

AACVPR

American Association of Cardiovascular and Pulmonary Rehabilitation

Considerations for Resuming In-Center Cardiac and Pulmonary Rehabilitation Program Services

Endorsed by the Prevention Section of the American College of Cardiology

As shelter-at-home laws are relaxed, the American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR) offers general considerations for cardiac and pulmonary rehabilitation (CR/PR) programs as they determine when and how to safely resume center-based rehabilitation. AACVPR recommends a collaborative approach involving administration, infection prevention and control (IPC) department, medical director(s), regulatory/legal team and staff in the development, planning, provision of care and continuous monitoring related to reopening. Ongoing adaptation and updating of these plans and methods will be required as more is understood regarding risk reduction and practice in the CR/PR setting. A cautious approach may dictate beginning with a low census to optimize practices. The information below is not meant to be a guideline nor should it supersede a given institution's policies and local laws and statutes.

Guiding Principles

- CR and PR patients are at very high risk for complications if they get infected by the SARS-CoV-2 virus (COVID-19 infection). Even one infected patient or staff member could be a real tragedy. According to the Centers for Disease Control and Prevention (CDC), the virus is thought to spread mainly from person-to-person, e.g. between people who are in close contact with one another (within about 6 feet) and through respiratory droplets produced when an infected person coughs, sneezes, or talks. These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs. SARS-CoV-2 may be spread by people who are asymptomatic and may vary based on whether the spread is sustained, e.g., from person-to-person without stopping.
- The safety/risk of SARS-CoV-2/COVID-19 infection spread in a group exercise setting is unknown, even when all precautions are followed.
- Safe alternatives exist for appropriately selected patients through remote and home-based approaches which should be considered as part of your plans.

- This is an introduction to considerations of a constantly evolving process. The considerations listed below are not meant to be all inclusive or final. AACVPR will keep you apprised of updates as new information and concerns arise.

Considerations for Resumptions

EXTERNAL FACTORS

- Federal/State/ Local Government/Hospital Decisions and Mandates
- Other: Safety of use of public transportation, etc.

INTERNAL FACTORS

PATIENT SELECTION

- Programs should focus on the patients with the greatest needs and those who may derive the greatest potential benefit.
- All patients should be screened for ability to practice appropriate safety precautions, including physical distancing, hand hygiene, etc., and to respond accurately to pre-program screening (see Table 1).
- Work with local IPC team to establish protocol for patients who screen positive.
- If patient notes other signs or symptoms of concern, follow protocol established with local IPC.

Table 1. Pre-Program Screening

a. Physical Symptoms
Fever (objective or subjective)
Unexplained muscle aches
Respiratory symptoms (dyspnea or cough)
URI symptoms (headache, rhinorrhea, sore throat)
GI symptoms (diarrhea, nausea, vomiting)
ENT symptoms (loss of taste or smell)
Eye symptoms (conjunctivitis)
b. Other Clinical Concern for COVID-19
Has the patient had a positive SARS-CoV-2 test in the last 30 days?
c. Exposure Risk: In the last 14 days, has the patient:
Had close and prolonged (over 10 minutes) contact with anyone with the above symptoms or with known COVID-19 infection?
Has the patient had other exposures identified by your local IPC as a high risk condition? For example, travel outside of the local area, travel using public transportation (subway, bus, plane, etc.), been in large group gatherings (greater than 10 people)
d. Pertinent Comorbidities
Review comorbidities that would put patient at greater risk

RISK STRATIFICATION: COVID-19 STATUS

- Consider testing all patients for COVID-19 before program entry and periodically as indicated by recommendations from your local IPC leaders. This is especially important in regions with significant COVID-19 cases and surges. If areas do not have high density testing capability, [screen and evaluate patients](#) to determine if they have recently exhibited COVID-19 symptoms or exposure / contact prior to entering program. Programs may also consider further limited patient capacity.
- Consider standardized screenings, prior to the initial visit, and again upon arrival at the first visit (and all subsequent visits) based on CDC guidelines.
- If patients develop or exhibit symptoms during rehabilitation sessions, they should be assessed in private using isolation protocols and promptly referred to appropriate local care centers. Any findings suggestive of active infection including fever or new dry cough should be addressed promptly with involvement of the program medical director and/or referring clinician.
- Consider leveraging the EMR to establish and monitor patient's COVID status when possible.

STAFF CONSIDERATIONS

- Staff should be pre-screened each workday according to department and institutional policies.
- Where testing is feasible and available, staff should be tested based on recommendations from local IPC leaders.
- If symptoms develop or if a staff member tests positive for COVID-19, follow internal Occupational Health/institution protocols for quarantine, contact tracing for positive tests and subsequent return to work clearance.

INFECTION PREVENTION AND CONTROL (IPC)

Patients

- Patients need to understand and agree to practice physical distancing (pre, during and post exercise, during education classes, etc.), hand hygiene (require use of hand sanitizer for 15-20 seconds by patients upon entry to facility, before and after equipment use and after end of session, after using cell phone, etc.). Train patients on proper use of face masks (cover nose and mouth, replace at appropriate intervals and if damp or soiled) and cough etiquette.
- Patients should be instructed to wear a mask and gloves according to institutional guidance. If a program has a policy to wear masks during exercise, they should consider supplying a mask to patients upon arrival. Since wearing a mask may reduce exercise tolerance, staff should consider adjustments to exercise prescriptions for individuals wearing masks during exercise training. Vital signs, RPE, (and for those with respiratory symptoms or disease, SpO2) should be monitored regularly.

