

# Dysphagia - Unravelling the Myths

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In their everyday practice, nurses often care for patients who have difficulty swallowing (dysphagia). In addition, nurses are often the first to observe signs and symptoms of dysphagia in newly admitted patients (for example, stroke) or in patients hospitalised with a progressive condition that affects swallowing (for example, amyotrophic lateral sclerosis). For this reason it is important for nurses to have a good understanding of dysphagia, so that they can screen high-risk patients, advocate prompt diagnosis, use compensatory interventions and educate patients and their families.

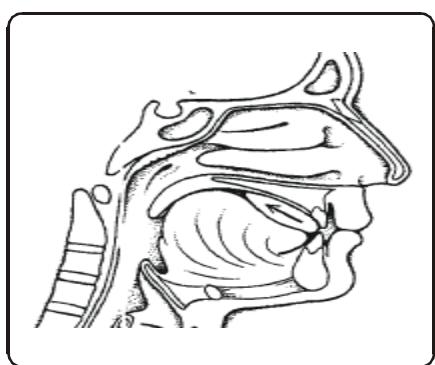
This review outlines the normal swallowing reflex and discusses the assessment, diagnosis and plan of care for the dysphagic patient. This plan needs to be adhered to 24 hours a day.

## Stages of swallowing

Swallowing is a complex series of events that starts when food is placed in the mouth and ends when it arrives in the stomach. Cranial nerves V, VII, IX, X and XII are involved in swallowing, as they innervate facial and oral muscles, as well as the tongue, the pharynx, the oesophagus and other structures in the throat. The sense of smell (CN I) is associated with eating as well, but is not routinely tested.

The oral stage of swallowing is under the person's voluntary control. During **the oral preparatory stage**, food

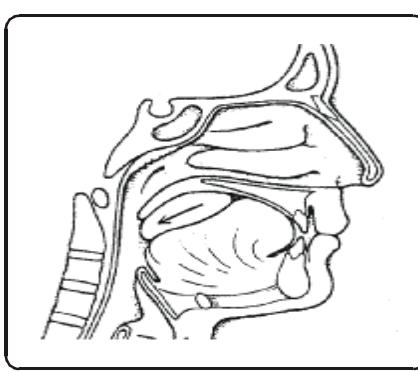
is reduced to a soft, flexible bolus that can easily be swallowed. Salivation (mediated through CN VII), lip closure (CN VII), chewing-



"1. In the oral preparatory phase, food is chewed and formed into a bolus through repetitive, coordinated movements of the mandible, teeth, and tongue.

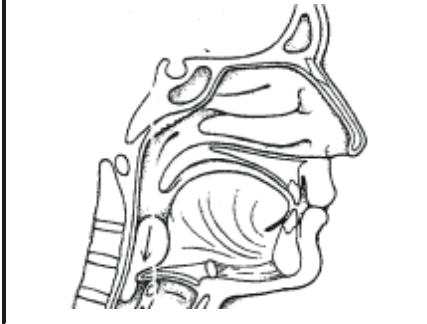
ing (CN V) and tongue movement (CN XII) are important during this stage.

When the bolus is ready for swallowing, the anterior tongue elevates and squeezes the bolus against the hard palate, propelling it toward the pharynx. This is **the oral stage**.



3. During the oral phase, the anterior tongue elevates and squeezes the bolus against the hard palate, propelling it toward the pharynx, which opens to receive it.

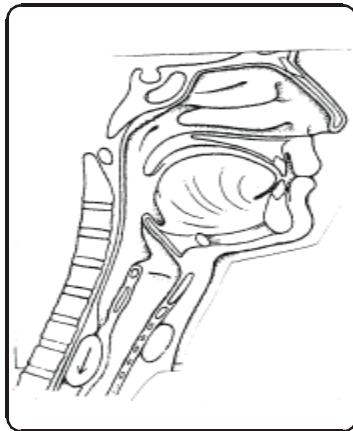
As the back of the tongue moves down, the soft palate moves up, and the pharynx opens to receive the bolus. This is **the pharyngeal stage** of swallowing. Swallowing becomes involuntary or reflexive at this point. During this stage, the larynx (voice box) closes tightly and breathing stops to prevent food from entering the lungs.



5. The swallowing reflex is triggered during the pharyngeal phase, as the tongue and pharynx push the bolus past the closed airway and into the esophagus.

