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Rehabilitation for Patients with COVID-19

Guidance for Occupational Therapists, Physical Therapists,
Speech-Language Pathologists, and Assistants

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PURPOSE: There is an urgent need to guide rehabilitation practice during the COVID-19 crisis. Informed by the best available evidence, including consultation with the clinical community, this living document consolidates findings from resources for frontline rehabilitation professionals.

STEP 1 – Determine risk: Prioritization should consider the risk of a patient not receiving immediate rehabilitation on critical outcomes (i.e., risk of hospitalization, extended hospital stay). If proceeding with a rehabilitation assessment or treatment session, point-of-care risk assessments (PCRA) should be conducted prior to each patient interaction.

STEP 2 – Do as much as possible without patient contact: Do not routinely enter an isolation area just to screen a patient with COVID-19. Gather information without direct patient contact for your subjective review: premorbid status, pre-treatment screening, and/or discharge planning. Consider telerehabilitation¹ tools to observe and communicate directly with patients and/or staff already in isolation areas (e.g., use of data-secure cameras, such as iPads and baby monitors). In some instances, these tools can assess dysphagia, communication², mobility, and cognition.

STEP 3 – Based on a PCRA, determine type of Personal Protective Equipment (PPE) needed for patient contact: Aerosol Generating Procedures (AGPs)³ require airborne precautions. Other procedures may require droplet and contact protection only.

Aerosol Generating Procedures (AGPs)

There are two considerations that determine whether a procedure is aerosol generating -- the type of oxygen therapy the patient is receiving, and the type of procedure being conducted.

The following therapies require airborne precautions:

- High flow nasal oxygen (e.g., Airvo, Optiflow)
- Non-invasive ventilation (e.g., BiPAP, CPAP)
- Nebulizer treatments
- Tracheostomy tubes with/without mechanical ventilation requiring open suctioning, trach mask trials, cuff inflation/deflation, and tube changes (**note:** In-line suctioning is *not* an aerosol-generating procedure)

Procedures that induce sputum require airborne precautions. Examples include:

- Respiratory physiotherapy (e.g., airway clearance techniques, “chest physiotherapy”, open suctioning, nasopharyngeal suctioning, mechanical in-exsufflation (cough-assist)).
- Swallowing and select speech assessments and treatments at bedside (e.g., oral mechanism exams, bolus trials, laryngectomies with/without mechanical ventilation, or tracheostomies with/without mechanical ventilation or speaking valves as part of a multidisciplinary team). Instrumental swallowing assessments should be avoided.
- Any activity that can result in expectoration of sputum, including moving from lying to sitting, walking, and/or bedside ADLs. Also, prone positioning (with or without mechanical ventilation), and/ or where a patient may be inadvertently disconnected from the ventilator.

Additional considerations before beginning direct contact treatment:

1. Ensure a step-by-step process for donning and doffing PPE to avoid contamination.
2. Identify the minimum number of people required to safely conduct a session.
3. Consider bundling care with other healthcare professionals (e.g., coordinating activities; grouping care for all patients with COVID-19).
4. Carefully consider equipment use and discuss with infection control services to ensure it can be properly decontaminated. Avoid moving equipment between infectious and non-infectious areas. Wherever possible, single patient use, disposable equipment is preferred (e.g., low-tech AAC equipment that can be discarded after use, theraband rather than hand weights).

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COVID-19 CONSIDERATIONS BY SPECIFIC REHABILITATION PROFESSIONS

Exact treatments may vary based on patient need, clinician experience and local protocols.

Acute Care: Rehabilitation & COVID-19

Occupational Therapy	<ul style="list-style-type: none"> - Prevention, detection, and monitoring of delirium⁴ - Assessment and management of impairments in physical and cognitive functioning⁵ - Optimize bed and seating positioning using pressure relief principles (e.g., mattress)⁶ - Assessment and management of ADLs to encourage early mobilization⁵ - Provision of assistive devices for ADLs, communication, seating and mobility⁶ - Consider and assess mental health and emotional coping strategies for patients⁷
Physical Therapy	<ul style="list-style-type: none"> - Detailed recommendations are available to guide physiotherapists in acute hospital Settings: Physiotherapy Management for COVID-19 in Acute Hospital Settings: English⁸
Speech-Language Pathology	<ul style="list-style-type: none"> - Assessment and management of dysphagia post-extubation⁹ - Assessment and management of dysphagia upon decompensation - Assessment and management of dysphagia upon respiratory compromise - Assessment of basic cognitive¹⁰ and communication¹¹ functions - Provision of primarily low-tech AAC¹² equipment that can be discarded after use

Post-Acute Care: Rehabilitation & COVID-19 (General principles across settings)

