# Evidence Search Service Results of your search request

## COVID-19 and dysphagia the role of speech and language therapists

**ID of request:** 22781  
**Date of request:** 20th April, 2020  
**Date of completion:** 20th April, 2020

If you would like to request any articles or any further help, please contact:  Rhys Whelan at [library.morriston@wales.nhs.uk](mailto:library.morriston@wales.nhs.uk)

Please acknowledge this work in any resulting paper or presentation as: Evidence search: COVID-19 and dysphagia the role of speech and language therapists. Rhys Whelan. (20th April, 2020). ABERTAWE/SWANSEA, UK: Bwrdd Iechyd Prifysgol Bae Abertawe Library Services.

**Sources searched**  
American Speech-Language-Hearing Association (1)  
National Foundation of Swallowing Disorders (1)  
Royal College of Speech and Language Therapists (RCSLT) (1)  
Swallow Study Blog (1)

**Date range used** (5 years, 10 years): No date range   
**Limits used** (gender, article/study type, etc.): No limits   
**Search terms and notes** (full search strategy for database searches below):

I have searched Medline, Embase, CINAHL, Google Scholar. I have also searched the web pages of various organisations representing SLT's.

For more information about the resources please go to: <http://www.sblibraryservices.wales.nhs.uk/home>.

## Summary of Results

**Academic literature concerning dysphagia and COVID-19**

There is not a great deal available at present. One paper (Kiekens, C et al.) discusses rehabilitation and dysphagia in patients post ICU. An Italian paper (Bersano & Pantoni) briefly mentions dysphagia as a neurological complication of COVID-19.

I then widened the search to include acute respiratory stress syndrome and have included any relevant papers in this area.

**Other sources of information**

There is a document published by the RCSLT which highlights the role of speech and language therapists in critical care and helping patients to communicate. I have also included the link to a web chat from the American-Speech-Language-Hearing Association along with a link to a list of resources and references subsequently published. There is a resource page on COVID-19 and the role of SLT's on the National Foundation for Swallowing Disorders website. Also a blog post discussing post-extubation dysphagia in COVID-19 patients.

## Contents

[A. Synopses or Summaries](#Content2)

American Speech-Language-Hearing Association

[Role of SLPs in Dysphagia Services during COVID-19 (Web chat recording)](#Research626565)

National Foundation of Swallowing Disorders

[The Role of the SLP during the COVID-19 Pandemic](#Research626590)

Royal College of Speech and Language Therapists (RCSLT)

[COVID-19: Maximising the contribution of the speech and language therapy workforce](#Research626519)

swallowstudy.com

[Are We Ready for Post-Extubation Dysphagia (COVID-19)?](#Research626566)

[B. Original Research](#Content5)

1. [On being a neurologist in Italy at the time of the COVID-19 outbreak](#Research626570)
2. [Rehabilitation and respiratory management in the acute and early post-acute phase. "Instant paper from the field" on rehabilitation answers to the Covid-19 emergency](#Research626569)
3. [Coordination of Pharyngeal and Laryngeal Swallowing Events During Single Liquid Swallows After Oral Endotracheal Intubation for Patients with Acute Respiratory Distress Syndrome](#Research626571)
4. [Dysphagia after Acute Respiratory Distress Syndrome. Another Lasting Legacy of Critical Illness](#Research626572)
5. [Recovery from Dysphagia Symptoms after Oral Endotracheal Intubation in Acute Respiratory Distress Syndrome Survivors. A 5-Year Longitudinal Study](#Research626573)
6. [Recovery of dysphagia symptoms after oral intubation in ICU patients: A 5-year longitudinal study](#Research626574)
7. [Patient-reported dysphagia symptom severity after orotracheal intubation](#Research626575)
8. [Duration of endotracheal intubation and dysphagia symptoms in ICU patients: A prospective study](#Research626576)

### [C. Search History](#SearchHistory)

## A. Synopses or Summaries

#### American Speech-Language-Hearing Association

**Role of SLPs in Dysphagia Services during COVID-19 (Web chat recording)** (2020)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=65bab4a5a7b1bb70b35a90aba6bd790b)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=98519497877558e9c9597f24a76822db)

Zoom recording from the American Speech-Language-Hearing Association entitled: 'Role of SLPs in Dysphagia Services during COVID-19'. Also included is a link to the list of resources and references that were published after the web chat.

