

ALL-WALES SPECIAL INTEREST GROUP - SPECIAL ORAL HEALTH CARE

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Dysphagia and Oral Health

A Clinical Guideline from the All-Wales Special Interest Group in Special Care Dentistry

Version 2

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1. Introduction

The All-Wales Special Interest Group (SIG) in Special Care Dentistry first published “*Dysphagia Guidelines and Resources*” in 2014. In light of new publications and research, a consultation with All-Wales SIG for Special Care Dentistry identified a need to update these guidelines and disseminate to all relevant stakeholders.

1.1 What is Dysphagia?

Swallowing is a complex coordinated process with a pre-oral, oral, pharyngeal, and oesophageal stage¹. Dysphagia is a difficulty in swallowing, where there is impaired or uncomfortable transit of food or liquids from the oral cavity into the oesophagus¹. Dysphagia can occur at any point of the swallow process and there is often overlap across multiple stages. It may include problems with positioning food in the mouth, oral movements including sucking and mastication, difficulty initiating swallow, or difficulty in passing of food and liquids through oesophagus^{1,2}. Dysphagia is often secondary to a primary psychological, emotional, neurological, or physical condition¹.

1.2 How Common is Dysphagia in the UK?

The prevalence of dysphagia can vary, due to co-morbidities, the type of population group and the diagnostic tools used. Despite under reporting, some UK data is available:

- In 2023-24, over 53,000 patients were admitted to hospitals in England with a primary diagnosis of dysphagia³. The mean age was 61, with over 50% of patients over the age of 60 years old.
- In Wales in 2018, the prevalence of dysphagia was 5.8% of older adults living in the community and was increasing yearly⁴. However, it could be as high as 72%⁴.

1.3 What are the Causes of Dysphagia?

There are many causes of dysphagia, including medications⁵ (Appendix 1). Onset of dysphagia can be sudden, due to an event such as stroke. Dysphagia is common after acute stroke with an incidence between 42 and 75%⁶. Onset may be slow, such as in progressive illnesses like Huntington’s disease which see a gradual worsening of masticatory muscle function⁷. As many as 80% of patients with Parkinson’s disease have dysphagia^{8,9}. Dysphagia may develop secondary to malignancy or its treatment^{10,11} or may be a symptom of a psychological condition.

People with a learning disability have a higher prevalence of dysphagia and it has been identified as a significant health risk^{12,13}. There is no reliable data but historically estimates have ranged from 36-70%¹⁴.

Dysphagia is more common in older adults and has been associated with cognitive impairment, frailty, sarcopenia, deprivation and palliative care^{4,15-22}. The prevalence of dysphagia in people with dementia is 32-85%; this may vary dependent on type, stage and age²³. Evidence suggests there may be a bidirectional relationship between dysphagia and dementia²⁴.

In children, dysphagia is predominantly caused by a developmental disability such as cerebral palsy, cleft palate, prematurity or infantile reflux²⁵.

1.4 What are the Signs and Symptoms of Dysphagia?

Signs and symptoms of dysphagia will vary from person to person (Appendix 2); symptoms are dependent on the type and extent of the swallowing disorder, age and other health factors. It is important the dental team recognises oro-facial symptoms of dysphagia and can manage and signpost these patients appropriately.

1.5 How is Dysphagia Diagnosed and Managed?

Speech and Language Therapists (SLT) have a key role in the diagnostic assessment of oropharyngeal dysphagia¹. Oropharyngeal dysphagia can be diagnosed through clinical assessment and examination, video-fluoroscopy (modified barium swallow), fibre-optic endoscopic evaluation (FEES) or manometry^{1,2,9,26-28}. Upper gastrointestinal specialists are responsible for the diagnosis of oesophageal dysphagia, which can be done through esophagogram (barium swallow) or oesophago-gastro-duodenoscopy.

Multidisciplinary team working is crucial to good patient management. The following diagram illustrates health professionals who may be involved in the multidisciplinary dysphagia management team (Figure 1).

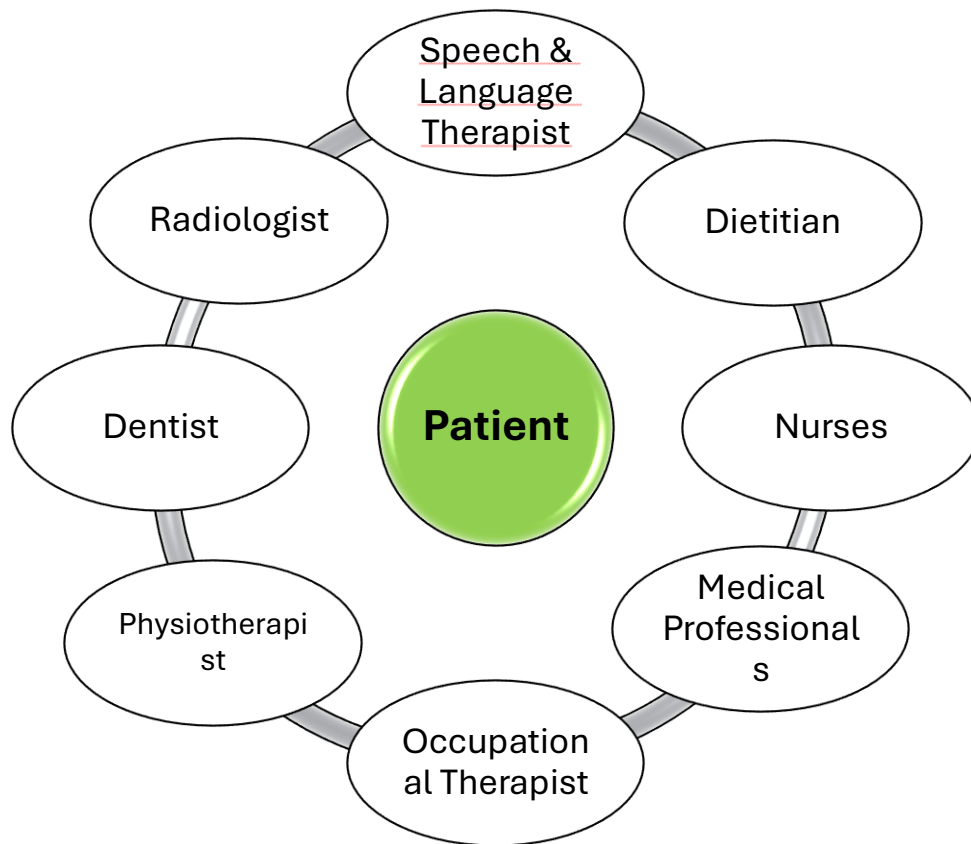


Figure 1 Multidisciplinary dysphagia management team

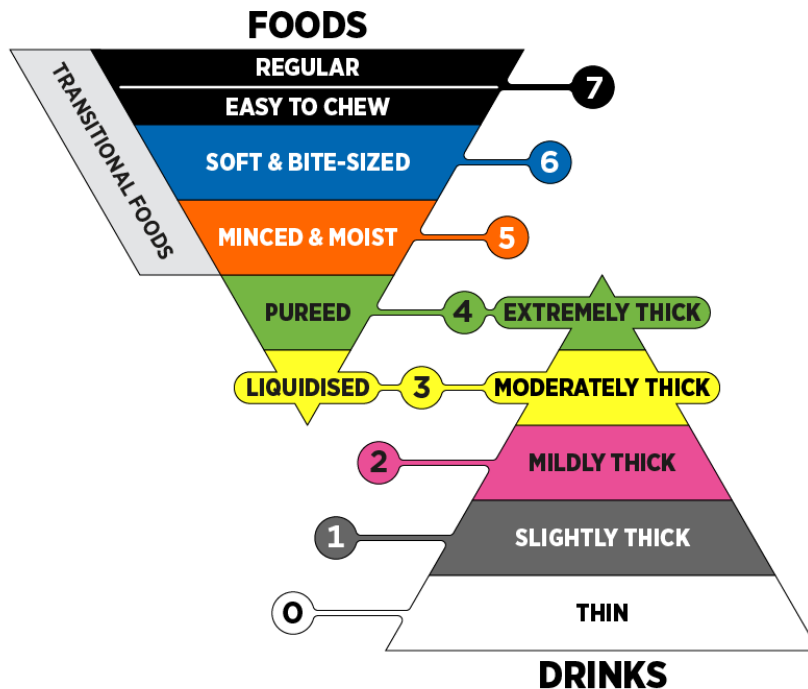
Management of dysphagia will be dependent on the cause. Rehabilitation techniques may be utilised to strengthen oropharyngeal muscles and relearn swallowing technique. This can involve various exercises, electrical stimulation of muscles to induce contraction, and visual and auditory displays to provide biofeedback to the patient^{1,27-30}. Pharmacological intervention has shown some benefit in clinical trials but is yet to be utilised routinely²⁷. There is limited evidence that acupuncture may be beneficial for treating post-stroke dysphagia³¹, however this is not routinely available on the NHS and more high-quality evidence is needed. Surgical intervention may be necessary to remove the cause, such as with a neoplasm².

Where rehabilitation of swallow is not possible, compensatory strategies can be implemented. This may include compensatory positions or manoeuvres, or diet and fluid modification such as fluid thickeners, oral nutritional supplementation (ONS), tube feeding or percutaneous endoscopic gastrostomies (PEG), or compensatory positions and manoeuvres^{1,25,27,32,33}.

The International Dysphagia Diet Standardisation Initiative (IDDSI) is a global standardised framework which provides terminology and definitions for texture modified foods and thickened liquids aimed at improving patient safety by standardising descriptors (Figure 2)³⁴. It consists of a continuum of eight levels (0-7) covering both food and fluid textures. The IDDSI was adopted by the British Dietetic Association³⁵ and the Royal College of Speech and Language Therapists³⁶ in the UK in 2018.

The IDDSI Framework

Providing a common terminology for describing food textures and drink thicknesses to improve safety for individuals with swallowing difficulties.



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 Derivative works extending beyond language translation are NOT PERMITTED.

Figure 2 International Dysphagia Diet Standardisation Initiative (IDDSI) Descriptors

The dental team has an important role in the diagnosis of dysphagia, including identifying symptoms and maintaining oral hygiene^{28,37,38}.

Complications of dysphagia include malnutrition, reduced quality of life, sarcopenia, as well as increased hospital admissions, institutionalization, morbidity and mortality^{20,27,39-50}.

Patients with dysphagia are at risk of aspiration, defined as inhalation of oropharyngeal or gastric contents into the larynx and lower respiratory tract. This may then progress to aspiration pneumonia, which is associated with a high rate of hospitalisation, longer hospital stays, and mortality^{7,51,52}. Aspiration pneumonia can present as ventilator-associated pneumonia, hospital-acquired pneumonia, or community acquired pneumonia (CAP)^{51,52}. In patients hospitalised with CAP, 5-15% will die within 30 days of admission, rising to 30% for those admitted to the intensive care unit⁵³.

Individuals with dysphagia are at increased risk of aspiration pneumonia when they have any of the following:

- Poor oral hygiene^{20,28,38,39,41,54-60}
- Denture wearing during sleep⁶¹

- Gastric or nasal tube use^{62,53}
- Mechanical ventilation or intubation⁶⁴
- Malnutrition⁶⁵
- Co-morbidities including frailty, decreased immunological status, learning disability^{12,14,55}

Improved oral hygiene may reduce the risk of aspiration pneumonia and reduce length of hospital stay and mortality in both community and hospital settings^{21,28,58,59,63,66}. However, evidence is mixed and of poor quality, with no consensus on the best oral hygiene routine^{51,52,67-70}. Swallow function may be more important when considering aspiration pneumonia risk⁷¹.

2. Aim of Guidance

This guidance aims to highlight the effects of dysphagia on oral health and present evidence-informed recommendations on the oral care of patients living with dysphagia. This can be used to support the dental team in their treatment planning and advice, as well as patients living with dysphagia and their wider healthcare and support networks. The published evidence has been used to underpin a consensus of expert opinion to inform practical recommendations for the target patient group.

2.1 Target Patient Group

This guidance applies to the oral care of adult and child patients with dysphagia. Dysphagia can affect anyone, but in particular people with neurological disease, head and neck trauma or malignancy, a psychological condition, learning disability, developmental disability, regular medication, and in older adults.

2.2 Disclaimer

This guideline should be used alongside clinical judgement and in consultation with the patient, their carer or guardian, and relevant healthcare providers. It is the responsibility of the dental team or healthcare professional to make decisions based on individual patient factors and with reference to up-to-date scientific knowledge and relevant legislation.

