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Screening for swallowing problems in the complex critical care patient

Breaking down barriers with Speech and Language Therapy

Workshop aims

- Summary
- **Recognise** risk factors for dysphagia in the complex critical care patient
- **Identify** key signs and symptoms of dysphagia
- **Determine** suitable interventions to be undertaken by nurses and referral to SLT
- **Deliver** daily interventions that enhance swallowing skills

Session outline:

- Online poll - 5 mins
- Knowledge sharing – 10 mins
- Workshop Activity – 20 min
- Online poll – 5 min

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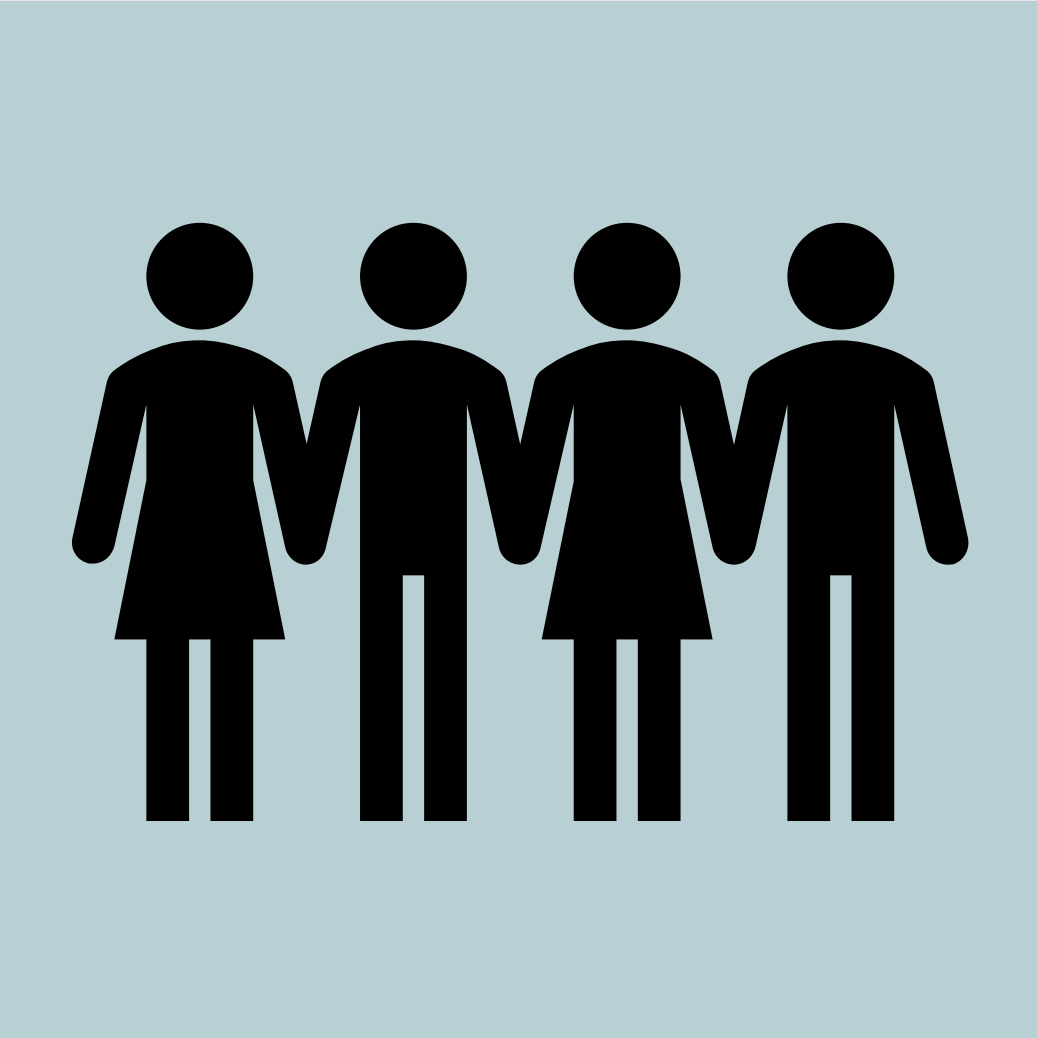
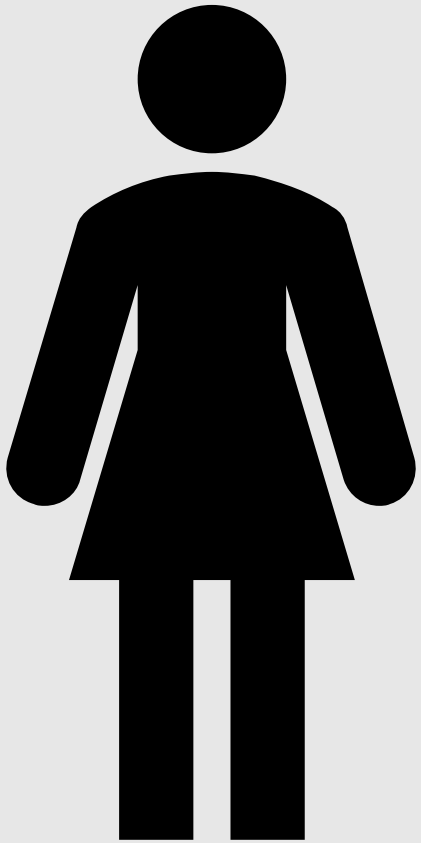
Why is swallow screening important?

SLT workforce





Why? Step 1 CC3N Competencies

1:2.4 Tracheostomy Care

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
• *Anatomical position of tracheostomy*	
• *Indications for insertion of a tracheostomy*	
• *Types of tracheostomies* *o Percutaneous tracheostomy* *o Surgical tracheostomy* *o Mini tracheostomy*	
• *Knowledge of tracheostomy care bundle and NCEPOD best practice standards*	
• *Importance of:* *o Securing tube safely* *o Changing/cleaning inner-tube* *o Checking cuff pressures* *o Wound care management*	
• *Tracheostomy emergency algorithm and best practice standards, including bedside safety equipment, escalation for blocked tube, unplanned decannulation (Refer to national and local guidelines)*	
You must be able to undertake the following in a safe and professional manner	
• *Provide emotional reassurance and support*	
• Care for the stoma site	
• Clean and change the inner tube	
• Observe an insertion of a percutaneous tracheostomy	
• Appropriately monitor the patient following tracheostomy insertion	
• Observe a decannulation	
• Appropriately monitor the patient following decannulation	
• Appropriately plan & deliver care in line with national/local guidelines	
• Outline associated swallowing assessments processes and difficulties	

1:12 Rehabilitation

The following competency statements are about the initial rehabilitation needs of the patient in a critical care environment, including those that have suffered a major trauma.

1:12.1 Rehabilitation Initial Assessment and Referral

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
• Relevant national guidance, policies and procedures relating to the rehabilitation needs of the critically ill: o NICE CG 83 o Trauma rehabilitation pathways o NICE CG 50	
• *The importance of rehabilitation being identified and started within 24 hours of admission to critical care*	
• *The importance of Rehabilitation prescription and/or plans*	
• How you would identify those critical care patients who may have rehabilitation needs and the resources available to you to highlight such needs: o Rehabilitation pathways *o Short clinical rehabilitation assessments* o Nutritional assessment tools o Swallowing assessments o Pain assessment tools o Delirium assessments o Referral to relevant MDT members o Long term rehabilitation assessments o Rehabilitation goal setting o On-going reassessments of needs	
• Rehabilitation requirements of a critical care patient and the services from which you may require advice or input (including but not limited to): o Pharmacy o Dietician o Physiotherapy o Occupational Therapy o Speech & Language o Clinical psychology	
• Criteria for referral for each MDT member listed in the rehabilitation process	
• Importance of regularly reviewing and screening the rehabilitation needs of the patient	

Why? NG211 Rehabilitation after traumatic injury 2022

1.11.8 Be aware that traumatic injury that requires intubation, or causes facial trauma, oedema or loss of dentition may lead to a voice disorder, decreased speech intelligibility and/or swallowing difficulties. Consider early referral to appropriate professionals as needed; this may include maxillofacial specialists, dental services, ear, nose and throat services, or speech and language therapy.

1.11.51 If there are concerns about safe swallowing and risk of aspiration (see recommendation 1.1.10), keep the person nil by mouth and carry out a swallowing assessment by an appropriately trained healthcare professional as soon as possible. If immediate assessment is not available, maintain hydration and nutrition by non-oral means. Also uideline on nutrition support for adults.

