



PULMONOLOGY CLINIC

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Physiotherapy and Chronic Obstructive Pulmonary Disease (COPD)



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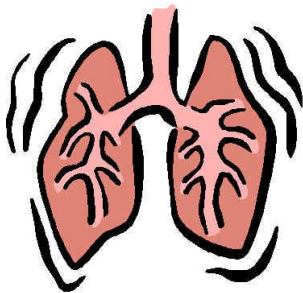
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Physiotherapy is a vital intervention required for managing the symptoms of Chronic Obstructive Pulmonary Disease (COPD). It aims to improve the quality of life of individuals affected by the condition.

Normal Lung Function

To understand COPD it is important to firstly understand the lung function (how the lungs work).

The air we breathe enters the lungs through a tube called the trachea, which divides into two smaller tubes – bronchi – each leading to a lung. Each bronchus branches into a network of increasingly (airways) which ultimately end in small sacs, the alveoli.



Chronic Obstructive Pulmonary Disease (COPD) is a term that encompasses lung conditions characterized by narrowing of the airways and reduced airflow in and out of lungs.

It is a progressive condition that causes coughing, mucus production, wheezing, chest tightness, and shortness of breath.

“Chronic” means that the condition persists over time, and “progressive” indicates that it may worsen gradually.

A common feature of these diseases is reduced capacity for exercise and physical activity, poor physical fitness, and ultimately weakness and atrophy of skeletal muscles, resulting in diminished quality of life.

Smoking is the primary cause of COPD. Long-term exposure to irritants and environmental pollution also contributes to its development.

Many individuals with COPD are unable to enjoy uninterrupted, restful sleep. The most frequent causes of nighttime awakenings are nocturnal coughing and breathlessness.

What should COPD Patients avoid?

- Direct exposure to extremely cold air
- Staying in enclosed spaces with large crowds
- Exposure to outdoor environments with high levels of air pollution, humidity, dust etc.
- Presence in areas with irritants, dust, and airborne particles

The Role of Physiotherapy



Physiotherapy aims to:

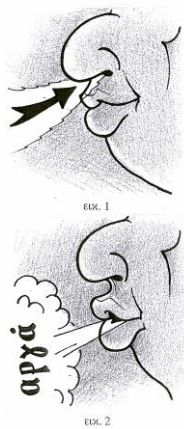
- Control breathlessness
- Facilitate mucus clearance
- Teach more efficient and effective breathing techniques
- Improve overall physical condition



1. What to do when you experience breathlessness (dyspnea):

Breathlessness (dyspnea) can be a distressing sensation that limits your ability to engage in daily activities. Knowing how to respond can help you manage this discomfort.

Try the following:



- Sit comfortably and relax your shoulders.
- Inhale gently through your nose and exhale for twice as long.
- Repeat gradually slowing your breathing rate. Continue until your breathing rhythm returns to normal.
- Remain in this position and breath calmly for five minutes.

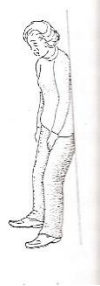
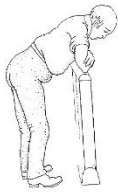
It is better to practice this breathing technique while at rest so that you can apply it easily during episodes of breathlessness.

Repeat the exercise several times a day (e.g. while watching television or reading)

You can train your exhalation using a candle or a tissue. If helpful, count the duration of inhalation and exhalation to ensure the latter lasts twice as long.

This breathing method may help relieve symptoms of breathlessness by increasing oxygen levels in the blood.

2. Comfortable positions that may help you manage Breathlessness (Dyspnea)

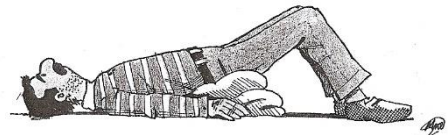


3. Bronchial Drainage

It is very important to keep your lungs clear of secretions. Retained secretions obstruct the smaller airways and worsen the sensation of breathlessness. Moreover, these secretions can become sources of infection within the lungs.



Bronchial drainage is a simple method to help clear the lungs of secretions.



- Repeat the exercise from the beginning.
- Continue until all secretions have been expelled from the bronchial tree.
- The most effective times for these exercises are in the morning upon waking, during the day before meals, and in the evening before bedtime.



4. Diaphragmatic Breathing



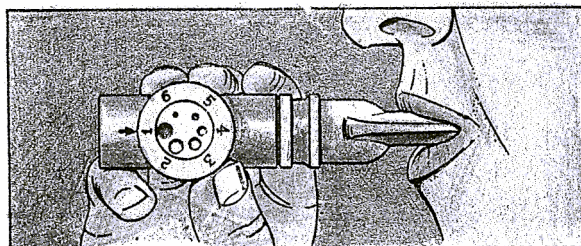
This exercise should be performed after the lungs have been cleared of secretions.

- Lie on your back and bend on your knees.
- Place a small weight or your hands on your diaphragm and try to direct your breath there, inflating your abdomen.
- Exhale deeply through your mouth while drawing your abdomen inward.

