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SAC Position Paper on
**Speech-Language Pathology Evaluation
and Intervention for Swallowing and
Feeding Disorders across the Lifespan**

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A position paper represents the direction SAC has taken on a particular topic or provides guidelines for particular areas of practice. These positions are time-bound, representing the thinking at a particular point in time.

Position

It is the position of Speech-Language & Audiology Canada (SAC) that [speech-language pathologists](#) (S-LPs) have specific expertise in the evaluation and intervention of swallowing and feeding disorders across the lifespan. Speech-language pathology services are guided by knowledge of the anatomy and physiology of healthy swallowing, swallowing pathophysiology and the impact of swallowing and feeding disorders on daily life, as well as the preferences of the patient or client and their caregivers. People with swallowing and feeding disorders are best served when S-LPs are members of the interprofessional dysphagia team and lead clinical, education, professional development, and research initiatives about oropharyngeal swallowing function and disorders.

Background

S-LPs provide essential evaluation and intervention services to address swallowing and feeding disorders across the lifespan, from birth to [end-of-life](#) (American-Speech-Language-Hearing Association, n.d.; [SAC, 2017a](#); Speech Pathology Australia, 2012). A person with a swallowing disorder (dysphagia) demonstrates impaired ability to move saliva, food, fluid, and medication from the mouth to the stomach. S-LPs address oropharyngeal dysphagia, which results from dysfunction in the oral and pharyngeal, and/or upper esophageal anatomical regions and/or disordered or suboptimal respiratory-swallowing coordination thereby impairing airway protection and/or bolus clearance (Clavé & Shaker, 2015; Logemann, 1998; Martin-Harris et al., 2015; McFarland et al., 2016, 2018). Oropharyngeal dysphagia is associated with a wide variety of etiologies (e.g., Baker et al., 2021; Benfer et al., 2017; Hutcheson et al., 2019; Takizawa et al., 2016) and may lead to malnutrition, dehydration, airway invasion and pneumonia, as well as increased healthcare costs and mortality (Altman et al., 2010; Martino et al., 2005; Namasivayam & Steele, 2015; Patel et al., 2018;). Dysphagia also negatively impacts social and emotional well-being, participation in everyday activities, quality of life, and adds to caregiver burden (Chen et al., 2009; Ekberg et al., 2002; Martino et al., 2010; Nund et al., 2015; Rangira et al., 2021; Vesey, 2013).

An individual with *pediatric feeding disorder* has “impaired oral intake that is not age-appropriate, and is associated with medical, nutritional, feeding skill, and/or psychosocial dysfunction” (Goday et al., 2019, p. 125). Feeding involves a broad range of eating and drinking activities, in addition to swallowing (Arvedson & Brodsky, 2002). Therefore, children with a feeding disorder may, or may not, have dysphagia (Arvedson, 2007). Feeding disorders may occur in typically developing children, but are more prevalent in infants born prematurely or in children with chronic medical conditions, developmental delays and disabilities (Dodrill & Gosa, 2015). Feeding disorders can have a profound impact on a child’s physical, social, emotional and/or cognitive function, and increase caregiver stress (Greer et al., 2008).

Speech-language pathology services for people with swallowing and feeding disorders are often provided within [interprofessional teams](#) across the continuum of care, and in a variety of settings including, but not limited to, hospitals, rehabilitation centres, long-term care facilities, schools, and in the community (SAC, 2017b). In-person services are most common; however, speech-language pathology dysphagia services may be offered virtually (Carrier et al., 2020; Malandraki et al., 2021; Sharma et al., 2013; Ward et al., 2012). Diverse clinical populations and settings often require different skill sets. For example, S-LPs working in critical care (adult, paediatric and neonatal intensive care units) are skilled in the evaluation and intervention of swallowing disorders in fragile, medically unstable patients including those with tracheostomy or receiving mechanical ventilation (Brodsky et al., 2019).

S-LPs use evidence-based practice, which incorporates the available research evidence, clinical expertise, and patient or client preferences (Dollaghan, 2007; Lof, 2011), to optimize the safety and efficiency of the oropharyngeal swallow through personalized, culturally relevant interventions. The International Classification of Functioning, Disability and Health (World Health Organization, 2001)

guides S-LPs to consider the biopsychosocial impacts of swallowing and feeding disorders on the individual and their caregivers during evaluation and intervention (Threats, 2007; Nund et al., 2015). SAC speech-language pathology members must abide by the [SAC Code of Ethics](#) and guidance issued by their provincial professional regulatory body.

Evaluation: S-LPs work in partnership with patients or clients and their caregivers as well as the interprofessional team when evaluating swallowing and feeding function. S-LPs seek to understand the needs, goals, perspectives, values and culture of patients or clients and their caregivers during the evaluation process. Oropharyngeal swallowing function may be evaluated using one or more screening, clinical, and/or instrumental tests. These evaluations vary in purpose, scope, and accuracy.

- A *screening test* is a pass-fail procedure that identifies people at risk for aspiration or oropharyngeal dysphagia, and expedites referral to speech-language pathology for a complete dysphagia assessment. Since no universally applicable screening test is currently available, S-LPs select the best screening test(s) according to the clinical characteristics of the populations they serve and the psychometric properties of the screening test. Screening tests are often administered by healthcare professionals following completion of a training program and according to a protocol selected by an S-LP.
- A *clinical swallowing examination (CSE)* is an essential element of evaluation and captures the clinical signs of swallowing disorder. The CSE includes review of the available health record, interview, oral mechanism examination, and feeding and/or swallow trials. The CSE can be used to evaluate the oral stage of swallowing as well as the presence or absence of other signs of dysphagia such as cough and wet voice. The CSE also allows for observation of mealtime duration, in addition to other factors that influence swallowing such as positioning, bolus volume, cognition and behaviour.
- *Instrumental evaluations*, such as the Videofluoroscopic Swallowing Study (VFSS) (also referred to as Modified Barium Swallow Study) and Fiberoptic Endoscopic Evaluation of Swallowing (FEES), are conducted to confirm the presence and nature of oropharyngeal dysphagia and, most importantly, identify physiological impairments and guide the selection of appropriate interventions. Canadian provincial regulatory bodies provide practice guidance to their registrants about the conditions under which S-LPs may conduct instrumental evaluations.

