

How to manage dysphagia

Difficulty with swallowing (dysphagia) is common in people with dementia and often has serious health consequences, including malnutrition and even death. Speech pathologist **Bernadette Dutton** explains why and outlines strategies care staff can use to support safe swallowing and help someone with dysphagia maintain the pleasures of tasting and eating for as long as possible

Enjoying a meal with other people can help build relationships and improve quality of life. However, people with dementia can have difficulties with eating and drinking caused by an impairment in swallowing, which impacts their nutrition and social connectedness. This in turn can lead to feelings of isolation and depression (Vesey 2013).

An impairment in swallowing is called dysphagia (dis-fay-jah). This is any problem with sucking, swallowing, drinking, chewing, eating, controlling saliva, taking medication or protecting the lungs from food or drink 'going the wrong way'. A Canadian study found the prevalence of dysphagia in residential aged care is as high as 68% (Steele *et al* 1997).

It is likely that a person with dementia will present with dysphagia signs during the progression of the disease (Suh *et al* 2009), with drinking and eating problems nearly universal in people with advanced dementia (Hanson *et al* 2013).

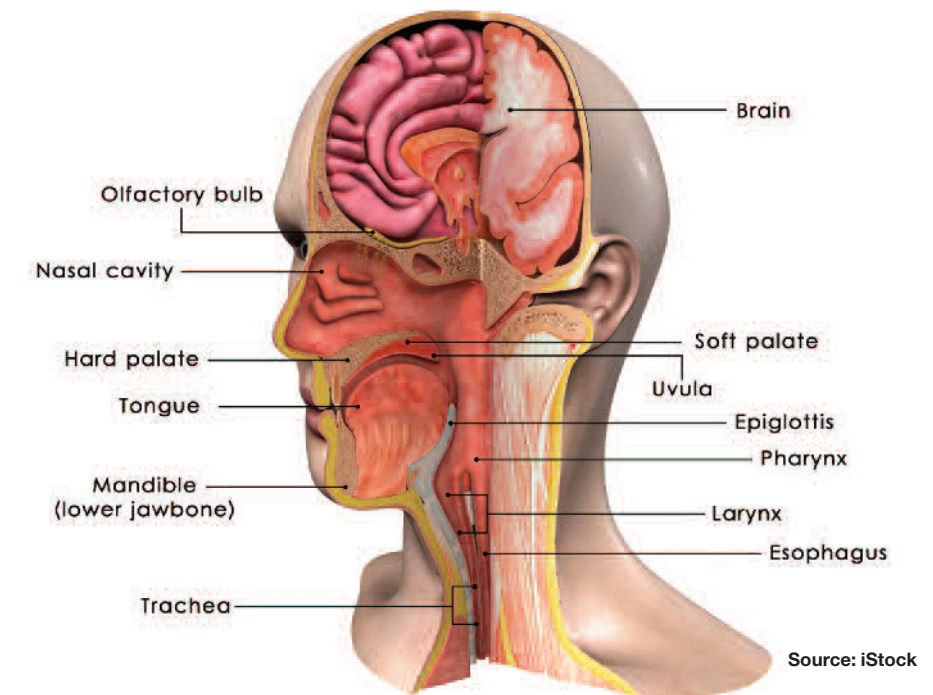
What causes dysphagia?

Dysphagia can result from sensory, anatomical, physiological, pharmacological, motor or neurological changes. It is important to note it can be acute, chronic, gradual and fluctuating in nature, requiring close monitoring for improvement or decline.

Dysphagia as a result of dementia is likely the result of neuropathological changes compounded with typical age-related changes in sensory and motor function (Easterling & Robbins 2008). Normal ageing-related changes include: reduced sensation in the pharynx and supraglottal area (Logemann 1990) (see graphic above). The diffuse cortical and subcortical brain damage seen in dementia can impact the sequence and behaviour of eating, drinking and swallowing.

The consequences

The consequences of dysphagia can include dehydration, malnutrition, weight loss, immune-compromise, aspiration (inhalation of foreign material



and even death (Hudson *et al* 2000).

