Allied Health Professions' Office of Queensland

Speech Pathology Learner Guide

Provide support in dysphagia management

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Queensland Government

Speech Pathology Learner Guide – Provide support in dysphagia management

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An electronic version of this document is available at
https://www.health.qld.gov.au/ahwac/html/ahassist-modules/

Acknowledgement

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Contents

Introduction

Welcome to the Learning Guide for *Provide support in dysphagia management.*

Learner Guide Structure

This Learner Guide has been developed specifically for allied health assistants to provide the necessary knowledge and foster the skills required to assist a speech pathologist in supporting the development of speech and communication skills.

The Learner Guide includes information on:

- Normal Processes of eating and swallowing
- Dysphagia Management
- Risk Management

The Learner Guide has six sections:

1. Introduction
2. Learning Topics
3. Workplace Observation Checklist
4. References
5. Resources and Websites
6. Appendix

Each topic includes sub-topics which cover the essential knowledge from the unit of competency. You will be asked to complete the activities in each topic to support your learning. These activities address the essential skills from the unit of competency and will be part of your assessment.

Throughout the guide, you will be given the opportunity to work through a number of activities, which will reinforce your learning and help you improve your communication and organisation skills, manual handling skills and ability to apply therapeutic exercise practices. Take time to reflect during the module on how you may be able to apply your new knowledge and skills in your role as an allied health assistant.

Learning requirements

It is important that you have an allied health workplace supervisor who has agreed to support in your study. Regular clinical supervision during the course of your study should also assist you to stay “on track”, provide opportunities for your supervisor to monitor your progress, provide encouragement, and to check that you understand the information in the learning materials. This will be particularly important if you are having any specific learning difficulties.

Activities and assessment tasks may require access to the internet. If you do not have internet access please talk with your supervisor about your options.

Self Completion Checklist

The Self Completion Checklist outlines the underpinning knowledge and skills contained in each of the topics for the unit of competency you will be assessed against. You will be asked to review the list and place a tick in the box if you feel you have covered this information in each section and if you feel ready to undertake further assessment. If you have any questions about this checklist, ask your supervisor.

Recognition for Prior Learning

If you subsequently enrol in the Certificate IV in Allied Health Assistance you may be able to undertake recognition assessment for the study that you have done. To enable you to gain recognition for the learning you have undertaken in this Learner Guide, it will be necessary for you to complete the Assessment Guide associated with this unit of competency. The assessment activities in this Assessment Guide must be signed off by a **speech pathologist.** Copies (Word version) of the Assessment Guide can be obtained by contacting the Allied Health Professions' Office of Queensland via e-mail AH_CETU@health.qld.gov.au

Please Note

Due to the varied environments in which allied health assistance is carried out, the terms 'patient' and 'client' are used interchangeably throughout this resource. Please use your organisation's preferred term when performing your duties.

Symbols

The following symbols are used throughout this Learner Guide.

Important Points – this will include information that is most relevant to you; statistics, specific information or examples applicable to the workplace.

Activities – these will require you to reflect on information and workplace requirements, talk with other learners, and participate in a role play or other simulated workplace task. You may use the space provided in the Learner Guide to write down a draft response. Record your final answer in the Assessment Guide.

Further Information – this will include information that may help you refer to other topics, complete activities, locate websites and resources or direct you to additional information located in the appendices.

Case Studies – these will include situations or problems for you to work through either on your own or as a group. They may be used as a framework for exploration of a particular topic.

Research – this refers to information that will assist you complete activities or assessment tasks, or additional research you may choose to undertake in your own time.

Dysphagia

Dysphagia (dis-fay-juh) is the medical term for a swallowing difficulty. As an allied health assistant (AHA) you may work with clients with dysphagia. As you may already know, a speech pathologist is trained to assess, diagnose and manage swallowing difficulties. You may be working with a speech pathologist to provide support in dysphagia management across a range of settings. This could be in the person's home, in a hospital or within different health care environments. Since swallowing difficulties can occur at any age and across many different disorder or disease populations, you may be required to assist with infants, children, adults and the elderly.

This Learner Guide is designed to give you the foundation knowledge for:

- understanding the feeding and swallowing process,
- understanding different swallowing difficulties,
- dysphagia therapy or management in which you may be involved.

The complications of dysphagia can be life-threatening.

It is important to remember that dysphagia management is a complex and specialised area. This Learner Guide provides you with foundation knowledge that can be applied to any work environment. You will need to work closely with your supervising speech pathologist to get further training and skills specific to your workplace. Some suggested activities are included in this Learner Guide; however, your supervising speech pathologist may need to adapt these to include other tasks that are more relevant to your work environment.

It should also be noted that people with swallowing difficulties may also have communication difficulties. This is why *Support the development of speech and communication skills* is a pre-requisite competency unit. Please review this as necessary.

Learning outcomes

As an allied health assistant providing support in dysphagia management you will be required to perform the following tasks.

1. Prepare for support of treatment and monitoring programs to promote safe swallowing and eating by:
   - Obtaining information (which may include client care plans, exercise plans, treatment plans and client records) from the speech pathologist.
   - Determining the need for an interpreter where the client has English as a second language.
   - Conferring with the speech pathologist about any ambiguities or requirements outside the scope of the role and responsibilities as defined by the organisation.
2. Deliver therapeutic program under supervision of the speech pathologist by:
   - Obtaining informed consent from the individual client, or a third party where the individual is not in a position to provide this consent independently, before commencing the program (which may include short-term compensatory measures and long-term rehabilitation programs).
   - Confirming the client or carer's understanding of requirements of the therapeutic program.
   - Providing mealtime assistance to the client, under the instruction of a speech pathologist. This includes the reinforcement of positioning and strategies to support safe swallowing and maximal level of independence of eating and drinking.
   - Preparing texture modified foods and fluids, as determined by the speech pathologist, for assessment purposes and for mealtimes for purposes of checking the correctness of modified foods and fluids.
   - Providing the client with relevant information and advice, (which may include information about change and status or adverse reactions while eating or drinking and information about dysphagia and its management) as instructed by the speech pathologist, at a level and pace appropriate to the client's level of understanding, culture and background, preferred way of communication and need.
   - Referring questions outside the scope of role and responsibilities as defined by the organisation to the speech pathologist and/or a relevant member of the care team (which may include nurses, doctors, psychologists, physiotherapists and occupational therapists).
   - Providing the client with sufficient time, opportunity and encouragement to practise existing and newly developed skills.
   - Providing set up and support for the client during videofloroscopy assessment of swallowing, performed by the speech pathologist.
   - Carrying out supplementary treatment programs (for example, oro-motor exercises), as instructed by the speech pathologist.

- Identifying adverse reactions or events associated with dysphagia and respond according to the detailed risk management framework.

3. Monitor the client's management of dysphagia in consultation with the speech pathologist and care team by:
   - Working with the speech pathologist, care team and the individual to identify and record areas of positive progress and success and specific difficulties arising.
   - Reinforcing constructive feedback and advice provided by the care team about the client's approach and ability to manage their dysphagia.
   - Supporting and encouraging the client to maintain and enhance their efforts to manage dysphagia.
   - Reinforcing the benefits of continuing to practise and develop skills and knowledge for dysphagia management.
   - Identifying adverse reactions or events associated with dysphagia and responding according to the detailed risk management framework.
   - Referring to the speech pathologist when additional input from a health professional is required.
4. Document client information by:
   - Using accepted protocols to document information relating to the treatment program, in line with organisation requirements.
   - Providing accurate and prompt feedback to the speech pathologist and the client's care team to support future planning.
   - Using appropriate terminology to document symptomatic expression of identified problems related to the therapeutic exercise program.

Learning topics

The table below outlines the relationship between the topics presented in this Learner Guide and the Essential Knowledge required for completion of the unit of competency.

Topics	Essential Knowledge
Normal Processes	• Basic level of understanding of anatomy and physiology of body systems, relating to structures affecting eating and swallowing. • Basic level of understanding of normal processes of eating and swallowing. • Basic understanding of the normal changes to swallowing that occur over the lifespan.
Dysphagia Management	• General understanding of disorders of eating and swallowing: – congenital abnormalities – developmental delay – acquired injury and disease – degenerative disease • Dysphagia intervention.
Risk Management	• A general understanding of the secondary complications of dysphagia and an awareness of risk management protocols in response to adverse reactions/events. • Risk management • OHS policies and procedures that relate to the allied health assistant's role in implementing speech pathology programs.

Content

1. Normal Processes

This topic covers information about:

- Anatomy and physiology
- Normal feeding and swallowing
- Normal changes in eating and swallowing

Activities in this topic address the following essential skills:

- Deliver therapeutic support and skill development for a client with dysphagia under the direction of a speech pathologist.
- Work under direct and indirect supervision.
- Communicate effectively with clients in a therapeutic or treatment relationship.
- Communicate effectively with supervisors and co-workers.

1.1 Anatomy and Physiology

As an allied health assistant, it is important to understand the anatomy and physiology of eating and swallowing for all clients — particularly when carrying out a therapy or management plan. The structures important for eating and swallowing are represented in the diagram below.

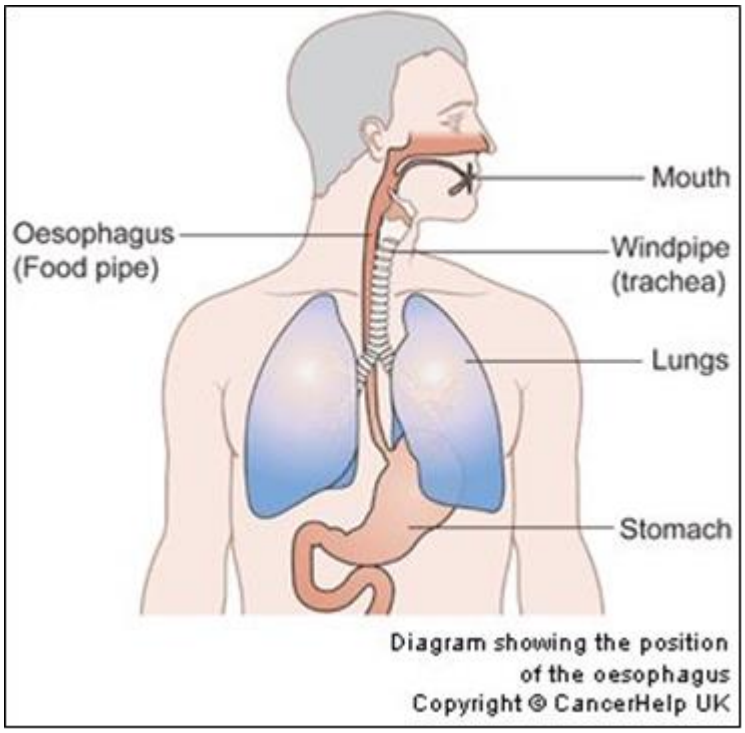


Diagram 1: Structures for Eating and Swallowing
Source: Cancer Research UK (n.d.).
http://www.cancerhelp.org.uk/type/oesophageal-cancer/about/the-oesophagus

Remember, the anatomy and physiology of swallowing is similar to the anatomy and physiology used in speech. Please refer to the Unit of Competency HLTAHA012 Support the development of speech and communication skills for review and comparison.

Oral cavity – may be referred to as the 'mouth'. It consists of the lips, teeth, tongue, **hard palate** and **soft palate**. All structures within the mouth need to be working well so that food and fluid can be adequately prepared to be swallowed.

Hard and soft palate – the palate is known as the 'roof of the mouth'. It is made up of 2 parts:

1. The hard palate at the front of the mouth and made up of bone.
2. The soft palate at the back of the mouth and made up of soft tissue.

The palate is the divider between the mouth and nasal cavity, with the nasal cavity above the palate and the mouth below the palate. This division is necessary during feeding and swallowing to stop food and fluid from coming out of the nose.

Nasal cavity – the nose area from the nostrils to the back of the throat. Air passes through the nose (nasal cavity), through the throat (pharynx), voice box (larynx) and into the wind pipe (trachea). When we chew (with our mouth closed) we are able to continue breathing because of this connection between the nose, throat and lungs.