3. Guideline Development Methodology

3.1 Establishing the Working Group

The need to update guidance was highlighted at an All-Wales Special Interest Group (SIG) for Special Care Dentistry committee meeting in March 2024. The group chair approached relevant professionals from within the All-Wales SIG committee and beyond. This started the process of the working guideline development group (Table 1).

Name	Role
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Rosalyn Davies	Improvement Lead. Quality, Safety and Improvement NHS Wales Performance and Improvement

Table 1 Members of working guideline development group

Initial meetings with the group confirmed the scope of the guidelines and key areas which should be included. This informed the research question that supported the literature search. Alongside the working group, further stakeholders were contacted to gain support to review the initial drafts of the guidelines. The overall process is shown in Figure 3.

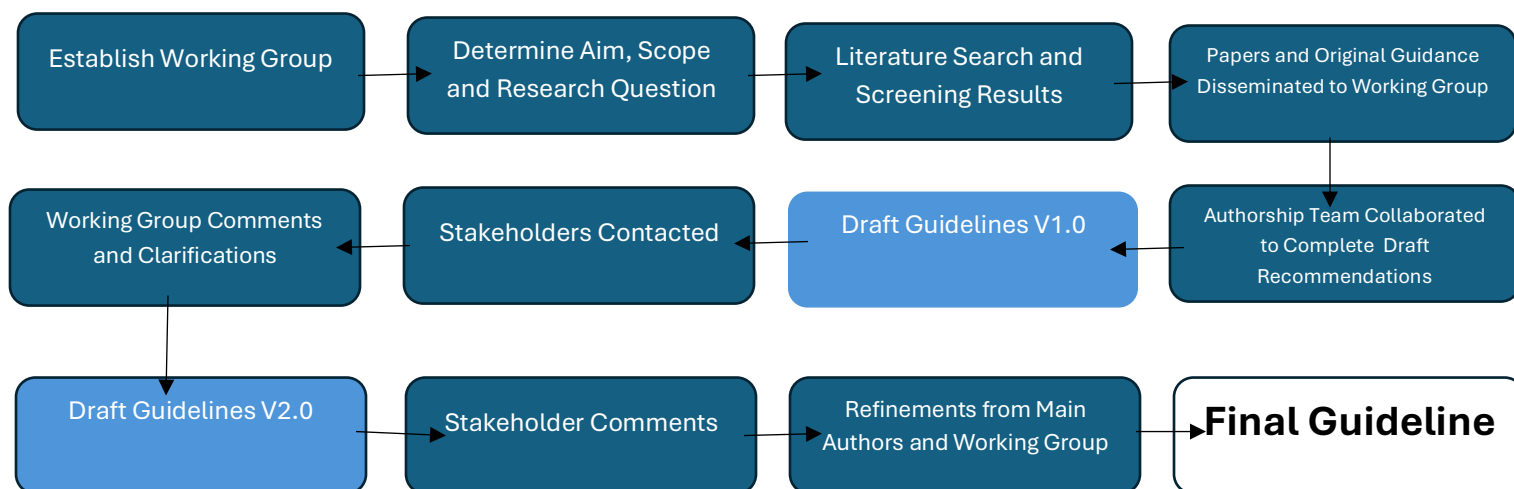


Figure 3 Process of guideline development

3.2 Literature Review to Inform Guideline Recommendations

A non-systemic literature review was used to identify relevant literature to inform the guideline. The specific question on which to base the literature review was agreed:

How does dysphagia effect oral health and how can these effects be mitigated?

A literature search was conducted using OVID Medline in May 2024, supported by the Aneurin Bevan Health Board library. The MeSH terms, search strategy and evaluation process are demonstrated in Figure 4. The literature search returned 151 results, which was reduced once titles were assessed against the inclusion and exclusion criteria. Abstracts and then full articles were then evaluated, resulting in 79 articles included from the literature search. References were searched for additional studies, and a hand literature search was also conducted through Google Scholar. Clinical guidelines and government publications were also included from relevant bodies in the UK and internationally. This resulted in an additional 51 papers, with a final paper count of 130 papers.

All papers included were screened and reviewed manually. One reviewer (CP) screened against the inclusion and exclusion criteria. Any uncertainties were discussed with another reviewer (SB/SP) and resolved by professional mutual agreement to ensure the papers would appropriately contribute to this guidelines update. A summary of these 130 papers identified from the formal search are included (Appendix A) and were disseminated to inform recommendations.

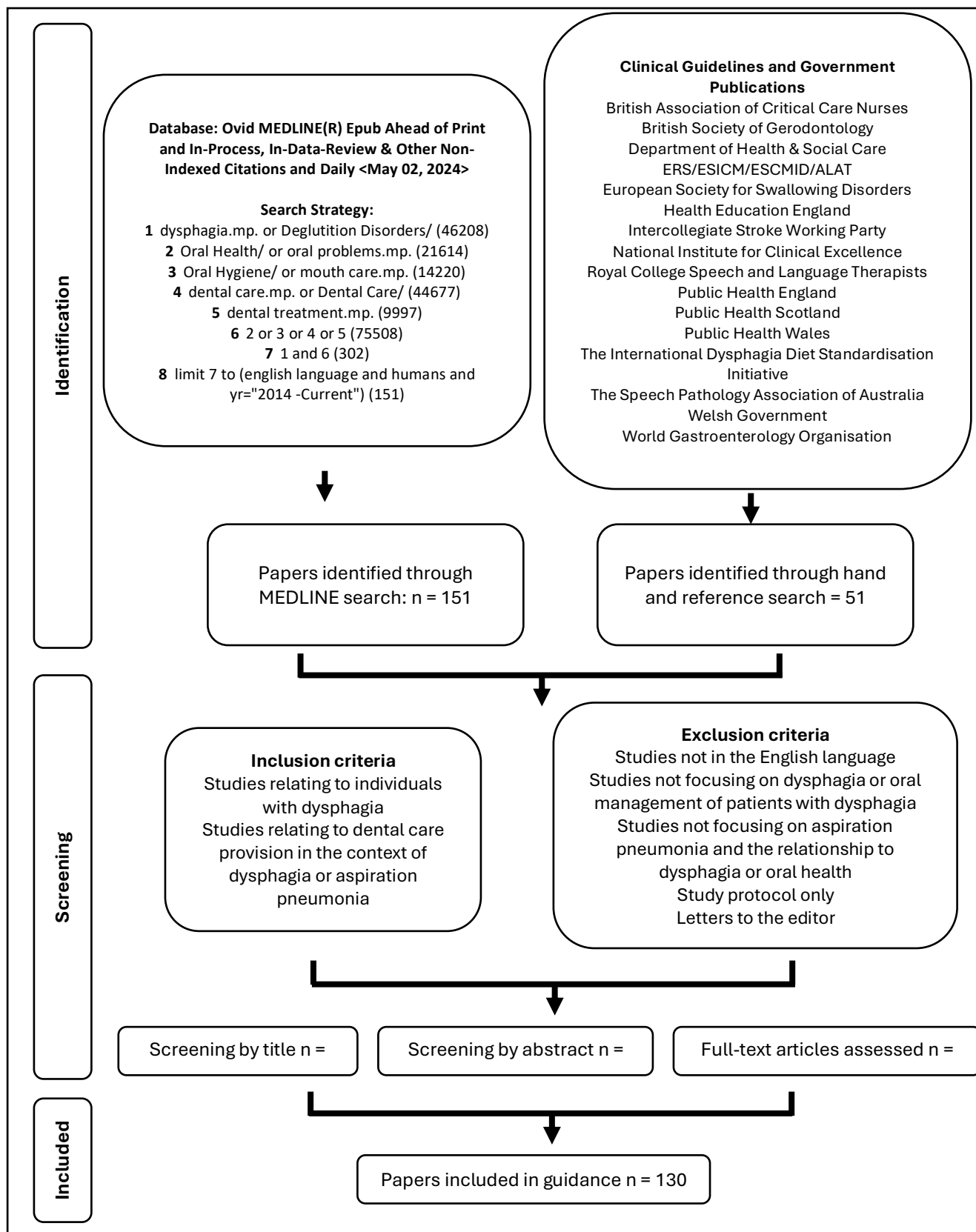


Figure 4 Selection process of papers included in guidance and presented to stakeholders

3.3 Formulation of Recommendations and Stakeholder Engagement

The results of the literature search were used to update the information supplied in the original version of this guideline. The authorship team collaborated to complete a first draft, which was then distributed to the working group for feedback and refinement. A wide range of individual stakeholders provided suggestions, feedback, and comment on a draft version of the guidance. This supported a subsequent draft and reviewed by the working group prior to final sign-off. Individual stakeholders who contributed to revisions of the guidelines are documented in Table 2.

Name	Role
Stakeholders	
Emma Hingston	Consultant Paediatric Dentistry and Honorary Senior Lecturer, Cardiff University
Lisa Partridge	Acute Clinical Lead, Speech & Language Therapy, C&VUHB
Tom Richards	Professional Manager – Acute Care, Speech & Language Therapy, CTMUHB
Sali Curtis	Head of Adult Speech & Language Therapy, CTMUHB
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Table 2 Individual stakeholders contributing to guideline development

4. Results – Clinical Recommendations

4.1 Overarching Principles

Prevention of oral diseases and maintaining good oral health are important for people with dysphagia. Carers and other healthcare professionals should help promote good oral hygiene.

Patients with dysphagia are high risk for dental diseases and should have appropriate, individual oral care plans in place.

Incorporating oral health intervention into a patient's dysphagia management can improve nutrition status, oral function, hospital admission, and mortality rates^{20,59,72-76}.

4.2 Oral and Dental Assessment

An Oral Health Assessment is recommended if a person is in hospital, a care home or dependent on carers for oral care⁶⁴. This will help identify risk factors and help to develop an individualised oral care plan. Example Mouthcare Assessments and Plans can be found in Appendices 3 and 4.

Dental patients should be asked about swallowing difficulties as part of the medical history. This should especially be done for patients over the age of 60 years old, with a neurological disease, or damage to the head or neck³⁷. A simple assessment tool for people can be used by the dental team including referral pathways to the most appropriate healthcare team (Appendix 5)^{77,78}. Details of SLT team and level of food and drink as per the IDDSI framework should be recorded.

Consideration will need to be given to any comorbidities associated with dysphagia.

Dysphagia can have a detrimental effect on oral health. Common oral problems associated with dysphagia which should be noted on examination include:

- Poor oral clearance or pouching of food⁷⁹
- Greater accumulation of plaque and/or calculus^{17,38,54,63,73,74,80-84}
- Caries^{54,81}
- Edentulism^{21,42,46,49,54,80,85-88}
- Gingivitis and periodontitis^{54,81,83}
- Xerostomia^{42,46,49,85,89-91}
- Drooling^{8,38}
- Oral candidiasis⁴⁶

A three to six monthly dental recall may be required for people with dysphagia. This should be based on individual risk assessment, clinical judgement, level of dysphagia, and oral health⁹².

Dental teams should follow evidence-based practice for preventive oral health care, as recommended in the document 'Delivering Better Oral Health'⁹³.

4.3 Dental Treatment

Patients with dysphagia are at increased risk of aspirating during dental treatment. Dental teams require appropriate mouth care training when providing mouth and dental care for people with dysphagia. Dental teams experienced in this patient group can be found within the local Community and Hospital Dental Service in Wales.

The provision of dental treatment requires careful assessment and appropriate precautions to manage identified risk. A dysphagia risk assessment tool has been developed to assist in developing individual dental treatment plans (Appendix 6).

Patients should be kept sat upright and allowed frequent breaks^{94,95}.

Regular calculus removal is advised to maintain oral health and reduce the risk of aspiration pneumonia, but the airway must be protected or the risk of aspiration pneumonia development increases⁶³.

Water from scalers and handpieces should be reduced^{94,96}.

The airway can be protected with high volume suction, rubber dam, and gauze to protect the airway as needed⁹⁴⁻⁹⁶.

Care should be taken when handling small items in the mouth, such as during an extraction or crown placement⁹⁶. Any excess filling material must be removed⁹⁴.

Consider infiltration, intrapapillary, or intraligamentary local anaesthetic over regional anaesthesia⁹⁵.

Impressions should be taken with a fast-setting material, and trays should not be overloaded⁹⁴. Digital scanners may reduce risk of aspiration, however cost of equipment and accuracy, particularly for complete dentures, may not make this a suitable option in all settings.

