Physiotherapy Screening, Assessment, and Treatment of Coronavirus 2019 (COVID-19) Patients (positive or suspected)

This document is based on "Physiotherapy management for COVID-19 in the acute hospital setting. Recommendations to guide clinical practice. Version 1.0, published 23 March 2020. Journal of Physiotherapy."[1] and VCH Infection Control Guidelines

Site Applicability

VCH: Acute Care settings

Practice Level

Basic skill

Need to Know

Physiotherapists in acute and other settings may be asked to screen and treat patients with novel coronavirus 2019 (COVID-19). Physiotherapy may be beneficial for these patients, but this should be evaluated on a case-by-case basis and interventions should be applied based on clinical indicators.

Given the intensive medical management for some COVID-19 patients, they may be at high risk of developing ICU acquired weakness (ICU-AW), which may worsen their morbidity and mortality. It is important to anticipate early rehabilitation after the acute phase of Acute Respiratory Distress Syndrome (ARDS) in order to limit the severity of ICU-AW and promote rapid functional recovery (as well as facilitate patent flow through the hospital when beds are at a premium). [1]

Physiotherapists must balance the need to provide appropriate treatment with the need to minimize risk of spread of COVID-19, both among patients and health care providers.

This document looks to provide guidance and a framework to help physiotherapists make clinical decisions.

Summary:

1. Physiotherapy interventions should only be provided when there are clinical indicators.
2. Physiotherapists should meet regularly with senior medical staff to determine indications for physiotherapy.
3. Options for screening of patients via subjective review and basic assessment whilst not being in direct contact with the patient (e.g. via chart, phone, and conversations with staff) should be trialled first whenever possible.
4. Personal Protective Equipment (PPE) (as per current VCH policy) should be used during respiratory based intervention, mobilization, and exercise.

Equipment and Supplies

PPE as per current VCH policy and unit-specific guidelines.

Practice Guideline

Assessment and screening

When a patient has been flagged for physiotherapy screening (by the physiotherapist or another Health Care Professional (HCP)), initial physiotherapy screening should be done via available information (the chart, verbal report, or other non-contact sources of information).

Physiotherapy staff should not be routinely entering isolation rooms where patients with confirmed or suspected COVID-19 are isolated or cohorted just to screen for referrals.[1] Table 1 and Table 2 summarize assessment and screening processes.

Table 1. Screening guidelines for physiotherapy involvement with COVID-19[1]*

Mild symptoms without significant respiratory compromise e.g. fevers, dry cough, no chest x-ray changes.	Physiotherapy interventions are not indicated for airway clearance or sputum samples. No physiotherapy contact with patient.
Pneumonia presenting with features: • A low-level oxygen requirement (e.g. oxygen flow ≤5L/min for SpO2 ≥ 90%). • Non-productive cough **or** patient coughing and able to clear secretions independently.	Physiotherapy interventions are not indicated for airway clearance or sputum samples. No physiotherapy contact with patient.
Mild symptoms and/or pneumonia AND **co-existing respiratory or neuromuscular** comorbidity **current or anticipated difficulties with secretion clearance**	Physiotherapy referral for airway clearance.
Mild symptoms and/or pneumonia AND **evidence of exudative consolidation with difficulty clearing or inability to clear secretions independently**	Physiotherapy referral for airway clearance.
Severe symptoms suggestive of pneumonia / lower respiratory tract infection e.g. increasing oxygen requirements, fever, difficulty breathing, frequent, severe or productive coughing episodes, chest x-ray / CT / lung ultrasound changes consistent with consolidation.	Consider physiotherapy referral for airway clearance. Early optimization of care and involvement of ICU is recommended.
Any patient at significant risk of developing or with evidence of significant functional limitations • e.g. patients who are frail or have multiple comorbidities impacting on their independence • e.g. mobilization, exercise and rehabilitation in ICU patients with significant functional decline and/or (at risk for) ICU-acquired weakness	Physiotherapy referral.

	Table 2. Who should physiotherapists treat[1]?
2.1	The respiratory infection associated with COVID-19 is mostly associated with dry, non-productive cough and lower respiratory tract involvement usually involves pneumonitis rather than exudative consolidation. In these cases, respiratory physiotherapy interventions are not indicated.
2.2	Respiratory physiotherapy interventions in hospital wards or ICU may be indicated for patients who have suspected or confirmed COVID-19 and concurrently or subsequently develop exudative consolidation, mucous hypersecretion and/or difficulty clearing secretions.
2.3	Physiotherapists will have an ongoing role in providing interventions for mobilization, exercise and rehabilitation e.g. in patients with comorbidities creating significant functional decline and/or (at risk) for ICU acquired weakness.
2.4	Physiotherapy interventions should only be provided when there are clinical indicators, so that staff exposure to patients with COVID-19 is minimised. Unnecessary review of patients with COVID-19 within their isolation room/areas will also have a negative impact on PPE supplies.
2.5	Physiotherapists should meet regularly with senior medical staff to determine indications for physiotherapy review in patients with confirmed or suspected COVID-19 and screen according to set/agreed guidelines (**Table 1** provides a suggested framework).
2.6	Physiotherapy staff should not be routinely entering isolation rooms where patients with confirmed or suspected COVID-19 are isolated or cohorted just to screen for referrals.
2.7	Options for screening of patients via subjective review and basic assessment whilst not being in direct contact with the patient should be trialled first whenever possible e.g. calling the patients' isolation room telephone and conducting a subjective assessment for mobility information and/or providing education on airway clearance techniques.

