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COVID-19 and the risk of Dysphagia

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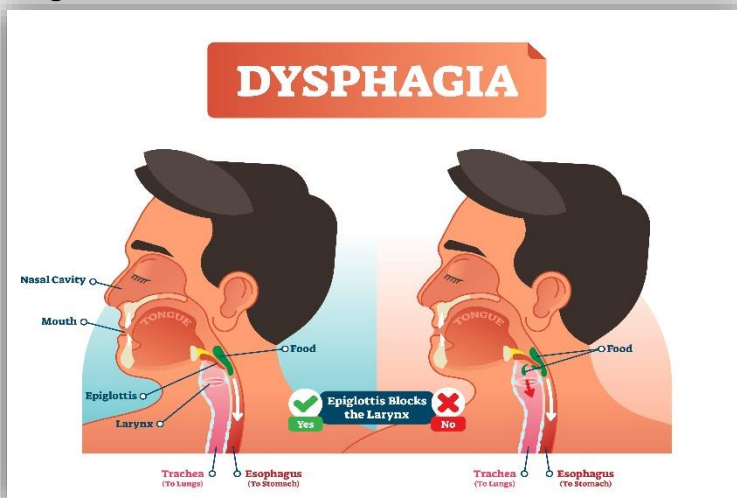
COVID-19, a disease caused by the coronavirus, has resulted in the current global pandemic. As COVID-19 has been around for less than a year, there is little known about it. Researchers have been gathering information & research is starting to be published about the impact of COVID-19, however long-term impacts of the disease are unknown. This article will look at what we do know about COVID-19 & related dysphagia.

What is Dysphagia?

Swallowing refers to the way we suck, chew, bite, prepare and swallow our foods and fluids. When someone has a breakdown in the swallow process it is termed dysphagia.

Dysphagia can lead to malnutrition, dehydration, weight loss, chest infections (aspiration pneumonia) or choking as well as impact emotional and social areas of life.

Speech Pathologists can assess swallow function and provide diet or fluid modification, swallow techniques or swallow exercises to increase safety when eating and drinking.



COVID-19 Presentation

Presentation of symptoms in COVID-19 varies greatly from people being asymptomatic to severe cases. In the severe cases patients may develop Acute Respiratory Distress Syndrome (ARDS). ARDS is a condition where fluid builds up in the lungs making it difficult for oxygen to be spread throughout the body.

Current research states up to 20-32% of people with COVID-19 will develop ARDS. People with ARDS often require intubation, mechanical ventilation and enteral nutrition (feeding through a tube) to maintain life. These measures, whilst essential for maintaining life, increase the risk of dysphagia, aspiration (food or fluid material entering the airway) and aspiration pneumonia (chest infection due to food or fluid material entering the airway).



Why does Intubation cause Dysphagia?

Intubation is the process of passing a tube from the mouth, through the throat to the airway to deliver air to the lungs. The tube passes by and contacts many important structures for swallowing such as the tongue, pharynx, epiglottis and vocal folds.

Intubation-related dysphagia can occur for many reasons, including:

- **Trauma:** As the tube is inserted it contacts and can damage swallow structures listed above. This can cause trauma to the throat resulting in swelling and injury and the patient may have a painful swallow.
- **Underuse:** While the breathing tube is in place it inhibits the person from swallowing. On average a person swallows 700 times per day. Not being able to complete these swallows means that the swallow muscles become weak and the swallow becomes deconditioned. Every day that the tube is in place, the swallow becomes weaker.
- **Altered sensation:** the tube being in the throat is unusual for the body. Initially the body will react to the tube and the individual may gag. The longer the tube is in, the more the body gets used to it. This along with reduced air flow through the throat results in reduced or altered sensation in the throat. This may mean that after the tube is removed the airway is 'numbed' and does not react to food and drink going down the wrong way.
- **Reflux:** While people have a breathing tube in place, they are unable to eat and drink as they normally would. To maintain nutrition people are often fed using another tube that passes from the nose down to the stomach. Many people suffer from reflux when being fed through this tube which can negatively impact swallowing and swallowing structures.
- **Reduced Respiratory Status:** when we swallow, we need to momentarily stop breathing and close our airway to ensure food and drink does not go down the wrong way. When people have reduced breathing ability, they have to breathe at a faster rate or may require oxygen to assist their breathing. In these cases, it can be hard for someone to coordinate their breathing and swallowing and the individual may breathe with food or fluid in their mouth or throat. This food or fluid may then go into the airway rather than the oesophagus to the stomach.

