Allied Health Professions' Office of Queensland

Speech Pathology Learner Guide

Support the development of speech and communication skills

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Queensland Government

Speech Pathology Learner Guide – Support the development of speech and communication skills

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

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Contents

Introduction

Welcome to the Learning Guide for *Support the development of speech and communication skills.*

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:

- Speech and language processes
- Communication disorders
- 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 AHPOQ team 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.

Communication

Communication is everywhere; it is everything from the words we speak to one another, understanding information on the radio, a sign in a shop window, writing an email, to recognising symbols like traffic lights. It includes the 'what, how and why' of information sent between communication partners. We recognise most types of communication in our environments because they are a learned set of shared knowledge; that is to say we share the same language and we all learn what the colours of the traffic lights mean.

"When we study human language, we are approaching what some might call the 'human essence', the distinctive qualities of mind that are, so far as we know, unique to man" (Chomsky, 1990).

Communication is intrinsic to our everyday lives – it is linked to our social and psychological health. When communication is impaired, delayed or disordered, the impacts upon the person and their loved ones can be extensive.

In this unit, you will learn about speech and communication skills. The first section will discuss the basic anatomy and physiology of the parts of the body involved in communication, primarily speech. It looks at the process of conversation from speaker to listener and the structures and systems involved in their roles.

The next section will introduce you to what happens as we develop language as children. It will focus on what happens during the normal process of language acquisition, from babbling as a baby onwards. With this information, we hope to give you a good idea of what normally happens so that when you see clients with communication delays, disorders or difficulties, you will have a greater understanding of the degree of their impairment. Speech Pathologists note that sometimes they are pleasantly reminded and surprised when they meet a child with typically developing speech and language, as their language skills highlight the difficulties of children on their caseloads.

With a basic level of knowledge regarding normal speech and language, we will introduce you to some communication difficulties and disorders and their origins. The origins include abnormalities that develop in the foetus/child during pregnancy (congenital), to an injury or disease that occurred suddenly or one that progresses over time during someone's lifespan (acquired). This section contains some medical terms, which will be supported and explained in the text or glossary. These are necessary and it is a good idea to become familiar with them now as they will certainly be used in the workplace.

We will discuss the different areas of communication, how communication can be affected and some of the medical conditions that can have an impact on the development and function of these skills. You will note in this section that a lot of the communication difficulties/disorders affect more than one area of communication. While reading this, try to picture the client who might present with these communication deficits. What will he look like physically? What other allied health professionals will be involved with him? How will he communicate his needs/talk to his family?

These guides will give you some written information on the communication deficits you may see when working with clients in your workplace. It is possible that your client has

other physical, emotional or cognitive deficits, which we must consider. We have to always see the client in the context of their family, their environment and their psychosocial needs. In the allied health workplace we refer to this as thinking and treating our clients 'holistically'; that is, seeing them as a whole person rather than just their speech pathology needs. We encourage you to keep that concept in mind as you go through this course and into your workplace.

The final section is a guide to the occupational health and safety (OHS) policies and procedures that relate to your role as an allied health assistant (AHA) within the context of implementing speech pathology programs. It is vital to understand these before assisting a speech pathologist in any program or therapy intervention.

Learning outcomes

As an allied health assistant supporting the development of speech and communication skills you will be required to perform the following tasks.

1. Prepare for delivery of a speech pathology program by:
    - Obtaining information (which may include care plans, exercise plans, client treatment plans and records etc) about the program (which may include language, phonology/articulation, social communication and cognitive skills) from the supervising Speech Pathologist.
    - Conferring with the Speech Pathologist about any program ambiguities or requirements outside the role's scope and responsibilities as defined by the organisation.
    - Determining client availability according to organisation protocols.
    - Determining the need for an interpreter where the client has English as a second language.
    - Gathering the equipment to deliver the speech pathology program, in line with client needs and specifications of the speech pathologist.
2. Conduct a speech pathology program according to identified goals and methods under supervision of a speech pathologist by:
    - Checking, before starting the program, that informed consent is obtained from the individual or a third party where the individual is not in a position to provide this consent independently.
    - Confirming the therapeutic outcomes defined in the program with the client and the speech pathologist.
    - Carrying out program activities using the methods as directed and detailed in the treatment plan and as designed by the Speech Pathologist.
    - Using motivators that are appropriate to the age and communication ability of the client.
    - Providing a level of stimulation that is appropriate to the age and communication ability of the client.
    - Providing the client with sufficient time, opportunity and encouragement to practice existing and newly developed skills.

- Encouraging the client to take advantage of planned and unplanned opportunities to integrate skills developed within the program into their daily activities.
- Taking action in response to adverse reaction to the program according to the detailed risk management framework.
- Providing accurate and prompt feedback to the Speech Pathologist and where appropriate, to the client's care team to support future planning.

3. Develop activities to support a speech pathology program under the direction of a speech pathologist by:
   - Identifying the communication goals to be achieved from the speech pathology plan as specified by the Speech Pathologist.
   - Seeking advice from the Speech Pathologist where goals are not being met as expected.
   - Developing activities, in liaison with the Speech Pathologist, that follow the identified hierarchy of tasks and skills needed to achieve speech pathology goals.
   - Assisting with the location or development of activities and materials appropriate to client's age and level of functioning.
   - Confirming development work with a Speech Pathologist.
4. Clean and store equipment by:
   - Cleaning any material and equipment according to manufacturer's requirements.
   - Storing material and equipment according to manufacturer's requirements and organisation protocols.
   - Reporting equipment faults to an appropriate person within the workplace.
5. Document client information by:
   - Using accepted protocols to document information relating to the speech pathology program in line with organisation requirements.
   - Using appropriate terminology to document symptoms of identified problems.

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
Speech and Language Processes	• Basic understanding of the anatomy and physiology of the body systems, relating to structures and systems affecting communication. • Basic level of understanding of normal speech and language processes across the lifespan.
Communication Disorders	• Basic level of understanding regarding the range of communication disorders affecting areas of: – speech (articulation, phonology) – expressive and receptive language – reading and writing – pragmatics – fluency – voice – cognitive skills (memory, attention, new learning, problem solving) • General understanding of communication disorders that may arise from: – congenital abnormalities – developmental delay – acquired injury and disease – degenerative disease
Risk Management	• OHS policies and procedures that relate to the allied health assistant's role in implementing speech pathology programs. • Identify issues beyond scope of role and responsibilities and seek assistance as appropriate. • Communicate effectively with supervisors and co-workers.

Content

1. Speech and Language Processes

This topic covers information about:

- Anatomy and physiology
- Normal speech and language processes.

Activities in this topic address the following essential skills:

- Work with a client for speech/language therapeutic outcomes
- Work under direct and indirect supervision
- Communicate effectively with supervisors and co-workers.

1.2 Anatomy and Physiology

Communication is the ability to share experiences, exchange ideas and transmit knowledge. We communicate in many ways, through sign language, writing, gestures, facial expressions and even smoke signals, but the most common way is through speech. Two people conversing is such a seemingly simple process, but what is really happening is a complex series of processes that involve speaker and listener roles.

Speaker:

1. Decides what to say.
2. Selects the right words that are stored in the language centre of the brain.
3. Puts the right words in grammatical order according to the grammatical ‘rules’ of our language.
4. The brain sends ‘instructions’ along the motor nerves to the muscles to activate the ‘Organs of Speech’.

(Denes & Pinson 1993)

The organs of speech are:

- The lungs (to produce air to make sound)
- The vocal cords (to vibrate as the air from the lungs passes through and creates sound)
- The hard and soft palate
- The tongue
- The lips/face
- The teeth

The tongue, lips/face, hard and soft palate, jaw, nose as well as the teeth are used to shape this vibrated sound into the specific sounds and words required.

Think of how your tongue, teeth and lips move to say ‘bee’ and then ‘ooo’.

Listener:

1. The speech sound waves travel through the air to the listener's ear.
2. The ear analyses the sound waves and converts it to messages that the brain can interpret.
3. This hearing mechanism sends messages to the brain to recognise, understand and interpret the spoken messages.

Interestingly, there are actually **two** listeners — the person who speaks also listens to what they say. We call this feedback and it helps us to monitor what we are saying.

Hearing is extremely important for successful communication; it allows us to differentiate speech from non-speech sounds, one accent from another, and facilitate understanding between speaker and listener.

Think for a minute about how you would cope alone in a foreign country, for example: if you were in France and you didn't have any knowledge of the French language.

- What can you do to get your message across?
- How are you able to communicate?
- Or, imagine you had severe laryngitis.
- How can you communicate?
- What difficulties would you have?

The Brain and Language

Currently there are many international research studies that are using new technologies to analyse the brain and how it processes speech and language. These new studies are discovering the complexity of how the brain works and which areas are involved. The following are basic diagrams that show the parts of the brain involved in speech, language and hearing, as well as other recognisable functions.