Respiratory function, swallowing and speech

1.15.13 Keep the person nil by mouth until their risk of aspiration has been assessed (see recommendation 1.11.51).

1.15.14 Be aware that people with cervical spine injuries and those managed on flat bed rest, are particularly at risk of swallowing and speech difficulties and should be assessed early for risk of aspiration.

Maintaining mobility and movement

1.15.21 For people with a spinal cord injury who are using a spinal orthosis (for example, cervical collar or thoraco-lumbar spinal orthosis), regularly assess them for complications such as pain, pressure sores, swallowing or breathing difficulties (particularly in older people or those with dementia or delirium).

https://www.nice.org.uk/guidance/ng211


Bon
Appetit

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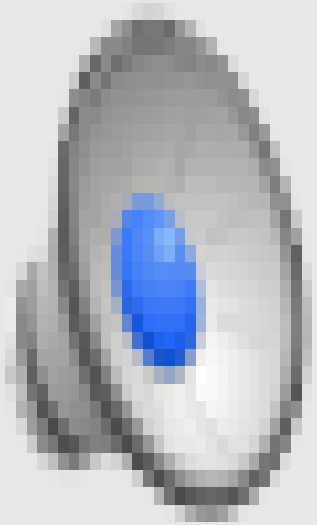
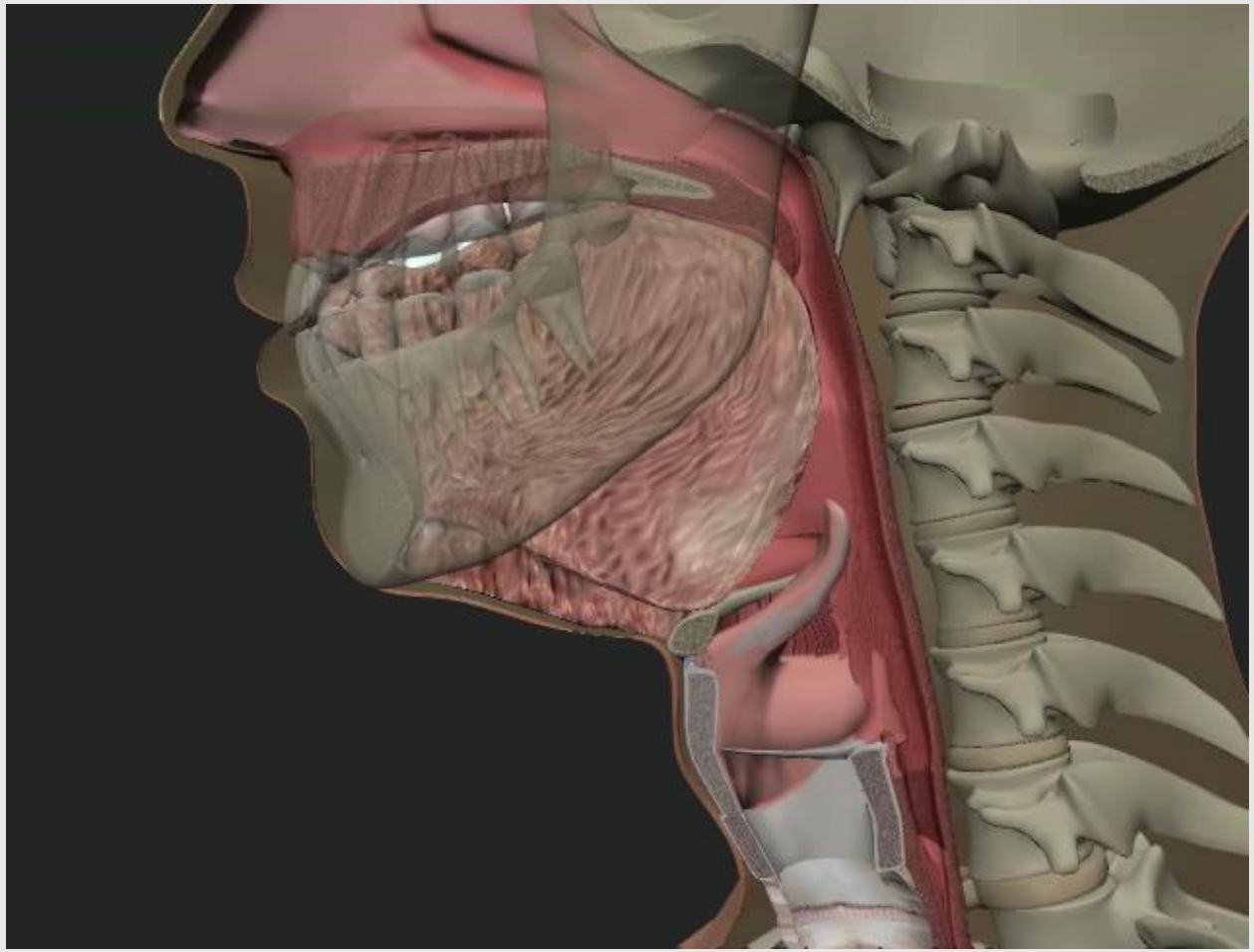
What is the problem?

