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## American Thoracic Society

### Assembly on Pulmonary Rehabilitation

#### Guidance for re-opening pulmonary rehabilitation programs

**This document has been prepared as guidance only. Each program should add details and criteria specific to their facility and update the document as advice changes. It is suggested that each organization create clear guidelines on the eligibility of patients to attend center-based rehabilitation based on the Centers for Disease Control and Prevention (CDC) guidelines and current state of the pandemic locally.**

- Pulmonary rehabilitation is an essential part of the management of people with chronic respiratory conditions, as it is the most effective non-pharmacological management to improve health-related quality of life, improve symptoms of dyspnea and fatigue, increase exercise capacity and reduce hospital admissions. During the COVID-19 pandemic, most pulmonary rehabilitation programs around the world have temporarily suspended their center-based, face-to-face programs due to concerns of infection and the need for physical distancing.
- Some pulmonary rehabilitation programs have been able to implement virtual pulmonary rehabilitation via telehealth, using telephone or video-conferencing to provide exercise training and education for patients in their homes. There are several published documents to help clinicians provide pulmonary rehabilitation via telehealth (Links provided below).
- While pulmonary rehabilitation via telehealth has been funded in some countries, it is not generally reimbursed for all patients in the USA. There are some potential issues with rehabilitation via telehealth, including: some patients not having the technology or ability for access; inability to perform face-to-face patient assessments; limited research on the effectiveness of rehabilitation via telehealth.
- As social restrictions ease, pulmonary rehabilitation programs are starting to resume face-to-face, one-on-one assessments, and there is a possibility of small group sessions recommencing. However, the most important issues are PATIENT AND STAFF SAFETY, to avoid contracting and further spreading COVID-19.
- Health recommendations (from the local and national governmental agencies) vary according to the local prevalence of the COVID-19 virus. Please refer to the USA, State, or Regional 'gating' criteria that includes data about trends in the region/community

related to symptoms, cases, and hospital capabilities.

<https://www.whitehouse.gov/openingamerica/>

- General principles of infection control should apply until there is an effective vaccine that is widely available and utilized. Where new case rates are high, it is unlikely that center-based rehabilitation will be appropriate for people with chronic respiratory disease.

### **Links to documents to help clinicians provide pulmonary rehabilitation via telehealth**

USA:

<https://www.thoracic.org/members/assemblies/assemblies/pr/resources/pr-resources-in-a-complex-and-rapidly-changing-world-3-27-2020.pdf>

<https://www.cspr.org/news/considerations-for-remote-pulmonary-rehabilitation-by-chris-garvey-np>

Canada:

COVID-19 – cts-sct.ca

<https://www.inforoute.ca/en/resource-centre/virtual-care> (not directly pulmonary rehabilitation)

UK:

British Lung Foundation videos for PR. <https://www.blf.org.uk/support-for-you/keep-active/exercise-video>

British Thoracic Society: <https://www.brit-thoracic.org.uk/about-us/covid-19-information-for-the-respiratory-community/> (see Pulmonary Rehabilitation resource pack)

Australia:

Delivering pulmonary rehabilitation via telehealth during COVID-19

<https://www.health.nsw.gov.au/Infectious/covid-19/communities-of-practice/Pages/guide-pulmonary-rehabilitation.aspx>

Other documents of interest:

Restoring Pulmonary and Sleep Services as the COVID-19 Pandemic Lessens: From an Association of Pulmonary, Critical Care, and Sleep Division Directors and American Thoracic Society-coordinated Task Force

<https://www.atsjournals.org/doi/abs/10.1513/AnnalsATS.202005-514ST>

Figure 1: Infographic of Checklist for re-opening pulmonary rehabilitation programs

# Guidance for re-opening pulmonary rehabilitation programs

American Thoracic Society  
Pulmonary Rehabilitation Assembly

### 1. Pre- screening

- COVID-19 screening questions
- Provide written instructions
- Instruct to bring pen and water bottle

### 2. Site preparation

- Consult local directives
- Adequate space for physical distancing
- Hand hygiene sanitizers available
- Wipe disinfectants
- Masks
- Suitable storage
- Policy for guests
- Optimal ventilation

### 3. Pulmonary rehab session

- Masks (if applicable)
- Hand hygiene before, between, and after
- Observe physical distancing whenever possible
- Maintain minimum staff to patient ratio
- One pulse oximeter per patient per session
- Sanitize equipment after each use
- Remote and written education when possible

