



Nutrition and hydration tips for stroke patients with dysphagia

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This article examines the nursing care that should be given to patients who have suffered a stroke (cerebrovascular accident or CVA) that has caused them to have dysphagia. It focuses on the maintenance of their nutrition and hydration needs through safe oral feeding practices and how the risk of aspiration can be managed. This is an important nursing issue, particularly as the Royal College of Physicians of Edinburgh (RCP, 2000) states that nutrition and hydration needs are often not met.

Dysphagia is an abnormality in swallowing and occurs in approximately 45 per cent of patients admitted to hospital with CVA (Royal College of Physicians, 2004). The altered physiology of this condition includes problems with the oral phase of swallowing, which may present as a difficulty containing liquid in the oral cavity or difficulty chewing or initiating a swallow of solid food. In some circumstances the pharyngeal clearance may be severely impaired, resulting in the patient being unable to ingest sufficient amounts of food to sustain life, which is when enteral feeding would be adopted (Palmer et al, 2000).

Dysphagia is associated with poor outcome, as complications can develop that affect rehabilitation, such as dehydration, starvation, weight loss,

malnutrition, silent aspiration (when the patient is unable to clear her or his throat due to a lack of cough reflex), aspiration (which can cause a blockage in the bronchus and lead to aspiration pneumonia), or chest infection and airway obstruction (RCP, 2004). There are also emotional complications from the stigma of being unable to eat, which is seen as a largely social activity, and the embarrassment, frustration or anger at needing assistance (Hamdy, 2004).

The nurse's role in the identification, assessment and management of dysphagia is to observe, assess, monitor and report complications, observe eating and drinking habits, diet and signs of adequate nutrition and hydration (Mitchell and Finlayson, 2000).

Swallowing assessment

Within 24 hours of admission, patients with CVA who are indicated to be at risk of dysphagia should have their swallowing assessed by a dysphagia-trained nurse, in accordance with guidelines from the RCP (2004), the Scottish Intercollegiate Guidelines Network (SIGN, 2004), the *National Service Framework for Older People* (Department of Health, 2001a) and the Collaborative Dysphagia Audit Study (CODA, 1997). Each patient should also be started on a stroke-care pathway and a plan of care for safe oral hydration and feeding, as recommended by the DoH (2001a). In the interests of patient safety, if there is no dysphagia-trained nurse available to undertake an assessment, patients should be kept nil-by-mouth and hydrated via intravenous infusion until reviewed by the speech and language therapist (SALT) (Mitchell and Finlayson, 2000).

Smithard (2000) states that adequate dysphagia training is necessary to prevent misleading results, inappropriate care pathways, irrelevant referrals and suboptimal therapy. The SIGN (2004) and the CODA (1997) state that this allows the dysphagia-trained nurse to deal with the majority of routine screening problems, meaning that only complex or persistent cases have to be referred to a SALT. However, Davies (2002) states that some nurses have debated this role as they feel that they do not have enough time to perform it.

The RCP (2004) and the SIGN (2004) agree that the bedside swallowing assessment is a more accurate assessment method than the gag reflex in identifying dysphagia, because the absence of a gag does not necessarily indicate that a patient is unable to swallow safely. Conversely, some people with

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Learning objectives

Each week *Nursing Times* publishes a guided learning article with reflection points to help you with your CPD. After reading the article you should be able to:

- Understand the anatomy and physiology of dysphagia;
- Identify the role of the nurse and other health care professionals in dysphagia assessment;
- Recognise the importance of adequate nutrition and hydration in stroke patients with dysphagia;
- Understand the importance of positioning to prevent aspiration in stroke patients with dysphagia.