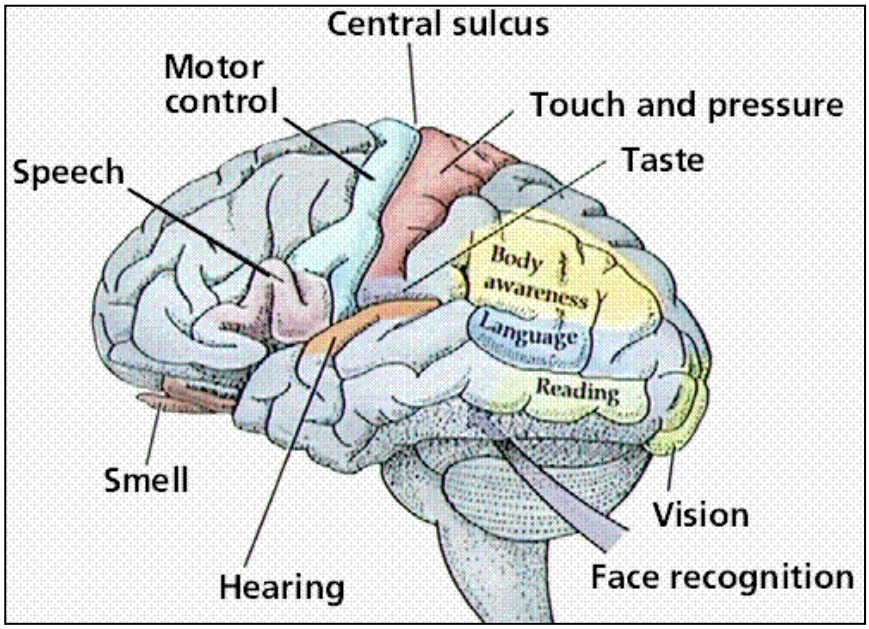
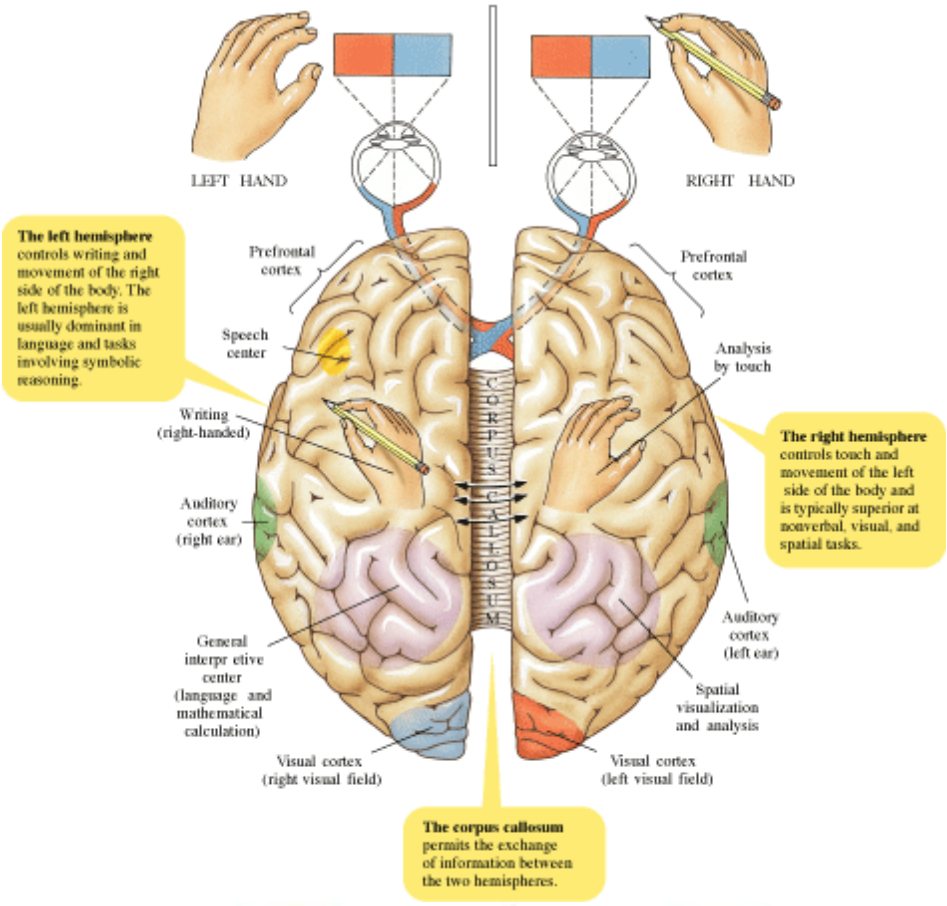


Diagram 1: The Brain and Language
Source: The University of Illinois (n.d.)
http://www.uic.edu/classes/bios/bios100/lecturesf04am/BRAIN_2.gif

The brain is divided into two hemispheres – right and left. The right hemisphere controls the left side of the body and the left hemisphere controls the right side. The two hemispheres have some separate functions as explained by the diagram below. Language-based tasks are mostly controlled by the left hemisphere.



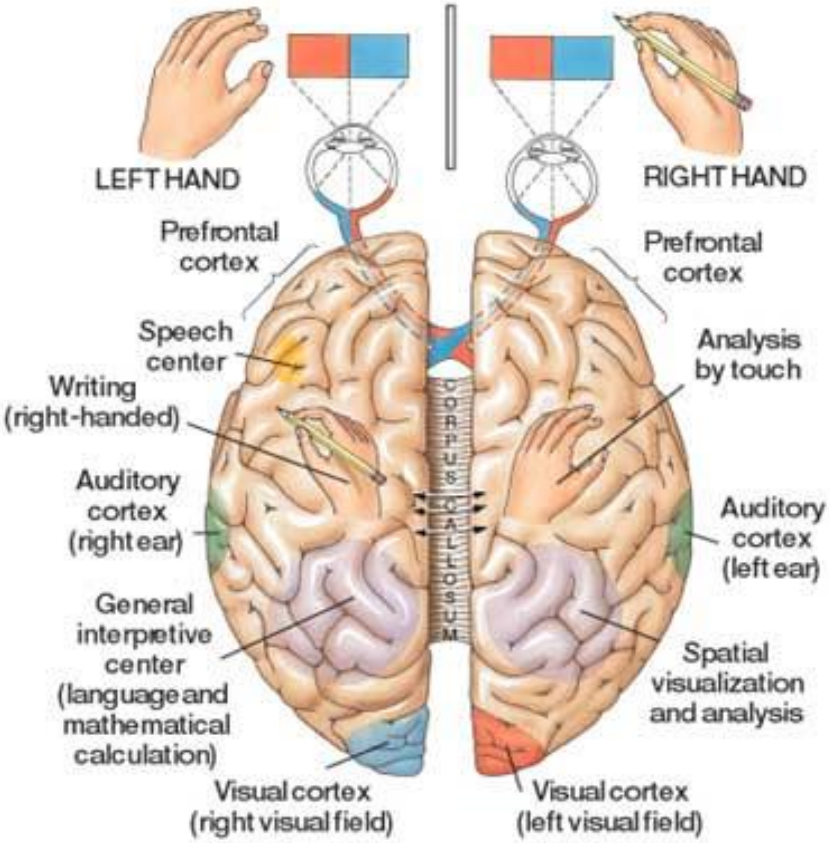


Diagram 2: The Cerebral Hemispheres
Source: Morris & Maisto (2005)

The Ear

This diagram labels the parts of the ear that are involved in hearing.

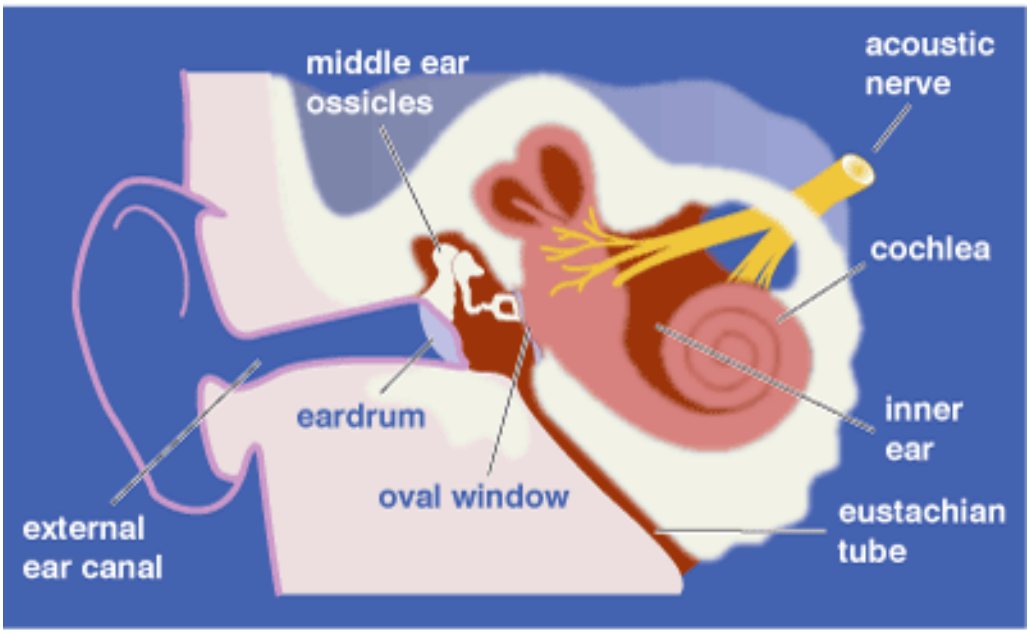
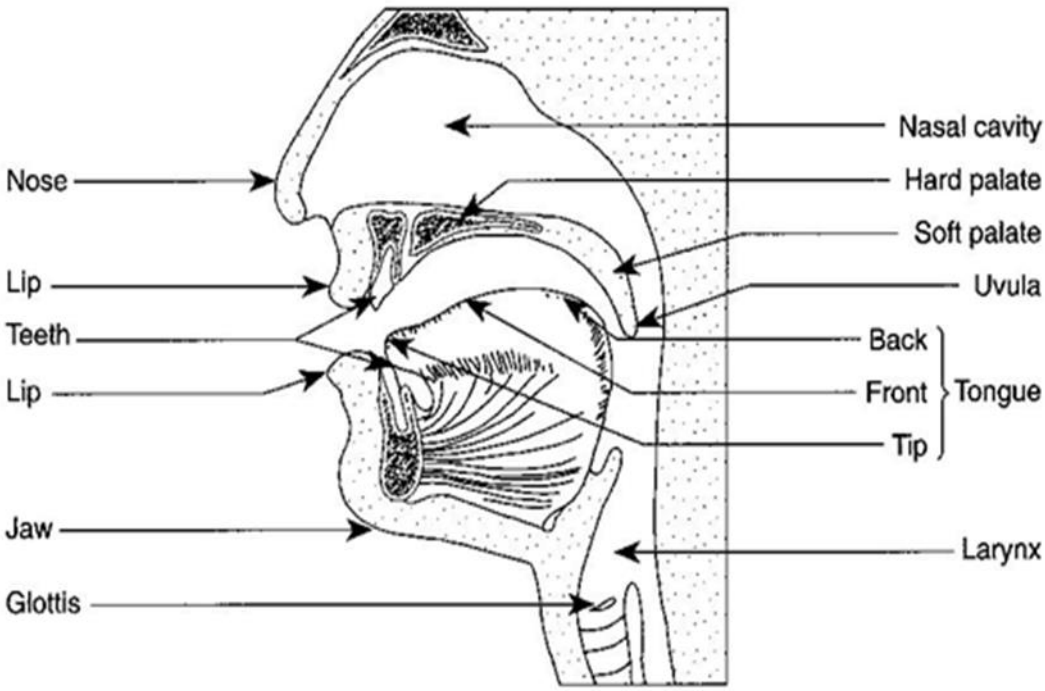


