# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

04 Jul 2026

## The effect of two type resistance exercise, concentric failure set and configuration cluster sets on bio markers of myocardium injury and left and right ventricles mechanical mechanism in athletic

## Protocol summary

**Study aim**

The purpose of this study was to investigate the effect of resistance exercise with concentric failure sets and configuration cluster sets on response of cardiovascular, bio markers of cardiac injury,left and right ventricles mechanical mechanism of athletic myocardium and performance.

**Design**

Cross-sectional analysis of clinical trials was performed. SPSS Simple Random Sampling using to selected 24 cases and with limited random block allocations 6 cases in 4 blocks. The concealment was done in two blinding form. Clinical trials are classified into one phase.

**Settings and conduct**

training protocol performing in Gym of University of Tehran Dormitory and the tests taking in Shahid Rajaee Heart Center, On the day of the exercise protocol performing, None of the subjects or tester have aware of which of the two protocols performing.

**Participants/Inclusion and exclusion criteria**

Inclusion criteria: athletes with a history of weight training in advanced level with absence of any disease, not taking any kind of exercise supplement Exclusion criteria: Training history less than 3 years, No regular weight training in the past 18 months, absence of clinical symptoms associated with cardiovascular disease and musculoskeletal disorders and diseases, not taking ergogenic supplements for at least 8 weeks before the test.

**Intervention groups**

intervention 1 (INT1) : concentric failure sets with intensity zone 12-15 repetition maximum (RM) in 3 sets volume, INT2: same with INT1 but intensity (8-10 RM),INT3: configuration cluster sets with intensity (8-10 RM) in 9 sets volume with 2 to 3 reps, INT4: configuration cluster sets with intensity (12-15 RM) in 9 sets volume with 4 to 5 reps.

**Main outcome variables**

high sensitivity Cardiac Troponin I, N-terminal proBNP , right and left ventricular end systolic and diastolic volume and dimension.Right and left Ventricular Global Longitudinal Strain

## General information

**Reason for update**

**Acronym**

**IRCT registration information**

IRCT registration number: **IRCT20190403043158N1**
Registration date: **2020-09-27, 1399/07/06**
Registration timing: **retrospective**

Last update: **2020-09-27, 1399/07/06**
Update count: **0**

**Registration date**

2020-09-27, 1399/07/06

**Registrant information**

**Name**

azizeh ahmadi

**Name of organization / entity**

The university of tabriz

**Country**

Iran (Islamic Republic of)

**Phone**

+98 21 6697 5985

**Email address**

azizeh.ahmadi@tabrizu.ac.ir

**Recruitment status**

**Recruitment complete**

**Funding source**

**Expected recruitment start date**

2018-11-11, 1397/08/20

**Expected recruitment end date**

2019-05-10, 1398/02/20

**Actual recruitment start date**

2018-11-22, 1397/09/01

**Actual recruitment end date**

2019-06-18, 1398/03/28

**Trial completion date**

2019-06-18, 1398/03/28

**Scientific title**

The effect of two type resistance exercise, concentric failure set and configuration cluster sets on bio markers of myocardium injury and left and right ventricles mechanical mechanism in athletic

**Public title**

The effect of high intensity resistance exercise on the biological and mechanical mechanism of the heart

**Purpose**

Health service research

**Inclusion/Exclusion criteria**

**Inclusion criteria:**

Everyone with a history of weight training in advanced level People who have regular weight training during the weekly exercise program. People with absence of any disease Not taking any kind of exercise supplement

**Exclusion criteria:**

Training history less than 3 years No regular weight training in the past 18 months Absence of clinical symptoms associated with cardiovascular disease Not taking ergogenic supplements for at least 8 weeks before the test Absence of musculoskeletal disorders and diseases

**Age**

From **20 years** old to **27 years** old

**Gender**

Male

**Phase**

N/A

**Groups that have been masked**

- Participant
- Outcome assessor
- Data analyser

**Sample size**

Target sample size: **24**

Actual sample size reached: **24**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

24 male strength athletes were selected by simple random sampling using SPSS software and from data select cases.Each subject was given a four-digit numeric code (for example: 1248) through which the code number was identified. In order to allocate sequences and able to control the number of subjects in each group, a limited randomized block allocation method was used. 24 subjects were placed in 4 blocks with setting a block size of 6, By applying the factorial formula, 6 possible combination were identified. , to determine the block number assigning 6 cases per block,used spss software with from the path Transform / Compute Variable / BLOCK_NUM / RND ($ CASENUM / 4 + 0.49). $ CASENUM / 4 indicates the case number divided by 4. Then random allocation group numbers were applied to all 6 possible combination. Which was done through: Transform / Rank cases / RANDOM / BLOCK_NUM. The concealment allocation was done through sealed the number of coded. Both the subject and the test taker until the moment of implementation do not be aware of the sequence generation step.