Some people with dysphagia are more anxious about oral care and dental treatment because they believe it could cause them to choke. They may also lack confidence in their ability to swallow. Support from a dental team skilled in dysphagia oral care management will help to improve confidence.

4.4 Conscious Sedation

Nitrous oxide can reduce the swallow reflex at higher doses (50%)⁹⁷.

Midazolam can suppress the swallow reflex at low doses for several hours after and so the airway must be carefully managed during sedation⁹⁸, although there is no dose relationship evidenced. Appropriate post-operative advice will need to be given to the patient and escort to manage this.

Transmucosal sedation carries an increased risk of over-sedating due to the initial bolus administration and unpredictable response. Patients should be given the lowest dose anticipated to facilitate cannulation, and sedation should then be titrated at a 'low and slow' pace.

Remimazolam should be considered as a sedative agent due to its rapid recovery and the ability to titrate throughout procedures against a target sedation level.

Propofol does not have an effect on the swallow reflex⁹⁸.

The benefits of completing dental treatment under conscious sedation must be weighed up against risks of aspiration and oversedation. The lowest dose practicable should be utilised alongside strategies to

reduce aspiration during dental treatment highlighted above. Involvement of the patient's wider healthcare team may be beneficial. If sedation is indicated for completion of dental treatment for people with dysphagia, this is more appropriately completed by suitably trained clinicians as many will have co-morbidities⁹⁴.

4.5 Preventative Strategies

Information booklets for patients with dysphagia, their family, carers and nurses in providing mouth care for patients with swallowing difficulties and dysphagia are free to download on the SIG website. Appendices 7 and 8 include algorithms to follow for the mouthcare of children and adults with dysphagia.

Mouth Care

Mouth care should be carried out after each meal^{59,88,99,100}.

Children, and some adults with dysphagia, should be supervised during oral hygiene procedures, due to the increased risk of aspiration.

If individuals are unable to manage their own oral care or safely manage their own secretions, oral care should be provided for them⁵¹.

Always explain to the patient what you are planning to do. If the patient lacks capacity to make decisions regarding their oral health, the practitioner may act in their best interest by providing oral care^{51,101}.

Ensure safe body and head positioning before carrying out any mouth care procedures. If a person is supine, the head and body should be raised to a position of 30-45 degrees (Figure 5) or the head tilted carefully to one side ensuring the neck is well supported^{59,64,102,103}.

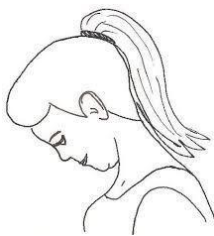


Figure 5 Head tilted 30-40 degrees for mouth care

Allow the patient frequent breaks during the provision of oral care. This should follow a systematic method with completion of one quadrant or less at a time.

Regular oral suctioning should be maintained throughout mouth care^{64,99}. If suction equipment is not available, a clean towel, cloth or non-fraying gauze can be used instead to wipe residue⁵¹. Suctioning equipment must be single use, as it becomes colonised with potential pathogens within 24 hours¹⁰⁴.

Soft Tissue Care

Remove excess saliva and food debris from the oral cavity with suction, a soft toothbrush, or clean cloth^{99,102,106,107}.

Dried secretions can be removed from the oral cavity by applying a moisturising gel to soften¹⁰⁷.

Mouth care for children and adults without teeth includes using a small, soft toothbrush, moistened with water to gently brush the soft tissues to avoid build-up of dried secretions in the mouth^{64,103}.

Toothbrushing

Teeth should be brushed three times a day or every 2-4 hours^{51,93,107}.

Brushing before sleep in the evening may be the most important time for brushing to prevent aspiration pneumonia⁶².

Dentate children under 6 years old

Brush teeth with a soft, dry toothbrush and toothpaste for 2 minutes^{64,93}. 1350-1500ppm fluoride toothpaste can be used as long as excess is removed and not swallowed⁹³.

If under 3 years old, a smear of toothpaste should be used. From 3 years, a pea-sized amount of toothpaste should be used⁹³.

Dentate adults and children over 6 years old

Interdental brushing or flossing should be carried out before brushing^{55,72,88,103,105,108}.

Brush teeth with a soft, dry toothbrush and pea-sized amount of fluoride toothpaste for 2 minutes^{51,55,64,93,100,107,109}.

Gentle tongue brushing can be carried out if needed^{59,99,106,108,110}.

Mouthcare Products and Materials

Toothbrush

Power operated toothbrushes have been found to be effective for plaque removal and have shown a significant reduction in plaque compared to manual toothbrushing¹¹¹, particularly when used in patients who are dependent for oral hygiene^{99,112}.

Three-sided toothbrushes may also help carers for adults and children with limited tolerance and cooperation for dental care¹¹³.

Suction (aspirating) toothbrushes can be used. These provide similar results to a manual toothbrush for improving oral hygiene and reducing aspiration pneumonia and are efficient and easy to use^{51,102,114,115}.

The Modified Bass technique should be used^{59,72}: place the toothbrush along the gingival margin at a 45-degree angle into the gingivae and make small back and forth brushing motions. This should be completed on each side of the tooth, and the occlusal surfaces brushed.

Toothpaste

A non-foaming (sodium lauryl sulphate-free [SLS]), fluoride toothpaste should be used in patients with an unsafe swallow^{99,101}.

To reduce calculus build-up, anti-calculus toothpastes can be used⁶³.

All patients at higher risk of dental caries, such as patients with an unsafe swallow, should use non-foaming toothpaste with at least 1450ppm sodium fluoride from birth⁹³.

A higher strength fluoride toothpaste can be prescribed by dentists for those aged over 10 years⁹³.

Push the toothpaste into the toothbrush bristles¹⁰³.

It is important to ensure excess toothpaste is spat out or removed by suction or a clean towel or cloth^{64,99}.

Mouth Care Adjuncts

Daily use of chlorhexidine gel may reduce plaque, periodontal pocketing, and risk of developing aspiration pneumonia^{52,72,96}. This should be at a different time to brushing by at least 30 minutes. 1% chlorhexidine gel is available on prescription in the UK.

Chlorhexidine can be used in children under 12 with advice from a healthcare professional.

Use of gels should not replace mechanical brushing^{51,68,70}.

People with dysphagia should be individually risk assessed prior to mouthwash use.

Oral foam swabs must not be used and are banned in Wales due to their significant aspiration risk¹¹⁶.

At the end of mouth care, moisturiser should be applied to the lips^{64,99,102,106,108,110}.

Water-based intraoral moisturisers or artificial saliva may also be used^{51,107}. These may reduce xerostomia, and therefore mucositis and ventilator-associated pneumonia¹¹⁷.

Cooperation

If a person has oral hypersensitivity or abnormal bite reflexes that impede mouth care, speech and language therapists can advise on oral desensitisation techniques. An example desensitisation programme can be found in Appendix 9.

Careful use of mouth props or finger protection may help to carry out mouth care safely in some circumstances^{59,103}.

Denture Hygiene

The Oral Health Foundation guidance for denture hygiene is as follows¹¹⁸.

- Dentures should be removed and cleaned daily with a toothbrush or denture brush and a denture cleaner or soap^{55,99}. Toothpaste should not be used as it can be abrasive.
- Dentures should be soaked daily in a denture-cleansing solution. Sodium hypochlorite and chlorhexidine gluconate can damage or discolour dentures and should not be used.
- Dentures should be stored in clean water overnight. Evidence has shown denture wearing during sleep can increase the incidence of pneumonia^{55,61}.

If denture fixatives are used, the risk of aspiration is increased; advice from the dental team must be sought prior to use.

Professional Hygiene

Dental hygienists, dental therapists and dental nurses with extended skills have a positive role in improving oral health and reducing morbidity and mortality associated with AP^{119,120}. They should be utilised within the multi-disciplinary health care team in hospital and residential facilities.

Dietary Modification

People prescribed ONS containing carbohydrates have a significantly increased risk for dental caries. Teeth should be brushed three times a day with fluoride toothpaste. Further information can be found in SIG Wales ONS Guidance.

Inpatient Care

Inpatients diagnosed with dysphagia, including ventilated or intubated patients, should have an Oral Health Assessment and be provided with an individualised mouth care plan⁵¹. In Wales, the All-Wales Mouth Care Assessment is accessible in all secondary care settings through the Welsh Nursing Clinical Record (WNCR). This has a corresponding mouth care plan (Appendix 3 and 4). If a patient has been assessed by SLT and found to be at increased clinical risk of aspiration pneumonia due to poor oral care, this will be documented in the patient's medical notes and regular oral care will form part of the SLT led recommendations.

The mouth care algorithms for intubated patients can be found in Appendix 10 to assist in developing mouth care plans. Mouth care should be carried out every 2-4 hours and teeth brushed three times a day as for adults⁵¹.

There is mixed evidence regarding the use of chlorhexidine reducing pneumonia and mortality when used in mechanically ventilated patients^{52,68,70,107,121,122}. The British Association of Critical Care Nurses advise against the routine use of chlorhexidine in ventilated patients, and use should be on a case-by-case basis as part of a multi-disciplinary team decision⁵¹. Povidone iodine, triclosan, saline and hydrogen peroxide have been found to reduce the risk of ventilator-associated pneumonia as an alternative to chlorhexidine, but evidence is mixed and weak⁶⁸. Novel herbal oral care solutions such as miswak, persica, matrica,

echinacea, green tea, boswellia, or zufa may reduce oropharyngeal colonisation to a similar level as chlorhexidine¹²³.

Summary Table

	Mouth care plan
Individuals with no teeth	<ul style="list-style-type: none"> • Clean the mouth with a moist, soft toothbrush, ever 2-4 hours • Apply water-based lip moisturizer
Children with teeth	<ul style="list-style-type: none"> • Do the same as for individuals with no teeth <p>In addition:</p> <ul style="list-style-type: none"> • Brush teeth three times a day, with small dry toothbrush toothpaste • Use a toothpaste with 1350-1500ppm fluoride and if possible that prevents calculus build up • Use a smear of toothpaste if under <3, or a pea-sized amount >3 • Watch when tooth brushing, to ensure they do not choke or aspirate • Remove extra fluids with a suction or a clean towel or cloth throughout mouth care
Children >6 years and adults with teeth	<ul style="list-style-type: none"> • Do the same as for children <6 years <p>In addition:</p> <ul style="list-style-type: none"> • Use a pea-sized amount of toothpaste • Perform interproximal cleaning once daily • Chlorhexidine gel can be applied to gums and tongue at a different time to brushing, as directed by a dentist
Dentures	<ul style="list-style-type: none"> • Brush dentures daily with soap or denture cleaner • Soak dentures daily in a denture-cleansing solution • Leave dentures out at night • Store in clean water in named denture pot
Inpatient care	<ul style="list-style-type: none"> • Do the same as for individuals with no teeth <p>In addition:</p> <ul style="list-style-type: none"> • Brush teeth three times a day, with small dry toothbrush and smear of toothpaste • Use a toothpaste with 1450ppm fluoride and if possible that prevents calculus build up • Remove extra fluids with a suction or a clean towel or cloth throughout mouth care • Chlorhexidine should not be routinely used in mechanically ventilated patients

4.6 Oral Health Care Training Recommendations

It is essential that oral healthcare training be included in the induction process for nursing, health and social care support staff in private home care agencies, residential homes and hospitals^{99,124-126}. Evidence suggests non-dental medical staff have insufficient training in the link between poor oral health, dysphagia and aspiration pneumonia¹²⁷⁻¹²⁹. Several barriers to hospital staff providing oral care have been evidenced, including a lack of confidence, the challenges of patient-related factors, lack of resources and time, and the perceived importance compared to other aspects of care^{20,127-132}. Oral care may purposefully be avoided in patients with dysphagia to avoid aspiration¹³². Further mouth care training is recommended, while standardised and evidence-based oral health care protocols should be implemented.

In 2018, the Welsh Government launched Gwên am byth, a mouth care programme to improve the oral health of older people in care homes and hospital inpatients^{125,133}, including those with dysphagia. This includes a validated Oral Care Assessment with a corresponding mouth care plan (Appendix 3 and 4). This is available through WNCR. Each health board in Wales has local oral health promotion teams for additional training. All ward-based staff can complete online Mouthcare training on ESR, titled **000 NHS Wales – Improving Mouthcare for Adult Patients in Hospital**. Additionally, oral health care training is now included as a core topic in the nursing undergraduate curriculum in Wales.