Occupational Therapy^{13,14}	<ul style="list-style-type: none"> - Re-assess and address any cognitive changes to facilitate functional independence - Preparation and planning for discharge, including home safety and caregiver supports - Consider social determinants of health when discharge planning (e.g., income) - Re-assessment and management of ADLs, including adaptive strategies, such as assistive devices and energy conservation, that encourage functional independence - Address mental health and psychosocial needs of patients and/or caregivers
Physical Therapy	<p>Detailed recommendations from the European Respiratory Society¹⁵ include:</p> <ul style="list-style-type: none"> - Assessment of exercise and functional capacity - Monitoring of pre-existing comorbid conditions - Exercise training and/or physical activity coaching
Speech-Language Pathology	<ul style="list-style-type: none"> - Assessment and rehabilitation of dysphagia¹⁶ and voice due to prolonged intubation - Assessment and rehabilitation of cognitive communication due to brain hypoxia - Assessment and management of respiratory strength and coordination - Management of tracheostomies

Guiding principles within this document are based on: Physiotherapy management for COVID-19 in the acute hospital setting: clinical practice recommendations: <https://doi.org/10.1016/j.jphys.2020.03.011> (English) or <https://www.wcpt.org/news/Novel-Coronavirus-2019-nCoV> (translated versions)

All practitioners are invited to visit <https://srs-mcmaster.ca/covid-19/> for updates. If you have any questions in regards to the above information, please contact srscovid@mcmaster.ca.

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References

1. Peretti A, Amenta F, Tayebati SK, et al., Telerehabilitation: Review of the State-of-the-Art and Areas of Application. *JMIR Rehabil Assist Technol.* 2017 Jul 21;4(2):e7..
2. Weidner K and Lowman J. 2020. Telepractice for Adult Speech-Language Pathology Services: A Systematic Review. Perspectives of the ASHA Special Interest Groups. Epub ahead of print. Retrieved February 5, 2020. https://doi.org/10.1044/2019_PERSP-19-00146
3. Ontario Physiotherapy Association Position Statement. Respiratory Physiotherapy, Personal Protective Equipment and COVID-19. <https://opa.on.ca/advocacy-positions/where-we-stand/>. Accessed April 3, 2020.
4. Álvarez, E. A., Garrido, M. A., Tobar, E. A., et al, (2017). Occupational therapy for delirium management in elderly patients without mechanical ventilation in an intensive care unit: A pilot randomized clinical trial. *Journal of critical care*, 37, 85-90.
5. Schweickert, W. D., Pohlman, M. C., Pohlman, A. S., et al., (2009). Early physical and occupational therapy in mechanically ventilated, critically ill patients: a randomised controlled trial. *The Lancet*, 373(9678), 1874-1882.
6. Brummel N.E., Álvarez E.A., Esbrook C.L., et al., (2020) Occupational Therapy in the Intensive Care Unit. In: Pozzi C., Lanzoni A., Graff M., Morandi A. (eds) Occupational Therapy for Older People. Springer, Champlain.
7. Jackson, J. C., Pandharipande, P. P., Girard, T. D., et al. (2014). Depression, post-traumatic stress disorder, and functional disability in survivors of critical illness in the BRAIN-ICU study: a longitudinal cohort study. *The Lancet Respiratory Medicine*, 2(5), 369-379.
8. Thomas P, Baldwin C, Bissett B, et al. Physiotherapy management for COVID-19 in the acute hospital setting: clinical practice recommendations. *Journal of Physiotherapy*. 2020. In-press, available online 30 March 2020.
9. Brodsky MB, Pandian V, Needham DM. Post-extubation dysphagia: a problem needing multidisciplinary efforts. *Intensive Care Med.* 2020 Jan;46(1):93-96.
10. Wilcox ME, Brummel NE, Archer K, et al. Cognitive dysfunction in ICU patients: risk factors, predictors, and rehabilitation interventions. *Crit Care Med.* 2013;41(9 Suppl 1):S81-S98.
11. Bartlett G, Blais R, Tamblyn R, et al., Impact of patient communication problems on the risk of preventable adverse events in acute care settings. *CMAJ.* 2008;178(12):1555-1562.
12. Augmentative Communication News. August 2009. 21(2).
13. Kingston, G., Pain, T., Murphy, K., et al. (2019). Perceptions of acute hospital occupational therapy services: developing a new model of care for occupational therapy on acute medical wards. *International Journal of Therapy And Rehabilitation*, 26(12), 1-9.
14. Provencher, V., Clemson, L., Wales, K., et al. (2020). Supporting at-risk older adults transitioning from hospital to home: who benefits from an evidence-based patient-centered discharge planning intervention? Post-hoc analysis from a randomized trial. *BMC Geriatrics*, 20(1), 1-10.
15. Spruit MA, Holland AE, Singh SJ, and Troosters T (Co-chairs). Report of an Ad-Hoc International Task Force to Develop an Expert-Based Opinion on Early and Short-Term Rehabilitative Interventions (After the Acute Hospital Setting) in COVID-19 Survivors (Version April 3, 2020). Accessed April 5, 2020.
16. Brodsky MB, Huang M, Shanholtz C, et al. Recovery from Dysphagia Symptoms after Oral Endotracheal Intubation in Acute Respiratory Distress Syndrome Survivors. A 5-Year Longitudinal Study. *Ann Am Thorac Soc.* 2017 Mar;14(3):376-383.