#### National Foundation of Swallowing Disorders

**The Role of the SLP during the COVID-19 Pandemic** (2020)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=84a19e9eb228d541d8ac9f113791f161)

#### Royal College of Speech and Language Therapists (RCSLT)

**COVID-19: Maximising the contribution of the speech and language therapy workforce** (2020)

RCSLT

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=edbe8158d75c82ef856b93cc4c9bd1aa)

SLTs have significant skills and expertise to meet the clinical presentation needs of patients with COVID-19 as highlighted in this paper.

#### swallowstudy.com

**Are We Ready for Post-Extubation Dysphagia (COVID-19)?** (2020)

Karen Sheffler

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=a752c75f622c13b9ba76001711350551)

Blog post by Karen Sheffler regarding in post-extubation dysphagia and COVID-19.

## B. Original Research

1. **On being a neurologist in Italy at the time of the COVID-19 outbreak**  
   Bersano Anna Neurology 2020;:No page numbers.

1. **Rehabilitation and respiratory management in the acute and early post-acute phase. "Instant paper from the field" on rehabilitation answers to the Covid-19 emergency**  
   Kiekens C. European journal of physical & rehabilitation medicine 2020;15:15.

Covid-19 is a respiratory infectious disease that can cause respiratory, physical and psychological long-term dysfunctions in patients. First recommendations on respiratory management were published, but they were not based on the specific needs due to Covid-19. In this paper we share the early experiences from the clinical field in Northern Italy, where the epidemic started in February. This paper summarizes the second webinar on Covid-19 (230 live attendees, 11,600 viewers of the recorded version) organized by the Italian Society of Physical and Rehabilitation Medicine about rehabilitation and in particular respiratory management in the acute (Intensive Care Unit - ICU) and immediate post-acute phases. There is the need to prepare for the post-acute phase. ICU length of stay is relatively long, with immobilisation in prone position. Some specific problems are described, including severe muscle weakness and fatigue, joint stiffness, dysphagia, (neuro)psychological problems, impaired functioning concerning mobility, activities of daily life and work. A lot is yet unknown and patients can experience long-term consequences as we know from the literature on the post-intensive care syndrome, but Covid-19 has unique features to be investigated and understood. As one colleague stated during the Covinar: this is a marathon, not a sprint....

1. **Coordination of Pharyngeal and Laryngeal Swallowing Events During Single Liquid Swallows After Oral Endotracheal Intubation for Patients with Acute Respiratory Distress Syndrome**  
   Brodsky M. B. Dysphagia 2018;33:768-777.

To evaluate timing and duration differences in airway protection and esophageal opening after oral intubation and mechanical ventilation for acute respiratory distress syndrome (ARDS) survivors versus age-matched healthy volunteers. Orally intubated adult (>= 18 years old) patients receiving mechanical ventilation for ARDS were evaluated for swallowing impairments via a videofluoroscopic swallow study (VFSS) during usual care. Exclusion criteria were tracheostomy, neurological impairment, and head and neck cancer. Previously recruited healthy volunteers (n = 56) served as age-matched controls. All subjects were evaluated using 5-ml thin liquid barium boluses. VFSS recordings were reviewed frame-by-frame for the onsets of 9 pharyngeal and laryngeal events during swallowing. Eleven patients met inclusion criteria, with a median (interquartile range [IQR]) intubation duration of 14 (9, 16) days, and VFSSs completed a median of 5 (4, 13) days post-extubation. After arrival of the bolus in the pharynx, ARDS patients achieved maximum laryngeal closure a median (IQR) of 184 (158, 351) ms later than age-matched, healthy volunteers (p < 0.001) and it took longer to achieve laryngeal closure with a median (IQR) difference of 151 (103, 217) ms (p < 0.001), although there was no significant difference in duration of laryngeal closure. Pharyngoesophageal segment opening was a median (IQR) of - 116 (- 183, 1) ms (p = 0.004) shorter than in age-matched, healthy controls. Evaluation of swallowing physiology after oral endotracheal intubation in ARDS patients demonstrates slowed pharyngeal and laryngeal swallowing timing, suggesting swallow-related muscle weakness. These findings may highlight specific areas for further evaluation and potential therapeutic intervention to reduce post-extubation aspiration.