- Consider suggesting to patients that personal items (clothing, backpack, etc.) worn or brought to the session should be only those required by the patient to be used during the session or should be only those that are minimally necessary.

Program

There are several factors that can influence infection risk during exercise. Research is continuing to evolve in this area. Key strategies should include keeping patient session times to the shortest amount possible, maximizing space between patients, staff and equipment, use appropriate PPE, and adequate air exchange. Specifics include:

- Exercise equipment should be separated sufficiently to reduce risk of infection. Spacing between equipment should be decided upon in collaboration with local infection control advice, but would generally be at least 6-12 feet. If moving/removing equipment is not feasible, consider marking off some equipment as “out of use” to allow for appropriate spacing. Place markers at 6 feet intervals for patients checking in or sitting to encourage and guide physical distancing.
 - For patients exercising at a higher intensity, consider increasing physical distance to 12 feet between patient, staff and equipment, or using transparent physical barriers.
- Equipment and surrounding area should be cleaned/disinfected thoroughly between each patient using a hospital approved disinfectant with proper drying time observed.
- Consider limiting modes of exercise for each patient’s exercise session (one or two modes maximum) to reduce risk of cross infection.
- Use of exercise equipment that can increase air movement and potentially dissipate droplet transmission (such as exercise bikes, arm ergometers, equipment with fly wheels, etc.) should be undertaken after consultation with IPC dept. Consider having patients wear a mask if these types of exercise equipment are used.
- Consider limiting class size and establishing patient capacity of facility to maintain physical distancing.
- Consider limiting class or session duration to the shortest appropriate time to meet regulatory and billing requirements.
- Consider limiting frequency of classes or total length of in-center program, and consider supplementing care with remote and home-based options.
- Consult with local IPC and engineering departments to assess air purification and exchange capabilities and make appropriate adjustments. For example, consider installing devices that improve air filtration support.
- Consider dedicated use of BP cuff, O2 sat monitors, etc. for patients that require those assessments during exercise session. If not possible, all equipment should be thoroughly cleaned using a hospital approved disinfectant allowing for appropriate drying time.
- Consider having patients connect to telemetry monitoring system on their own if not already standard practice (to maintain physical distancing from staff whenever possible).
- Review program policies governing ECG monitoring and BP measurement for best practice and based on clinical need.

- Consider a “no visitor” policy or “patients only” policy in facility to reduce exposure, spread and to maintain physical distancing.
- Planning with local IPC department should include review of policies and practices to reduce risk of infection in common areas such as locker rooms, conference rooms, restrooms, etc.
- Consider shifting all patient education materials to online content to limit pamphlets and documents that would be passed from hand to hand. If any education classes or materials involve food demos/samples, limit to individual snacks that are pre-packaged and consumed off premise to reduce need to remove personal protective equipment (PPE).

Staff

- Follow your institutional safety measures for infection control.
- Consider staff PPE to include masks, gloves, face shields or goggles according to local and institutional policies.
- Physical distancing of at least 6 feet should be maintained as much as possible in interacting with patients and in office space/cubicles, etc.
- Ensure appropriate cleaning of office equipment and desk tops shared among staff, and limit hand to hand passing of office supplies, paperwork, and binders/patient charts.
- Emergency management protocols should include proper protection/considerations for staff and patient safety.
- Follow institutional guidelines to minimize risk of infection in break rooms.

PROGRAM OPERATIONS

- Consider starting with lower patient volume to allow time to refine practices and approaches.
- Review program scheduling/structure to accommodate patient volume (e.g. more sessions with fewer patients, flexible hours and days of operation, may need to reconsider feasibility of maintaining open gym concept if operational, etc.)
- Review staff schedule/hours to maintain physical distancing. Consider staff cohort scheduling or a staggered schedule to help encourage physical distancing.
- Consider how to balance center-based and home-based approaches.
- Consider resources for patients and staff to address mental, behavioral and emotional health well-being.
 - [The CDC Coronavirus Disease Stress & Coping Webpage](#)
 - [Taking Care of Your Behavioral Health from the Substance Abuse and Mental Health Services Administration \(SAMHSA\)](#)
- Since the financial health of a program will likely be strained during the COVID-19 crisis and recovery time, consider frequent discussions with administration to help you identify challenges and potential solutions.
- Consider placing a hold on Maintenance classes for an extended period of time in areas of high density COVID-19 cases. Offer alternatives to maintenance exercise such as online programs.

This document and additional resources will be updated as warranted. Visit the [AACVPR COVID-19 Resource Page](#) for updates.

Disclaimer: *These voluntary program considerations are for the information of cardiac and pulmonary rehabilitation professionals. Each rehab program must decide for itself which practices to implement. These considerations do not constitute legal or medical advice, nor do they necessarily take into account the various requirements of all states, counties, and municipalities. AACVPR makes no warranty or representation that following these considerations will ensure the health of employees, patients, or others, or preclude the possibility of contamination. While this document is intended to be comprehensive, it does not contain all available information on the subject matter. This document was prepared based on available information existing at the time of publication and therefore may be superseded by later developments.*