

## Appendices

### Appendix 1: Causes of Dysphagia<sup>1,2,5,8,10,12, new 1</sup>

#### Oropharyngeal:

<b>Mechanical and obstructive causes:</b>	<b>Neuromuscular disturbances:</b>
Infections Thyromegaly Lymphadenopathy Zenker diverticulum Reduced muscle compliance Head and neck malignancies (including surgical or radiotherapeutic interventions) Cervical osteophytes Facial trauma Pharyngeal pouching	<b>CNS Diseases:</b> Stroke Dementia Parkinson's Disease Multiple Sclerosis Motor Neurone Disease Cranial nerve or bulbar palsy Amyotrophic lateral sclerosis Cerebral Palsy <b>Contractile disturbances:</b> Myasthenia Gravis Cricopharyngeal spasm Oculopharyngeal muscular dystrophy
<b>Oral causes:</b>	<b>Other:</b>
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:**

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

**Medication:**

<b>Medication</b>	<b>Effect</b>
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<sup>1,2, new 1</sup>**

Signs and symptoms of high dysphagia include:

- 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

Signs and symptoms of low dysphagia include:


- 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
		Completed by		Initial

## Appendix 4: Gwên am byth My Mouthcare Plan

My mouthcare plan							
Name:							
Date of Birth:							
<b>What I need to keep my mouth clean: Tick all that apply.</b> <b>Please document any additional specific mouthcare products prescribed</b>							
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



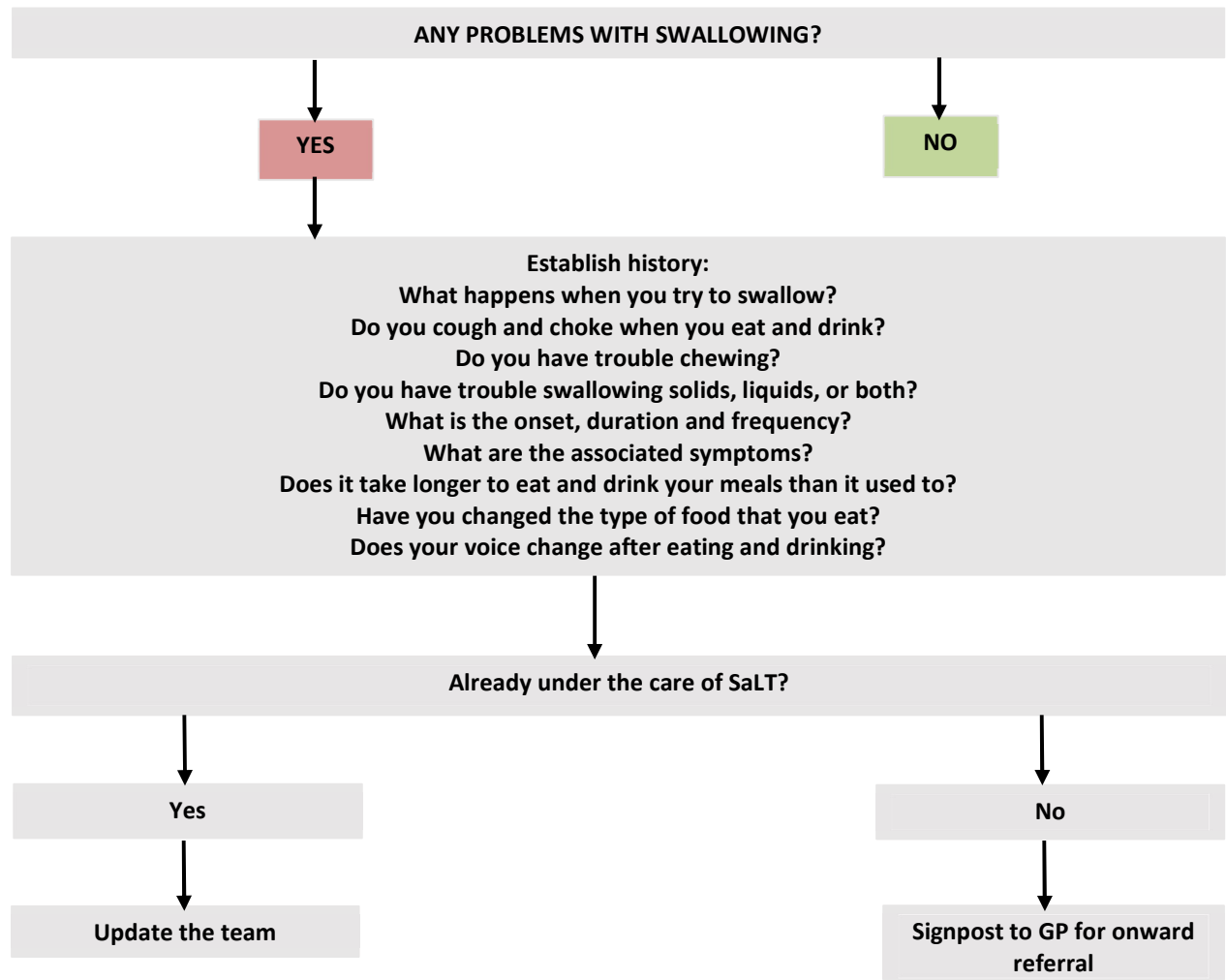
This section is about the level of care that will be provided for residents with additional needs.