BOX 1. PHYSICAL SIGNS OF ASPIRATION (DAVIES, 1999)

- Subtle refusal to eat
- Wet/gurgly voice
- Fatigue
- Drooling
- Eye watering
- Coughing
- Choking
- Breathlessness
- Pallor
- Pain

dysphagia may still have a normal gag reflex. This is supported by Perry (2001), who found that the swallowing assessment produced a higher proportion of accurate results than the gag reflex. Alternative diagnostic procedures are available, such as videofluoroscopy, flexible endoscopic evaluation of swallowing, cervical auscultation and ultrasound. However, these are all performed by radiologists or doctors, so this article focuses on bedside swallowing assessment, which is carried out by a nurse.

Evidence from the RCP (2004), the SIGN (2004) and the Agency for Healthcare Research and Quality (1999) shows that the bedside swallowing assessment is just as reliable in detecting most aspiration, even silent. It is cheap, can be easily performed by a dysphagia-trained nurse, does not involve moving patients to the radiology department and prevents unnecessary exposure to radiation.

The nurse should first perform a preassessment check, which includes ensuring the patient is awake and alert enough to be assessed, is able to or can be assisted to sit in an upright position and has a clear chest (to prevent aspiration) (Davies, 1999).

In accordance with SIGN (2004) guidelines, the pre-oral stage should include ensuring that the patient has a normal facial expression and clean mouth and teeth or dentures. This ensures that dental plaque is removed and pathogenic organisms do not cause infection which can lead to aspiration pneumonia (Terpenning et al, 2001); and helps to stimulate saliva flow (Mitchell and Finlayson, 2000). The nurse should also observe whether the patient can cope with their saliva and can cough and, if not, refer them to a SALT for further assessment.

The oral stage of the assessment includes observing the patient's spontaneous oral movements, that is, licking the lips, opening and closing the mouth and yawning or smiling (SIGN, 2004). The nurse

should also check that the patient's speech is intelligible and, if it is not, refer them on to a SALT for a communication assessment.

The pharyngeal stage includes checking that the patient can react to a wet spoon and spontaneously swallow after its withdrawal (also known as the water-swallow test). The nurse should then feel the larynx for a swallow reflex, observe if the voice sounds clear and if breathing is easy and, if not, keep the patient nil-by-mouth and hydrated with IV fluids until they have been reviewed by a SALT.

During the swallowing assessment different consistencies of fluid and food should be introduced to see what the patient can tolerate. Fluids can include a normal swallow, followed by jelly-thickened water, then normal water and food, such as mashed banana, followed by bread and butter, then biscuits. After each swallow the patient should be observed for at least a minute, to see if there is a delayed cough response (Palmer et al, 2000). Immediately afterwards the patient's temperature should be recorded, as this will rise during aspiration, and oxygen saturation levels, which will fall during aspiration (Mitchell and Finlayson, 2000). However, Higgins (2005) states that patients may present with normal oxygen saturation levels despite being hypoxic, because pulse oximetry only measures haemoglobin oxygen saturation and does not provide information on haemoglobin concentration, oxygen delivery to the tissues or ventilatory function. Therefore, physical signs of aspiration should also be observed (Box 1).

If it is suspected that a patient has aspirated the assessment should be stopped and the nurse should attempt to get the patient to cough to clear the airway, clean any residue from the mouth, ensure they are in an upright position and, if required, use suction. The episode should then be documented in the care plan, appropriateness of the diet/fluids reviewed and the patient referred to a SALT for further assessment. Such patients should be closely monitored for the next two to four hours; if signs of aspiration continue, the doctor should be notified.

Nutritional assessment

Guidance from the RCP (2004), the SIGN (2004) and the DoH (2001a; 2001b) states that nurses should undertake a nutritional assessment within 48 hours of a patient's admission. While completing the swallowing assessment the nurse could include an assessment of the patient's clinical history and nutritional needs and those identified as high risk should be referred to the dietitian and a SALT.