For additional information about evaluation approaches, see Armstrong et al., (2020), Dodrill and Gosa (2015), Jaffer et al. (2015), Garand et al., (2020), Gosa and Dodrill (2017), Ingleby et al., (2021); Langmore (2017), Martin-Harris et al. (2021), Martino et al. (2005, 2013), Miller et al. (2020), O'Horo et al. (2015) and Suiter et al. (2020).

Intervention: S-LPs offer a range of interventions to address oropharyngeal swallow pathophysiology and its broader effects on daily life. The perspectives, goals and culture of patients or clients and their caregivers as well as information from other interprofessional team members guide intervention planning.

- *Compensatory interventions* bypass or compensate for physiological changes in swallowing function. They include postural adjustments, swallowing maneuvers, sensory stimulation, control of rate, control of amount/volume, modification of the mode of administration, use of a prosthetic, and diet modification among others. Texture modified foods and thickened liquids may be recommended to people with dysphagia to improve swallow safety and/or efficiency.

The [International Dysphagia Diet Standardization Initiative](#) (IDDSI) framework provides standardized definitions and clinically practical measurement approaches for the various dietary levels. The effectiveness of compensatory interventions is best assessed using instrumental evaluations whenever possible.

- *Rehabilitation or habilitation interventions* improve or delay deterioration of function through use of swallow- and non-swallow exercises to address specific pathophysiological processes and promote neuroplasticity. Technologies may be used to provide biofeedback to enhance performance with exercise. Due to the developing nature of children, swallowing and feeding habilitation often focuses on learning new skills following an expected developmental sequence, rather than reacquiring or maintaining skills. Selection of specific rehabilitative interventions for oropharyngeal dysphagia is best determined using instrumental evaluations, and their effectiveness is best evaluated using instrumental outcome measures.
- *Preventive interventions* prevent or reduce the detrimental impacts of oropharyngeal dysphagia. They include patient education, oral care and the judicious recommendation of non-oral feeding methods that may have unintended negative consequences. Additional preventive interventions may include proactive exercise programs such as those for patients or clients with head and neck cancer and neurodegenerative diseases.

For additional information about intervention approaches, see Albuquerque et al. (2019), Ashford et al. (2009), Beck et al. (2018), Burkhead (2009), Cousins et al. (2013), Dodrill and Gosa (2015), Greco et al. (2018), Gosa and Dodrill (2017), Kaneoka et al. (2016), Langmore and Piseigna (2015), Mason et al. (2005), McSweeney et al. (2015), Newman et al. (2016), Plowman et al. (2019), Robbins et al. (2002, 2008) and Schwartz et al. (2018).

Rationale

This position paper addresses recent advances in evaluation and intervention for swallowing and feeding disorders across the lifespan. A review of published research and professional literature, as well as feedback from SAC members, informed the development process. The recommendations are supported by research evidence where available and are intended to inform the decision-making of S-LPs, university programs, researchers, interprofessional team members, administrators, and policy makers.

Recommendations

These recommendations address: clinical practice, interprofessional collaboration, education and professional development, and research funding. They support S-LPs in their ongoing commitment to improve outcomes for people of all ages with swallowing and feeding disorders.

Clinical Practice: S-LPs have specific expertise in the evaluation and intervention of swallowing and feeding disorders across the lifespan. S-LPs should look to recent research to inform the services they provide. It is recommended that comprehensive, evidence-based clinical practice guidelines be developed through extensive literature search and critical appraisal to further guide S-LPs in their evaluation and intervention with people who have swallowing and feeding disorders. These clinical practice guidelines should include graded, evidence-based recommendations relevant to management of swallowing and disorders across the lifespan and be specific to the Canadian context where possible. Clinicians are encouraged to contribute to quality improvement and patient safety initiatives as well as the profession's knowledge base by using outcome measures sensitive to the

impact of their interventions, which include, but are not limited to: Analysis of Swallowing Physiology: Events, Kinematics and Timing for Use in Clinical Practice (ASPEKT) method (Steele et al., 2019), Dynamic Imaging Grade of Swallowing Toxicity (DIGEST)(Hutcheson et al., 2022), Functional Oral Intake Scale (Crary et al., 2005), IDDSI Functional Diet Scale (Steele et al., 2018), Modified Barium Swallow Impairment Profile (MBSImPTM)(Martin-Harris et al., 2017; MBSImPTM, 2020), New Zealand Secretion Scale (Miles et al., 2018), Penetration-Aspiration Scale (Butler et al., 2015; Colodny, 2002; Rosenbek et al., 1996), Swal-QOL and Swal-CARE (McHorney et al., 2002), and the Yale Pharyngeal Residue Severity Rating Scale (Neubauer et al., 2015, 2016).

Research about swallowing and feeding disorders indicates:

- S-LPs should have a strong understanding of swallowing development and healthy physiology to support clinical decision making in the evaluation and intervention of oropharyngeal swallowing disorders across the lifespan (Namasivayam-MacDonald et al., 2018; Plowman & Humbert, 2018; Steele et al., 2019; Vose et al., 2018).
- Screening is an important component of care because swallowing disorders are associated with significant morbidity and mortality, and should be identified and managed early within disease progression (Boulanger et al., 2018; Brodsky et al., 2019; Donovan et al., 2013; Martin-Harris et al., 2021; Namasivayam-MacDonald & Riquelme, 2019; Suiter et al., 2020; Teasell et al., 2020). Several screening tools are available for paediatric (Suiter et al., 2020) and adult populations (Donovan et al., 2013). S-LPs should be aware of the sensitivity, specificity, reliability, and validity of any screening tool used.
- Although the CSE is an integral part of the assessment process (Barkmeier-Kraemer & Clark, 2017; Beecher & Alexander, 2004; Coyle, 2015; Delaney, 2015), the CSE should not be used as a substitute for an instrumental evaluation because it has several limitations including, but not limited to, poor sensitivity to silent aspiration and lack of direct visualization of pharyngeal and upper esophageal physiology. Therefore, the CSE is best used to evaluate current functioning and concerns, determine if instrumental evaluation is required, and develop hypotheses about the underlying swallowing pathophysiology (Riquelme, 2015).
- S-LPs should have access to instrumental evaluations to ensure patients or clients with swallowing and feeding disorders receive optimal interventions and achieve the best possible outcomes. Instrumental evaluation is necessary to evaluate oropharyngeal pathophysiology, make accurate judgements about airway invasion and swallow efficiency, and inform physiology-based intervention decisions as well as the most appropriate diet texture and consistency recommendations (Vose et al., 2018). Although VFSS is more commonly used in Canada than FEES (SAC, 2017b), S-LPs should understand the indications and contraindications of both instrumental evaluations, in addition to the risks and benefits of performing the procedures (Armstrong et al., 2020; Jaffer et al., 2015; Langmore, 2017; Martin-Harris et al., 2021). S-LPs must adhere to provincial professional regulatory body requirements for performing VFSS and FEES.
- VFSS and/or FEES equipment should meet minimum technical requirements for optimal evaluation of swallowing. S-LPs, radiologists and medical radiation technologists contribute unique knowledge and skills to VFSS (Martin-Harris et al., 2021). A quality VFSS includes: image acquisition in real time (30 frames per second/30 pulses per second) with an accompanying audio-recording; a standardized testing protocol consisting of core elements that can be individualized to the

