



Alison Smith
Specialist Dietitian
Peterborough
Community
Services

Alison specialises in oral nutrition support in Elderly Care Homes and in nutrition support in progressive neurological conditions. She is PR Officer for NAGE (a post that she also held between 2003 and 2007).

DYSPHAGIA PRODUCT UPDATE

The publication of the Dysphagia Diet Food Texture Descriptors in April 2011 (1) has brought improved clarity nationally to the food consistencies required for those with dysphagia. The authors have also recommended that: 'a review of the descriptors for thickened fluids should be undertaken,' which would help to improve clarity further.

In addition to understanding the food and fluid textures required for people with dysphagia, it is also important to have an understanding of the products currently available to help achieve these textures. Many of these products can also help patients with dysphagia achieve an adequate nutritional intake.

THICKENERS

Prescribable thickeners are a fairly recently developed product, the first ones becoming available in the late 1980s. They are used to thicken fluids to a thicker consistency than normal, as thicker fluids can be safer for people with dysphagia to drink than unthickened fluid. Thickeners can also be used to provide consistency in pureed food, preventing purees from splitting into solid and liquid once pureed.

There are currently several products on the market and reformulation of these, or production of new products with improved characteristics, is not uncommon.

The majority of thickeners are made from modified starch which can have several less than desirable characteristics. When starch-based thickeners are mixed with fluid, the mouth feel tends to be 'granular' rather than smooth which can be off-putting for patients. Starch-based thickeners also have the disadvantage of being sensitive to amylase (a component of saliva). This can be a significant issue because saliva will be introduced to the thickened drink from the first sip. If, as is common in dysphagic patients, it takes a long time to finish a drink, the action of amylase

on the thickener can result in the drink separating into the correct texture and a thinner texture over a period of time, or can result in the action of the thickener being lost altogether (7) – both of which can increase the risk of aspiration. However, the action of amylase on starch-based thickeners is also dependent on pH of drinks and Hanson et al (2) found that

while amylase broke down thickener in water very quickly it did not have the same action in orange juice.

Starch-based thickeners generally take a few minutes to thicken to the correct texture. However, it is not uncommon when a drink does not thicken instantly, for patients or carers to add extra thickener, thinking that the amount they added first was insufficient. This will obviously result in the drink becoming significantly thicker than the advised consistency, which can impact on the safety of swallowing and is likely to reduce palatability as the thicker a drink is, the less well it tends to be tolerated (7).

The way that starch-based thickeners work also means that a drink thickened with a starch-based thickener will tend to get thicker over time, so that even if the correct texture is achieved initially, the drink may become thicker the longer it is left (3). Again, as people with dysphagia can take a long time to consume a drink, this is a real concern.

New thickeners containing gums, either instead of or in addition to starch, are now appearing. There can be some advantages to these - gums are not broken down by amylase and may not give thickened fluids the same 'granular' texture as starch-based thickeners. The thickening process of gums is also different to that of starch, so that they tend to thicken more quickly and maintain their texture for longer, so that gum-based thickeners should not get thicker over time. However, introduction of saliva (and therefore amylase) to a drink thickened with a combination of starch and gums may still result in the fluid breaking down into a thinner consistency (7).

Thickening fluid slows down its transit through the mouth which, as well as helping to achieve a safe swallow, can also affect how taste is perceived. This means that the person who requires thickened fluid may find that drinks they would normally enjoy now taste less pleasant, which of course can put people off drinking adequate fluid or using thickener in their drinks.

Mertz Garcia et al (3) and Sopade et al (4) have found that many different factors (including pH, fat and protein content) can influence how thickener and different fluids interact with each other. This means that different types of fluid will need different amounts of thickener added in order to achieve the same texture.

It is therefore important to ensure that patients and their carers understand that the amounts of thickener needed to achieve a particular texture, as advised by manufacturers, should be treated as a guide rather than as an absolute.

Table 1: Thickeners

Product	Manufacturer	Thickener type
Multi-Thick	Abbott	Starch
Nutlis	Nutricia	Amylase resistant starch Maltodextrin Tara gum Xantham gum Guar gum
Resource Thicken Up	Nestle	Starch
Resource Thicken Up Clear	Nestle	Xantham gum Maltodextrin
Thick and Easy	Fresenius Kabi	Starch Maltodextrin
Thixo-D	Sutherland	Starch
Thixo-D Cal-Free	Sutherland	Xantham gum
Vitaquick	Vitaflo	Starch

Table 2 Pre-thickened drinks

Product	Manufacturer	Consistency available	Volume	Nutritional content per serving
Resource Thickened Drinks	Nestle	'Syrup' 'Custard'	114ml cup	101-103 kcal (both textures)
Slō Drinks	Slō Drinks	Stage 1 Stage 2 Stage 3	115ml cup (requires addition of water)	24-57 kcal 30-63 kcal 56-57 kcal
Thick and Easy Thickened Juice	Fresenius Kabi	'Honey'	118ml cup 1.42 litre bottle	68-85 kcal

