

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Comparison Of Autogenic Drainage & Active Cycle Of Breathing Techniques In Patients With Pneumonia

#### Protocol summary

##### Study aim

To compare the effects of autogenic drainage and active cycle of breathing in pneumonia patients .

##### Design

In this RCT study, 16 individuals will be divided into 2 groups, interventional group 1 and interventional group 2 by Convenient sampling technique with parallel group design, enrolled between June 2021 and December 2021.

##### Settings and conduct

This RCT study will be conducted in Gulab Devi Hospital, Lahore, Pakistan. 16 individuals will be equally divided into 2 groups that are selected by Convenient sampling technique. We will randomly select patients, visiting Gulab Devi Hospital, that are easy to select.

##### Participants/Inclusion and exclusion criteria

**INCLUSION CRITERIA:** • Patients aged 35- 60 years with • PNEUMONIA SEVERITY INDEX (PORT SCORE) • CLASS I TO III • Moderate to severe Grades for Severity of a Pulmonary Function Test Abnormality **EXCLUSION CRITERIA:** • Patients with secondary pneumonia-that is, as a complication of dysfunction of respiratory muscles, • Chronic bronchitis, • Emphysema, or • Asthma • Patients with known pulmonary tuberculosis or lung cancer • Intellectually impaired

##### Intervention groups

In this study the sample size is 16, and is divided into 2 groups. Intervention group 1 and interventional group 2. Each group contain 8 individuals. Interventional group 1 will receive autogenic drainage along with percussion. Intervention group 2 will be given active cycle breathing technique along with percussion.

##### Main outcome variables

forced expiratory volume (FEV) forced 1 vital capacity (FVC) peak expiratory flow rate (PEFR) The oxygen hemoglobin saturation (SpO2)

#### General information

##### Reason for update

##### Acronym

nil

##### IRCT registration information

IRCT registration number: **IRCT20220111053693N1**

Registration date: **2022-01-21, 1400/11/01**

Registration timing: **retrospective**

Last update: **2022-01-21, 1400/11/01**

Update count: **0**

##### Registration date

2022-01-21, 1400/11/01

##### Registrant information

###### Name

Azed Ahsaan

###### Name of organization / entity

Riphah international university lahore

###### Country

Pakistan

###### Phone

+92 335 6055553

###### Email address

azedahsaan786@gmail.com

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2021-06-05, 1400/03/15

##### Expected recruitment end date

2021-12-25, 1400/10/04

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

Comparison Of Autogenic Drainage & Active Cycle Of

Breathing Techniques In Patients With Pneumonia

## Public title

Comparison Of Autogenic Drainage & Active Cycle Of Breathing Techniques In Patients With Pneumonia

## Purpose

Supportive

## Inclusion/Exclusion criteria

### Inclusion criteria:

Patients aged 35- 60 years. PNEUMONIA SEVERITY INDEX (PORT SCORE) CLASS I TO III Moderate to severe Grades for Severity of a Pulmonary Function Test Abnormality

### Exclusion criteria:

Patients with secondary pneumonia-that is, as a complication of dysfunction of respiratory muscles, Chronic bronchitis, Emphysema, Asthma Patients with known pulmonary tuberculosis or lung cancer. Intellectually impaired

## Age

From **35 years** old to **60 years** old

## Gender

Both

## Phase

N/A

## Groups that have been masked

*No information*

## Sample size

Target sample size: **16**

## Randomization (investigator's opinion)

Randomized

## Randomization description

This study was conducted at Gulab Devi Chest Hospital Lahore, Pakistan. This study was randomized clinical trial. Total twenty subjects were assigned randomly by using Convenient sampling technique into two groups. we will randomly choose the patients who will visit the hospital, having pneumonia and those who will meet our inclusion criteria. These patients will be allocated in 2 groups according to our convience.

## Blinding (investigator's opinion)

Not blinded

## Blinding description

## Placebo

Not used

## Assignment

Parallel

## Other design features

nil

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Riphah Ethical Committee

##### Street address

Township Lahore

## City

Lahore

## Postal code

42000

## Approval date

2021-03-19, 1399/12/29

## Ethics committee reference number

21985

## Health conditions studied

### 1

#### Description of health condition studied

Pneumonia is inflammation of the lungs and fluid collection in the alveoli. The two most common organisms responsible for pneumonia in low-income countries are Streptococcus pneumoniae and Haemophilus influenzae . Children with pneumonia are treated with antibiotics, with hospitalisation and oxygen supplementation required in some cases, depending on disease severity. Accumulation of secretions in the airways due to respiratory infection contributes to the worsening of clinical symptoms and leads to an increase in airway resistance with each breath Signs and symptoms that are useful in diagnosing pneumonia are fever, tachypnoea, nasal flaring, cough, breathlessness, lower chest wall indrawing, and reduced oxygen saturation The gold standard for diagnosing pneumonia according to clinical guidelines is the presence of lung infiltrates indicated by chest radiography.

#### ICD-10 code

#### ICD-10 code description

## Primary outcomes

### 1

#### Description

Forced Vital Capacity (FVC)

#### Timepoint

Measurements will be repeated after 4 weeks of 1st intervention.

#### Method of measurement

The pulmonary function variables which will be assessed would be the Forced Vital Capacity (FVC) with the use of a spirometer. A brief description about the assessment procedure including technical steps to obtain pulmonary function data and variables will be explained to each subject. After 2-3 tidal breaths, subjects will be asked to inhale deeply to total lung capacity and then immediately exhale rapidly (without any pause) through a disposable mouthpiece until as much air as possible has been expelled from the lungs. The test will be performed with each subject in in high sitting position. The assessment will be repeated 3 times after adequate rest. The average values of the forced vital capacity (FVC) will be recorded.