This is supported by Hamdy (2004), who states that the swallowing assessment should include the clinical assessment of the patient's nutritional status, posture, breathing and cooperation levels, and the SIGN (2004), which agrees that clinical history should be used to take into account comorbidities and other risk

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factors such as smoking and respiratory disease. These will identify if a patient is at an increased risk of developing aspiration pneumonia. In accordance with the SIGN (2004) both the swallowing and nutritional assessment should be repeated at regular intervals to ensure accurate treatment.

Body mass index

The SIGN (2004) states that the patient's body mass index (BMI) should be calculated on admission to establish a baseline, which helps to prevent malnutrition. However, the British Association for Parenteral and Enteral Nutrition – which developed the Malnutrition Screening Tool (2003) – states that monitoring weight change provides more accurate results than BMI, which can be affected by factors such as oedema, as accumulated water in the tissues will give a false impression of the patient's BMI.

Nutrition

The dietitian will decide what type and texture of diet should be commenced. Mitchell and Finlayson (2000) state that modified texture can enhance safer swallowing and improve control by helping to prevent the patient 'pocketing' food between the teeth and cheek or retaining chewed food in the pharynx. The consistency of drinks should not be too thick as they can become less acceptable to the patient who may then reduce fluid intake.

The dietitian may decide that a patient who is at a high risk of malnutrition requires a high-energy, high-protein diet, as recommended by Finestone and Finestone-Greene (2005). Mitchell and Finlayson (2000) agree that a high calorific content is essential to compensate for reduced intake and the additional physical effort needed by the patient to eat and drink. Weetch (2001) recommends that patients be provided with chilled foods because these stimulate the swallow reflex.

The nurse should ask about food preferences as the DoH (2001a) states that it is important to involve the patient in treatment options. Simpson (2002) agrees that this helps patients maintain autonomy and

hopefully encourages eating by ensuring appetising food is provided. This is supported by the NMC (2002), which states that a good relationship is achieved when the patient and the nurse can work cooperatively. Relatives should also be involved in decisions about care, supported by guidance from the SIGN (2004).

Hydration

Following guidance from the RCP (2004), if a patient only has a small fluid intake the nurse should administer IV fluids to ensure hydration needs are met, reflecting findings from Gibbon (1996) who found that CVA patients require a daily fluid intake of two litres. If calculations show that a patient is not consuming enough calories, she or he should be referred to the dietitian, who can calculate nutritional intake and decide if extra fortified supplements are required. These supplements are recommended by the SIGN (2004) and Potter (2001), who found that they can prevent weight loss, increase energy levels and reduce mortality.

Protected mealtimes

Mitchell and Finlayson (2000) state that protected mealtimes are important to give patients an opportunity to enjoy meals in a quiet, pleasant environment without distractions from visitors. This can also prevent embarrassment if they require dietary assistance. However, if a relative is present at mealtimes because they want to help their loved one to eat, they should be given information on dysphagia, nutrition, diet and positioning, and taught safe and effective feeding techniques.

Environment

Environmental factors impinge on the activities of living and should be taken into account when preparing the eating environment (Roper et al, 2000). This includes: checking that the table is at the correct height and not cluttered with litter; and asking patients if they need the toilet, want to wash their hands or clean their teeth or dentures before eating. Napkins should also be available if patients want to wipe their mouths, thus maintaining dignity.

Positioning techniques

Positioning techniques to maintain the patient's airway during eating, therefore ensuring optimum safety, can be recommended by a SALT, physiotherapist or occupational therapist (OT). Correct positioning is essential as reduced muscle tone, sensation loss and paralysis can cause airway obstruction, aspiration, reflux, chest infection and pneumonia.

The OT can also advise the patient what adaptive crockery and cutlery can be used when they have recovered enough to start self-feeding. Adaptive utensils allow patients to grip their food more effectively, thus improving nutritional intake and

Guided reflection



Use the following points to write a reflection for your PREP portfolio:

- Explain how this subject could be relevant to a patient in your area;
- Highlight the key points contained in the article;
- Outline something new you have learnt;
- Consider how you could use this information in the care of a patient;
- Explain how you intend to follow up what you have learnt.