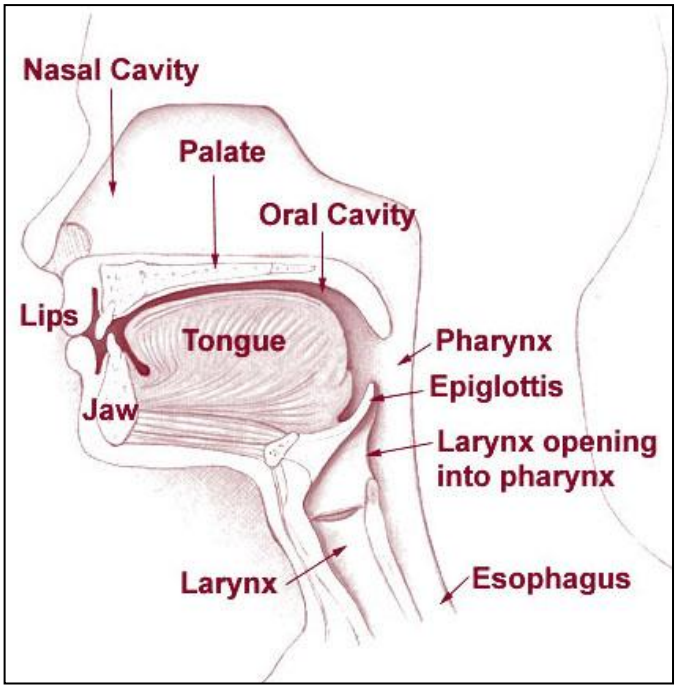


Diagram 2: The Oral Cavity
Source: Interactive Health
http://iahealth.net/oral-cavity/

Pharynx – known as the 'throat'. The pharynx is a tube which connects with the back of the nasal cavity, the mouth, and down past the air pipe (larynx and trachea) to join with the food pipe (oesophagus). Since the pharynx has many connecting parts, its precise co-ordination with all structures is critical. Difficulties with this part of the swallow can result in food or fluid being inhaled (choking or aspiration).

Larynx – known as the 'voice box'. The larynx houses the vocal cords and is the top of the wind pipe (trachea). The larynx is the entrance to the airway and is extremely important for swallowing. If the larynx is not closed off during swallowing, food or fluid can be inhaled into the airway. Since the larynx is the entrance to the airway, difficulties in this area can result in breathing problems or life-threatening events. Difficulties with the vocal cords or laryngeal function could also result in voice problems or a poor cough reflex. The cough reflex is yet another important airway protection mechanism.

Epiglottis – this 'leaf-like' structure sits above the larynx and folds over it like a trap-door when food or fluid is swallowed. It helps seal off the airway during the swallowing process so that no food or fluid goes down the wrong way. Again, the timing and co-ordination of its movement is crucial.

Oesophagus – often referred to as the 'food pipe'. Food or fluid travels from the mouth, through the pharynx and into the oesophagus. At the top of the oesophagus is the upper oesophageal sphincter (also known as the **cricopharyngeus**). At the bottom of the oesophagus is the lower oesophageal sphincter, which joins it to the stomach.

These oesophageal sphincters relax to allow food to pass and be transferred into the stomach. When we are not swallowing, these sphincters are closed tight to stop food or fluid from coming back up. The food pipe (oesophagus) sits behind the air pipe (trachea) and lungs.

Cricopharyngeus – known as the 'upper oesophageal sphincter'. The cricopharyngeus is a muscle that marks the bottom of the throat (pharynx). During the swallow, this muscle opens up to allow food or fluid into the food pipe (oesophagus) and then closes afterwards.

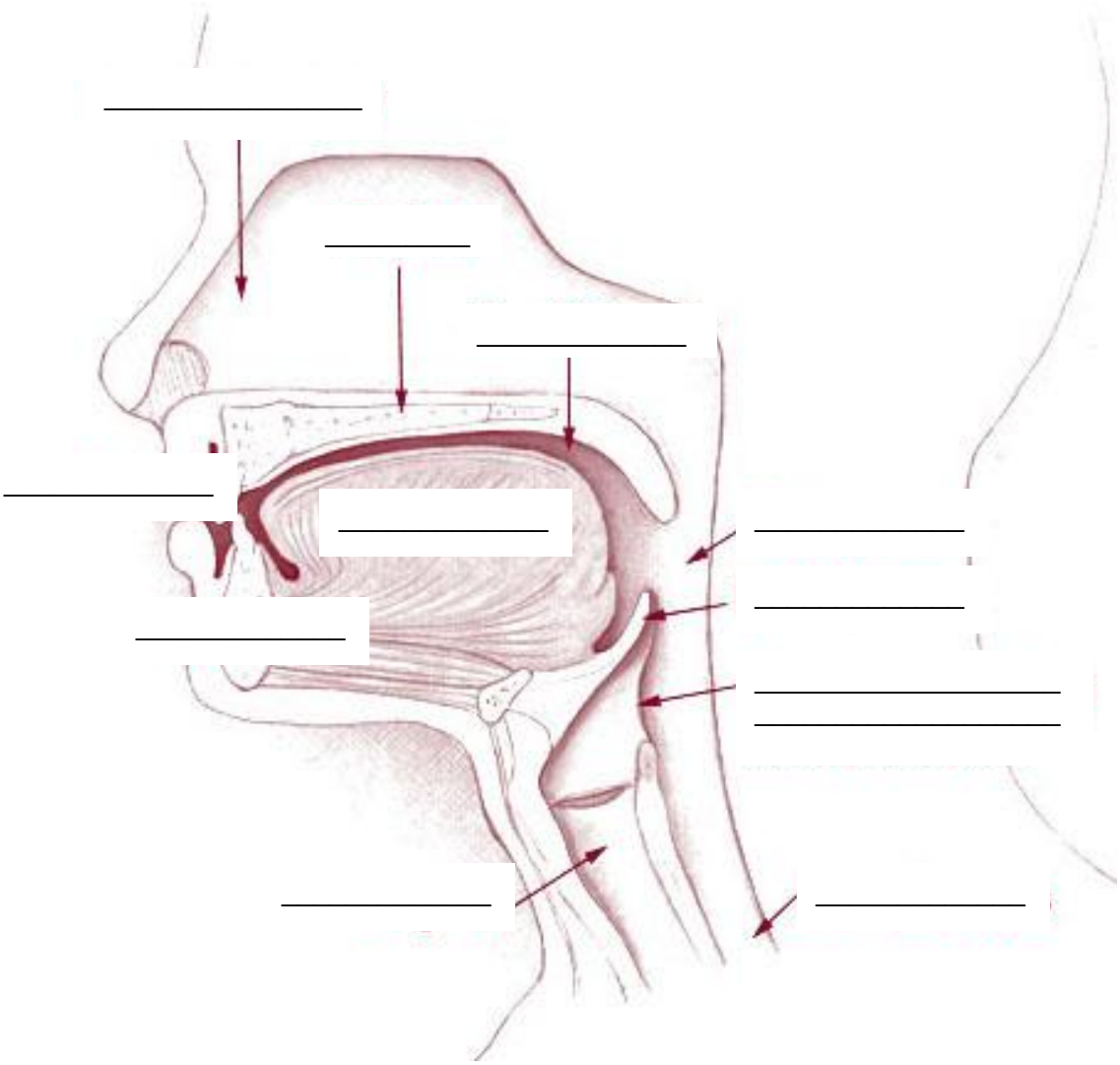
Trachea – known as the wind-pipe or the air-pipe. The trachea connects to the pharynx and is the central pipe through which air is transported to and from the lungs. Air is breathed in via the nose or mouth, through the throat (pharynx), past the voice box (larynx) into the trachea and lungs. Air is breathed out the same way.

The anatomy and physiology of the swallow is also described in the next topic, Normal Feeding and Swallowing. It may be helpful for you to review these anatomical structures while studying the normal swallow process.

Activity 1: Know Your Anatomy

What are the anatomical names for the structures in the picture below? Please fill in the blanks.

You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.



1.2 Normal Feeding and Swallowing

This topic will focus on the normal swallowing process, what happens and why. It is important to understand the normal process before learning about swallowing disorders, which will be covered in Topic 2, 'Dysphagia Management'. Since you may be working with infants, children, adults or the elderly, this section also describes the swallowing development and changes across the lifespan.

Feeding

Eating is not just the act of chewing and swallowing. The whole feeding process involves gathering food or drink and getting ready to suck or chew and swallow it (American Speech-Language-Hearing Association 2009).

As an allied health assistant, you should be aware that a person needs adequate physical movements to be able to feed themselves. They also need their sensory system to be intact, including: sight, hearing, smell, taste and touch.

See Glossary for motor and sensory function.

For example, the brain starts to prepare for the swallow before we even open our jaw and lips to eat. We see, smell and sometimes touch and hold the food or drink; this 'sensory' information is analysed by the brain and we anticipate it and get ready to eat and drink. This anticipatory phase is important for saliva production and preparing (priming) the brain and neurological system for swallowing (Cichero & Murdoch 2006).

As you may already know, this sensory information — for example, seeing and smelling food — often has a big influence on the feeding process. A person can be in a restaurant and all of a sudden see or smell a dish; their saliva starts to flow, their structures used for swallowing get ready and they feel hungry and want to eat.

As an allied health assistant, it is important for you to remember that this 'preparation' for swallowing is very important. You may be required to assist adults in the feeding process, particularly in the 'preparation' aspects of feeding. You may need to bring their attention to the food in front of them, talk about it and encourage them to remember their favourite dish; its smell and taste. There are many strategies used to assist with the feeding process.

Of course, a person's sensory function is essential, not only before, but also during the eating and drinking process. Normal eating and swallowing is not purely a mechanical (**motor**) movement alone. Throughout the chewing and swallowing process, a person needs to have an intact sensory system and be able to feel where the food or drink is located — this is then fed back to the brain.

For example, a person who has had a stroke may be unaware of the food or fluid that remains in their mouth after swallowing. This person will have difficulty eating all their meals and could be at risk of food or fluid going down the wrong way because they cannot recognise the food or drink still sitting in their mouth.

Swallowing

As mentioned, 'feeding' is the process of gathering food or drink and getting ready to suck or chew and swallow it. 'Swallowing' involves transporting the food or drink from the mouth into the stomach. In this topic we will learn about the normal swallow, first by learning about an adult's swallow.

Swallowing in babies and infants is different from an adult's swallow. This will be briefly covered in section 1.3.

The normal swallow is divided into three stages:

1. The **oral** phase - the 'mouth' phase.
2. The **pharyngeal** phase - the 'throat' phase.
3. The **oesophageal** phase - the 'food pipe' phase.

The following link contains an animation of a normal swallow and also a swallow where fluid goes down the wrong way ("aspiration"). Please click on "Swallow Animation" which is in the menu on the left-hand side of the page: http://hi.bns.health.qld.gov.au/allied_health/speech_pathology/dysphagia-elearn/dysphagia-elearn.htm (Royal Brisbane & Women's Hospital 2003)

The Oral Phase

The oral phase involves taking food and fluid from a utensil, controlling it, and preparing it to be swallowed. The oral phase of the swallow is under voluntary control, that is, we can start and stop chewing or moving the ball of food/fluid when we want to. There are several structures involved in the oral phase; their roles in swallowing are discussed below.

During the oral phase, the lips, cheeks, tongue and jaw need to have adequate:

- muscle strength,
- movement in all directions (for example, up and down, sideways),
- endurance or ability to keep working without tiring,
- co-ordination of the separate muscles, and between the muscles, and
- sensation (for example, to taste and feel where the food is in the mouth).

Specifically the following occurs:

Lips

- remove food or fluid from the utensil,
- remain closed to prevent spilling from the mouth.

Cheeks

- Muscle tension in the cheeks keeps the food or drink in the middle of the mouth stopping it from falling between the spaces between the cheeks and the teeth.