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	Date	
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<sup>37,77</sup>, <https://pmc.ncbi.nlm.nih.gov/articles/PMC7151188/#sec2-geriatrics-05-00011>



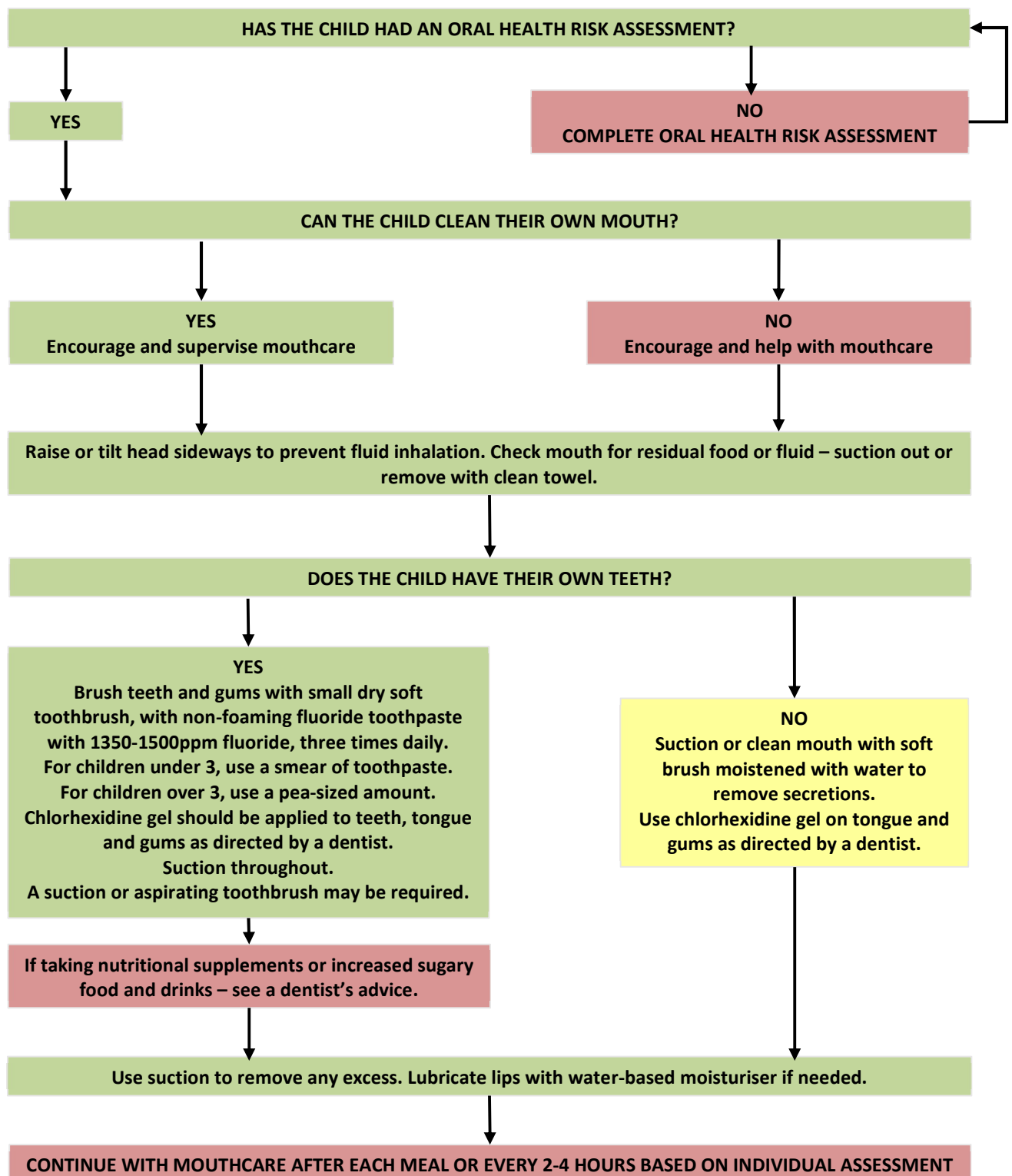
## Appendix 6: Dysphagia Risk Assessment for Dental Treatment