Diagram 3 Structure of the Ear
Source: Sacks & Wood (2003)

The Organs of Articulation

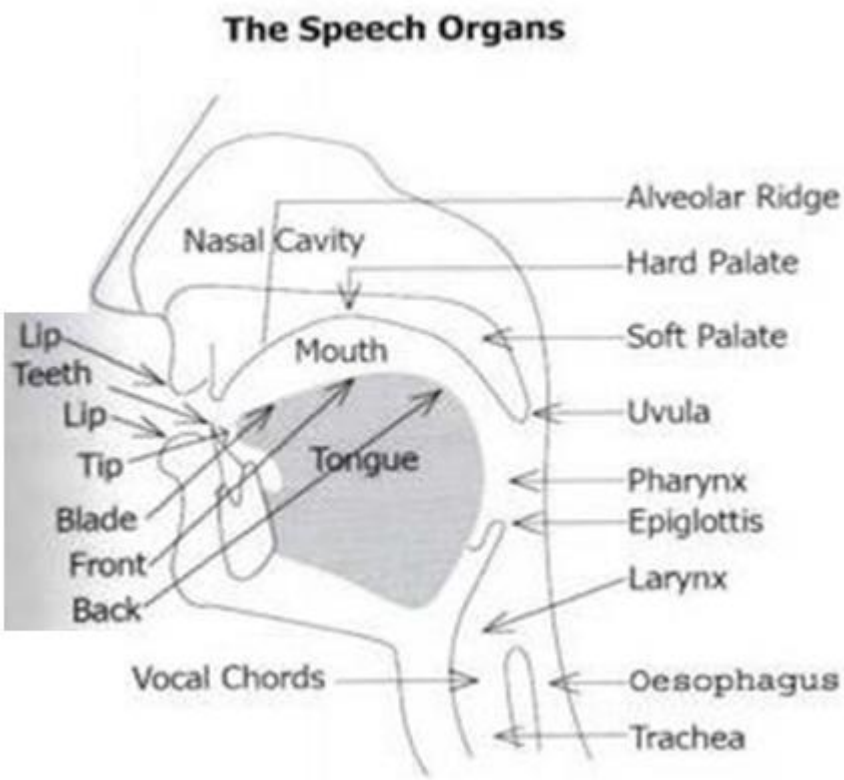
This diagram clearly displays the organs involved in speech production.



Source: Louw 1996

The Speech Organs

English phonetics4u.blogspot.com



To produce speech, air passes from the lungs via the windpipe (or trachea). The air passes through the voice box (or larynx) where the vocal cords vibrate, creating a sound. This sound passes up into the mouth and is shaped by the movement and position of the lips, tongue, soft palate, teeth and jaw.

Activity 1: Origin of Sound

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

1. Stand up tall, put your hand to your throat and take a deep breath and then release the air.
   - This time take a deep breath and then release saying a long loud ‘ah’.
   - Round and protrude the lips for ‘oo’ and spread the lips for ‘ee’.
   - Could you feel the vibrations when you said ‘ah’? This is because your vocal cords are vibrating to make sound. This is called ‘voicing’.
   - Try it again with the sounds ‘ssss’ and ‘zzzz’. Which one is ‘voiced’?

2. This time when you release the sound ‘ah’, use your tongue to make ‘la’, your teeth to make ‘sa’ and your lips to make ‘pa’.
   - Can you think of another sound which uses the tongue? The teeth? The lips?

3. Now try some other sounds and think about where they are made in the mouth.
   - ‘ma’ – this is made using the lips which come together, sound travels through the nose and then the lips release more sound from the mouth.
   - ‘ka’ – this is made at the back of the mouth, where the back of the tongue comes up to meet the soft palate
   - ‘la’ – we talked about this sound before. Is it the tip or the back of the tongue that is moving to make the sound?

Activity continues on the next page

Activity 1: Origin of Sound (continued)

4. Now try describing what moves or touches to make these sounds:

‘pa’
‘da’
‘ga’
‘va’
‘th’

To us, this all seems fairly straight forward; however, when you have a speech disorder, you may need to think about every sound you make, and how you make it.

1.3 Normal Speech and Language Processes

As we are frequently using the terms speech and language throughout this guide, it is important to define them separately.

Speech – is the verbal means of communication, which is the ability to articulate sounds using the organs of articulation, as described above. It can also refer to aspects such as how loud and how fluent we are.

Language – is the knowledge and use of a system of shared rules or symbols (usually words) that are understood in our society. It refers to our ability to know the meaning of words, and how to put them together (both structurally and socially) to convey meaning Language–Hearing Association n.d.c). Language can also be verbal (spoken) or non-verbal (use of gestures and body language) as both involve sending and receiving messages.

Our language learning starts at birth. We can see this when a newborn displays listening when she startles in response to a new sound or cries to communicate when she is hungry.

The normal development of speech is usually completed by the age of seven or eight. Language is substantially developed by then but continues to develop up until early adulthood, for example in complex comprehension.

Language can be broadly divided into two areas:

1. **Receptive language** or comprehension – understanding what is communicated to us via auditory sound, gesture or by reading.
2. **Expressive language** – communicating to others by speaking, writing or using gestures.

We can follow the typical developmental milestones by age. It is important to note that there can be a normal variation in development from child to child.

0–3 months – A baby can turn to you when you speak and can sometimes appear to 'recognise' familiar voices. They start to use different cries to express their different needs, for example tired and hungry.

4–6 months – This is the time when 'babbling' appears, and babies can make sounds which can be referred to as 'communicative intent' as the sounds can convey different messages. This change means that the baby is now intending to communicate.

7–12 months – The baby will listen when spoken to, starts to recognise their name and the names of familiar objects. They can produce many more sounds and will have spoken their first words.

1–2 years – They can follow simple commands such as ‘Sit on the seat’, and understand simple questions such as ‘Where’s your water?’ The child will move on to two word sentences and their words will become clearer and easier to understand.

2–3 years – They will understand two-stage commands ‘Take off your shoes and put them in your room’, and will appear to have a word for almost anything. They can produce three-word sentences.

3–4 years – They can understand simple questions and their sentences expand. They can usually speak fluently and can enjoy talking about experiences.

4–5 years – They should be able to construct long sentences, using correct grammar. They should be able to understand all that is said to them. They may still have difficulty with the sounds ‘r’, ‘th’ and ‘v’.

(Bowen 1998)

When we think of these milestones, it is interesting to note that children’s ‘receptive’ language also needs time to develop. This means that when we talk to a child we should be aware of the level of their receptive language and keep our language simple.

Simple language does not mean ‘babytalk’, rather breaking our sentences down to key words and phrases.

For example, if we want to teach a child the concept or meaning of the word ‘more’, then using this word in a context when the child wants more of a favourite food, such as banana, will assist his understanding of the concept. It will be more effective to ask ‘More?’, ‘More banana?’ or ‘Do you want more?’ when he/she points to the banana, rather than, ‘Would you like to have some more banana?’.

The latter statement is long and it would be challenging for a young child to work out which of the words relate to the concept of ‘more’. When a child is learning words, keeping our language simple and specific helps them link a word to the object or concept. The same principles may apply to an adult who has a communication disorder where isolating specific words and structuring tasks makes learning easier. Word meanings can also be learned in everyday interactions through repetition and experience.

Speech Sounds

Speech sounds develop just as language does, which is why it is harder to understand a two year old than a four year old. Some sounds such as ‘th’ (for example in theatre) are not consistently used by until ages seven or eight.

Normal Communication changes associated with Ageing

As we age there may be some normal changes in speech, language and hearing that can affect how well we are able to communicate with those around us. The extent to which the ageing process affects individuals varies from person to person.

These changes can include loss of hearing, changes to voice quality, decrease in attention, declining memory and slower speed of processing information. Many older people may also have difficulty remembering names and retrieving well known words.

It is important to be aware of communication changes that are part of the normal ageing process and those changes that may suggest an underlying medical condition that requires investigation. (Busacco 1999)

If you work closely with older people in your work as an AHA your speech pathologist can provide further information relevant to your local workplace.

