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DYSPHAGIA AND THE ROLE OF TEXTURE MODIFIED FOOD

This article provides an overview of the condition and discusses treatment and management to improve nutritional status of patients.

The ability to enjoy eating communally can often prove problematic, especially as we get older. We've seen alarming evidence of social isolation during the current COVID-19 pandemic, as family members are having to socially distance themselves from elderly relatives. Various health problems can lead to dysphagia – otherwise known as swallowing difficulties – which in itself presents a huge barrier in the ability to enjoy meals with others.

For most of us, the process of swallowing occurs without much consideration being given to the sequences or stages. It is fair to say that many of us may take the process for granted, and even the voluntary stages of swallowing (see Table 1) can be carried out with ease and little effort.

Humans swallow around 900 times per day, including around three times per hour, even whilst asleep.^{1,2} Despite the multitude of times that swallowing typically occurs in a day, it is important to remember that swallowing is a complex process, and one that is at risk of going wrong for many. Successful swallowing requires the coordination of more than 30 nerves and muscles and

involves different areas of the brain, including the cortex and the subcortex.³

Typically, swallowing is broken up into four separate stages, although it is defined in the literature as '*a continuous process with substantive interdependencies*'.⁴ The four distinct stages of swallowing can be seen in Table 1 overleaf.³

PREVALENCE OF DYSPHAGIA

Swallowing problems among adults occur secondary to several illnesses and diseases, such as stroke, chronic obstructive pulmonary disease, cancers including head and neck cancers, lung cancer and cancer of the oesophagus, learning disabilities and progressive neurological disorders, including dementia, Parkinson's disease, motor neurone disease, multiple sclerosis, and muscular dystrophy.

This list is not exhaustive, although hopefully, helps to illustrate the fact that dysphagia can affect a large percentage of the population. Cautious estimates suggest that around 8% of the world's population is affected by dysphagia.⁵ It is challenging to determine the true prevalence of dysphagia, due to its



Emily Stuart RD

Emily Stuart is an HCPC registered dietitian for *apetito* and Wiltshire Farm Foods; healthcare expert; member of the BDA, with several years clinical experience in a variety of settings including acute and primary care dietetics.



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Table 1: Stages of swallowing

Swallowing stage	What's happening?
Pre-oral stage	We begin the swallowing process before the food is placed in our mouth. Stimulation of the salivary glands occurs in response to seeing, and smelling, a bolus. Environmental factors such as where and how the food is served and eaten, are important here. The pre-oral stage is a voluntary stage of swallowing.
Oral stage	Another voluntary process within the stages of swallowing is the oral stage. Here, the bolus is processed and prepared for swallowing. This includes the coordination of the tongue along with chewing and muscles in the mouth to prevent food or fluid spillage, and finally moving the bolus to the pharynx.
Pharyngeal stage	An involuntary stage that occurs rapidly (in approximately one second). A successful pharyngeal stage will see the safe transfer of the bolus through the pharynx to the oesophagus. Crucially, airway protection also occurs during the pharyngeal stage of swallowing, and food is prevented from entering the airway.
Oesophageal stage	Another involuntary, and final stage in the swallowing process. Peristalsis propels food through the oesophagus and into the stomach with the assistance of gravity.

presentation forming part of other conditions. The research that is available, however, shows us that dysphagia is most common among those who have experienced a stroke.

Estimates suggest that 40-78% of people who survive a stroke go on to live with dysphagia.⁶ Within that group of people, of those with initial dysphagia following stroke, 76% will remain with a moderate to severe dysphagia and 15% will continue to have profound dysphagia.⁷

Another area where dysphagia is incredibly prevalent is in residential care homes, where up to 75% of people have been found to be living with dysphagia.⁸ It is evident from a combination of these statistics, considering that the occurrence of stroke increases with age,⁹ and the fact that the average age of a care home resident is 87,¹⁰ that dysphagia among adults is typically a condition that disproportionately affects those who fit the definition of an 'older adult' (widely agreed as those over 65 years of age).

DEFINITION OF DYSPHAGIA

Dysphagia is commonly referred to as 'problems with swallowing', although it is important to remember that the full definition encapsulates difficulties with chewing, eating, and drinking

too. To fully define, the following quotation captures it succinctly, whilst considering the complexities involved:

*'Eating and drinking disorders [which] may occur in the oral, pharyngeal and oesophageal stages of deglutition. Subsumed in this definition are problems positioning food in the mouth and in oral movements, including sucking, mastication and the process of swallowing.'*¹¹

Now we have explored the complexities of the swallowing process, we can begin to look at the impact of dysphagia, particularly among those adults most at risk, and review the role of texture modified food in its management.