Patients with dysphagia should be managed within a multidisciplinary team to ensure safe and effective care. Local dental services should have specialist teams in paediatric and special care dentistry who can provide oral care for children and adults who have dysphagia, and train other members of the dental team.

Dental teams should have formal training in

- The effects of dysphagia and its impact on oral health
- Identification of patients requiring more specialised dental care services
- Oral health promotion and preventive regimes for this client group
- Dental care management and prevention of aspiration
- All-Wales Mouthcare for Adults in Hospital programme.

4.7 Oral Health Care Pathway Recommendations

At present, pathways for dysphagia management in Wales vary between health boards. Community and outpatient referrals to Speech and Language Therapy (SLT) services are mostly initiated via the patient's GP. Inpatient referrals vary between specific aetiologies and are generally managed via inpatient SLT teams, who can also arrange community follow-up should this be required on discharge. A SLT discharge report or letter forms part of the patient record which will detail the specific recommendation for that individual patient. This may include IDDSI levels, any compensatory approaches, additional advice on enteral feeding etc. If a patient has a care record or Hospital Profile this information from SLT should also be included and added to the patient's updated records accordingly. This information can then be supplied to the dental team to assist with the dental and oral care of patients.

Whilst there are no direct formalised pathways linking SLT and dentistry, there are strong local links between community dental services and speech and language therapists across Wales. However, a robust pathway would enable the dental team to receive timely referrals, conduct oral care assessments, and implement personalised oral care plans at an early stage in the patient's dysphagia journey. To address this, a local oral health care pathway should be developed collaboratively between dental services and SLT, this should be developed and implemented by managed clinical networks (MCN's) across Wales.

5. Conclusion

The development of these guidelines has identified the paucity of evidence for oral health and dysphagia. However, the recommendations in this report have drawn upon available publications, the professional knowledge and experience of a group of clinicians who are specialists in Special Care and Paediatric Dentistry, and members of the All-Wales Special Interest Group in Special Oral Health Care (SIG).

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7. References

1. Royal College Speech and Language Therapists. Dysphagia – guidance. [online]. Royal College Speech and Language Therapists; 2015. [Accessed 23 September 2025]. Available from: <https://www.rcslt.org/members/clinical-guidance/eating-drinking-and-swallowing/eating-drinking-and-swallowing-guidance/>
2. World Gastroenterology Organisation. Dysphagia Global Guidelines & Cascades. World Gastroenterology Organisation. 2014.
3. NHS England. Hospital Admitted Patient Care Activity, 2023-24. [online]. NHS England; 2024 Sep [Accessed 31 December 2024]. Available from: <https://digital.nhs.uk/data-and-information/publications/statistical/hospital-admitted-patient-care-activity/2023-24>
4. Hollinghurst J, Smith DG. Identifying Dysphagia and Demographic Associations in Older Adults Using Electronic Health Records: A National Longitudinal Observational Study in Wales (United Kingdom) 2008–2018. *Dysphagia*. 2022; 37(6):1612-1622.
5. State of Connecticut Department of Development Services. Medications and Dysphagia Swallowing Risks. State of Connecticut Department of Development Services: Connecticut; 2007 Mar [Accessed 31 12 2024]. Available from: https://portal.ct.gov/dds/searchable-archive/divisions/health-medical-advisories-and-health-standards/health-standard-071-dysphagia?language=en_US
6. Labeit B, Michou E, Hamdy S, Trapl-Grundschober M, Suntrup-Krueger S, Muhle P, Bath PM, Dziewas R. The assessment of dysphagia after stroke: state of the art and future directions. *Lancet Neuro*. 2023;22(9):858-870.
7. Munhoz L, Jabbar AQ, Silva Filho WJE, Nagai AY, Arita ES. The oral manifestations of Huntington's disease: A systematic review of prevalence. *Oral Dis*. 2021;29(1):62-74.
8. García-De-La-Fuente AM, Lafuente-Ibáñez-de-Mendoza I, Lartitegui-Sebastián MJ, Marichalar-Mendia X, Echebarria-Goikouria MÁ, Aguirre-Urizar JM. Facts and controversies regarding oral health in Parkinson's disease: A case-control study in Spanish patients. *Medicina Oral, Patología Oral, Cirugía Bucal*. 2022;27(5):e419-e425.
9. Safarpour D, Sharzei K, Pfeiffer RF. Gastrointestinal Dysfunction in Parkinson's Disease. *Drugs*. 2022;82(2):169-197.
10. Basha M. Maxillofacial and Oral Aspects of Dysphagia. *Voice and Swallowing Disorders* [online]. 2020. [Accessed 31 December 2024]. Available from: <http://dx.doi.org/10.5772/intechopen.89751>
11. Mercadante S, Aielli F, Adile C, Ferrera P, Valle A, Fusco F, Caruselli A, Cartoni C, Massimo P, Masedu F, Valenti M, Porzio G. Prevalence of oral mucositis, dry mouth, and dysphagia in advanced cancer patients. *Support Care Cancer*. 2015;23(11):3249-55.
12. Majstorovic M, Nandi SS, Canares G, Chinn C, Szivovics L, Best E, Moursi AM. Oral Health in the Down Syndrome Population: Parental Perceptions on Dental Care in the United States. *Pediatr Dent*. 2023;45(4):316-319.

13. Lee J, Chang J. Oral health issues of young adults with severe intellectual and developmental disabilities and caregiver burdens: a qualitative study. *BMC Oral Health*. 2021;21(1):538.
14. Public Health England. Making reasonable adjustments to dysphagia services for people with learning disabilities. Public Health England; 2016 May [Accessed 31 December 2024]. Available at: <https://www.gov.uk/government/publications/dysphagia-and-people-with-learning-disabilities/dysphagia-in-people-with-learning-difficulties-reasonable-adjustments-guidance#consent-and-capacity>
15. Sandvik RKNM, Husebo BS, Selbaek G, Strand G, Patrascu M, Mustafa M, Bergh S. Oral symptoms in dying nursing home patients. *BMC Oral Health*. 2024;24(1):129.
16. Yu J, Zhu H, Zhang Y, Wang D, Guo H, Liu X, Lai J, Zhang H, Xu H, Bai B. The relationship between dysphagia and frailty among Chinese hospitalized older patients: a serial mediation model through self-perceived oral health and self-reported nutritional status. *BMC Geriatr*. 2024;24(1):110.
17. Ferreira RP, Alves LM, Mangilli LD. Association between risk of dysphagia and signs suggestive of sarcopenia, nutritional status and frequency of oral hygiene in hospitalized elderly. *CoDAS*. 2023;36(1):e20220232.
18. Chen L, Gu L, Li X, Chen W, Zhang L. Oral health matters in cognitive impaired aged residents in geriatric care facilities: A cross-sectional survey. *Nurs Open*. 2020;8(2):792-798.
19. Shimazaki Y, Nonoyama T, Tsushita K, Arai H, Matsushita K, Uchibori N. Oral hypofunction and its association with frailty in community-dwelling older people. *Geriatr Gerontol Int*. 2020;20(10):917-926.
20. Oda K, Montayre J, Parsons J, Boyd M. Oral Care in Hospital Settings: Breaking the Vicious Circle of Older Adult Deconditioning. *J Gerontol Nurs*. 2021;47(6): 7-12.
21. Sagawa K, Kikutani T, Tamura F, Yoshida M. Factors related to skeletal muscle mass in the frail elderly. *Odontology*. 2017;105(1):91-95.
22. Venkatasalu MR, Murang ZR, Ramasamy DTR, Dhaliwal JS. Oral health problems among palliative and terminally ill patients: an integrated systematic review. *BMC Oral Health*. 2020;20(1):79.
23. Espinosa-Val MC, Martín-Martínez A, Graupera M, Arias O, Elvira A, Cabré M, Palomera E, Bolívar-Prados M, Clavé P, Ortega O. Prevalence, Risk Factors, and Complications of Oropharyngeal Dysphagia in Older Patients with Dementia. *Nutrients*. 2020;12(3):863.
24. Iwai K, Azuma T, Yonenaga T, Sasai Y, Nomura T, Sugiura I, Inagawa Y, Matsumoto Y, Nakashima S, Abe Y, Tomofuji T. Longitudinal association of oral functions and dementia in Japanese older adults. *Sci Rep*. 2024;14(1):5858.
25. Speech Pathology Australia. Clinical Guideline: Dysphagia. The Speech Pathology Association of Australia. 2012.
26. Tajitsu M, Ishihata K, Tezuka M, Yoshimura T, Ichiki M, Ohta H, Nohara K, Nakamura N. Effectiveness of fiberoptic endoscopic evaluation of swallowing and dietary intervention during home-visit dental care in older individuals. *Gerodontology*. 2022;39(3):273-281.

27. Ortega O, Martín A, Clavé P. Diagnosis and Management of Oropharyngeal Dysphagia Among Older Persons. *JAMDA*. 2017;18:576-582.
28. Inoue, M. Dysphagia Rehabilitation in Japan. *J Nutr Sci Vitaminol (Tokyo)*. 2015;61:S72-S73.
29. National Institute for Health and Care Excellence. Transcutaneous neuromuscular electrical stimulation for oropharyngeal dysphagia in adults. [online]. NICE; 2018. [Accessed 04 January 2024]. Available from: <https://www.nice.org.uk/guidance/ipg634>
30. Sandoval-Munoz CP, Haidar ZS. Neuro-Muscular Dentistry: the “diamond” concept of electro-stimulation potential for stomato-gnathic and oro-dental conditions. *Head Face Med*. 2021;17(1):2.
31. Mao L, Li L, Mao Z, Han Y, Zhang X, Yao J, Li M. Therapeutic effect of acupuncture combining standard swallowing training for post-stroke dysphagia: A prospective cohort study. *J Acupunct Res*. 2016;22: 525–531.
32. Holdoway A, Smith A. Dysphagia. *Managing Adult Malnutrition in the Community*; 2019 [Accessed 31 December 2024]. Available from: <https://www.malnutritionpathway.co.uk/dysphagia.pdf>
33. Julier R and Benfield JK. A qualitative exploration of how oral trials are used in dysphagia management in one inpatient hospital. *Int J Lang Commun Disord*. 2022;57(2):340-351.
34. The International Dysphagia Diet Standardisation Initiative. Framework. [online]. The International Dysphagia Diet Standardisation Initiative; 2019 [Accessed 11 December 2023]. Available from: <https://iddsi.org/framework/IDDSI-framework>
35. British Dietetic Association. The BDA announces adoption of the International Dysphagia Diet Standardisation Initiative (IDDSI) Framework. [online]. British Dietetic Association; 2017 [Accessed 04 January 2024]. Available from: <https://www.bda.uk.com/resource/the-bda-announces-adoption-of-the-international-dysphagia-diet-standardisation-initiative-iddsi-framework.html>
36. Royal College Speech and Language Therapists. The IDDSI Framework. Royal Colleg Speech and Language Therapists; [Accessed 04 January 2024]. Available from: <https://www.rcslt.org/members/clinical-guidance/dysphagia/the-iddsi-framework>
37. Logemann JA, Curro FA, Pauloski B, Gensler G. Ageing effects on oropharyngeal swallow and the role of dental care in oropharyngeal dysphagia. *Oral Dis*. 2013;19:733-737.
38. Rozas NS, Sadowsky JM, Jones DJ, Jeter CB. Incorporating oral health into interprofessional care teams for patients with Parkinson's disease. *Parkinsonism Relat Disord*. 2017;43:9-14.
39. Costa A, Martin A, Arreola V, Riera SA, Pizarro A, Carol C, Serras L, Clavé P. Assessment of Swallowing Disorders, Nutritional and Hydration Status, and Oral Hygiene in Students with Severe Neurological Disabilities Including Cerebral Palsy. *Nutrients*. 2021;13(7):2413.
40. Haresaku S, Nakashima F, Hara Y, Kuroki M, Aoki H, Kubota K, Naito T. Associations of Oral Health-Related Quality of Life with age, oral status, and oral function among psychiatric inpatients in Japan: a cross-sectional study. *BMC Oral Health*. 2020;20(1):361.