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

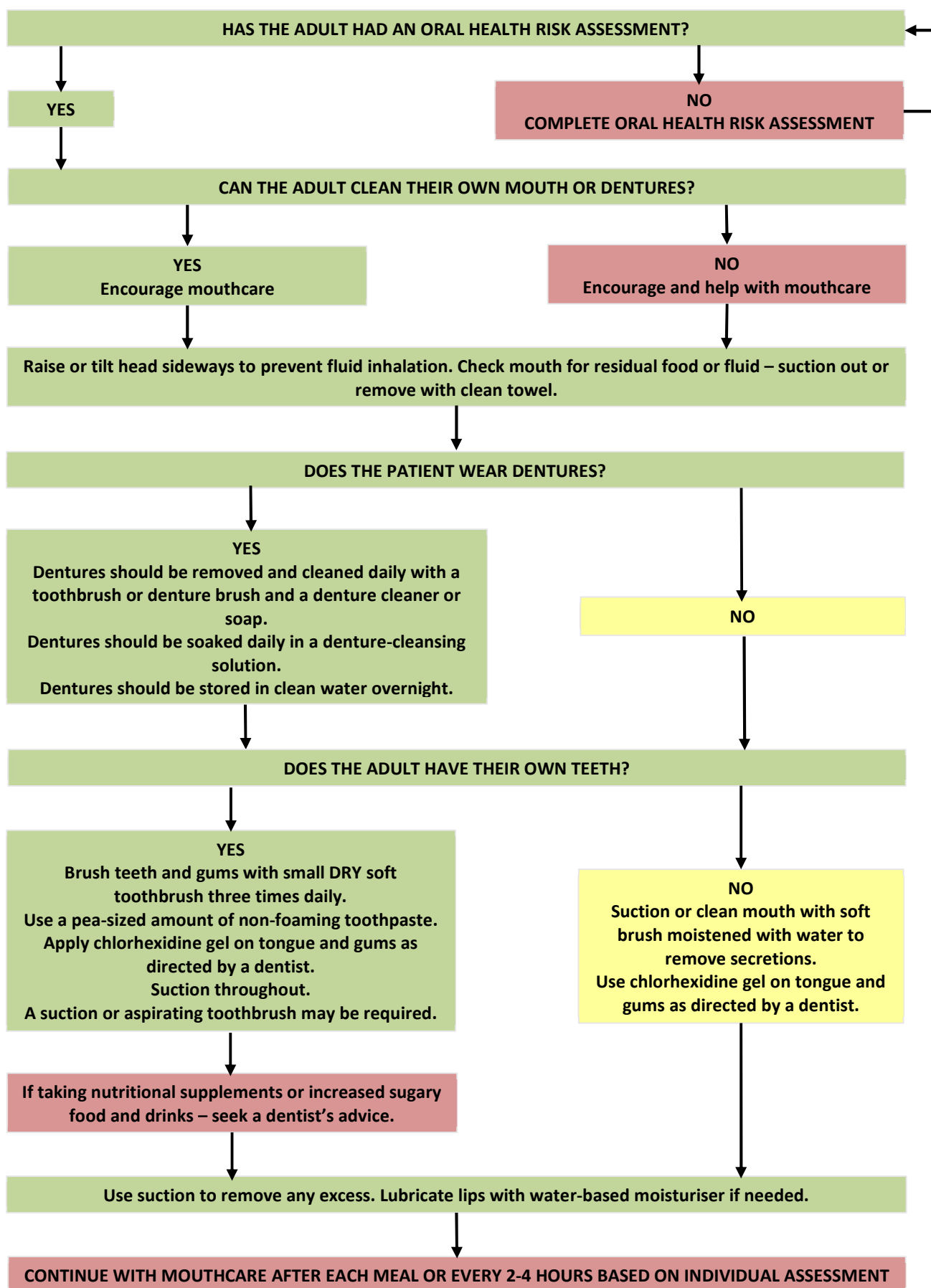
	PLEASE TICK	Yes	No	Comment
1	Does the patient have signs and symptoms of dysphagia? (Appendix 2)			<b>If Yes, proceed to Question 2.</b>  No: end of risk assessment.
2	Has there been input from Speech & Language Therapy (SaLT)?			<b>If Yes</b> – liaise with SaLT: record diagnosis & aspiration risk. <b>High aspiration risk</b> <input type="checkbox"/> <b>Low aspiration risk</b> <input type="checkbox"/> Diagnosis: .....  <b>If no - liaise with SLT to arrange dysphagia diagnosis and await result</b>
3	Is there a likelihood of aspiration with proposed dental treatment? High risk procedures: <ul style="list-style-type: none"> <li>• Impression-taking</li> <li>• Need for fast hand-piece</li> <li>• Periodontal scaling</li> </ul>			<b>If Yes – Follow guidance for high-risk dental procedures</b>  <b>If No – Follow guidance for low-risk dental procedures</b>