patient or client; testing using radio-opaque barium stimuli that are prepared in accordance with manufacturer instructions and standardized recipes; and, a standardized method of VFSS interpretation including slow motion and frame-by-frame review to enhance inter- and intra-rater reliability, communication of results and monitoring of change. In addition, a VFSS conducted with frame rates below 15 frames per second cannot identify penetration-aspiration accurately and therefore violates the As Low As Reasonably Achievable (ALARA) principle by exposing patients or clients to medically unwarranted radiation (Ingleby et al., 2021; Jaffer et al., 2015; Martin-Harris et al., 2021; Peladeau-Pigeon & Steele, 2013).

Similarly, a quality FEES includes: a testing protocol consisting of core elements that can be individualized to the patient or client (Langmore, 2017; Langmore et al., 2022); testing stimuli coloured white (Curtis et al., 2021); and, an interpretation method that includes slow motion and frame-by-frame review (Miller et al., 2020) and allows for review with patients or clients as well as caregivers.

- Although S-LPs may recommend compensatory interventions (including diet texture and consistency modifications) to improve swallow safety and efficiency in the short-term, individualized physiology-based behavioural interventions are increasingly considered to result in long-term improvements in swallowing function (Carnaby & Harenberg, 2013; Vose et al., 2018). As research evidence about specific rehabilitation or habilitation techniques continues to evolve, S-LPs should use a combination of current evidence, their own knowledge and expertise, as well as critical thinking skills to design and implement appropriate intervention plans for oropharyngeal dysphagia. When selecting rehabilitation or habilitation exercises, S-LPs should consider the underlying pathophysiology of the swallow, principles of neuroplasticity, and when appropriate, neurodevelopment (Arvedson et al., 2010). S-LPs should determine if endurance, strength, and/or coordination are to be targeted, and take these factors into consideration, along with patient or client specific factors and the available evidence, to select dose and program length. Importantly, no single exercise program addresses all types of oropharyngeal dysphagia and is suitable for all ages and etiologies (Gosa & Dodrill, 2017). Furthermore, some interventions may be maladaptive if used inappropriately (Fraser & Steele, 2012; Vose et al., 2018).

Interprofessional Collaboration: Swallowing and feeding disorders are complex conditions with a broad range of health, functional, and psychosocial impacts (Nund et al., 2015). For this reason, people with swallowing and feeding disorders are best served when S-LPs contribute their specific expertise in the context of an interprofessional healthcare team (Brotsky et al., 2019; Goday et al., 2019; Martin-Harris et al., 2021; Namasivayam-MacDonald & Riquelme, 2019; Sura et al., 2012). To support greater understanding of the complementary, yet distinct, roles of dysphagia team members, SAC should engage with other national professional associations to develop a statement about the importance of interprofessional collaboration to address the complex needs of people with swallowing and feeding disorders across the lifespan.

Education and Professional Development: Canadian speech-language pathology graduate programs include coursework and clinical education about swallowing and feeding disorders (Council for Accreditation of Canadian University Programs in Audiology and Speech-Language Pathology, 2017). University professional programs should ensure that students develop a strong understanding of swallowing and feeding development as well as healthy/typical and disordered swallowing across the lifespan (Namasivayam-MacDonald & Riquelme, 2019; Plowman & Humbert, 2018; Vose et al., 2018;

Wilson et al., 2020). Students should also develop skills in the analysis of instrumental evaluation results, including determining oropharyngeal swallowing pathology from VFSS and FEES recordings, and selection of appropriate interventions (Vose et al., 2018). Course content should nurture an appreciation of and respect for the roles of different professions on the interprofessional dysphagia team, in addition to the values and perspective of the patient or client with the swallowing or feeding disorder and their caregivers.

When providing services to address swallowing and feeding disorders, the SAC Code of Ethics requires that S-LPs engage only in the provision of services that fall within their professional competence. S-LPs should have access to professional supervision and assistance from qualified colleagues when required. Novice clinicians, in particular, benefit from direct supervision and mentorship from experienced S-LPs when performing CSEs, instrumental evaluations, evaluation analysis and interpretation, goal development, and intervention sessions. Mentorship should continue until the mentee is competent to proceed independently. Beyond this mentorship, S-LPs should ensure their knowledge and skills are current and consistent with recent scholarship.

Practicing S-LPs need access to ongoing professional development focused on healthy swallowing physiology and analytics as well as topics about disordered feeding and swallowing (Plowman & Humbert, 2018). Professional development about paediatric feeding disorders is needed to support S-LPs providing services to infants and children (Wilson et al., 2020). In addition, S-LPs should be prepared to provide services to individuals with swallowing and feeding disorders that are developmental in nature or acquired in childhood and who are transitioning to adult care systems (Green Corkins et al., 2018). S-LPs also contribute to interprofessional collaboration by educating other team members and students about swallowing and feeding disorders and the role of S-LPs in evaluation and intervention.

Research Funding: SAC calls on the Canadian Institutes for Health Research to prioritize funding for research about swallowing and feeding function. Grants are needed to support the development of best practice guidelines, a consensus definition of dysphagia and exploration of the impact of social determinants of health (such as age, income and gender) on the risks of developing swallowing and feeding disorders are needed. In addition, further research about effective evaluation and intervention approaches is urgently required for all clinical populations, but particularly about neonatal and childhood swallowing and feeding disorders.