41. Häggglund P, Koistinen S, Olai L, Ståhlacke K, Wester P, Levring Jäghagen E. Older people with swallowing dysfunction and poor oral health are at greater risk of early death. *Community Dentistry and Oral Epidemiology*. 2019;47:292-501.
42. Brochier CW, Hugo FN, Rech RS, Baumgarten A, Hilgert JB. Influence of dental factors on oropharyngeal dysphagia among recipients of long-term care. *Gerodontology*. 2018;53:333-338.
43. Lindmark U, Jansson H, Lannering C, Johansson L. Oral health matters for the nutritional status of older persons—A population-based study. *J Clin Nurs*. 2018;27:1143-1152.
44. Okabe Y, Furuta M, Akifusa S, Takeuchi K, Adachi M, Kinoshita T, Kikutani T, Nakamura S, Yamashita Y. Swallowing Function and Nutritional Status in Japanese Elderly People Receiving Home-care Services: A 1-year Longitudinal Study. *J Nutr Health Aging*. 2016;20(7):697-704.
45. Matsuo K, Watanabe R, Kanamori D, Nakagawa K, Fujii W, Urasaki Y, Murai M, Mori N, Higashiguchi T. Associations between oral complications and days to death in palliative care patients. *Support Care Cancer*. 2016;24(1):157-161.
46. Poisson P, Laffond T, Campos S, Dupuis V, Bourdel-Marchasson I. Relationships between oral health, dysphagia and undernutrition in hospitalised elderly patients. *Gerodontology*. 2016;33(2):161-8.
47. Suzuki R, Kikutani T, Yoshida M, Yamashita Y, Hirayama Y. Prognosis-related factors concerning oral and general conditions for homebound older adults in Japan. *Geriatr Gerontol Int*. 2015;15(8):1001-6.
48. Takeuchi K, Aida J, Ito K, Furuta M, Yamashita Y, Osaka K. Nutritional status and dysphagia risk among community-dwelling frail older adults. *J Nutr Health Aging*. 2014;18(4):352-7.
49. Drancourt N, El Osta N, Decerle N, Hennequin M. Relationship between Oral Health Status and Oropharyngeal Dysphagia in Older People: A Systematic Review. *Int J Environ Res Public Health*. 2022;19(20):13618.
50. National Institute for Health and Care Excellence. Nutrition support for adults: oral nutrition support, enteral tube feeding and parenteral nutrition. [online]. NICE; 2017. [Accessed 03 March 2025]. Available from: <https://www.nice.org.uk/guidance/cg32/chapter/recommendations#indications-for-nutrition-support-in-hospital-and-the-community> Accessed: 05/11/2024
51. Collins T, Plowright C, Gibson V, Stayt L, Clarke S, Caisley J, Watkins CH, Hodges E, Leaver G, Leyland S, McCready P, Millin S, Platten J, Scallan M, Tipene P, Wilcox G. British Association of Critical Care Nurses: Evidence-based consensus paper for oral care within adult critical care units. *Nurs Crit Care*. 2021;26(4):224-233.
52. Manger D, Walshaw M, Fitzgerald R, Doughty J, Wanyonyi KL, White S, Gallagher JE. Evidence summary: the relationship between oral health and pulmonary disease. *Br Dent J*. 2017;222(2):527-533.
53. Chalmers JD, Campling J, Dicker A, Woodhead W, Madhava H. A systematic review of the burden of vaccine preventable pneumococcal disease in UK adults. *BMC Pulm Med*. 2016;16:77
54. Ortega O, Parra C, Zarcero S, Nart J, Sakwinska O, Clavé P. Oral health in older patients with oropharyngeal dysphagia. *Age Ageing*. 2014;43(1):132-7.

55. Scannapieco FA. Poor Oral Health in the Etiology and Prevention of Aspiration Pneumonia. *Dent Clin N Am.* 2021;65:307-321.
56. Funayama M, Koreki A, Takata T, Hisamatsu T, Mizushima J, Ogino S, Kurose S, Oi H, Mimura Y, Shimizu Y, Kudo S, Nishi A, Mukai H, Wakisaka R, Nakano M. Pneumonia Risk Increased by Dementia-Related Daily Living Difficulties: Poor Oral Hygiene and Dysphagia as Contributing Factors. *Am J Geriatr Psychiatry.* 2023;31(11):877-885.
57. Nishizawa T, Niikura Y, Akasaka K, Watanabe M, Kurai D, Amano M, Ishii H, Matsushima H, Yamashita N, Takizawa H. Pilot study for risk assessment of aspiration pneumonia based on oral bacteria levels and serum biomarkers. *BMC Infect Dis.* 2019;19(1):761.
58. Yamaguchi K, Miyagami T, Imada R, Kushiro S, Yanagida R, Morikawa T, Nakagawa K, Yoshimi K, Naito T, Tohara H. Effect of poor oral health status at hospital admission on in-hospital outcomes of older patients with aspiration pneumonia. *Eur Geriatr Med.* 2024;15(2):489-496.
59. Seedat J and Penn C. Implementing oral care to reduce aspiration pneumonia amongst patients with dysphagia in a South African setting. *SAJCD.* 2016;63(1):102.
60. Kobayashi N, Soga Y, Maekawa K, Kanda Y, Kobayashi E, Inoue H, Kanao A, Himuro Y, Fujiwara Y. Prevalence of oral health-related conditions that could trigger accidents for patients with moderate-to-severe dementia. *Gerodontology.* 2017;(1):129-134.
61. Iinuma T, Arai Y, Abe Y, Takayama M, Fukumoto M, Fukui Y, Iwase T, Takebayashi T, Hirose N, Gionhaku N, Komiyama K. Denture wearing during sleep doubles the risk of pneumonia in the very elderly. *J Dent Res.* 2015;94(3 Suppl):285-365.
62. Huang ST, Chiou CC, Liu HY. Risk factors of aspiration pneumonia related to improper oral hygiene behavior in community dysphagia persons with nasogastric tube feeding. *J Dent Sci.* 2017;12:375-381.
63. Kim D and Emanuel R. Systematic Review: Effects of oral hygiene on respiratory health of tube-fed children with swallowing difficulties. *JDOH.* 2019;20(3):97-105.
64. Johnstone L, Spence D, Koziol-McClain J. Oral hygiene care in the Pediatric Intensive Care Unit: Practice recommendations. *Pediatr Nurs.* 2010;36(2):85-97.
65. Tashiro H, Kikutani T, Tamura F, Takahashi N, Tohara T, Nawachi K, Maekawa K, Kuboki T. Relationship between oral environment and development of pneumonia and acute viral respiratory infection in dependent older individuals. *Geriatr Gerontol Int.* 2019;19(11):1136-1140.
66. Maeda K and Akagi J. Oral care may reduce pneumonia in the tube-fed elderly: a preliminary study. *Dysphagia.* 2014;29:616-621.
67. Campbell P, Bain B, Furlanetto DLC, Brady MC. Interventions for improving oral health in people after stroke. *Cochrane Database of Systematic Reviews* 2020;12:CD003864.
68. Zhao T, Wu X, Zhang Q, Li C, Worthington HV, Hua F. Oral hygiene care for critically ill patients to prevent ventilator-associated pneumonia. *Cochrane Database of Systematic Reviews Issue* 2020;12:CD008367.

69. Cao Y, Liu C, Lin J, Ng L, Needleman I, Walsh T, Li C. Oral care measures for preventing nursing home-acquired pneumonia. *Cochrane Database of Systematic Reviews* 2022;11:CD012416.
70. Winning L, Lundy FT, Blackwood B, McAuley DF, El Karim I. Oral health care for the critically ill: a narrative review. *Crit Care* 2021;25(1):353.
71. Yamano T, Nishi K, Omori F, Wada K, Naito T. Association Between Oral Health and Swallowing Function in the Elderly. *Clin Interv Aging*. 2023;18:343-351.
72. Martín A, Ortega O, Roca M, Arús M, Clavé P. Effect of A Minimal-Massive Intervention in Hospitalized Older Patients with Oropharyngeal Dysphagia: A Proof of Concept Study. *J Nutr Health Aging*. 2018;22(6):739-747.
73. Takagi S, Maeda K, Shimizu A, Yuasa H, Yamauchi K, Sakai H. Associations between oral health status and short-term functional outcomes in hospitalized patients aged over 65 years with acute ischemic stroke: a retrospective observational study. *Clin Oral Investig*. 2023;27(12):7635-7642.
74. Matsuo H, Yoshimura Y, Fujita S, Maeno Y, Tanaka S. Association of poor oral health with increased incidence of dysphagia and impaired improvement in nutritional status among patients with acute heart failure: a prospective cohort study. *Eur Geriatr Med*. 2023;14(4):879-888.
75. Shiraisi A, Yoshimura Y, Wakabayashi H, Nagano F, Bise T, Shimazu S. Improvement in Oral Health Enhances the Recovery of Activities of Daily Living and Dysphagia after Stroke. *J Stroke Cerebrovasc Dis*. 2021;30(9):105961.
76. Iwao Y, Shigeishi H, Takahashi S, Uchida S, Kawano S, Sugiyama M. Improvement of physical and oral function in community-dwelling older people after a 3-month long-term care prevention program including physical exercise, oral health instruction, and nutritional guidance. *Clin Exp Dent Res*. 2019;5(6):611-619.
77. Thiyaalingam S, Kulinski AE, Thorsteinsdottir B, Shindelar KL, Takahashi PY. Dysphagia in Older Adults. *Mayo Clin Proc*. 2021;96(2):488-497.
78. Tsang K, Lau ES, Shazra M, Eyres R, Hansjee D, Smithard DG. A New Simple Screening Tool-4QT: Can It Identify Those with Swallowing Problems? A Pilot Study. *Geriatrics (Basel)*. 2020;27;5(1):11.
79. Hemsley B, Steel J, Sheppard JJ, Malandraki GA, Bryant L, Balandind S. Dying for a Meal: An Integrative Review of Characteristics of Choking Incidents and Recommendations to Prevent Fatal and Nonfatal Choking Across Populations. *Am J Speech Lang Pathol*. 2019;28:1283-1297.
80. Tian F, Li J, Wu B, Xiao R, Liu J, Yu J, Liu L, Zhu R. Differences in the oral health status in hospitalised stroke patients according to swallowing function: A cross-sectional study. *J Clin Nurs*. 2023;32(7-8):140-1147.
81. Lopes S, Tavares V, Mascarenhas P, Lopes M, Cardote C, Godinho C, Oliveira C, Santos CA, Oom M, Grillo-Evangelista J, Fonseca J. Oral Health Status of Adult Dysphagic Patients That Undergo Endoscopic Gastrostomy for Long Term Enteral Feeding. *Int J Environ Res Public Health*. 2022;19(8):4827.

82. Matsuo K, Sekimoto Y, Okamoto M, Shibata S, Otaka Y. Association between oral health status and oral food intake level in subacute stroke patients admitted to a convalescent rehabilitation unit. *Gerodontology*. 2022;39(1):67-73.
83. Fregatto LF, Costa IB, De Bortoli Teixeira D, Duarte JCM, Mascarin AMN, da Silveira Junior SB, Serva BEBM, da Silva RG, Junior FA, Cola PC. Oral hygiene and oral microbiota in children and young people with neurological impairment and oropharyngeal dysphagia. *Sci Rep*. 2021;11(1):18090.
84. Furuya J, Suzuki H, Tamada Y, Onodera S, Nomura T, Hidaka R, Minakuchi S, Kondo H. Food intake and oral health status of inpatients with dysphagia in acute care settings. *J Oral Rehabil*. 2020;47(6):736-742.
85. Lindroos EK, Saarela RKT, Suominen MH, Muurinen S, Soini H, Kautiainen H, Pitkälä KH. Burden of Oral Symptoms and Its Associations With Nutrition, Well-Being, and Survival Among Nursing Home Residents. *JAMDA*. 2019;20:537-543.
86. Okabe Y, Takeuchi K, Izumi M, Furuta M, Takeshita T, Shibata Y, Kageyama S, Ganaha S, Yamashita Y. Posterior teeth occlusion and dysphagia risk in older nursing home residents: a cross-sectional observational study. *J Oral Rehabil*. 2017;44(2):89-95.
87. Mituuti CT, Bianco VC, Bentim CG, de Andrade EC, Rubo JH, Berretin-Felix G. Influence of oral health condition on swallowing and oral intake level for patients affected by chronic stroke. *Clin Interv Aging*. 2014;10:29-35.
88. Chen ML, Chiu CH, Hwu YJ, Kuo SC. Effects of a Multifaceted Intervention Program on the Eating Ability of Nursing Home Residents. *Int J Environ Res Public Health*. 2021;18(17):8951.
89. Lu TY, Chen JH, Du JK, Lin YC, Ho PS, Lee CH, Hu CY, Huang HL. Dysphagia and masticatory performance as a mediator of the xerostomia to quality of life relation in the older population. *BMC Geriatr*. 2020;20(1):521-532.
90. Inui A, Takahashi I, Kurauchi S, Soma Y, Oyama T, Tamura Y, Noguchi T, Murashita K, Nakaji S, Kobayashi W. Oral conditions and dysphagia in Japanese, community-dwelling middle- and older- aged adults, independent in daily living. *Clin Interv Aging*. 2017;12:515-521.
91. Ohno T, Heshiki Y, Kogure M, Sumi Y, Miura H. Comparison of Oral Assessment Results Between Non-Oral and Oral Feeding Patients: A Preliminary Study. *J Gerontol Nurs*. 2017;43(4):23-28.
92. National Institute of Clinical Excellence. Dental checks: intervals between oral health reviews. [online]. NICE; 2004. [Accessed 05 November 2024]. Available from: <https://www.nice.org.uk/guidance/cg19>
93. Department of Health and Social Care. 2021. Delivering better oral health: an evidence-based toolkit for prevention (Fourth Edition). [online]. Department of Health and Social Care; 2021. [Accessed 03 March 2025]. Available from: <https://www.gov.uk/government/publications/delivering-better-oral-health-an-evidence-based-toolkit-for-prevention>
94. Curl C, Boyle C. Dysphagia and Dentistry. *Dent Update*. 2014;41:413-422.

