# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

17 Sep 2026

## A comparison between standard short arm cast and shortened short arm cast in wrist fractures in upper limb fractures

## Protocol summary

**Study aim**

A comparison between standard short arm cast and shortened short arm cast in wrist fractures in upper limb fractures

**Design**

This research will be done by randomized clinical trial. All of the patients who come to the emergency department of "Tehran 7tir Hospital" with trauma to the hand or wrist that need short arm cast, will be enroll in this study. Patients will be randomly assigned to two groups by a random block method. Each block contains 10 numbers. Because we did not find any record or research about this subject, a pilot study with 30 patients will be initially performed and corresponding indicators will be derived and based on that sample size calculations will be done using Altman’s nomogram.

**Settings and conduct**

All of the patients who come to the emergency department of "Tehran 7tir Hospital" with trauma to the hand or wrist that need short arm cast without any evidence of dislocation and laceration, will be enroll in this study. Patients will be randomly assigned to two groups. In case group bracing up will be done by using half size cast (from the fingers until middle of the forearm) and in the control group it will be done by using a regular cast (from the fingers until one inch below the elbow). General information and medical prescription and same advice are implemented for both groups. The pain score of all patients are obtained and recorded for later investigations. After data gathering, Patient’s data will be analyzed by person who is blinded to two groups.

**Participants/Inclusion and exclusion criteria**

All of the patients who admitted in the emergency department of "Tehran 7th Tir Hospital" with trauma to the hand and wrist that need casting, without any evidence of dislocation and laceration, will be enrolled in this study. Patients under eighteen years old and those that cannot be following up will be rolled out.

**Intervention groups**

In case group bracing up will be done by using half size cast (from the fingers until middle of the forearm) and in the control group it will be done by using a regular cast (from the fingers until one inch below the elbow).

**Main outcome variables**

Study Indices, including recovery time, duration of pain and swelling, union, nonunion, malunion and pain score in both groups will be compared. These signs and symptoms will be reassessed and recorded during one week, two weeks, four weeks and eight weeks from casting to removal time.

## General information

**Reason for update**

**Acronym**

**IRCT registration information**

IRCT registration number: **IRCT20170105031787N3**
Registration date: **2018-03-01, 1396/12/10**
Registration timing: **prospective**

Last update: **2018-03-01, 1396/12/10**
Update count: **0**

**Registration date**

2018-03-01, 1396/12/10

**Registrant information**

**Name**
Mohammad-Reza Yasinzadeh
**Name of organization / entity**
Iran university of medical sience
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Iran (Islamic Republic of)
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+98 21 6652 5327
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**Recruitment status**

**Recruitment complete**

**Funding source**

**Expected recruitment start date**
2018-03-06, 1396/12/15
**Expected recruitment end date**
2018-06-05, 1397/03/15
**Actual recruitment start date**
empty
**Actual recruitment end date**
empty
**Trial completion date**
empty

**Scientific title**
A comparison between standard short arm cast and shortened short arm cast in wrist fractures in upper limb fractures

**Public title**
Using of short arm cast for immobilization
**Purpose**
Treatment
**Inclusion/Exclusion criteria**
**Inclusion criteria:**
Inclusion criteria: Patients, who admitted in the emergency department of “7tir Hospital” in Tehran with a complaint of upper limb trauma and need casting. Patients over the eighteen years old and under the one hundred and forty years old are enrolled.
**Exclusion criteria:**
Exclusion criteria: Patients under eighteen years old and those that can not be follow up will be rolled out. Patients who had upper limb rupture Patients who had dislocation Patients who had laceration needs to repair
**Age**
From **18 years** old to **140 years** old
**Gender**
Both

**Phase**
N/A
**Groups that have been masked**

- Data analyser

**Sample size**
Target sample size: **200**
**Randomization (investigator's opinion)**
Randomized
**Randomization description**
Patients will be randomly assigned to two groups. In order to randomize, a random block method is used. For this purpose, we formed blocks with 10 person. In each block, 5 individuals will be in full-size cast and 5 will be in shorter size groups. A total of 20 blocks will be considered for sample size. In case group bracing up will be done by using half size cast (from the fingers until middle of the forearm) and in the control group it will be done by using a regular cast (from the fingers until one inch below the elbow). General information and medical prescription and same advice are implemented for both groups. Data will analyze by person who is blind to study groups (single blind).
**Blinding (investigator's opinion)**
Single blinded
**Blinding description**
Data will analyze by person who is blind to study groups (single blind).
**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**
Shahid Hemmat highway, Tehran,Iran.
**City**
Tehran
**Province**
Tehran
**Postal code**
1449614535
**Approval date**
2016-11-14, 1395/08/24
**Ethics committee reference number**
IR.IUMS.REC 1395.9411307036

## Health conditions studied

### 1

**Description of health condition studied**
Hand and wrist fracture
**ICD-10 code**
S62.109A
**ICD-10 code description**
Fracture of unspecified carpal bone, unspecified wrist, initial encounter for closed fracture

## Primary outcomes

### 1

**Description**
recovery time
**Timepoint**
One week, two weeks, four weeks and eight weeks from casting to removal time
**Method of measurement**
telephone or in-person interviews with patients

### 2

**Description**
swelling

**Timepoint**
One week, two weeks, four weeks and eight weeks from casting to removal time
**Method of measurement**
telephone or in-person interviews with patients

**3**

**Description**
pain
**Timepoint**
One week, two weeks, four weeks and eight weeks from casting to removal time
**Method of measurement**
telephone or in-person interviews with patients

**4**

**Description**
Union
**Timepoint**
One week, two weeks, four weeks and eight weeks from casting to removal time
**Method of measurement**
telephone or in-person interviews with patients

**5**

**Description**
Nonunion
**Timepoint**
One week, two weeks, four weeks and eight weeks from casting to removal time
**Method of measurement**
telephone or in-person interviews with patients

**6**

**Description**
Malunion
**Timepoint**
One week, two weeks, four weeks and eight weeks from casting to removal time
**Method of measurement**
telephone or in-person interviews with patients

**7**

**Description**
Paresthesia
**Timepoint**
One week, two weeks, four weeks and eight weeks from casting to removal time
**Method of measurement**
telephone or in-person interviews with patients

## Secondary outcomes

empty

## Intervention groups

**1**

**Description**
Intervention group: Half regular size short cast of upper limb in intervention group
**Category**
Treatment - Other

**2**

**Description**
Control group: Regular size of short cast of upper limb in control group
**Category**
Treatment - Other

## Recruitment centers

**1**

**Recruitment center**
**Name of recruitment center**
SHOHADA - E - HAFTE TIR HOSPITAL
**Full name of responsible person**
Siamak Yasemi
**Street address**
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## Sponsors / Funding sources

**1**

**Sponsor**
**Name of organization / entity**
Iran University of Medical Sciences
**Full name of responsible person**
Kazem Malakooti
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7th Floor, Department of Internal Medicine, Rasoul-Akram Hospital, Niayesh St., Sattarkahn Ave
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**Email**
research@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**
Siamak Yasemi
**Position**
Assistant Professor of Emergency Medicine
**Latest degree**
Specialist
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## Person responsible for scientific inquiries

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## Person responsible for updating data

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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