Typical Speech Acquisition

Age by which 75% of children accurately use the speech sound listed.	Speech sound
3 years	h as in he zh as in measure y as in yes w as in we ng as in sing m as in me n as in no p as in pea k as in cat t as in two b as in bee g as in go d as in do
3 years 6 months	f as in far
4 years	l as in lay sh as in she ch as in chew
4 years 6 months	j as in jaw s as in sew z as in zoo
5 years	r as in red
6 years	v as in very
8 years 8 years and 6 months	th as in this th as in thing

(Kilminster & Laird 1978)

Activity 2: Normal Speech and Language Processes

Read the case study below and select the most appropriate response. You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

Case Study: Normal Speech and Language Processes

Tommy is 12 months old and is starting to acquire his first words; he is also listening to the words around him to try to learn the names for things. When he wants to get out of his cot in the morning, he usually just puts out his hands and makes an 'eeh, eeh' sound.

1. Which of the following would be the most effective way to demonstrate the word 'up' to Tommy?
   a. 'Oh Tommy, would you like to get up from your cot now?'
   b. 'Up, up?' and then when he is up in your arms reinforce repeat 'Up'
   c. 'Aw, Tommy uppy wuppy, uppy wuppy?'

2. Provide a reason for your answer

_____

_____

_____

_____

_____

_____

_____

Key Points

- Basic knowledge of anatomy, physiology and normal development of speech and language.
- Communication is a complex process that involves a speaker and a listener.
- The brain mechanisms for communication are complex. It includes the ability to send messages to the muscles that control our organs of communication.
- Communication is a process of conveying or sharing information, and can be verbal or non-verbal.
- Communication involves speech, language, hearing, vision, pragmatics, fluency and voice.

2. Communication Disorders

This topic covers information about:

- The range of communication disorders
- The origin of communication disorders
- Assessment of communication disorders
- Treatment of communication disorders

Activities in this topic cover the following essential skills:

- Following a program developed by a speech pathologist.
- Working with a client for speech/language therapeutic outcomes.
- Working under direct and indirect supervision.
- Demonstrating flexibility to adapt to changes in schedule where necessary.
- Communicating effectively with supervisors and co-workers.
- Identifying issues beyond the scope of role and responsibilities and seek assistance as appropriate.
- Demonstrating time management, personal organisation skills and establishing priorities.

2.1 Range of Communication Disorders

A communication disorder affects the individual's ability to communicate effectively and can be described as a disorder of:

- Speech
- Expressive and receptive language
- Reading and writing (literacy)
- Pragmatics
- Fluency, Voice and Resonance (not covered in detail in this learning module).

Other brain or 'cognitive' functions may also impact on communication (e.g. memory, attention, new learning and problem solving).

Communication disorders can have varying degrees of severity from simple sound errors to the inability to use words or communicate needs and can affect a number of areas of communication.

Although it is important to look at each separate area of communication and what difficulties/disorders can occur in that area, when looking at a client's speech, we must also look at their communication issues as a whole.

One area of difficulty can affect another. For example, a person with both memory problems and **aphasia** (a language disorder that can develop following a traumatic brain injury or **stroke**) may have difficulty saying a person's name. In this case, it may be difficult to decide if it is their memory or their aphasia that is affecting their 'word finding ability' more.

Most importantly we must consider how well they can communicate, in the world around them, despite these difficulties.

In order to aid our understanding, each aspect of communication will be listed and the range of communication difficulties or disorders that affect that aspect will be discussed in detail.

Speech

When we refer to 'speech', we mean the way that we articulate our words and the sounds we use. To help us think about this, consider that language is made up of words, and words are made up of little units called sounds or 'phonemes'. Although phonemes are small units, a change in one can make a huge difference to what we want to say. Think about the words 'big' and 'bag', the initial and final sounds are the same, with only the middle sound changing, however such a small change makes a big difference to the meaning of the word (Denes & Pinson 1993).

You may like to refer to the previous information regarding the organs involved in speech production. Each, or many, of the 'organs' or 'subsystems' of speech may be affected in in different combinations in different people. You may need to discuss with your Speech Pathologist the different kinds of speech disorders frequently encountered in your workplace.

Communication difficulties affecting speech

Phonological delay/disorder – when children start to make words, they usually go through a period of normal phonological processes, where they may make a series of sound errors as part of normal speech development. One example might be that a child will always replace one sound with another, for example 'f' becomes 'b' and 's' becomes 'd', so 'fat' becomes 'bat' and 'sun' becomes 'dun'. These errors can be a normal occurrence for children up until the age of 3 ½ years but are not expected as the child gets older. If it continues, that child may have a phonological delay or disorder. Other sound errors are not part of 'usual' speech development and are termed 'disordered'. The speech of these children is often more difficult to understand.

Articulation difficulties – there are many reasons why these difficulties can occur. One of the main structural conditions seen in childhood is cleft lip and palate. Surgery for cancers affecting the organs of articulation, for example the tongue and lip, also cause structural change, which can affect speech. Articulation disorders can also occur due to a sudden or progressive weakness or paralysis of the muscles of speech (e.g. dysarthria) or difficulty planning and coordinating movements for speech (e.g. dyspraxia of speech).

Expressive and receptive language

Language is the knowledge and use of a system of shared rules or symbols (usually words) that are understood in our society. It refers to our ability to know the meaning of

words, and how to put them together (both structurally and socially) to convey meaning. In the same way, it is our understanding of words that enable us to comprehend others (American Speech–Language–Hearing Association n.d.c). Receptive and expressive language also includes reading comprehension and written expression.

Think for a minute about how it feels to be in a foreign country or with a group of people who do not speak or understand English. If you try to ask for a cup of coffee but don't know the non-English word for it, you cannot communicate your needs through spoken language. What if you do know the word for 'coffee' but not how to ask for it politely? You lose the ability to be courteous by not knowing the social/grammatical rules of that language.

Communication difficulties affecting language

Developmental language delay – this is an identified inability to develop language at the normal language milestones or targets. It can affect a child's ability to understand what is said to him (receptive language) and his ability to use words and sentences to convey meaning (expressive language). We should note that this is a delay in language development and not a disorder, as children eventually reach their milestones in the normal 'sequence'.

Developmental Language Disorder (also known as Specific Language Impairment (SLI)) – this condition, which usually arises in early childhood, is defined as a difficulty acquiring (i.e. learning), understanding, producing or using language which significantly impacts on the person's ability to communicate. The language difficulties in this disorder cannot be explained by other factors such as hearing loss or **neurological** (brain) deficits, so appear to exist despite normal development in other areas. The child performs significantly below what might be expected for their age or intellectual ability. (WHO 2016). This condition is often called Specific Language Impairment (SLI) but the term is currently under review as there is controversy around its use in the speech pathology, health and education fields (Ebbels 2014).

Aphasia (also known as dysphasia) – this is a language problem caused by a **stroke** or other brain damage (most frequently on the left side of the brain).

It can affect:

- understanding
- speaking
- remembering the names of objects and people
- grammar
- reading, writing, spelling
- telling the time
- calculation, and
- understanding symbols, pictures and sign language/gestures.

Aphasia can occur at any age, including childhood. It varies in severity, so one person may have a mild difficulty 'finding' the right word, and another may not be able to communicate their needs at all. "Aphasia can mask a person's intelligence and ability to communicate their thoughts and feelings." (Australian Aphasia Association n.d.b)

Cognitive Communication Disorder – this is where a client's communication skills are affected by changes to their cognitive skills (memory, attention, new learning and problem-solving skills) and most commonly occurs after a brain injury (for example Traumatic Brain Injury or TBI). Everyday speech and language skills may be affected at different levels. Difficulties with complex language skills and interactions are features of this condition. Changes to cognitive skills can affect all aspects of higher level language skills for example listening and understanding, reading, talking and writing.

Difficulties include:

- understanding lengthy information or information presented quickly
- reading longer and complex information
- finding the words when talking
- trouble organising thoughts when talking
- trouble staying on topic both in speech and writing.

This can impact a person's ability to pick up the subtleties of language like humour and sarcasm, follow long instructions or even watch and understand a movie. If a person has difficulties paying attention, this can affect their spoken language. They may lose track when they are talking, repeat information, or be unable to effectively get their message across.

Other health professionals including Medical, Occupational Therapy, Neuropsychology and Nursing may be involved in working with clients with deficits with cognition.

Reading and Writing (Literacy)

Literacy is our ability to read and write. It is an acquired skill and is not considered 'innate' or instinctive, unlike speech. Written language to a large extent reflects the same rules and grammar as spoken language. The individual sounds we make can make correspond to the letters of the alphabet of that language, for example: English, French and Japanese. Where we use intonation, pitch and pause to create effect or emphasis in speech we use punctuation, such as exclamation marks in writing (Fromkin et al. 1984).

This interconnection is also evident from the way that people with spoken language difficulties and disorders may also have difficulty with reading and writing. It is well documented that spoken language skills prior to school entry, can be a strong predictor of the child's capacity to acquire reading skills at school (Serry, Rose & Liamputtong 2008).

Children with language disorders may have difficulty with developing literacy skills. Similarly, adults with aphasia or brain injury may have difficulties with reading and writing as part of their aphasia.

There are other disorders that affect reading and writing skills:

Dyslexia - a specific learning disability involving difficulty learning to read words, letters and other symbols. Dyslexia is sometimes referred to as a:

- learning disability
- specific learning difficulty
- reading disorder/disability

Dyslexia can cause reading, writing and spelling problems due to a defect in the way the brain processes written and graphic material. Difficulties can range from mild to severe and may respond to treatment if found and addressed early in life (Dyslexia – SPELD Foundation 2014)

Pragmatics

This basically refers to the way we say something to convey meaning in a socially acceptable or polite manner. If we see someone who is overweight and eating a burger, to say 'Don't eat that or you will get bigger' would be considered rude and may reflect a poor grasp of the rules of social language or Pragmatics (American Speech–Language–Hearing Association n.d.b).

