

PULMONARY REHABILITATION FOR COVID 19**Mrs. Devi Nanjappan* | Dr. Justin Jeya Amutha******Principal, Smt. Nagarathnamma College of Nursing, Bangalore, India.****Associate professor, Smt. Nagarathnamma College of Nursing, Bangalore, India.*DOI: <http://doi.org/10.47211/tg.2021.v08i01.004>**ABSTRACT:**

As a highly infectious respiratory tract disease, coronavirus disease 2019 (COVID-19) can cause respiratory, physical, and psychological dysfunction in patients. Therefore, pulmonary rehabilitation is crucial for both admitted and discharged patients of COVID-19. In this paper, based on the newly released pulmonary rehabilitation guidelines for patients with COVID-19, as well as evidence from the pulmonary rehabilitation of patients with severe acute respiratory syndrome, pulmonary rehabilitation for patients with COVID-19 having complications, such as chronic pulmonary disease, and established an intelligent respiratory rehabilitation model for these patients.

Keywords: *Coronavirus (COVID -19), Pulmonary Rehabilitation, Acute Respiratory Syndrome, ACBT (Active Cycle of Breathing Technique) Dyspnea.*

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INTRODUCTION:

Coronavirus (COVID-19) is a new virus that has spread quickly throughout the world. COVID-19 spreads easily between people who are in close contact or through coughs and sneezes. Most infected people suffer mild flu-like symptoms, but some become seriously ill and even die. This rapid review assesses quarantine (alone or in combination with other measures) of individuals who had contact with confirmed cases of COVID-19, who travelled from countries with a declared outbreak, or who live in regions with high transmission of the disease. COVID-19, by attacking the lungs and respiratory system, can leave the sufferer struggling to breathe. As with many health conditions, physical exercise can help to combat the impact and ease the symptoms. In the case of COVID-19, deep breathing exercises can be particularly effective.

The harmful effects of the COVID-19 pandemic are physical and mental, and a regular deep breathing routine can help to ease both.

DEFIITION:

Pulmonary rehabilitation is a program of education and exercise to increase awareness about lungs and disease.

PURPOSES:

1. Deep breathing can encourages the contraction and expansion of muscles.
2. It takes no time, needs no equipment, and (is) very cost-effective.
3. It enables the erythrocytes to pick up sufficient oxygen from the lungs and transport it to the body's tissues. Because, an adequate supply of oxygen is vital if the organs are to function properly.
4. It helps to reduce anxiety and also alleviate respiratory symptoms by helping to clear mucus or secretions from the lungs
5. To relieve Shortness of breath, or dyspnea
6. It helps to coordinate breathing with medication to deliver the optimal dose and to keep the airways open.

TYPES OF EXERCISES:**1) AEROBIC EXERCISE:**

Before infection aerobic exercise strengthens cardiovascular health. Once infected, during the period of mild symptoms, moderate daily aerobic exercise can improve lung ventilation. Such exercise may benefit immune function as well. Ideally, do this exercise outdoors or with open windows or otherwise well ventilated areas. In sufficiently warm climates, longer walks or even running may improve lung capacity. Jumping jacks, jogging in place, or dancing can be done even in small spaces.



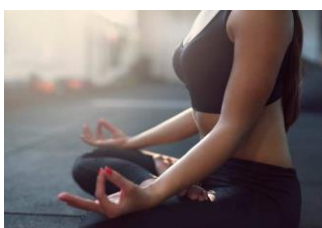
The oxygen that reaches our lungs pumps the blood with essential nutrients. Lung health is important, even more so with a pandemic that affects the respiratory tract. Along with maintaining hygiene and practicing social distancing, having healthy lungs will help you survive the pandemic better.

If the lungs cannot expand fully, it leads to shallow breathing and decreased lung capacity. Therefore, it is important to keep them healthy with exercises that maintain muscle strength around the rib cage and diaphragm.

This endurance training routine will help you keep your lungs healthy.

2) BELLY BREATHER:

Some people are shallow chest breathers rather than deep stomach breathers. In such cases, stressful situations can trigger shallow breathing. Due to shallow breathing, lack of oxygen can cause hyperventilation and dizziness too. Belly breathing exercises can strengthen the muscles and ease you into breathing from the diaphragm rather than the chest.



