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CHAPTER 8: COMMUNICATION

Jane Marshall, Katerina Hilari, Madeline Cruice and Kirsty Harrison.

Key points

- Communication difficulties are common and various after a stroke
- Not all of these difficulties are immediately obvious, particularly those affecting the understanding of speech or writing
- It is important to understand the range of problems which individual stroke patients can experience, and to make best use of their remaining communication abilities
- Particular care needs to be taken when evaluating communication abilities of people from language minority groups, and those who have more than one language, to ensure a full and detailed picture is obtained
- Communication difficulties can significantly affect quality of life, and cause distress and frustration for families, friends and staff as well as stroke survivors
- Staff should be able to support patients in expressing their basic wants and needs and participating in higher level activities that require communication; these activities might include discussing their condition, making decisions about treatment and care and interacting with family and friends.

INTRODUCTION

Communication is important for all aspects of stroke care. This chapter describes the communication impairments caused by stroke, with case examples; and suggests strategies that nurses and other members of the stroke team can use to facilitate communication. The particular needs of people from language minority groups are flagged. The role of the Speech and Language Therapist (SLT) is described with respect to the rehabilitation of communication. We consider psychosocial factors and the impact of communication difficulties on quality of life.

Communication in the Acute Stroke care context

A variety of factors can make communication in hospital difficult for any patient, such as anxiety, pain, sleep deprivation, and lack of privacy. For those who have survived a stroke, such problems are often compounded by speech and language impairments. Graham, who was unable to speak after his stroke gives this example:

"[I] attracted the nurses attention in hospital by throwing things at their office, as [I] was unable to call them ... [they] thought I was delirious" (Jordan & Kaiser 1996)

And for David the problems were made worse by the insensitivity and lack of awareness of one member of staff:

"We were there one day, I was there on lunchtime, can't remember now, and this woman came along and said, pushed in front of me, quite without manners, and said, "Whadya want?" in a rude tone, and I said "Can you hang on a minute, Mary's not able to read", and she said "Well, she won't get anything again" and I went spare. I said "Don't you realise she can't read and she can't speak". (Cruice et al, 2011).

Sadly, David's experience was not exceptional. There is evidence that some healthcare providers in acute hospital stroke units may not be aware of patients' communication impairments, with negative consequences for patient care (O'Halloran et al, 2011). On the other hand, if staff are aware, and are skilled in using communication strategies this can lead to much more successful interactions (O'Halloran et al, 2008). Good communication between ward staff and patients has many advantages. It leads to more accurate diagnoses, more effective treatment, better patient compliance and higher patient satisfaction (McCooley et al. 2000). It is also crucial that patients are able to make their needs known to staff and participate in decision making about their care. Whilst the SLT can play a particular role in creating a positive communication environment, this is the responsibility of all members of the stroke team. Perhaps most importantly, staff need to ensure that their communication behaviours do not add to the barriers faced by stroke patients. This chapter will suggest techniques and strategies that help to reduce communication barriers, particularly when nursing patients who have communication problems following stroke.

COMMUNICATION IMPAIRMENTS CAUSED BY STROKE

Aphasia

About one third of acute stroke patients have aphasia (Engelter et al, 2006; Laska et al, 2001). This is an acquired language disorder arising from brain injury, with stroke being the most common cause. It affects all aspects of language, i.e. speaking, listening, reading and

writing, and can even impair non-verbal modalities like gestures (Hogrefe et al, 2012). Almost everyone with aphasia has left hemisphere damage, as the left brain plays the primary role in processing language. Below are some examples of how people with aphasia define the condition (Parr et al. 1997 pp.104-6).

"It's taken my voice"

"My brain is just buzzing about and me lips is a different kettle of fish"

"It was just as if my brain was a cake and a piece was cut out"

"I know the right word, but the wrong word comes out"

One of the most obvious signs of aphasia is a loss of speech. This affects content rather than simply pronunciation. For some people the loss is total. Others, like Karl in Case example 8.1, can produce isolated words or phrases. Repetitive utterances are also fairly common. Unfortunately these are often swear words and cannot be inhibited (Code 1982).

Case example 8.1: Karl a Patient with Aphasia

Karl is a 49 year old car salesman. He was admitted to hospital one week ago following a left hemisphere middle cerebral artery stroke. This caused a right sided hemiplegia and severe aphasia.