Langmore *et al* (2002) highlight dysphagia and aspiration pneumonia (food and / or fluid entering the lungs) as common complications of dementia that may slowly worsen as dementia progresses. There are several studies reporting that a high proportion of people with dementia die as a result of pneumonia including aspiration pneumonia (Beard *et al* 1996; Burnes *et al* 1990). Ibrahim *et al* (2015) identified death by choking as the second highest cause of preventable death in residential aged care facilities in Victoria, Australia.

Mitchell *et al* (2009) studied residents in 323 nursing homes and found pneumonia, febrile episodes and eating problems were frequent complications in people with advanced dementia. They also found they had impaired ability to complete motor and perceptual tasks, presenting challenges for carers assisting them to eat and drink (Chang & Roberts 2008).

People with dementia who are dependent on being fed have reduced ability to control the rate, portion size,

timing, type and texture of food and fluid that is consumed. Consequently, there may be a mismatch between these choices made by the carer and the person's ability to safely swallow what is provided. Tristani and Riquelme (2015) found that as dementia progresses the increasing dependence on being fed subsequently increases the risk of dysphagia, aspiration pneumonia, choking, dehydration and malnutrition. Langmore and colleagues (2002) found dependency on others for food, drinks and oral hygiene (teeth and denture cleaning) are strong predictors of aspiration.

Swallowing and eating difficulties

The behavioural, cognitive and neurological changes associated with dementia can have a significant impact on a person's ability to eat and feed themselves, as well as their nutritional status and overall quality of life (Alagiakrishnan *et al* 2013).

In the early stages of dementia people may experience difficulties in preparing food, changes in taste and smell and

Mealtime behaviours and eating difficulties that may be experienced by people with dementia

Early stage

- Difficulty preparing food.
- Taste changes.
- Smell changes.
- Spitting out food.
- Reduced oral and pharyngeal strength.
- Needing help with plate set up and positioning.

Later stage

- Dependence on being fed, requiring physical assistance to eat and drink.
- Not recognising food.
- Unable to hold cutlery.
- Not swallowing.
- Leaving food on the plate.

- Refusing to eat.
- Not aware of hunger signs.
- Unaware they have just eaten.
- Turns head away.
- Playing with food.
- Eating rapidly.
- Unable to chew and prepare a bolus.
- Repeated chomping or chewing of food with delayed or no swallow.
- Increased oral phase (transfer of foods and drinks from the mouth to pharynx takes longer).
- Taking a long time to swallow.
- Not opening the mouth for food.
- Poor visual perception of food on a plate (eg mashed potato on a white plate may not be seen).

Signs of oral or pharyngeal dysphagia

- Coughing or throat clearing when eating and drinking.
- Weak or absent cough.
- Weak or wet voice.
- Unable to swallow.
- Wet or gurgling voice.
- Slurred speech.
- Drooling.
- Unexplained weight loss.
- Unable to chew foods.
- Unable to feed self.
- Very slow eating and drinking.
- Food that is too difficult to chew, spitting food out.
- Turning the head away, avoiding food.
- Redness of the face during/ after the swallowing process.
- Watery eyes during or after food and drinks.

impaired swallowing. As cognitive decline progresses, they may develop more noticeable eating and swallowing issues including the inability to recognise food, request food, and feed themselves; they may even lose the desire to eat (Alagiakrishnan *et al* 2013).

Videofluoroscopic Swallow Studies (VFSS) have shown that people with dementia often have delayed swallow trigger times, deficits in bolus preparation (chewing) and increased oral transit time (Suh *et al* 2009).

A person with dementia can have reduced awareness of food or drinks in their mouth and either hold the food in their mouth or eat rapidly with large mouthfuls of food. Consequently, this can lead to premature spillage into the pharynx and ultimately increased aspiration risk (Langmore *et al* 2002).

Assessing, diagnosing and managing dysphagia

Dysphagia caused by cognitive and neurological changes from dementia currently cannot be cured, though it can be managed. It is extremely important people with dementia are closely observed for signs of dysphagia (see box above).

Early detection of dysphagia can reduce the incidence of malnutrition, dehydration, chest infections, aspiration pneumonia and reduce choking risks (Langmore *et al* 1998; Martino *et al* 2005). Failure to identify dysphagia has significant medical, social and emotional impacts.

Following a swallowing assessment, dysphagia management may involve the provision of thickened fluids and texture-modified foods, as well as educating

professionals, family and carers on compensatory strategies to maximise safe oral intake, while supporting the person with dysphagia to maintain the pleasures of tasting and eating for as long as possible.

