

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

05 Jul 2026

### The effect of Automatic Tube Compensation on internal PEEP in Chronic Obstructive Pulmonary Disease in Intensive Care Unit.

#### Protocol summary

##### Study aim

The effect of Automatic Tube Compensation on internal PEEP in Chronic Obstructive Pulmonary Disease in Intensive Care Unit.

##### Design

This study is a clinical trial that is performed randomly using available samples and has not been blinded. The sample size is 60 patients using a specific formula. Variables are measured on patients before and after the intervention.

##### Settings and conduct

This study is performed in Rasoul Akram Hospital in Tehran. The following steps are performed for each patient three times in the morning, evening and night: First, the patient's airway is suctioned so that the airway pressure does not change due to secretions. Then, before activating the ATC mode, once every 6 seconds for 1 minute, the patient's initial internal PEEP value is recorded and its average is listed in the checklist. Then the ATC mode is activated and after one minute from the start of the ATC mode for one minute, the internal PEEP is recorded every 6 seconds and its average is taken and 6 minutes later, the process is repeated until the average internal PEEP is recorded 6 times after ATC is activated and variables are recorded.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria: Written consent of an effective member of the patient's family, The patient should be Intubated and connected to a ventilator, Do not change the ventilator settings during the intervention. Exclusion criteria: King Endotracheal Tube during study, Perform suction during the intervention, Leakage from the Endotracheal Tube cuff.

##### Intervention groups

In this study, the effect of ATC on the rate of internal PEEP of COPD in the ICU will be investigated. Samples of the study are both control group and intervention group, so that before the ATC fashion, patients are in the control group and after the ATC fashion, they are in the

intervention group.

##### Main outcome variables

Internal PEEP value, age, sex

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20170903036041N2**

Registration date: **2020-05-15, 1399/02/26**

Registration timing: **prospective**

Last update: **2020-05-15, 1399/02/26**

Update count: **0**

##### Registration date

2020-05-15, 1399/02/26

##### Registrant information

##### Name

Omid Moradi Moghadam

##### Name of organization / entity

Iran University of Medical Sciences

##### Country

Iran (Islamic Republic of)

##### Phone

+98 21 6653 9233

##### Email address

moradimoghadam.o@iums.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2020-05-20, 1399/02/31

##### Expected recruitment end date

2020-10-20, 1399/07/29

##### Actual recruitment start date

empty

**Actual recruitment end date**

empty

**Trial completion date**

empty

**Scientific title**

The effect of Automatic Tube Compensation on internal PEEP in Chronic Obstructive Pulmonary Disease in Intensive Care Unit.

**Public title**

The effect of Automatic Tube Compensation on internal PEEP in Chronic Obstructive Pulmonary Disease in Intensive Care Unit.

**Purpose**

Treatment

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

Written consent of an effective member of the patient's family The patient should be intubated and connected to a ventilator. Do not change the ventilator settings during the intervention.

**Exclusion criteria:**

King Endotracheal Tube during study Leakage from the Endotracheal Tube cuff Perform Suction during the intervention

**Age**

No age limit

**Gender**

Both

**Phase**

N/A

**Groups that have been masked**

*No information*

**Sample size**

Target sample size: 60

**Randomization (investigator's opinion)**

Not randomized

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

Not blinded

**Blinding description****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**

Iran University of Medical Sciences., Hemmat

Highway., Next to Milad Tower., Tehran Town

**City**

Tehran

**Province**

Tehran

**Postal code**

1433933111

**Approval date**

2020-04-27, 1399/02/08

**Ethics committee reference number**

IR.IUMS.FMD.REC.1399.096

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

COPD

**ICD-10 code**

J44

**ICD-10 code description**

Other chronic obstructive pulmonary disease

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

Internal PEEP

**Timepoint**

Before and after ATC mode

**Method of measurement**

View from the monitor screen of the ventilator

**Secondary outcomes****1****Description**

Age

**Timepoint**

Before doing the study

**Method of measurement**

Patient file

**2****Description**

Sex

**Timepoint**

Before doing the study

**Method of measurement**

Patient file

**Intervention groups****1****Description**

Intervention group: This study is a clinical trial that is performed randomly using available samples and the

effect of ATC on the internal PEEP rate of COPD patients in the ICU will be investigated. In the first group, before activating the ATC mode, the patient's airway is suctioned so that the airway pressure does not change due to secretions, then once every 6 seconds for 1 minute the initial internal PEEP value is recorded and its average is listed in the checklist. To do this study, we use the Hamilton c2 ventilator.

**Category**

Treatment - Devices

**2****Description**

Intervention group: This study is a clinical trial that is performed randomly using available samples and the effect of ATC on the internal PEEP rate of COPD patients in the ICU will be investigated. In the second group, the ATC mode is activated, and one minute after the start of the ATC mode, the internal PEEP is recorded every 6 seconds for one minute and its average is taken. This process is repeated 6 minutes later until the average internal PEEP is recorded 6 times after ATC activation. To do this study, we use the Hamilton c2 ventilator.

**Category**

Treatment - Devices

**Recruitment centers****1****Recruitment center****Name of recruitment center**

Rasoul Akram Hospital

**Full name of responsible person**

Omid Moradi Moghadam

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moradimoghadam@yahoo.com

**Sponsors / Funding sources****1****Sponsor****Name of organization / entity**

Iran University of Medical Sciences

**Full name of responsible person**

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**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**

Omid Moradi Moghadam

**Position**

Associate professor

**Latest degree**

Specialist

**Other areas of specialty/work**

Anesthesiology

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**Person responsible for scientific inquiries****Contact****Name of organization / entity**

Iran University of Medical Sciences

**Full name of responsible person**

Omid Moradi Moghadam

**Position**

Associate professor

**Latest degree**

Specialist

**Other areas of specialty/work**

Anesthesiology

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**Email**

Shahabmohammadi606@yahoo.com

**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

**Person responsible for updating data****Contact****Name of organization / entity**

Iran University of Medical Sciences

**Full name of responsible person**

Shahab Mohammadi

**Position**

Doctor

**Latest degree**

Specialist

**Other areas of specialty/work**

Anesthesiology

**Street address**