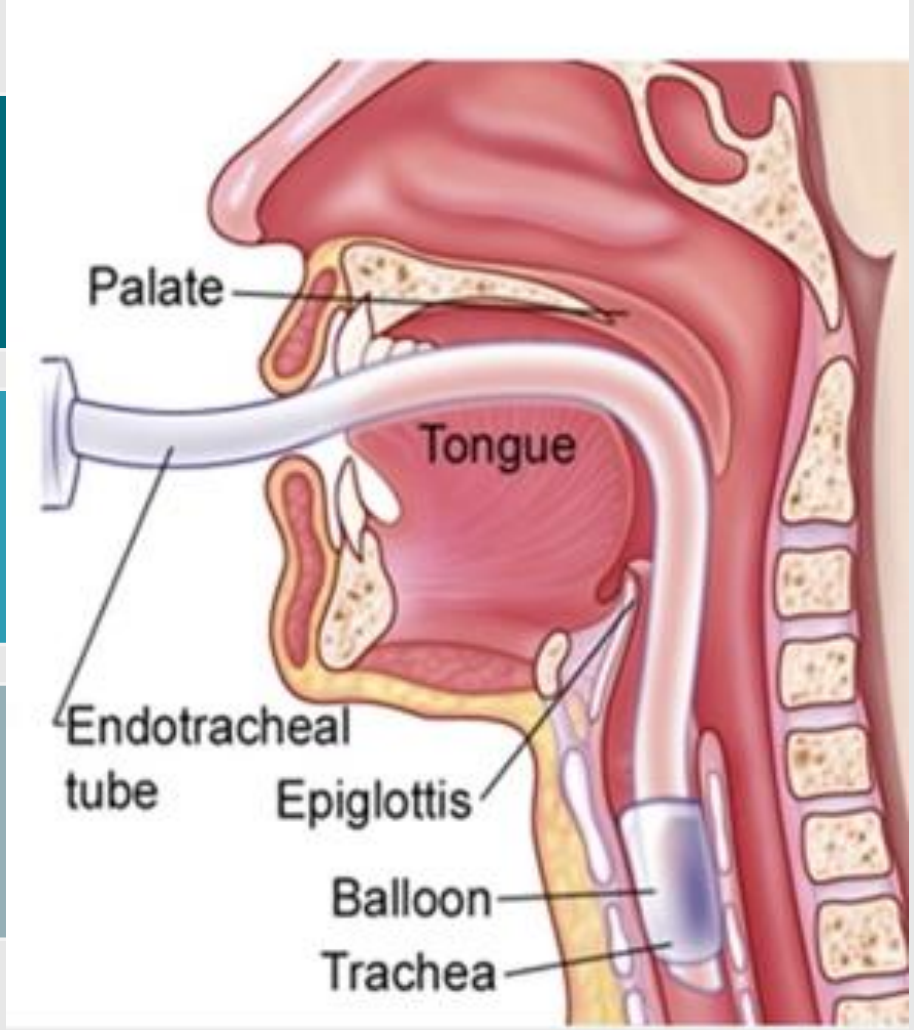
Normal Swallowing→Dysphagia





Risk factors

- Respiratory
- Neurological
- Mechanical



Post-extubation dysphagia

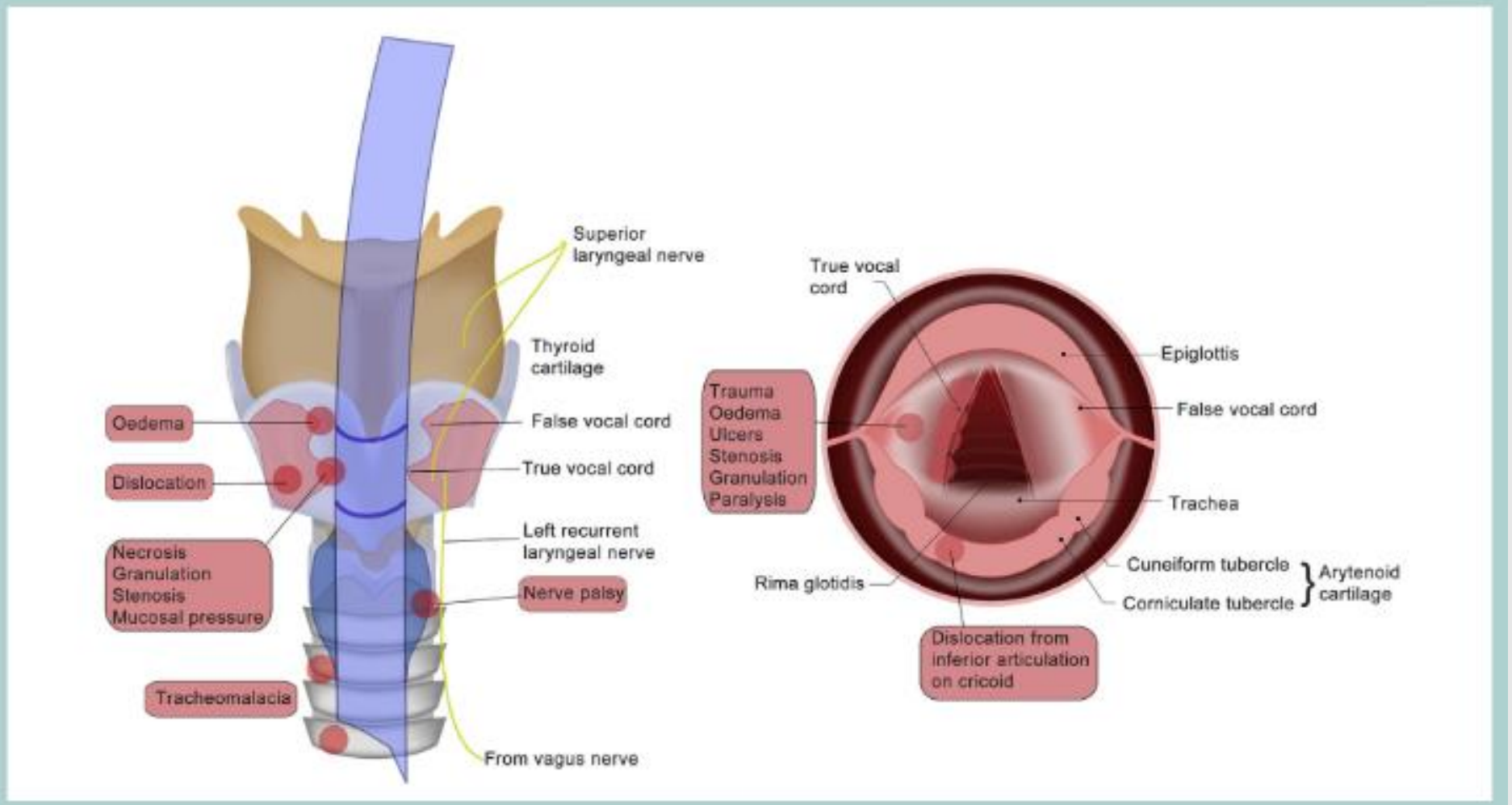
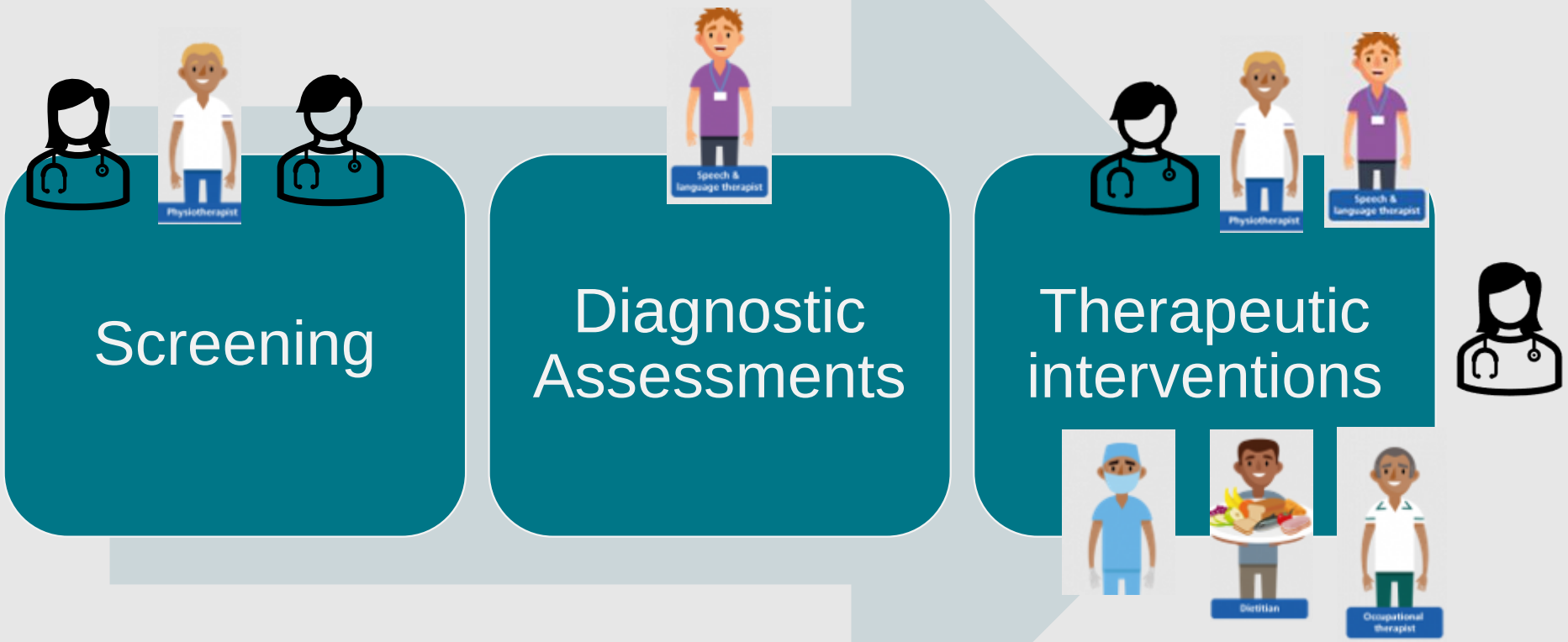


Fig 1 Complications associated with prolonged translaryngeal tracheal intubation.

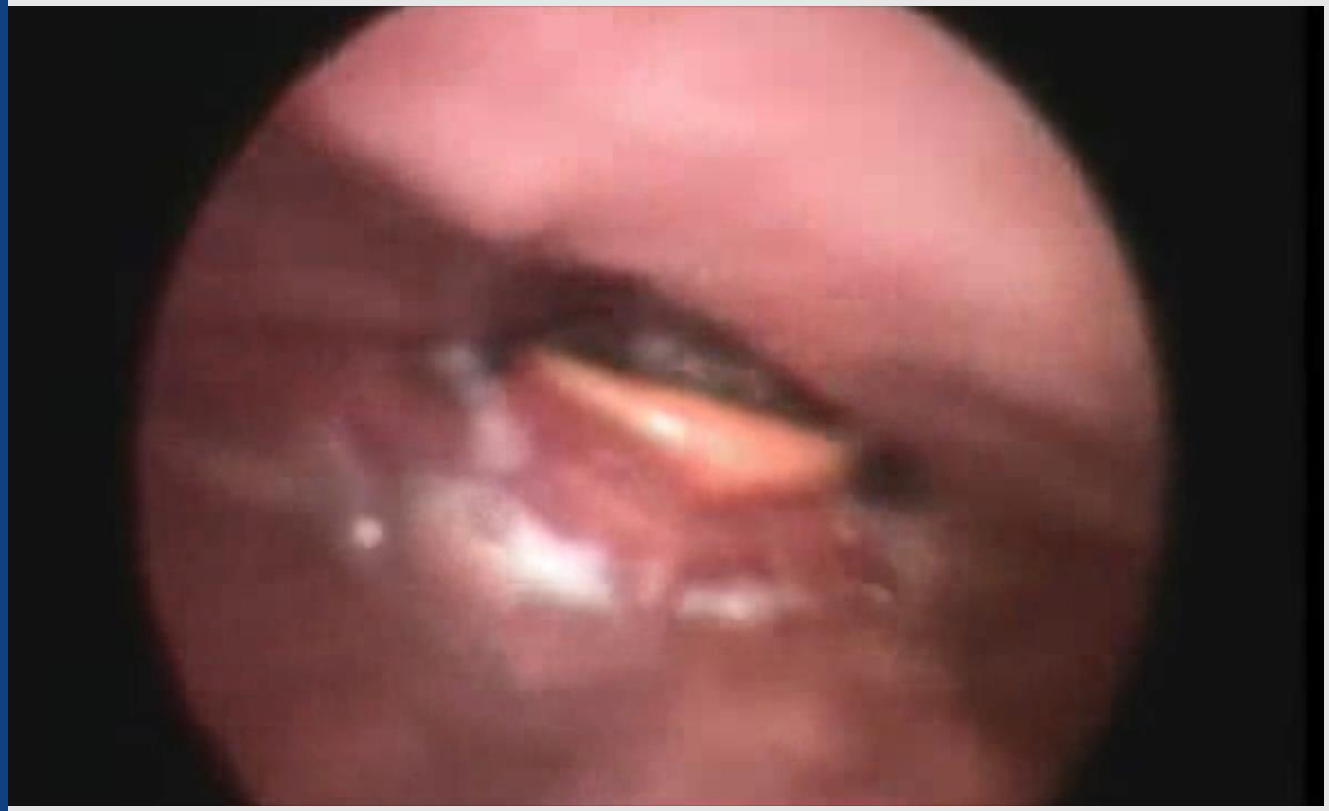
WALLACE, S. & MCGRATH, B. A. 2021. Laryngeal complications after tracheal intubation and tracheostomy. *BJA Education,* 21**,** 250-257.

