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DYSPHAGIA AWARENESS

This article provides an overview of dysphagia, its impact on patients' wellbeing, and the role of texture-modified (TM) food in treatment.

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Dysphagia (swallowing difficulties) is a common condition within the elderly, and research has suggested that approximately 35% of hospital admissions for dysphagia were for individuals aged 75 or over.[1] Despite its prevalence, dysphagia is a widely underdiagnosed condition for various reasons, including the assumption that dysphagia is a natural part of ageing, or fear of reaching out for support.

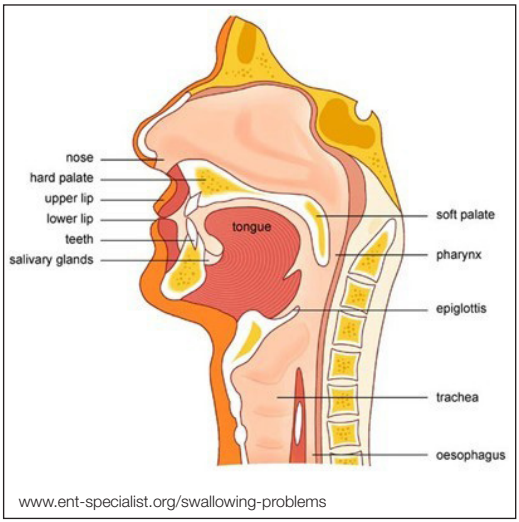
The word *dysphagia* originates from the Greek words *dys* (difficulty) and *phagia* (to eat) and is used to define a disruption to the usual safe passage of food from the mouth to the stomach. In certain cases, dysphagia is an acute condition that resolves itself – many cases, however, are chronic – the swallow progressively deteriorating to become a permanent condition.

A HEALTHY SWALLOW

Research suggests we swallow around 600 times each day;[2] for most of us, this is a reflexive, sub-conscious process requiring little to no thought. However, swallowing mechanisms are complex, involving over 30 nerves and muscles.[3] It can be broken down into the following four stages:

1. **Pre-oral.** Sensory processing, for example, the smell and sight of food, can trigger saliva production, in preparation of food entering the mouth.
2. **Oral** *(voluntary)*. When food enters the mouth, the lips close to form a seal, whilst the tongue moves food onto the teeth for processing. Food particles reduce in size as mastication begins, and a bolus (rounded mass of chewed food) is formed and softened as saliva is incorporated. The tongue provides sensory feedback to assess whether further processing is needed. When chewing has finished, the bolus is moved to the back of the throat in preparation to swallow.
3. **Pharyngeal** *(reflexive)*. The voice box is raised and the vocal folds close, as the epiglottis and soft palate seal off the trachea and nasal cavity respectively, suspending breathing momentarily. The pharynx contracts and the upper oesophageal sphincter opens, allowing the bolus to be passed through into the oesophagus.
4. **Oesophageal**. Peristalsis (wave-like muscular contractions)

Figure 1: Swallowing Anatomy (ENT, 2018)



www.ent-specialist.org/swallowing-problems

moves the bolus down the oesophagus, and the lower oesophageal sphincter opens to allow the bolus to pass into the stomach. The sphincter then closes, preventing stomach contents re-entering the oesophagus.

Understanding the technicalities involved in a normal, healthy swallow highlights the multitude of mechanisms that can potentially be disrupted. There are two main types of dysphagia:

1 **oropharyngeal** dysphagia relating to issues initiating the swallow; and
2 **oesophageal** dysphagia, which applies to problems moving the bolus safely from the mouth to the stomach.

CAUSES OF DYSPHAGIA

Whilst a swallow can deteriorate with age, dysphagia is more often a secondary condition that occurs as a result of a primary health concern. For example, dysphagia is a common side effect in many cancer treatments, despite research focusing on head and neck cancer.[4]

Dysphagia prevalence is increased in those with congenital or developmental conditions;[5,6] physical damage such as burns and head injuries can also impact the quality and safety of a swallow. However, the main cluster of conditions, perhaps most frequently seen in healthcare that impact a swallow, are those that cause nerve damage either acutely (eg, stroke), or chronically over time (eg, neurodegenerative diseases, including dementia, motor neurone disease, and Parkinson's). Dysphagia can also result from poor posture, ill-fitting dentures, and medical or surgical complications.

IDENTIFYING DYSPHAGIA

Underdiagnosis of dysphagia implies a better awareness of the signs is needed, particularly amongst healthcare professionals. Some of the clearer signs of dysphagia include coughing or choking when eating, nasal regurgitation, and frequent chest infections; drooling, and a wet-sounding voice are also indications of swallowing difficulties.

A better appreciation of the more subtle signs is perhaps more crucial in identifying undetected cases of dysphagia. Behaviour changes surrounding food and mealtimes can often be a discreet indicator of a change in swallow. This can include individuals isolating themselves at mealtimes, or hesitancy to discuss food and their dietary intake. Other, less prominent signs include eye watering, throat clearing, respiration difficulty, and multiple swallows for one mouthful of food.

