

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### To study the effectiveness of inspiratory muscle training on the functional capacity of male taekwondo athletes

#### Protocol summary

##### Study aim

To evaluate the effectiveness of inspiratory muscle training on the functional capacity of male taekwondo athletes

##### Design

A clinical trial with a control group, with parallel groups, randomised with random numbers table and sample size of 33 people.

##### Settings and conduct

Research is in the sports medicine field and at the Rasoul Akram Hospital is being carried out on the Taekwondo Premier League. In this study, we intend to measure the functional capacity of 33 taekwondo athletes by performing CPET testing and VO<sub>2</sub>max measurement. Simultaneous measurement of maximal power of the inspiratory muscle (Pi max) is performed with the Power Breathe machine. Training on how to inhale and exhale and measure diaphragm breathing power is performed by a Power Breath. Then, at the end of the measurement, two factors of respiratory muscle strength measurement are PI max and S index. At first, the individual is assessed by the Inspiratory Muscle Training. The inspiratory muscles training machine is then adjusted to a degree equal to 50% of PI max and given to taekwondo men and the correct method of training with the machine is taught to them. muscle training with incentive spirometry is continued for up to 6 weeks, followed by individual performance tests.

##### Participants/Inclusion and exclusion criteria

Attending Taekwondo Premier League matches in 2019  
Age over 15 years

##### Intervention groups

Athletes in the intervention group will undergo inspiratory breathing exercises using a power breathe device.

##### Main outcome variables

The effect of inspiratory breathing exercises on the performance of taekwondo men is evaluated.

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20200103045992N1**

Registration date: **2020-01-20, 1398/10/30**

Registration timing: **registered\_while\_recruiting**

Last update: **2020-01-20, 1398/10/30**

Update count: **0**

##### Registration date

2020-01-20, 1398/10/30

##### Registrant information

##### Name

Meisam Rezaei

##### Name of organization / entity

##### Country

Iran (Islamic Republic of)

##### Phone

+98 21 6609 9062

##### Email address

maysamrezaei@yahoo.com

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2019-12-29, 1398/10/08

##### Expected recruitment end date

2020-02-09, 1398/11/20

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

To study the effectiveness of inspiratory muscle training on the functional capacity of male taekwondo athletes

#### Public title

To study the effectiveness of inspiratory muscle training on the functional capacity of male taekwondo athletes

#### Purpose

Supportive

#### Inclusion/Exclusion criteria

##### Inclusion criteria:

Male taekwondo athletes of professional league age over 15 years

##### Exclusion criteria:

Lack of physical fitness for tests

#### Age

From 15 years old

#### Gender

Male

#### Phase

3

#### Groups that have been masked

No information

#### Sample size

Target sample size: 33

#### Randomization (investigator's opinion)

Randomized

#### Randomization description

Athletes were randomly divided into two groups of intervention with breathing muscle training and control groups. They were randomly assigned to either the intervention or control groups through the random numbers table & blocking

#### 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 Iran University of Medical Sciences

###### Street address

Hemat Highway next to Milad Tower, Tehran

###### City

Tehran

###### Province

Tehran

###### Postal code

۱۳۴۹۶۱۴۵۳۵

#### Approval date

2019-12-25, 1398/10/04

#### Ethics committee reference number

IR.IUMS.FMD.REC.1398.421

### Health conditions studied

#### 1

##### Description of health condition studied

Functional capacity

##### ICD-10 code

##### ICD-10 code description

### Primary outcomes

#### 1

##### Description

The rate of improvement of respiratory capacity

##### Timepoint

At baseline and 6 weeks after

##### Method of measurement

Cardiopulmonary Exercise Test and Power breathe device

### Secondary outcomes

empty

### Intervention groups

#### 1

##### Description

Respiratory muscles training using power breathe device

##### Category

Other

### Recruitment centers

#### 1

##### Recruitment center

###### Name of recruitment center

Rasool Akram hospital

###### Full name of responsible person

Sara Lotfiyan

###### Street address

Rasool Akram hospital, Niayesh ave, Sattarkhaan st.

###### City

Tehran

###### Province

Tehran

###### Postal code

1419783311

###### Phone

+98 21 6653 7308

###### Email

maysamrezaei@yahoo.com

###### Web page address

## Sponsors / Funding sources

### 1

#### Sponsor

**Name of organization / entity**

Iran University of Medical Sciences

**Full name of responsible person**

Seyed Abas Motevalian

**Street address**

Basement, Central Library, Iran University of Medical Sciences, Hemmat Highway.

**City**

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**Province**

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**Postal code**

1449614535

**Phone**

+98 21 8670 5503

**Email**

irct@hbi.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**

Meisam Rezaei

**Position**

Resident

**Latest degree**

Medical doctor

**Other areas of specialty/work**

Sport Medicine

**Street address**

No. 9, West Nooryab Ave, Azadi Street.

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maysamrezaei@yahoo.com

## Person responsible for scientific inquiries

**Contact****Name of organization / entity**

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**Full name of responsible person**

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**Position**

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**Latest degree**

Medical doctor

**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**

Not applicable

**Data Dictionary**

Not applicable