Karl grew up in India and spoke Hindi and English fluently before his stroke. Now he is only able to say one repetitive phrase: 'I've got it' and occasional single words, such as 'arm' and 'coffee'. Ward staff are not sure whether these words are accurate. For example Karl was pointing to his leg when he said 'arm'. His wife has tried speaking to him in Hindi, but says that he was not able to reply.

Karl is co-operative with the nurses and follows instructions. For example, if a nurse wants to check his blood pressure he will hold out his arm. Karl is also resourceful. On one occasion a student nurse wanted to take Karl for a bath. He said 'no' which initially surprised the nurse. Then Karl found his calendar of appointments and indicated that he was expecting his physio-therapy.

Karl sometimes becomes very agitated and distressed. These episodes have recently become more frequent. Karl is due to be discharged from hospital in a couple of days.

Aphasia is often described as 'non-fluent' or 'fluent'. Karl has non-fluent aphasia, since his speech is hesitant and fragmented. This is also termed Broca's Aphasia, after the 19th Century neurologist who first described the condition. People with this problem cannot produce grammatical sentences. So they might say 'Saturday ... shops' instead of 'on Saturday I went shopping'. Usually there are problems with word-finding and often apraxia (see below). Broca's aphasia typically arises from lesions to the left frontal lobe.

In fluent aphasia the quantity and rate of speech is more normal. However, speech is very difficult to understand because there are multiple errors. Here are two extracts of fluent aphasic speech:

'I was quite .. erm.. that's why I can't get weyerdkeep makes me very erm here up here makes him all ... all setoytaid but these come and I can't it might be because I had another minsing' (Robson et al, 1998)

'She has luggyburger .. she has radio .. she has pigyburger pigyburger and uh blop .. I gues there shoes and a spade .. then if they were .. but this bow is good' (Bose, 2013)

As illustrated by these examples, people with fluent aphasia often produce non words (sometimes called neologisms). These can be very repetitive, because they are formed from similar sounds. Puzzlingly, some people with fluent aphasia seem unaware that their speech is disordered (Marshall, 2006; Sampson & Faroqi-Shah, 2011). As a result they are surprised and even angry when care staff fail to understand them, and may refuse rehabilitation. Such speakers are sometimes described as having Jargon Aphasia or Wernicke's Aphasia (again after a 19th Century scientist). They typically have more posterior lesions than those with Broca's aphasia.

The problems of aphasia extend beyond speech. In most cases there are also difficulties with comprehension (Morris & Franklin, 2013). These may be subtle, for example, only affecting the understanding of complex language, or profound, where even single words are affected. Typically, comprehension difficulties are most evident in Wernicke's aphasia, although there are exceptions to this.

Comprehension impairments can be difficult to detect. Karl (Case example 8.1) seemed to understand speech. He followed instructions and, when asked if he wanted a bath, responded appropriately. However Karl may have picked up clues from the environment that helped him understand what was being said. For example, the student nurse may have (helpfully) pointed to the bathroom when asking about the bath. We therefore need to test comprehension when no such clues are available before drawing firm conclusions.

Reading and writing are usually impaired in aphasia. Not being able to read in the acute care environment can be particularly disorientating for the patient. For example, the person may not be able to read basic signs such as “toilet”, “dining room”, and “call bell”, or recognise their name. It will also be difficult to select options from a menu card. Some individuals are able to read single words, but not text (Meteyard et al, 2014). As a result, they will struggle with correspondence and other forms of written information, and may longer read for pleasure. Writing varies across individuals. Some people are completely unable to write; while others achieve occasional written words, or even sentences. Importantly, we often see dissociations between writing and speech. So someone who has no meaningful speech may be able to write a few words (and vice versa). As with speech, people with aphasia often make errors in writing. So they might write MOTHER when they meant to write ‘wife’ or make a spelling error, such as WITE. Many people with aphasia have to write with their non-preferred hand, because they have a right hemiplegia. This will add to their difficulties by making writing slow and effortful. Writing problems can be very distressing, possibly because of the negative impact on the person’s self-esteem.

