FOCUS GROUP UPDATE ON STROKE REHABILITATION

DYSPHAGIA, ORAL HYGIENE AND SWALLOWING

DISCLAIMER

This update was developed to be a guide for best clinical practice, based on the best available evidence at the time of development. Specific attempts were made to use local data and publications to ensure local relevance. The update was adapted mainly from the Australian Clinical Guidelines, Canadian Stroke Best Practices and NICE Stroke Rehabilitation for adults 2023 (1, 2. 3). Other sources were reviewed when necessary. The update will also be updated from time to time. Adherence to this update is at the discretion of the healthcare provider and does not necessarily lead to the best clinical outcome in individual patient care. Every healthcare provider is responsible for the management of his/her unique patient based on the clinical presentation and management options available locally.

1. https://informme.org.au/guidelines/living-clinical-guidelines-for-stroke-management
2. https://www.strokebestpractices.ca/recommendations
3. NICE Stroke rehabilitation in adults: Clinical Guideline, [NG236] 2023. www.nice.org.uk/guidance/ng236.

DYSPHAGIA

1. SCREENING FOR SWALLOWING

1.1 Patients with acute stroke should be screened for swallowing before being given any oral intake (fluid, food and medication) (Heart and Stroke Foundation, 2025; Stroke Foundation, 2025; NICE, 2023)

1.2 Swallowing screening is a minimally invasive procedure that enables quick determination of:

- the likelihood that dysphagia exists,
- whether the patient requires referral for further swallowing assessment, and
- whether the patient requires referral for nutritional or hydrational support.
  (American Speech-Language-Hearing Association, 2025)

1.3 Swallowing screening should be conducted by trained health professionals using a validated screening tool (Heart and Stroke Foundation, 2025; Stroke Foundation, 2025; NICE, 2023)

1.4 Swallowing screening should also be conducted for patients with chronic stroke (post-discharge from acute care). Swallowing difficulties should be suspected if the patient reports any symptoms as follows:

- recurrent chest infection or low-grade fever
- persistent weight loss,
- coughing before/during/after swallowing,
- change in voice quality (wet or gurgling voice),
- drooling,
- complaint of difficulty when swallowing,
- prolonged mealtimes, and
- sensation of food being stuck in the throat.
  (Aziz et. al, 2017)

1.5 A water test may be used to screen the swallow function. Presence of cough and wet voice are typically the common predictors for risk of aspiration. Examples of swallowing screening test are available in **Appendix 1**.

1.6 The sensitivity of swallowing screening may be increased by incorporating non-swallowing information which are demographic information, medical history, functional assessment and oral motor assessment (Daniels, Anderson & Wilson, 2012; Malaysian Clinical Practice Guidelines for Management of Ischemic Stroke (Malaysian Stroke Guidelines), 2020)

1.7 Patients who failed swallowing screening should be referred to a speech-language therapist for a clinical swallowing assessment (Heart and Stroke Foundation, 2025; Stroke Foundation, 2025).

1.8 Until a safe swallowing method is established, a non-oral route should be considered (Stroke Foundation, 2025).

1.9 A nasogastric tube could be used if enteral feeding is indicated. Furthermore, the use of PEG could be considered if prolonged enteral feeding is required (Malaysian Stroke Guideline, 2020; Heart and Stroke Foundation, 2025; NICE, 2023).

2. USE OF INSTRUMENTAL ASSESSMENT FOR SWALLOWING

2.1 Instrumental assessments (Video Fluoroscopy for Swallowing (VFSS) and/or Fiberoptic Endoscopic Examination for Swallowing (FEES)) are recommended to be performed on patients with high risk for oropharyngeal dysphagia or poor airway protection, based on results from the bedside swallowing assessment, to examine the nature of swallowing difficulties and inform the swallowing rehabilitation/management (Heart and Stroke Foundation, 2025; NICE, 2023).

3. DYSPHAGIA MANAGEMENT

3.1 Management of dysphagia may include rehabilitation/restorative approach and/or compensatory techniques, and ongoing monitoring and reassessment to ensure the efficiency and safety of the oropharyngeal swallow (Heart and Stroke Foundation, 2025).

3.2 Adjunct modalities (acupuncture, non-invasive brain stimulation, pharyngeal electrical stimulation and surface neuromuscular electrical stimulation) should only be used together with the rehabilitative approach, taking into consideration the current evidence and competencies required (Stroke Foundation, 2025).

3.3 Patients should receive an individualized management plan, that includes therapy for dysphagia, dietary needs and nutritional plan (Heart and Stroke Foundation, 2025). The plan may involve various professionals such as dietitians, speech-language therapists and occupational therapists.

