

Clinical Trial Protocol

Iranian Registry of Clinical Trials

01 Jul 2026

Investigation of metabolic and hemodynamic change after using tourniquet in upper extremity surgery to release contracture after burn injury

Protocol summary

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Summary

The objective of present study is to investigate metabolic and hemodynamic change after using tourniquet in upper extremity surgery for release contracture after burn injury. 20 patients, aged 13-60 years with upper extremity burn, scheduled for upper extremity surgery due to burn contracture and need tourniquet application are included in this study. Two venous catheters (one proximal to tourniquet and the other in contralateral arm) will be inserted. PH, po₂, Hco₃, lactate, blood pressure, and heart rate will be measured 10 seconds and also 1, 3, and 5 minutes after opening of the tourniquet.

Recruitment status

Recruitment complete

Funding source

Vice chancellor for Research

Expected recruitment start date

2010-01-01, 1388/10/11

Expected recruitment end date

2011-01-01, 1389/10/11

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT138811271605N8**

Registration date: **2010-05-15, 1389/02/25**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2010-05-15, 1389/02/25

Registrant information

Name

Ali Akbar Mohammadi

Name of organization / entity

Shiraz University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

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Email address

Scientific title

Investigation of metabolic and hemodynamic change after using tourniquet in upper extremity surgery to release contracture after burn injury

Public title

Investigation of metabolic and hemodynamic change after using tourniquet in upper extremity surgery to release contracture after burn injury

Purpose

Diagnostic

Inclusion/Exclusion criteria

Inclusion criteria: Age 13-60, upper extremity burn, candidate to surgery due to burn complication using tourniquet for 30 to 60 minutes during surgery Exclusion criteria: presence of open wound in other sites of body, cardio vascular disease, patients under drug treatments

Age

From **13 years** old to **60 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 20

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

Shiraz University of Medical Sciences

Street address

Shiraz University of Medical Sciences, Zand Blvd.

City

Shiraz

Postal code

Approval date

empty

Ethics committee reference number

4848-88-CT

Health conditions studied

1

Description of health condition studied

hemodynamic change

ICD-10 code

R09.8

ICD-10 code description

Other specified symptoms and signs involving the circulatory and respiratory systems

2

Description of health condition studied

metabolic change

ICD-10 code

E88.9

ICD-10 code description

Metabolic disorder, unspecified

Primary outcomes

1

Description

Arterial blood PH

Timepoint

10 second, 1, 3, and 5 minutes after opening tourniquet

Method of measurement

blood gas instrument

2

Description

Arterial PO₂

Timepoint

10 second, 1, 3, and 5 minutes after opening tourniquet

Method of measurement

blood gas instrument

3

Description

Serum lactate

Timepoint

10 second, 1, 3, and 5 minutes after opening tourniquet

Method of measurement

blood gas instrument

4

Description

Serum bicarbonate

Timepoint

before opening of tourniquet, 10 seconds, 1, 3, and 5 minutes after opening tourniquet

Method of measurement

blood gas instrument

5

Description

blood pressure

Timepoint

before opening of tourniquet, 10 seconds, 1, 3, and 5 minutes after opening tourniquet

Method of measurement

by sphyngomanometer

6

Description

heart rate

Timepoint

before opening of tourniquet, 10 seconds, 1, 3, and 5 minutes after opening tourniquet

Method of measurement

by checking heart bit in a minute

Secondary outcomes

empty

Intervention groups

1

Description

using tourniquet for 30 to 60 minutes

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Ghotb-eddin Burn Center

Full name of responsible person

Ali Akbar Mohammadi

Street address

City

Shiraz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice-chancellor for Research

Full name of responsible person

Mohammad Hossein Dabbaghmanesh

Street address

Vice-chancellor of Research, Shiraz University of Medical Sciences

City

Shiraz

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

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

Shiraz University of Medical Sciences

Full name of responsible person

Ali Akbar Mohammadi

Position

Assistant Professor, General Surgeon

Other areas of specialty/work

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Burn research center, Fakhrcabad Street, Shiraz

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Person responsible for scientific inquiries

Contact

Name of organization / entity

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Full name of responsible person

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Position

Assistant Professor, General Surgeon

Other areas of specialty/work

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Person responsible for updating data

Contact

Name of organization / entity

Shiraz University of Medical Sciences, Burn reaserch center

Full name of responsible person

Masoomeh Kherad

Position

Manager of Shiraz Burn Reaserch Center/Nurse

Other areas of specialty/work

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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