Jaw

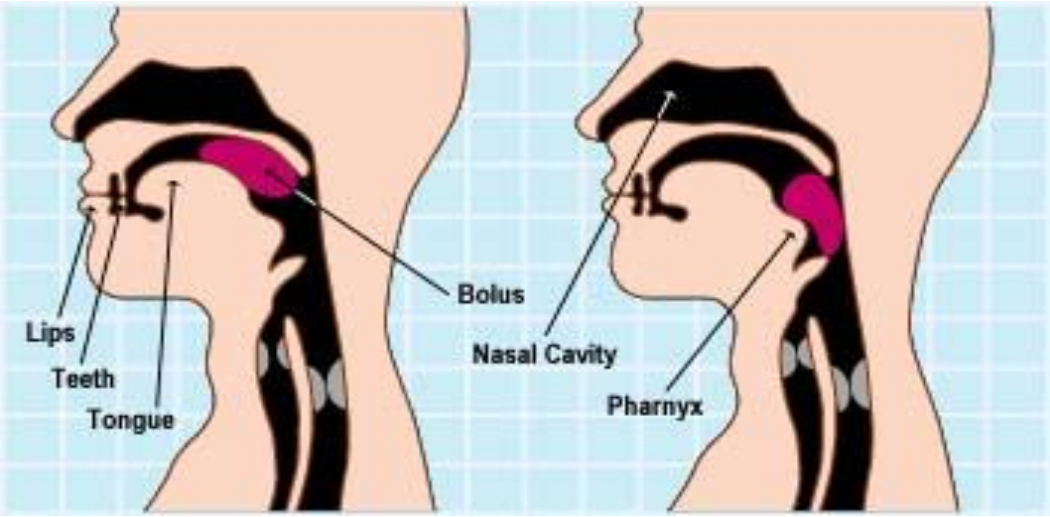
- Opens and closes when taking food or fluid from the utensil,
- Moves from side to side, up and down in a rotary (circular) action when chewing food.

Tongue

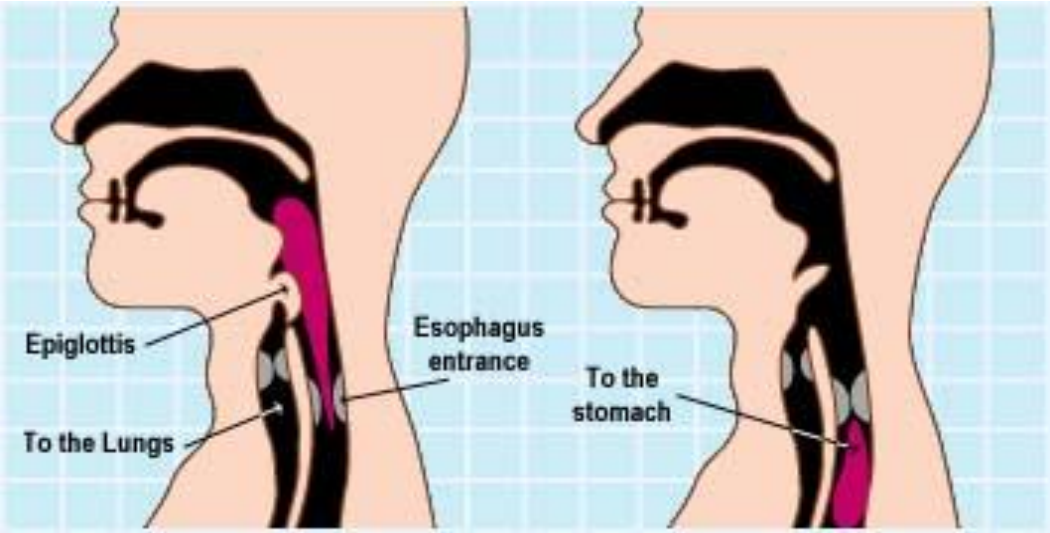
- Tastes food which stimulates appetite (this gets the neurological system ready for swallowing).
- Moves the food towards the teeth for chewing on each side.
- Mixes the food with saliva, which helps to break down the food and coat it for swallowing.
- Forms the food or fluid into a ball (called a ‘bolus’).
- Controls and holds the ball (bolus) in preparation for swallowing.
- Presses the food against the roof of the mouth (palate) and propels the food back through the mouth and towards the top of the throat (pharynx).
- Feels around inside the mouth, allows us to know where the food is and ensures the food is chewed enough before swallowing.
- Feels if there is any residue left in the mouth after swallowing and, if so, clears residue from inside the mouth (cheeks, teeth, under the tongue) and outside lips to then prepare the remaining food or fluid to be swallowed.

See Diagram 3 on next page.

A Normal Swallow



1. In the mouth, the lips, teeth and tongue help prepare the bolus for further stages of swallowing.
2. Access between the nasal cavity and mouth closes as the bolus moves into the pharynx.



3. The bolus is propelled toward and into the oesophagus as the oesophagus entrance opens. The voice box closes and the epiglottis helps guard against access to the lungs.
4. The airway reopens and the oesophagus entrance closes as muscle contractions move the bolus toward the stomach.

Diagram 3: A Normal Swallow
Source: Ivory (1999)
http://quest.mda.org/article/hard-swallow

The Pharyngeal Phase

The ‘swallow reflex’ is part of the pharyngeal phase of swallowing. It involves the bolus passing through the throat and into the food pipe (oesophagus) as well as the complex timing and co-ordination of many structures. Once triggered, the swallow happens automatically and cannot be stopped. Have you ever, for example, accidentally swallowed a hard lolly? Once the reflex started, you could not get the lolly to move back to your mouth. Once the swallow reflex starts, it is too late to stop the swallowing sequence.

There are several structures and mechanisms involved in the pharyngeal phase; their role in swallowing is discussed below.

Soft Palate needs to lift up and back to seal the nasal (nose) cavity from the back of the mouth and throat (pharynx) so that food or fluid does not flow up into the back of the nose (refer to Diagram 3 above).

The **back of the tongue** squeezes with the back of the throat to move the bolus down the throat (pharynx).

The **airway is protected**. With the bolus moving through the throat, airway protection occurs in 3 ways; (1) the vocal cords close and breathing stops temporarily, (2) the voice box (larynx) moves up and forward to just under the tongue, and (3) the epiglottis closes like a trap-door over the airway.

The muscles in the throat (pharynx) are needed to squeeze the food or fluid past the closed-off airway down through the throat and into the food pipe.

The muscle connecting the throat (pharynx) to the food pipe (oesophagus) relaxes to let the food or fluid pass through into the food pipe. This muscle is called the ‘cricopharyngeus’ or the ‘upper oesophageal sphincter’.

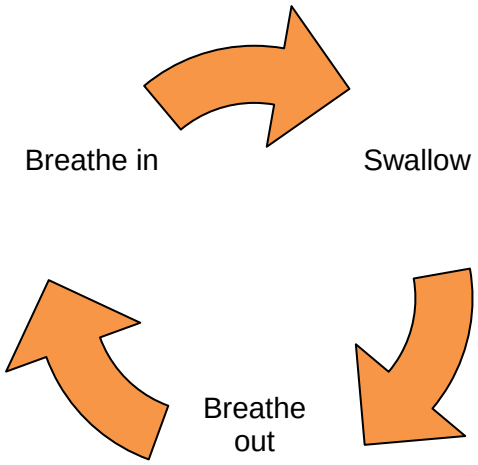
The Oesophageal Phase

The oesophageal phase occurs when the bolus travels from the throat (pharynx), through the food pipe (oesophagus) and then into the stomach. Problems at the oesophageal phase often need medical treatment; therefore a speech pathologist may not always be involved.

Swallow-Respiratory Cycle

Swallowing and breathing are inter-linked; when we are not eating or drinking our voice box (larynx), throat (pharynx), mouth and nose are used for breathing. Air flows to and from the lungs, through the larynx, through the pharynx and via the nose or mouth.

When we swallow, we obviously need to block the airway so that food or fluid does not go down the wrong way. We, therefore, stop breathing and 'hold our breath' each time we swallow. Our swallow-respiratory pattern is basically:



In fact, 95% of swallows are always followed by exhalation (Cichero & Murdoch 2006).

Important

Remember the breathing and swallowing pathways are inter-linked. As an allied health assistant, you should be aware that if people have feeding or swallowing difficulties, complications from this can be serious and life-threatening. These will be covered further in Topic 2.2: Dysphagia Interventions.

Activity 2: Learn About Your Swallow

You will need something to eat and drink for this activity.

You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

1. Please take a bite of your food and chew. Put your hands on your face to help feel the muscles moving. What structures and muscles have you used?

2. Please swallow some food or fluid. Describe how you have used your tongue during the chewing and swallowing process.

3. What differences did you notice between eating and swallowing food versus a drink?

4. Take another swallow (with food, fluid or saliva). This time, place your fingers under your chin and over your voice box (‘Adam’s apple’) when you swallow. What movement can you feel under your chin?

Activity continues on next page

Activity 2: Learn About Your Swallow (continued)

5. How did your voice box or Adam's apple move?

6. When you were swallowing, how did your breathing change? Did you hold your breath? When? When did you breathe in or out?

1.3 Normal Changes in Feeding and Swallowing

As we grow from infancy to adulthood and into old age, our feeding and swallowing processes change. The normal feeding and swallowing processes, which were covered in the previous section, were based on an adult's swallow.

Infancy – Childhood

The normal anatomy of an infant's oral cavity, pharynx and larynx is different to that of the adult. How structures are used and co-ordinated are also different. For an infant, there is a critical relationship between sucking, swallowing and breathing. Difficulties with this suck-swallow-breathe co-ordination can result, not only in feeding problems, but also in life-threatening events (Hall 2001; Wolf & Glass 1992).

A summary of feeding development from infancy to childhood is tabled below.

Age	Food/fluids	Eating and swallowing behaviours
0 - 6 months	Milk/liquids Some infants may also commence purees or cereals as they approach 6 months of age if they are developmentally ready	Initial suckling pattern then develops sucking. Some basic up-down jaw movement or sucking pattern with puree.
6 - 9 months	chunky puree mashed food soft finger foods	Emerging munching pattern. Able to move food to the side of the mouth for munching. Developing co-ordinated lip, tongue and jaw movements and more controlled voluntary movements.
9 - 12 months	finely chopped food finger food	Developing an effective bite. Improving lip closure. Chewing continues to develop. Beginning self-feeding.
12 - 15 months	coarsely chopped table food	Developing greater tongue movement. Licks food from lips. Developing a more mature rotary chewing pattern.
15 - 24 months	full diet or table food some exclusionary items such as nuts	Rotary chewing pattern. Able to drink from open cup and drink from straw. Increasing independence with self-feeding.

(Compiled from Cichero & Murdoch 2006; Hall 2001; Starr 2008).

It may be helpful to watch the 'Normal swallowing in infants (Normal Study)' video. This is available through the GI Motility website: http://www.nature.com/gimo/contents/pt1/fig_tab/gimo17_V1.html (Open with Mozilla Firefox)

A more 'adult' eating and swallowing pattern is achieved from approximately 3-4 years of age. The structures of the head and neck continue to grow and develop with greater co-ordination throughout childhood and into adulthood (Cichero & Murdoch 2006; Logemann 1998).

The area of infant feeding or swallowing is a specialist speech pathology area. This is an overview only and allied health assistants may or may not be involved with this specialty area.

Adulthood – Old Age

As we get older, our feeding and swallowing change in several ways. It has been suggested that from the age of 65, our swallow is slower. Our sense of smell, taste, hunger and thirst are also reduced. Together this can impact on eating and swallowing (Cichero & Murdoch 2006; Huckabee &Pelletier 2003; Logemann 1998).

For example, harder, tough foods (nuts, raw fruits or vegetables) may be more difficult to chew and are often substituted with softer food options (casseroles, well-cooked vegetables). Older persons may take a longer time to finish meals.

These changes that occur as we age will be listed under the three phases of swallowing (oral, pharyngeal and oesophageal). Important points regarding the swallow-breathing cycle will also be discussed.

The Oral Phase

- Chewing becomes slower.
- Teeth loss, poor dentition or ill-fitting dentures also affect eating and swallowing.
- Poorer suction when drinking from a straw occurs.

The Pharyngeal Phase

- Triggering of the swallow reflex is slower or delayed.
- The swallow is weaker due to reduced strength and muscle movement.
- The ability to feel food or drink within the throat is reduced.
- More swallows are needed to clear a bolus through the throat (pharynx).
- Muscles fatigue more quickly, meals take longer to eat.