Conclusion: S-LPs have unique expertise in the evaluation and intervention of swallowing and feeding disorders across the lifespan. S-LPs must be recognized as essential members of interprofessional dysphagia care teams across the continuum of care, including settings where the profession is currently underrepresented in Canada such as neonatal intensive care, long-term care, end-of-life care, and in rural and remote communities.

References

- Altman, K. W., Yu, G. P., & Schaefer, S. D. (2010). Consequence of dysphagia in the hospitalized patient: impact on prognosis and hospital resources. *Archives of Otolaryngology–Head & Neck Surgery*, 136(8), 784–789. <https://doi.org/10.1001/archoto.2010.129>
- Albuquerque, L. C. A., Pernambuco, L., da Silva, C. M., Chateaubriand, M. M., & da Silva, H. J. (2019). Effects of electromyographic biofeedback as an adjunctive therapy in the treatment of swallowing disorders: A systematic review of the literature. *European Archives of Oto-rhino-Laryngology*, 276(4), 927–938. <https://doi.org/10.1007/s00405-019-05336-5>
- American Speech-Language-Hearing Association (n.d.). *Swallowing and Feeding*. <https://www.asha.org/public/speech/swallowing/>
- Armstrong, E. S., Reynolds, J., Sturdivant, C., Carroll, S., & Suterwala, M. S. (2020). Assessing swallowing of the breastfeeding NICU infant using fiberoptic endoscopic evaluation of swallowing: A feasibility study. *Advances in Neonatal Care*, 20(3), 244–250. <https://doi.org/10.1097/ANC.0000000000000696>
- Arvedson, J. C. (2008). Assessment of pediatric dysphagia and feeding disorders: Clinical and instrumental approaches. *Developmental Disabilities Research Reviews*, 14(2), 118–127.
- Arvedson, J. C., & Brodsky, L. (2002). *Pediatric Swallowing and Feeding: Assessment and Management. Singular*.
- Arvedson, J., Clark, H., Lazarus, C., Schooling, T., & Frymark, T. (2010). The effects of oral-motor exercises on swallowing in children: An evidence-based systematic review. *Developmental Medicine & Child Neurology*, 52(11), 1000–1013. <https://doi.org/10.1111/j.1469-8749.2010.03707.x>
- Ashford, J., McCabe, D., Wheeler-Hegland, K., Frymark, T., Mullen, R., Musson, N., Schooling, T., & Hammond, C. S. (2009). Evidence-based systematic review: Oropharyngeal dysphagia behavioral treatments. Part III—impact of dysphagia treatments on populations with neurological disorders. *Journal of Rehabilitation Research & Development*, 46(2), 195–204. <https://doi.org/10.1682/JRRD.2008.08.0091>
- Baker, J., Barnett, C., Cavalli, L., Dietrich, M., Dixon, L., Duffy, J. R., ... & McWhirter, L. (2021). Management of functional communication, swallowing, cough and related disorders: Consensus recommendations for speech and language therapy. *Journal of Neurology, Neurosurgery & Psychiatry*, 92(10), 1112–1125. <http://dx.doi.org/10.1136/jnnp-2021-326767>
- Barkmeier-Kraemer, J. M., & Clark, H. M. (2017). Speech–language pathology evaluation and management of hyperkinetic disorders affecting speech and swallowing function. *Tremor and Other Hyperkinetic Movements*, 7. <https://doi.org/10.5334/tohm.381>
- Beck, A. M., Kjaersgaard, A., Hansen, T., & Poulsen, I. (2018). Systematic review and evidence-based recommendations on texture modified foods and thickened liquids for adults (above 17 years) with oropharyngeal dysphagia—An updated clinical guideline. *Clinical Nutrition*, 37(6), 1980–1991. <https://doi.org/10.1016/j.clnu.2017.09.002>
- Beecher, R., & Alexander, R. (2004). Pediatric feeding and swallowing: Clinical examination and evaluation. *Perspectives on Swallowing and Swallowing Disorders (Dysphagia)*, 13(4), 21–27. <https://doi.org/10.1044/sasd13.4.21>

- Benfer, K. A., Weir, K. A., Bell, K. L., Ware, R. S., Davies, P. S., & Boyd, R. N. (2017). Oropharyngeal dysphagia and cerebral palsy. *Pediatrics*, *140*(6), Article e20170731.
<https://doi.org/10.1542/peds.2017-0731>
- Boulanger, J., Lindsay, M., Gubitz, G., Smith, E., Stotts, G., Foley, N., Bhogal, S., Boyle, K., Braun, L., Goddard, T., Heran, M., Kanya-Forster, N., Lang, E., Lavoie, P., McClelland, M., O'Kelly, C., Pageau, P., Pettersen, J., Purvis, H.,... Butcher, K. (2018). Canadian stroke best practice recommendations for acute stroke management: Prehospital, emergency department, and acute inpatient stroke care, update 2018. *International Journal of Stroke*, *13*(9), 949-984.
<https://doi.org/10.1177/1747493018786616>
- Brodsky, M. B., Mayfield, E. B., & Gross, R. D. (2019). Clinical decision making in the ICU: Dysphagia screening, assessment, and treatment. *Seminars in Speech and Language*, *40*(3), 170-187.
<https://doi.org/10.1055/s-0039-1688980>
- Burkhead, L. M. (2009). Applications of exercise science in dysphagia rehabilitation. *Perspectives on Swallowing and Swallowing Disorders (Dysphagia)*, *18*(2), 43-48.
<https://doi.org/10.1044/sasd18.2.43>
- Butler, S. G., Markley, L., Sanders, B. & Stuart, A. (2015). Reliability of the penetration aspiration scale with flexible endoscopic evaluation of swallowing. *Annals of Otolaryngology, Rhinology & Laryngology*, *124*(6), 480-483. <https://doi.org/10.1177/0003489414566267>
- Carnaby, G. D., & Harenberg, L. (2013). What is “usual care” in dysphagia rehabilitation: A survey of USA dysphagia practice patterns. *Dysphagia*, *28*(4), 567-574.
<https://doi.org/10.1007/s00455-013-9467-8>
- Carrier, G., Rodriguez, V., & Martino, R. (2020, May 15). Dysphagia assessment and treatment during the COVID-19 pandemic: Lessons learned from the transition to telepractice. *Communiqué*.
<https://blog.sac-oac.ca/dysphagia-assessment-and-treatment-during-the-covid-19-pandemic-lessons-learned-from-the-transition-to-telepractice/>
- Chen, P.-H., Golub, J. S., Hapner, E. R., & Johns, M. M. (2009). Prevalence of perceived dysphagia and quality-of-life impairment in a geriatric population. *Dysphagia*, *24*(1), 1-6.
<https://doi.org/10.1007/s00455-008-9156-1>
- Clavé, P., & Shaker, R. (2015). Dysphagia: Current reality and scope of the problem. *Nature Reviews Gastroenterology & Hepatology*, *12*(5), 259-270. <https://doi.org/10.1038/nrgastro.2015.49>
- Colodny, N. (2002). Interjudge and intrajudge reliabilities in fiberoptic endoscopic evaluation of swallowing (FEES®) using the Penetration–Aspiration Scale: A replication study. *Dysphagia*, *17*(4), 308-315. <https://doi.org/10.1007/s00455-002-0073-4>
- Council for Accreditation of Canadian University Programs in Audiology and Speech-Language Pathology. (2017). *Policies and Procedures Manual*. <https://www.cacup-aslp.ca/files/documents/Policies%20and%20Procedures%20Manual%20-%202017.pdf>
- Cousins, N., MacAulay, F., Lang, H., MacGillivray, S., & Wells, M. (2013). A systematic review of interventions for eating and drinking problems following treatment for head and neck cancer suggests a need to look beyond swallowing and trismus. *Oral Oncology*, *49*(5), 387-400.
<https://doi.org/10.1016/j.oraloncology.2012.12.002>

