



COVID Recovery Packet



Oropharyngeal dysphagia is a common complication in post ICU patients that have undergone intubation/mechanical ventilation, tracheotomies or NG tubes, in patients with acute respiratory infection/pneumonia/respiratory insufficiency with a severe disease needing high concentration of oxygen or noninvasive mechanical ventilation. Dysphagia screenings should be completed as a patient is discharged from acute hospitals to rehabilitation centers, nursing homes or other facilities.

All these situations are common for COVID-19 patients that are currently filling our hospitals due to the pandemic expansion of COVID. Dysphagia is and always has been associated with prolonged hospitalization, dehydration and severe nutritional and respiratory complications such as aspiration pneumonia. Our goal is to help you assess the prevalence of dysphagia in these recovering patients so you will know their treatment needs.

Many COVID-19 patients are likely to recover without any long-term effects. There is going to be a small percentage of people with severe and critical symptoms where the concern arises regarding the impact on the lungs but we honestly don't fully understand what that will look like yet.

Doctors are seeing other related health impacts beyond just the more obvious respiratory problems. These include the digestive system, heart, kidneys, liver, brain, nerves, skin, and blood vessels. For some, strokes and blood clots may lead to disability. Scarred lungs may lead to permanently decreased lung function. Treatment itself, whether it includes ventilator support, or certain trial drug therapies may also cause lasting effects. Whether the effects resolve or leave permanent damage remains to be seen.

Those at highest risk for pneumonia Children and the elderly have a higher risk of developing pneumonia. Especially if they:

- Are below 5 years of age or **above 65** years of age
- Have had a recent respiratory infection, or recent surgery
- Have swallowing difficulties – current or history of dysphagia
- Smoking or vaping
- Have any of the following conditions:
 - Asthma
 - Bronchiectasis
 - Cerebral palsy
 - Chronic obstructive pulmonary disease (COPD)
 - Cystic fibrosis
 - Decreased brain function
 - Diabetes
 - Heart disease
 - Liver cirrhosis
 - Weakened immune system
 - Chronic kidney disease on regular dialysis

Understanding Pneumonia

Pneumonia through a virus – Viral pneumonia is a type of pneumonia. It is most commonly acquired following a cold or influenza and more recently COVID19. Viral Pneumonia can become serious if left untreated.

Pneumonia from bacteria – Bacterial pneumonia can occur on its own, or after you have been sick with another illness. It can be caused by different types of bacteria and typically affects one lobe of the lung.

Pneumonia from fungi – Fungal pneumonia can be acquired by breathing in fungal organisms. Common examples include bird droppings or soil containing fungi. People with a weakened immune system are most susceptible.

Pneumonia through aspiration – Aspiration pneumonia can develop if you inhale infected saliva, regurgitated stomach contents, food, or liquid into your lungs. This can occur either by accident or as a result of a brain injury, illness, or during abuse of drugs or alcohol.

Despite possible radiologic and clinical similarities between aspiration and COVID pneumonia, to obtain a correct diagnosis requires careful examination with attention to the whole clinical scenario and utilization of diagnostic tests.

Timely diagnosis of dysphagia and treatment will positively influence the prognosis and reduce mortality.

The SLP Role in the Rehab of COVID19

This truly is not that new, it is actually what we do!

The COVID19 virus moves down the respiratory tract, through the mouth, nose, throat, and lungs. The lower airway has more ACE2 receptors than the rest of the respiratory tract, therefore COVID-19 is more likely to go deeper than more common viruses like the common cold. Speech-language pathologists who work with people with dysphagia need to be ready! We are entering a new era and increased area specialty of **iatrogenic dysphagia**. This is difficulty swallowing caused by a medical treatment or treatments, such as prolonged intubation and/or traumatic intubation.

Of approximately 220,000 survivors of acute respiratory failure requiring mechanical ventilation each year in the US (5), 3% to 62% develop post extubation dysphagia. ([Supannee Rassameehiran, MD et al, 2015](#))

Post Extubation

We must keep in mind that age may be a risk factor for post-extubation dysphagia during the COVID recovery process and we should be more cautious regarding the risk for silent aspiration in those with COVID over 65? How do you really know for sure, without a Modified Barium Swallow Study.

What are the pattern of deficits with post-extubation cases?

There is not one standard protocol that indicates how and when to evaluate this population of patients who were extubated after requiring intubation and ventilation for 48 hours or more. They are all different and it is dependent on the patient's current and past medical history. The length of intubation can vary from 4 days to 4 weeks. This applies to all patients 18 to 88. One thing remains the same though, speech pathologists should be consulted on these patients after extubation.

During the COVID crisis the CDC guidelines came out with the recommendations to avoid any endoscopic procedures and this included FEES due to the high risk of infection spread. It is our job to educate our physicians on post extubation dysphagia considerations, and to delay at least 24 - 48 hours before a bedside assessment, given the likelihood and enhanced risk for laryngeal sensory deficits and damage. NG tubes should remain in place upon extubation for proper access to adequate fluid intake and critical medications required for anyone with comorbidities.

