Perspective

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Chest Physiotherapy in COVID Patients - An Overview

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Perspective

In general, asymptomatic COVID-19 patients do not require chest physiotherapy, whereas symptomatic instances require chest physiotherapy according to their clinical presentation. Patients with no underlying lung disease who are suspected or infected with COVID-19 (Other than COVID-19)

These are healthy people who have never had any kind of respiratory ailment before. Depending on their clinical parameters, these patients may or may not require ventilator support.

Patients do not require ventilator support

Patients may be on room air or get high-flow oxygen through a nasal cannula (HFNC). Chest physiotherapy will not help with airway clearance in a patient with a normal underlying lung who has pneumonitis, a lower respiratory tract infection, and a dry cough. Physiotherapy for airway clearing is advised if the patient has exudative consolidation as evidenced by radiology (ultrasonography, chest radiograph, or computed tomography scan of the chest). If the patient has alveolitis or fibrosis, it's time to see a doctor. Chest physiotherapy seeks to improve ventilation and oxygenation, decrease breathing, increase respiratory muscle strength, and maintain muscular strength (late in the disease course). Invasive mechanical ventilation, often known as NIV, is required for these COVID-19 patients. The majority of these patients come with pneumonia, either with or without hypoxemia, or with ARDS-like symptoms. The treatment plan for these individuals attempts to promote oxygenation, respiratory muscle strength, airway clearance, and avoid deconditioning.

Patients Suspected or Infected with COVID-19 with Underlying Lung Disease (Other than COVID-19)

Individuals having a history of respiratory disorders such as Chronic Obstructive Pulmonary Disease (COPD), Interstitial Lung Disease (ILD), asthma, post-tuberculosis sequelae, and bronchiectasis are included in this group. Hypertension, diabetes, obesity, heart problems, oncological disorders, and neuromuscular problems are all possible systemic co-morbidities.

Patients with pre-existing co-morbidities are more likely to die than those without co-morbidities, according to evidence.

Patients not on a ventilator

Patients may be on room air or HFNC-assisted high-flow oxygen therapy. Secretions in the airways may be connected with dyspnea if the patients have an underlying respiratory illness. Exacerbations of their underlying lung disease in the past would be a risk factor for current underlying pathology in the diseased lungs, which could necessitate intensive lung physiotherapy depending on their ability to clear their airways actively or requiring assistance due to increased secretion tenacity. The goal of this treatment plan is to enhance ventilation, bronchial cleanliness, dyspnea-relieving procedures, functional restrictions, and erectile dysfunction exercise capacity.

Patients on a ventilator

Invasive mechanical ventilation (IMV) or noninvasive ventilation (NIV) may be used by these individuals. As previously mentioned, these patients typically present with pneumonia and hypoxemia, as well as exacerbations of their underlying respiratory illness. Due to co-morbidities, they may develop severe problems and develop ARDS. The type of physiotherapy treatment given to these patients is determined by their clinical status, but it primarily seeks to enhance breathing, bronchial hygiene, functional limitation, early weaning, and deconditioning prevention.

Techniques used in ICU physiotherapy

Body positioning: In hypoxemic COVID-19 individuals, a prone laying position is advised. It boosts oxygen and ventilation

levels. An active prone laying posture, or an aided position, can be administered if the patient is not ventilated. To help prevent interaction with COVID-19 patients and reduce the danger of transmission, audio-visual aids and charts can be used to convey commands.

Rotational bed therapy can assist reduce issues with adjustments if the patient is on a ventilator.

It aids in the improvement of ventilation as well as the clearing of the basal lung lobes. It also guards against deconditioning.

In COVID 19 patients, prone positioning should last at least 12 hours per day. Every two hours, the position, as well as the side, should be switched. During the positioning operation, a coordinated team effort is critical for turning intubated posture and rigorous implementation of airborne infection control measures.

Caution

During the prone positioning of the COVID-19 patient, the following precautions must be observed:

- If the patient is on a ventilator, measures should be taken during placement to avoid mistakenly disconnecting the tubing, which could result in a sudden discharge of secretions.
- To avoid direct contact with aerosol, physiotherapists and other accompanying healthcare staff should wear complete personal protection equipment (PPE) and ideally be on the patient's backside.
- Patients on a ventilator should be thoroughly watched during a change of posture in order to avoid hemodynamic and cardiac issues.
- During the session, the therapist should be at least 2 metres apart from the patient.
- If the patient is not on a ventilator during physiotherapy treatment, he or she should wear a surgical mask.
- If the patient is awake, he must cough into a tissue that should be discarded, and he must keep his hands clean.