IDENTIFICATION, MANAGEMENT AND TREATMENT OF DYSPHAGIA

Speech and Language Therapists (SLTs) are key healthcare professionals who play a crucial role in dysphagia care. They are involved in the assessment, diagnosis and management of the condition, and are a vital part of supporting with the difficulties that dysphagia can present to an individual's physical and mental health and their quality of life. Furthermore, SLTs can relieve pressure on hospitals by using their skills to reduce incidence of aspiration pneumonia



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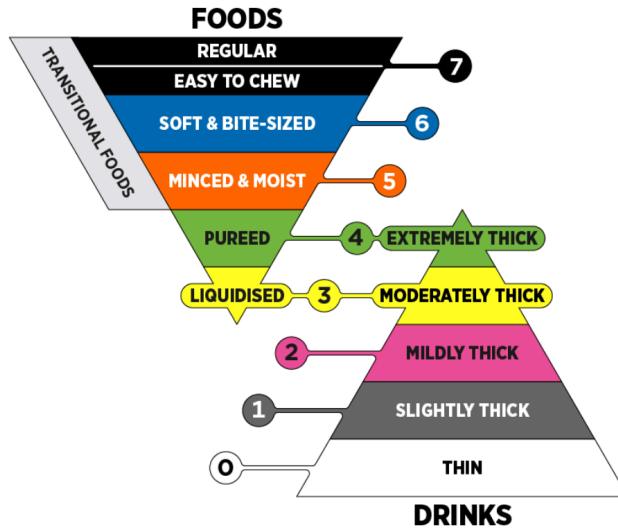
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Figure 1: IDDSI Framework (IDDSI, 2019)



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among people with dysphagia,¹¹ both of which are leading causes of hospitalisation and mortality, particularly among older adults.¹²

In addition, registered dietitians should work collaboratively as part of the multidisciplinary team (MDT) that helps to care for those with dysphagia. Among their roles could be the following levels of essential input:

Providing advice on enhancing the dining experience for those living with dysphagia. For example, advising on the benefits and implementation of protected mealtimes in healthcare settings, social opportunities for eating, the importance of a pleasant table setting and appropriate seating positions.

Supporting people with dysphagia to meet their nutritional needs. This will include assessment, dietetic diagnosis, treatment, and monitoring, and mealtime observation may also be beneficial. The delivery of dietetic treatment will depend on the severity of the dysphagia and the nutritional deficits present. Nutrition support can be provided entirely orally with the use of modified texture food, with a combination of texture modified food and oral nutritional supplements, or alongside supplementary or sole use of enteral feeding.

Endorsing the use of the IDDSI framework in the relevant care setting (see Figure 1). Since

2018, healthcare settings across the UK have been implementing the IDDSI framework, with the support of IDDSI¹³ and it has been widely accepted as the best practice approach for determining and testing levels of texture modified foods and drinks.

Liaising with catering staff and/or relatives involved in providing texture modified meals and drinks.

Recommending suitable ready-prepared texture modified meal options (level to be specified by an SLT), for example those that offer an enhanced level of energy and protein for people at risk of malnutrition.

Championing of a patient-centered approach to dysphagia management and nutritional care. Dietitians can support patients to continue to enjoy their favourite meals, but at a safe texture for their level of dysphagia, and to supplement their nutritional intake with supplements they tolerate and enjoy, where needed.

The above MDT approach to providing dysphagia care is essential for the reasons already mentioned, including supporting with the difficulties that dysphagia can present to an individual's physical and mental health, and their quality of life. More specifically, management of the key risks associated with dysphagia is also essential. Dysphagia is related to impaired

quality of life, aspiration and subsequent pneumonia, respiratory infection, and increased mortality.¹⁴ Specific to nutrition and hydration, dysphagia is related to a significantly increased risk of malnutrition and dehydration.¹⁵

TEXTURE MODIFIED FOOD AND DYSPHAGIA MANAGEMENT

Texture modified food is the most common form of dietary management for people with dysphagia and is considered a compensatory strategy. Modifying the consistency and texture of foods and drinks aims to maintain oral nutrition where possible, for as long as possible, and to reduce the risk of choking, aspiration, and subsequent pneumonia.⁵

For safety, it is of the utmost importance that texture modified meals are consistent in texture. As already discussed, an SLT will determine the person's ability to safely manage food textures and will recommend an optimal diet based on this assessment. It is then the responsibility of those providing food for the person with dysphagia to ensure that there is consistency with their food and fluids, and that they fit the IDDSI descriptors and guidance from the SLT.

Industry also has a role to play. Various options are available on the market to provide

people living with dysphagia with convenient, ready prepared texture modified meals, and care must be taken to ensure a consistent product is produced.

The potential embarrassment and social awkwardness that can accompany the feeling of eating something completely different to everyone else can be hugely debilitating for some. This in turn, can contribute to an increased risk of developing malnutrition due to a drop in nutritional intake, or a reduction in the nutritional quality of the food consumed.

Extremely important, therefore, is the visual appearance of food and the additional element of dining with dignity; something that can be challenging for people who are living with dysphagia.

CONCLUSION

It is essential that people living with dysphagia and healthcare professionals taking care of them, are aware of the ways in which they can maintain or improve their nutritional status. Assisting them to dine with dignity by offering tasty, nutritious and recognisable meals in the form of texture modified food, can not only help them prevent social isolation but can also ensure they get the vital nutrition that they require.

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Questions relating to: *Dysphagia and the role of texture modified food*
Type your answers below, download and save or print for your records, or print and complete by hand.

Q.1 What are the stages of swallowing and in which order do they occur?

A

Q.2 Explain the pre-oral stage of swallowing.

A

Q.3 What are the main risks of dysphagia?

A

Q.4 Why does dysphagia disproportionately affect the elderly?

A

Q.5 Describe the role of speech and language therapists in dysphagia management.

A

Q.6 In what ways does the dietitian support people with dysphagia to meet their nutritional needs?

A

Q.7 Explain some of the benefits of using texture modified food to manage dysphagia.

A

Q.8 In what ways can a patient-centred approach help prevent malnutrition?

Please type additional notes here . . .