- Coyle, J. L. (2015). The clinical evaluation: A necessary tool for the dysphagia sleuth. *Perspectives on Swallowing and Swallowing Disorders (Dysphagia)*, 24(1), 18-25.
<https://doi.org/10.1044/sasd24.1.18>
- Curtis, J. A., Seikaly, Z. N., Dakin, A. E., & Troche, M. S. (2021). Detection of aspiration, penetration, and pharyngeal residue during flexible endoscopic evaluation of swallowing (FEES): Comparing the effects of color, coating, and opacity. *Dysphagia*, 36(2), 207-215.
<https://doi.org/10.1007/s00455-020-10131-0>
- Crary, M. A., Mann, G. D. C., & Groher, M. E. (2005). Initial psychometric assessment of a functional oral intake scale for dysphagia in stroke patients. *Archives of Physical Medicine and Rehabilitation*, 86(8), 1516-1520. <https://doi.org/10.1016/j.apmr.2004.11.049>
- Delaney, A. L. (2015). Special considerations for the pediatric population relating to a swallow screen versus clinical swallow or instrumental evaluation. *Perspectives on Swallowing and Swallowing Disorders (Dysphagia)*, 24(1), 26-33. <https://doi.org/10.1044/sasd24.1.26>
- Dodrill, P., & Gosa, M. M. (2015). Pediatric dysphagia: Physiology, assessment, and management. *Annals of Nutrition and Metabolism*, 66(Suppl. 5), 24-31. <https://doi.org/10.1159/000381372>
- Dollaghan, C. A. (2007). *The Handbook for Evidence-Based Practice in Communication Disorders*. Paul H Brookes Publishing.
- Donovan, N. J., Daniels, S. K., Edmiaston, J., Weinhardt, J., Summers, D., & Mitchell, P. H. (2013). Dysphagia screening: State of the art. Invitational Conference Proceeding from the State-of-the-Art Nursing Symposium, International Stroke Conference 2012. *Stroke*, 44(4), e24-e31.
<https://doi.org/10.1161/STR.0b013e3182877f57>
- Ekberg, O., Hamdy, S., Woisard, V., Wuttge-Hannig, A., & Ortega, P. (2002). Social and psychological burden of dysphagia: Its impact on diagnosis and treatment. *Dysphagia*, 17(2), 139-146.
<https://doi.org/10.1007/s00455-001-0113-5>
- Fraser, S., & Steele, C. M. (2012). The effect of chin down position on penetration-aspiration in adults with dysphagia. *Canadian Journal of Speech-Language Pathology and Audiology*, 36(2), 142-148. <https://www.cjslpa.ca/detail.php?lang=en&ID=1099>
- Garand, K. L., McCullough, G., Crary, M., Arvedson, J. C., & Dodrill, P. (2020). Assessment across the life span: The clinical swallow evaluation. *American Journal of Speech-Language Pathology*, 29(2S), 919-933. https://pubs.asha.org/doi/abs/10.1044/2020_AJSLP-19-00063
- Goday, P. S., Huh, S. Y., Silverman, A., Lukens, C. T., Dodrill, P., Cohen, S. S., Delaney, A. L., Feuling, M. B., Noel, R. J., Gisel, E., Kenzer, A., Kessler, D. B., Kraus de Camargo, O., Browne, J., & Phalen, J. A. (2019). Pediatric feeding disorder: Consensus definition and conceptual framework. *Journal of Pediatric Gastroenterology and Nutrition*, 68(1), 124-129.
<https://doi.org/10.1097/MPG.0000000000002188>
- Gosa, M., & Dodrill, P. (2017). Pediatric dysphagia rehabilitation: Considering the evidence to support common strategies. *Perspectives of the ASHA Special Interest Groups*, 2(13), 27-35.
<https://doi.org/10.1044/persp2.SIG13.27>