Another example would be having a conversation with someone who did not look at you when you were talking, interrupted you when you were talking, and then walked away suddenly even though the conversation or discussion was not over. These are all examples of changes to, or difficulties with pragmatic skills.

Pragmatics can also include the use of inappropriate words, poor turn-taking and facial expressions in conversation.

Communication difficulties affecting pragmatics

Autistic Spectrum Disorder (ASD) - is a lifelong developmental disability that results in significant difficulties within areas of communication and social skills. It can affect each individual differently and to varying degrees of severity, and interferes with their ability to interpret and interact with the world around them. Autism is usually diagnosed in childhood as children develop and display behaviours that are recognisable as autistic behaviours. Some of these behaviours or difficulties might include: poor development of expressive and receptive language; poor cognitive skills; poor eye contact; overly focused or obsessive about interests; inappropriate or difficulty managing emotions; sensitive to sound, light, smell, taste and/or touch; and poor pragmatics (social behaviour). There may also be delays in other areas of development such as fine motor skills. Although we have placed ASD under 'pragmatics', it affects many other areas of communication.

Acquired Brain Injury (ABI) - stroke (also known as a cerebrovascular accident or CVA) on the right side of the brain and traumatic brain injury (TBI) can cause changes to pragmatic skills, for example difficulty with staying on topic, taking turns and responding appropriately in social interactions or conversations.

Fluency

Refers to the smoothness or flow of our speech. Normally we are able to produce sentences with very little effort and without interruption to the flow of words.

Stuttering - is when the fluency of speech is disrupted. It is currently understood as a speech motor problem, which is quite common and usually begins between the age of three and four, but can continue or develop throughout a person's life (Webber, Packman & Onslow 2004).

Due to its impact on communication, stuttering, for older children and adults, can lead to negative thoughts about speaking and even avoidance of situations in which they have to speak (James, Brumfitt & Cowell 2009).

Voice

Voice changes can occur because of problems with vocal cords, breathing or vocal tract. When changes in voice occur it is referred to as dysphonia. We commonly recognise **dysphonia** as 'hoarseness', though any negative changes to the voice fall under this term. These changes may be due to something structural, physical, neurological (from the brain), psychological, behavioural or other lifestyle factors (Mattheson 2001).

There are professionals who use their voices a lot, such as teachers, actors and singers, who are more prone to voice problems than others.

The origins of dysphonia include:

Structural – such as a vocal nodule, which is like a callus on the vocal cords caused by misusing the voice.

Neurological – There are many medical conditions that can impact on voice or 'vocal' function. These include stroke, traumatic brain injury and progressive neurological conditions such as Parkinson's Disease or Motor Neurone Disease. If you are working with clients with these conditions, further information and training will be required at your workplace.

Disease – cancer of the vocal cords will cause dysphonia. In severe cases, sometimes the larynx has to be removed in an operation (called a laryngectomy) and the client must learn to communicate via other means such as a voice prosthesis or an electrolarynx.

Lifestyle factors – sometimes, psychological factors such as stress can affect the voice. Stress may cause tension, which in turn can affect the flexibility of the muscles surrounding the larynx. Other lifestyle factors (smoking, which dries the vocal cords, and vocal misuse, for example shouting) can physically damage the vocal cords.

Cognitive Skills

Cognitive skills (memory, attention, new learning, problem solving) are brain functions used to process, gain or retain knowledge. When the brain is affected by damage/disease or disorders our ability to use these skills are impaired. This can occur at different levels. For example:

High level cognitive communication disorder - Refer to previous information.

Intellectual Impairment – an impairment in mental ability occurring before the age of 18 that impacts on a person's ability to learn, reason, problem solve and interact socially, which can impact significantly on the person's ability to perform self-care and daily routines. (American Association on Intellectual and Developmental Disabilities n.d.)

Dementia – there are different kinds of dementia with the most common being Alzheimer's disease (Worrall & Hickson 2003). Speech pathologists may be involved in working with Geriatricians, Occupational Therapists and Neuropsychologists in assessment and treatment of people with dementia in addition to working with their families with the aim of maximising communicative interactions.

Dementia impacts on cognitive function which in turn affects communication skills.

Different patterns of progressive communication impairment are associated with the different forms of dementia.

Features of dementia in conversation may include:

- difficulty following the 'rules' of conversation (pragmatics)
- less sensitive to others in conversation (focuses on self)
- shrinking vocabulary (smaller range of words)
- responses to questions may fluctuate and at times be inaccurate or irrelevant
- abruptly change topic in conversation
- take shorter and fewer turns in conversation
- listeners have difficulty following their conversation.

(Orange & Purves 1996, cited in Worrall & Hickson 2003)

Consider someone with dementia who has experienced changes to their cognitive skills and how this affects their communication.

Firstly, when they have memory difficulties their communication is affected by their ability to recall information. This changes how they are talking, the amount and the meaning/content of what they say. Consequently, they often do not get their message across. This could be a cause of frustration and anxiety for the speaker and the listener.

Secondly, they may have difficulty with attention skills. When talking with someone, they may find it difficult to pay attention to what the other person is saying. This gets harder for longer conversations, so they may 'miss' important information. This would then affect their understanding of the conversation. Problem solving may also be affected, which could impact when sharing information or attempting to give directions.

2.2 Origin of Communication Disorders

Having understood the various range of a number of communication difficulties/disorders, it will now be useful to look at the origins of these difficulties/disorders and how they can affect areas of communication.

Communication disorders can be categorised according to their origin, and may arise from:

- Congenital abnormalities (those which occur before birth)
- Developmental delay or disorder (occurring in developmental years)
- Acquired injury and disease
- Degenerative disease (worsens over time)

Congenital Disorders

This refers to defects in or damage to the developing foetus (unborn baby) and may be due to:

Genetic disorders (what we inherit from our genes) – genetic disorders are an abnormality of a chromosome (chromosomes carry our DNA inside our cells). Chromosome abnormalities are responsible for conditions such as Fragile X, Prader-Willi and Down Syndrome where speech and language delays are common.

Trauma or injury – caused by an injury to the brain before, during, or shortly after birth. It can affect speech and language development depending on the severity and the area of brain damaged. This can be seen in conditions such as Cerebral Palsy.

Structural or medical conditions – there are many conditions that can result in communication disorders including hearing impairment and a wide range of syndromes.

Hearing impairment – a congenital hearing loss is one that is present at, or soon after birth. Causes can include partial or complete closure of the ear canal (atresia), malfunctioning or damage to the cochlear (the sensory part) or the hearing nerve (Australian Hearing 2013).

Cleft lip or palate – is a condition that is a result of facial and oral malformations that occur very early in pregnancy, while the baby is developing (Grunwell 1993). Speech sounds are affected by the shape and structure of the mouth and nose.

Children with congenital abnormalities may also have physical development issues. They may need assessment and management by Physiotherapists, Occupational Therapists, Dietitians, and Psychologists. When this occurs, we manage these clients ‘holistically’, which means that while we primarily look at their speech and language skills, we also observe other physical/sensory/social issues that may be apparent.

Activity 3: Origin of Disorders

Complete this activity with a partner.

Read the Case Study below and discuss the questions that follow. You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

Case Study: Origin of Disorders

Leo comes into clinic with his mother to see the speech pathologist. He is two years old, and he has Down Syndrome. His mother reports that he said his first word ‘dada’ at 18 months, and now has about seven words, though she thinks he understands a lot of what is said to him. His sounds are certainly not clear but in clinic he says ‘ball’ and ‘mama’.

Consider the normal development of language; Leo will appear to be delayed, won’t he? As children with this condition have variable levels of ability, we cannot say that this is ‘normal’ for this condition, but Leo’s language development follows a common pattern seen in children with Down Syndrome.

The speech pathologist will also be interested in his gross motor skills (the movement of the large muscles of the body, like his legs), for example: is he crawling?; his fine motor skills (movement of the smaller muscles, like his fingers), for example: can he pick up a small object like a pea?; his diet (what he eats and his nutrition), for example is he eating solids/finger foods etc?; so that she can advise allied health colleagues and have a more holistic view of Leo.

Leo is not walking, and has only just started crawling. He can pick up small objects and enjoys finger foods, like crackers.

Activity continues on the next page

Activity 3: Origin of Disorders (continued)

With your group, discuss the following questions.

1. What do you need to consider when setting up a therapy room for a speech pathology session with Leo and his mother?
   - Think about seating; floor or chairs?
   - Leo can crawl. How will you ensure he remains safe?
   - What could you do to the room?

2. As an Allied Health Assistant, what is your role in the session? What is not?

3. How would you keep Leo and his mother on task?

Activity continues on the next page

Activity 3: Origin of Disorders (continued)

4. What information would you report back to your supervisor?

5. What other allied health professions could be involved with this case?

Developmental Delay and Disorders

It is important to distinguish between a developmental delay and developmental disorder.

A child who has developmental delay reaches their developmental milestones or targets slower than expected, but they do so in the 'normal' sequence. A child who has a developmental disorder displays an unusual sequence or order of reaching these milestones with 'gaps' in specific areas of their development. Children with developmental disorder often also present with developmental delays (McConnell, 1998).

Signs of a developmental delay would include achieving the expected milestones for speech and language development in the expected order but later than children of the same age.

Signs of a disordered language pattern in young children can include:

- Limited speech and/or limited vocal imitation.
- Difficulty with language comprehension — child is very reliant on situational or visual cues — child has difficulty answering questions.
- Child is considered to be very independent (may have frequent temper tantrums) but has difficulty using language to get needs met.
- Limited social interaction, difficulty in peer play, excessive shyness.
- Echolalia (the repetition of words and sounds a person has heard either recently or quite a while ago).

Communication disorders that may arise from a developmental disorder include:

Dyslexia – refers to specific learning difficulties with reading, but remember, spoken words and written words are so connected that written language may also affect the child's spoken language.