The Oesophageal Phase

Slower movement of food or fluid through the oesophagus.

Increased problems with reflux.

Swallow-Breathing Cycle

As we age, the swallow-breathing cycle can be affected as a result of many medical conditions. This can be due to many influences, for example:

- COPD (Chronic Obstructive Pulmonary Disease)
- Stroke
- Shortness of breath (worse after exercise).

(American Geriatrics Society 2005).

As you know, a person's swallow-breathing cycle needs precise timing and co-ordination. If a person's swallow-breathing cycle is uncoordinated, there is a greater risk of inhaling food or fluid into the lungs, which can lead to serious medical conditions and life-threatening events.

Activity 3: Mealtime Observation

Observe a person during a meal. Respond to the following questions.

You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

1. What factors might affect their ability to eat and drink?

   - ☐ Sense of smell or taste
   - ☐ Level of hunger or thirst
   - ☐ Dentition—if so, how?

     _____

   - ☐ Slower chewing
   - ☐ More swallows needed to swallow the bolus through the throat
   - ☐ More residue left in the mouth after swallowing
   - ☐ Breathing—if so, how?

     _____

   - ☐ Medications
   - ☐ Level of alertness (how awake or alert the person is)
   - ☐ Age-related illness

2. What information do you require to report to your supervisor?

_____

_____

_____

_____

_____

_____

_____

Key Points

- A person needs to have good physical skills to be able to eat and drink (self-feed).
- A person's senses (sight, smell, touch, taste, and hearing) all work together to enable them to feed and swallow adequately.
- The three stages of a swallow are:
  - oral phase
  - pharyngeal phase
  - oesophageal phase
- Feeding and swallowing processes change over the lifespan.
- As we reach old age, we are at risk of increased swallowing difficulties.
- Complications that stem from swallowing problems can be life-threatening.

2. Dysphagia Management

This topic covers information about:

- Feeding and swallowing disorders
- Dysphagia interventions

Activities in this topic cover the following essential skills:

- Deliver therapeutic support and skill development for a client with dysphagia under the direction of a speech pathologist.
- Work under direct and indirect supervision.
- Communicate effectively with clients in a therapeutic or treatment relationship.
- Communicate effectively with supervisors and co-workers.
- Apply time management, personal organisation skills and establish priorities.

2.1 Feeding and Swallowing Disorders

When someone has a swallowing disorder, in medical terms, this is called ‘dysphagia’ (dis-fay-juh). Swallowing difficulties can occur with the three phases we have already discussed (Topic 1.2: The Normal Feeding and Swallowing):

- Oral phase dysphagia
- Pharyngeal phase dysphagia
- Oesophageal phase dysphagia

Dysphagia can occur in one area only or in a combination of these areas.

As mentioned in Topic 1.2: The Normal Feeding and Swallowing, eating is not just the act of chewing and swallowing. The whole feeding process involves gathering food or drink and getting ready to suck or chew and swallow it. A person needs adequate physical movements to be able to feed themselves. They also need their sensory system to be intact, including their sight, hearing, smell, taste and touch senses.

As an allied health assistant, for example, you may work with someone who has had a stroke. They may have weakness on one side of their body (hemiplegia), which may make it difficult to use their usual ‘dominant’ hand and arm to hold cutlery or bring food or drink to their mouth. This may impact on their ability to feed themselves.

A person who has had a stroke may also have difficulty seeing. Some clients who have had a stroke may have visual difficulties called hemianopia and/or visual neglect. Sometimes, they cannot interpret all visual information on their left side and, therefore, will not be able to see or pay attention to half of their plate and will have difficulty finishing their meal or drink if the cup is on their left side.

As an allied health assistant, you may also work with infants or children. Some infants may have both sensory and movement difficulties or delays. Some infants develop a dislike of feeding or refusal to feed.

There are many factors, disorders or illnesses that may influence or cause a feeding or swallowing difficulty. These will be explained further using the following categories:

1. Congenital
2. Developmental
3. Acquired
4. Degenerative

As an allied health assistant, you may come across these disorders or illnesses. Some have been explained in detail while others have only been listed. Depending on your workplace, you may need to seek further information from staff or research these further.

Congenital

The term 'congenital' means that something exists pre-birth and can be detected at or around birth. A congenital illness or disorder could be acquired during the development of the foetus (baby before birth) or acquired during the birthing process or shortly afterwards. There are many congenital illnesses or disorders that affect feeding and swallowing.

It is important to remember that some congenital disorders have other co-existing medical problems. These can worsen feeding and swallowing difficulties.

Cerebral Palsy (CP) – the most common congenital neurological disorder that results from damage to the brain. This damage can occur before, during, or after birth. Most often the cause is unknown or not understood, but can include:

- exposure to certain infections such as Rubella (German Measles)
- reduced oxygen supply to the baby during or after birth.

Further information can be found at the Cerebral Palsy Australia website:

http://cpaustralia.com.au/

An infant or child with Cerebral Palsy will have different difficulties depending on which area of the brain has been affected. The following difficulties are often reported:

- difficulties with feeding
- oral phase difficulties
- pharyngeal phase difficulties

(Cerebral Palsy League of Queensland 2007; Cichero & Murdoch 2006)

Down Syndrome – occurs due to the formation of an extra chromosome 21 during a baby's cell development. Children with Down Syndrome may present with the following characteristics that often affect their feeding and swallowing function:

- congenital heart defects (found in approximately 50% of children with Down Syndrome)
- low muscle tone and loose ligaments (hypotonia)
- a range of associated medical conditions including hearing and vision problems and reduced immune function.

(Better Health 2014; Down Syndrome Association of Queensland 2014)

Specific feeding or swallowing difficulties may include:

- immature suckling pattern
- longer feeding times
- tongue protrusion (sticking out)
- food or texture selectivity (fussiness)
- oral (mouth) delays
- poor oral development and chewing skills

(Cichero & Murdoch 2006)

Structural Anomalies or Syndromes – Some congenital disorders occur during the development of the foetus and affect the structure and anatomy of an infant. Many structural anomalies or syndromes exist.

For example, you may have heard of someone who has or had a cleft lip or cleft palate. A cleft lip is an opening in the upper lip. A cleft palate is an opening in the roof of the mouth. Cleft lip or palate can occur by themselves or in some cases with other problems. Feeding difficulties associated with cleft lip or palate vary, depending on the cleft (Royal Children's Hospital Melbourne 2010; Morris &Klein 2000).

Different types of clefts are pictured on the next page:

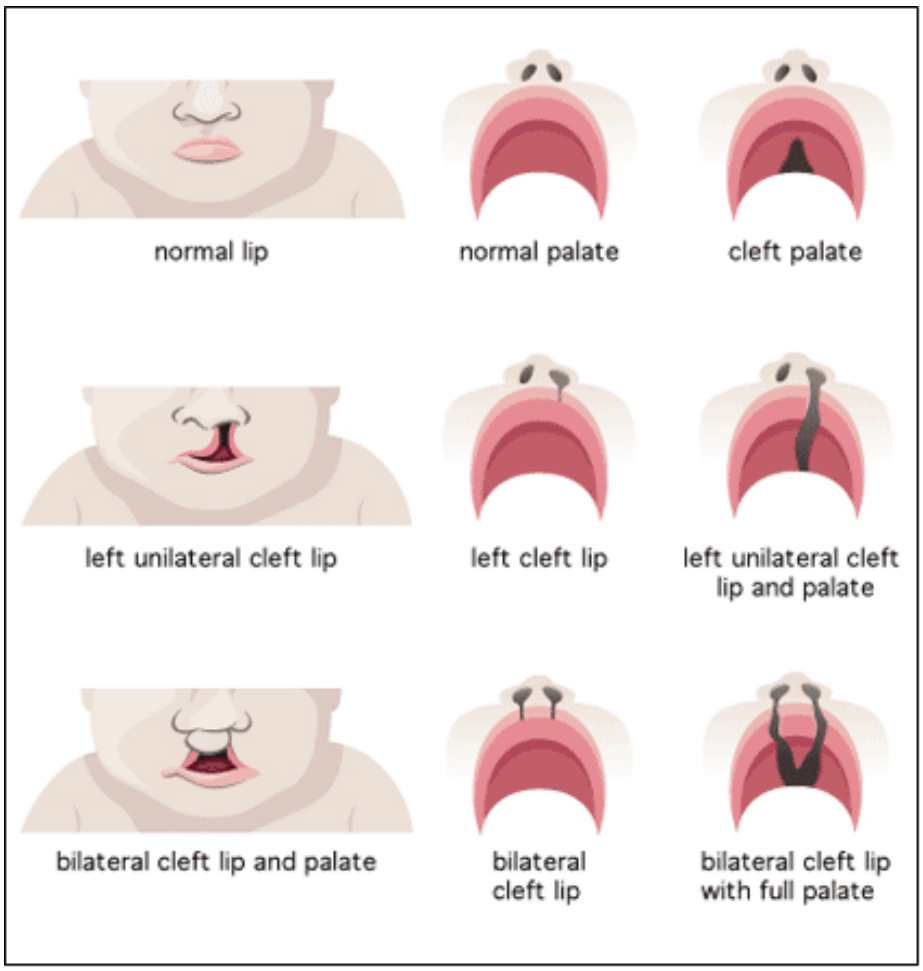


Diagram 4: Cleft Lip and Palate
Source: University of Minnesota; Amplatz Children's Hospital
http://kidshealth.org/en/parents/cleft-lip-palate.html

Other examples of structural anomalies or syndromes are listed below.

- Pierre Robin Sequence
- CHARGE Syndrome
- CHIARI Malformations
- Foetal Alcohol Syndrome

It is recommended that you research these congenital disorders further if you are working in a health care setting with infants or children.

Complex Medical Conditions – feeding difficulties can occur with babies or infants who have complex medical problems. One example is Gastroesophageal Reflux (GOR or GER).

Gastroesophageal Reflux (GOR or GER) is a medical problem that may co-exist with another congenital disorder or occur by itself. GOR occurs when the contents of the stomach are refluxed up or move up into the food pipe (oesophagus) or throat

(pharynx). Reflux, and the painful experience of reflux, can often cause various feeding and swallowing problems, such as:

- behavioural feeding problems including crying and irritability (dislike of feeding and refusal to feed)
- food and texture avoidance (fussy eating)
- aspiration (fluids being inhaled into the larynx and trachea)
- delayed feeding skills.

(Hall 2001)

Other complex medical conditions which influence the feeding and swallowing processes are:

- Mobieus Sequence
- Congenital Heart Disease
- Extreme prematurity
- Low birth weight

Congenital Myopathies and Muscular Dystrophy – these terms refer to groups of muscle diseases that cause hypotonia (low muscle tone) and muscle weakness, which, in turn, affect breathing, feeding development and swallowing. (Hall 2001)

Again, you may need to research these congenital disorders further if you are working in a health care setting with infants or children.

There are many different types of congenital disorders. These can have quite a complex impact upon an infant's feeding and swallowing. This is why the area of infant feeding is managed by an advanced-trained speech pathologist and specialist paediatric team. If you are working with children in this area, you will need further support and training.

Developmental

Children who have developmental delays may have co-existing feeding or swallowing difficulties. Sometimes there may be a syndrome that causes a child's delayed development (for example, Down Syndrome), other times there is no known cause for why a child is delayed with their development. If a child has delayed feeding and swallowing skills, they may or may not have delayed speech and communication skills.

Prematurity – infants born prematurely have not yet completed their development. Their brain and body (neurological and physiological systems) may not be fully formed and delays with their development may occur. Difficulties with breathing (respiratory system development) are common. They may have a delay with feeding and swallowing, as well as a delay with developing their other milestones. These infants often have co-existing medical problems.

Difficulties with feeding can arise from many influencing factors such as:

- poor coordination of sucking, swallowing and breathing
- poor endurance or fatigue or breathing difficulties during feeding

- less strength and control of muscles
- poor levels of alertness (difficulty remaining awake)
- changes in sensitivity or sensation around the face or mouth
- gastroesophageal reflux disease.

(Cichero &Murdoch 2006)

Acquired

People can acquire an injury or a disease at any stage throughout life. There are many injuries or diseases that affect someone's ability to feed or swallow. As an allied health assistant, you may work with some of these people in hospital, in the community, or within their home.