- Greco, E., Simic, T., Ringash, J., Tomlinson, G., Inamoto, Y., & Martino, R. (2018). Dysphagia treatment for patients with head and neck cancer undergoing radiation therapy: A meta-analysis review. *International Journal of Radiation Oncology* Biology* Physics*, 101(2), 421-444. <https://doi.org/10.1016/j.ijrobp.2018.01.097>
- Green Corkins, K., Miller, M. A., Whitworth, J. R., & McGinnis, C. (2018). Graduation day: Healthcare transition from pediatric to adult. *Nutrition in Clinical Practice*, 33(1), 81-89. <https://doi.org/10.1002/ncp.10050>
- Greer, A. J., Gulotta, C. S., Masler, E. A., & Laud, R. B. (2008). Caregiver stress and outcomes of children with pediatric feeding disorders treated in an intensive interdisciplinary program. *Journal of Pediatric Psychology*, 33(6), 612-620. <https://doi.org/10.1093/jpepsy/jsm116>
- Hutcheson, K. A., Barbon, C. E., Alvarez, C. P., & Warneke, C. L. (2022). Refining measurement of swallowing safety in the Dynamic Imaging Grade of Swallowing Toxicity (DIGEST) criteria: Validation of DIGEST version 2. *Cancer*. <https://doi.org/10.1002/cncr.34079>
- Hutcheson, K. A., Nurgalieva, Z., Zhao, H., Gunn, G. B., Giordano, S. H., Bhayani, M. K., Lewin, J. S., & Lewis, C. M. (2019). Two-year prevalence of dysphagia and related outcomes in head and neck cancer survivors: An updated SEER-Medicare analysis. *Head & Neck*, 41(2), 479-487. <https://doi.org/10.1002/hed.25412>
- Ingleby, H. R., Bonilha, H. S., & Steele, C. M. (2021). A tutorial on diagnostic benefit and radiation risk in videofluoroscopic swallowing studies. *Dysphagia*, 1-26. <https://doi.org/10.1007/s00455-021-10335-y>
- Jaffer, N. M., Ng, E., Au, F. W. F., & Steele, C. M. (2015). Fluoroscopic evaluation of oropharyngeal dysphagia: anatomic, technical, and common etiologic factors. *American Journal of Roentgenology*, 204(1), 49-58. <https://doi.org/10.2214/AJR.13.12374>
- Kaneoka, A., Pisegna, J. M., Saito, H., Lo, M., Felling, K., Haga, N., LaValley, M. P., & Langmore, S. E. (2017). A systematic review and meta-analysis of pneumonia associated with thin liquid vs. thickened liquid intake in patients who aspirate. *Clinical Rehabilitation*, 31(8), 1116-1125. <https://doi.org/10.1177/0269215516677739>
- Langmore, S. E. (2017). History of fiberoptic endoscopic evaluation of swallowing for evaluation and management of pharyngeal dysphagia: Changes over the years. *Dysphagia*, 32(1), 27-38. <https://doi.org/10.1007/s00455-016-9775-x>
- Langmore, S. E., & Pisegna, J. M. (2015). Efficacy of exercises to rehabilitate dysphagia: A critique of the literature. *International Journal of Speech-Language Pathology*, 17(3), 222-229. <https://doi.org/10.3109/17549507.2015.1024171>
- Langmore, S. E., Scarborough, D. R., Kelchner, L. N., Swigert, N. B., Murray, J., Reece, S., ... & Rule, D. K. (2022). Tutorial on clinical practice for use of the fiberoptic endoscopic evaluation of swallowing procedure with adult populations: Part 1. *American Journal of Speech-Language Pathology*, 31(1), 163-187. https://doi.org/10.1044/2021_AJSLP-20-00348
- Lof, G. L. (2011). Science-based practice and the speech-language pathologist. *International Journal of Speech-Language Pathology*, 13(3), 189-196. <https://doi.org/10.3109/17549507.2011.528801>

- Logemann, J.A. (1998). *Evaluation and Treatment of Swallowing Disorders*. PRO-ED.
- Malandraki, G. A., Arkenberg, R. H., Mitchell, S. S., & Malandraki, J. B. (2021). Telehealth for dysphagia across the life span: Using contemporary evidence and expertise to guide clinical practice during and after COVID-19. *American Journal of Speech-Language Pathology*, 30(2), 532-550. https://doi.org/10.1044/2020_AJSLP-20-00252
- Martin-Harris, B., Bonilha, H. S., Brodsky, M. B., Francis, D. O., Fynes, M. M., Martino, R. O'Rourke, A.K., Rogus-Pulia, N.M., Spinazzi, N.A, & Zarzour, J. (2021). The Modified Barium Swallow Study for oropharyngeal dysphagia: Recommendations from an interdisciplinary expert panel. *Perspectives of the ASHA Special Interest Groups*, 6, 610-619. https://doi.org/10.1044/2021_PERSP-20-00303
- Martin-Harris, B., Humphries, K., & Garand, K. L. (2017). The Modified Barium Swallow Impairment Profile (MBSImP™©): Innovation, dissemination and implementation. *Perspectives of the ASHA Special Interest Groups*, 2(13), 129-138. <https://doi.org/10.1044/persp2.SIG13.129>
- Martin-Harris, B., McFarland, D., Hill, E. G., Strange, C. B., Focht, K. L., Wan, Z., Blair, J., & McGrattan, K. (2015). Respiratory-swallow training in patients with head and neck cancer. *Archives of Physical Medicine and Rehabilitation*, 96(5), 885-893. <https://doi.org/10.1016/j.apmr.2014.11.022>
- Martino, R., Foley, N., Bhogal, S., Diamant, N., Speechley, M., & Teasell, R. (2005). Dysphagia after stroke: Incidence, diagnosis, and pulmonary complications. *Stroke*, 36(12), 2756-2763. <https://doi.org/10.1161/01.STR.0000190056.76543.eb>
- Martino, R., Beaton, D., & Diamant, N. E. (2010). Perceptions of psychological issues related to dysphagia differ in acute and chronic patients. *Dysphagia*, 25(1), 26-34. <https://doi.org/10.1007/s00455-009-9225-0>
- Martino, R., Flowers, H. L., Shaw, S. M., & Diamant, N. E. (2013). A systematic review of current clinical and instrumental swallowing assessment methods. *Current Physical Medicine and Rehabilitation Reports*, 1(4), 267-279. <https://doi.org/10.1007/s40141-013-0033-y>
- Mason, S.J., Harris, G. & Blissett, J. (2005). Tube feeding in infancy: Implications for the development of normal eating and drinking skills. *Dysphagia* 20, 46-61. <https://doi.org/10.1007/s00455-004-0025-2>
- MBSImP™: Modified Barium Swallow Impairment Profile. (2020). *What is the MBSImP™ Approach?* <https://www.northernspeech.com/mbsimp>
- McFarland, D. H., Harris, B. M., & Fortin, A. J. (2018). Enhancing swallowing-respiration co-ordination. *Current Physical Medicine and Rehabilitation Reports*, 6(4), 239-244. <https://doi.org/10.1007/s40141-018-0202-0>
- McFarland, D. H., Martin-Harris, B., Fortin, A. J., Humphries, K., Hill, E., & Armeson, K. (2016). Respiratory-swallowing coordination in normal subjects: Lung volume at swallowing initiation. *Respiratory Physiology & Neurobiology*, 234, 89-96. <https://doi.org/10.1016/j.resp.2016.09.004>