### 4. After session

- Sanitize all surfaces and equipment after use
- Repeat at end of the day

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## CHECKLIST FOR FACE-TO-FACE PULMONARY REHABILITATION

Below is a checklist<sup>1</sup> that is intended to help you prepare your space and your patients for commencement of face-to-face pulmonary rehabilitation

### Pre-screening & provision of information for patients

- In the 24 hours before attendance, contact patients via text message or phone call with COVID-19 screening questions (refer to the example of screening below). If screening questions indicate potential risk of infection, advise the patient to be tested for COVID-19 and/or visit their local doctor for clearance before attending the program.
- Provide written instructions for patients attending including new procedures in place, contact details for the program, and advice not to attend if any new acute viral illness symptoms occur (refer to example of information to provide below).
- Inform patients of the facility's new local entrance screening procedures (e.g., temperature check and COVID-19 screening questions) and any other testing required before attending a center-based program.
- Ask patients to bring their own pen.
- Ask patients to bring their own water bottle.

### Preparation of the Program site

- Measure gym, education, and assessment spaces and determine the maximum number of people permitted in the room (including staff) according to 4m<sup>2</sup> per person public health order, i.e., a minimum of 6 feet or 2 meters distance between all patients, as well as clinicians wherever possible.
- Ensure adequate supply of products for hand hygiene (soap and water or antiseptic/alcohol hand rub and/or disinfectant wipes).
- Ensure adequate supply of neutral detergent or antibacterial alcohol wipes or disinfectant (70% alcohol or chlorine-based) to clean exercise equipment and waiting area.
- Ensure adequate supply of surgical masks for patients and staff (for use as indicated by the facility).
- Re-organize seating in waiting area, gym, and education room to ensure the recommended social distancing space between chairs and remove non-essential chairs.
- Re-organize exercise equipment to ensure the recommended physical distancing space if all equipment is utilized, or if equipment is located close together, consider a method for blocking off every second item (e.g., cover with sheet, use hazard tape).
- Consider suitable area for storage of patient's personal belongings (e.g., bags and jackets) – wall hooks minimize the amount of surfaces being touched. Encourage patients to leave unnecessary items at home or in car trunk.

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<sup>1</sup> The key elements of this checklist were prepared for NSW Agency of Clinical Innovation Respiratory Network, Australia

- Where possible, encourage one-way flow of patients through the department.
- Ask the patient not to bring any additional people to the facility, if at all possible. If a ride is necessary, have the caregivers escort the patient to the front door and not enter the facility.
- Ensure the rehabilitation space is well ventilated e.g open windows/doors if possible.

## Before & during the PR sessions

PR Staff should be screened as per facility requirements, e.g., temperature checks, symptoms, etc.

- Hand hygiene before entering. Consider minimizing the number of people touching the hand sanitizers by having staff distribute the product or install automatic dispenser.
- Observe recommended physical distancing space between patients at all times, and between staff and patients when possible.
- Consider staff to patient ratio and whether one staff member is sufficient considering smaller group size, e.g., is there another staff member located within the line of sight or hearing who could respond in an emergency?
- Perform hand hygiene before moving between or touching equipment.
- Consider use of one pulse oximeter per patient per session (sanitize after each session).
- Sanitize exercise equipment after each use.
- Re-consider use of hand-held exercise equipment, e.g., provide patients with their own resistance bands; ensure hand weights are non-porous material and able to be sanitized.
- Consider remote education/written education where possible.

## After session

- Sanitize all surfaces that have been touched including chairs, tables, light switches, door handles, staff desks, drawers, cabinets, music players (and repeat at the end of the day).
- Sanitize all monitoring equipment, including pulse oximeters, blood pressure cuffs, stethoscopes (and repeat at end of the day).

### Example of a screening text message

*“Regarding your upcoming appointment at [insert name of service, hospital]: if you are unwell or have been in close contact with a person confirmed to have COVID-19 (coronavirus) please do not attend. Please call [insert service/hospital phone number] if you have any concerns.*

### Pre-program Screening Questions

As screening questions may be updated regularly, please refer to your local health authority for guidance.