1. **Dysphagia after Acute Respiratory Distress Syndrome. Another Lasting Legacy of Critical Illness**  
   Kruser J. M. Annals of the American Thoracic Society 2017;14:307-308.

1. **Recovery from Dysphagia Symptoms after Oral Endotracheal Intubation in Acute Respiratory Distress Syndrome Survivors. A 5-Year Longitudinal Study**  
   Brodsky M. B. Annals of the American Thoracic Society 2017;14:376-383.

RATIONALE: Nearly 60% of patients who are intubated in intensive care units (ICUs) experience dysphagia after extubation, and approximately 50% of them aspirate. Little is known about dysphagia recovery time after patients are discharged from the hospital.

1. **Recovery of dysphagia symptoms after oral intubation in ICU patients: A 5-year longitudinal study**  
   Brodsky M. B. Dysphagia 2015;30 (5):614.

Purpose: Determine variables associated with time to recovery from patient-perceived dysphagia symptoms after hospital discharge in survivors of acute respiratory distress syndrome (ARDS) who were orally intubated for mechanical ventilation. Method(s): Patients were prospectively enrolled from 11 ICUs at 4 hospitals in Baltimore, MD. The Sydney Swallowing Questionnaire (SSQ), a 17-item visual-analog scale (range: 0-1700), was used to quantify patient-perceived dysphagia symptoms at hospital discharge, and at 3, 6, 12, 24, 36, 48, and 60 months after ARDS. SSQ score >=200 was used to indicate clinically important dysphagia symptoms. Recovery of dysphagia symptoms was defined as achieving both SSQ <200 and a statistically reliable decrease in SSQ from hospital discharge using the Reliable Change Index. Cox regression analysis was used to determine variables associated with time to recovery. Result(s): Of 115 patients, 37 (32 %) had SSQ >=200 at hospital discharge. After 5 years, 34 (92 %) patients recovered, 27 (79 %) within 6 months of ARDS. Of the 23 variables evaluated, none were significantly associated with recovery. However, patients with upper gastrointestinal comorbidity (Hazard Ratio = 0.60; 95 % Confidence Interval: 0.13, 1.24), longer duration of intubation (0.95; 0.88, 1.03), longer ICU length of stay (0.97; 0.92, 1.02), and hospital readmission (0.73; 0.50, 1.07) tended to have a longer time to recovery (Table 1). Conclusions (Including Clinical Relevance): Survivors of intubation and ventilation for ARDS frequently have dysphagia symptoms persisting for months. More research is needed to understand predictors of recovery from dysphagia. (Figure Presented).

1. **Patient-reported dysphagia symptom severity after orotracheal intubation**  
   Brodsky M. B. Clinical and Translational Science 2013;6 (2):111.

OBJECTIVES/SPECIFIC AIMS: Effects of intubation with ventilation on swallowing are unclear. We hypothesized that the duration of intubation was related to severity of dysphagia symptoms in intensive care unit (ICU) patients. METHODS/STUDY POPULATION: Orotracheally intubated patients receiving ventilation for acute respiratory distress syndrome were recruited from 11 ICUs at 4 hospitals in Baltimore, MD. Patients with acute cerebrovascular disease or pre-existing cognitive impairment were excluded. The Sydney Swallowing Questionnaire (SSQ) was administered at hospital discharge; scores >=200 are indicative of clinically-important dysphagia. A locally-weighted least squares fit was used to qualitatively assess the relationship of dysphagia and duration of intubation. Logistic regression was then used to evaluate the association of dysphagia with the duration of intubation and 21 other relevant demographic and clinical factors. RESULTS/ANTICIPATED RESULTS: 152 patients were analyzed. The odds of dysphagia increased 1.84 (p = 0.013) times for each additional day of intubation until day 5. After day 5, additional days of intubation did not appear to affect dysphagia (odds ratio [OR] 1.01, p = 0.756). The only other factor independently associated with dysphagia was a pre-existing upper gastrointestinal and/or neurological comorbidity (OR 2.42, p = 0.029). DISCUSSION/SIGNIFICANCE OF IMPACT: Each additional day of orotracheal intubation approximately doubles the odds of patientreported, clinically-important dysphagia symptoms, for up to 5 days, after which no increase could be detected.