**Blinding (investigator's opinion)**

Double blinded

**Blinding description**

On the day that the exercise protocol was performed, None of the subjects or tester were aware of which of the two protocols were performed.Before the intervention subjects were not aware of the which intensity and type of resistance exercise will be performed.The persons responsible for measuring and analyzing the dependent variables of the research did not know which intervention method was implemented.

**Placebo**

Not used

**Assignment**

Parallel

**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**

**Name of ethics committee**

Ethics committee of Tabriz University of Medical Sciences

**Street address**

No. 111, Al-Ghadir Building, next to Faculty of Engineering, Amir Abad, North Kargar Ave, Tehran

**City**

Tehran

**Province**

Tehran

**Postal code**

1439951154

**Approval date**

2018-03-12, 1396/12/21

**Ethics committee reference number**

IR.TBZMED.REC.1396.1166

## Health conditions studied

### 1

**Description of health condition studied**

The bio markers of cardiac injury response to two type resistance exercise, concentric failure set and configuration cluster sets

**ICD-10 code**

**ICD-10 code description**

**2**

**Description of health condition studied**
The response of left ventricles mechanical mechanism of athletic myocardium to two type resistance exercise, concentric failure set and configuration cluster sets
**ICD-10 code**
**ICD-10 code description**

**3**

**Description of health condition studied**
The response of right ventricles mechanical mechanism of athletic myocardium to two type resistance exercise, concentric failure set and configuration cluster sets
**ICD-10 code**
**ICD-10 code description**

**4**

**Description of health condition studied**
The response of blood pressure after the two type resistance exercise, concentric failure set and configuration cluster sets
**ICD-10 code**
**ICD-10 code description**

## Primary outcomes

**1**

**Description**
Heart Ventricles dysfunction
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Philips EPIQ7 Echocardiography, hscTnI and Nt-proBNP with PATHFAST system, REAGENT KITS FOR CRITICAL CARE DIAGNOSTICS (LSI Medience Corporation 13-4, Uchikanda 1-chome, Chiyoda-ku Tokyo 101-8517 JAPAN).

## Secondary outcomes

**1**

**Description**
Rate of Perceived Exertion (RPE).
**Timepoint**
Before and during the intervention, after 30 min.
**Method of measurement**
Borg's 6–20 RPE (Rating of Perceived Exertion) scale

**2**

**Description**
Hand grip strength
**Timepoint**
Before and during the intervention, after 30 min.
**Method of measurement**
Yagami YG-200, Tokyo, Japan.

**3**

**Description**
Heart rate
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Heart Rate monitor Polar v800, ECG connection to Philips EPIQ7 Echocardiography,

**4**

**Description**
Systolic blood pressure
**Timepoint**
Before the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention.
**Method of measurement**
Finometer PRO (Finapress Medical Systems BV, Amsterdam, the Netherlands)

**5**

**Description**
Diastolic blood pressure
**Timepoint**
Before the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention.
**Method of measurement**
Finometer PRO (Finapress Medical Systems BV, Amsterdam, the Netherlands)

**6**

**Description**
Systemic vascular resistance
**Timepoint**
Before the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention.
**Method of measurement**
Finometer PRO (Finapress Medical Systems BV, Amsterdam, the Netherlands)

**7**

**Description**
Mean blood pressure
**Timepoint**
Before the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention.
**Method of measurement**
Finometer PRO (Finapress Medical Systems BV, Amsterdam, the Netherlands)

**8**

**Description**
Haematocrit
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
ELISA test

## 9

**Description**
Albumin
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
ELISA test

## 10

**Description**
Cortisol
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
ELISA test

## 11

**Description**
C-reactive protein
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
ELISA test

## 12

**Description**
Serum electrolyte concentrations (Calcium)
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
ELISA test

## 13

**Description**
Serum electrolyte concentrations(Magnesium)
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
ELISA test

## 14

**Description**
Serum electrolyte concentrations(Potassium )
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
ELISA test

## 15

**Description**
Serum electrolyte concentrations (Sodium)
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
ELISA test

## 16

**Description**
high sensitivity Cardiac Troponin I (hscTnI)
**Timepoint**
Before the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
hscTnI with PATHFAST system, REAGENT KITS FOR CRITICAL CARE DIAGNOSTICS (LSI Medience Corporation 13-4, Uchikanda 1-chome, Chiyoda-ku Tokyo 101-8517 JAPAN).