Multidisciplinary dysphagia clinical pathway



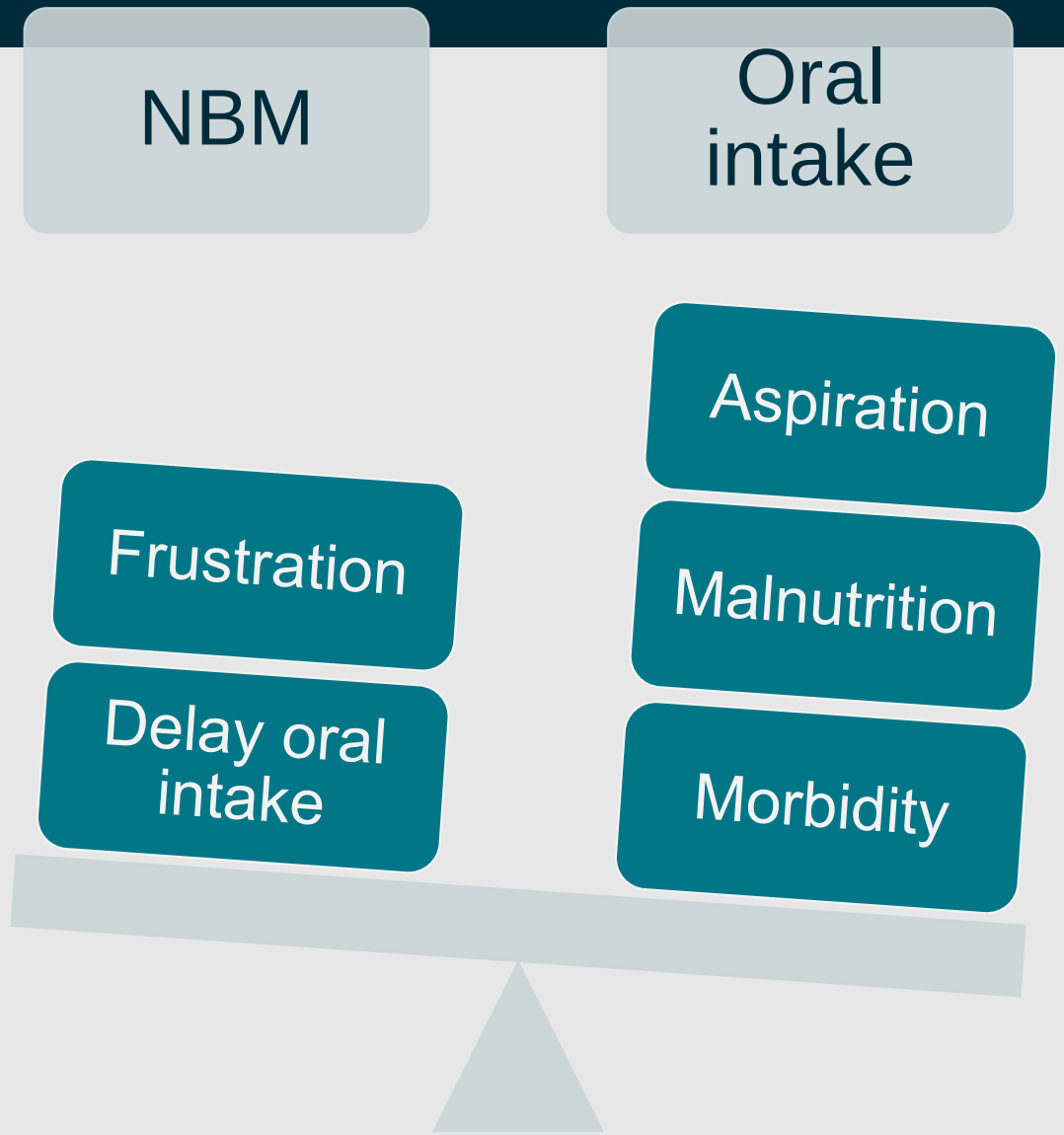
Diagnostic swallowing assessments - SLT

Videofluoroscopy
(VFS)



Fibreoptic endoscopic
evaluation of swallowing (FEES)

Consequences of decisions



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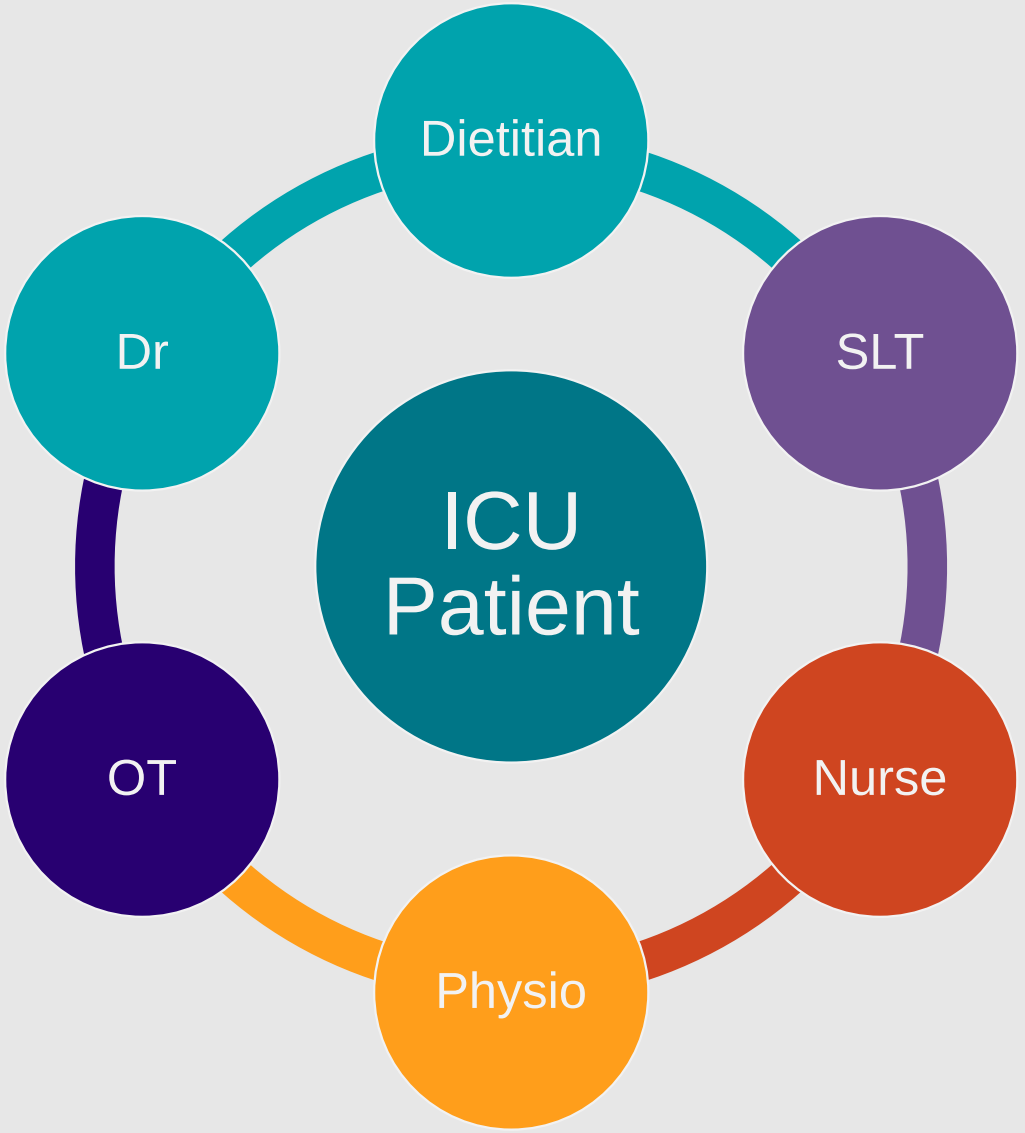
What can you do?