Dysphagia diagnoses are predominantly given by speech and language therapists (SLTs), following bedside assessments. Here, the quality of a patient's swallow is assessed using foods of a varying consistency, and a physical examination identifies any physiological issues. In more obscure cases, videofluoroscopy (moving X-ray examination) or other instrumental investigations can be used to identify swallowing issues.

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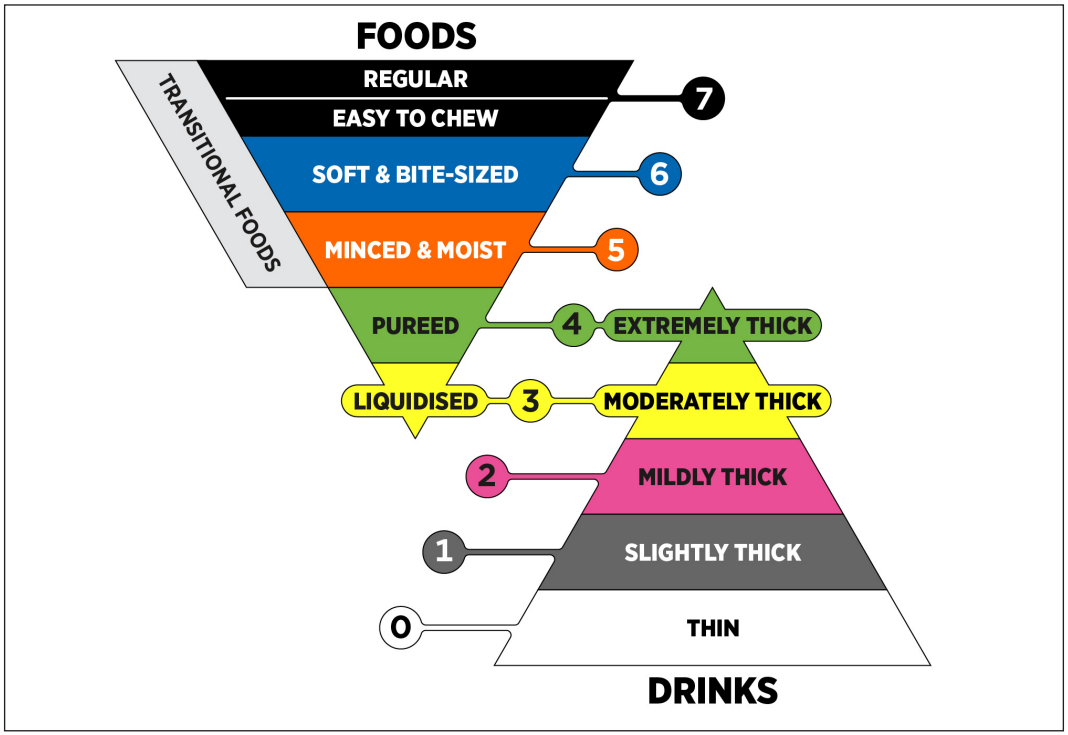
Figure 2: IDDSI Framework (IDDSI, 2019)



CONSEQUENCES OF DYSPHAGIA

Choking

Choking can be defined as the inability to breathe, due to the trachea being blocked, constricted, or swollen shut.[7] It is a serious consequence of dysphagia that not only has a clinical impact, but also impacts quality of life – particularly if undiagnosed dysphagia has resulted in an individual repeatedly choking on unsafe consistencies of food and drink. Repeated distressing events like these can negatively impact dietary and fluid intake, increasing risk of malnutrition and dehydration.

Aspiration

Aspiration is the inhalation of foreign material into the lungs or trachea, occurring in over half of all dysphagic individuals.[8] The normal response to food entering the airways is a strong, reflex cough which propels the substance up and out into the pharynx. However, in some cases of dysphagia, due to nerve damage, this reflex does not occur and aspiration takes place without any visible response This is known as silent aspiration. Research estimates 40% of aspirating patients will do so silently.[9]

Aspiration pneumonia

Aspiration can introduce foreign, often bacteria-containing, substances into the lungs. These bacteria can harbour, causing a chest infection that can then progress to aspiration pneumonia. This condition is often life-threatening and requires urgent hospitalisation, with mortality rates ranging between 20-62%.[9]

Malnutrition

Even when dysphagia is correctly managed, many will struggle to meet their nutrition and fluid requirements. It is thought that approximately 51% of those with dysphagia also suffer from malnutrition,[8] commonly due to fears of choking, loss of dignity or embarrassment, as well as fatigue or discomfort when eating. The clinical significance of malnutrition is well-documented: these individuals have an increased mortality risk, longer and more frequent hospital stays and poorer wound healing and immune function.[10]

Dignity and quality of life

The clinical consequences of dysphagia are well understood by healthcare professionals, but the social and psychological impacts of dysphagia are not as widely researched. One study found that only 45% of dysphagic participants enjoyed mealtimes, with 41% instead experiencing anxiety, and around a third of participants avoid eating with others.[11] Approximately 50% were eating less than before their diagnosis, further emphasising the risk of malnutrition when living with this condition.