## 17

**Description**
N-terminal proBNP (NT-proBNP)
**Timepoint**
Before the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
NT-proBNP with PATHFAST system, REAGENT KITS FOR CRITICAL CARE DIAGNOSTICS (LSI Medience Corporation 13-4, Uchikanda 1-chome, Chiyoda-ku Tokyo 101-8517 JAPAN).

## 18

**Description**
Left ventricular end systolic volume and dimension
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 19

**Description**
Left ventricular end diastolic volume and dimension
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 20

**Description**
Stroke volume
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7

Echocardiography

## 21

**Description**
Cardiac output
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 22

**Description**
Ejection Fraction
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 23

**Description**
Left ventricle posterior wall thickness in diastole
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 24

**Description**
Right ventricular end systolic dimension
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 25

**Description**
Right ventricular end diastolic dimension
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 26

**Description**
Right Ventricular Global Longitudinal Strain (RVGLS)
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 27

**Description**
Posterior Wall Thickness (PWT), Relative Wall Thickness (RWT) , Inter Ventricular Septum Thickness (IVST)
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 28

**Description**
Left Ventricular Mass Indexed (LVMI)
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 29

**Description**
Duration of Deceleration (DT) in blood flow from the atrium to the left ventricle in the early phase of diastole: E-wave DT
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 30

**Description**
Right Ventricular Longitudinal Strain (RVLS)
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 31

**Description**
Right ventricular free wall longitudinal strain
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 32

**Description**
Right ventricular global circumferential strain
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 33

**Description**
Right ventricular free wall circumferential strain
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 34

**Description**
Right ventricular septal circumferential strain
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 35

**Description**
Right ventricular septal longitudinal strain
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 36

**Description**
Early diastolic myocardial relaxation (E′)
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 37

**Description**
Left ventricular filling pressure: ratio E/e′
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 38

**Description**
Peak blood flow in the early phase of diastole (E)
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 39

**Description**
Peak blood flow velocity in diastolic delay phase (A)
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 40

**Description**
Flow to injection ratio;Ratio of blood flow from mitral valve to blood transfusion from atrium, ratio E/A
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 41

**Description**
Peak systolic velocity of the Tricuspid annulus
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 42

**Description**
Left ventricular relaxation in early diastolic
**Timepoint**
Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention
**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 43

**Description**
Right ventricular myocardial performance index
**Timepoint**

Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention

**Method of measurement**

Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 44

**Description**

Fractional Area Change (FAC)

**Timepoint**

Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention

**Method of measurement**

Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 45

**Description**

Tricuspid annular plane systolic excursion (TAPSE)

**Timepoint**

Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention

**Method of measurement**

Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 46

**Description**

Systolic pulmonary artery pressure (SPAP)

**Timepoint**

Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention

**Method of measurement**

Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 47

**Description**

Tricuspid Regurgitant Gradient (TRG)

**Timepoint**

Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention

**Method of measurement**

Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 48

**Description**

Left ventricular global longitudinal strain (LVGLS)

**Timepoint**

Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention

**Method of measurement**

Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 49

**Description**

Left ventricular circumferential strain

**Timepoint**

Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention

**Method of measurement**

Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 50

**Description**

Left ventricular longitudinal strain

**Timepoint**

Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention

**Method of measurement**

Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 51

**Description**

Left ventricular relaxation in early diastole (septal and lateral)

**Timepoint**

Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention

**Method of measurement**

Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 52

**Description**

Ratio of Early to late filling velocity left ventricular (E/A ratio)

**Timepoint**

Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention

**Method of measurement**

Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 53

**Description**

Early diastolic left ventricular tissue velocity

**Timepoint**

Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention

**Method of measurement**

Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## 54

**Description**

Left ventricular mass

**Timepoint**

Before and during the intervention, after 30 min, 4, 6, 12 and 24 hours after intervention

**Method of measurement**
Two-dimensional (2D) heart echo, Philips EPIQ7 Echocardiography

## Intervention groups

### 1

**Description**
Intervention 1: concentric failure sets with circuit pattern consist of 9 movements: in front squat, bench press, dead lift, shoulder press, in front lunge, weight pull up, roman lift, weight dip parallel and bent over row with intensity zone (12-15 RM) in three sets of 12 to 15 repetitions with 120 seconds rest interval between each movement or set.
**Category**
Other

### 2

**Description**
Intervention 2: concentric failure sets with circuit pattern consist of 9 movements: in front squat, bench press, dead lift, shoulder press, in front lunge, weight pull up, roman lift, weight dip parallel and bent over row with intensity zone (8-10 RM) in three sets of 8 to 10 repetitions with 120 seconds rest interval between each movement or set
**Category**
Other