About 40% of people who have aphasia in the acute stages of stroke experience language recovery (Inatomi et al, 2008). Indeed some studies suggest that recovery rates may be even higher (Maas et al, 2012). Factors predicting recovery are unclear. For example, some studies find an effect of age (Laska et al, 2001; Hachioui et al, 2013), while others do not (Pederson et al, 2004). Less disputed is the relationship between initial severity and recovery. So, people who have severe stroke symptoms or low initial scores on language tests typically have the poorest outcomes (Basso 1992; De Riesthal & Wertz 2004; Hachioui et al, 2013; Lazar et al, 2010; Maas et al, 2012; Plowman et al, 2013). Despite this, most people with aphasia improve to some extent, providing there are no further neurological events. Progress is most rapid in the period immediately following the stroke, but may

continue throughout the first year and even beyond. We also know that recovery is assisted by speech and language therapy, particularly when treatment is provided intensively (Brady et al, 2012).

Identifying aphasia

The SLT plays the key role in diagnosing aphasia. However, most patients are referred to SLT by nurses, doctors and other rehabilitation staff. Indeed, there is evidence that nurses can play a crucial role in the early detection of aphasia (Poslawsky et al, 2010). It is essential, therefore, that nurses are aware of the signs of aphasia (see Table 8.1). In some cases there may be obvious communication problems, but it may be less obvious whether these are due to aphasia. For example, relatives may hint at a dementia that predated the stroke. In these instances a referral should still be made to the SLT as they can help clarify the diagnosis. Aphasia can also be difficult to identify in patients who speak little or no English. Again a referral should be made, so that a language assessment can be conducted through an interpreter or bilingual co-worker (see below).

Table 8.1 about here

The SLT will be able to confirm whether or not aphasia is present, often by using a screening test. This may take the form of a quick-to-administer language measure, such as the Frenchay Aphasia Screening Test (Enderby et al. 1987). The Inpatient Functional Communication Interview (IFCI: McCooey et al. 2004) may also be used, which assesses the patient's communication needs whilst in hospital. The therapist will also be interested in nurses' observations about the patient's communication, given that nurses typically spend more time with patients than therapists, and observe more communication exchanges (Poslawsky et al. 2010). Indeed the IFCI includes a Staff Questionnaire, which asks nurses (or other staff) to indicate how patients communicate on the ward.

The current National Institute for Health and Care Excellence (NICE) guidelines for stroke rehabilitation in adults (CG 162) recommend that all stroke patients should be screened for communication difficulties within 72 hours of onset, and that all stroke rehabilitation services should devise a standardised screening protocol (NICE, 2013).

Strategies to use when nursing patients with aphasia

Communication problems that arise from aphasia make nursing difficult. However, there are a number of strategies that can be applied, Karl's use of his calendar being a good example.

For a start, everyone should think carefully about the language they use. For example, most people with aphasia struggle to comprehend long or complex sentences. They also understand concrete words better than abstract ones. Concrete words refer to things that can be seen and touched, examples being 'pillow' and 'trolley'. Abstract words refer to concepts that cannot be experienced by the senses, examples being 'idea' and 'diagnosis'. Therefore, short simple speech, constructed mainly from concrete words, is easier. Many people with aphasia are helped by slowed speech, although it is important that this does not sound patronising. Table 8.2 gives examples of how to make speech 'aphasia friendly'.

Table 8.2 about here

Clues about what is being said can also accompany speech. So, if a nurse wants to tell a man with aphasia that they are going to give him an injection, it would be a good idea to show him the syringe, or make a simple gesture. Many people with aphasia find written words and pictures helpful. So, if the patient is being taken for a scan, it would be a good idea to show him the written sign and a picture of the equipment. It can be difficult to know whether a person with aphasia has understood. In some cases they may even repeat what you say, but without comprehension. Therefore, important information should be conveyed several times, with the support of pictures, written words and symbols.

Other strategies can help a person with aphasia to get their message across. Firstly, give them plenty of time and do not be afraid of silences. Remind the person to use alternatives to speech. For example, if the person has a pain, they can be asked to point to where it hurts. Some people with aphasia make very effective use of gesture or drawing, either spontaneously or in response to therapy (Rose 2006; Sacchett et al. 1999). It is also worth exploring whether writing is better than speech, for example, by giving the person a pen and paper when they are trying to convey something. If the person is able to produce some speech, remember that it may contain errors: important information should be checked for accuracy. This is an example of a nurse doing this:

Nurse	Do you take any pills or medicine?
Patient	Yes er espro
Nurse	Is that aspirin (writes 'aspirin')?
Patient	Yes
Nurse	How many do you take each day?
Patient	er four
Nurse	(Writes 4 and holds up four fingers) You take four. Is that right?
Patient	noer one
Nurse	(Writes 1 and holds up one finger) You take one. Is that right?
Patient	yes

Some people with aphasia are helped by cues when they are stuck for a word. For example, providing them with the first sound of a word, or information about its meaning may help them to say it (Nickels 1997). However, this is rather unnatural and only works if the nurse knows the target word. So, an alternative is to provide people who have aphasia with props to assist with communication. Karl had a written weekly calendar of his rehabilitation appointments that was kept by his bed. By using this, he could show the student nurse that it was not a good time for his bath. Other props include communication charts, with symbols for everyday basic needs, maps, family photographs and pictures.

Using strategies is particularly important when essential information has to be communicated, for example relating to medications or medical tests. The IFCI contains a helpful list of strategies that can support a patient's understanding or help them to respond (McCooey et al., 2004) and the Stroke Association has produced a booklet about how to make information accessible to people with aphasia (Stroke Association, 2012). The SLT team should also be able to suggest specific ideas for individual patients. Nurses who work frequently with patients who have aphasia might seek training about communication disorders and how to facilitate communication. There is research evidence that such training is effective (Jensen et al., 2015).

Dysarthria and apraxia of speech

Roughly 42% of stroke patients experience dysarthria and 11% have apraxia (sometimes termed dyspraxia) of speech (Flowers et al, 2013). Dysarthria and apraxia of speech are impairments of speech production, rather than language. So, assuming there are no other

deficits, the person will be able to read, write and comprehend what other people say. Their own speech, however, will be difficult, if not impossible to understand.

Case 8.2: Earl, a patient with dysarthria

Earl is 67 years old and is a retired science teacher. He lives with his wife and has 4 children and 12 grandchildren. CT confirms a left middle cerebral artery stroke. He has been in the acute stroke unit for the past 6 days. His swallowing difficulties are resolving but he has a mild speech impairment and the nurses are finding it difficult to understand him during busy times on the ward. He speaks with a slow rate and his articulation breaks down at times. The predominant feature of his speech is his quiet voice, which his wife says is a dramatic change from his strong voice prior to his stroke. The speech and language therapist has assessed his communication and feels his symptoms demonstrate a unilateral upper motor neurone dysarthria.

In dysarthria the neurological control of the muscles involved in speech is disrupted. These are the muscles of the chest, used for breathing, the muscles of the larynx, used for voice production, and the muscles of the face, tongue, lips and throat, used for articulation (making different speech sounds). There are different types of dysarthria, depending on the nature of the neurological damage (see Table 8.3). Unilateral upper motor neurone dysarthria is the most common type of dysarthria following a single stroke (Duffy, 2013). It is possible to have other types of dysarthria following stroke, depending upon the site of damage and the cerebral hemispheres affected (e.g. for spastic dysarthria, damage is needed in both hemispheres). Dysarthria can be caused by a number of conditions aside from stroke, such as Parkinson's disease and motor neurone disease.

To complicate matters, dysarthria and apraxia of speech can coexist. Similarly, dysarthria can also co-occur with dysphagia (eating and swallowing difficulties). It is estimated that dysphagia and dysarthria co-occur at a rate of 28%, with dysarthria and aphasia co-existing at a rate of 15% (Flowers et al, 2013).

The role of the SLT in managing dysarthria

In the very acute stage, the assessment and management of dysphagia are typically a greater priority than speech (see Chapter 5). Assessment of communication aims to

determine the patient's level of intelligibility, or the degree to which speech can be understood, and why this is breaking down. A commonly used test is the Frenchay Dysarthria Assessment (FDA-2), (Enderby & Palmer, 2008). This explores each aspect of speech, such as breathing, volume, pitch, and rate. It also examines the movements of the tongue and the lips and measures the patient's intelligibility with single words, sentences and conversation. Such systematic assessment helps to identify which aspects of speech are impaired or intact, so helps to pin point appropriate aims for therapy.

As time progresses, the SLT will involve the patient and family more in discussing their perception of the patient's speech. This is important as therapy for dysarthria typically requires the patient to monitor and exert more control over their speech. Other aspects of therapy include speech exercises, and training in compensatory strategies, such as slowed speech, gesture and writing (for examples of therapy see (Mackenzie & Lowit 2007)). In some cases, particularly where there is no accompanying aphasia, communication may be supplemented with technological aids, such as electronic voice output communication aids.