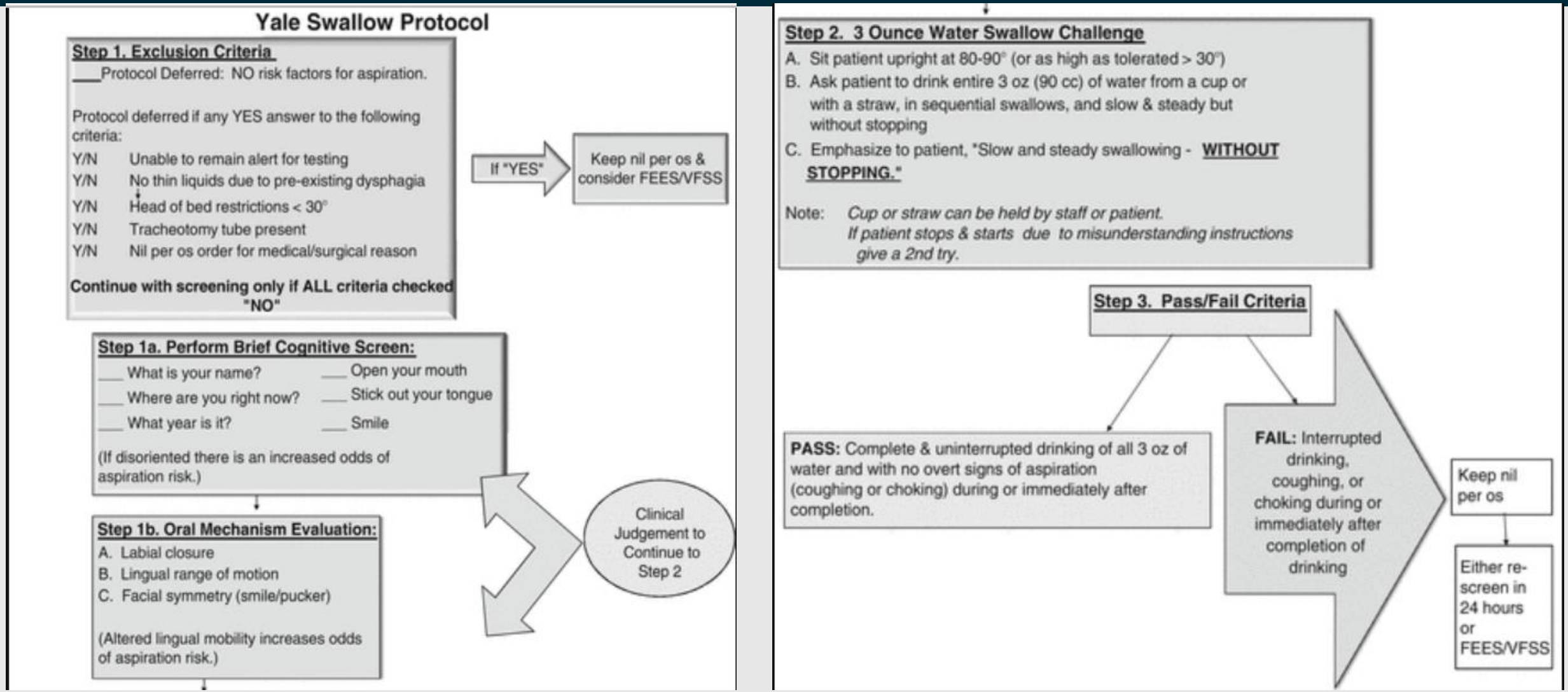
Teamwork



When to screen?

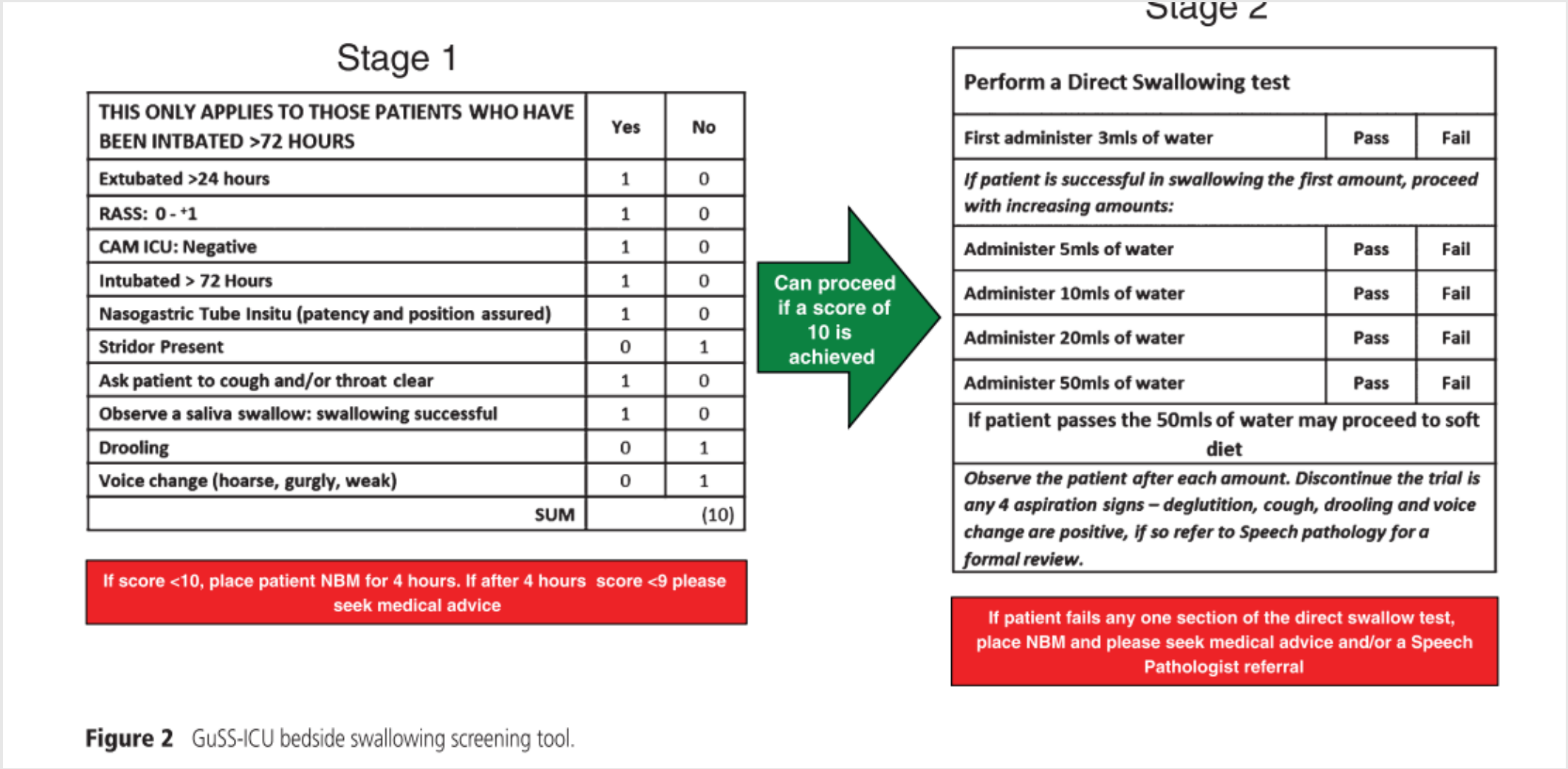
- Awake and alert
- Respiratory and cardiovascular stability
- Posture/positioning
- Check ventilator and tracheostomy status (local policy)
- Thirst management

Yale Swallow Protocol



Suiter, D.M., Sloggy, J., & Leder, S.B. (2014). Validation of the Yale Swallow Protocol: A prospective double-blinded videofluoroscopic study. Dysphagia, 29, 199-203