BOX 2. POSITIONING OF DYSPHAGIC PATIENTS (MITCHELL AND FINLAYSON, 2000)

- Sit patient upright with 90° hip and knee flexion, feet supported flat on floor, trunk and head in midline and head flexed slightly forward with chin down (neck flexion)
- Supports may be necessary for the head or trunk
- If patient's head is unstable, support the forehead with hand (a cervical collar should not be used as it can impede swallowing)
- For bedbound patient, use high Fowler's position: head and neck supported and neck slightly flexed
- When there is hemiplegia (unilateral paralysis of one side of the body), avoid neck extension and aspiration by tilting patient's head slightly to unaffected side and rotate head towards affected side, to help with detection of food
- Advise patient to hold breath before swallowing to improve pharyngeal clearance of the bolus and reduce aspiration

helping to maintain their independence and improve self-esteem, which helps with long-term rehabilitation. Before the patient is discharged the OT can perform a kitchen assessment to determine whether it is safe for them to prepare meals and whether they require any adaptive aids such as jar openers.

Before helping the patient to change posture, the RCN (2000) recommends that the nurse completes a moving and handling risk assessment, to ensure the safety of both patient and staff (Box 2).

Homonymous hemianopia (when the same part of the visual field, right or left, is lost in both eyes) will mean a patient can only see the food on one side of their plate. If this condition is suspected – for example because the patient only brushes one side of the hair, it can be confirmed by performing a simple test such as drawing a clock and asking the patient to write in the numbers. If they only write on one side of the page this will show where food should be placed on the plate to ensure the patient can see it all.

Feeding a dysphagic patient

When offering dietary assistance the nurse should offer support but try to maintain patient independence, which helps with rehabilitation (Simpson, 2002). This includes the nurse sitting squarely to the patient, to indicate involvement, leaning forward in a posture that shows a wish to meet the patient's needs, and maintaining eye contact to convey a relaxed approach (Egan, 1990). Salladay (1996) states that this plays an important part in non-verbal communication, as it shows the nurse has time and respect for the patient and is not 'too busy to care'.

Weetch (2001) recommends placing a small teaspoon of food at a time into the unaffected side of the mouth (if applicable), avoiding touching the teeth or placing food too far back. To help patients clear their throats, food and fluid should be alternated and coughing encouraged after swallowing.

After the patient has finished eating, the nurse should

check the mouth for retained food and oral care should be provided – the patient may be unaware of 'pocketed' food due to reduced sensation in the mouth, and this can lead to aspiration (Mitchell and Finlayson, 2000). Patients can also be taught to check their mouth for themselves with the tongue if 'pocketing' is a problem. They should be advised to stay sitting upright for at least 30 minutes after finishing their meal to aid digestion and prevent aspiration (Weetch, 2001). Finally, to maintain their safety, patients should be given their call bell in case they do experience aspiration or other problems.

After the meal, the fluid balance and food chart should be completed to ensure the patient is receiving the intake recommended by the dietitian to prevent dehydration and malnourishment (Simpson, 2002). It is important that the nurse completes these charts accurately as they are accountable for their actions (NMC, 2002). They should be completed after patients have finished eating, recording the volume consumed rather than that dispensed (Morrison, 2000).

Implications for practice

In summary, dysphagia is a common problem that is distressing and can be life-threatening, therefore early detection and appropriate treatment is crucial. A dysphagia-trained nurse should perform the swallowing assessment, which is more accurate than the gag reflex and is an essential step in achieving a partnership with both the patient and specialist health care professionals.

The dietitian and a SALT then use the results from this assessment to determine the consistency and texture of the diet to be given. The risk of aspiration can be managed by using positioning techniques recommended by the physiotherapist and OT – such as the 90° hip and knee and chin-down methods – as well as monitoring for physiological changes, such as a rise in temperature and a reduction in oxygen saturation levels. ■

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