Autistic Spectrum Disorders (ASD) – "Autism spectrum disorder (which includes autism, Asperger syndrome and pervasive developmental disorder not otherwise specified (PDD-NOS), is a complex disorder that affects a person's ability to interact with the world around them." (Better Health Channel 2013). People with ASD have difficulties with communication and social interaction, as well as "restricted or repetitive behaviours, interests and activities" (Better Health Channel).

Specific Language Impairment (SLI) – this is a developmental disorder that is considered a pure language disorder as it affects only language and has no other identifiable cause.

Acquired Injury and Disease

Disorders of communication may also follow an acquired injury or disease. As they are acquired, they can affect a person of any age. The following are examples of injury or disease that can be acquired after birth.

Acquired Brain Injury

Stroke, traumatic brain injury and intracranial tumours are common acquired causes of damage to the tissues within the brain which result in communication disorders.

Stroke (also known as cerebrovascular accident or CVA) – can be caused by a clot that slows down or stops the flow of blood to areas of the brain (Ischemic CVA) or the rupture of a blood vessel that floods the brain tissue with blood (haemorrhagic CVA).

CVA can cause difficulties in all areas of function including:

- speaking
- understanding
- reading
- writing
- thinking
- walking
- vision
- use of arm or hand
- swallowing
- continence
- activities of daily living such as the ability to dress, shower and drive.

Strokes can occur in any area of the brain, for example: on the left-side, right-side or in the brain stem. A stroke on one side of the brain usually affects the opposite side of the body.

For more information on Strokes visit the National Stroke Foundation webiste at: www.strokefoundation.org.au

Intra-cranial tumours (inside the skull) – these tumours can affect speech and language as they can take up space in the brain and squash brain structures, lie on and affect blood supply to a structure, or directly damage the brain tissue which is responsible for speech and language production. Generally speech and language problems do not occur until later in the course of the disease as the tumour grows and affects these areas (Murdoch 1997).

Traumatic Brain Injury (TBI) – is damage to the brain from trauma, such as external trauma/blow to the head (for example a fall) or by the brain being forced to move rapidly backwards and forwards inside the skull (for example through sudden deceleration in a car accident). TBI can result in different types of damage to the brain including bruising, bleeding or haemorrhaging, swelling of the brain, or injury to the pathways in the brain. Often, people with TBI have several different brain areas

affected from the one accident or injury. TBI can cause a range of communication problems, depending upon the severity and the site/s of the brain injury. Difficulties can be mild to severe, and can include changes to speech, language, reading and writing, thinking skills and social skills.

Generally there are three neurological communication conditions that are as a result of acquired injury and disease.

Aphasia (also referred to as Dysphasia) – a language difficulty caused by damage to the areas of the brain that control language (Australian Aphasia Association n.d.a). It can affect comprehension, expression, reading, writing and using numbers/symbols. Aphasia varies in severity; one person may have a mild difficulty, maybe 'finding' the right word; another may not be able to communicate their needs at all.

For more information on Aphasia, visit the Australian Aphasia Association website: www.aphasia.org.au

Dysarthria – a motor speech disorder caused by stroke, head injury, or other neurological condition. It may affect the strength, speed and co-ordination of the muscles of the jaw, lips/face, tongue, palate, larynx (voice box) and muscles used for breathing (remember the 'organs of articulation'). It is often recognised as 'slurred' speech, but people with dysarthria also experience problems with the quality, pitch and loudness of their voice and the rate, melody and intonation of their speech. People with dysarthria often have associated facial weakness, poor control of saliva (dribbling) and difficulties with eating and drinking (Queensland Health 2006a).

Dyspraxia – a motor speech disorder caused by injury or disease of the brain that affects voluntary motor planning, programming and sequencing of the movements for speech production. Voluntary non-speech oral movements like poking out the tongue may be affected or the motor planning for speech sounds may be impaired. Dyspraxia does not make the muscles weak; it affects the **pathway** that sends the message from the brain to the muscle. A person with dyspraxia may be able to lick an ice-cream without thinking but be unable to make a similar movement of poking out their tongue on command. Like aphasia and dysarthria, it varies in severity, from someone who cannot pronounce effectively to someone who cannot use word or gesture at all (Queensland Health 2006b).

A person may have a combination of any of the above speech and language disorders to varying degrees of impairment. That is a person may have aphasia and dyspraxia or aphasia and dysarthria or all three difficulties impacting on their ability to communicate. In addition, problems with swallowing (dysphagia) may also be present.

Different treatment methods are required for the varying forms of communication disorders. The speech pathologist will address an individual's needs based on thorough formal assessment and analysis.

It is very important to be clear that none of these conditions cause an impairment of intelligence. These are some quotes from people living with Aphasia:

- ‘Inside my mind, I am the same person but all areas of language are confusing.’
- ‘Cannot communicate the ideas in my head into words.’

(Berens 2006)

When we think about how much we communicate in a day, it is not surprising how a speech or language difficulty affects the person both socially and emotionally.

Take a minute to think about your perceptions when you hear someone with poor or slurred speech. Some people make judgements regarding their intelligence, socio-economic status or even their sobriety based solely on how they speak. Part of the AHA role may be advocating for people with communication difficulties to assist to rectify inaccurate perceptions.

Other Types of Acquired Injury or Disease

Other origins of communication difficulties from acquired injury and disease include head and neck cancer (not including brain tumours) – these do not affect language but if the tumour and/or surgery are in the mouth, it can significantly affect speech production, causing dysarthria. If the tumour is in the larynx (voice box), it can cause hoarseness, and indeed if the larynx is removed, an artificial means of voice may be introduced.

Although trauma, tumour and stroke are the most common origins of acquired brain injury, they can also be caused by:

- alcohol or drug abuse
- poisoning
- infection
- hypoxia (lack of oxygen)

Acquired injury and disease can also result in swallowing difficulties. For further information refer to the Cert IV Allied Health Assistant module HLTAHA013 Provide support in dysphagia management.

Activity 4: Reflection

This activity involves thinking about the nature of acquired communication problems.

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

Imagine you have just had a stroke and have aphasia. It affects your ability to 'find' words and make sentences. When you want to say one word, another comes out, for example 'apple' instead of 'orange', and you can no longer meet your friends in groups as you cannot concentrate on more than one person speaking at a time. You cannot follow your favourite television shows and you cry more easily than before.

Before you had this stroke you were a 21-year-old, studying to complete your Certificate IV in Allied Health Assistance.

1. How do you think you and your family would feel?

Activity continues on the next page

Activity 4: Reflection (continued)

2. How would this impact on your current lifestyle/study?

Degenerative Disease

There are a variety of degenerative diseases that may result in communication disorders. Degenerative diseases cause a progression of symptoms and deterioration of function over time. There are many different degenerative diseases which affect communication skills. Depending on your workplace you may work with clients with a variety of progressive conditions. Further training may be required in your workplace. The following outlines some of the most common degenerative diseases affecting communication function.

Parkinson's Disease (PD) – occurs because certain nerve cells (neurons) in the brain die or become impaired. Parkinson's Disease affects the control of body movements, cognition, speech and mood. Researchers estimate that 89% of people with PD have dysarthria involving speech or voice disorder including disorders of vocal function, control/use of breathing muscles for speech and articulation. The speech of people with PD can be described as having the following:

- reduced loudness
- breathy or hoarse voice
- changes to rate (speed) of speech
- reduced pitch variation causing voice to sound monotonous or flat
- slurred speech
- difficulty varying their facial expressions, they can present with a blank or 'mask-like' expression even though they are feeling normal emotions
- changes to sensory processing impacting on speech.

Communication changes associated with PD affect confidence and participation in communication in everyday situations (Trail et al 2005). Speech pathology treatments of dysarthria in people with PD are very effective.

(Queensland Health 2006d)

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. 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.

People with MND have difficulty with their speech and voice and the most common symptom is dysarthria. Symptoms noted include a weak voice and unclear speech. People with MND may also have changes to cognition and swallowing function. Use of alternative means of communication may be appropriate as the disease progresses (Queensland Health 2006c).


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

Huntington's Disease (HD) – is a progressive disease that is inherited from an affected parent. It usually affects adults between 30 and 50 years old and the HD gene causes degeneration of nerve cells in the brain. This degeneration causes gradual deterioration of how someone thinks and moves. People with Huntington's Disease display uncontrolled jerky movements and dysarthria (Huntington's Queensland, n.d.).

Someone with HD may report that they aren't able to control the rate of their speech, that the sounds don't sequence as they should (Dyspraxia), they have 'slurred' speech due to muscle weakness (Dysarthria), a hoarse voice, poor breath control and in some cases they may have difficulty finding words, or getting 'stuck' on certain words in conversation (Aphasia). Due to the cognitive deterioration, these issues may be made worse by poor memory, concentration and judgement skills (American Speech – Language – Hearing Association n.d.a).

Dementia – is an umbrella term used to describe the symptoms of a large group of illnesses that cause a progressive decline in a person's functioning. Symptoms may include impaired memory and confusion, difficulty in performing day-to-day or familiar tasks, and changes in personality, mood, and behaviour.

Alzheimer's Disease – is the most common form of dementia. It is a disease that attacks the brain cells and as a result affects and reduces the ability to think, behave and recall. It is degenerative and the effects are progressive, so the individual gets worse over time. As the brain cells die, functions related to that area of the brain deteriorate. In relation to speech and language, the individual with Alzheimer's disease will find it difficult to find and remember words and sentences. Their short term memory is affected so they may not be able recall or process what is said to them in conversation. They will almost certainly find reading or writing challenging, and all of these symptoms get worse as the disease progresses.