We must use critical thinking in the bedside evaluation (BSE), being keenly aware that this is subjective and we must educate nurses and physicians on BSE limitations. You may have to initiate modified diets and thickened liquids with these patients. The recent trend in dysphagia thinking the last few years....."If we can't definitively rule out aspiration of thickened liquids, isn't it safer to aspirate water?" We need to recognize the severity of this risk with COVID19 on the respiratory system. You may have to change your mindset. This is the time to be somewhat conservative with diet texture recommendations and consider the patient's comorbidities (as you always should) and their overall current medical status.

Treatment for Post-Extubation Dysphagia (PED)

Treatment modalities have been relatively underappreciated. Treatment should include a multimodal, sensorimotor therapy regimen targeted to improve oral strength and reduce dysphagia and aspiration. Based on most studies, there are three major therapeutic options: dietary texture modifications, postural changes/compensatory maneuvers, and interventions to improve swallow function, including therapeutic exercises, and neuromuscular stimulation.

What to expect from post extubation on the aerodigestive tract and cognition

- Aphonic, the inability to produce sound
- Increased and unmanaged secretions
- A patient who is hypotensive prior to intubation is at high risk of further hemodynamic decompensation or cardiac arrest during the peri-intubation period
- Dysphonic
- Overall weakness - *myopathy/polyneuropathy* (muscle weakness/paresis in people who are critically ill)
- High risk for silent aspiration- like stroke, head and neck cancer, history of COPD, advanced liver disease, and sepsis prior trach, or those with suspected vocal fold trauma post extubation that doesn't resolve.
- Hypoxia - There should be use of non-rebreather masks (plus or minus nasal cannula), as opposed to high flow nasal cannula or BIPAP- in efforts to create a seal during oxygen delivery and reduce aerosol generation.
- Desaturating and increased effort of breathing when eating and drinking by altering respiratory/swallow coordination which elevates the risk of aspiration.
- Pneumonia in COVID-19 occurs when parts of the lung consolidate and collapse.
- Delirium- Altered mental status is common in the setting of metabolic disarray from poor nutrition and hydration, ICU type delirium, lethargy from the COVID infection. The elderly dementia patients with comorbidities are a population at the highest of risk.
- Stroke: There are increased reports about the questionable neurological consequences of COVID19 resulting in stroke, as well as recrudescence of symptoms from a previous stroke.
- Head and Neck Cancer:
 - Total laryngectomees are not immune from COVID19. Most of our involvement here requires much education to nursing/medical staff on total laryngectomy considerations including stoma care.
- Trachs: Tracheostomizing patients after significantly prolonged intubation is common in the field. Post trach care and SLP intervention for the evaluation and treatment is within the scope of our practice not just today but always.
- Medication side-effects
- Poor oral care
- Not to mention, the quality of life issues as well as the mental health issues related to the critical illness. This can result in various mental and physical stress levels including isolation that is on a whole new level with facility lock-downs.

Evaluating and treating COVID19 patients is truly no different than treating other cases. We are still using clinical judgement, critical thinking skills, educating, advocating and communicating with medical teams- as we always have done. But in other ways- our practice has drastically changed to accommodate the COVID19 situation.

We can rely heavily on our bedside skills or use the proper instrumental assessment during this time, MBSS. We will start seeing COVID patients being admitted to acute rehab and skilled nursing. We are still faced with the same challenges as we always have been: NPO vs pleasure feeds, trial feeds? Aspiration vs malnutrition/dehydration risk? Every patient is unique- we still make appropriate recommendations on a case by case basis. **But there has NEVER been a more critical time to keep our patient's respiratory status as strong and uncompromised as possible, considering the effect of COVID 19 if contracted.**

Modified Barium Swallow Study

This has been a challenging experience so far for all in the healthcare field, from PPE to caseloads. In these COVID times, the challenge for clinicians is the word "objectively." Thorough clinicians can make solid clinical judgments based on good chart reviews, detailed discussions with medical team/family, and bedside swallowing evaluations that include a cranial nerve exam. Yet as it has always been, a bedside exam cannot objectively and completely evaluate the oropharyngeal swallow or 100 % rule-out aspiration.

An MBSS is still a very important evaluation for dysphagia patients to have at this time. The instrumental evaluation provides direct lateral and AP viewing of cervical spine, soft tissue abnormalities, detection and visualization of the depth of aspiration, stage transition, and biomechanics of all stages of the swallow through the lower esophagus. The most comprehensive imaging of the swallow available.