### An example of the questions to use pre-program (adapted from AACVPR<sup>2</sup>)

<b>Physical Symptoms</b>
Do you have a fever? (objective or subjective).
Do you have unexplained muscle aches?
Are you more breathless than usual and or coughing more?
Do you have symptoms of a upper respiratory tract infection - headache, runny nose, sore throat?
Do you have diarrhea, nausea, or vomiting?
Have you lost your sense of smell or taste?
Do you have sore or itchy eyes (conjunctivitis)?
<b>Other Clinical Concern for COVID-19</b>
Have you had a positive SARS-CoV-2 test in the last 30 days?
<b>Exposure Risk: In the last 14 days</b>
Have you had close and prolonged (over 10 minutes) contact with anyone with the above symptoms or with known COVID-19 infection?
Have you had other exposures that may increase your risk of COVID-19? e.g., travel outside of the local area, been in large group gatherings (greater than 10 people), other [facility to add].
<b>Pertinent Comorbidities</b>
Review comorbidities that would put patient at greater risk, e.g., hypertension, diabetes, COPD.

<sup>2</sup> [https://www.aacvpr.org/Portals/0/Resources/COVID-19/AACVPR%20Considerations%20for%20Resuming%20In-Center%20CR%20PR%20Program%20Services\\_FINAL.pdf](https://www.aacvpr.org/Portals/0/Resources/COVID-19/AACVPR%20Considerations%20for%20Resuming%20In-Center%20CR%20PR%20Program%20Services_FINAL.pdf)

## Example of information to provide to patients prior to attending pulmonary rehabilitation

- Please be patient as we ensure everyone's health and safety by asking you the COVID-19 screening questions in the 24 hours prior to your attendance, at the hospital entrance (including a temperature check), and prior to entering pulmonary rehabilitation.
- Please do NOT attend if you have any NEW respiratory symptoms (fever, cough, runny nose, sore throat, loss of taste or smell, new or worsened breathlessness) or NEW diarrhea.
- Hand hygiene must be performed before, during and after all sessions and before **and** after use of any equipment– we will provide suitable products.
- Please maintain the recommended physical distance between yourself and other participants at all times.
- Staff will advise you whether it is necessary to wear a mask.
- Our staff will aim to minimize the amount of time we spend close to you
- Please bring a pen.
- Please bring a water bottle.
- Please minimize the amount of personal belongings you bring with you – we suggest one bag and one piece of clothing outerwear.
- Please come to the program sessions alone, if at all possible. If you have received a ride from a caregiver, please have the person come with you to the entry door, then pick you up after the program is finished.
- Questions or concerns? Contact: [insert service name and phone number].

## Rehabilitation for people recovering from COVID-19

- The pulmonary rehabilitation program setting is suitable for people recovering from COVID-19, especially for those patients who have had a long hospital stay and for those who have persisting symptoms and impairments amenable to rehabilitation. The same guidelines for attendance at pulmonary rehabilitation, as outlined above, apply to these patients, with the following extra considerations:
  - The risk of spread of the virus from people recovering from COVID-19 is not fully clear. The viral load of asymptomatic patients was reported as similar to those with symptoms. Viral shedding has been reported up to 21 days after onset of symptoms. (Zou et al. 2020).
  - Consider separate rehabilitation sessions for individuals recovering from COVID-19 to avoid risk of spread to other patients.
  - Telehealth pulmonary rehabilitation may be an appropriate option for people recovering from COVID-19.
- For guidance regarding rehabilitation for those recovering from COVID-19 please refer to:

- Vitacca M, Lazzeri M, Guffanti E, et al. An Italian consensus on pulmonary rehabilitation in COVID-19 patients recovering from acute respiratory failure: results of a Delphi process. *Monaldi Archives for Chest Disease*. 2020; 90:1444. (<https://pubmed.ncbi.nlm.nih.gov/32573175/>)
- American Physical Therapy Association (APTA) consensus statement on a core set of outcome measures for COVID-19 (<https://www.apta.org/your-practice/outcomes-measurement/covid-19-core-outcome-measures>).
- NSW Agency of Clinical Innovation. Rehabilitation following COVID-19 in the pulmonary rehabilitation setting (June 2020). ([Link](#))

**References:**

Zou L, Ruan F, Huang M, et al. SARS-CoV-2 Viral Load in Upper Respiratory Specimens of Infected Patients. *N Engl J Med*. 2020;382:1177-1179. doi: 10.1056/NEJMc2001737