Table 3 Thickened ONS - Stages 1 and 2

Product	Manufacturer	Consistency available	Volume	Nutritional content per serving
Fresubin Thickened	Fresenius Kabi	Stage 1 Stage 2	200ml	300kcal 20g protein
Nutrilis Complete	Nutricia	Stage 1 (Stage 2 not yet available)	125ml	306kcal 12g protein

Table 4 ONS - Stage 3

Product	Manufacturer	Volume	Nutritional content per serving
Ensure Plus Crème	Abbott	125g	171kcal/7g protein
Forticreme Complete	Nutricia	125g	200kcal/12g protein
Fortisip Fruit Dessert	Nutricia	150g	200kcal/10.5g protein
Fresubin Creme	Fresenius Kabi	125g	231kcal/ 12.5g protein
Fresubin Yocreme	Fresenius Kabi	125g	187kcal/9.3g protein
Resource Dessert Energy	Nestle	125g	200kcal/ 6g protein
Resource Dessert Fruit	Nestle	125g	200kcal/ 6.25g protein

PRE-THICKENED DRINKS

Pre-thickened drinks can be very helpful for patients who find it difficult to prepare thickened drinks, for example due to limited manual dexterity. They may also be better tolerated by patients who dislike the 'granular' texture imparted by starch-based thickeners.

One of the biggest issues with pre-thickened drinks in our current financial climate is the cost, which may be enough in some Trusts to prevent them being used at all. However, it is worth bearing in mind that although they are more costly than powdered thickener for addition to the patients own drinks, the additional cost could be seen as an 'invest to save' opportunity as follows.

If a patient dislikes thickener added to drinks, there are two potential negative consequences, both of which could actually increase costs to the NHS through a need for additional prescribed medications and in severe cases acute admission. The patient may choose to drink less fluid than they require which could result in dehydration, constipation and UTIs. Alternatively, the patient may choose not to thicken their drinks at all, which is likely to significantly increase the risk of aspiration and subsequent chest infections or pneumonia. And all these disorders will of course need to be treated.

One issue with pre-thickened drinks is that the texture descriptors tend to be different for each product which can be confusing, making choosing the correct consistency more difficult.

PRE-THICKENED ORAL NUTRITIONAL SUPPLEMENTS (ONS)

A recent innovation in dysphagia products has been the development of pre-thickened ONS. How to achieve a consistently thickened ONS has been an issue within all care settings for years, so these products have certainly filled a gap in the market.

As yet there are only two companies specifically producing pre-thickened ONS in Stage 1 and Stage 2 consistencies, but dessert type supplements made by all nutrition companies are suitable for patients requiring Stage 3 thickened fluids.

Thickened ONS do cost more than non-thickened equivalent products, but the cost of the thickener must also be taken into account when looking at the overall cost incurred. For example, Fresubin Thickened costs £2.10 per bottle compared with Fresubin Protein Energy which costs £1.82 per bottle; however, sufficient Thick and Easy to thicken the latter to Stage 1 would cost approx 36p.

PUREED FOOD

There are currently no pureed foods available on prescription, as both Clinutren Mix and Vegenat Med (which were prescribable, powdered pureed foods) are no longer available in the UK despite Vegenat still being listed in BNF 62 (Sept 2011). There are also no ready-made pureed meals for adults currently available in supermarkets.

Several companies, including Apetito/Wiltshire Farm Foods, Findus Care Cuisine, Kealth and Simply Puree, produce pureed meals for adults with dysphagia and all but Findus Care Cuisine offer home delivery for individuals and some are also offered by Meals on Wheels services.

Many of the dishes available are moulded so that their appearance is better than can easily be achieved for food pureed in either a domestic environment or many care environments. Some of these companies also ensure that the energy and protein content of the meals is high. This is especially important as the nutritional intake of those consuming pureed food tends to be lower than that of equivalent patients consuming normal food, and patients having pureed food often do not meet their nutritional requirements for either energy or protein (5).

CONCLUSION

Prevalence of dysphagia may be as high as 22 percent in those over 50 years of age (6) and, as the population is aging, we are likely to see more patients with dysphagia over the coming years. Having an understanding of the dysphagia products available both on and off prescription will help when advising patients with dysphagia and when working with colleagues, especially Speech and Language Therapists.

Questions relating to: *Dysphagia product update.*

Type your answers below and then **print for your records**. Alternatively print and complete answers by hand.

Q.1	What are 'prescribable thickeners' used for?
A	
Q.2	Describe two disadvantages of starch-based thickeners.
A	
Q.3	What negative effects can amylase have on thickeners?
A	
Q.4	Describe why starch-based thickeners can be a cause of concern to patients with dysphagia.
A	
Q.5	What are the advantages of gum-based thickeners?
A	
Q.6	What factors can influence how thickeners and fluids interact with each other?
A	
Q.7	What are the risks of not thickening fluids to a dysphagic patient?
A	
Q.8	Which two companies are producing thickened oral nutritional supplements for dysphagia Stage 1 and 2?
A	
Q.9	Why is it important for pureed food to be high in energy and protein?
A	
Please type extra notes here . . .	

Your advertisement here!
The most efficient way to reach dietitians
 Call 0845 450 2125 or email sales@networkhealthgroup.co.uk