- McHorney, C. A., Robbins, J., Lomax, K., Rosenbek, J. C., Chignell, K., Kramer, A. E., & Bricker, D. E. (2002). The SWAL–QOL and SWAL–CARE outcomes tool for oropharyngeal dysphagia in adults: III. Documentation of reliability and validity. *Dysphagia*, 17(2), 97-114. <https://doi.org/10.1007/s00455-001-0109-1>
- McSweeney, M. E., Kerr, J., Amirault, J., Mitchell, P. D., Larson, K., & Rosen, R. (2015). Oral feeding reduces hospitalizations compared with gastrostomy feeding in infants and children who aspirate. *Journal of Pediatrics*, 170, 79–84. <https://doi.org/10.1016/j.jpeds.2015.11.028>
- Miles, A., Hunting, A., McFarlane, M., Caddy, D., & Scott, S. (2018). Predictive value of the New Zealand Secretion Scale (NZSS) for pneumonia. *Dysphagia*, 33(1), 115-122. <https://doi.org/10.1007/s00455-017-9841-z>
- Miller, C. K., Schroeder, J. W., & Langmore, S. (2020). Fiberoptic endoscopic evaluation of swallowing across the age spectrum. *American Journal of Speech-Language Pathology*, 29(2S), 967–978. https://doi.org/10.1044/2019_AJSLP-19-00072
- Namasivayam, A. M., & Steele, C. M. (2015). Malnutrition and dysphagia in long-term care: A systematic review. *Journal of Nutrition in Gerontology and Geriatrics*, 34(1), 1–21. <https://doi.org/10.1080/21551197.2014.1002656>
- Namasivayam-MacDonald, A. M., Barbon, C. E., & Steele, C. M. (2018). A review of swallow timing in the elderly. *Physiology & Behavior*, 184, 12-26. <https://doi.org/10.1016/j.physbeh.2017.10.023>
- Namasivayam-MacDonald, A. M., & Riquelme, L. F. (2019). Presbyphagia to dysphagia: Multiple perspectives and strategies for quality care of older adults. *Seminars in Speech and Language*, 40(3), 227-242. <https://doi.org/10.1055/s-0039-1688837>
- Neubauer, P. D., Hersey, D. P., & Leder, S. B. (2016). Pharyngeal residue severity rating scales based on fiberoptic endoscopic evaluation of swallowing: A systematic review. *Dysphagia*, 31(3), 352–359. <https://doi.org/10.1007/s00455-015-9682-6>
- Neubauer, P. D., Rademaker, A. W. et Leder, S. B. (2015). The Yale Pharyngeal Residue Severity Rating Scale: An anatomically defined and image-based tool. *Dysphagia*, 30(5), 521-528. <https://doi.org/10.1007/s00455-015-9631-4>
- Newman, R., Vilardell, N., Clavé, P., & Speyer, R. (2016). Effect of bolus viscosity on the safety and efficacy of swallowing and the kinematics of the swallow response in patients with oropharyngeal dysphagia: White paper by the European Society for Swallowing Disorders (ESSD). *Dysphagia*, 31(2), 232-249. <https://doi.org/10.1007/s00455-016-9696-8>
- Nund, R. L., Scarinci, N. A., Cartmill, B., & Ward, E. C. (2015). Dysphagia and the family. In R. Speyer & H. Bogaardt (Eds.), *Seminars in Dysphagia* (pp. 159-175). IntechOpen. <https://doi.org/10.5772/60856>
- O’Horo, J. C., Rogus-Pulia, N., Garcia-Arguello, L., Robbins, J., & Safdar, N. (2015). Bedside diagnosis of dysphagia: A systematic review. *Journal of Hospital Medicine*, 10(4), 256-265. <https://doi.org/10.1002/jhm.2313>
- Patel, D. A., Krishnaswami, S., Steger, E., Conover, E., Vaezi, M. F., Ciucci, M. R., & Francis, D. O. (2018). Economic and survival burden of dysphagia among inpatients in the United States. *Diseases of the Esophagus*, 31(1), Article dox131. <https://doi.org/10.1093/dote/dox131>