For more information on Alzheimer's disease, visit the Alzheimer's Australia website. www.fightdementia.org.au

2.3 Assessment of Communication Disorders

We have looked at the range of communication disorders that can affect our clients, but how do we differentiate between them in order to decide what is affecting an individual who is unable to communicate effectively? Clients with communication disorders are referred to speech pathologists for diagnosis and treatment of these communication difficulties.

All aspects of assessment remain the role of the speech pathologist. The primary step for the speech pathologist is to assess the client's communication to determine which communication disorder(s) is/are affecting their ability to communicate. Initially, this involves gaining a better understanding of their medical history and current medical status, their social environment, and their communication skills.

It is beneficial to talk (with client permission) to their families and close friends to gain better understanding of their previous communication abilities, which can help determine the impact of their current difficulties. For example, someone who has a very mild communication difficulty, but who requires high level reading and writing skills as part of their job may have different therapy goals to another person who has retired and who no longer uses reading or writing in everyday activities.

Assessment of clients is ALWAYS the role of the speech pathologist and includes ensuring that individual has a means to communicate their needs in their current environment. For example, if a client who has had a stroke was unable to communicate using words, investigation regarding other means of communication would be conducted.

For example use of:

- writing
- typing
- drawing
- picture cards/communication board/photos
- gesture/hand signals

Speech pathologists use a variety of formal and informal assessments to assess areas of speech, language, reading, writing, pragmatics, voice, fluency and hearing. Assessment of cognition usually occurs via occupational therapy, medical and/or neuropsychology. Further assessment of hearing may be completed by an audiologist or review by an ear, nose and throat (ENT) specialist. Discussion between all members of the team is always beneficial to holistic client outcomes. Once the assessments have been completed and analysed, speech pathologists review all areas of deficit and client strength, then set realistic goals for therapy with clients and their families, provide education and formulate appropriate treatment plans.

Although speech pathologists primarily assess the client's communication difficulties and/or needs, assessment always involves looking at the client's needs **holistically**. That is to say, we look and ask appropriate questions regarding any other needs and difficulties they may have, so that we can refer them to the appropriate health professionals.

For more information, you can read: Parameters of Practice: Guidelines for delegation, collaboration and teamwork in Speech Pathology practice, Jan 2007 (Look for “Parameters of Practice”); Speech pathologist American Speech and Hearing Association Scope of Practice Document http://www.asha.org/policy/SP2013-00337/

Activity 5: Decision-making

Discuss the following case study with a partner.

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

Case Study: Decision-Making

You have gone with the speech pathologist to the home of one of your clients with Parkinson's Disease. During the dysarthria assessment by the speech pathologist, the client's wife is shouting at him to try harder and complaining that he 'mumbles on purpose just to annoy [her]'. You can see that your client is getting quite annoyed and embarrassed.

1. How much does the client's wife understand about her husband's condition?

2. Do you feel it is your responsibility to discuss this with her?

3. If you have observed this scenario during a subsequent therapy session, do you think it would be important to feedback to your supervisor about the negative impact it had on your client?

Activity continues on the next page

Activity 5: Decision-making (continued)

4. How would you document your observations?

2.3 Treatment of communication disorders

Therapy plans will change over time in accordance with Client progress. Treatment is individualised to each client and is usually goal orientated. These goals are set in collaboration with the client.

Your role in Treatment

You have an important role in the treatment of communication disorders. The speech pathologist will set treatment goals and the specific activities to be completed by the client. The feedback you provide to the client during therapy activities will enable them to monitor their progress. Feedback is a crucial tool in therapy, and is specific to each client dependant on their personality, age, language ability, motivation and the tools or strategies that best stimulate success in communication (cueing hierarchy). As part of a speech pathologists role, they assess these variables relating to feedback and will advise you on the specific feedback tools or strategies you should use with that client.

Seek further workplace specific training regarding implementation of therapy plans including use of cueing strategies and hierarchies.

Another important role in therapy is providing feedback to your speech pathologist about a client's progress in treatment. Information you provide allows the speech pathologist to monitor and modify treatment goals for future therapy sessions.

Feedback that you should provide to your speech pathologist includes:

- components of the program completed or not completed
- any subjective client reports, e.g. fatigue, frustration, pain
- any adverse events that occurred during the session, e.g. falls, fainting
- your subjective reports of the treatment session.

You MUST report any difficulties a client is having to your supervisor for advice before continuing with the therapy program. You must also seek assistance if your client is presenting with needs or signs outside the limits of your authority, skills and/or knowledge.

Refer to validated Clinical Task Instruction for "When to Stop"
https://www.health.qld.gov.au/ahwac/docs/cti/wts01.pdf

As an allied health assistant working with speech pathology clients, you should ensure you have a good understanding of each client's areas of deficit and the therapy goals that have been set. As you will be assisting with therapy, this understanding will enable you to note achievements the client is making or not making towards these goals.

Example 1: Therapy with adults

A person with aphasia is having difficulty ‘finding’ words. During assessment it is identified that they are most successful at retrieving (remembering) words when they are ‘cued’ with the first sound of the word (cueing hierarchy). So if the target word is ‘ball’ and they cannot say the word, giving them the first sound ‘b’ may help them to retrieve it.

Therapy can be delivered in a variety of modes, e.g. individual or group therapy, and in different environments, e.g. the home or clinic setting. The environment for therapy is usually dependant on the service provider, e.g. community or acute service; or client mobility and access, e.g. home based or clinic based. Group therapy is an alternative to the traditional individual therapy option. The impact of multiple clients and the relationships/dynamics between each of the group can affect progress.

As an AHA, part of your role will be to help consider these dynamics and their impact on the group, as well as other obstacles such as differing client abilities, and personalities. A group session will only be a useful therapeutic option if you and the speech pathologist can acknowledge these variables so that the right environment can be achieved.

Example 2: Group therapy with children

You have a paediatric language group with four participants.

Factors to consider:

- How will the behaviour of each of the children affect the therapy group? One child may be very distractible and could potentially distract the other children during therapy activities.
- The language/speech abilities of the children in the group may be different among the children in the group. If the children are not of similar abilities they may not benefit from activities that require higher or lower language skills than they currently have.
- Do the parents want to participate in a group activity?
- Do you have parents in the room during the session or not? Some children will behave better when a parent is not in attendance, but some are much more willing to participate when their carer is around.

These are all issues that you can discuss with the treating speech pathologist before the therapy session. The speech pathologist will usually have prior knowledge of all clients and their particular needs. Remember, even the best planned groups might need changes due to differing needs, so your role as monitor will often be ongoing.

Activity 6: Aphasia Group

This is a group activity. Read the case study below and discuss the questions that follow. You may use the space provided below to write down a draft response. Record your final answer in the Assessment Guide.

Case Study: Aphasia Group

The speech pathologist is running a six week communication group for people with Aphasia. They have all been discharged from hospital at least three months ago and are living at home with their families. Family members are not attending the group. The group will be run by one speech pathologist and one allied health assistant (you), and there will be four people with aphasia attending the group.

The clients are:

Harry: 63 yrs. Stroke 6 months ago. He has difficulty finding words and gets extremely anxious when he cannot do so. He is often tearful. He cannot watch television or listen to the radio anymore as he cannot 'follow' what is being said.

Jim: 71 yrs. Stroke 9 months ago. Jim has limited communication; he can say a few words, but mostly uses gesture, pictures, and drawing to convey his meaning. He also has difficulty understanding what others say to him, and requires simple language and instructions.

Clara: 77 yrs. Stroke 13 months ago. Clara can say a lot of words, but what she does say is not always what she wants to say. Sometimes her statements are nonsensical, and although her ability to monitor this has improved, it is still an issue. She too has difficulty understanding what is said to her at times.

Tony: 54 yrs. Stroke 12 months ago. Tony has mild aphasia, which affects his ability to comprehend and read longer paragraphs. He also has a condition called Dyspraxia, which means he cannot form all the words he wants to say (see Glossary). He can produce an increasing number of familiar words, but otherwise relies on a communication aid that speaks the words when you type in the letters.

With your group, discuss the following questions.

1. What are the challenges you would face with the group of people in the Case Study above?

Activity continued on the next page.

Activity 6: Aphasia Group (continued)

2. What are your roles and responsibilities in working with this group? What is not?

3. What other information would you need to know about these clients before they attended the group?

4. How could the room be set up to maximise communication?

5. How would you ensure that the group stays on task and remains focused? How will you organise the group?

Key Points

- Understanding of the origins and range of communication disorders.
- The origins of communication disorders can occur from before birth right through to old age.
- It is important to understand the other physical and emotional difficulties that may go with a communication disorder especially if it is part of a syndrome, disease or injury.
- Every area of speech and language has difficulties and disorders that can affect it.
- Some of these difficulties and disorders can affect more than one area of communication.
- When looking at someone's impairment, we must look at them 'holistically' and consider their communication needs within the context of their environment, for example:
  - What do/did they work as?
  - Who do they communicate with?
  - Can they convey their needs/wants?
  - Can they use non-verbal skills?
- Your role in the treatment of communication difficulties as an allied health assistant is to:
  - Conduct therapy activities according to the treatment plan developed by the speech pathologist,
  - Provide feedback to your supervising speech pathologist on how the client managed the set tasks so that the speech pathologist can adjust the plan if required, and
  - Seek assistance from your supervisor if a client presents with needs or signs that are beyond your responsibility, knowledge, skills and/or abilities.

3. Risk Management

This topic covers information about:

- Roles and Responsibilities
- Policies and Procedures
- Scope of Practice
- Supervision

Activities in this topic cover the following essential skills:

- Working under direct and indirect supervision,
- Demonstrating time management, personal organisation skills and establishing priorities, and
- Identifying issues beyond the scope of role and responsibilities and seeking assistance as appropriate.

