

Clinical Trial Protocol

Iranian Registry of Clinical Trials

21 Jul 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 7th 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 7th 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 science

Country

Iran (Islamic Republic of)

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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

AgeFrom **18 years** old to **140 years** old**Gender**

Both

Phase

N/A

Groups that have been masked

- Data analyser

Sample sizeTarget 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

Emergency Department, SHOHADA - E - HAFTE TIR HOSPITAL, Shahid rajaee Highway, Tehran, Iran

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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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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

Other areas of specialty/work

Emergency Medicine

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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