- Peladeau-Pigeon, M., & Steele, C. M. (2013). Technical aspects of a videofluoroscopic swallowing study. *Canadian Journal of Speech-Language Pathology and Audiology*, 37(3), 216-226.
- Plowman, E. K., & Humbert, I. A. (2018). Elucidating inconsistencies in dysphagia diagnostics: Redefining normal. *International Journal of Speech-Language Pathology*, 20(3), 310-317. <https://doi.org/10.1080/17549507.2018.1461931>
- Plowman, E. K., Tabor-Gray, L., Rosado, K. M., Vasilopoulos, T., Robison, R., Chapin, J. L., Gaziano, J., Vu T, & Gooch, C. (2019). Impact of expiratory strength training in amyotrophic lateral sclerosis: Results of a randomized, sham-controlled trial. *Muscle & Nerve*, 59(1), 40-46. <https://doi.org/10.1002/mus.26292>
- Rangira, D., Najeeb, H., Shune, S. E., & Namasivayam-MacDonald, A. (2021). Understanding burden in caregivers of adults with dysphagia: A systematic review. *American Journal of Speech-Language Pathology*, 31(1), 486-501. https://doi.org/10.1044/2021_AJSLP-21-00249
- Riquelme, L. F. (2015). Clinical swallow examination (CSE): Can we talk? Perspectives on Swallowing and Swallowing Disorders (Dysphagia), 24(1), 34-39. <https://doi.org/10.1044/sasd24.1.34>
- Robbins, J., Nicosia, M., Hind, J. A., Gill, G. D., Blanco, R., & Logemann, J. (2002). Defining physical properties of fluids for dysphagia evaluation and treatment. *Perspectives on Swallowing and Swallowing Disorders (Dysphagia)*, 11(2), 16-19. <https://doi.org/10.1044/sasd11.2.16>
- Robbins, J., Butler, S. G., Daniels, S. K., Gross, R. D., Langmore, S., Lazarus, C. L., Martin-Harris, B., McCabe, D., Musson, N., & Rosenbek, J. (2008). Swallowing and dysphagia rehabilitation: Translating principles of neural plasticity into clinically oriented evidence. *Journal of Speech, Language and Hearing Research*, 51, S276-S300. [https://doi.org/10.1044/1092-4388\(2008\)021](https://doi.org/10.1044/1092-4388(2008)021)
- Rosenbek, J. C., Robbins, J. A., Roecker, E. B., Coyle, J. L., & Wood, J. L. (1996). A penetration-aspiration scale. *Dysphagia*, 11(2), 93-98. <https://doi.org/10.1007/BF00417897>
- Schwarz, M., Ward, E. C., Ross, J., & Semciw, A. (2018). Impact of thermo-tactile stimulation on the speed and efficiency of swallowing: A systematic review. *International Journal of Language and Communication Disorders*, 53(4), 675-688. <https://doi.org/10.1111/1460-6984.12384>
- Sharma, S., Ward, E. C., Burns, C., Theodoros, D., & Russell, T. (2013). Assessing dysphagia via telerehabilitation: Patient perceptions and satisfaction. *International Journal of Speech-Language Pathology*, 15(2), 176-183. <https://doi.org/10.3109/17549507.2012.689333>
- Speech-Language & Audiology Canada [SAC] (2017a). *Position Statement on the Role of Speech-Language Pathologists in Dysphagia*. https://www.sac-oac.ca/sites/default/files/resources/dysphagia_position_statement_en.pdf
- Speech-Language & Audiology Canada [SAC] (2017b). *Speech-Language & Audiology Canada Current Dysphagia Practice Patterns 2016 Survey Results*. https://www.sac-oac.ca/sites/default/files/resources/dysphagia_survey_report_en.pdf
- Speech Pathology Australia (2012). *Clinical Guideline: Dysphagia*. https://www.speechpathologyaustralia.org.au/SPAweb/Members/Clinical_Guidelines/spaweb/Members/Clinical_Guidelines/Clinical_Guidelines.aspx?hkey=f66634e4-825a-4f1a-910d-644553f59140

- Steele, C. M., Peladeau-Pigeon, M., Barbon, C. A., Guida, B. T., Namasivayam-MacDonald, A. M., Nascimento, W. V., Smaoui, S., Tapson, M. S., Valenzano, T. J., Waito, A. A., & Wolkin, T. S. (2019). Reference values for healthy swallowing across the range from thin to extremely thick liquids. *Journal of Speech, Language and Hearing Research*, 62(5), 1338-1363. https://doi.org/10.1044/2019_JSLHR-S-18-0448
- Steele, C. M., Namasivayam-MacDonald, A. M., Guida, B. T., Cichero, J. A., Duivesteyn, J., Hanson, B., Lam, P., & Riquelme, L. F. (2018). Creation and initial validation of the International Dysphagia Diet Standardisation Initiative Functional Diet Scale. *Archives of Physical Medicine and Rehabilitation*, 99(5), 934-944. <https://doi.org/10.1016/j.apmr.2018.01.012>
- Suiter, D. M., Daniels, S. K., Barkmeier-Kraemer, J. M., & Silverman, A. H. (2020). Swallowing screening: Purposefully different from an assessment sensitivity and specificity related to clinical yield, interprofessional roles, and patient selection. *American Journal of Speech-Language Pathology*, 29(2S), 979-991. https://doi.org/10.1044/2020_AJSLP-19-00140
- Sura, L., Madhavan, A., Carnaby, G., & Crary, M. A. (2012). Dysphagia in the elderly: Management and nutritional considerations. *Clinical Interventions in Aging*, 7, 287-298. <https://doi.org/10.2147/CIA.S23404>
- Takizawa, C., Gemmell, E., Kenworthy, J., & Speyer, R. (2016). A systematic review of the prevalence of oropharyngeal dysphagia in stroke, Parkinson's disease, Alzheimer's disease, head injury, and pneumonia. *Dysphagia*, 31(3), 434-441. <https://doi.org/10.1007/s00455-016-9695-9>
- Teasell, R., Salbach, N. M., Foley, N., Mountain, A., Cameron, J. I., Jong, A. D., A. de, Acerra, N. E., Bastasi, D., Carter, S. L., Fung, J., Halabi, M.-L., Iruthayarajah, J., Harris, J., Kim, E., Noland, A., Pooyania, S., Rochette, A., Stack, B. D., Symcox, E., & Lindsay, M. P. (2020). Canadian stroke best practice recommendations: Rehabilitation, recovery, and community participation following stroke. Part one: rehabilitation and recovery following stroke; Update 2019. *International Journal of Stroke*, 15(7), 763-788. <https://doi.org/10.1177/1747493019897843>
- Threats T. T. (2007). Use of the ICF in dysphagia management. *Seminars in Speech and Language*, 28(4), 323-333. <https://doi.org/10.1055/s-2007-986529>
- Vesey, S. (2013). Dysphagia and quality of life. *British Journal of Community Nursing*, Suppl, S14, S16, S18-19. <https://doi.org/10.12968/bjcn.2013.18.sup5.s14>
- Vose, A. K., Kesneck, S., Sunday, K., Plowman, E., & Humbert, I. (2018). A survey of clinician decision making when identifying swallowing impairments and determining treatment. *Journal of Speech, Language, and Hearing Research*, 61(11), 2735-2756. https://doi.org/10.1044/2018_JSLHR-S-17-0212
- Ward, E. C., Sharma, S., Burns, C., Theodoros, D., & Russell, T. (2012). Validity of conducting clinical dysphagia assessments for patients with normal to mild cognitive impairment via telerehabilitation. *Dysphagia*, 27(4), 460-472. <https://doi.org/10.1007/s00455-011-9390-9>
- Wilson, J. J., Simmons, A. K., & H. McCarthy, J. (2020). Pediatric dysphagia: Survey results describing speech-language pathologists' education and experience. *Perspectives of the ASHA Special Interest Groups*, 5(1), 236-245. https://doi.org/10.1044/2019_PERSP-19-00016
- World Health Organization. (2001). *ICF: International Classification of Functioning, Disability and Health*. <https://www.who.int/standards/classifications/international-classification-of-functioning-disability-and-health>