Intervention

If the patient presents with a problem that can be addressed by staff already providing direct care (ie basic mobilization), those staff should provide the intervention in order to minimize unnecessary contact with COVID positive patients (thus minimizing the risk of transmission).

Direct physiotherapy interventions should only be considered when the patient presents with:

- **Significant functional limitations**, e.g. (risk for) ICU-acquired weakness, frailty, multiple comorbidities and advanced age.
- Weak cough, productive cough, and/or evidence of pneumonia on imaging and/or secretion retention **which cannot be addressed by Respiratory Therapist or another qualified healthcare practitioner**. (ie secretions not cleared by cough, position change, or prn suctioning) See the following tables for guidance/further examples:

	Table 3. Recommendations for physiotherapy mobilization, exercise and rehabilitation interventions[1]:
3.1*	***PPE:*** Refer to local guidelines[2]
3.2	**Screening:** Physiotherapists will actively screen and/or accept referrals for mobilization, exercise and rehabilitation. When screening, discussion with nursing staff, the patient (e.g. via phone) or family is recommended before deciding to enter the patient's isolation room. For example, to try to minimise staff who come in to contact with patients with COVID-19, physiotherapists may screen to determine an appropriate aid to trial. A trial of the aid may then be performed by the nursing staff already in an isolation room, with guidance provided if needed by the physiotherapist who is outside the room.
3.3	Direct physiotherapy interventions should only be considered when there are significant functional limitations, e.g. (risk for) ICU-acquired weakness, frailty, multiple comorbidities and advanced age.
3.4	**Early mobilization** is encouraged. Actively mobilize the patient early in the course of illness when safe to do so.
3.5	Patients should be encouraged to maintain function as able within their rooms: • Sit out of bed • Perform simple exercises and activities of daily living
3.6	**Mobilization and exercise prescription** should involve careful consideration of the patients' state (e.g. stable clinical presentation with stable respiratory and haemodynamic function)
3.7	**Mobility and exercise equipment:** The use of equipment should be carefully considered and discussed with local infection monitoring and prevention service staff before used with patients with COVID-19 to ensure it can be properly decontaminated.
3.8	Use equipment that can be single patient use. For example, use Theraband rather than distributing hand weights.
3.9	Larger equipment (e.g. mobility aids, ergometers, chairs, tilt tables) must be easily decontaminated. Avoid use of specialised equipment unless necessary for basic functional tasks. For example, stretcher chairs or tilt tables may be deemed appropriate if they can be decontaminated with appropriate cleaning and are indicated for progression of sitting / standing.
3.10	When mobilization, exercise or rehabilitation interventions are indicated: • Plan well o identify / use the minimum number of staff required to safely perform the activity o ensure all equipment is available and working before entering rooms • Ensure all equipment is cleaned appropriately / decontaminated according to infection prevention and control (IPAC) guidelines on low level cleaning: o If equipment needs to be shared among patients, clean and disinfect between each patient use o Specific staff training for cleaning of equipment within isolation rooms may be required. o Whenever possible, prevent the movement of equipment between infectious and non-infectious areas. o Whenever possible, keep dedicated equipment within the isolation zones, but avoid storing extraneous equipment within the patient's room.
3.11	When performing activities with ventilated patients or patients with a tracheostomy, ensure airway security is considered and maintained e.g. dedicated airway person to prevent inadvertent disconnection of ventilator connections/tubing.

