

## Safe Physiotherapy Practice during COVID-19 Pandemic-A Compilation of Guidelines and Recommendation from Different Organization

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### ABSTRACT

Corona virus disease 2019 (COVID-19) has spread quickly around the world and WHO categorized it as a pandemic in March, 2020. In India more than one million people have been infected with corona virus disease till date. In this situation, the entire healthcare system and healthcare staff need to respond in a very short time to an exponential growth of the number of COVID-19 patients. The SARS-CoV-2 virus is transmitted from person to person by large droplets from infected person by coughing, sneezing or rhino-rhea. An approximate distance of 2 meters is needed to protect from these droplets. SARS-CoV-2 similar to the other corona virus family which remains on the surface of objects for variable periods of time (at least 24 hours on hard surfaces and up to 8 hours on soft surfaces). Healthy people may get infected with this virus through touching the mouth, nose or eyes with a contaminated hand. Infected droplets which were created during a sneeze or cough persist in the air for about 3 hours.

**Keywords:** Corona virus; Transmitted; Physiotherapy; Sneeze

### INTRODUCTION

The transmission of COVID may occur during the treatment of patients to a treating physiotherapist or to patients by different routes in hospital setup. Similarly, a person who goes to outpatient physiotherapy clinic may also get infected by inhaling polluted air, touching the contaminated surfaces by hand, through physiotherapy equipment's, through the other patients etc. On the other hand, a physiotherapist may be at risk for contacting infected patients [1]. It is also important to note that some infected people may have no symptoms and they are not aware of having the disease resulting in asymptomatic carrier. Nearly 80% of cases are asymptomatic or mild, 15% had severe symptoms and 5% have critical conditions requiring ventilation and may lose their lives. Till now, there is no effective antiviral drug for the treatment of patients; hence, vaccine for this disease may be produced in future.

### LITERATURE REVIEW

The safe guidelines for physiotherapy practice in acute care setup as well as out-patient setups are need of hour to save patients as well as physiotherapist from exposure to COVID-19.

There are many guidelines and recommendation but the collective, simple and feasible guidelines for all types of setups for both developed and developing countries are limited [2,3].

The main objective of this study is to provide basic infection prevention recommendations for acute care and outpatient physiotherapy settings. It also reaffirms standard precautions as the foundation for preventing transmission of infectious agents during patient care in all healthcare settings by compiling different guidelines/recommendation of various organizations and institutions published recently. This compilation study also aims to find simple collective guidelines which may be practiced in both developing and developed countries [4].

This study is compilation of various recommendations and guidelines given by different institutions, organization such as American physical therapy association, Australian physiotherapy association, Canadian physiotherapy association, Australian and New Zealand intensive care society etc. to have a single framed and efficient guideline for safe physiotherapy practice during COVID-19 pandemic.

After compiling the recommendation for physiotherapist role, recommendation for acute care as well as outpatient's setups of

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different organization one single framed recommendation is established. It includes role of physiotherapy, use of PPE, recommendation for chest physiotherapy, exercise prescription and mobilization, outpatient setup safety etc. Ethical clearance is not applicable for this study and the originality of source articles has not been changed [5].

## DISCUSSION

### The statement on the role of physiotherapy on COVID-19

Physiotherapy and rehabilitation play an essential role in the context of infectious disease outbreaks. Physiotherapy can mitigate adverse impacts due to respiratory and mobility complications associated with infectious disease outbreaks. The care and treatment offered by physiotherapists is crucial in keeping patients healthy and active and in preventing the need to access urgent or emergency services in-hospital. Physiotherapy can reduce the burden on the medical system through improving patient function and independence and allowing them to return to their homes sooner, freeing up much needed hospital resources. Physiotherapy is important to improve physical and mental well-being for patients diagnosed with an infectious disease, as well as for people in isolation and self-quarantine. Physiotherapy can help citizens to return to their communities, families and employment faster, thus reducing the societal and financial impacts of infectious disease. As health care professionals, physiotherapists are trained in and adhere to, strict infection control practices to keep Citizens safe. Physiotherapist can help to educate citizens and create awareness in society [6].

