

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

03 Jul 2026

### Effects of 10-week Proprioceptive Exercises on Proprioception Acuity, Balance, and Quality of Life in Patients with Parkinson's Disease

#### Protocol summary

##### Study aim

To investigate the effect of 10 weeks of proprioceptive exercises on proprioceptive accuracy and balance in Parkinson's patients

##### Design

The clinical trial has an intervention group of 12 Parkinson's patients with H&Y 2-3 in the form of pre- and post-assessment without blinding.

##### Settings and conduct

After entering the study, the participants sign the informed consent form approved by Tarbiat Modares University. They will then fill out a personal information and medical history form. Before the intervention, the quality of life questionnaire will be completed by the participants. Then, pre-intervention assessments will be done. Patients will perform 20 sessions of proprioceptive exercises in the movement disorders research laboratory for 10 weeks, twice a week for 30 minutes each time. The evaluations after the intervention will be done exactly like the previous evaluations and up to one week after the last intervention session. The location of the study is the Movement Disorders Research Laboratory in Tarbiat Modares University.

##### Participants/Inclusion and exclusion criteria

Patients with Parkinson's disease; with H&Y criteria 2-3; aged 35 to 65 years; able to move without assistance

##### Intervention groups

One group including therapeutic exercise group (proprioceptive exercises)

##### Main outcome variables

The acuity of sense of motion and sense of the position of the ankle joint in the anterior-posterior direction in functional and non-functional tasks; balance parameters; quality of life questionnaire score

#### General information

##### Reason for update

##### Acronym

#### IRCT registration information

IRCT registration number: **IRCT20230516058210N1**

Registration date: **2023-05-23, 1402/03/02**

Registration timing: **prospective**

Last update: **2023-05-23, 1402/03/02**

Update count: **0**

#### Registration date

2023-05-23, 1402/03/02

#### Registrant information

##### Name

Mahrokh Taheri

##### Name of organization / entity

Tarbiat Modares University

##### Country

Iran (Islamic Republic of)

##### Phone

+98 26 3670 6773

##### Email address

mahrokh.taheri@modares.ac.ir

#### Recruitment status

**Recruitment complete**

#### Funding source

#### Expected recruitment start date

2023-06-10, 1402/03/20

#### Expected recruitment end date

2023-12-09, 1402/09/18

#### Actual recruitment start date

empty

#### Actual recruitment end date

empty

#### Trial completion date

empty

#### Scientific title

Effects of 10-week Proprioceptive Exercises on Proprioception Acuity, Balance, and Quality of Life in Patients with Parkinson's Disease

**Public title**

Effect of Proprioception Exercises on Balance in Patients with Parkinson's Disease

**Purpose**

Supportive

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

Patients with idiopathic Parkinson's disease diagnosed by a neurologist according to the UK Brain Bank Criteria H&Y criteria between 2-3 Obtaining a minimum score of 24 in the MMSE questionnaire Able to walk without assistance Be able to perform simple verbal commands The age of the participants should be 35 to 65 Having a body mass index between 18.5-30

**Exclusion criteria:**

Specific musculoskeletal, cardiorespiratory, vision, or cognitive disorder that affects the patient's performance of tests and exercises and walking Having diabetes Having a neurological problem other than Parkinson's disease Undergoing DBS surgery Participating in regular exercise therapy programs in the last 6 months Using walking aids

**Age**

From **35 years** old to **65 years** old

**Gender**

Both

**Phase**

N/A

**Groups that have been masked**

*No information*

**Sample size**

Target sample size: **12**

**Randomization (investigator's opinion)**

N/A

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

Not blinded

**Blinding description****Placebo**

Not used

**Assignment**

Single

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

empty

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

Ethics committee of Tarbiat Modares University

**Street address**

Jalal Al Ahmad Street, Nasr Bridge, No. 7, Tarbiat Modares University

**City**

Tehran

**Province**

Tehran

**Postal code**

1411713116

**Approval date**

2023-04-30, 1402/02/10

**Ethics committee reference number**

IR.MODARES.REC.1402.008

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

Parkinson's disease

**ICD-10 code**

G20

**ICD-10 code description**

Parkinson's disease

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

Ankle joint proprioceptive acuity (sense of position and sense of motion)

**Timepoint**

Before the start of the intervention and up to one week after the end of the 10-week intervention

**Method of measurement**

Using a customized designed and manufactured device (angular and time error between expressed and real values)

**2****Description**

Postural control parameters

**Timepoint**

Before the start of the intervention and up to one week after the end of the 10-week intervention

**Method of measurement**

With force platform and chronometer

**3****Description**

Parkinson's disease questionnaire of quality of life (PDQ-39)

**Timepoint**

Before the start of the intervention and up to one week after the end of the 10-week intervention

**Method of measurement**

Score of questionnaire of quality of life PDQ-39

**Secondary outcomes**

empty

**Intervention groups**

## 1

### Description

Intervention group: 10 weeks of proprioceptive exercises which are designed as stations in 11 different stations and each training station lasts for 2 minutes, the total duration of the exercises will be 30 minutes, including warm-up exercises. Parkinson's patients will perform 20 sessions of proprioceptive exercises in the Movement Disorders Research Laboratory for 10 weeks, twice a week for 30 minutes each time.

### Category

Rehabilitation

## Recruitment centers

## 1

### Recruitment center

#### Name of recruitment center

Tarbiat Modares University

#### Full name of responsible person

Mohammad Najafi Ashtiani

#### Street address

Jalal Al Ahmad Street, Nasr Bridge, No. 7, Tarbiat Modares University

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mahrokh.taheri@modares.ac.ir

## Sponsors / Funding sources

## 1

### Sponsor

#### Name of organization / entity

Research assistant of Tarbiat Modares University

#### Full name of responsible person

Amir Abdollahzadeh

#### Street address

Tarbiat Modares University, No. 7, Jalal Al Ahmad Street, Tehran

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zadeh@modares.ac.ir

#### Grant name

#### Grant code / Reference number

#### Is the source of funding the same sponsor

### organization/entity?

Yes

### Title of funding source

Research assistant of Tarbiat Modares University

### 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

Tarbiat Modares University

#### Full name of responsible person

Mahrokh Taheri

#### Position

Physiotherapy Master's student

#### Latest degree

Bachelor

#### Other areas of specialty/work

Physiotherapy

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## Person responsible for scientific inquiries

### Contact

#### Name of organization / entity

Tarbiat Modares University

#### Full name of responsible person

Mohammad Najafi Ashtiani

#### Position

Assistant Professor

#### Latest degree

Ph.D.

#### Other areas of specialty/work

Biomechanic

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## Person responsible for updating data

### Contact

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**Latest degree**  
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**Other areas of specialty/work**  
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## 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

Yes - There is a plan to make this available

### Analytic Code

Yes - There is a plan to make this available

### Data Dictionary

Yes - There is a plan to make this available

### Title and more details about the data/document

All analyzed data will be shared. These data include the evaluations before and after the intervention as well as the final processed data of proprioceptive accuracy and balance variables and the quality of life questionnaire.

### When the data will become available and for how long

For 6 months after the official publication of the results

### To whom data/document is available

All researchers in the academy and the clinic

### Under which criteria data/document could be used

For clinical use only in therapy, neuromusculoskeletal simulations, and rehabilitation equipment design

### From where data/document is obtainable

Contact the corresponding author of the articles by email, phone or postal address

### What processes are involved for a request to access data/document

Process: 1. Accurately specifying the desired data 2. Contacting the responsible author and submitting the request 3. Reviewing the request by the research team 4. Responding to the request up to 10 working days

### Comments