1. **Duration of endotracheal intubation and dysphagia symptoms in ICU patients: A prospective study**  
   Brodsky M. Dysphagia 2011;26 (4):445.

Purpose: The effect of endotracheal intubation and mechanical ventilation on swallowing is unclear. We hypothesized that the duration of intubation was related to severity of dysphagia symptoms in intensive care unit (ICU) patients. Method(s): Endotracheally intubated patients receiving mechanical ventilation for acute respiratory distress syndrome (ARDS) were recruited from 11 ICUs at 4 hospitals in Baltimore, MD. Patients with acute cerebrovascular disease or pre-existing cognitive impairment were excluded. The Sydney Swallowing Questionnaire (SSQ) was administered at hospital discharge. SSQ contains 17 items, each scored 0-100, with higher scores indicating increased swallowing difficulties. Scores C200 are considered indicative of clinicallyimportant dysphagia. A locally-weighted least squares (LOWESS) fit was used to qualitatively assess the relationship of dysphagia and duration of intubation. Logistic regression was then used to evaluate the association between dysphagia and duration of intubation (using linear-spline with knot at 5 days) and 21 other relevant demographic and clinical factors. Result(s): 152 patients were analyzed. The odds of dysphagia increased by a factor of 1.84 (P = 0.013) for each additional day of intubation until day 5 (Fig. 1). After day 5, additional days of intubation did not appear to affect dysphagia (odds ratio [OR<0. 1.01, P = 0.756). The only other factor independently associated with dysphagia was the presence of a pre-existing upper gastrointestinal and/or neurological comorbidity (OR 2.42, P = 0.029). (Figure presented) Conclusion(s): Each additional day of endotracheal intubation approximately doubles the odds of patient-reported, clinically-important dysphagia symptoms, for up to 5 days, after which no increase could be detected.

### Opening Internet Links

The links to internet sites in this document are 'live' and can be opened by holding down the CTRL key on your keyboard while clicking on the web address with your mouse

### Full text papers

Links are given to full text resources where available. For some of the papers, you will need an **NHS OpenAthens Account**. If you do not have an account you can [register online](https://openathens.nice.org.uk/).

You can then access the papers by simply entering your username and password. If you do not have easy access to the internet to gain access, please let us know and we can download the papers for you.

### Guidance on searching within online documents

Links are provided to the full text of each document. Relevant extracts have been copied and pasted into these results. Rather than browse through lengthy documents, you can search for specific words as follows:

**Portable Document Format / pdf / Adobe**  
Click on the Search button (illustrated with binoculars). This will open up a search window. Type in the term you need to find and links to all of the references to that term within the document will be displayed in the window. You can jump to each reference by clicking it.

**Word documents**  
Select Edit from the menu, the Find and type in your term in the search box which is presented. The search function will locate the first use of the term in the document. By pressing 'next' you will jump to further references.

## C. Search History

|  | **Source** | **Criteria** | **Results** |
| --- | --- | --- | --- |
| 1. |  | exp Coronavirus/ | 12243 |
| 2. |  | exp Coronavirus Infections/ | 10626 |
| 3. |  | exp SARS Virus/ | 2962 |
| 4. |  | exp Middle East Respiratory Syndrome Coronavirus/ | 1014 |
| 5. |  | exp Respiratory Distress Syndrome, Adult/ | 19095 |
| 6. |  | coronavirus\*.ti,ab. | 13181 |
| 7. |  | "COVID-19".ti,ab. | 4137 |
| 8. |  | "2019-nCoV".ti,ab. | 512 |
| 9. |  | "SARS-CoV-2".ti,ab. | 1163 |
| 10. |  | MERS.ti,ab. | 4223 |
| 11. |  | ARDS.ti,ab. | 11517 |
| 12. |  | SARS.ti,ab. | 9736 |
| 13. |  | "respirat\* distress\* syndrome".ti,ab. | 25106 |
| 14. |  | 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 | 64242 |
| 15. |  | exp Deglutition Disorders/ | 52036 |
| 16. |  | dysphagia.ti,ab. | 26773 |
| 17. |  | swallow\*.ti,ab. | 29252 |
| 18. |  | 15 or 16 or 17 | 85038 |
| 19. | Medline | 14 and 18 | 94 |

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