Place one hand on your chest and the other on your stomach. Take a deep breath, the hand on your stomach should rise. This means that you are breathing correctly. Now, when you breathe out you should again feel your stomach relaxing. You can repeat this for three counts of each.

3) PRANAYAM:

Pranayam is an effective way to control your breathing and decrease the effects of stress.



Delhi's first coronavirus patient, Rohit Dutta, also said that he spent his time doing Pranayam when he was undergoing treatment.

3) ANULOMA VILOMA:

Start by emptying all the air from lungs. Using the thumb of dominant hand, close the right nostril and breathe with the left. Now use the ring finger of the same hand to close the left nostril and breathe out with the right. Remember to breathe into stomach and not the chest when performing this exercise.

4) KAPALBHATI PRANAYAM:

Sit with a straight spine and empty all the air from lungs. Take a short breath using both nostrils and exhale sharply as you pull your navel towards spine. The exhalation has to be short and quick.

ACBT (Active Cycle of Breathing Technique) FOR COVID19:

ACBT should be used in conjunction with lying on your stomach with a pillow. This may help with draining mucus and secretions from your lungs (postural drainage).

ACBT GUIDELINES :**1. Breathing control**

Breathing control is focused on breathing gently with as little effort as possible.

- Sit in a comfortable position.
- Place your hands on the rib cage or the top of your stomach. Feel your ribs or stomach rise and fall as you breathe.
- Breathe in through nose and out through mouth.
- Breathe at a comfortable rate.

2. Deep breathing exercises

Deep breathing exercises help to loosen secretions.

- Take 3 to 5 deep breaths in through your nose. Make sure they are long and slow.
- Hold your breath, or 'pause' at the end of each breath, for 2-3 seconds before breathing out again. Keep your shoulders and chests relaxed and breathe out as though you are sighing.

Repeat steps 1 and 2 several times before beginning step

3. Huffing

Huffing is when you breathe out (exhale) forcefully through your mouth without coughing.

- To move secretions from your lower airways perform a medium volume huff. Breathe in normally and then breathe out actively for as long as you can until your lungs feel empty.

- To remove secretions from your upper airways take a deep breath in, then open your mouth nice and wide and huff out quickly.
- To avoid a tight feeling in your chest only do 1-2 huffs together.
- If you hear crackling noises when you huff then a cough can help clear secretions, but take care to avoid excessive coughing.

POSTURAL DRAINAGE:

Lying on your stomach with a pillow for 10 minutes after completing your breathing techniques. This can also help to shift any secretions out of your lungs .Postural drainage can also be carried out while lying on your sides and back to help drain other areas of your lungs.

- Postural drainage is best done on an empty stomach.
- You can lie on your back, sides and front to help drain different areas.
- **Back (drains front of lungs)** - lie on your back with a pillow under your head and with your chest lower than your hips. You can prop your hips up above your chest by placing 2-3 pillows under your bent knees. With your arms by your side breathe in through your nose and out through your mouth. Try to breathe out for longer than you breathe in.
- **Sides (drains sides of lungs)** - lie on your side with 2-3 pillows under your stomach and drape yourself over them so that your chest is lower than your hips. Once again breathe in through your nose and out through your mouth. Don't forget to change sides.
- **Front (drains the back of your lungs)** - lie on your front with 2-3 pillows under your stomach to raise it above your chest. Rest your arms by your head and breathe in through your nose and out through your mouth.

CONCLUSION:

Pulmonary rehabilitation should be provided throughout the diseases management process, regardless of whether the patient is hospitalized or at home. In addition, rehabilitation prescriptions should be individualized based on the patient's specific condition. The effective incorporation of pulmonary rehabilitation into disease management and a patient's daily life, so that it becomes a conscious behaviour, can provide long-term benefits to both the patient and his / her family. With the deepening of the understanding of COVID-19, an increasing number of patients have recovered. Pulmonary rehabilitation for these recovered patients has become a major challenge for medical staff, the resolution of which requires multidisciplinary collaboration and joint exploration so that evidence-based, high-quality support can be provided.

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