

POSTette: Post COVID Considerations and Interventions

Reference: Medicare Benefit Manual Chapters 8 & 15; APTA; AOTA; ASHA

COVID-19 is a respiratory viral disease with multi-organ involvement resulting in potentially temporary and episodic health challenges such as impaired lung function, physical deconditioning, cognitive impairments, impaired swallow and communication, and mental health disorders.

Post-COVID-19 syndrome:

Signs and symptoms that develop during or after an infection consistent with COVID-19, **continue for more than 12 weeks and are not explained by an alternative diagnosis**. Post-COVID-19 syndrome may be considered before 12 weeks while the possibility of an alternative underlying disease is also being assessed.

<https://www.nice.org.uk/guidance/ng188/chapter/context#post-covid-19-syndrome>

Clinical Considerations: Clinicians will need to continually monitor this patient population for lingering conditions requiring need for skilled interventions and/or maintenance programming.


Additionally: Surveyors are being advised to investigate any concerns as part of the focused infection control survey **related to residents who have had a significant decline in condition. Emphasis on decline with the resident's condition both physical and/or psychosocial.**

A Comprehensive Therapy Evaluation for Post-COVID Syndrome Requires a Multidisciplinary Approach To Assess A Patients:

- Respiratory Function
- Cardiovascular Function
- Physical Function
- Psychosocial Function
- Cognitive Function
- Communication Function
- Swallow Function
- Pain Assessment

APTA provided a set of core outcome measures that *enables clinicians to use consistent, objective measurement strategies in developing effective plans of care and allows for the aggregation of data on the impacts of interventions related to COVID-19 on the movement system.* **Note:** Additional information has been added to this section to support OT, SLP and expanded services.

<https://www.apta.org/contentassets/1a6e0ee7cd25403888d2959c1c8476cd/covid-19-core-outcome-consensus-statement-october-2020.pdf>

1. **Cognition:** Saint Louis University Mental Status examination (SLUMS).
 - a. Once an initial cognitive level is obtained from SLUMS (or similar assessment); cognition needs to be assessed further using a comprehensive cognitive-communication battery to provide more details of the cognitive impairment such as executive function, memory, or attention; and how it is affecting communication.
2. **Quality of Life:** PROMIS Global 10 (clinical practice or U.S. research) EQ-5D-5L (international research). Other psychosocial assessments.
 - a. Isolation and lack of stimulation may also lead to loneliness and depression. Each of these negative psychological outcomes has a significant impact on an individual's immune system and the ability to fight infection.
3. **Strength:** Medical Research Council Sum Score (MRC-SS); Grip Strength. <https://www.health.harvard.edu/healthy-aging/give-grip-strength-a-hand>
4. **Function:** Short Physical Performance Battery (SPPB):
 - a. Provide raw score for gait speed for comparison with other patients and across the continuum.
 - b. Provide raw score for the 5 Times Sit-to-Stand Test for comparison with other patients across the continuum.
5. **Endurance:** 2-Minute Step Test; Borg Scales
6.  Assess the patient's **vital signs** throughout examination and intervention due to the high prevalence of cardiorespiratory complications for this patient population. Include measurements of the patient's physiological response to the activity, such as oxygen saturation levels, pulse, respiration and perceived exertion.
7. Complete additional tests and measures warranted by the patient's clinical presentation (i.e. swallow function).

Establishing Goals

Determine how all of the information collected can be captured in functional goals. Goals for this population need to address:

- Improving the patient's ability to perform activities of daily living
- Decreasing symptoms identified in evaluation that impact function.

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- Improving the patient's quality of life
- Decreasing negative consequences of deconditioning
- Returning patient to prior level of function (or beyond)
- Include the patient and family to determine functional goals for discharge
- Implement small incremental goals that will be updated frequently for this population. (Modification of the goals and treatment plan are skilled services).
- Considerations for maintenance programming.

OT Goal Examples

- Patient will perform upper body dressing with Min assist, utilizing adaptive equipment PRN and maintaining oxygen saturation levels > 90%
- Patient will increase activity tolerance during functional tasks as demonstrated by active participation in 30 min of graded therapeutic activity and no s/s of SOB in order to increase independence in self-care.
- Patient will tolerate upright standing for 15 min, maintaining proper postural alignment in midline with > 90% oxygen saturation levels, to increase upper body trunk strength, standing tolerance, and to increase interaction with his/her environment.
- Patient will exhibit decrease anxiety during therapy sessions through use of breathing techniques as demonstrated by decreased psychomotor activity (increased attention to task x ___mins, decrease max-mod cues for attn.).
- Patient will demonstrate increased engagement in OOB activity 2x/wk for 20 mins to decrease risk of isolation.

Occupational Therapy Intervention / Strategies

- Measure the effects of cardiac function and respiration including and any increased oxygen and/or oxygen weaning with ADLs (respiratory rehab ADLs; OT COPD treatment protocol) RPE; Dyspnea scale
- Assess functional mobility – high fall risk population
- ADL performance and needed strategies
- Provide Energy Conservation and Work Simplification interventions.
- Consider Cognition, Cognitive Rehabilitation, and Occupational Performance; and address Cognitive Impairments
- Address Psychosocial (OT Psychosocial Interventions), Mental Health (AOTA OT's role with mental health recovery), Stress (HRV training), and Coping Related PTSD or Anxiety Disorder
- Need for maintenance programming
- Community Reintegration support
- Need for outpatient services.