95. Motor Neurone Disease Association. Motor Neurone disease: Information for dental teams. [online] MND; 2023. [Accessed 03 March 2025]. Available from: <https://www.mndassociation.org/media/154#:~:text=MND%20affects%20the%20teeth%20and,higher%20rate%20of%20tooth%20extraction.>
96. Prete BRJ and Ouanounou A. Medical Management, Orofacial Findings, and Dental Care for the Patient with Parkinson's Disease. *J Can Dent Assoc.* 2021;(87):110.
97. Rubin J, Brock-Utne JG, Greenberg M, Bortz J, Downing JW. Laryngeal incompetence during experimental "relative analgesia" using 50% nitrous oxide in oxygen. A preliminary report. *Br J Anaesth.* 1977;49(10):1005-8.
98. D'Honneur G, Rimaniol JM, el Sayed A, Lambert Y, Duvaldestin P. Midazolam/propofol but not propofol alone reversibly depress the swallowing reflex. *Acta Anaesthesiol Scand.* 1994 Apr;38(3):244-7.
99. National Clinical Guideline for Stroke for the UK and Ireland. [online]. London: Intercollegiate Stroke Working Party; 2023. [Accessed 03 March 2025]. Available from: www.strokeguideline.org.
100. Remijn L, Sanchez F, Heijnen BJ, Windsor C, Speyer R. Effects of Oral Health Interventions in People with Oropharyngeal Dysphagia: A Systematic Review. *J Clin Med.* 2022;11(12): 3521.
101. Public Health Scotland. Caring for Smiles Guide for care homes. [online]. Public Health Scotland; 2020. [Accessed 03 March 2025]. Available from: <https://www.scottishdental.nhs.scot/oral-health-improvement/caring-for-smiles/>.
102. Starks B and Harbert C. Aspiration Prevention Protocol: decreasing postoperative pneumonia in heart surgery patients. *Crit Care Nurse.* 2011;31(5):38-45.
103. British Society of Gerodontology. Guidelines for the Oral Healthcare of Stroke Survivors. [online]. BSG; 2010. [Accessed 03 March 2025]/ Available from: https://www.gerodontology.com/content/uploads/2014/10/stroke_guidelines.pdf.
104. Sole ML, Poalillo E, Byers JF, Ludy JE. Bacterial growth in secretions and on suctioning equipment of orally intubated patients: a pilot study. *Am J Crit Care.* 2002;11:141-149.
105. Chen HJ, Chen JL, Chen CY, Lee M, Chang WH, Huang TT. Effect of an Oral Health Programme on Oral Health, Oral Intake, and Nutrition in Patients with Stroke and Dysphagia in Taiwan: A Randomised Controlled Trial. *Int J Environ Res Public Health.* 2019;16(12):2228.
106. Jablonski RA, Winstead V, Azuero A, Ptacek T, Jones-Townsend C, Byrd E, Geisinger ML, Morrow C. Feasibility of Providing Safe Mouth Care and Collecting Oral and Fecal Microbiome Samples from Nursing Home Residents with Dysphagia: Proof of Concept Study. *J Gerontol Nurs.* 2017;43(9):9-15.
107. American Association of Critical-Care Nurses. Oral Care for Acutely and Critically Ill Patients. *Crit Care Nurse.* 2017;37(3):e19-e21.
108. Ikeda M, Miki T, Atsumi M, Inagaki A, Mizuguchi E, Meguro M, Kanamori D, Nakagawa K, Watanabe R, Mano K, Aihara A, Hane Y, Mutoh T, Matsuo K. Effective elimination of contaminants after oral care in elderly institutionalized individuals. *Geriatr Nurs.* 2014;35(4):295-9.

109. Murray J and Scholten I. An oral hygiene protocol improves oral health for patients in inpatient stroke rehabilitation. *Gerodontology*. 2018;35(1):18-24.
110. Chipps E, Gatens C, Genter L, Musto M, Dubis-Bohn A, Gliemmo M, Dudley K, Holloman C, Hoet AE, Landers T. Pilot study of an oral care protocol on poststroke survivors. *Rehabil Nurs*. 2014;39(6):294-304.
111. Yaacob M, Worthington HV, Deacon SA, Deery C, Walmsley AD, Robinson PG, Glenny AM. Powered versus manual toothbrushing for oral health. *Cochrane Database of Systematic Reviews* 2014;6:CD002281.
112. Woon C. Improving oral care for hospitalised patients: choosing appropriate products. *Br J Nurs*. 2020;29(9):520-525.
113. Kalf-Scholte SM, Van der Weijden GA, Bakker EWP, Slot DE. Plaque removal with triple-headed vs single-headed manual toothbrushes—a systematic review. *Int J Dent Hyg*. 2017;16(1):12-23.
114. Prendergast V and Chapple KM. Evaluation and Acceptance of an Electric Toothbrush Designed for Dependent Patients. *Cureus*. 2021;13(6):e15372.
115. Yakiwchuk CA, Bertone M, Ghiabi E, Brown S, Liarakos M, Brothwell DJ. Suction toothbrush use for dependent adults with dysphagia: A pilot examiner blind randomized clinical trial. *Can J Dent Hyg*. 2013;47(1):15-23.
116. Medicines and Healthcare products Regulatory Agency. Medical Device Alert: Oral swabs with a foam head, all manufacturers (MDA/2012/020). [online]. MHRA; 2012. [Accessed 03 March 2025]. Available from: www.mhra.gov.uk/Publications/Safetywarnings/MedicalDeviceAlerts/CON149697.
117. Dennesen P, van der Ven A, Vlasveld M, Lokker L, Ramsay G, Kessels A, van den Keijbus P, van Nieuw Amerongen A, Veerman E. Inadequate salivary flow and poor oral mucosal status in intubated intensive care unit patients. *Crit Care Med*. 2003;31(3):p781-786.
118. Bartlett D, Carter N, de Baat C, Duyck J, Goffin G, Müller F, Kawai Y. 2018. White Paper on Optimal Care and Maintenance of Full Dentures for Oral and General Health. [online]. Oral Health Foundation; 2018. [Accessed 03 March 2025]. Available from: <https://www.dentalhealth.org/denturecareguidelines>.
119. Obana M, Furuya J, Matsubara C, Tohara H, Inaji M, Miki K, Numasawa Y, Minakuchi S, Maehara T. Effect of a collaborative transdisciplinary team approach on oral health status in acute stroke patients. *J Oral Rehabil*. 2019;46(12):1170-1176.
120. Chen MA, Liu CK, Yang YH, Huang ST, Yen CW, Kabasawa Y, Huang HL. Clinical-based oral rehabilitation programme improved the oral diadochokinesis and swallowing function of older patients with dementia: A randomised controlled trial. *J Oral Rehabil*. 2022;49(12):1163-1172.
121. Prasad R, Daly B, Manley G. The impact of 0.2% chlorhexidine gel on oral health and the incidence of pneumonia amongst adults with profound complex neurodisability. *Spec Care Dentist*. 2019;39(5):524-532.
122. Torres A, Niederman MS, Chastre J, Ewig S, Fernandez-Vandellos P, Hanberger H, Kollef M, Li Bassi G, Luna CM, Martin-Loeches I, Paiva JA, Read RC, Rigau D, Timsit JF, Welte T, Wunderink R. International

ERS/ESICM/ESCMID/ALAT guidelines for the management of hospital-acquired pneumonia and ventilator-associated pneumonia. *European Respiratory Journal*. 2017;50(3): 1700582.

123. Mojtahedzadeh M, Mashhadi Akbar Boojar M, Habtemariam S, Nabavi SM, Najafi A, Ghahremanian A, Baktash M, Aghaabdollahian S, Sureda A, Bagheri M. Systematic review: Effectiveness of herbal oral care products on ventilator-associated pneumonia. *Phytother Res*. 2021;35(7):3665-3672.

124. Health Education England. Mouth Care Matters, A Guide for Hospital Healthcare Professionals. [online]. HEE; 2019. [Accessed 01 February 2024]. Available from: <https://mouthcarematters.hee.nhs.uk/wp-content/uploads/sites/6/2020/01/MCM-GUIDE-2019-Final.pdf>.

125. Welsh Government. Improving Oral Health for Older People Living in Care Homes in Wales. [online]. Welsh Government; 2015. [Accessed 03 March 2025]. Available from: <https://www.gov.wales/improving-oral-health-older-people-living-care-homes-whc2015001>

126. Red A and O'Neal PV. Implementation of an Evidence-Based Oral Care Protocol to Improve the Delivery of Mouth Care in Nursing Home Residents. *J Gerontol Nurs*. 2020;46(5):33-39.

127. Sajwani AI, Al Shdaifat M, Hashi F, Abdelghany E, Alananzeh I. The intersection of oncology and oral health: exploring nurses' insights and practices — a systematic review. *Support Care Cancer*. 2024;32:138.

128. Mustuloğlu S, Özler CÖ, Tekçiçek MU, Arslan SS. Knowledge, attitudes, and behaviors of dysphagia clinicians regarding oral health – An international study. *Spec Care Dentist*. 2024;44:231-241.

129. Ajwani S, Jayanti S, Burkolter N, Anderson C, Bhole S, Itaoui R, George A. Integrated oral health care for stroke patients - a scoping review. *J Clin Nurs*. 2017;26(7-8):891-901.

130. Curtin C, Barrett A, Burke FM, McKenna G, Healy L, Hayes M. Exploring facilitators and barriers associated with oral care for inpatients with dysphagia post-stroke. *Gerodontology*. 2023;(3):346-356.

131. Odgaard L, Kothari M. Survey of oral nursing care attitudes, knowledge and practices in a neurorehabilitation setting. *J Oral Rehabil*. 2019;46:730-737.

132. Hilton S, Sheppard JJ, Hemsley B. Feasibility of implementing oral health guidelines in residential care settings: views of nursing staff and residential care workers. *Appl Nurs Res*. 2016;30:194-203.

133. Public Health Wales. Gwên Am Byth. [online]. Public Health Wales. [Accessed 03 March 2025]. Available from: <https://phw.nhs.wales/services-and-teams/dental-public-health/gwen-am-byth/>.