GUSS-ICU



Stage 1

THIS ONLY APPLIES TO THOSE PATIENTS WHO HAVE BEEN INTBATED >72 HOURS	Yes	No
Extubated >24 hours	1	0
RASS: 0 - +1	1	0
CAM ICU: Negative	1	0
Intubated > 72 Hours	1	0
Nasogastric Tube Insitu (patency and position assured)	1	0
Stridor Present	0	1
Ask patient to cough and/or throat clear	1	0
Observe a saliva swallow: swallowing successful	1	0
Drooling	0	1
Voice change (hoarse, gurgly, weak)	0	1
SUM		(10)

If score <10, place patient NBM for 4 hours. If after 4 hours score <9 please seek medical advice

Can proceed if a score of 10 is achieved

Stage 2

Perform a Direct Swallowing test		
First administer 3mls of water	Pass	Fail
If patient is successful in swallowing the first amount, proceed with increasing amounts:		
Administer 5mls of water	Pass	Fail
Administer 10mls of water	Pass	Fail
Administer 20mls of water	Pass	Fail
Administer 50mls of water	Pass	Fail
If patient passes the 50mls of water may proceed to soft diet		
Observe the patient after each amount. Discontinue the trial is any 4 aspiration signs – deglutition, cough, drooling and voice change are positive, if so refer to Speech pathology for a formal review.		

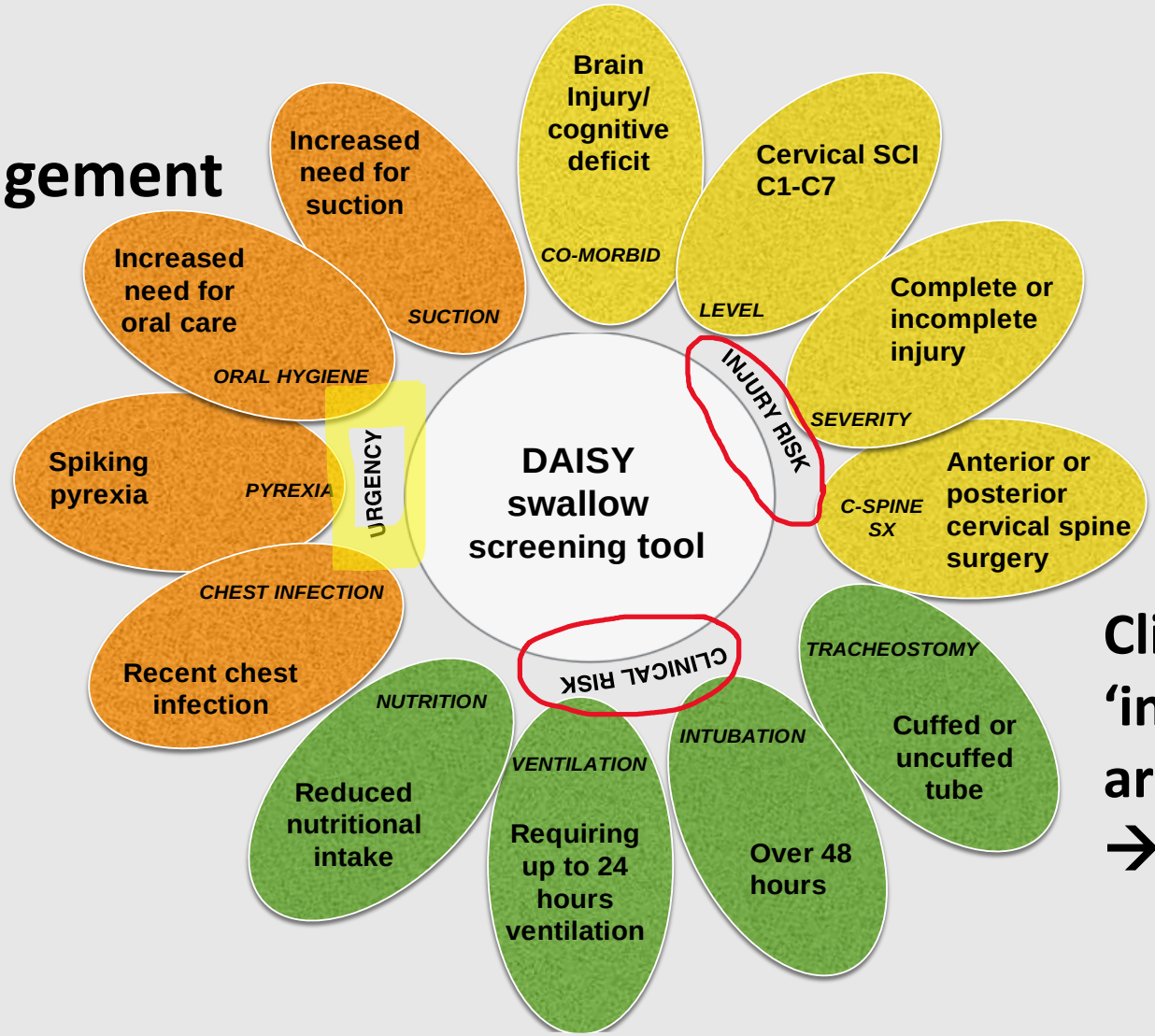
If patient fails any one section of the direct swallow test, place NBM and please seek medical advice and/or a Speech Pathologist referral

Figure 2 GuSS-ICU bedside swallowing screening tool.

Christensen, M., & Trapl, M. (2018). Development of a modified swallowing screening tool to manage post-extubation dysphagia. *Nurs Crit Care, 23(2), 102-107.*

DAISY swallow risk screening tool

Signs of urgency
→ change in management



Clinical indicators in 'injury' or 'clinical' risk areas
→ consider SLT referral

McRae, 2018

Effective swallowing needs

TIMING

- between oral and pharyngeal stages

PHARYNGEAL STRENGTH

- to clear any secretions or residue

LARYNGEAL CLOSURE

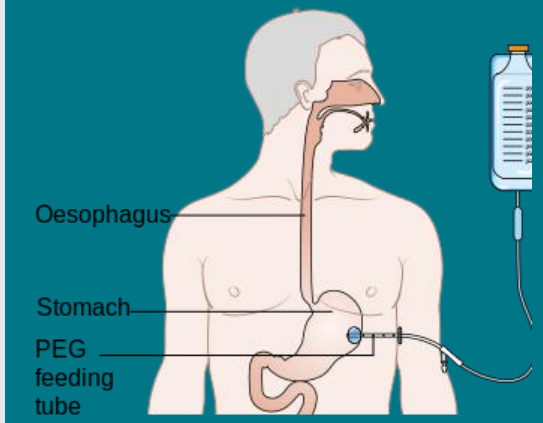
- protect airway from infiltration

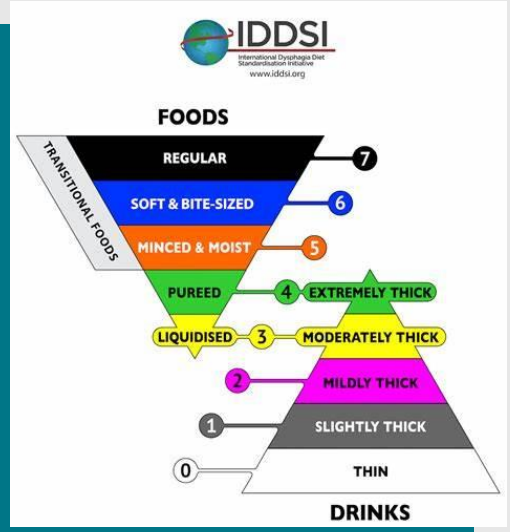
Compensatory interventions

- Posture modification
- Modified diet - IDDSI
- Thickened fluids

NBM

- NGT
- PEG
- Risk feeding/tastes for pleasure





Interventions for dysphagia

- **Strength/Skills training**
- Exercises
  - Facial Oral Tract Therapy (FOTT) *(Frank, 2007)*
  - Swallow stimulation
  - Effortful swallow
  - Masako Manoeuvre (tongue)*
  - Laryngeal elevation*
  - Head turn
  - Chin tuck
- and many others

Groher 1997;Hansen 2010; Hwang 2007; Logemann, 2008;
https://swallowingdisorderfoundation.com/oral-swallowing-exercises/