This exercise can also be performed in a seated relaxation position, using your hands as resistance.

5. Breathing Trainer

The simple device shown in the image is an easy way to exercise the diaphragm, which is the primary respiratory muscle. There are several types of breathing trainers available. Training the diaphragm leads to better and easier breathing. These devices are affordable and easy to use, allowing you to practice daily for 15-30 minutes.



6. Energy Conservation

- If breathlessness affects you daily, it is important to prioritize your daily activities and always begin with the most essential. That way, if you become breathless, you will have completed your priorities and everything else can wait until tomorrow.
- Place frequently used items at a height that does not require effort to reach. Do the same with household appliances such as the washing machine and oven.
- When performing a physically demanding task, combine it with calm inhalation through the nose and exhalation through the mouth at twice the duration.

7. Physical Activity

Increasing physical activity in daily routines has beneficial effects and helps foster a sense of independence and wellbeing.

Do not the fear of breathlessness (dyspnea) hold you back. Over time, you will gradually be able to accomplish more with less difficulty.

Walking is a simple and excellent form of exercise that can be done daily. Mark a distance that you can initially walk without fatigue or breathlessness. Repeat this distance several times, gradually increasing it each day.

Walk slowly with relatively large steps, allowing your shoulders and arms to move freely. Remember to use pursed-lip breathing so that your exhalation lasts twice as long as your inhalation. If you use bronchodilator sprays, one or two inhalations before starting can help you cover a greater distance. Finally, if your doctor has prescribed oxygen therapy, ensure that the flow rate is set according to their instructions.

However, be careful not to overexert yourself.

Symptoms that should be considered suspicious and warrant consultation with your physician include excessive breathlessness, sweating, chest pain, dizziness, weakness, or extreme fatigue.

Individuals living with COPD know that daily activities require more effort than they do for healthy individuals.

However, this should not be a reason to change your lifestyle drastically or become confined to your bed or chair, living only to take your medication. This is the central message and goal of the Pulmonary Rehabilitation Program

Rehabilitation Program



An important way to improve your physical condition is by participating in a structured Rehabilitation Program, conducted under the supervision of a Pulmonologists and a Physiotherapist.

EXERCICES

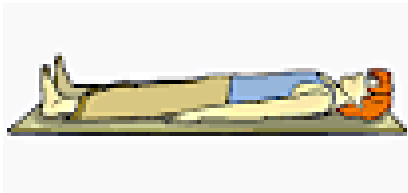


Exercises are prescribed according to the Pulmonary Rehabilitation Protocol.

✓ Relaxation Exercises

Relaxation exercises and positions help reduce the sensation of “tension” that may arise daily due to the condition.

Lie on your back in a quiet space. Close your eyes and take a few calm breaths.



- Press your head against the mattress, hold and release
- Press your abdomen against the mattress, hold and release.
- Tighten your gluteal muscles, hold, and release. Then sit up.

✓ Free active shoulder exercises combined with breathing.



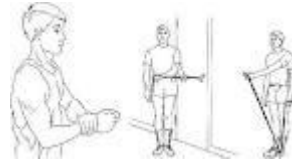


✓ **Resistance**

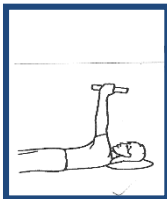
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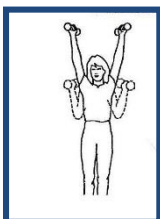
exercises



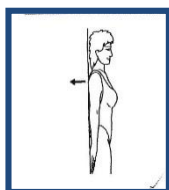
✓ **Stretching and weight-based Exercise Program**



1. From a supine position, holding weights, extend your arms upward exhaling slowly. Repeat 30 times. From the same position, open your arms to shoulder height while exhaling slowly.



2. Stand upright holding weight in front of your chest. Raise your arms straight upward while exhaling and lower them while inhaling. Repeat 30 times.



3. Stand upright and lean against a wall. Push against the wall while exhaling slowly and relax while inhaling. Repeat 30 times.



4. Stand about one meter from the wall. Place your palms on the wall and perform elbow beds. Exhale slowly while pushing. Repeat 30 times.



You may perform the same exercise with one foot in front of the other to stretch your legs.



5. Stair climbing: During exhalation, aim to cover twice as many steps as during inhalation.



6. Lie on your back with knees bent and arms crossed over your shoulders. Raise your head and shoulders slightly while exhaling, and return with inhalation. Repeat 30 times.



7. Lie on your back and bend one leg. Extend the other leg and slowly raise it to the height of the bent knee. Lower it slowly. Repeat 30 times.



8. Stationary cycling: Begin with low resistance and gradually increase. Exercise for 30 seconds, followed by 30 seconds of rest. Start with a total of 10 minutes and gradually increase to 40 minutes (including rest intervals).

9. Diaphragm and thoracic muscle stretches



- From a prone position, place your palms beside your shoulders. Push with your arms and extend your torso and neck while exhaling slowly.



- Clasp your hands behind your back and push until reaching your full range of motion while exhaling.