8. Appendices

Appendix 1: Causes of Dysphagia^{1,2,5,8,10,12}

Oropharyngeal

Mechanical and Obstructive Causes	Neuromuscular Disturbances
Infections Thyromegaly Lymphadenopathy Zenker diverticulum Reduced muscle compliance Head and neck malignancies (including surgical or radiotherapeutic interventions) Cervical osteophytes Facial trauma Pharyngeal pouching	CNS Diseases: Stroke Dementia Parkinson's Disease Multiple Sclerosis Motor Neurone Disease Cranial nerve or bulbar palsy Amyotrophic lateral sclerosis Cerebral Palsy Contractile disturbances: Myasthenia Gravis Cricopharyngeal spasm Oculopharyngeal muscular dystrophy
Oral Causes	Other
Poor dentition Oral ulcers Xerostomia Poor lip seal Underactive / hyperactive gag reflex Primitive oral reflexes	Downs syndrome Cleft palate Prematurity Fatigue Level of support Food related factors e.g. texture

Oesophageal

Mucosal diseases	Mediastinal diseases
Peptic stricture secondary to gastric reflux disease Oesophageal rings/webs <ul style="list-style-type: none"> - Sideropenic dysphagia - Plummer vision syndrome Oesophageal tumours Injury: chemical, radiation, trauma Infectious oesophagitis Eosinophilic oesophagitis	Tumours: lung cancer, lymphoma Infections: TB, histoplasmosis Cardiovascular: dilated auricula, vascular compression
Disease affecting smooth muscle (and its innervation)	Other
Scleroderma Achalasia: idiopathic, Chaga's disease Other motility disorders Post-surgical: Fundoplication, anti-reflux devices	Psychological Intraluminal foreign bodies

Medication

Medication	Effect
Oxybutynin, tolterodine (bladder capacity)	Affecting oesophageal musculature
Diuretics, anticholinergics, anxiolytics, antiarrhythmics, antiemetics, antihistamines, calcium channel blockers, ACE inhibitors, SSRIs	Xerostomic effects – impair ability to move food in the oral cavity
Antipsychotics or neuroleptics	Cause movement disorders affecting the facial & oral muscles used in swallowing Xerostomia
Local anaesthetic	Temporary loss of sensation affecting the ability to swallow
Drugs affecting central nervous system e.g. anti-epileptics, benzodiazepines, narcotics and smooth muscle relaxants	Decreasing voluntary muscle control, and affect swallowing
NSAIDs, bisphosphonates, iron supplements, methylxanthines, potassium chloride supplements, vitamin C supplements	Local irritation and trauma if prolonged contact with oesophagus
High dose steroids, chemotherapeutics	Muscle wasting or damage to the oesophagus

These lists are not exhaustive

Appendix 2: Signs and Symptoms of Dysphagia^{1,2}


- Poor tongue control during chewing or difficulties pushing food to the back of the throat
- Inability to close lips
- Food spillage from lips
- Pocketing / pouching of food in cheeks or under the tongue
- Loss of sensation affecting the individual's ability to feel food or liquid in the mouth
- Eating slowly
- Multiple swallows needed per bolus
- Taking a long time to finish a meal
- Difficulty in coordinating sucking, chewing and swallowing
- Gagging during feeding
- Drooling
- A feeling that food or fluids are getting stuck in the throat
- Discomfort in throat
- Congestion in the chest after eating or drinking
- Coughing or choking when eating or drinking
- Tiredness or short of breath while eating or drinking
- Frequent respiratory infections
- Colour change after eating such as going blue or pale
- Spitting up frequently
- Food or fluids coming out of the nose
- Frequent sneezing after eating
- Weight loss
- Difficulty speaking
- Wet or raspy sounding voice after eating or drinking
- Nasal speech
- Halitosis
- Dry mouth
- Poor oral hygiene
- Double vision
- Reduced eating and drinking enjoyment
- Sensation of food being stuck behind chest or sternum (breastbone)
- Frequent heartburn
- Regurgitation

Appendix 3: Gwên am byth Mouthcare Assessment




MONTHLY MOUTHCARE ASSESSMENT						
Name:						
Date of Birth:		Date	Date	Date	Date	Date
Date of moving to home:	Date of first assessment:					
Assessment: Accepted (A) or Refused (R) (If assessment is refused, try again later in the day or the next day)						

Part 1: Pre-assessment information	Low risk	Medium risk	High risk	Record the highest risk (L, M or H) to inform the mouthcare plan				
Consent	Has capacity to consent	Capacity fluctuates	No capacity to consent					
Part 2: Level of support	Low risk	Medium risk	High risk	Record the highest risk (L, M or H) to inform the mouthcare plan				
Level of Support needed for Mouthcare	No help required for mouthcare	Needs some help with mouthcare e.g. help to put toothpaste on toothbrush	Fully dependent on others for mouthcare					

Care Home staff must look in the mouth to do this part of the assessment

Part 3: Oral hygiene and prevention need	Low risk	Medium risk	High risk	Record the highest risk (L, M or H) to inform the mouthcare plan				
Daily Diet	Balanced diet		Has a high sugar diet or prescribed nutritional supplements					
Risk of Choking	Low choking risk	Some swallow problems or uses thickeners	High choking risk or PEG / tube fed					
Saliva	Mouth moist, no problems		Dry mouth					
Mouth Cleanliness	Teeth and mouth clean	Some areas of the mouth not clean	Teeth and mouth not clean					
Gum Health	Gums do not bleed on brushing	Gums sometimes bleed on brushing	Gums bleed all the time on brushing					
Part 4: Dental need	Low risk	Medium risk	High risk	Record the highest risk (L, M or H) to inform the mouthcare plan				
Dentures <input type="checkbox"/> Upper <input type="checkbox"/> Lower <input type="checkbox"/> No dentures	Dentures clean	Dentures not clean or resident complains of loose dentures. Seek routine advice from the dental team	Dentures broken, painful or recently lost. Seek urgent advice from the dental team					
Natural Teeth <input type="checkbox"/> Upper <input type="checkbox"/> Lower <input type="checkbox"/> No natural teeth	No problems. All appear healthy	Broken or decayed teeth but no pain. Seek routine advice from the dental team	Behaviour indicates dental pain. Very loose teeth. Seek urgent advice from the dental team					
Lips, Tongue and Soft Tissues	All appears healthy	Lips dry or tongue 'coated'	Very sore mouth – white or red patches, ulcers, swelling or thrush. Seek urgent advice from the dental team					
		If dental advice is required, record the date advice was requested:		Date	Date	Date	Date	Date
		Completed by		Initial	Initial	Initial	Initial	Initial

Appendix 4: Gwên am byth My Mouthcare Plan

My mouthcare plan							
Name:							
Date of Birth:							
What I need to keep my mouth clean: Tick all that apply. Please document any additional specific mouthcare products prescribed							
Toothbrush ✓		Toothpaste ✓		Dry Mouth		Chlorhexidine – Gel	
Regular	Electric	Regular paste	Other			Water Based Gel	
Denture	Suction	Low Foaming	Denture Pot			Saliva Replacement	
Superbrush	Mouth Cleanser	High Fluoride	Liquid Soap				
		No Flavour					
Problem / Status		Mouthcare provided			Signed and Dated		
Part 2 - Level of Support							
L	M	H	What support I need for mouthcare: (Tick all that apply ✓)	Review Dates			
-			I manage my own mouthcare and have been advised or given a leaflet on how to look after my mouth				
	-		I need reminding to look after my mouth				
	-		I need help to put the toothpaste on my brush				
	-		I need / have a modified toothbrush / superbrush				
	-		I need help with brushing some areas of my mouth				
		-	I am dependent on mouthcare from a carer at all times				
		-	I need mouthcare at least 4 times a day (palliative care)				
		-	I need / have a suction toothbrush				
		-	Other: (please give details)				
Routine mouthcare for Low Risk Residents							
Natural Teeth Ensure good fluid intake. Brush teeth & gums with a pea size amount of toothpaste twice daily for 2 minutes. Spit out excess toothpaste, avoid rinsing with water. Ensure tongue is brushed to remove any debris.							
Dentures AM: Rinse denture in cold water and brush all surfaces with liquid soap & water or denture cream. Rinse denture well before inserting in the mouth. During the day: Remove dentures after a meal and rinse under cold running water to remove any food or debris. Insert denture in the mouth. PM: Remove denture from mouth. Rinse dentures in cold water and brush all surfaces with liquid soap and water or denture cream. Store overnight in a named lidded denture pot of cold water or allow to air dry. Partial denture and natural teeth: Use fluoride toothpaste to brush teeth, gums and tongue thoroughly twice a day.							
Full dentures Full dentures (no natural teeth): Clean the inside of the mouth, tongue & soft tissues with a soft bristle toothbrush twice daily, toothpaste is optional Dentures should not be worn at night							

Turn over page for more information on medium and high risk mouthcare.

My mouthcare plan



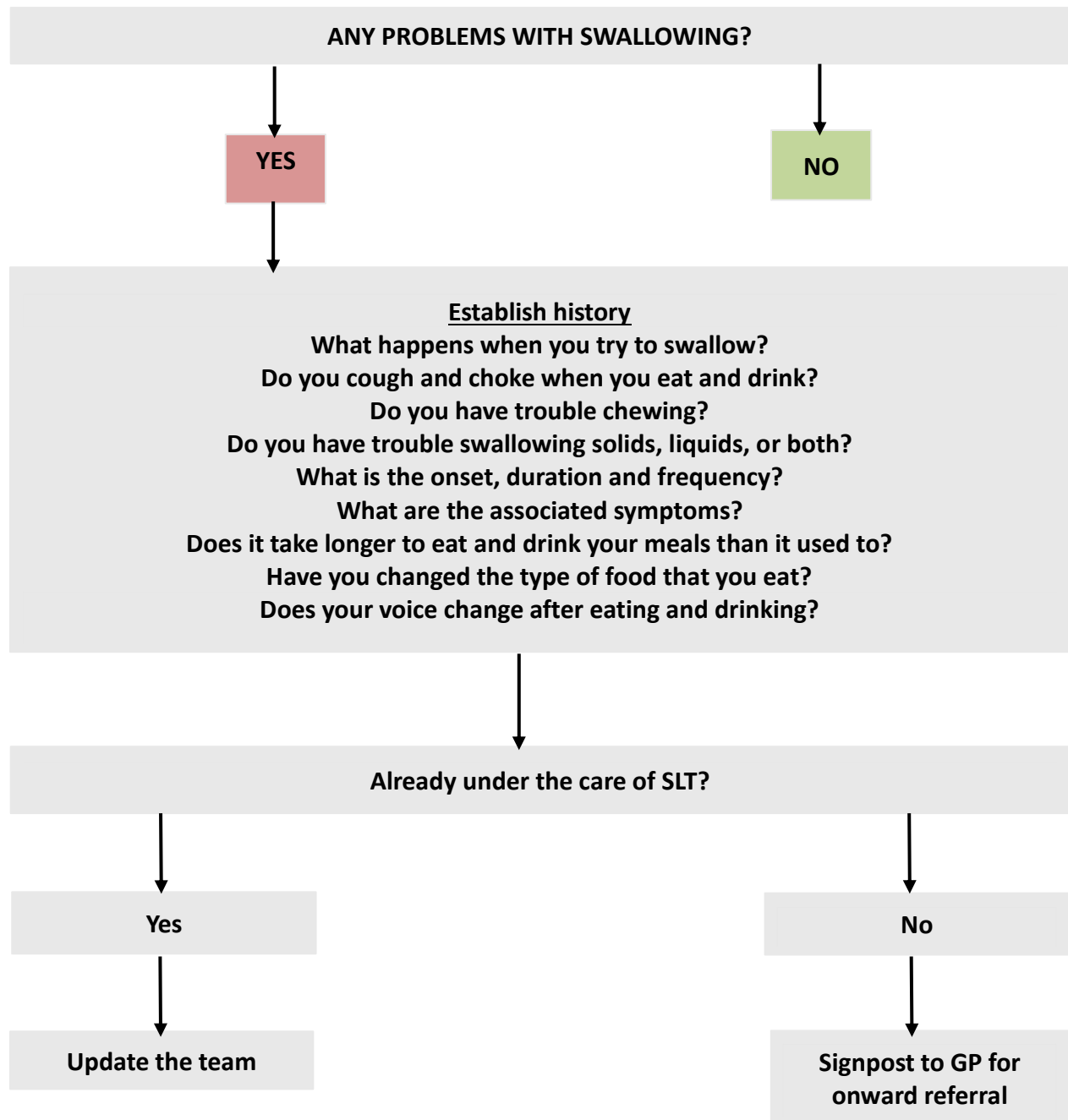
This section is about the level of care that will be provided for residents with additional needs.