3.4 Whenever possible, patients should be encouraged to self-feed to lower their risk of aspiration pneumonia (Heart and Stroke Foundation, 2025).

3.5 Patients with dysphagia on texture-modified diets and/or fluids should be monitored for their tolerance and sufficiency of oral intake regularly to ensure their nutrition and hydration needs are met (Stroke Foundation, 2025).

3.6 All staff and caregivers involved in feeding patients should receive appropriate training in feeding and swallowing techniques (Heart and Stroke Foundation, 2025).

3.7 Patients, families and caregivers should be educated about swallowing, prevention of aspiration, and feeding recommendations (Heart and Stroke Foundation, 2025), and the potential of dysphagia on their quality of life (Al Rjoob et al., 2022)

GUIDELINES ON ORAL CARE

1. Oral care is crucial in maintaining the health of the oral cavity including the mouth, teeth and gum, among stroke patients due to limited ability of self-care. A healthy oral cavity requires good oral hygiene by removing food debris and dental plaque. Maintaining good oral health can improve quality of life, communication, decrease discomfort and help to have good and balance nutrition.
2. Poor oral health is associated with a variety of oral diseases such as dental decay, gum disease and infections. Poor oral hygiene allows accumulation of oral pathogenic bacteria and may post the individual to higher risk of systemic infection such as aspiration pneumonia. Thus, patients with stroke should be given diligent mouth and dental care. Additionally, the patients and their caretakers should be given education to maintain good oral hygiene, to lower the risk of oral diseases and complications such as aspiration pneumonia infection (Heart and Stroke Foundation, 2025).
3. The importance of oral health in stroke rehabilitation has been advocated in guidelines of several countries such as Canada, United Kingdom and Ireland, Australia and New Zealand. They emphasis on the importance of maintaining good oral hygiene including denture for stroke patients. Thus, assistance and education should be given to all patients. All staff and caregivers involved in the management of patients with stroke should be trained and received appropriate training on maintaining good oral hygiene (Stroke Foundation, 2025).
4. The Oral Health Assessment Tool (OHAT) which was reported to be a useful tool for delivering oral health care (Chalmers et al., 2005) could be used in assessing the oral health of stroke patients.

DIFFICULTY WITH SWALLOWING PILLS

Consultation should be provided for stroke patients with dysphagia requiring solid medication (pills, capsules) for safe swallowing (McFarlane et al., 2014; Trapl-Grundschober et al., 2024).

APPENDIX

Examples Of Swallowing Screening Test (as listed in the Malaysian Ischemic Stroke CPG, 3rd edition, 2020)

Kidd Water Test

Description: Clinical examination includes pharyngeal sensation assessed by orange stick, tongue and facial movement, speech, sensory and perceptual function and muscle strength also assessed. Ability to swallow also assessed by patient swallowing 50 ml of water in 5 ml allotments.
Source: Kidd D, Lawson J, Nesbitt R, MacMahon J. Aspiration in acute stroke: a clinical study with video fluroscopy. *Quarterly Journal of Medicine*. 1993; 86:825-829.

Nishiwaki et al.

Description: Scores 6 items including lip closure, tongue movement, palatal elevation, gag reflex, voice quality and motor speech function. Also includes a saliva swallowing test. After patient swallows 1 teaspoon of water twice, asked to drink the rest of the water from a cup for a total of 30 ml.
Source: Nishiwaki K, Tsuji T, Liu M, Hase K, Tanaka N, Fujiwara T. Identification of a simple screening tool for dysphagia in patients with stroke using factor analysis of multiple dysphagia variables. *J Rehabil Med*. 2005; 37(4):247-51.

CODA Standardized Swallowing Assessment (SSA)

Description: Pre-swallowing check list if passed is followed by teaspoon sips of water 3 times, followed by half glassful of water *(Grade A, strong evidence Westergren, 2006)*.
Source: Perry, L. Screening swallowing function of patients with acute stroke. Part one: identification, implementation and initial evaluation of a screening tool for use by nurses. *Journal of Clinical Nursing* 2001; 10: 463-473.

Toronto Bedside Swallowing Screening Test (TOR-BSST)

Description: The test is divided into three sections. First section is oral exam (3 items), followed by section on water swallowing. The third section is examination of voice after swallow. The TOR-BSST has been validated in stroke survivors and is a simple accurate tool to identify stroke patients with dysphagia regardless of severity and setting.
Source: Martino R, Silver F, Teasell R, Bayley M,Nicholson G, et al. The Toronto Bedside swallowing Screening Test (TOR-BSST). *Stroke*. 2009; 40: 555-561.

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