Patients with dysarthria from stroke often have a good prognosis for recovery. One study found that 40% of patients had normal speech at six months post-stroke, and most of the others had only mild impairments (Urban et al. 2006).

Apraxia of speech

Apraxia of speech disrupts the planning and sequencing of speech movements. Unlike dysarthria, the neuromuscular system is intact and the impairment results from faulty programming and speech planning. Difficulties arise whenever the person wants to say something or is asked to talk. Surprisingly, automatic speech may still be possible; so the person may be able to recite the days of the week or count without difficulty. Apraxia of speech is marked by hesitant, imprecise speech, with inconsistent errors on the sounds of words. Often there are signs of struggle during speech, as the person tries to control the movements of their tongue and lips. In severe cases, all speech is impossible. Although apraxia of speech may occur in isolation it often co-exists with aphasia. It typically arises from left hemisphere damage. Both aphasia and apraxia of speech are more commonly associated with stroke than dysarthria (Yorkston et al. 2010).

Strategies to use when nursing a patient with dysarthria

Dysarthria makes it difficult for the patient to communicate their needs and concerns (see Table 8.4). Often problems are worse with fatigue, so it is best to hold important conversations in the morning or after a period of rest. They are also affected by posture, so it is important that the patient is in an upright sitting position. Talking during concurrent activities, especially eating, is no longer possible, so distractions need to be removed. It is important that communication is made as easy as possible, so, for example, ensure that the patient can hear properly and is wearing correctly fitted dentures. Depending on the nature of the damage, patients with dysarthria often have unimpaired language and cognition, so can make good use of strategies such as writing down key words. They will also follow spoken or written instructions. The problems of dysarthria can discourage communication and distort patterns of interaction. A recent study found that when nurses interacted with patients who had dysarthria they used task-oriented language, relating to aspects of care, but neglected more social uses of communication, which are valued by patients (Gordon et al, 2009). The Royal College of Physicians Guidelines highlight the importance of training for carers of people with dysarthria and apraxia of speech following stroke; and nurses should liaise with the speech and language therapist to ascertain the best ways of communicating with a patient.

Table 8.4 about here

Right Hemisphere Damage (RHD) communication deficit

Lesions in the right hemisphere (RHD) can cause a range of problems (see Chapter 9). These include left-side neglect; visual agnosia (an inability to recognise objects); constructional apraxia (inability to assemble parts correctly to make a meaningful whole, e.g. being unable to copy a two or three sided design); and disorientation in space. There may be anosognosia, that is, a lack of awareness of illness or disability; and problems of attention, memory, organisation and problem solving. Occasionally individuals display prosopagnosia (face-blindness). Some individuals lose the perception of sounds, making it difficult for them to appreciate music. Many of these problems have consequences for communication (Cherney & Halper 1999), and are distressing for the person and their family. Face-blindness, for example, can result in the patient not recognising his own wife or children.

Case example 8.3: James a Patient with Right Hemisphere Damage

James is an 83-year old retired judge. He lives with his wife who has disabling visual and hearing problems and is her main carer. James was admitted to hospital with left (L) sided weakness and slurred speech. A CT scan confirmed a small area of haemorrhage in the right parietal lobe. He had L facial weakness, L neglect, absent reflexes and sensation on the L, and reduced power on the L.

James was referred to SLT for his speech and swallowing problems. Sarah, his nurse, said he followed instructions and although his speech was quiet and somewhat slurred (James has dysarthria), she could understand what he was saying. Sarah was puzzled because James's daughter reported difficulties conversing with her father. Sarah could not understand why this was, although she noticed that James missed light hearted comments, did not smile or engage much with the other patients. Betty, the person in the bed next to his, complained that he ignored her and described him as 'odd'. Lastly, James seemed forgetful and worried a lot about things. He asked the same questions again and again, e.g., who was looking after his wife while he was in hospital.

In his initial assessment, the SLT noticed that James had a flat facial expression and intonation. He talked a lot but had a tendency to take everything literally and veer off the topic of conversation.