Some injuries and diseases have been explained in detail while others have only been listed. Depending on your workplace, you may need to seek further information from staff or research these further.

Brain Injury – there are many different causes of brain injury including traffic accidents, sports accidents or lack of oxygen to the brain. The severity and location of the brain injury will affect the severity of the feeding or swallowing difficulty.

The most common causes of brain injury in Australia are:

- TBI (Traumatic Brain Injury) from falls, motor vehicle or sports accidents.
- Infections around the brain (meningitis and encephalitis).
- events that cause a lack of oxygen to the brain such as near drowning accidents, prolonged fits or heart complications.

Stroke – or CVA (Cerebrovascular Accident) is a type of injury to the brain that occurs when the blood supply to an area/s of the brain is blocked or a when a blood vessel within the brain bursts causes bleeding into the brain tissue. When a blood vessel is blocked or bursts, this causes damage to the brain tissue in that specific area. This then disrupts the functioning of particular part/s of the body — as controlled by that specific brain area that has been damaged.

Stroke can occur at any age, but the risks increase as people age. As mentioned, depending where in the brain the 'stroke' or damage has occurred, different areas will be affected. For example, some people will have weakness on the left side of their body, while others will have weakness on the right side of their body. Some people will have no swallowing difficulties, whilst others will have significant difficulties. People with neurological damage (for example, brain injury or stroke) may have swallowing difficulties in one or all phases of the swallow.

For example, they may have:

- difficulties keeping food or fluid in the mouth (for example, weak lips).
- difficulties controlling and moving food or fluids inside the mouth (for example, weak cheeks and tongue).

- changes to sensation in the mouth or throat (pharynx).
- difficulty in triggering a swallow (decreased or absent swallow reflex).
- changes to muscle function in the throat (pharynx).
- weak swallow which fatigues or gets slower.
- reduced airway protection (risk of coughing or choking).
- increased time or difficulty with finishing meals.

For people with neurological damage, for example brain injury or stroke, other factors can also impact upon their feeding and swallowing. Some of these factors include:

- other co-existing medical conditions (for example, breathing conditions).
- medications that impact on swallowing (refer to information below).
- presence of a tracheostomy tube.
- brain function changes that affect behaviours, such as attention and concentration difficulties, eating too fast or too slow or being distracted during mealtimes.

After a stroke or brain injury, clients who do not have eating or swallowing problems may still be at risk for poor oral intake, dehydration or malnutrition, for example, because of:

- difficulty feeding themselves (due to reduced use of their hand or arm).
- difficulty seeing, or neglecting food on the plate (for example, hemianopia or visual neglect).
- depression (which may affect appetite or reduce initiation at mealtimes).

(Cichero & Murdoch 2006; Logemann 1998)

Further information on stroke can be found at the National Stroke Foundation website:

http://www.strokefoundation.com.au/

Chronic Obstructive Pulmonary Disease (COPD) – refers to a number of lung disorders. When people have breathing (respiration) difficulties, this can interfere with the precise and complex co-ordination between swallowing and breathing (respiration).

People with COPD may present with the following:

- an abnormal eating or swallowing behaviour such as anxiety during meal times, shortness of breath, reduced supply of oxygen when breathing and reduced appetite.
- a poor ability to protect their airway due to a dis-coordinated swallow-breathing pattern.
- a weak swallow and a delay in triggering the swallow reflex.
- fatigue and, therefore, taking longer to eat meals.
- a dry mouth and poor mouth hygiene.

(Cichero & Murdoch 2006; Cornwell, Seah and Riddle 2009; Speech Pathology Department Royal Brisbane and Women's Hospital 2016a)

General Medical Illness and Medication – other clients may have dysphagia because they are medically unwell. Factors that can impact feeding and swallowing include:

- high temperatures or an infection

- being drowsy or not fully awake
- confusion
- being distracted
- whole body weakness or fatigue.

These factors are more common in the elderly population. In these situations, management may be required to prevent medication, food, or fluid going down the wrong way and to ensure that the person is able to maintain adequate nutrition and hydration. Often, as these difficulties improve, swallowing can improve as well.

Sometimes, medication can also affect the swallowing function. Some medications can:
- cause drowsiness
- affect the amount of saliva produced
- impact correct muscle function
- affect the oesophageal phase of the swallow.

(Cichero & Murdoch 2006; Huckabee & Pelletier 2003)

Cancer – a wide range of diseases in which abnormal cells grow. Cancer can develop from most types of cells in different parts of the body (healthdirect Australia 2015).

People who have cancer may have swallowing difficulties, particularly if the cancer is in their head or neck. Sometimes the cancer itself causes the swallowing problem. In other cases the treatment for the cancer causes the swallowing problem.

Common swallowing difficulties for people with cancer are:
- Swelling or a mass of cancer cells in the mouth or throat can block or change the normal passage of food or fluid.
- Surgery to remove cancer cells may result in the removal or part-removal of key structures for swallowing (for example, lips, tongue, jaw, palate, epiglottis and larynx), which can cause difficulties in moving food or fluids safely around the mouth and through the throat.
- Radiotherapy (radiation treatment) to treat cancer cells can result in swelling, stiffness, reduced muscle movement and reduced feeling in the area where the treatment was targeted. Radiotherapy can cause changes to saliva (often increased thickness of saliva and a reduction in the amount produced). Any of these side-effects can also lead to difficulties moving food or fluids safely around the mouth and through the throat.
- Chemotherapy (drug treatment) can result in nausea, reduced appetite and infection, which can impact on eating and drinking.

It should also be noted that people with head and neck cancer may also have difficulty using their voice and speaking clearly. Please refer to the Learner Guide HLTAHA012 Support the development of speech and communication skills for further information.

Tracheostomy – for some of the disorders mentioned in this section, some people may have a tracheostomy tube inserted. A tracheostomy tube is a tube that sits in the airway below the voice box (see diagram below). It is used to assist with breathing or protecting the airway. The presence of a tracheostomy tube can impact on swallowing and speaking.

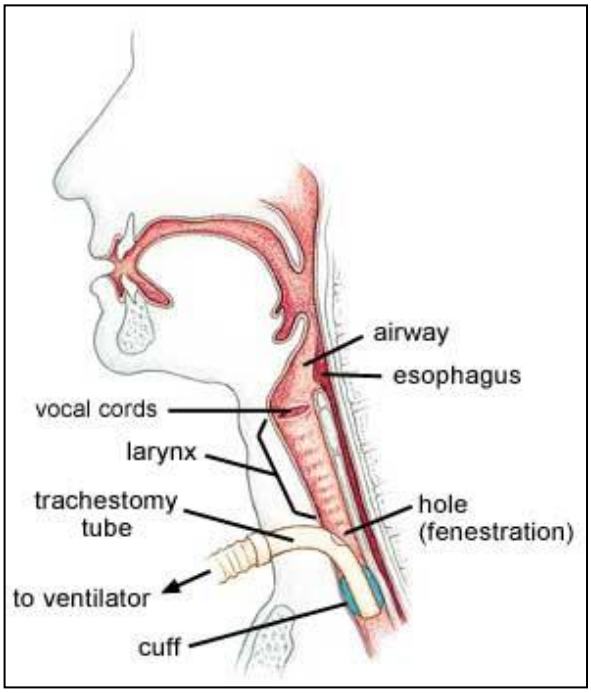


Diagram 5: Tracheostomy
Source:
http://www.lcofs.com/Our-Procedures/Head--Neck-Trauma**Other**

Other acquired injuries or diseases that you may come across as an allied health assistant include:

- burns – from burns to the head/neck areas, inhaling smoke, swallowing hot fluids or caustic substances
- infectious diseases
- facial trauma
- spinal injuries
- clients in critical and intensive care.

These can affect the feeding or swallowing processes in different ways.

Degenerative Disease

A degenerative disease occurs when the function or structure of muscles, tissues or organs begin and continue to deteriorate over time. Most degenerative diseases occur spontaneously or from an obscure or unknown cause. Degenerative diseases will affect people in different ways and progress at different rates depending on the disease type.

Degenerative diseases have no cure. They can affect children as well as adults. Some of the most common diseases that affect feeding and swallowing are described below.

Parkinson's Disease – occurs because certain nerve cells (neurons) in part of the brain die or become impaired. Parkinson's Disease affects the control of body movements, cognition, speech and mood. These difficulties affect the feeding and swallowing processes, including:

- difficulties holding and controlling cutlery or a cup
- controlling the oral phase of the swallow
- protecting the airway during the pharyngeal phase of the swallow.

(Cichero & Murdoch 2006; Parkinson's Australia 2008; Speech Pathology Department Royal Brisbane and Women's Hospital 2016c)

Motor Neurone Disease (MND) – a group of diseases in which the nerve cells (neurons) controlling muscles fail to work normally. With no nerves to activate them, the muscles that enable us to move around, speak, swallow, and breathe gradually weaken and waste. The muscles that are affected first depend on the form of the disease and the individual person. It can be those in the hands and feet, or mouth and throat.

Depending on the type of disease, the patterns of weakness and rate of progression vary from person to person. MND may affect feeding and swallowing in the following ways:

- difficulty self-feeding due to weakness in hands
- difficulty with excessive saliva (drooling)
- difficulty with chewing and the oral phase of the swallow
- difficulty with the pharyngeal phase of the swallow and protecting the airway

(MND Australia n.d.; Speech Pathology Department, Royal Brisbane and Women's Hospital 2016b)

For further information about Motor Neurone Disease visit the MND Australia website: http://www.mndaust.asn.au/

There are many other neurological conditions that you may come across. Some of these are listed below.

- Alzheimer's Disease
- Myasthenia Gravis
- Guillain-Barre Syndrome
- Multiple Sclerosis
- Huntington's Disease
- Progressive Supranuclear Palsy
- Muscular Dystrophies
- Rett Syndrome
- Friedreich's Ataxia

Depending on your work environment and the clients and their difficulties, you may need to research further. Please ask your supervising speech pathologist to direct you.

Regardless of the abnormality, delay or illness, people with feeding and swallowing problems will all be at risk of complications. These are listed in Topic 3.2: Risk Management Protocols.

Management of clients with tracheostomy, burns, spinal injuries and those in intensive care are advanced areas of speech pathology practice. If you are working with clients with these clients, further training and support should be sought from your workplace.

Activity 4: Unsafe Swallowing

You will need a partner for this activity. For this activity you are going to pretend to be someone who has difficulty feeding or swallowing. Please be aware of safety precautions with this activity and stop at any time if you or partner feels uncomfortable or is in danger.

Things you will need:

- food and drink (e.g. yoghurt, water, tinned fruit)
- blind fold or cover for one eye

You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

1. Pretend to be someone who is unable to feed themselves. You will also pretend to be a person with sensory difficulties (that is, difficulty seeing, hearing, and smelling).
   - Have your partner blindfold you or cover one eye.
   - Have your partner give you food or drink in any order (without telling you what it is).
   - How prepared did you feel for eating and swallowing?
   - Did you enjoy the feeding experience?

_____

_____

_____

_____

_____

_____

_____

_____

2. Pretend to be someone who has difficulties with the oral phase of their swallow. You are not allowed to use your teeth to bite or chew (you are a person with no teeth). You are not allowed to use your tongue (you have had a stroke and your tongue is not moving the way you want it to).
   - Take a piece of your food and try to eat it.
   - Do not use your teeth.
   - Do not use your tongue to move it from side to side.

Activity continues on next page.

Activity 4: Unsafe Swallowing (continued)

- Do not squeeze the food against the roof of your mouth.

a. How difficult is it to chew?

_____

_____

_____

_____

b. How difficult was it to swallow without using your tongue?

_____

_____

_____

_____

If it wasn't very difficult—please repeat this activity. Remember that we need our tongue to propel the food or fluid along the roof of our mouth to the back of our throat!

c. Was there any food left in your mouth after you swallowed? Where was it? How did you move it and swallow it?

_____

_____

_____

_____

3. Now you are going to pretend to be someone who is being fed in bed or lying down. Lie down and have your partner give you a drink first and then some food.

a. How difficult was it for you to prepare to swallow (oral phase) and to actually swallow (pharyngeal phase)?