Managing eating and drinking problems in people with advanced dementia especially, requires accurate clinical assessment and effective communication and collaboration between families, care providers, medical practitioners, speech pathologists and other interdisciplinary team members (Vitale *et al* 2009).

Speech pathologists have a comprehensive understanding of the muscles and nerves that are involved in speaking and swallowing and are the allied health professionals with specialised skills in the assessment, diagnosis and management of dysphagia.

Where possible an assessment by a speech pathologist should inform care planning around dysphagia management.

An assessment for dysphagia involves evaluating the person's past medical history, examining their oral, laryngeal and pharyngeal structures, reviewing current and past symptoms and observing the person consuming various food and drinks, at varied texture consistencies.

The speech pathologist will then identify the type and likely cause of the dysphagia and recommend compensatory or rehabilitative techniques and strategies (see p23) to help the person achieve a safe and efficient swallow.

Regular education for carers about techniques to support someone with dysphagia and dementia during mealtimes is essential. The skill of the person assisting someone to eat has a direct impact on the quality of the person's mealtime experience (Vitale 2009).

Techniques such as facing the person while giving them food, encouraging them to feed themselves, offering small amounts at a steady pace and using positive gentle language can maximise a person's dignity and quality of life, ultimately assisting with weight maintenance, nutrition and hydration over time.

Having knowledge of the physical process and stages of swallowing will help carers to understand why each person with dysphagia may present differently and ways that may assist the person with dysphagia to swallow safely. ➤

Strategies to support someone with dementia safely swallow

Ensure good oral hygiene

- Teeth should be cleaned at least twice a day – after breakfast and at night after dinner. This plays a major role in preventing aspiration pneumonia (Australian Dental Association; Cherin & McCullough 2010).
- Use simple instructions and gentle talking to encourage the person with dementia to clean their teeth.
- When assisting a person to clean their teeth, a range of techniques can be used, including:
Chaining: the carer begins brushing and the person with dementia takes over.
Bridging: the individual holds the brush while the carer brushes the teeth.
Hand-over-hand: the carer's hand is placed over the person with dementia's hand to guide brushing (Australian Dental Association).



Shaped puree finger food, including fruit salad and sandwiches, can be used to maximise mealtime enjoyment.

Photos: Flavour Creations

Use the environment

- Provide a natural, relaxed environment without unnecessary distractions. Create a dining experience that is home-like with minimal loud noises, and arrange furniture groupings that foster social interactions (Chaudhury *et al* 2013).
- Reduce unhelpful stimulation, eg loud noises such as blaring TV, loud scraping of cutlery, rolling trolleys, scraping legs of chairs.
- Protect mealtimes and avoid unnecessary interruptions, such as medical and allied health visits during these times.
- Keep the table setting simple and uncluttered to avoid unnecessary visual distractions (eg, remove condiments).
- Keep desserts out of sight until the end of the meal.

Ensure the person is ready

- If the person wears dentures, ensure they are well fitted.
- Ensure hearing aids are well fitted and turned on.
- Know each person's mealtime requirements and preferences as documented in their dietary profile.
- Ensure the person is sitting upright at 70-90 degrees.
- Involve the person with dementia as much as you can in the process of eating and drinking.

Assist eating

- Offer food and drink *only* when the person is fully alert.
- Supervise the person with dementia while they are eating and drinking.
- Eat or drink with the person so they can copy your eating and drinking.
- Encourage the person with dementia to hold their hand on the fork, spoon or cup, or provide hand-over-hand support: the person with dementia may hold their hand on their spoon or cup, the carer supports the person to bring the food or drink to their mouth. Remove assisted hand as independence is seen.
- Offer finger foods. If the person cannot pick up the finger food, place it in their hand and help them take it to their mouth.

- Sit at eye level to the person while assisting them to eat.
- Take time, do not rush the person.
- Remind them to chew and swallow.
- Wait for the person to swallow before introducing more drink or food.
- Do not force-feed or pry open the person's mouth.
- If fatigue is an issue, offer small amounts of food more frequently eg, six smaller/mini -meals a day.
- Encourage snacking throughout the day.
- If drinking fluids is easier than eating foods, offer more energy drinks or liquid food. Discuss this further with your medical team, speech pathologist and dietitian.
- Serve moulded or shaped minced and pureed meals to improve interest and recognition of the food being presented. This involves using special moulds to shape the food to resemble its original form (eg, pureed peas are shaped to look like peas). (See article p26 for more on this topic).

