of patients in each group, and the people in the placebo group are not aware of the output intensity of the TECAR device, so the current research is a double-blind type.

**Placebo**

Used

**Assignment**

Parallel

**Other design features****Secondary Ids**

empty

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

Ethical committee of Iran University of Medical Sciences

**Street address**

Iran University of Medical Sciences, Shahid Hemmat Highway, Tehran

**City**

Tehran

**Province**

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**Postal code**

1449614535

**Approval date**

2022-05-07, 1401/02/17

**Ethics committee reference number**

IR.IUMS.REC.1401.076

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

Adductor Related Groin Pain

**ICD-10 code****ICD-10 code description****Primary outcomes****1****Description**

Pain

**Timepoint**

First session, session 6, session 10, After 1 month

**Method of measurement**

Visual Analogue Scale

**Secondary outcomes**

## 1

### **Description**

Range of Motion

### **Timepoint**

First session, Session 6, Session 10, After 1 month

### **Method of measurement**

Goniometer

## 2

### **Description**

Strength

### **Timepoint**

First session, Session 6, Session 10, After 1 month

### **Method of measurement**

Dynamometer

## 3

### **Description**

Quality of Life

### **Timepoint**

First session, Session 6, Session 10, After 1 month

### **Method of measurement**

The Copenhagen Hip and Groin Outcome Score  
Questionnaire

## 4

### **Description**

Pain

### **Timepoint**

First session, Session 6, Session 10, After 1 month

### **Method of measurement**

The Copenhagen Hip and Groin Outcome Score  
Questionnaire

## 5

### **Description**

Symptoms

### **Timepoint**

First session, Session 6, Session 10, After 1 month

### **Method of measurement**

The Copenhagen Hip and Groin Outcome Score  
Questionnaire

## 6

### **Description**

Participation in physical activities

### **Timepoint**

First session, Session 6, Session 10, After 1 month

### **Method of measurement**

The Copenhagen Hip and Groin Outcome Score  
Questionnaire

## 7

### **Description**

Function, sports and recreational activities

### **Timepoint**

First session, Session 6, Session 10, After 1 month

## **Method of measurement**

The Copenhagen Hip and Groin Outcome Score  
Questionnaire

## 8

### **Description**

Physical function, daily living

### **Timepoint**

First session, Session 6, Session 10, After 1 month

### **Method of measurement**

The Copenhagen Hip and Groin Outcome Score  
Questionnaire

## **Intervention groups**

## 1

### **Description**

Intervention group: The people who are in this group will receive ten sessions treatment in three times a week. In this group, the TECAR device will be used with the aim of heating the tissues for 15 minutes and with 30-40 percent of intensity.

### **Category**

Rehabilitation

## **Recruitment centers**

## 1

### **Recruitment center**

#### **Name of recruitment center**

Physiotherapy Clinic, Faculty of Rehabilitation, Iran  
University of Medical Sciences

#### **Full name of responsible person**

Soheil Mansour Sohani

#### **Street address**

Faculty of Rehabilitation Sciences of Iran Medical  
Sciences University, Madadkaran Street, Shah Nazari  
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## **Sponsors / Funding sources**

## 1

### **Sponsor**

#### **Name of organization / entity**

Iran University of Medical Sciences

#### **Full name of responsible person**

hossein keyvani

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keyvani.h@iums.ac.ir

**Grant name**

**Grant code / Reference number**

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

Yes

**Title of funding source**

Iran University of Medical Sciences

**Proportion provided by this source**

100

**Public or private sector**

Public

**Domestic or foreign origin**

Domestic

**Category of foreign source of funding**

*empty*

**Country of origin**

**Type of organization providing the funding**

Academic

## Person responsible for general inquiries

**Contact**

**Name of organization / entity**

Iran University of Medical Sciences

**Full name of responsible person**

Sara Nazari

**Position**

Student

**Latest degree**

Bachelor

**Other areas of specialty/work**

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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**

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

**Analytic Code**

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

**Data Dictionary**

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