Between 50% and 78% of people with RHD show communication and social interaction difficulties, with about 20% having a marked impairment (Benton & Bryan 1996; Ferre et al., 2009). Problems include:

- Difficulties interpreting the context of a conversation or the speaker's intentions. These are called pragmatic difficulties. For example, a person with RHD may want to ask a passing nurse a question, while missing signs that the nurse is dealing with something else and is in a hurry. Pragmatic difficulties are often evident in non-verbal behaviours, such as reduced eye contact, reduced facial expression and reduced use of gesture. There may also be difficulties with intonation and the marking of stress (emphasis) in speech. The person's own speech may sound flat and they may not be able to interpret other people's intonation, for example, to detect anger or amusement
- Difficulties with non-literal uses of language. These include difficulties with jokes, metaphors and with making inferences

- Difficulties with conversation, such as verbosity (wordiness), poor turn-taking and going off topic.
- Reading and writing deficits. People with RHD may have difficulty following the plot of a story and may misinterpret humour, irony and metaphor. Their reading and writing may also be affected by visuospatial impairments. For example, they may have left neglect dyslexia (failure to read information in the left visual field) causing misreading of the beginning of words or sentences; and there may be comparable problems in writing, affecting the spelling of words.

Case 8.3 describes a person with RHD who displayed some of these problems. James tended to interpret language literally, and might not see if someone was making a joke. His daughter often commented on how she missed his witty sense of humour. In conversations, James' facial expression was flat and he would often pick on a minor detail and talk about it at length. His problems with inference affected his interactions with Betty. For example, once Betty wanted to borrow James' newspaper. She hinted at this by saying 'I wonder what's in the news today'. James completely missed her intention and simply said 'I don't know', which upset her.

Strategies to use when nursing a person with RHD

Right hemisphere communication deficits will affect communication on the ward and social interactions with staff and other patients. In addition, difficulties in laying down new memories will affect a person's ability to cope with the changes caused by stroke. This may manifest in different ways. The person might appear obsessively worried, for example, asking the same questions over and over again. Alternatively, awareness and memory disorders could make them seem indifferent to their problems and to the efforts of the stroke team. Being aware of these difficulties is essential to ensure their well-being on the ward. Strategies that help with RHD cognitive and communication issues include being literal and clear (for example, say 'I am only joking' after a joke), keeping to a regular routine, and using memory aids. Table 8.5 summarises some ways to help.

Table 8.5 about here

LANGUAGE MINORITIES

It is very important that aphasia and other communication impairments are not missed in stroke patients from minority language groups (for evidence that this can happen see (Marshall et al. 2003; and Centeno, 2009)). For example, we should not assume that communication problems following stroke simply reflect limited pre-morbid English. Ideally, the patient should be assessed by a speech and language therapist from his or her language community. If this is not possible, the therapist will assess through interpreters or bilingual co-workers. It is important not to use family members and friends as interpreters, as this can disrupt family relationships and yield unreliable data (Roberts 2008). Relatives can however provide invaluable insights, for example, about what happens when the person tries to speak in their home language(s).

If the person is bi- or multilingual it is important that all their languages are assessed. In our case example of aphasia (see Case example 8.1), Karl's Hindi and English were both affected. Karl's case is typical, in that aphasia rarely leaves one language unscathed. However, the profile of impairments may vary, with one language being stronger than another: see examples in (Fabbro 1999). Typically the language that was learnt earlier in life, or which was used most commonly by the individual, is most resistant to damage. However, occasionally the person's second language is less impaired following stroke (e.g. Garcia-Caballero et al, 2007; Adrover Roig et al, 2011). Discrepancies like this call for careful assessment to uncover whatever language resources remain to the individual.

THE ROLE OF THE SPEECH AND LANGUAGE THERAPIST IN ACUTE STROKE CARE

The SLT has four main responsibilities, which are to:

- Assess the patient's communication and swallowing impairments and the impact of these impairments on the patient's life
- Help the patient communicate on the ward
- Advise the patient, family members and care staff about communication and swallowing
- Provide intervention to reduce the communication and swallowing problems

Assessment

By sharing their observations of patients, nurses can play a vital role in identifying those who need further assessment (Poslawsky et al, 2010). Detailed SLT assessment aims to find out

the nature and severity of the communication impairment, its effect on communication activities and the role played by environmental factors. Assessment may additionally explore broader issues such as social participation and quality of life (Hilari et al. 2003b). A further purpose is to provide a baseline against which recovery can be compared. Therapists draw upon the views of the patient and family during assessment. For example, they will ask how they perceive the difficulties and elicit their priorities for intervention (Pound et al. 2000). Therapists will consult with the nursing and rehabilitation staff to determine how the patient is communicating with them during activities of the day, for example, at mealtimes or ward rounds.