### 3

**Description**
Intervention 3: configuration cluster sets with circuit pattern consist of 9 movements: in front squat, bench press, dead lift, shoulder press, in front lunge, weight pull up, roman lift, weight dip parallel and bent over row with intensity zone (12-15 RM) in nine sets of 4 to 5 repetitions with 40 seconds rest interval between each movement or set
**Category**
Other

### 4

**Description**
Intervention 4: configuration cluster sets with circuit pattern consist of 9 movements: in front squat, bench press, dead lift, shoulder press, in front lunge, weight pull up, roman lift, weight dip parallel and bent over row with intensity zone (8-10 RM) in nine sets of 2 to 3 repetitions with 40 seconds rest interval between each movement or set
**Category**
Other

## Recruitment centers

### 1

**Recruitment center**
**Name of recruitment center**
University of Tehran Faculty of Physical Education and Sport Sciences
**Full name of responsible person**
Rasoul Dokht Abdiyan
**Street address**
Faculty of Physical Education and Sport Sciences, between 15th and 16th St., North Kargar st., Tehran, Islamic Republic
**City**
Tehran
**Province**
Tehran
**Postal code**
1439951154
**Phone**
+98 21 8835 1730
**Email**
infosport@ut.ac.ir
**Web page address**
http://sport.ut.ac.ir/

## Sponsors / Funding sources

### 1

**Sponsor**
**Name of organization / entity**
Vice chancellor for research, Faculty of Tehran University, Physical Education and Sport Sciences
**Full name of responsible person**
Foad Seyedi
**Street address**
Faculty of Tehran University,Physical Education and Sport Sciences, between 15th and 16th St., North Kargar st., Tehran, Islamic Republic
**City**
Tehran
**Province**
Tehran
**Postal code**
1439951154
**Phone**
+98 21 8835 1730
**Email**
infosport@ut.ac.ir
**Web page address**
http://www.sport.ut.ac.ir
**Grant name**
**Grant code / Reference number**
**Is the source of funding the same sponsor organization/entity?**
Yes
**Title of funding source**
Vice chancellor for research, Faculty of Tehran University, Physical Education and Sport 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**
University of Tehran Faculty of Physical Education and Sport Sciences
**Full name of responsible person**
Rasoul Dokht Abdiyan
**Position**
PHD University student
**Latest degree**
Master
**Other areas of specialty/work**
Physiology
**Street address**
Faculty of Physical Education and Sport Sciences, between 15th and 16th St., North Kargar st., Tehran, Islamic Republic
**City**
Tehran
**Province**
Tehran
**Postal code**
1439951154
**Phone**
+98 21 6697 5985
**Email**
rasoulabdiyan11@gmail.com

## Person responsible for scientific inquiries

**Contact**
**Name of organization / entity**
University of Tehran Faculty of Physical Education and Sport Sciences
**Full name of responsible person**
Rasoul Dokht Abdiyan
**Position**
PHD student
**Latest degree**
Master
**Other areas of specialty/work**
Physiology
**Street address**
Faculty of Physical Education and Sport Sciences, between 15th and 16th St., North Kargar st., Tehran, Islamic Republic
**City**
Tehran
**Province**
Tehran
**Postal code**
1439951154
**Phone**
+98 21 8835 1730
**Email**
rasoulabdiyan11@gmail.com

## Person responsible for updating data

**Contact**
**Name of organization / entity**
University of Tehran Faculty of Physical Education and Sport Sciences
**Full name of responsible person**
Rasoul Dokht Abdiyan
**Position**
PHD student
**Latest degree**
Master
**Other areas of specialty/work**
Physiology
**Street address**
Faculty of Physical Education and Sport Sciences, between 15th and 16th St., North Kargar st., Tehran, Islamic Republic
**City**
Tehran
**Province**
Tehran
**Postal code**
1439951154
**Phone**
+98 21 8835 1730
**Email**
rasoulabdiyan11@gmail.com

## Sharing plan

**Deidentified Individual Participant Data Set (IPD)**
Yes - There is a plan to make this available
**Study Protocol**
Yes - There is a plan to make this available
**Statistical Analysis Plan**
Yes - There is a plan to make this available
**Informed Consent Form**
Yes - There is a plan to make this available
**Clinical Study Report**
Not applicable
**Analytic Code**
Not applicable
**Data Dictionary**
Not applicable
**Title and more details about the data/document**
Part of the main outcome data
**When the data will become available and for how long**
Two years after the article was published
**To whom data/document is available**
Graduate students from all universities in the country
**Under which criteria data/document could be used**
In order to use the data for doing research in this area
**From where data/document is obtainable**
rasoulabdiyan11@gmail.com
**What processes are involved for a request to access**

**data/document**

You will be working with the applicant as soon as possible by sending an email to rasoulabdiyan11@gmail.com

**Comments**