### Recommendation for physiotherapy in acute care setup/hospital

All of the physiotherapist must be donning with PPE, including N95 or surgical mask in the best way. If possible, one of the healthcare staff who has had comprehensive PPE education may check the fitness of masks and teach other patients how to use the N95 in the correct way. Physiotherapists with beards should remove beards to confirm proper mask fitness. Physiotherapists should wear hair cover, head shield for protection from aerosol-generating procedures. They must wear an additional plastic apron if patients have symptoms similar to that of COVID-19. If reusable PPE items are used (such as goggles), they should be cleaned and disinfected before being used again. Use a paper towel for each patient separately. The physiotherapist should change his or her gloves after each examination. If any piece of equipment is contaminated with the patients' discharge, it is necessary to clean the plant according to the instructions or by referring to the manufacturer's instructions using the appropriate disinfectant. Stethoscopes use should be kept to a minimum. If required, be sure to disinfect them with 70% alcohol after being used. During the procedure, that may provoke a cough, physiotherapists must teach the patients about cough etiquette. Physiotherapists should maintain more than 2-meter distance from the patients if the procedure can be done without touching the patients.

### Indications for physiotherapy intervention

Physical therapy examination and interventions should be provided only when there are clinical indications for need such as "mobilization, exercise and rehabilitation, e.g., in patients with co morbidities creating significant functional decline and/or (at risk) for ICU-acquired weakness". It is essential to assess oxygen status, cardiac stability (look at ECG, enzymes and echo) and hemodynamic stability with activity before enrolling the patient of COVID-19 for physiotherapy treatments. Physiotherapists should not implement AGPs, including humidification or Noninvasive Ventilation (NIV), without first obtaining agreement with a "senior physician". If AGPs are required, they should be conducted in a negative-pressure room or at least in a single room with the door closed, with a minimum number of staff, all wearing PPE that includes an N95/P2 mask, fluid resistant long-sleeve gown, goggles/face shield, gloves, hair cover and shoes that are impermeable to liquids. Coming in and going out of the room should be minimized during the AGPs. Physiotherapists should take droplet and airborne precautions, including the use of a high filtration mask, when providing mobilization exercise, as there is a risk of the patient coughing or expectorating mucous. Direct physical therapy interventions should be considered only when there are significant functional limitations. Use of metered dose inhalers/spacers is preferred where possible [7]. If a nebulizer is required, liaise with local guidelines for directions to minimize aerosolization.

### Aerosol-generating procedures

It includes:

- Tracheotomy
- Cardiopulmonary resuscitation before intubation
- Extubation
- Bronchoscopy
- HFNO use (negative pressure rooms are preferable)
- NIV
- Open suctioning (closed inline suction catheters are recommended) and oxygen therapy

Respiratory support *via* HFNO (limiting the flow rate to not >30 L/min to reduce potential viral transmission). Oxygen therapy targets may vary depending on the clinical status of the patient.

- For patients with presenting with severe respiratory distress, hypoxemia or shock, SpO<sub>2</sub><94% is targeted.
- Once a patient is stable, the target is >90% in non-pregnant adults and 92%-95% in pregnant patients.
- In adults with COVID-19 and acute hypoxemic respiratory failure, the SpO<sub>2</sub> target should not be maintained higher than 96%.

Where AGPs are indicated and considered essential, they should be undertaken in a negative-pressure room, if available or in a single room with the door closed. Only the minimum number of required staff should be present and they must all wear PPE as described. Entry and exit from the room should be minimized

during the procedure. Mask should be removed after coming out of patient room and closing the door behind [8].

### Exercise-induced fall in oxygen saturation

Unpublished data suggest that some patients with mild symptoms have normal pulse oxymetry at rest, but their readings deteriorate on exertion. A fall of 3% or more in pulse oxymetry reading on exercise is a cause of concern and if identified in symptomatic patients with normal saturation may prevent delay in management.