Therapists have a number of measures for exploring these issues, such as formal speech and language tests and interview protocols (i.e. for the patient and/or family members). They will often record and analyse samples of the patient's language and carry out informal observation, for example, to find out how the person responds to conversation or copes with situations on the ward with nurses and other rehabilitation staff. It is imperative to identify facilitators and barriers in the communication environment, including how supportive others' communication skills are and what use is made of resources such as communication aids, writing, drawing and gesture (O'Halloran et al. 2011).

Supporting communication on the ward

Hospital patients have important communication needs. For example, they need to understand their medical diagnosis and its implications. They probably want to ask questions about their care and the various procedures they are undergoing. At the most basic level, they need to be able to call for a nurse. These functions can be hard if there are communication impairments following a stroke. Patients who experience difficulty in communicating their needs and desires have more problems with low mood and depression, higher mortality rates, and worse functional outcomes (Poslawsky et al. 2010). Through observation and discussion with ward staff, the SLT can help to pin point the particular communication needs of each patient, and help them meet those needs during the hospital stay. This is likely to involve the implementation of strategies, such as providing pictures or symbols in place of words for important signs. Often the therapist will offer short training sessions for ward staff on how to make communication easier for all stroke patients in general, and for specific patients. Training should cover how to use tools and techniques for communicating with patients, and ideally also support staff to make specific adjustments to

their practices such as devising local guidelines, amending food menus, making information accessible with pictographs, and so on (Jensen et al. 2015; Simmons-Mackie et al. 2007).

Advice and Support

Members of the general public know very little about the communication impairments arising from stroke (Code et al. 2001; Elman et al. 2000). Those affected, therefore, are likely to be similarly uninformed, at least when the stroke first happens. A recent systematic review indicated that stroke survivors and members of their family have a wide range of information needs (Hilton, 2014). These include the causes and nature of the stroke, prognosis, rehabilitation plans, services available after hospital, how to cope with communication impairments and sources of emotional and psychosocial support (Hilton et al. 2014). Advice may be provided individually, or through relatives' support groups and training programmes. Such provision makes a positive impact on family interactions (Turner & Whitworth 2006).

Therapy

Results from assessment and observation, and discussions with the patient and family, will help the therapist to determine the treatment goals and select interventions. Therapy methods are diverse. They may include language exercises (focussing on speaking, understanding, reading or writing), practice on functional communication tasks, conversation groups, and work on strategic compensation, such as gesture or drawing. Therapy frequently involves family members, friends and staff when available, to give them skills in communicating with the person who has aphasia. Intensity of rehabilitation is important (Brady et al, 2012). Evidence from clinical trials suggests that those who receive intensive aphasia therapy make greater gains in language and communication than those on usual care (Godecke et al., 2012; Godecke et al., 2014). In line with this, guidelines advise at least 45 minutes of speech and language therapy per day for up to 5 days per week, providing this can be tolerated by the patient (NICE, 2013). Nurses have a role in enhancing therapeutic input for patients with communication impairments, by using any techniques advocated by the SLT when they communicate with and care for patients (Poslawsky et al. 2010). Case example 8.4 provides an example of therapy.

Case 8.4: Rachael, A Therapy Example

Rachael was 75 when she had a left hemisphere stroke causing severe aphasia and a right hemiplegia. Her speech was fluent but incomprehensible, with almost no recognisable

words. Her writing was also affected, although she could occasionally write part of a word. Rachael could still understand spoken and written words, but not complex sentences. Rachael was a retired academic who lived alone in a first floor flat. She had two loyal friends who visited regularly.

Communication about Rachael's nursing and care needs resulted in frequent misunderstandings. For example, Rachael often refused to be taken to physiotherapy, particularly if the therapist was unfamiliar. She also found it very difficult to make requests, e.g. if she needed her glasses or the lavatory. The first communication aim, therefore, was to alleviate these difficulties. The SLT produced a chart of strategies to use when communicating with Rachael. This was discussed with Rachael, and given to all staff and her friends. With Rachael, she also developed a simple booklet of her main rehabilitation and care needs. So on one page she wrote 'physiotherapy' alongside a photo of the gym. Another page showed words and symbols that could be used with nurses, for example if she was in pain. The therapist practised using the booklet with Rachael and with the nurses, e.g. to help her make requests.