Activity continues on next page.

Activity 4: Unsafe Swallowing (continued)

As you can see, swallowing lying down is more difficult and we do not have a co-existing swallow problem.

For your interest, in your work place, observe how many people are being fed lying down or half lying down (instead of sitting upright at a table).

2.2 Dysphagia Intervention

The speech pathologist is responsible for assessing a person's feeding and swallowing abilities. This involves performing a range of tasks, including assessing a person's:

- alertness
- ability to communicate and follow instructions
- muscle movement and control
- ability to move their mouth or throat for eating and drinking
- degree of airway protection from food or fluids.

If appropriate, the speech pathologist will then assess the client or client's swallow by trialling different types of food or fluid. You may be asked to assist during this clinical assessment by preparing appropriate foods or fluids (this will be discussed later in this section). From the results of their assessment, a management plan will be made.

In complex cases, assessment of the swallow using medical procedures may be required. Your supervising speech pathologist may ask you to assist in these assessment procedures.

This could include preparing for or assisting with:

- a Modified Barium Swallow or MBS (also known as a video fluoroscopic swallow study or VFSS)
- a Fiberoptic Endoscopic Evaluation of Swallowing or FEES.

These procedures, MBS/VFSS and FEES, will be explained further at your workplace, if your involvement is required.

The following are some management plans that may be utilised. As an allied health assistant you may be required to carry out particular management or therapy plans. These should be covered in more detail at your work place.

Nil by Mouth

In the worst case scenario, a person with significant swallowing difficulties may be at risk of food or fluid entering the air pipe and travelling to the lungs, known as aspiration. If there is a risk of a person aspirating their food or fluid, then a nil by mouth (NBM) recommendation is often made. NBM means a person is not allowed to eat or drink anything.

When this occurs, they may need to have their food and fluid via a different route, for example a feeding tube (this will be covered in Topic 3.1: Complications of Dysphagia). If an alternative nutrition or hydration route is required, the speech pathologist will liaise with the dietitian and medical team regarding this.

Some clients will be placed on NBM for medical and surgical reasons that may not be related to dysphagia.

Modifying the food or fluid

It may not be safe for a person to swallow certain food or fluids; however, if the food and fluid is modified, then they may be able to safely eat and drink (without aspiration). Fluids may be thickened so that they travel more slowly through the mouth and throat, and allow the client extra time to safely swallow. Foods may be pureed or finely chopped to make them easier to chew and swallow.

Queensland Health uses nationally standardised terms to describe different levels of fluid thickness and different types of modified food. You will need to know these to complete activities 5 and 6. Please discuss these further with your supervising speech pathologist or refer to the following link: http://dmsweb.daa.asn.au/files/Info%20for%20Professionals/Texture_Mod_Poster.pdf (PDF document) or http://dmsweb.daa.asn.au/files/Info%20for%20Professionals/Texture_Mod_Appendix.pdf (in depth description of each texture modified diet and level of thickened fluids).

Modifying the Environment

This could include providing the person with special equipment or reducing distraction. We can use a range of modifications to help someone swallow, or to maximise their safety when eating and drinking. Common modifications include:

- specialised positioning for babies and infants
- specialised equipment for infants (for example, specific teats and bottles)
- ensuring the adult client or client is positioned well for mealtimes, usually sitting upright and out of bed (if possible) for all meals
- ensure the client has their sensory aids in place (for example, dentures, hearing aides, glasses)
- using specialised equipment to help eating and drinking (for example, wide-handled cutlery)
- reducing distractions in the environment (for example, turn the TV off) and ensuring the person is alert
- providing assistance or supervision to the adult client or client at mealtimes to maximise independence and safety.

Swallowing Strategies and Exercises

Whether a person is NBM or not, they may be a candidate for swallowing intervention. After assessing a person's feeding and swallowing, the speech pathologist may prescribe some of the following intervention techniques:

Compensatory strategies – compensate for the person's swallowing difficulties, by changing their body position, changing their swallow pattern or how they control the food or fluid when swallowing. Compensatory strategies require adequate client cognition or awareness or prompting from others for successful use. Strategies could include positioning the person to tuck their chin, having the person turn their head to one side or teaching them a more co-ordinated swallow-breathing pattern.

Rehabilitation exercises – to improve the strength, movement and co-ordination of the muscles involved in swallowing. For example, exercises targeting the muscles involved in the different phases of swallowing.

(American Speech-Language-Hearing Association 2009; Cichero & Murdoch 2006; Huckabee & Pelletier 2003)

Your supervising speech pathologist will always provide you with specific instructions for using these strategies/exercises with clients/patients.

The speech pathologist will carefully consider which dysphagia interventions are most appropriate for each individual patient/client. As an allied health assistant, it is important to remember that:

- the management plan for dysphagia will vary depending on the different feeding or swallowing difficulties and their causes
- strategies used for one patient or client may not be appropriate for another
- your patient or client will sometimes need extra encouragement to ensure they eat and drink modified food or fluids or carry out their swallowing exercises.

Some exercises used in swallowing therapy are listed below.

- Effortful Swallow
- Laryngeal Adduction Exercises
- Supraglottic Swallow
- Super-Supraglottic Swallow
- Tongue Holding Manoeuvre or Masako Manoeuvre
- Mendelsohn's Manoeuvre
- Shaker Manoeuvre

Information handouts for these exercises can be found at: http://qheps.health.qld.gov.au/alliedhealth/html/Professions/speech-pathology-clinical.htm

Look under the heading, “Information for adult consumers” then ”Hand outs – Swallowing therapy”.

It is the role of the treating speech pathologist to determine which exercises are appropriate for each client. It is important to be aware of these exercises as you may be required to assist clients in their practice.

Activity 5: Dysphagia Intervention

In the following activity, you will need to refer to:

1. Section 2.1: Feeding and Swallowing Disorders, in particular the specific disorder or disease in the example below.
2. The Australian standards for modified food or fluids as described on this website: http://dmsweb.daa.asn.au/files/Info%20for%20Professionals/Texture_Mod_Poster.pdf (PDF document) or http://dmsweb.daa.asn.au/files/Info%20for%20Professionals/Texture_Mod_Appendix.pdf (in depth description of each texture modified diet and level of thickened fluids).
3. Appendix B: Mealtime Review Form that is an example of how an allied health assistant may be asked to review a client when eating and drinking. You may need to ask your supervising speech pathologist if a similar form is used in your workplace. http://qheps.health.qld.gov.au/bay/hims/docs/clinical-forms/speech-path-ah-assist-meal-obs.pdf

You may need to liaise with your supervising speech pathologist for this activity. You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

Case Study: Mr Clarke

You are an allied health assistant working in a hospital Rehabilitation Unit. Mr Clarke is a 79 year old man who has had a stroke. After the speech pathologist assessed Mr Clarke, it was recommended that his food be modified to Texture C: Smooth Pureed and his drinks be modified to Level 400: Moderately Thick Fluids.

a. How would you describe these modifications in easy-to-understand terms?

Texture C: Smooth Pureed?

_____

_____

_____

Activity continues on the next page.

Activity 5: Dysphagia Intervention (continued)

Level 400: Moderately Thick Fluids?

b. What are other factors which may impact upon Mr Clarke's feeding and swallowing?

c. Mr Clarke is complaining that he cannot have a cup of tea. How would you assist in this situation? (You may like to discuss this further with your supervising speech pathologist.)

Case Study: Mrs Foster

You are an allied health assistant working in a Community Health setting. You are on a home-visit with the speech pathologist seeing Mrs Foster who is an 85 year old with Parkinson's Disease. After the speech pathologist assessed Mrs Foster, it was recommended that her food be modified to Texture A: Soft Food and her drinks be modified to Level 150: Mildly Thick Fluids.

Activity continues on the next page

Activity 5: Dysphagia Intervention (continued)

a. How would you describe these modifications in easy-to-understand terms?

Texture A: Soft Food?

Level 150: Mildly Thick Fluids?

b. What are other factors that may impact upon Mrs Foster's feeding and swallowing?

If you work in a hospital or healthcare setting with infants or young children, you will need to complete an activity specific to this population. Please ask your supervising speech pathologist to assist you with this.

Key Points

- Disorders of feeding and swallowing can occur as a newborn, a child or be acquired at any age throughout life.
- Feeding and swallowing disorders can occur because of:
  - congenital abnormalities
  - developmental delays
  - acquired injury or disease
  - degenerative diseases
- Some disorders have a greater risk of life-threatening complications.
- Different dysphagia management plans are possible depending on different difficulties.
- Dysphagia management plans will be specified by your supervising speech pathologist.

3. Risk Management

This topic covers information about:

- Complications of dysphagia
- Risk management protocols
- Policies and procedures

Activities in this topic cover the following essential skills:

- Deliver therapeutic support and skill development for a client with dysphagia under the direction of a speech pathologist.
- Work under direct and indirect supervision.
- Communicate effectively with clients in a therapeutic or treatment relationship.
- Communicate effectively with supervisors and co-workers.
- Apply time management, personal organisation skills and establish priorities.

3.1 Complications of Dysphagia

The complications of dysphagia can be life-threatening. As an allied health assistant, it is important for you to be aware of all the risks associated with dysphagia and its management.

The most significant complications of dysphagia and risks when swallowing include:

- Severe breathing difficulties that could lead to respiratory distress and death.
- Choking: food being lodged in the throat or air pipe that then stops air passing into the lungs.
- Aspiration: food or fluid entering the wind-pipe (trachea) that can lead to lung infection, which can cause death.
- Pneumonia: an infection of one or both lungs, which can be caused by aspiration, bacteria, viruses or fungi.
- Tracheostomy: in severe cases, if a person is unable to swallow their saliva, they may need a tracheostomy to protect their airway. Tracheostomy is a surgical procedure in which an opening is cut in the wind-pipe (trachea) so that a tube can be inserted to assist breathing.
- Weight loss.
- Poor oral hygiene, which in turn can further influence dysphagia.
- Restricted food or fluid options that can impact upon social gatherings.
- Longer meal times and loss of pleasure.
- Depression requiring medication or counselling.
- A poorer quality of life.

(Cichero & Murdoch 2006; Logemann 1998; Groher 1997)

Consequences of Dysphagia

Consequences of dysphagia include:

- **Coughing or 'throat-clearing' when swallowing** – a result of food or fluid going down the wrong way (aspiration). Our cough reflex is designed to cough out anything that passes through our voice box (larynx) and into the airway. With some clients, the cough reflex is effective in coughing it back up and out of the airway, with other clients, the cough reflex is not effective and the food or fluid continues to go down the wrong way.
- **Dehydration or malnutrition** – this can impact negatively on a person's medical illness, recovery and worsen medical conditions.
- **Alternative feeding** – if a person is at risk of dehydration or malnutrition, they may need an alternative way of getting fluids or food. Some alternatives include:
  - Intravenous Fluids (IV fluids, also called a 'drip'): fluids for hydration are given via a drip, but this is usually not a long-term option.
  - Nasogastric Tube (NGT) Feeds: a hollow thin feeding tube is placed via the nose and food pipe (oesophagus) into the stomach; this is a short-term option.
  - Percutaneous Endoscopic Gastrostomy (PEG) Feeds: a medical or surgical procedure is carried out to insert a feeding tube directly into the stomach, which can be a long-term option.
  - Total Parenteral Nutrition (TPN): a form of feeding in which all nutritional needs are met with a solution that is delivered directly into the blood stream via a needle or catheter placed into a vein. This is used when the gastrointestinal tract (gut) is not functioning.

For both NGT and PEG feeding, specially prepared fluids (called 'feeds') are given via the tube. These 'feeds' contain all the nutrients required, and are a clinical replacement for food and fluids.

Medical staff and the Dietitian are involved in the management of clients with alternative feeding.

As an allied health assistant, you may be required to assist with someone's dysphagia management. You will need to ensure that risk management practices for your work place are followed. Please discuss these with your supervising speech pathologist as different procedures will be required for different risks or events.