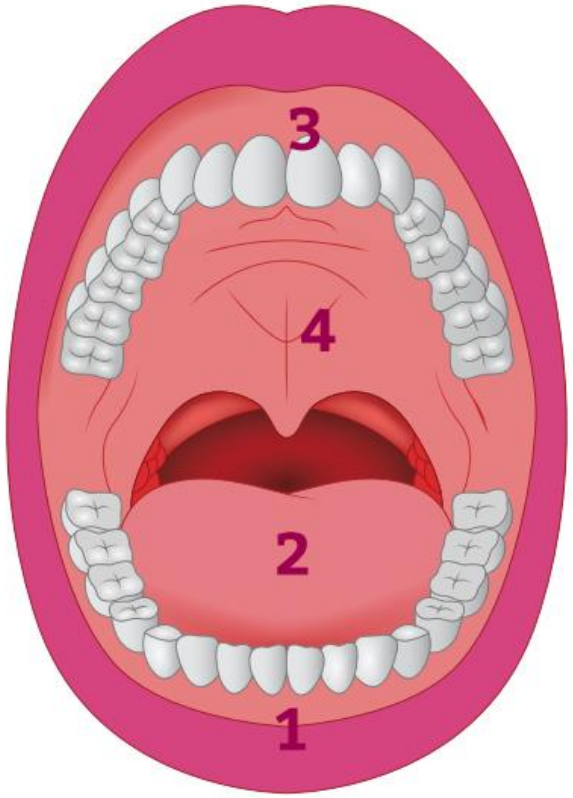
Workshop activity

Work in pairs or groups of 3:

1. Examine the face and mouth
2. Undertake a screening assessment
3. Undertake TWO swallow exercise strategies

Activity 1: Oral anatomy – 5 minutes

What to look for?



1. Lips: Pink & moist
2. Tongue: Pink, moist & clean
3. Teeth & gums: Clean, teeth are not broken or loose. Gums are not bleeding / inflamed
4. Cheeks / palate / under tongue: Clean, saliva present & looks healthy
5. Dentures: Clean & comfortable

It is important that both the dentures and the mouth are cleaned daily

https://mouthcarematters.hee.nhs.uk

Activity 2: Swallow screening – 5 minutes

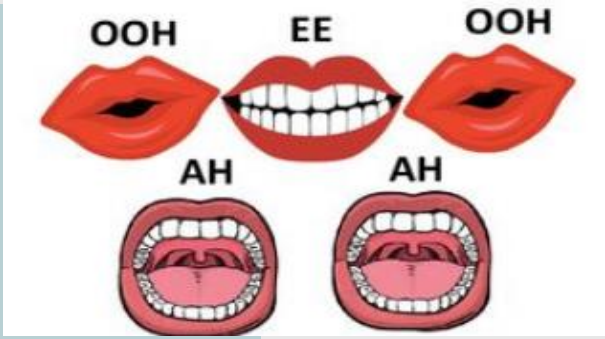
ORAL FUNCTION

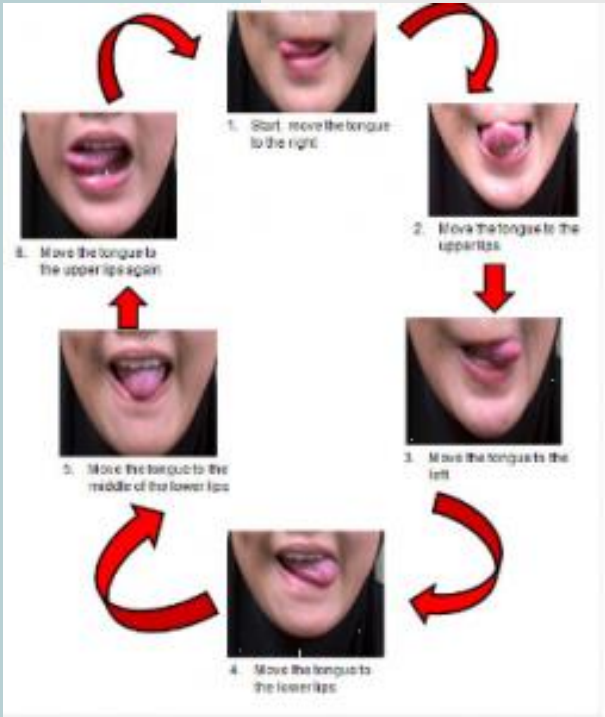
Lips:

- Spread
- Purse
- Open/close
- Seal lips and inflate

Tongue:

- Stick out
- Move laterally L&R
- Move up and down



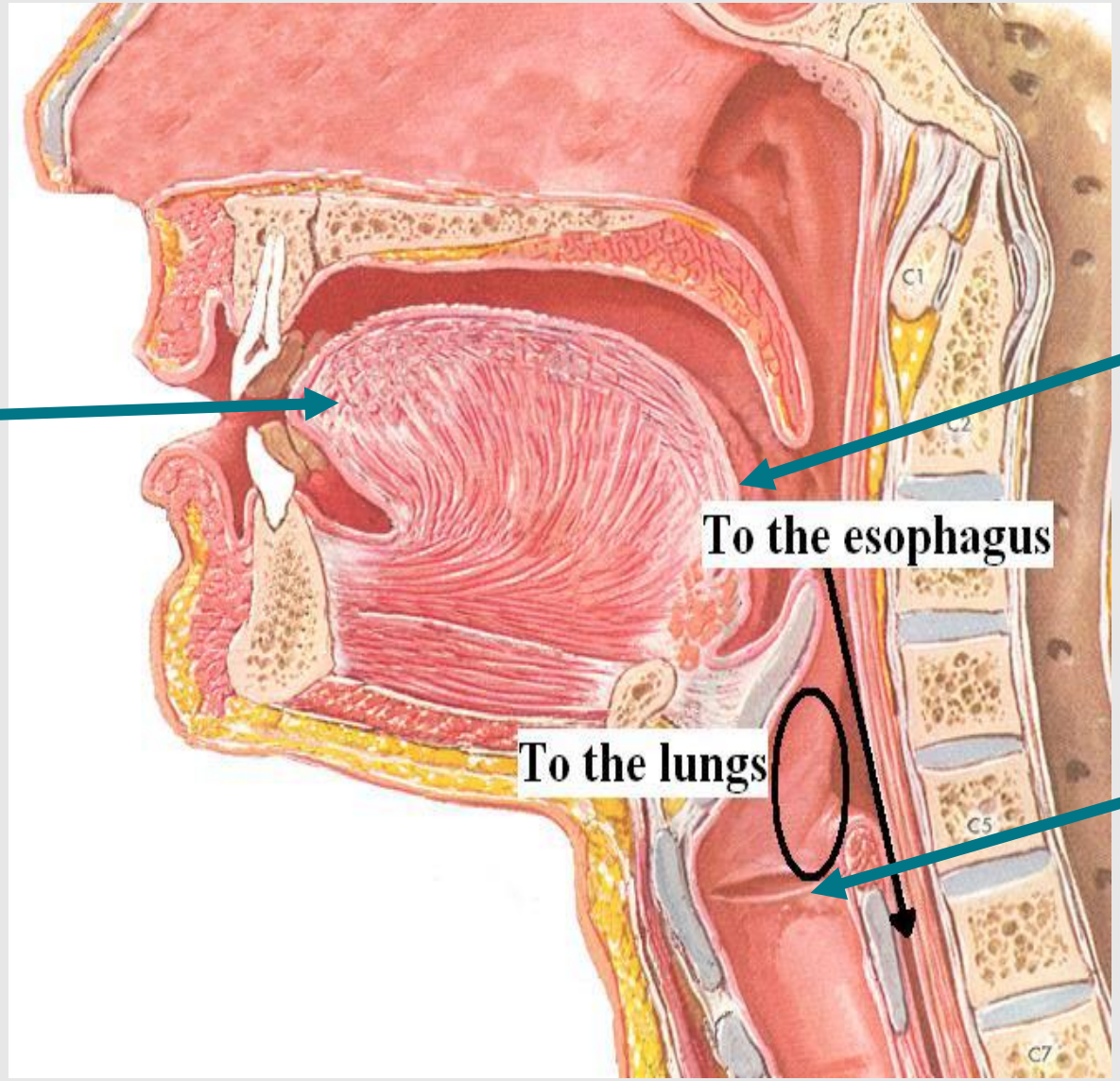


LARYNGEAL FUNCTION

- Cough to command
- Voice – prolonged vowel, count to 5
- Swallow own saliva
- Swallow sample material (mouth gel)

Strengthening the system

Tongue strengthening exercises



Tongue base strength and range exercises

Larynx raising/ pharynx squeezing exercises

Activity 3: Indirect swallow interventions

Tongue strength and resistance

1. Practise range of movement
2. Push tongue into cheek, L&R
3. Push against tongue tip

Base of tongue exercise (Masako)

1. Hold tongue gently between teeth (or hold with gauze)
2. Swallow saliva whilst in this position
3. Rest and repeat

Effortful Pitch Glides

1. Take a breath
2. On vowel ‘eee’ progressively raise your pitch, go as high as possible and feel the larynx rise
3. Reverse the exercise, starting at a high pitch and gradually moving to low

Further reading

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The Role of Speech and Language Therapy Supporting Nutritional Management in ICU

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The role of speech and language therapy in critical care

The role of speech and language therapists (SLTs) in critical care can be unclear so this article sets out the scope of practice to increase awareness of the value of SLTs as part of the wider multidisciplinary team.

