

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### The effect of selected aerobic (Astrand) and non-aerobic (Wingate) exercise tests on liver enzyme and HSP70 in athletic and non athletic male

#### Protocol summary

##### Summary

The aim of this study is to investigate the alternation of blood liver enzyme and heat shock proteins (HSP70) levels after two selected aerobic (Strand) and non-aerobic (Wingate) exercise tests in male students. This study is an experimental research. Therefore, 40 young male (20 athletics and 20 non-athletics) with age range of 20-26 are selected randomly, they do not have any cardiovascular and metabolic problems. They will undergo training protocols with 3 days intervals (to prevent the effect of first secession intervention on the second). The non-aerobic Wingate's training protocol includes 30 seconds high-intensity non-aerobic activities on a Monark bicycle and The aerobic Strand's training protocol includes 6 minutes moderate-intensity aerobic activities on a Monark bicycle .5 cc Brachial vein blood samples are taken immediately before and after performing tests in order to measure liver enzyme and heat shock proteins 70 (HSP70) levels. Comparing the results obtained before and immediately after the training period the different between indices within these two groups and the effect of the two exercise tests on these indices will be revealed.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT201105216537N1**  
Registration date: **2011-05-28, 1390/03/07**  
Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

2011-05-28, 1390/03/07

#### Registrant information

##### Name

Ali Khajehlandi

##### Name of organization / entity

Islamic Azad University Gachsaran Branch

##### Country

Iran (Islamic Republic of)

##### Phone

+98 74 2223 0239

##### Email address

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#### Recruitment status

##### Recruitment complete

#### Funding source

Islamic Azad University Gachsaran Branch

#### Expected recruitment start date

2010-11-11, 1389/08/20

#### Expected recruitment end date

2010-11-15, 1389/08/24

#### Actual recruitment start date

empty

#### Actual recruitment end date

empty

#### Trial completion date

empty

#### Scientific title

The effect of selected aerobic (Astrand) and non-aerobic (Wingate) exercise tests on liver enzyme and HSP70 in athletic and non athletics male

#### Public title

The effect of selected (aerobic and non-aerobic) exercise tests on liver enzyme and HSP70 in athletic and non-athletics male

#### Purpose

Supportive

#### Inclusion/Exclusion criteria

Inclusion criteria: Being 20 to 26 years old and having no cardiac or metabolic diseases. Exclusion criteria: Non-cooperative participants and exacerbation of respiratory problems.

**Age**

From **20 years** old to **26 years** old

**Gender**

Male

**Phase**

N/A

**Groups that have been masked**

*No information*

**Sample size**

Target sample size: **40**

**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**

empty

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

Islamic Azad University Gachsaran Branch

**Street address**

Islamic Azad University Gachsaran Branch

**City**

Gachsaran

**Postal code**

7581756755

**Approval date**

2010-04-22, 1389/02/02

**Ethics committee reference number**

2433

**Health conditions studied**

empty

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

Alanin Aminotransferase enzymes

**Timepoint**

Before and after intervention

**Method of measurement**

Liver enzymes Kits

**2****Description**

Aspartat aminotransferase enzymes

**Timepoint**

Before and after intervention

**Method of measurement**

Liver enzymes Kits

**3****Description**

Alkaline phosphatase enzymes

**Timepoint**

Before and after intervention

**Method of measurement**

Liver enzymes Kits

**4****Description**

Heat shock proteins 70 (hsp70)

**Timepoint**

Before and after intervention

**Method of measurement**

ELISA test kits

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

Body fat percent

**Timepoint**

Before and after the intervention

**Method of measurement**

Caliper

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

Anaerobic exercise: exercise in which oxygen is not used, and metabolic energy is done without the presence of oxygen

**Category**

Lifestyle

**2****Description**

Aerobic exercise: exercise in which oxygen is absorbed into the body and the presence of oxygen metabolism and energy occurs.

**Category**

Lifestyle

**Recruitment centers**

**1**

**Recruitment center**

**Name of recruitment center**

Islamic Azad University Gachsaran Branch

**Full name of responsible person**

Ali Khajehlandi

**Street address**

**City**

Gachsaran

**Sponsors / Funding sources**

**1**

**Sponsor**

**Name of organization / entity**

Islamic Azad University Gachsaran branch

**Full name of responsible person**

Seyed Saman Mousavian

**Street address**

Islamic Azad University Gachsaran branch

**City**

Gachsaran

**Grant name**

**Grant code / Reference number**

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

Yes

**Title of funding source**

Islamic Azad University Gachsaran branch

**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**

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**Position**

Faculty of Islamic Azad University Gachsaran Branch (MS)

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**Position**

**Other areas of specialty/work**

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**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*