	Table 4. Recommendation for physiotherapy respiratory interventions[1]:
4.1*	***PPE:*** Droplet precautions should be followed, except in the case of potentially aerosol generating medical procedures (AGMP) in which case airborne precautions are indicated Note the following resources related to AGMP: • IPAC Practice Guidelines for AGMP • VCH Practice Alert for COVID-19 and AGMP • VCH Practice Alert for COVID-19 and AGMP FAQs
4.2	**Cough etiquette:** Both patients and staff should practice cough etiquette and hygiene. During techniques which may provoke a cough, education should be provided to enhance cough etiquette and hygiene. • Ask patient to turn head away during cough and expectoration • Patients who are able should "catch their cough" with a tissue, dispose of tissue and perform hand hygiene. If patients are unable to do this independently then staff should assist. • In addition, if possible, physiotherapists should position themselves ≥ 2m from the patient and out of the "blast zone" or line of cough.
4.3*	**AGMP (aerosol generating medical procedures)**[3] AGMPs which physiotherapists may be involved with include: • **Airway suctioning** • **High-flow oxygen** (including single and double O2 set ups, Optiflow and Airvo) • Breaking closed ventilation system, intentionally (e.g., open suctioning), unintentionally (e.g., patient movement) • Cardio-pulmonary resuscitation (CPR) • Tracheostomy care • Chest physiotherapy (**manual and mechanical cough assist** device (MI-E)) • Administration of aerosolizing or nebulizing medications **Physiotherapists should weigh up the risk versus benefit to completing these interventions and use airborne precautions.**
4.4	Where AGMPs 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 minimised during the procedure. This may not be able to be maintained when cohorting is required due to the volume of patients presenting with COVID-19.
4.5	BubblePEP is not recommended for patients with COVID-19 because of uncertainty around the potential for aerosolization, similar to the caution the World Health Organization places on bubble CPAP.
4.6	There is no evidence or clinical indication for incentive spirometry in patients with COVID-19.
4.7*	Avoid the use of MI-E or IPPB devices (mechanical insufflation-exsufflation (cough assist machine) or intermittent positive pressure breathing (bird)). However, if clinically indicated and alternative options have not been effective, consult with both senior medical staff and Infection Control within local facilities prior to use. If used, ensure machines can be decontaminated after use and e.g. protect machines with viral filters over machine and patient ends of circuits. • Use disposable circuits for these devices. • Maintain a log for devices that includes patient details for tracking and infection monitoring (if required). • Use airborne precautions

4.8	Where respiratory equipment is used, whenever possible use single patient use, disposable options e.g. single patient use PEP devices. Re-usable respiratory equipment should be avoided if possible.
4.9*	Physiotherapists should not implement humidification or other AGMPs without consultation and agreement with a senior doctor.
4.10	**Sputum inductions** should not be performed.
4.11	**Requests for sputum samples.** In the first instance, ascertain whether the patient is productive of sputum and able to clear sputum independently. If so, physiotherapy is not required for a sputum sample. If physiotherapy interventions are required to facilitate a sputum sample then full airborne PPE should be worn. The handling of sputum samples should adhere to local policies.
12.	**Saline nebulization.** Do not use saline nebulization.
13.	**Manual hyperinflation:** As it involves disconnection / opening of a ventilator circuit, avoid MHI and utilise ventilator hyperinflation (VHI) if indicated e.g. for supportive presentations in ICU and if local procedures are in place.
14.	**Positioning including gravity assisted drainage:** Physiotherapists can continue to advise on positioning requirements for patients.
15.	**Prone positioning:** Physiotherapists may have a role in the implementation of prone positioning in ICU. This may include leadership within ICU "prone teams", providing staff education on prone positioning (e.g. simulation-based education sessions), or assisting in turns as part of the ICU team.
16.	**Tracheostomy management:** The presence of a tracheostomy and related procedures are potentially aerosol generating. • Cuff deflation trials and inner tube changes/cleaning can be aerosol generating • Closed, in-line suction is recommended. • The use of inspiratory muscle training, speaking valves and leak speech should not be attempted until patients are over the acute infection and the risk of transmission is reduced. • Airborne precautions are recommended with infectious patients with COVID-19 with a tracheostomy.

Triaging during times of increased caseload and/or decreased staffing

Follow the screening/treatment guidelines above for COVID patients

Follow existing area-specific protocols for prioritizing other patients (eg. existing Priority Intervention Criteria on your unit)

To ensure the most critical patient needs are met in times of extreme shortage, consider these patient care priorities:

- patients with life-threatening conditions
- patients with life-altering conditions
- patient discharge and flow to ensure timely access for newly admitted patients

Expected Outcome

- Patients will be screened, prioritized and treated appropriately.
- Risk of virus transmission will be minimized.
- Therapists will feel safe and supported in their clinical decision making.

Site Specific Practices

Follow existing area-specific VCH protocols for prioritizing other patients (eg. existing Priority Intervention Criteria on your unit).

Related Documents

- Infection Prevention and Control (IPAC) COVID-19 (Novel Coronavirus).
- IPAC PPE Recommendations for Acute Care
- IPAC Guidelines for Low Level Cleaning
- IPAC Practice Guidelines for AGMP
- VCH Practice Alerts/Updates

References

1. Thomas P, Baldwin C, Bissett B, Boden I, Gosselink R, Granger CL, Hodgson C, Jones AYM, Kho ME, Moses R, Ntoumenopoulos G, Parry SM, Patman S, van der Lee L (2020): Physiotherapy management for COVID-19 in the acute hospital setting. Recommendations to guide clinical practice. Version 1.0, published 23 March 2020. * indicates table has been modified to match VCH Guidelines

Definitions

AGMP	Aerosol-Generating Medical Procedures
ARDS	Acute Respiratory Distress Syndrome
COVID-19	Novel coronavirus 2019
HCP	Healthcare Professional
ICU-AW	Intensive Care Unit-Acquired Weakness
PPE	Personal Protective Equipment

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