Activity 6: Dysphagia Management

In the following activities, you will need to refer to:

1. Section 2.1: Feeding and Swallowing Disorders, in particular the specific disorder or disease in the example below.
2. Section 2.2: Dysphagia Intervention.
3. The Australian standards for modified food and fluids as described on the following websites:
   http://dmsweb.daa.asn.au/files/Info%20for%20Professionals/Texture_Mod_Poster.pdf (PDF document)

   http://dmsweb.daa.asn.au/files/Info%20for%20Professionals/Texture_Mod_Appendix.pdf (in depth description of each texture modified diet and level of thickened fluids).Section 3.1: Complications of Dysphagia

As an allied health assistant, you may be required to assist in the management of a client or client who has dysphagia. Please review the Learner Guide content, the internet links above and answer the questions to the following scenarios.

You may need to talk to your supervising speech pathologist for this activity. You may use the space provided to write down a draft response. Record your final answer in the Assessment Guide.

Case Study: Mrs Gale

You are an allied health assistant working in a hospital. Mrs Gale is an 81 year old who is in hospital after falling and breaking her hip. She has COPD and is currently medically unwell with an infection. She has not been able to swallow her tablets or medication and was coughing every time she drank water, tea or coffee. The speech pathologist has assessed Mrs Gale and recommended Texture A: Soft Food, Level 150: Mildly Thick Fluids and specific swallowing strategies.

a. How would you describe these modifications in easy-to-understand terms?

   Texture A: Soft Food?

Activity continues on the next page.

Activity 6: Dysphagia Management (continued)

Level 150: Mildly Thick Fluids?

b. What other factors may impact upon Mrs Gale's feeding and swallowing?

c. Mrs Gale needs extra encouragement with eating and drinking the modified food and fluid and carrying out her specific swallowing strategies. After speaking with your supervising speech pathologist, how would you assist in encouraging Mrs Gale?

Activity continues on the next page.

Activity 6: Dysphagia Management (continued)

Case Study: John

You are an allied health assistant working with John. John is a five-year-old boy who has Cerebral Palsy. He is able to safely eat some foods and drink some fluids, but it is very difficult. John receives most of his nutrition and hydration via alternative feeding, a PEG. His speech pathologist has recently reviewed John's swallow and recommended that John continue his alternative feeding via the PEG, have only small amounts of food or fluid via the mouth (Texture C: Smooth Pureed Food and Level 900: Extremely Thick Fluids), and only the family use environment modifications and swallowing strategies when feeding John via the mouth.

a. Why would John be given food or fluid both via the mouth and via the PEG? (You may need to ask your supervising speech pathologist if you are unsure).

b. How would you describe John's food and fluid modifications in easy-to-understand terms?

Texture C: Smooth Pureed Food?

Level 900: Extremely Thick Fluids?

Activity continues on the next page.

Activity 6: Dysphagia Management (continued)

c. You have seen the speech pathologist show the family how to best position and feed John. You have also heard the speech pathologist educate the family regarding this. When the speech pathologist briefly leaves the clinic room, the family tell you that John wants to eat more (that is, more than the recommended amount) and that, if they feed him more, then he can finally get his PEG taken out. What do you do?

Circle your answer. More than one answer may be correct.

A. Encourage the family to feed him more and repeat the feeding instructions given by the speech pathologist.

B. Repeat the educational information given by the speech pathologist.

C. Tell the family that the speech pathologist has been trained to assess the swallowing process and that, if they have more questions or concerns, they should speak to the speech pathologist when they return.

D. Refer the family's concerns to the speech pathologist when they return, if the family have not already done so.

E. After John and his family leave, tell the speech pathologist that the family were 'difficult' because they were not going to follow the instructions anyway.

3.2 Scope of Practice

Speech Pathology Australia (2007) has outlined the parameters of practise and supervision pathways for allied health assistants in speech pathology.

Speech pathology support staff should be aware of the importance of the following:

- respect for the rights and dignity of clients
- need for liaison and open communication with the treating therapist
- confidentiality
- standards of personal conduct
- responsibility in only undertaking tasks within limits of competence
- standards of care appropriate for the facility
- penalties for using the title 'speech pathologist' when not registered as such

Your supervising speech pathologist is responsible for and ultimately accountable for the client care provided by staff under their supervision.

The Association asserts the following tasks are NOT suitable for delegation to AHAs:

- Assessment
- Differential diagnosis
- Clinical problem solving and
- Therapy planning.

In addition, a support worker may not:

- select clients for assessment or intervention
- perform definitive assessment procedures
- change any treatment
- independently plan or alter a plan of care or treatment goals
- independently draft reports
- discharge clients from treatment.

(Speech Pathology Association of Australia 2016)

Clinical Supervision

As an allied health assistant it is important that you access regular clinical supervision from an experienced, qualified allied health professional. “Speech pathologists or health professionals performing activities delegated to them by a speech pathologist must participate in formal supervision processes as one means of maintaining quality and safety of care to clients.” (Speech Pathology Association of Australia 2007, p. 12).

The following document contains important information on supervision and governance of AHAs, including the minimum requirements for clinical supervision: http://qheps.health.qld.gov.au/alliedhealth/docs/aha/ahagovguide.pdf

You must:

- Ask if you do not understand what is required of you.
- Request assistance from the supervising speech pathologist if the treatment plan is not working.
- Request assistance or further training if asked to perform a task which is outside your current skills, knowledge or competency.
- Work to the treatment plan given – do not adjust this plan without consulting the supervising speech pathologist.
- Consult with the speech pathologist before and after treatment.
- Not go outside the parameters of your job description.
- Know when to stop treatment – see Clinical Task Instruction on “When to Stop”: https://www.health.qld.gov.au/ahwac/docs/cti/wts01.pdf
- Engage in regular supervision with a speech pathologist according to your organisation/workplace’s policies.

Activity 7: Scope of practice

Answer the following multiple choice questions. Please note that more than one answer may be correct for each example. You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

Case Study: Mrs Gale

You are an allied health assistant working in a hospital. Mrs Gale is an 81 year old who is in hospital after falling and breaking her hip. She has COPD and is currently medically unwell with an infection. Mrs Gale's foods are modified and fluids are thickened (soft food and mildly thick fluids). You have been asked to review Mrs Gale during lunch with the Speech Pathology Department's Mealtime Review Checklist. During lunch, you notice Mrs Gale coughing. She continues to cough, seems to have breathing difficulties, and you are not sure if she is choking.

What do you do? Circle your answer.

A. Tell Mrs Gale to 'cough it out' and stop eating (she was eating too quickly).
B. Pat her on the back and, if unsuccessful, use the Heimlich manoeuvre.
C. Give her a glass of water to help her swallow it down.
D. Notify the nearest nurse or health care professional and inform them that Mrs Gale has breathing difficulties and may be choking.

Case Study: John

You are an allied health assistant working with John a five year old boy who has Cerebral Palsy. John is fed via a PEG. You have seen John several times with the speech pathologist and you are now independently following a therapy plan and working with the family. During the session, John pulls at the PEG tube and you are unsure whether John has pulled it out.

What do you do? Circle your answer.

A. Check to see if the tube has completely come out and, if so, push it back in.
B. Tell John that he is a naughty boy and should not pull at his PEG tube.
C. Ask the family if this has ever happened before and what should be done.
D. Remain calm and inform the family that you are going to immediately refer this to the speech pathologist or nearest health professional in your area.

Activity continues on the next page

Activity 7: Scope of practice

Case Study: Mrs Foster

You are an allied health assistant working in a community health setting. You are on a home visit with the physiotherapist seeing Mrs Foster, an 85 year old who has Parkinson's disease. You saw Mrs Foster last week with the speech pathologist and you remember that she had swallowing difficulties but cannot remember whether her food or fluids were modified or thickened. During the session with the physiotherapist, you notice that Mrs Foster seems to 'throat-clear' and cough when she is drinking water.

What do you do? Circle your answer/s.

A. Tell the physiotherapist and Mrs Foster that these are the signs of dysphagia and if she continues to aspirate she will get pneumonia.

B. Tell the physiotherapist that you and the speech pathologist saw Mrs Foster last week because she had swallowing difficulties and dysphagia. You know that 'throat-clearing' and coughing are signs of dysphagia.

C. Tell Mrs Foster that coughing is a sign of dysphagia and she will need to start thickening her drinks.

D. Ensure that this is reported to the speech pathologist either by you or the physiotherapist.

3.3 Policies and Procedures

Policies and procedures are formal documents developed for the workplace to ensure work practices are performed to a required standard.

A policy is a statement of intent to achieve a particular outcome, and how that outcome will be achieved. For example, there is a Queensland Health Incident Management Policy (2006), the objective of which is to minimise harm to clients, staff, visitors and property.

Queensland Health policies should always be aligned with Queensland Health's 'strategic direction'. They should be in line with the state and federal legislation and easily accessible to those required to implement the policies (Queensland Health, 2009). On an employee level, we must apply Queensland Health policies and procedures to our work to ensure we are providing client care that is of a high standard, safe and accessible.

You do not need to be aware of all of Queensland Health's policies. However, you should have an awareness and understanding of specific Queensland Health policies that apply to your role as an allied health assistant.

The following policies include some that you should review and be familiar with when assisting or delivering a client-specific therapy program. Please note, this is not a full list; there will be additional policies relevant to your particular workplace.

Workplace Health and Safety Policy (2014)

Anti-discrimination and Vilification HR Policy E2 (2014)

Orientation, Induction and Mandatory Training HR Policy G6 (2014)

Workplace Equity and Harassment Officers (WEHO's) HR Policy E8 (2010)

You should discuss with your supervisor or line manager any additional Queensland Health Policies that are relevant to your particular workplace and your particular role.

A procedure is an agreed set of practices or actions designed to ensure consistency and quality of an activity or service. They may be mandatory practices or allow for some flexibility, but all mandatory components must be clearly identified and compliance auditable' (Queensland Health, 2009).

A procedure might be applicable to multiple Queensland Health settings, or may be service and location specific. For example, Princess Alexandra Hospital has its own emergency procedures document specific to its site, which exists to ensure the safety of all human and physical resources on campus.

Clinical Task Instructions

The Allied Health Professions' Office of Queensland have validated a number of Clinical Task Instructions (CTIs) for allied health assistants. One very important example is the "When to Stop" CTI which provides important information for AHAs on when to cease therapy activities and report to their supervisor. The validated CTIs can be found by clicking this link:
https://www.health.qld.gov.au/ahwac/html/clintaskinstructions.asp

Additional, unvalidated CTIs can be found here, but please check with your supervisor before using them:
http://qheps.health.qld.gov.au/alliedhealth/html/strategies/Calderdale-Framework.htm

Occupational Health and Safety (OHS)

At the start of employment, it is common practice that your employer will provide an orientation to the work area. This will include a broad introduction to local policies and procedures, and topics related to Occupational Health and Safety (OHS) including infection control and manual handling. As an allied health assistant you need to be aware of these local policies and procedures and how they relate to your role in assisting the speech pathologist to deliver client care.

You will be expected to comply with all of Queensland Health's Work Health and Safety policies to ensure a safe and healthy work environment and reduce the risk of work related injury and illness.

You can find more information on Occupational Health and Safety on the following link: http://qheps.health.qld.gov.au/safety/

It is also essential that you understand your workplace's guidelines for manual handling and how this relates to your role in delivering an exercise program, as well as undergoing the appropriate manual handling training and competency.
http://qheps.health.qld.gov.au/safety/ergo/home.htm

Activity 8: Ethical Decisions

In pairs, discuss the following case study.

You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

Case Study: Ethical Decisions

You are working under a new supervisor who has a heavy caseload and is very busy. She has asked you to go on a home visit to see an elderly man to practice dysphagia exercises. She has asked that while you are there, could you assess his swallow by giving him sips of water. She has provided you with a few points about what you should be looking for such as coughing, throat clearing etc, and has asked that if his swallow appears fine to commence him on normal liquids and note it in his clinical file.

1. What are your issues with this case study?

2. What would you say to your supervisor?

3. Where would you look to find details about your professional scope of practice?

Key Points

- The complications of dysphagia can vary.
- It is most important to remember that some feeding or swallowing difficulties can be life-threatening.
- Occupational Health and Safety policies exist to protect and assist you, your colleagues and the client. These will vary from work place to work place.
- Specific guidelines exist to ensure speech pathologists and allied health assistants act within their scope of practice and with appropriate support and responsibilities.