3.1 Roles and Responsibilities of an allied health assistant

The role of the allied health assistant is to support and assist the speech pathologist in providing patient care. Speech Pathology Australia defines speech pathology assistants as individuals who are "delegated tasks by speech pathologists to facilitate the delivery of speech pathology services" (Speech Pathology Australia, 2014).

The speech pathologist is always directly accountable for a client's treatment but will delegate tasks to the allied health assistant as appropriate. It is the responsibility of the assistant to complete the tasks and liaise with the speech pathologist regarding the client's progress.

Roles and responsibilities of the allied health assistant include, but are not limited to:

- having an understanding of the role of speech pathologists, allied health assistants and aides,
- understanding the limits of your scope of practice,
- being aware of and following all relevant safety precautions,
- only undertaking the tasks for which you have appropriate competence, and
- being aware of and complying with relevant aspects of the ethical principles and code of conduct of the speech pathology profession (Speech Pathology, 2010) and the employer.

It is recommended that you research further information regarding the role and responsibilities of the speech pathology assistant. The following websites are a good place to start.

Speech Pathology Australia (SPA)

Parameters of Practice: Guidelines for delegation, collaboration and teamwork in Speech Pathology practice
http://www.speechpathologyaustralia.org.au/SPAweb/About_us/SPA_Documents/SPAweb/About_Us/SPA_Documents/SPA_Documents.aspx?hkey=9baff7ac-e3ad-4d6b-83e4-4f9e7c7af3fe

Speech Pathology Australia: Code of Ethics
http://www.speechpathologyaustralia.org.au/SPAweb/Document_Management/Public/Ethics.aspx

ASHA AHA Scope of Practice document

http://www.asha.org/policy/SP2013-00337/#d4e665

Allied Health Professions' Office of Queensland: Allied Health Assistants

http://qheps.health.qld.gov.au/alliedhealth/html/strategies/allied-health-assistants.htm

Working Relationships

As an allied health assistant, you may be working with a range of people, including speech pathologists, clients and their families, doctors, nurses, client support staff, maintenance and administrative Staff. It is important to form an effective and joint working relationship with other members of the team. Ways to facilitate this include:

- Participating in helpful and regular communication,
- demonstrating reliability - following through on tasks and being consistent,
- actively listening to other team members' ideas and points of view,
- being an active participant, showing initiative and contributing to the workplace,
- being flexible and adapting to changing circumstances, and
- treating others in a respectful and supportive manner.

Code of Conduct

The Code of Conduct for the Queensland Public Service reflects the principles of integrity and impartiality, promoting the public good, commitment to the system of government, accountability and transparency. As an allied health assistant, you need to be aware of this code and abide by it when working in a Queensland Health facility.

The Code of Conduct for the Queensland Public Service was developed in line with the government's commitment and in consultation with agencies, employees and industrial representatives. The Code was designed to be relevant for all public sector agencies and their employees and reflects the amended ethics principles and values contained in the Public Sector Ethics Act 1994.

(Public Service Commission, 2010)

Further information regarding the Code of Conduct can be found at: http://qheps.health.qld.gov.au/hr/codeofconduct/home.htm

3.2 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. 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 has 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 & 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.

3.3 Scope of Practice

Speech Pathology Australia (2007) has outlined the parameters of practice 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, or
- 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: 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 gentleman to practice dysarthria exercises. She has asked that while you are there, could you quickly assess his reading skills and if he is doing well suggest he practice reading the headlines of the newspaper. On completion of the visit record your observations as a note 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?

Activity continues on the next page

Activity 7: Ethical Decisions (continued)

Key Points

- The importance of attending an orientation session for your workplace, as each workplace may vary.
- Speech Pathology Australia (SPA) and the Allied Health Professions' Office of Queensland (AHPOQ) have set speech pathologist parameters of practice and clinical task instructions for allied health assistants in speech pathology.
- The limits of your scope of practice. Others, even supervisors, may not be as familiar, so it is YOUR responsibility to 'step back' when you think you may be reaching the limits of your scope of practice.
- Regular supervision from an experienced speech pathologist is vital to ensure quality and safety of care.

Self-completion checklist

Congratulations you have completed the topics for the Speech Pathology Learning Guide - Support the development of speech and communication skills.

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.

HLTAHA012 Support the development of speech and communication skills

Essential Knowledge	Covered in topic
Basic level of understanding of normal speech and language processes across the lifespan.	☐ Yes
Basic level of understanding regarding the range of communication disorders affecting areas of: • speech (articulation, phonology) • expressive and receptive language • reading and writing • pragmatics • fluency • voice • cognitive skills (memory, attention, new learning, problem solving)	☐ Yes
General understanding of disorders of eating and swallowing that may arise from: • congenital abnormalities • developmental delay • acquired injury and disease • degenerative disease	☐ Yes
General understanding of communication disorders that may arise from: • congenital abnormalities • developmental delay • acquired injury and disease • degenerative disease	☐ Yes
Basic understanding of the anatomy and physiology of the body systems, relating to structures and systems affecting communication.	☐ Yes
OHS policies and procedures that relate to the allied health assistant's role in implementing speech pathology programs.	☐ Yes

Activity 8: 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.

1. Describe some features of normal speech and language development in children.

2. Describe the range of communication disorders that affect your client group.

Activity continues on the next page

Activity 8: Questions (continued)

3. What are some of the origins of communication disorders?

Activity 9: Practical Work Task

For this task, you are required to provide assistance and support to at least two speech pathology clients in their home or at an allied health service. The provision of client contact is to be part of a client care plan and all activities are to be confirmed with the supervising speech pathologist. The clients and the speech pathologist must consent to the workplace activity being undertaken as part of assessment.

You must demonstrate that you can:

- Understand client care plans.
- Apply a program developed by a speech pathologist.
- Liaise effectively with the delegating speech pathologist prior to and following client contact as per organisational guidelines.
- Communicate effectively with clients, supervisors, and colleagues for therapeutic support.
- Manage your time by being personally organised and establishing priorities.
- Use all aids and equipment, including augmentative and alternative communication systems, safely and effectively.

Make some notes of your assistance and support to speech pathology clients. You may use the space provided to write down a draft response. Record your final answer in the Assessment Guide.

For each of the clients you have worked with, please provide some information around the following:

- What was the background? Provide an outline of the communication difficulties.
- What communication activities were you working on?
- What communications did you have with the client, carers, speech pathologist and any other professionals while working with this client?
- What issues did you have to think about in organising your time, work space, equipment and etc?
- What aids and equipment you had to use?
- How you reported back at the end of the session?
- Where there any other issues that were raised during the session that you had to deal with (e.g. challenging behaviours if working with a young child)?

Activity continues on the next page

Activity 9: Practical work task (continued)

Activity 10: Workplace Observation Checklist

For this task, you will be observed providing assistance to support development of speech and communication skills.

You will need to assist with the treatment or rehabilitation of clients on at least two occasions to demonstrate competence.

Workplace observation checklist

Assessor to date and sign (draft only, please record in the Assessment Guide).

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 normal speech and language processes across the lifespan.				
Demonstrates understanding of the range and origin of communication disorders.				
Demonstrates understanding of the anatomy of the body systems pertaining to structures and systems affecting communication.				
Follows a program developed by a speech pathologist.				
Works under direct and indirect supervision.				
Works with clients for speech/language therapeutic outcomes.				
Demonstrates time management, personal organisation, and establishes priorities.				
Demonstrates flexibility to adapt to changes in schedules where necessary.				
Communicates effectively with supervisors and co-workers.				
Reports back to supervisor regarding client's ability to complete therapy activities.				
Identifies issues beyond the scope of their role and responsibilities and seeks assistance as appropriate.				
Follows OHS policies and procedures that relate to AHA's role in implementing speech pathology programs.				

*FER – Further Evidence Required

Resources

- Allied Health Assistance Guide to Documenting: http://qheps.health.qld.gov.au/alliedhealth/docs/aha/ahadocguide.pdf
- Australian Aphasia Association: www.aphasia.org.au
- Alzheimer's Australia: www.fightdementia.org.au/

Glossary

Words	Definitions
Aphasia	An acquired disorder of language, usually caused by a stroke (CVA) in left hemisphere of the brain. This impacts on the ability to comprehend and express language (including listening, reading, speaking, writing and using numbers/gestures).
Chromosome	An organised structure of DNA and protein that is found in cells. Genes, located in chromosomes, are inherited from our parents and dictate our features and attributes.
Cognitive	Relating to cognition, the process of knowing and, more precisely, the process of being aware, knowing, thinking, learning and judging.
CVA	CVA is an abbreviation for 'Cerebrovascular Accident'. Commonly known as 'stroke'.
Congenital	A condition that is noted as present at birth and usually occurs before birth.
Degenerative	A condition that worsens over time.
Dysphagia	A disorder of swallowing.
Dysarthria	A condition that affects the ability to produce clear speech.
Dysphonia	A condition in which normal voice is affected.
Dyspraxia	A motor speech disorder caused by injury or disease of the brain that affects voluntary motor planning, programming and sequencing of the movements for speech production.
Expressive Language	The act of using spoken or written language to communicate needs or information.
Feedback	The process of returning part of the input back to the sender to aid evaluation.
Holistically	Looking at a client as a whole person and not just their speech pathology needs.
Monotonous	Speech that lacks variety and tone.
Neurological	Having to do with the nerves or the nervous system.
Receptive Language	The act of understanding spoken or written language in communication.
Stroke	Stroke (also known as cerebrovascular disease) occurs when the supply of blood to the brain is suddenly disrupted.
Tumour	An abnormal group of cells in the body.
Vocal cords	These are two folds that sit in the larynx on top of the entrance to the lungs and they are used to produce voice.

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