**The oesophageal stage** begins when food enters the oesophagus. Liquids usually descend in 3 -5 seconds, and solids in 8 - 20 seconds, depending on the texture and consistency of food.

1. During the final esophageal phase, the peristaltic wave that originated in the pharynx moves through the esophagus, carrying the bolus to the stomach.



Taken from: Dilorio, C. & Price, M.E. (1990). Swallowing: An Assessment Guide, American Journal of Nursing, July, 38-42.

### Causes of dysphagia

Dysphagia occurs when there is a problem with any part of the swallowing process. Weak tongue or cheek muscles may make it hard to move food around in the mouth for chewing. Food pieces that are too large for swallowing can then enter the throat and block the passage of air. Stroke or head injury may affect the coordination of the swallowing muscles or limit sensation in the mouth and throat. Cancer of the head, neck or oesophagus, injuries of the head, neck, and chest, disorders such as cleft palate, infections or irritation of the oesophagus and various neurological conditions characterized by muscle weakness or in coordination (for example, amyotrophic lateral sclerosis, multiple sclerosis, Parkinson's disease, cerebral palsy) are other examples of possible causes of dysphagia. Whether the cause is mechanical or neurological, these patients are in danger of aspiration during feedings. According to one study, dysphagia occurs in 30 - 65% of patients who have had a stroke, and places patients at risk for numerous complications, such as aspiration pneumonia, dehydration, malnutrition, depression, and even death. The ability to recognize and manage dysphagia requires a consistent approach from the multidisciplinary team. This team includes the nurse, physician, speech language therapist, dietitian, occupational therapist, physiotherapist, and of course, the patient and his or her family.

### The swallowing assessment

Assess any patient with either a history of dysphagia or a potential for dysphagia. Since many patients show no obvious signs of dysphagia, look for subtle clues, such as facial drooping, drooling, or weak, or hoarse voice. Question dysphagia in patients with a history of recurrent pneumonia, unexplained weight loss, or diminished appetite.

Ask the patient the following questions (include the family / caregiver in this assessment as appropriate):

Do you ever choke? If so, how often?

Do you ever have difficulty controlling your saliva?

Do you cough when you eat?

Does food ever escape through your mouth or nose?

Does food ever stick in your throat? If so, when?

Which foods and liquids are most difficult for you to swallow? Which are easiest?

Has your taste changed recently?

In some hospitals there are forms to assist you in documenting your assessment and actions for dysphagia.

First, sit the patient upright in a straight-backed chair or in high Fowler's position in bed, with his shoulders and neck supported with pillows so that he / she is in a 90 degree position. The patient must be alert, and must be able to maintain head upright, with the chin at a 90 degree to the body. If any of these conditions are not met, the swallowing assessment should be postponed.

Next, ask the patient to swallow. You should see the patient's larynx (Adam's apple) elevate (some patients move their larynx without completing a swallow, so the sign is not always reliable). Also, you should not see any excessive dribbling or drooling. At the same time, there should not be any visible signs of aspiration, such as cyanosis, breathing problems associated with swallowing, gurgling respirations, or coughing on own secretions.

Next, test the cranial nerves. To assess CN V (trigeminal), ask the patient to clench teeth and palpate externally for strength. Is there weakness on one or both sides? CN VII (facial) is assessed by asking the patient to smile, show his / her teeth and puff out his / her cheeks. Is there any weakness or asymmetry? CN IX (glossopharyngeal) and X (vagus) are tested together. Ask the patient to say "ah" while you press the tongue blade firmly down upon the midpoint of the arched tongue and observe the uvula and the soft palate on both sides of the uvula. Is the voice "wet", hoarse, or does it have a nasal quality? Does one side of the palate fail to rise and does the uvula deviate to the opposite side? Finally, test CN XII (hypoglossal), which controls the tongue. Is the patient able to protrude the tongue, move it from side to side and then pull it back? Also, ask the patient to push the tongue against the inside of each cheek and palpate externally for strength. Is the strength normal and equal on both sides?

## The gag reflex

While patients with dysphagia might have a diminished gag reflex, up to 10 % of the "normal" population do not have a gag reflex. Research and clinical experience have shown that patients can eat safely without a gag reflex, as its purpose is to expel noxious stimuli (vomit) and is not directly related to swallowing function. The ability to cough is more important for safe swallowing function.