Assist swallowing

- Use techniques prescribed by a speech pathologist to make swallowing easier and safer, such as ensuring the person's head is up and looking forward.
- Offer small amounts of food at a time – do not overload the spoon; use a teaspoon.
- Provide breaks between mouthfuls, eg wait for three relaxed breaths before offering more food.
- Provide thickened fluids *only* if prescribed. Providing thickened fluids when it is not necessary can result in post-swallow aspiration or inability to swallow.
- If someone puts too much food in their mouth at one time, prompt the person to put down utensils between mouthfuls and slow down. It helps not to overfill their plate.

Enhance the senses

- Use smells to stimulate appetite, eg baked cake, brewed coffee.
- Alternate taste, texture or temperature of food throughout the meal to stimulate swallowing.
- Use tactile prompts, eg gentle massaging under the chin or stroking the cheek.
- Contrast colours to distinguish between food and plate, eg use of red, blue or black plate or place cake on a colourful napkin. Dunne and colleagues (2004) found colour contrast significantly increased the food intake of people with dementia (eg, serving creamy-coloured porridge in a coloured bowl rather than a white bowl).

Use appropriate equipment / cutlery

- Use modified equipment to promote self-feeding, such as cutlery, straws, cups and plate guards.
- Consult an occupational therapist for supported mealtime equipment ideas.

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What happens when we swallow?

Swallowing is something we do more than 900 times a day. It is necessary for controlling saliva, drinking, eating, protecting the airway, sucking and taking medications (Speech Pathology Australia 2012). Swallowing is essential for maintaining adequate hydration and nutrition and to assist general health and immunity.

To maintain safe eating and drinking and adequate nutrition, we must place food and fluids into our mouth, chew and swallow without allowing food or fluid to enter our airway.

In order for this to happen our oral, nasal, pharyngeal, laryngeal and esophageal muscles under voluntary and involuntary control are required to work in a coordinated sequence.

This sequential coordination involves neural input from several areas of the brain including the cortex, subcortex, brainstem and cranial nerves. Disruption or impairments at any stage to this sequence of events can result in an inefficient or unsafe swallow.

The four stages in swallowing

Impairments in swallowing can occur to varied degrees and at different phases in the swallowing process outlined here:

1) *Pre Oral Phase* – this involves preparing the food, cutting it up, placing food onto a fork or spoon, or using fingers to bring food or drink to the mouth.

2) *Oral Phase* – there are two steps: oral or bolus preparation; and oral transport.

Oral or bolus preparation: This involves chewing food into tiny pieces using teeth and jaw pressure to break the food down so it can safely pass through the pharynx into the esophagus.

Maximising the mealtime experience

Adopting the principles of person-centred care during mealtimes can ensure a person's medical, nutritional and psychological mealtime needs are met (Bennett *et al* 2015).

For example:

- Including the person with dementia in the meal planning and preparation, if possible, and in the dining experience is person-centred and mindful of each individual's preferences, likes, routines and needs.
- If possible, set the table together and sit and eat your own meal with the person.
- Offer foods the person enjoys and use enticing food aromas to tempt the appetite, eg freshly cooked biscuits, baked bread and barbecues.
- Arranging special meals such as high tea, picnics, barbecues and birthday celebrations can also help promote eating.

Maximising the mealtime needs of a person with dementia requires a multidisciplinary approach (Steele *et al* 1997). Fortunately, there is an increasing number of aged care providers, hospitals, food industry organisations, chefs, cooks, carers, dietitians, speech pathologists, occupational therapists, dentists and audiologists (just to name a few) focused on improving the mealtime experience and presentation of food for people with dementia.

Some of the great ideas available include shaped puree finger food, moulded food, edible gardens and enhancing the senses through smell, taste, noise, texture and vision. For more ideas, see The Lantern Project website at www.thelanternproject.com.au. The Lantern Project has also developed the EXPLORE app, which captures and collates participants' food memories in order to identify priorities for improving the aged care dining experience. App download details are on the project website.