### 2

#### Description

Forced Expiratory Volume in one second (FEV1)

#### **Timepoint**

Measurements will be repeated after 4 weeks of 1st intervention.

#### **Method of measurement**

The pulmonary function variables which will be assessed would be the Forced Expiratory Volume in one second (FEV1) with the use of a spirometer. A brief description about the assessment procedure including technical steps to obtain pulmonary function data and variables will be explained to each subject. After 2-3 tidal breaths, subjects will be asked to inhale deeply to total lung capacity and then immediately exhale rapidly (without any pause) through a disposable mouthpiece until as much air as possible has been expelled from the lungs. The test will be performed with each subject in in high sitting position. The assessment will be repeated 3 times after adequate rest. The average values of forced expiratory volume in the first second (FEV1) will be recorded.

## **Secondary outcomes**

### **1**

#### **Description**

The oxygen hemoglobin saturation (SpO2).

#### **Timepoint**

Measurements will be repeated after 4 weeks of 1st intervention.

#### **Method of measurement**

The oxygen hemoglobin saturation (SpO2) will be assessed using a non-invasive pulse oximeter.

## **Intervention groups**

### **1**

#### **Description**

In this study the sample size is 16, and is divided into 2 groups. Intervention group 1 and interventional group 2. Each group contain 8 individuals. Interventional group 1 will receive autogenic drainage along with percussion. The autogenic drainage technique tends to be practiced in sitting, and consists of 3 phases:1. Un-sticking - this mobilizes secretions in the small airways at the bottom of the lungs. Technique: big breath out, small breath in2. Collecting - this gathers the secretions and pushes them up the lungs into the main airways. Technique: middle sized breaths in and out3. Evacuating - this gets the secretions right to the back of the throat where they can be coughed out easily. Coughing before this phase is discouraged. Technique: take in as much air as possible then slowly sigh out. Gentle active huffs then used to remove the secretions from the body through the mouth.

#### **Category**

Rehabilitation

### **2**

#### **Description**

Intervention group 2 will be given active cycle breathing

technique along with percussion. Active cycle breathing technique consists of 4 stages:1. Breathing control - This is gentle breathing to allow you to relax and concentrate. With your hands gently resting on your tummy, concentrate on feeling your tummy rise and fall with each gentle breath in and out. Your breath out should be slow, almost like a sigh.2. Thoracic expansion (deep breaths) - This gets the air right down to the bottom of the lungs where it can loosen the phlegm. The breath in through your nose should be nice and slow, you should be able to feel your lungs filling up, when you feel like you have as much air in as is possible I want you to hold it there just for a few seconds, then gently breathe out through your mouth nice and slowly.3. Forced expiration (huff) - This helps force the phlegm up and out of your lungs. To carry out the technique effectively you need to pretend you have a mirror in front of you; take a normal breath in then huff the air out as if you are steaming up the mirror. This sometimes causes an acute onset of coughing.4. Cough - This allows you to get the phlegm up and out of your mouth, coughs are tiring and so should only be completed when you feel like the phlegm is just in the back of your throat. If the technique is used following surgery, a towel can be held over the scar site to ease the pressure on the wound and reduce pain whilst coughing

#### **Category**

Rehabilitation

## **Recruitment centers**

### **1**

#### **Recruitment center**

##### **Name of recruitment center**

Gulab Devi Hospital Lahore, Pakistan

##### **Full name of responsible person**

Azed Ahsaan

##### **Street address**

Ward no 14, Near HBL Bank, Jampur, District Rajanpur, Pakistan

##### **City**

Lahore

##### **Postal code**

42000

##### **Phone**

+92 335 6055553

##### **Email**

azedahsaan786@gmail.com

## **Sponsors / Funding sources**

### **1**

#### **Sponsor**

##### **Name of organization / entity**

Riphah International University , Lahore, Pakistan

##### **Full name of responsible person**

Qurat Ul Ain

##### **Street address**

28 M, Quaid-e-Azam, Industrial Estate, Kot Lakhpat, Lahore, Pakistan

**City**

Lahore

**Postal code**

42000

**Phone**

+92 42 111 747 424

**Email**

azedahsaan786@gmail.com

**Grant name****Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

No

**Title of funding source**

Riphah University

**Proportion provided by this source**

50

**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**

Other

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

Riphah international university lahore

**Full name of responsible person**

Azed Ahsaan

**Position**

Student

**Latest degree**

Master

**Other areas of specialty/work**

Physiotherapy

**Street address**

Ward no 14 near ubl bank jampur district Rajanpur

**City**

Jampur

**Province**

Punjab

**Postal code**

33500

**Phone**

+92 335 6055553

**Fax****Email**

azedahsaan786@gmail.com

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

Riphah international university lahore

**Full name of responsible person**

Azed Ahsaan

**Position**

Student

**Latest degree**

Master

**Other areas of specialty/work**

Physiotherapy

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**Phone**

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**Fax****Email**

azedahsaan786@gmail.com

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

Riphah international university lahore

**Full name of responsible person**

Azed Ahsaan

**Position**

Student

**Latest degree**

Master

**Other areas of specialty/work**

Physiotherapy

**Street address**

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**City**

Jampur

**Province**

Punjab

**Postal code**

33500

**Phone**

+92 335 6055553

**Fax****Email**

azedahsaan786@gmail.com

**Sharing plan****Deidentified Individual Participant Data Set (IPD)**

No - There is not a plan to make this available

**Justification/reason for indecision/not sharing IPD**

nil

**Study Protocol**

No - There is not a plan to make this available

**Statistical Analysis Plan**

No - There is not 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**

nil

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

nil

**To whom data/document is available**

nil

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

nil

**From where data/document is obtainable**

nil

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

nil

**Comments**

nil