## Further diagnosis and treatment

If you detect any abnormality, the patient is not safe to begin eating regular food, and a referral to a speech language pathologist/ speech therapist or a medical officer is recommended so that the patient can be assessed in more detail. Further tests may be recommended, such as a modified barium swallow with video-fluoroscopy. Based on the assessments, a specific plan of care is then developed. In some cases, the patient is taught new ways to swallow. Treatment may involve muscle exercises to strengthen weak facial muscles or to improve coordination. For others, treatment may involve learning to eat in a special way (e.g. with their head turned to the side). Preparing food in a certain way (e.g. thickening fluids) or to avoid certain foods (e.g. hot or cold food or drinks) may help other people. In some cases, depending on the cause of dysphagia, surgery or medication may help.

## Ensuring continuity of care

Nurses must ensure continuity of care and patient adherence to their treatment plan on a 24-hour basis. The care plan needs to be individualized; the general principles described below might not be applicable to all patients.

**Environment:** Nurses should prepare the patient for mealtime by reinforcing the importance of taking hygienic measures such as brushing his / her teeth and washing his / her face and hands. These measures can allow patients to anticipate mealtimes and mentally prepare for them. Conversation during mealtime should be kept to a minimum, and the room should be free of auditory and visual distractions (e.g. television). Since many dysphagic patients tire easily, encourage a 30-minute rest period prior to meals. Do not rush the patient. Provide mouth care after meals as well.

**Positioning:** The patient needs to be placed in an upright position with the chin at a 90 degree angle to the body. If the speech language therapist's recommendation is that the patient turn the head, perform a chin tuck while swallowing or use other strategies to enhance a safe swallow, make sure that they are used. Also, have the patient sit up for 15 – 30 minutes before and after meals.

**Eating:** Feed the patient small bites and have the patient chew well. Use dentures (unless ill fitting) and glasses for patients who normally use them. If there is weakness on one side of the mouth, have the patient use the unaffected side. Patients who pocket food can be taught to inspect their mouth

after each swallow by sweeping the tongue or a finger between the teeth and the cheek. If a modified diet has been ordered (e.g. soft foods, or thickened fluids), it should be implemented with the assistance of the dietician. **Patients should be encouraged to self-feed** unless insight / judgment is severely impaired.

**Drinking:** If liquids are to be thickened, a thickener must be used for all liquids the patient is drinking, **including liquids taken between meals and with medications.** Straws are to be avoided, as they place the liquid too far back in the throat and increase the risk of aspiration (however, in specific cases such as wired jaw, straws may assist with getting food into the mouth). A Styrofoam cup can be modified to prevent hyperextension of the patient's neck while he or she is drinking. To do this, tear one third of the top rim of the cup. The torn edge should then be placed away from the patient, allowing him or her to drink with his or her neck flexed forward slightly. Alternatively, if you ensure that the glass remains ¾ full, the patient will not have to tip his or her head too far back. Alternate solids and fluids and make sure mouth is cleared of solid foods before giving liquids.

**Special considerations in stroke patients:** Many stroke patients have visual field defects. Place the food tray on and approach the patient from the unaffected side unless therapy suggests otherwise. Patients with a stroke in the right hemisphere will exhibit left "hemi-inattention" or neglect. This means that they will not be able to identify objects in their left hemispace. Food should be placed towards their right side. Patients with stroke in the left hemisphere often suffer from aphasia (problem with language). Aphasic patients may have difficulty expressing themselves or understanding spoken and written language. Appropriate methods of communication need to be developed.

**Safety:** Oxygen and suction should be available at the bedside. Each advancement in diet should be closely monitored by nurse. Remember that **absence of cough does not mean that the food does not enter the lungs as many patients aspirate silently.** Monitor the patient's temperature and listen to his and her lungs each shift. Prior to discharge home, family members should be instructed in the management of dysphagia.

**Nutritional status:** Monitor the patient's weight periodically (e.g. twice per week) and report any significant changes to the dietician. Dehydration is a common problem as well, especially in patients requiring a thickened diet. Watch the patient closely for decreased urine output, poor skin turgor, dry mucous membranes and elevated serum sodium. If you are concerned that the patient may not be taking enough food or fluid, contact the clinical dietitian to assess the need for enteral support.

**Nurses play a vital role in treating patients with dysphagia. Developing dysphagia assessment skills will allow the nurse to take appropriate measures in order to decrease or prevent the risk of related complications.**