Part 3						
Level of Risk	L	M	H	Tick all that apply	Date	
Daily Diet				Use high fluoride toothpaste (natural teeth only) as prescribed. If no swallow problem, give supplement through a straw. Ensure supplement is reviewed after 3 weeks. If high fluoride toothpaste is not prescribed seek advice from dental team.		
Risk of Choking				Use a dry toothbrush. Use a smear of low foaming fluoride toothpaste and push paste into the bristles. Do not rinse but wipe away excess toothpaste. Ensure head & neck are supported and head is tilted slightly forward to aid self drainage. Check the mouth for food debris after meals or medication and remove any deposits. Give extra support with toothbrushing. Use Suction toothbrush.		
Saliva				Offer water or unsweetened drinks every hour. Put water based gel on lips and tongue before meals and bedtime. Remove thick and dried crusts with toothbrush or mouth cleanser twice a day. Use saliva replacement as prescribed.		
Mouth Cleanliness				Brush teeth and gums twice a day with toothpaste. Spit out toothpaste (do not rinse). Massage gums twice a day if gums bleed on brushing. If gums bleed all the time use chlorhexidine gel prescribed by dental team.		
Gum Health				Take extra care, brush gum margins with a toothbrush Use chlorhexidine gel prescribed by dental team		

Part 4						
Level of Risk	L	M	H	Tick all that apply		
Dentures				Keep dentures safe and clean.		
Upper				Remove dentures at night and store safely.		
Lower				Dentures that are not used, store safely.		
None				If high risk referral to dental team needed? Form completed by (initials)		
Natural Teeth				Keep teeth clean.		
Upper				Referral to dental team needed?		
Lower				Form completed by (initials)		
No teeth				Assessment date DD/MM/YY		
Lips, Tongue & Soft Tissues				Put water based gel on lips and tongue before meals and bedtime. Coated tongue – brush with toothbrush or mouth cleanser. Thrush: Ask mouthcare lead for advice. Ulcers, red, white patches: record date first noted DD/MM/YY Check daily, if not healed in 21 days contact the dental team.		

Additional Comments	Date	Name

Appendix 5: Care Pathway for Dental Team Who Suspect Dysphagia



Appendix 6: Dysphagia Risk Assessment for Dental Treatment

Name:	Date of Birth:
Assessed by:	Date of assessment:

	PLEASE TICK	Yes	No	Comment
1	Does the patient have signs and symptoms of dysphagia? (Appendix 2 and Appendix 5)			If Yes – proceed to Question 2 If No – end of risk assessment
2	Has there been input from Speech & Language Therapy (SLT)?			If Yes – liaise with SLT and record: <ul style="list-style-type: none"> • Diagnosis..... • Safe Swallow Strategies in place If No – signpost to GP for onward referral
3	Is there a likelihood of aspiration with proposed dental treatment? High risk procedures: <ul style="list-style-type: none"> • Need for fast handpiece • Periodontal scaling 			If Yes – Follow guidance for high-risk dental procedures If No – Follow guidance for low-risk dental procedures

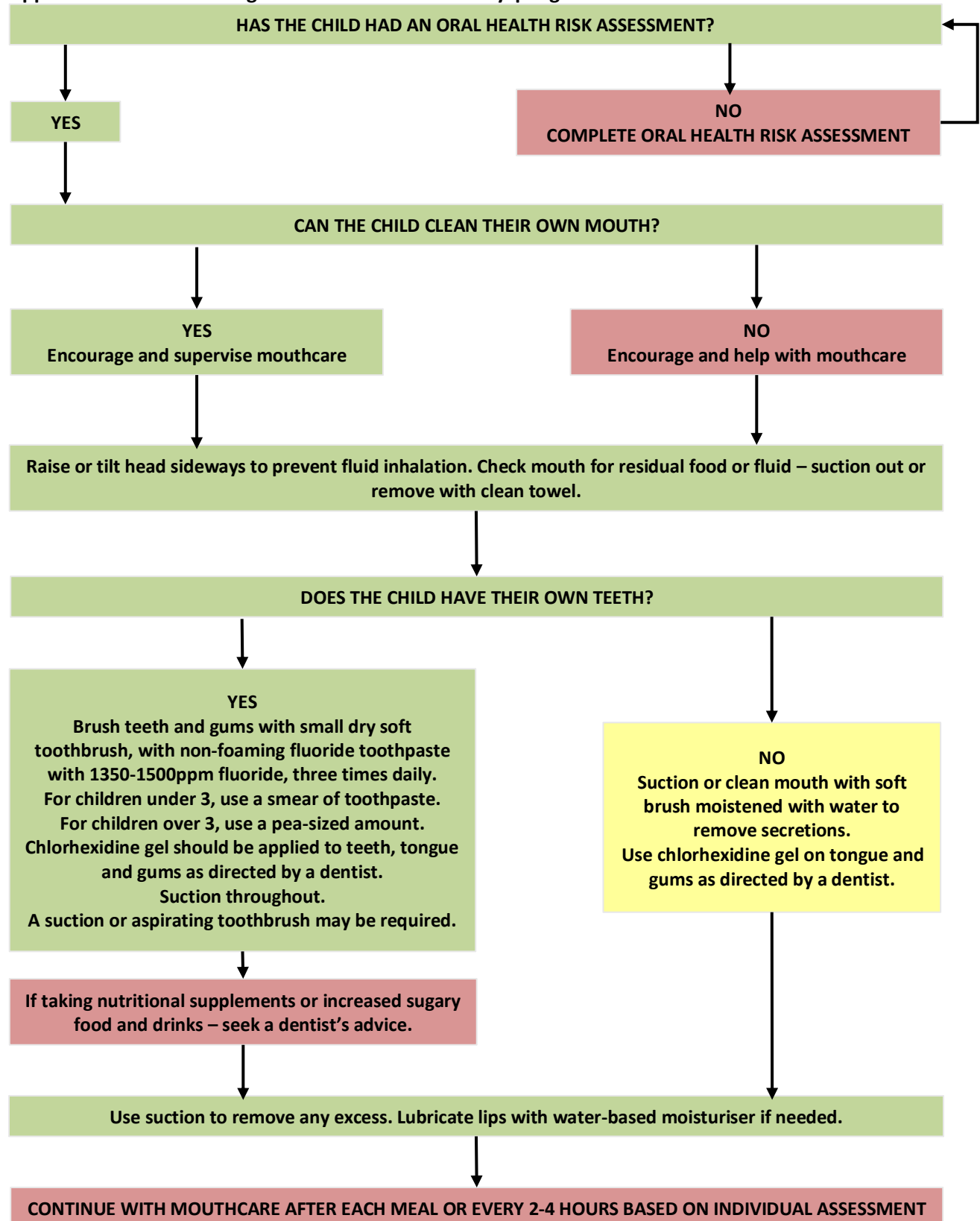
LOW ASPIRATION RISK DENTAL PROCEDURES

Chin-tuck position for treatment	YES	NO
Head at 30-45 degrees upright	YES	NO
Specific dental adjuncts needed e.g. rubber dam, mouth props, 'dry tips'	YES	NO
Saliva ejector throughout treatment	YES	NO
High volume / additional suction required	YES	NO
Frequent rests/breaks required	YES	NO
Fast-setting impression/dental materials required (no overfilling of trays)	YES	NO

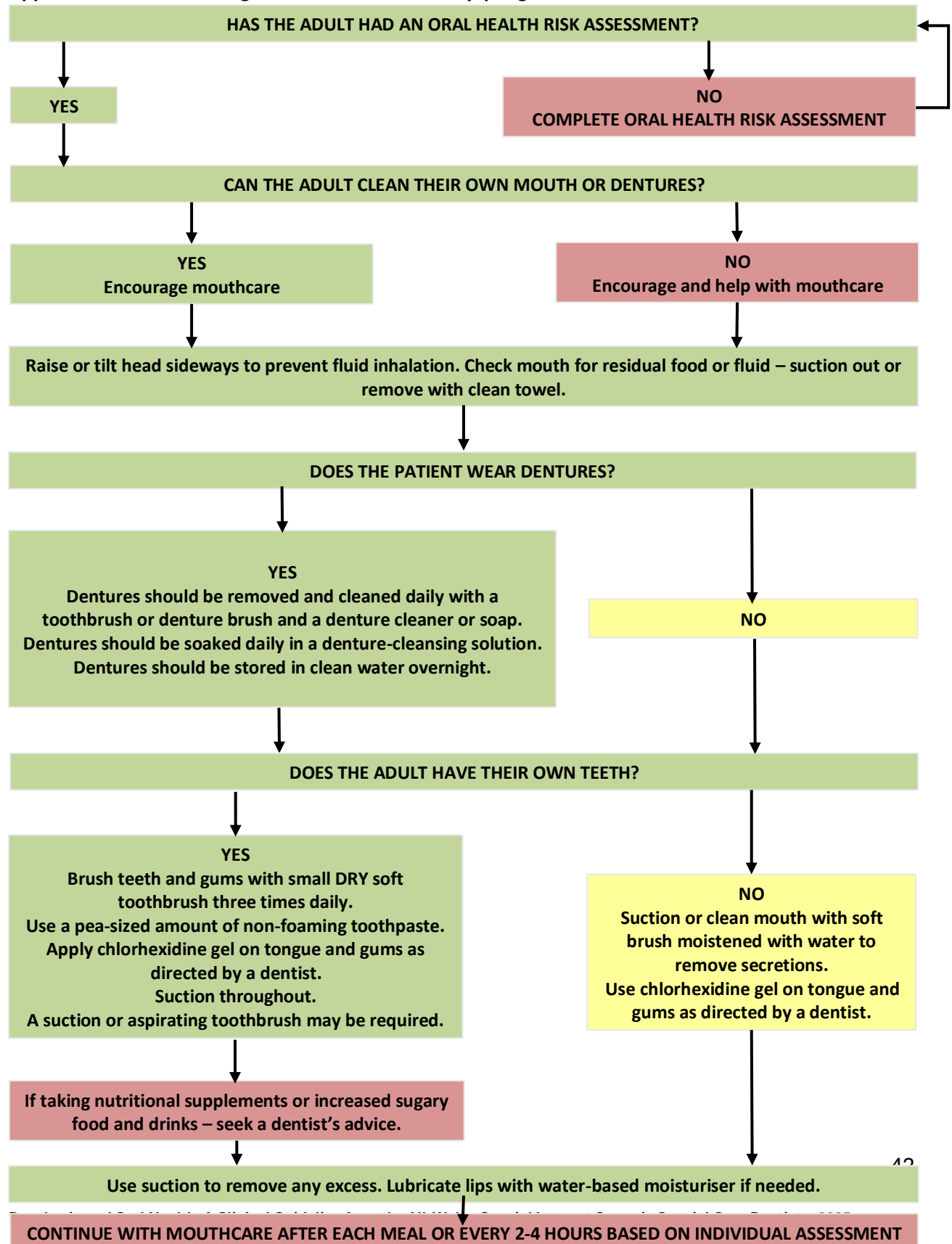
HIGH ASPIRATION RISK DENTAL PROCEDURES – Follow above low aspiration risk guidance, **plus:**

Consider referral to dental specialist	YES	NO
Specific instructions for dental team	YES	NO
Upright position for dental treatment	YES	NO
Use of ultrasonic scaler and fast handpiece limited, reduce flow	YES	NO
Slow speed handpiece use mainly	YES	NO
Use of 3 in 1 water syringe with caution	YES	NO
Throat pack during extraction(s)	YES	NO

Appendix 7: Mouthcare Algorithm for Children with Dysphagia



Appendix 8: Mouthcare Algorithm for Adults with Dysphagia



Appendix 9: Example Oro-Facial Desensitisation Programme

Why? Following brain injury patients may become sensitive to touch around the area of the face. This programme is designed to reduce hypersensitivity which can lead to behaviours such as bite reflex and teeth grinding.

When? Please carry out this procedure daily (at least ___ times a day). It can be incorporated into activities of daily living such as washing/dressing/oral care.

Positioning: It is important that the client is sat/ lying in a supportive position. For further advice discuss with Physiotherapy



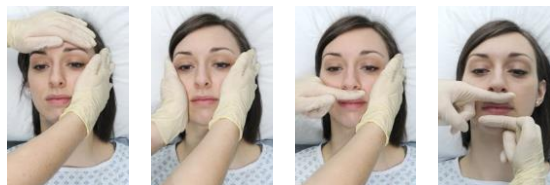
How? Keep calm, confident and explain the procedure in a matter of a fact way. Do not rush through and try to maintain physical contact at all time by maintaining the flow of movement from one step to the next.

Repetition may be required before you see any change/impact of routine.

1. Touch or hold the hands firmly
2. Move gradually up the arms, finishing by firmly, but gently holding the shoulders.



3. Place one hand firmly (palm facing) over the entire forehead.
4. Place one hand firmly on the right cheek then the left cheek.



5. Place one finger above upper lip and below lower
6. With water (or gel) stroke inside the lips along the gum.

Upper: Start in the middle, stroke to the left and gently pull out the cheek. Stroke back along the gum to the middle. Repeat to the right. Lower: Repeat as for upper.

7. Complete activity of daily living



E.g. mouthcare/ washing/ dressing

With thanks to Lisa Partridge for allowing the inclusion of this leaflet.

Appendix 10: Mouthcare Algorithm for Intubated Patients