As a physician-based medical practice, DiagnostEX is proud to stand with you in caring for patients during the COVID 19 outbreak. Although many hospitals are limiting appointments for non-urgent procedures, safe oral intake is never 'elective.' Evaluation of at-risk patients is required to maintain safe PO feeding and decreasing the risk of life-threatening situations (such as aspiration, pneumonia, dehydration and malnutrition). We want you to feel confident in our dedication to the quality, safety, and oversight of infection control during this COVID 19 event when these patients come to you for rehab. *Call us to help you properly diagnose your recovering COVID patients.*

To assist us during this time;

Due to facility lockdowns, and reduced staff everywhere, we are requiring our front office staff to make verbal contact with all staff with whom we are scheduling to verify the COVID status of the building and to ensure a solid contact when we arrive.

To limited exposure risks, we are requiring that the patient be brought to the lobby upon receiving our 15 minute notification call, or the staff bring the patient directly to the mobile clinic when we arrive. None of our DiagnosTEX staff will enter your facility. Currently, DiagnosTEX is not allowing any observers on the van during this time of heightened COVID19 precautions.

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COVID-19 Recovery

DiagnosTEX will now be seeing patients that have recovered from COVID-19 following hospitalization, whether due to pre-existing dysphagia, overall deconditioning from the coronavirus infection or impaired airway protection secondary to prolonged intubation. DiagnosTEX will only see patients that have met the CDC criteria for “Discontinuation of Transmission Based Precautions” as outlined on the CDC website, which as of 12/12/2020 includes the following:

1. Test-based strategy.

- Resolution of fever without the use of fever-reducing medications **and**
- Improvement in respiratory symptoms (e.g., cough, shortness of breath), **and**
- Negative results of an FDA Emergency Use Authorized COVID-19 molecular assay for detection of SARS-CoV-2 RNA

2. Non-test-based strategy.

- At least 3 days (72 hours) have passed *since recovery* defined as resolution of fever without the use of fever-reducing medications **and** improvement in respiratory symptoms (e.g., cough, shortness of breath); **and**,
- At least 10-14 days have passed *since symptoms first appeared*

What we need from the referral sources:

- Written documentation (See attached forms) signed by the ordering physician/NP/PA stating the patient has met all test or non-test based requirements.
- If a patient has received two negative test results in stated guidelines, we will require copies of negative test results prior to scheduling the patient OR positive antibody test 30 days from initial symptoms.

What we are doing to keep all patients safe:

- Recovered COVID-19 patients will be required to wear a gown and face mask provided by the facility. The patient's face mask may be removed for testing but must be donned as soon as testing is complete.
- All DiagnosTEX staff including drivers, SLPs, and MDs will be required to wear gloves, N95 mask and face shield during contact with the patient. SLPs will be required to additionally wear a face shield during evaluation and contact with the patient.
- Any surgical mask, gloves, face shield, or gown worn during assessment of the patient will be treated as infectious material and will be disposed of.
- Once the patient has exited the van, all cleaning/disinfecting procedures outlined in prior procedures/protocols will be implemented.
- If multiple patients are scheduled to be seen at a facility recovered COVID-19 patients must be seen last.

Recovering and/or Exposed COVID patients



In order for us to safely see patients and continue to work towards reducing the spread of the virus, DiagnosTEX requires the following documentation to be completed and signed by the ordering physician/PA/NP prior to your recovered COVID-19 patient being scheduled for dysphagia consultation including Modified Barium Swallow Study (MBSS).

Patient NAME: _____ DOB: _____ <input type="checkbox"/> RECOVERING COVID-19 POSITIVE TEST BASED CRITERIA:	YES
Patient has been afebrile without the use of fever-reducing medications for 3- 5 days.	
Patient has been without respiratory symptoms unrelated to the concerns of a dysphagia (e.g. coughing, shortness of breath) for 3 -5 days.	
Patient has received negative results of an FDA Emergency Use Authorized COVID-19 molecular assay for detection of SARS-CoV-2 RNA. Please attach copies of negative test results to this document.	
RECOVERING COVID-19 SYMPTOM BASED CRITERIA:	
Ten (10) days have passed since symptoms first appeared.	
Patient has been afebrile without use of fever-reducing medications for 3-5 days.	
Patient has improving respiratory symptoms (e.g., cough, shortness of breath).	

EXPOSURE: Since exposure to COVID-19 positive individual, patient has been self-isolated from COVID-19 positive individual for *at least 7 days with a negative test or 10-14 days without testing.*

- Patient has been afebrile without the need or use of fever-reducing medications due to elevated temperature.
- Patient has been without respiratory symptoms (e.g., coughing, shortness of breath) that is unrelated to the dysphagia symptoms.
- Patient has been without any combination of the following symptoms.
 - Chills, Muscle Ache, Headache, Sore throat, loss of taste or smell

I attest that my patient has met the Center for Disease Control criteria for discontinuation of Transmission-Based Precautions.

 Physician, PA, NP Signature

 Date

 Printed Name

 Date