The 1-min sit to stand test which is less demanding and correlates well with the validated 6-min walk test as a structured exercise has been found to be useful for the purpose. In patients whose pulse oximeter readings are <96%, this test should not be performed.

In adult patients with COVID-19 and severe acute respiratory distress syndrome, prone ventilation for 12 h-16 h per day is recommended. It requires sufficient human resources and expertise to prevent known complications, including pressure areas and airway dislodgment. In non-intubated patients or those on NIV or High-Flow Nasal Oxygen (HFNO) therapy, the "COVID Awake Repositioning Prone Protocol" (CARP) can be implemented on suitable patients after screening for indications and SpO<sub>2</sub> monitored with pulse oximeter [9].

### Recommendation for out clinics and OPD during COVID-19 pandemic

Scheduling and workflow: Have in place written communication of masking and symptoms policies so they can be seen upon entering the clinic. Have a procedure in place to screen and isolate sick employees and patients. Have a clinic plan/policy in place? Discuss policy changes with employees. Consider options for how patients enter the facility and await their appointments, such as a virtual waiting area, when possible, *via* phone or text. Consider allowing only medically necessary caregivers to accompany patients within the facility and during treatment sessions. Set up facility and scheduling of patients and staff so that patients may maintain 6 feet distance from one another. Consider markers such as lines on the floor in the waiting and treatment areas to indicate social distances of 6 feet. In larger facilities, consider placing barriers to direct patient flow in, out and around the waiting and treatment areas. Consider sectioned treatment areas: If possible, assign tables to specific therapists. Consider assigning treatment rooms for clinicians with a system to communicate when they are sanitized/clean or not. All patients on treatment tables separated by at least 6 feet. All patients sitting in chairs separated by at least 6 feet. Consider space of at least 12 feet between patients using physiotherapy equipment. Consider making cleaning supplies available nearby for patient use to wipe hands and clean equipment before and after use. Clean all equipment after every patient use and entry/waiting area. When physical distancing is not possible in the waiting area, recommend phone call or texting system to alert patients when to enter clinic. Patients may text or call upon arrival, wait in car; clinic texts or calls patients when therapist and space are ready.

Hand sanitizer available at front desk if plexiglas barrier placed between front desk staff and sanitizer or located on wall near entrance. Sign-in sheets located next to hand sanitizer and clearly marked receptacles for clean and used pens. No magazines, candy jars, pamphlet handouts. All patients asked to wear a mask/cloth face covering upon entering the clinic or provided with one, except those for whom it is not indicated. Request that all patients and personnel wash their hands immediately upon arrival. All staff working should be separated by 6 feet. Consider assigning them to one workstation during a shift or clean the workstation between each person's use. Consider adjusting systems and keeping credit cards on file for reference each visit to minimize contact with patients. Consider wipe able covers for credit card processing machines or touch less payment options [10].

### Patient screening prior to patient visits

Consider a pre visit screen and ask patients to reschedule if any of the below apply between now and their appointment.

- Cough
- Shortness of breath or difficulty breathing
- Fever
- Chills
- Muscle pain
- Sore throat
- New loss of taste or smell
- Less common symptoms: Gastrointestinal symptoms such as nausea, vomiting or diarrhea
- COVID-19-specific questions
- Exposed to someone diagnosed with COVID-19 within the last 14 days

### CONCLUSION

Physiotherapy is an essential part of healthcare care system which cannot be ignored. To prevent the spread of COVID-19 infection different physiotherapy organization has given recommendation and guidelines. This study has collected different guidelines and compiled it to provide in single framed, simple, structured guidelines.

This study is only the collection of different guidelines and recommendation which may be followed in different setups depending on feasibility and due consideration on guidelines from local governing authorities which could be more efficient.

### CONFLICTS OF INTEREST AND FUNDING

No conflicts and interest and any funding declared.

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