Self-completion checklist

Congratulations you have completed the Learner Guide for *Provide support in dysphagia management.*

Please review the following list of knowledge and skills for the unit of competency you have just completed. Indicate by ticking the box if you believe that you have covered this information and that you are ready to undertake further assessment.

HLTAHA013 Provide support in dysphagia management

Essential Knowledge	Covered in topic
Basic level of understanding of anatomy and physiology of body systems, relating to structures affecting eating and swallowing.	☐ Yes
Work under direct and indirect supervision.	☐ Yes
General understanding of disorders of eating and swallowing that may arise from: • congenital abnormalities • developmental delay • acquired injury and disease • degenerative disease	☐ Yes
Deliver therapeutic support and skill development for a client with dysphagia under the direction of a speech pathologist.	☐ Yes
A general understanding of the secondary complications of dysphagia and an awareness of risk management protocols in response to adverse reactions/events.	☐ Yes
OHS policies and procedures that relate to the allied health assistant's role in implementing speech pathology programs.	☐ Yes

Activity 9: Questions

For this task you are required to answer questions that relate to your work as an allied health assistant supporting the development of speech and communication skills.

You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

Question

1. What are the normal processes of eating and swallowing? Include normal changes across the lifespan and the disorders that can arise.

Activity continues on the next page

Activity 9: Questions (continued)

2. Describe the anatomical body systems that relate to structures that affect eating and swallowing.

3. What are some secondary complications of dysphagia and how can you as an Allied Health Assistant manage and respond to adverse reactions or events?

Activity 10: Scenario

For this task you are required to read and respond to the scenario provided.

You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

Scenario

Mr Grant is a 43-year-old man with hypertension and dysphagia. Foods, especially solids but occasionally liquids, get stuck at the pharyngeal phase of the swallow with every meal. The strategies recommended by the speech pathologist include using multiple swallows to clear the food, and drinking water during the meal to help clear the food. Mr Grant reports to you that he has noticed the spontaneous regurgitation of clear, foamy liquid and undigested food into his mouth, especially when bending over after dinner. He finds this very distressing, has become reluctant to eat, and as a result, Mr Grant has started to lose weight.

Describe your management of Mr Grant during and after his meal? What actions would you take at the end of this session?

Activity continues on the next page

Activity 10: Scenario (continued)

1. From your previous reading, what do you think Mr Grant may be experiencing? How would you report this back to the speech pathologist and nursing staff?

2. Are there any other considerations in Mr Grant's care? What other team members may become involved?

Activity 11: Workplace Observation Checklist

You will be observed providing support in dysphagia management on a number of occasions to assist you in developing your skills prior to demonstrating competence. Extra experiences will assist you to develop skills in supporting clients with a variety of swallowing difficulties.

To demonstrate competence and achieve sign off on the workplace observation sheet you will need to be observed providing support to clients on a minimum of two occasions.

Workplace observation checklist

Essential Skills and Knowledge The learner demonstrates the following skills and knowledge	1st observation date & initial	2nd observation date & initial	Comments	*FER
Demonstrates understanding of anatomy and physiology of body systems, pertaining to structures affecting eating and swallowing.				
Demonstrates understanding of normal processes of eating and swallowing and normal changes to swallowing that occur over the lifespan.				
Demonstrates understanding of disorders of eating and swallowing including congenital abnormalities, developmental delay, acquired injury and disease and degenerative disease.				
Demonstrates understanding of the secondary complications of dysphagia.				
Demonstrates awareness of risk management protocols in response to adverse reactions/events.				
Delivers therapeutic support and skill development for a client with dysphagia under the direction of a speech pathologist.				
Works under direct and indirect supervision.				
Communicates effectively with clients in a therapeutic/treatment relationship.				
Communicates effectively with supervisors and co-workers.				
Reports back to supervisor regarding client's ability to manage current diet & fluid recommendations and/or ability to complete swallowing strategies/exercises.				
Demonstrates time management, personal organisation, and establishes priorities.				
Follows OHS policies and procedures that relate to AHA's role in implementing speech pathology programs.				

Resources

Normal swallowing in infants (Normal Study) video. GI Motility website: http://www.nature.com/gimo/contents/pt1/fig_tab/gimo17_V1.html

Cerebral Palsy (CP) Australia website: http://cpaustralia.com.au/

Motor Neurone Disease (MND) Australia website: http://www.mndaust.asn.au/

Speech Pathology Australia website: http://www.speechpathologyaustralia.org.au

Appendices

Appendix 1: Mealtime review form

[NAME OF HEALTH SERVICE] Speech Pathology Services Mealtime Review	(Affix patient identification label here) URN: Family Name: Given Names: Address: Date of Birth: Sex: ☐ M ☐ F

Diet trialled: ☐ Full ☐ Soft ☐ Soft / Smooth Puree Vegetables ☐ Smooth Puree ☐ Other _____ **Fluids trialled:** ☐ Extremely thick ☐ Moderately thick ☐ Mildly thick ☐ Thin	Medical Team	Ward
	Date of Review	Room/Bed Number
	Time of review	Reviewed by

Observations:	**Fluids**		**Food**	
	Y	**N**	**Y**	**N**
1. Did the patient have difficulty starting a swallow?				
2. Did the patient cough (spontaneously) or throat clear after swallowing? If yes, please tick: Freq: ☐ Once/ Twice ☐ A lot Type: ☐ Severe ☐ Moderately Strong ☐ Throat Clear/ One Cough ☐ Weak				
3. Was the patient's voice gurgly after swallowing?				
4. Did the patient have any residue remaining in their mouth after swallowing?				
5. Did the patient fatigue during the meal?				
6. Did the patient become more short of breath during the meal?				
7. Was the patient drowsy during the meal?				
8. Did the patient require assistance with eating their meal? If yes: ☐ Set-up ☐ Cut-up ☐After Fatigue ☐ Full Feeding Required				
9. Did the patient have difficulty finishing their meal? If yes, please indicate how much was tolerated: ☐ none ☐ ¼ ☐ ½ ☐ ¾				
10. Did the patient take a long time to finish their meal? (Greater than 20-30mins?)				
Other comments:				

Glossary

Word	Definition
Anomalies	Deviations from the usual, something different, peculiar or abnormal. A congenital anomaly is something that is unusual or different at birth.
Aspiration	The accidental sucking in of food particles or fluids into the lungs. Technically, aspiration occurs when the food or fluid passes below the level of the vocal cords.
Bolus	Food or fluid bolus: A ball (quantity) of food or fluid. As food or fluid is swallowed it is referred to as a bolus.
Cerebral Palsy	An abnormality of motor function (the ability to move and control movements) that is due to brain damage. Damage to the brain can occur before, during or after birth. Most often the cause is unknown or not understood.
Choking	Partial or complete obstruction of the airway can be due to a foreign body (for example, food, a bead, toy, etc.).
Chromosome	An organised structure of DNA and protein that is found in cells. Genes are inherited from our parents and dictate our features and attributes.
Cleft Lip	The presence of one or two vertical fissures or notches (clefts) in the upper lip. Cleft lip can be on one side only (unilateral) or on both sides (bilateral).
Cleft Palate	An opening in the roof of the mouth (the palate) due to a failure of the palatal shelves to come fully together from either side of the mouth and fuse, as they normally should.
Cognitive	Relating to cognition, the process of knowing and, more precisely, the process of being aware, knowing, thinking, learning and judging.
Congenital	Present at or around birth. A condition that is congenital is one that is present at birth.
Cricopharyngeus	The muscle between the pharynx and oesophagus. Also known as the Upper Oesophageal Sphincter.
CVA	CVA is an abbreviation for ‘Cerebrovascular Accident’. Commonly known as ‘stroke’.
Dehydration	The excessive loss of body water. Dehydration occurs because there is too much water lost, not enough water taken in, or a combination.
Epiglottis	The flap that covers the trachea during swallowing so that food does not enter the lungs and stops food entering the larynx.
Exhalation	Breathing out.
Hemianopia	Blindness in one half of the visual field of one or both eyes.
Hemiplegia	Paralysis of one side of the body. From hemi- (half) + plege (a blow, stroke).
Hypo-sensitivity Hyper-sensitivity	Hypo-sensitive: not very sensitive to stimuli. Hyper-sensitive: very sensitive to stimuli. Also see definition for sensory.
Hypotonia	Hypotonia: decreased tone (tightness) of skeletal muscles. In

Word	Definition
Hypertonia	another word, floppiness. Hypertonia: increased tightness of muscle tone. Also see definition for tone.
Initiation	The beginning. For example, speech pathologists assess the initiation of the swallow, or, when the swallow (reflex) is triggered or begins.
Intravenous (IV) fluids	Also referred to as a drip. Fluids are given to the body via the blood vessels or veins.
Larynx	The larynx is the portion of the breathing or respiratory tract that houses the vocal cords which produce vocal sound. It is located between the pharynx and the trachea. The larynx, also called the voice box, is a 2-inch-long, tube-shaped organ in the neck.
Lower Oesophageal Sphincter	The muscle between the stomach and the oesophagus.
Malnutrition	A term used to refer to any condition in which the body does not receive enough nutrients for proper function. Malnutrition may range from mild to severe and life-threatening.
Milestones	Significant points in development.
Motor function	Muscle movement and function.
Munching	Munching is an early form of chewing which involves an up-down only jaw movement. Infants begin munching at approximately 6 months of age. At 12–15 months of age, infants develop a more mature ‘rotatory’ chewing pattern.
Nasogastric Tube (NGT)	A tube that is passed through the nose and down through the nasopharynx and oesophagus into the stomach.
Neurological	Having to do with the nerves or the nervous system.
Neurones	A nerve cell that sends and receives electrical signals over long distances within the body.
Nil by Mouth	A person is not allowed to eat or drink food or fluid via the mouth.
Oesophageal	Referring to the oesophagus or food pipe.
Oral	Referring to the mouth.
Oral cavity	The mouth: consists of the lips, teeth, tongue, hard palate and soft palate.
Palate—soft or hard	The roof of the mouth. The front portion is bony (hard palate), and the back portion is muscular (soft palate).
Percutaneous Endoscopic Gastrostomy (PEG)	A surgical procedure for placing a tube for feeding without having to perform an open operation on the abdomen. The purpose of a Percutaneous Endoscopic Gastronomy is to feed patients who cannot swallow food.
Pharyngeal	Having to do with the throat (pharynx).
Pharynx	The throat; a tube which connects with the back of the nasal cavity, the mouth and down past the air pipe (larynx and trachea) to join with the oesophagus.
Pneumonia	An infection of one or both lungs that can be caused by aspiration, bacteria, viruses, or fungi.
Reflux	A condition in which the liquid content of the stomach regurgitates (backs up or refluxes) into the oesophagus.

Word	Definition
Respiration; Respiratory System	Respiration: the act of breathing in and out in order to exchange oxygen for carbon dioxide. It is also known as breathing and ventilation. Respiratory system: the organs that are involved in breathing. These include the nose, throat, larynx, trachea, bronchi and lungs.
Sensory function (Hypo-sensitive; Hyper-sensitive)	Relating to sensation, to the perception of a stimulus and the voyage made by incoming (afferent) nerve impulses from the sense organs to the nerve centres.
Sucking	Sucking is the mature mouth movement pattern which develops between 6–9 months of age. Sucking involves the coordination of mouth muscles with firmer lip closure, greater tongue movement and minimal jaw movement. Compare sucking with suckling.
Suckling	Suckling is the mouth movement pattern first used by infants to draw milk or fluid from the breast or bottle. Suckling is the earliest form of a 'sucking' pattern that occurs from birth until approximately 6–8 months of age. Suckling involves the rhythmical licking action of the tongue combined with pronounced jaw action.
Tone Hypotonic Hypertonic	Tone refers to 'tightness of muscles'. Hypotonic is a lack of tone or tightness (therefore often referred to as 'floppy'). Hypertonic refers to increased muscle tightness (therefore referred to as 'spasticity').
Tracheostomy	A medical procedure to create an opening (stoma) through the neck into the windpipe (the trachea) to create an artificial airway. A tube is then placed to maintain this opening.

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