The role of speech and language therapists in the intensive care unit

Journal of the Intensive Care Society
0(0) 1–5

DOI: 10.1177/1751143719875687
journals.sagepub.com/home/jics
SAGE

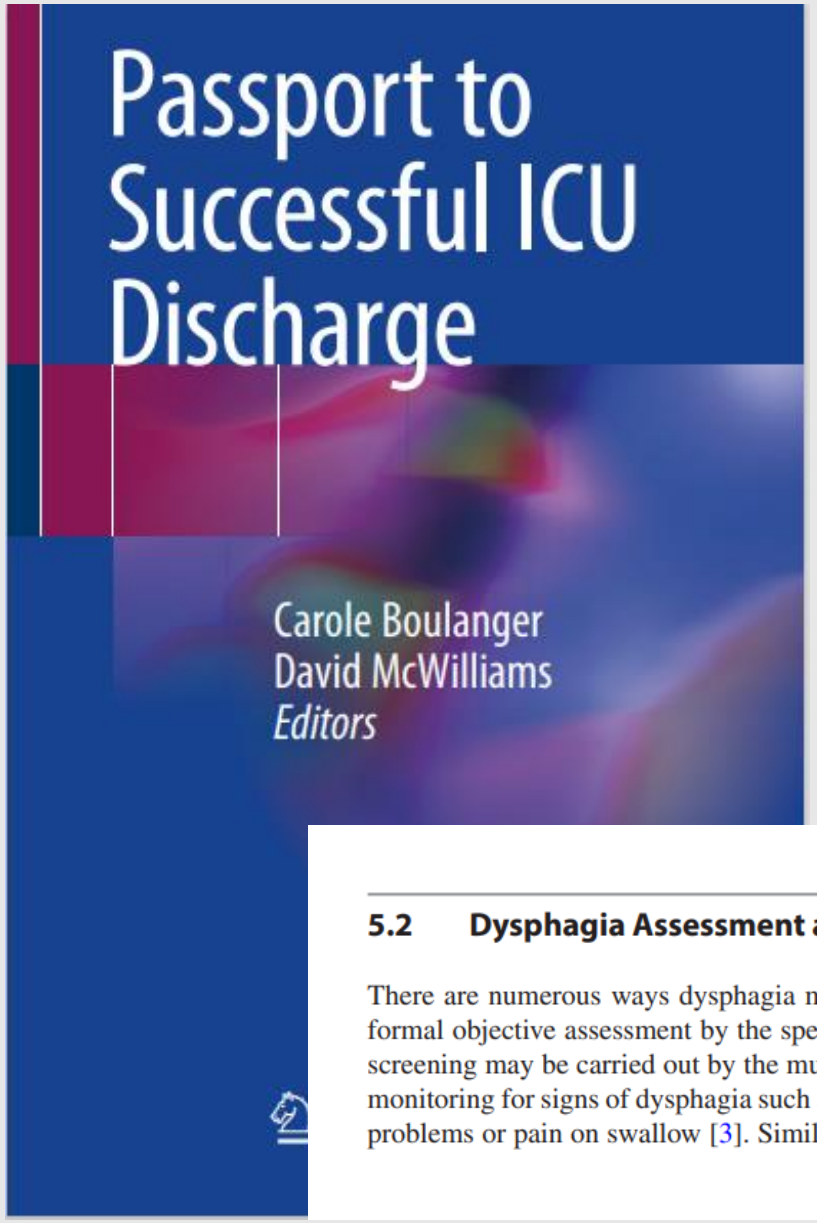
Jackie McRae[1,2], Elizabeth Montgomery[1], Zoë Garstang[1] and Eibhlin Cleary[1]

Mouth Care Challenges and the Use of the COVID-19 Oral Grading System

Identifying Risk Factors for Extubation in Patients with COVID-19

This paper describes the experiences of the Speech and Language Therapy (SLT) service at Nightingale Hospital, adapting to changing demands, which included upper airway challenges associated with extubation and oral management in patients with COVID-19.

Dry mouth in spinal cord injury: causes and treatment



5.2 Dysphagia Assessment and Screening

There are numerous ways dysphagia may be assessed, from bedside screening to formal objective assessment by the speech and language therapist (SLT). Informal screening may be carried out by the multi-disciplinary team (MDT) at the bedside, monitoring for signs of dysphagia such as coughing or choking or patients reporting problems or pain on swallow [3]. Similarly, team members may notice food debris

The Power of Communication 8

Jackie McRae, Aeron Ginnelly, Helen Newman, Gemma Clunie, and Mari Viviers

8.1 Speech, Communication and Its Breakdown

Human communication comes in many forms and serves to transmit a message from one person to another or others. Messages may relate to needs, wishes, thoughts and ideas, or perform social functions. Paralinguistic tools such as rate of speech, intonation, volume, body language and facial expression provide nuances and further information to the listener. Context is key to the interpretation of a message [1]. For critical illness, the inability to communicate can be one of the ts of admission to ICU [2–4], leading to feelings of fear, anxi- reasing the risk of short- and long-term psychological harm is a term that has been put forward to describe the complex -related communication impairment and the effect they bear

FRESENIUS KABI
caring for life

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Dysphagia in Intensive Care

Step 1 Assessment

Before oral intake, assess patient-related and clinical risk factors

PATIENT-RELATED FACTORS

LOW Risk	MEDIUM Risk	HIGH Risk
☐ Age: < 65 years ☐ No frailty ☐ Previous endotracheal intubation (ET) for in total < 24hrs ☐ No respiratory interventions	☐ Age: < 65 years, with frailty ☐ Post maxillofacial surgery ☐ Previous ET for in total > 24hrs ☐ Receiving non-invasive ventilation ☐ History of cognitive impairment e.g. dementia	☐ Age: > 65 years, with frailty ☐ Neurological, respiratory or cardio-thoracic diagnosis ☐ Previous ET for in total > 48hrs ☐ Tracheostomy in situ with or without ventilation ☐ History of bulbar dysfunction or neurological condition e.g. Multiple Sclerosis, Parkinson's Disease, Motor Neurone Disease

CLINICAL RISK FACTORS

LOW Risk	MEDIUM Risk	HIGH Risk
☐ Normal bulbar function (e.g. normal speech and swallow) ☐ Normal respiratory rate and secretion management ☐ Awake and alert	☐ Voice problems present ☐ Variable respiration rate ☐ Dry mouth ☐ Confusion (but improving)	☐ Signs of asymmetry or weakness in face, lips or tongue ☐ Inability to cough or swallow saliva ☐ High respiratory rate > 25 breaths per minute ☐ High secretion load/suction needs ☐ Fluctuating drowsiness, unable to interact reliably

Step 2 Management

Follow up with appropriate swallowing tests and nutritional care plan involving the multi-disciplinary team

- **Perform a thin fluid trial**
- Thin liquids can be taken through a straw or standard cup
- → If no change to breathing, voice or cough trigger proceed to **food trial**
- Monitor for **symptoms of dysphagia:** chestiness, increased need for suction, food/fluid on suction, cough or wet voice

If symptoms of dysphagia develop: **stop** oral intake, check changes in clinical presentation and refer to a trained specialist for assessment (e.g speech and language therapist, physician)

- **No dysphagia present but with/at risk of malnutrition:**
- **Consider high protein and high energy ONS**

- **Screen with oral trials** when patient is optimised (awake, alert and well positioned)
- **Follow local protocols to assess at the bedside swallow function**

If adverse effects (e.g. cough, wet voice or changes to respiratory pattern) occur: **stop** oral intake and refer to speech and language therapy.

If any signs of bulbar impairments, refer to to a trained specialist (e.g speech and language therapist, physician) for further assessment prior to oral trials and nutritional plan

- **Oral intake possible but dysphagia present:**
- **Consider thickened or texture modified high protein and high energy ONS and/or enteral tube feeding**

- Before oral intake commences refer to a trained specialist (e.g. speech and language therapist, physician) for assessment
- **Discuss the nutrition care plan with the multidisciplinary team** (e.g. speech and language therapist, dietitian, physician)

- **Oral intake not possible due to severe dysphagia:**
- **Consider enteral tube feeding**

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