COVID-19 conditions causing Dysphagia

In addition to ARDS discussed above, there are other conditions that can arise in patients admitted to the ICU for prolonged periods that can also cause dysphagia. These include:

- **Critical Illness Polyneuropathy or Myopathy.** Where changes to nerve and muscle function result in generalised weakness of muscles. This weakness can also affect the muscles required for swallowing.
- **Cognitive Decline.** Where prolonged illness can cause changes to memory, learning, thinking, concentration and decision making⁹. Changes to cognition can cause people to develop unsafe eating and drinking habits such as taking large mouthfuls.
- **Post-Intensive Care Syndrome.** A collection of physical, mental and emotional changes that persist after discharge from the ICU. This can result in swallowing changes dependent on individual presentation.

COVID-19 and Dysphagia Prevalence

As research on COVID-19 and dysphagia is new there is limited research on intubation related dysphagia in COVID-19 patients as yet.

Preliminary studies have found associations between COVID-19 and dysphagia. Additionally, research on intubation related dysphagia in ARDS patients can be useful in determining the impact of dysphagia on those requiring intubation as a result of COVID-19. Studies show that nearly 60% of patients experience dysphagia post intubation and a third of these patients are still experiencing dysphagia when they are discharged from hospital.

Impact of COVID-19 related Dysphagia in Aged Care

As seen in Australia, individuals of older age are more likely to face more severe complications from COVID-19. Factors such as malnutrition, pre-existing medical conditions and reduced mobility all contribute to the severity of the disease.

Therefore, these individuals are more likely to require intensive care and intubation to preserve life. Additionally, individuals with pre-existing dysphagia prior to intubation have a higher likelihood of experiencing intubation related dysphagia.

Once recovered from the acute illness residents are likely to be discharged back to their residential aged care facilities where their needs will be managed by the facility. The following research shows the ongoing impacts of conditions associated with intubation or ICU admission:

- 1/3 of patients who experience dysphagia post intubation will still be experiencing it on discharge.
- The impact of Critical Illness Polyneuropathy and Critical Illness Myopathy can last for 2-years post diagnosis⁸.
- Post-intensive care syndrome that results in reduced pulmonary function and reduced inspiratory muscle strength can occur for 1-year post-ICU admission.
- Cognitive changes can continue long term.

7 Reasons why it is important to manage Dysphagia within Facilities during the Pandemic

1. Research has highlighted the importance of managing dysphagia within facilities and how this can occur whilst reducing risk.
2. For residents who have spent time in the ICU, readmission to the ICU or hospital is possible.
3. Aspiration Pneumonia, a consequence of dysphagia, is within the top 10 reasons for readmission to hospital.
4. As the demand on hospitals is higher during the pandemic readmissions place them under more strain.
5. Preliminary research shows the possibility of developing dysphagia during recovery from COVID-19.
6. Dysphagia assessment and management plans can be determined by a Speech Pathologist within residential Aged Care facilities which may involve diet modification, swallow techniques or swallow exercises.
7. Staff within facilities are accountable for dysphagia management plans. This involves having a solid understanding of dysphagia and its consequences, signs of dysphagia and aspiration pneumonia and food and fluid modifications as per the International Dysphagia Diet Standardisation Initiative (IDDSI).



Need assistance supporting someone with Dysphagia?

To consult with OSCAR Care Group's Speech Pathologist, Delaney Sadler, please call or email via our contact details below.



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