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
Reduced water flow of ultrasonic scaler/ high speed handpiece and/or frequent breaks	YES	NO
Frequent rests/breaks required	YES	NO
Fast-setting impression/dental materials required (no overfilling of trays)	YES	NO
<b>HIGH ASPIRATION RISK DENTAL PROCEDURES – Follow above low aspiration risk guidance, <i>plus</i>:</b>		
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 / fast handpiece limited	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

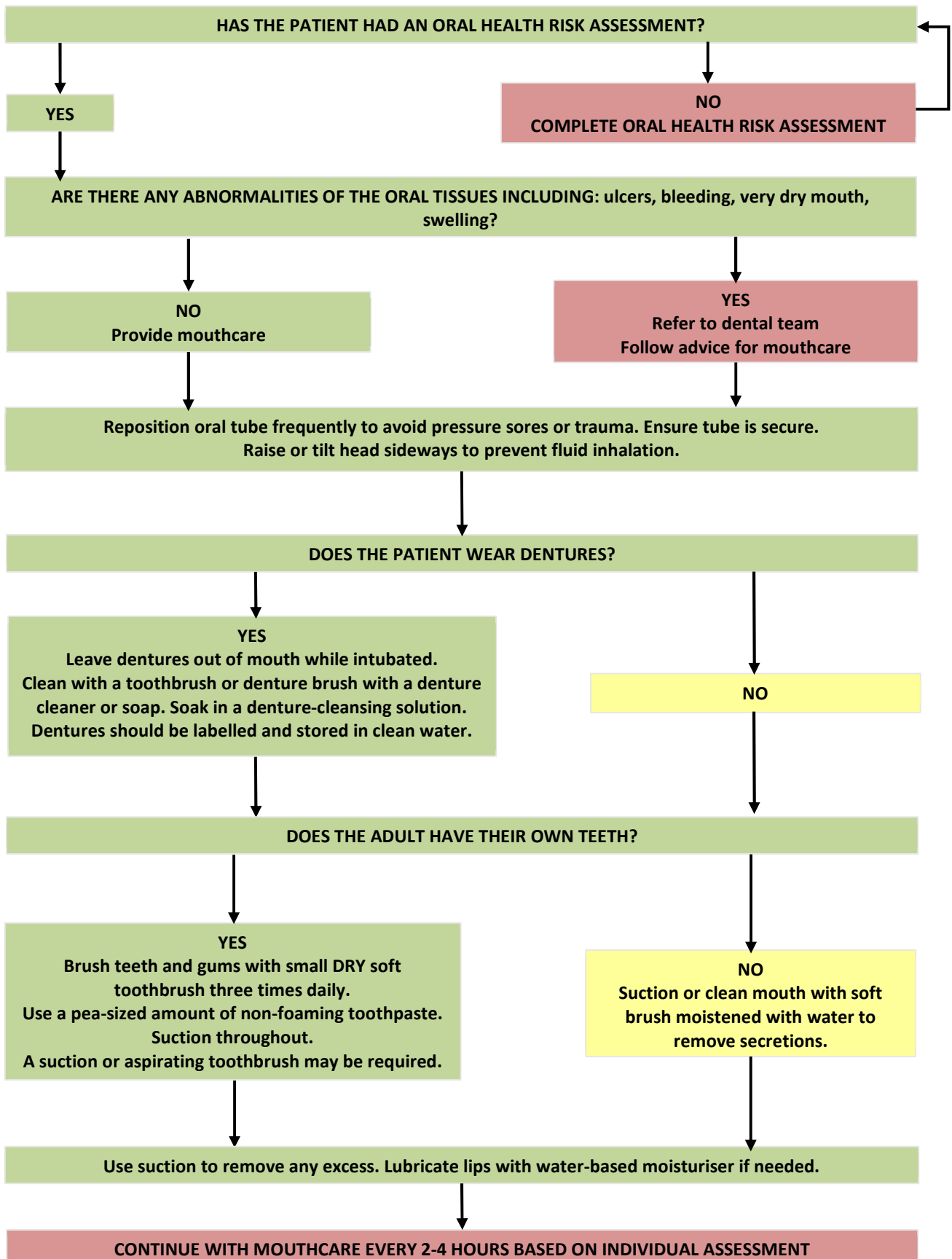
## Appendix 7: Mouthcare Algorithm for Children with Dysphagia



## Appendix 8: Mouthcare Algorithm for Adults with Dysphagia



## Appendix 9: Mouthcare Algorithm for Intubated Patients



## Appendix 10: Sample Multidisciplinary Care Pathway for Dysphagia