PT Goal Examples

- Patient will have a decreased RPE (10-11) with ambulation distances at a level to allow mobility within the room.
- Patient's aerobic conditioning will improve to allow functional mobility within the facility for up to 6 hours/day.
- Pt will demonstrate independence in HEP with specific exercises targeted to decrease risk of VTE
- Pt will decrease use of O2 from 2L to 0L during gait activities greater than 5 minutes

Physical Therapy Intervention / Strategies

- Measure the effects of cardiac function and respiration including and any increased oxygen and/or oxygen weaning with Physical Performance (respiratory rehab physical exercise; PT COPD treatment protocol) RPE; Dyspnea scale
- Provide Strength and Mobility interventions – exercise prescription, fall risk, take longer to regain strength
 - NOTE: For exercise prescription go back to pulmonary rehab principles and exercise prescription for older adults and modify based on symptoms, vital signs, and RPE
 - Aerobic exercise, strength training, flexibility intervention
 - It is critical that physical therapists are aware of the clinical implications of coagulopathy and the prevalence of venous thromboembolism (VTE) in patients diagnosed with and recovering from COVID-19 through the promotion of early mobility and physical activity.
- Provide Pain Assessments and intervention
- Need for maintenance programming
- Community Reintegration support
- Need for outpatient services.

SLP Goal Examples

- Patient will demonstrate increased activity tolerance as demonstrated by ability to have a 15 minute phone conversation with O2 saturation > 90%
- Pt. will demonstrate adequate coordination of breathing and swallowing during ___minutes of eating to avoid swallowing on inhalation in order to decrease risk for aspiration on 4/5 opportunities.
- Pt. will demonstrate adequate airway protection on 8/10 thin liquid trials as evidenced by adequate cough strength
- Pt. will improve selective attention with 80% accuracy in order to decrease distractions during needed ADL situations

*POSTettes: PT, OT, SLP Therapy Educational Tips, Tricks and Examples Summarized
Please always refer to company Policies as source documents*

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- Pt. will formulate solutions with 80% accuracy in order to perform safely in current environment.

Speech-Language Pathology Intervention / Strategies

- Measure the effects of cardiac function and respiration including any increased oxygen and/or oxygen weaning with communication and swallow (respiratory rehab breathing interventions and using resistive devices; SLP COPD treatment protocol) RPE; Dyspnea scale
- Assess effective Communication as it related to respiratory function.
- Assess Cognition (great opportunity to use comprehensive cognitive assessments), provide Cognitive Rehabilitation to address Cognitive Impairments
 - Note: Studies are emerging that suggest some type of association between neurological symptoms and COVID-19. Symptoms like headache, stiff neck, and loss of taste and smell raise suspicion of central nervous system involvement.
- Assess Swallow; Airway Protection and Cough Strength. Integrate Resistive Breathing Devices for intervention.
- Assess for continued loss of taste and smell and how that impacts hydration and nutrition.
- Need for maintenance programming
- Community Reintegration support
- Need for outpatient services.

IDT Approach

It is important for Rehab Services to be involved with the IDT and clinical team. A comprehensive clinical approach will ensure success for each patient.

Additional Resources:

- Vital Signs POSTette
- Cardiac Conditions POSTette
- Respiratory Rehabilitation Resources on Portal
- SLP Respiratory Rehab POSTette
- Rehab Services: OT Psychosocial Evaluation and Treatment

Vital Signs in Older Patients: Age Related Changes
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3102151/>

With the COVID-19 pandemic comes a high likelihood of unprecedented numbers of survivors who may suffer from cognitive impairment. This is because the body's reaction to this novel coronavirus includes lung infection, which reduces the capacity of the lungs to provide sufficient oxygen for the organs, including the brain, to function optimally—dyspnea or hypoxia. The body also reacts to this infection with a hyperimmune response, creating a cytokine storm in which tissue, including brain tissue, may be damaged. Finally, the infection may result in increasing blood clotting factors in the body (hypercoagulation), which may result in emboli that can damage the brain in a consequent cerebrovascular accident. Importantly, these results are not unique to COVID-19 and are seen in many critical care illnesses, but the number of patients who will suffer these effects is unprecedented.

https://pubs.asha.org/doi/10.1044/2020_AJSLP-20-00147

“COVID-19 can accelerate the aging process of institutionalized older adults in terms of physical performance and frailty by around 20%. However, we found similar levels of decline in cognitive performance in both cases and controls, likely due to the burden of social isolation and containment measures on neuropsychological health.”

[https://www.jamda.com/article/S1525-8610\(21\)00233-4/fulltext](https://www.jamda.com/article/S1525-8610(21)00233-4/fulltext)

COVID-19 may also develop coagulopathy that can lead to venous thromboembolism (VTE) and microvascular thrombosis throughout the body.

<https://academic.oup.com/ptj/article/100/12/2127/5903663>

<https://khn.org/news/seniors-with-covid-19-show-unusual-symptoms-doctors-say/>

<https://www.nejm.org/doi/full/10.1056/NEJMc2008597>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4062811/>

<https://www.theinformedslp.com/how-to/covid-19-and-dysphagia-considerations-for-the-medical-slp>

<https://link.springer.com/article/10.1007/s00455-008-9204-x>

https://www.asha.org/Practice-Portal/Clinical-Topics/Dementia/#Mild_Cognitive_Impairment