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Oral transit: The lips form a seal to prevent food or drink falling from the mouth. Once the food is chewed and ready to swallow, the tongue pumps and pushes the food and drink to the back of the throat towards the pharynx.

3) *Pharyngeal phase* – once the swallow is triggered, a complex series of muscular contractions occur. Closure of the uvula ensures the bolus does not enter the naso-pharynx and safely passes into the pharynx. The larynx elevates and moves forward, resulting in the epiglottis

flipping to cover the airway, while the upper esophageal sphincter opens to enable safe passage of fluids and food into the esophagus.

4) *Esophageal phase* – this phase is automatic, with rhythmical peristalsis moving the bolus down the esophagus and into the stomach.

Conclusion

As dementia advances, the likelihood of dysphagia increases, along with the risk of choking and aspiration pneumonia. Organisations supporting people with dementia need care staff who are skilled at supporting someone to eat and drink, informed on safe swallowing techniques and able to provide a person-centred mealtime environment that promotes optimal eating and drinking to meet each person's maximum potential and physical capabilities.

Management of mealtimes for people with dementia requires a multidisciplinary approach. Involving a speech pathologist will help support people with dementia and dysphagia, their carers and loved ones. ■

Private speech pathologists who work with people with dysphagia are listed in the 'Find a Speech Pathologist' section of the Speech Pathology Australia website

Screening and assessment tools

The Eating Assessment Tool (EAT-10): a screening tool to measure swallowing difficulties (Belafsky *et al* 2008). Available at: www.nestlehealthscience.com/health-management/gastro-intestinal/dysphagia/eat-10.

Edinburgh Feeding Evaluation in Dementia Scale (Watson 1994; Stockdell & Amella 2008): an 11-item instrument assessing eating and feeding problems in people with late-stage dementia. The scale assists to identify a person's needs and build an effective care plan. It takes about five minutes to complete.

The Dementia Mealtime Assessment Tool (DMAT) (2016): enables carers to assess, select interventions and generate a person-centred care plan to support mealtime eating abilities and meal behaviours in people with advancing dementia. Details: www.thedmat.com

(www.speechpathologyaustralia.org.au). Local health services, primary health networks or My Aged Care (www.myagedcare.gov.au) may offer further funded options for servicing. For rural and remote support, swallowing assessments can also be conducted via telehealth.

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Resources and further reading

Eating and Drinking Well: Supporting People Living With Dementia:

an online workbook stemming from a Bournemouth University research project to equip nurses and care home staff with skills to improve the delivery of nutrition for people with dementia. The related **Eating and Drinking Well Nutritional Leaflet**, explaining how to increase food and fluid intake for people with dementia, is also available to download. Details: <http://bit.ly/2uEYf2d>.

It's All About The Food Not The Fork!, by Peter Morgan-Jones (with Lisa Greedy, Prudence Ellis and Danielle McIntosh; HammondCare Media) contains recipes for people on a smooth pureed diet, plus contacts for suppliers of thickeners and food moulds, and eating and drinking support organisations. Available at: www.hammond.com.au.

Texture-modified sausages: Lyndoch Living in Warrnambool, Victoria has created a texture modified meat sausage that looks, feels and tastes like a real sausage, for residents with swallowing difficulties. It now plans to improve the sausage and make it more widely available. Details: www.lyndoch.org.au.

The Essentials For Optimal Dysphagia Management in Aged Care:

a one-day workshop for aged care nursing staff, being presented by Food Solutions in Brisbane, Sydney and Melbourne. Online training will also be released soon. Dates and details: www.foodsolutions.com.au.

Food For Thought: Facilitating Independence With Finger Foods; Residents Happy to Help Themselves:

Two articles from *AJDC* (April/May 2013) offering meal options for people with moderate to advanced dementia. Available to read at www.journalofdementiacare.com.

Tibor's Kitchen: Tibor Paller is a Victorian-based chef and industry-recognised expert on texture-modified meals. He trains and mentors chefs in texture modified food preparation and presentation for health and aged care environments. Details: www.tiborkitchen.com.

Simple Sensational Soft: a cookbook for people with dysphagia, produced by Brightwater Care Group staff and residents. Available at: www.brightwatergroup.com/brightwater-main/brightwater-shop.