MANAGEMENT OF DYSPHAGIA

After diagnosis, a SLT will identify the correct textures of food and fluid that a patient should consume to swallow safely. Occasionally, enteral feeding is required, but texture-modified (TM) food and drinks are the first and main line of treatment. TM food helps individuals maintain a safe swallow by compensating for any losses in oral processing skills; the bolus being significantly easier to control as it passes from the mouth to the stomach via the oesophagus.

The International Dysphagia Diet Standardisation Initiative (IDDSI) has been pivotal in implementing a global standardisation of TM food and drink, ensuring the safety and consistency of textures of meals around the world (see Figure 2). There are eight levels, ranging from 0-7, with unique names, colours and numbers given for each texture.

Presentation and quality

Producing an appetising, tasty, nutritious and safe meal is a challenging, but crucial task in maintaining the nutritional status of patients with dysphagia – particularly when modifying texture. Creating a plated, moulded meal with distinct components has been shown to increase consumption by up to 75%.[12] They can also help those with cognitive issues identify the food in front of them as edible, as meals bare a closer resemblance to a regular plate of food. Shaped foods also promote dignity and provide individuals with the confidence to dine with others.

The nutrition within TM meals is also extremely important. For certain meal components, liquids may be added to make the texture suitable, which in turn, has potential to dilute the nutritional content of the meal. More food would need to be consumed to meet the same nutrition; with this population already eating less, the malnutrition risk for those with dysphagia is exacerbated.

Fluid

Around 75% of people with dysphagia suffer from dehydration.[13] Fluid may need to be thickened for some dysphagic individuals – posing a further challenge. Despite its prevalence in management strategies, there is limited evidence to suggest that thickened liquids positively contribute to the health outcomes of patients.[14] Studies suggest commercial thickeners are not well tolerated; the viscosity of fluid being inversely correlated to the quantity of fluid consumed.[15] Alternative, more preferable solutions include pre-thickened oral nutritional supplements, and adherence to the 'free water protocol' (FWP).

The FWP enables eligible patients with dysphagia to drink regular water between meals. If water entering the lungs does not contain any food particles from the mouth, this is often resolved without complication, as it is not recognised as a foreign substance. If the correct mouth care is administered, the risk of aspiration pneumonia remains similar to those on thickened fluid, with those following the FWP exhibiting improved hydration status' and increased quality of life.[16,17]

TIPS FOR DIETETIC PRACTICE

1. Dietitians in both acute and community settings are well positioned to not only identify changes in dietary intake, but also subtle behaviour changes in patients. A lack of interest or willingness to discuss food, as well as withdrawal or anxiety at mealtimes, are issues that may stem from a new or worsening swallowing difficulty that may be evident during patient assessments.
2. There is evidence to suggest some dietitians have a poor understanding of dysphagia[18] and the best practices in its treatment. Continuous education through further research, conversations with colleagues, articles and courses, improve the likelihood

of high-quality care provision with increased ability to educate and signpost patients and staff to useful resources. The above can also be said for the IDDSI framework; it's important to ensure the correct language is used consistently, especially in front of patients.

3 Dehydration is directly associated with poorer clinical outcomes,[19] and often inadequately managed in hospitals. Generally, when treating those with dysphagia, the focus falls on nutritional intake, however, fluid has equal importance when carrying out dietary assessments.

CONCLUSION

There is no one correct way to manage and treat dysphagia – it is a complex condition requiring a patient-centred approach. Working as a multi-disciplinary team is crucial in providing high-quality care, and ensures nutritional outcomes are aligned with other medical goals.

For patients, food is so much more than just calories and protein; it relates to dignity, nostalgia, socialising and their general wellbeing. By keeping a holistic picture of dysphagia in mind, we are more likely to not only improve the clinical outcomes of those with swallowing difficulties, but also improve their overall quality of life.

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Questions relating to: *Dysphagia awareness* *Type your answers below, download and save or print for your records, or print and complete by hand.*	
Q.1	What are the four different phases of a swallow?
A	
Q.2	Name and define the two main types of dysphagia.
A	
Q.3	Outline three of the more subtle signs of dysphagia.
A	
Q.4	Roughly how many people with dysphagia suffer from malnutrition? Provide two reasons why malnutrition is prevalent in those with swallowing difficulties.
A	
Q.5	Discuss some of the social and psychological impacts of dysphagia.
A	
Q.6	Describe, in your own words, what the free water protocol is, and highlight one key advantage.
A	
Q.7	Highlight two benefits of moulded texture-modified meals.
A	
Q.8	Discuss how you could adapt your practice to benefit those living with dysphagia.
A	
Please type additional notes here.	