The therapist also employed writing therapy. The aim was for Rachael to write 10 words that related to her immediate needs, examples being the names of clothing, the names of her friends, and object names like 'toothbrush'. Rachael practised these words in tasks that progressed from copying, copying after a delay, filling in a missing letter and finally writing the name from a picture. Once Rachael could make a recognisable attempt at all these words, they were incorporated into communication activities. For example, the therapist might ask Rachael 'who is visiting this afternoon?' as a cue for her to write her friend's name. Therapy was also stepped up by introducing new words.

It was clear that Rachael would have long term mobility, daily living and communication needs. It was important that this was discussed with Rachael and that she was fully involved in decisions about her future. Working with Rachael's friends, the SLT and OT instituted a programme of consultation. They used photographs of Rachael's flat to identify the obstacles that she would face (such as the stairs). They also mapped out a typical day (with pictures) and thought about the help that she would need (e.g. with dressing). The therapists then provided Rachael with labels and images of the different care options. For example, they outlined how Rachael might be supported at home, with images of a stair lift,

visiting care staff, meals on wheels, bath hoist and a panic button. They also showed her brochures from local residential homes, with simplified financial information about the fees. Rachael was able to use these images to indicate her preference, which was for residential care. This was followed up with a visit to a care home and a successful trial stay.

PSYCHOSOCIAL ISSUES AND QUALITY OF LIFE

Onset and acute care

The onset of stroke with acquisition of a speech or language impairment is a crisis point in a person's life. To date, much of our evidence about this comes from people with aphasia. For example, they report feelings of shock, anger, frustration, anxiety, aggression, shame, guilt, grief, loss, and embarrassment (Lafond et al. 1993; Parr et al. 1997). It is also important to recognise that stroke can isolate patients from one another, as illustrated by Betty and James earlier in this chapter, and by Jean's comment here:

"When I had a stroke I found nobody talk to me and that other patients you know walk by the bed and look and um let's [never] say a word because they knew I couldn't speak". (Jean, Personal Insights audiotape, Dysphasia Matters package)

(Davies & Woolf 1997)

Family members may also be overwhelmed by negative feelings. A recent study stressed their need for support and information in the acute stages of stroke (Avent et al. 2005). Families wanted answers to questions like: what is stroke? What is aphasia? What are the co-existing problems? Where can we get more information? A particular need was for honest but hopeful information about the prognosis. For example, one participant stated,

"When I was talking to the therapist, I was like, I have heard all the bad. How about the positive?"

(Avent et al. 2005 p359).

It is essential to provide accessible information for people with aphasia and their families and the SLT can help with this. This is important, as many existing leaflets are too difficult for people with aphasia to read and understand. Useful resources are: The Stroke and Aphasia Handbook (Parr et al. 2004) and the Stroke Talk manual (Cottrell & Davies 2006), both available from Connect (<http://www.ukconnect.org>).

Discharge

Discharge from hospital, although eagerly anticipated, can be a time of particular stress for both the patient and family. There can be uncertainty about the future and worries about coping with the mobility and communication problems at home, as well as concerns about the availability of on-going therapy and support services and access to these once people leave hospital (Hilton et al. 2014; Parr et al. 1997). Karl (Case example 8.1) showed increased signs of distress as discharge approached. A big concern is safety, including communication safety. For example, it is essential that the person has a method of summoning help in an emergency.

It is important to ensure that when patients are discharged, they have accurate information and strategies in place to assist communication. Research emphasises the importance of information and support at this time (Avent et al. 2005; Hilton et al. 2014). For example, the participants in (Avent et al. 2005) felt it was crucial to leave hospital armed with information about support groups and other resources in the community. It is also critical that care plans are put in place, and that these are effective:

“You leave with this great package and are told you will be getting all this back-up. You think great there will be all this back-up then nothing materialises for six weeks. You get home and think great, physio is going to come and this person is going to come and nobody comes at all and then six weeks later they come. Once it happens it's alright, but when you first get home nothing, it's really awful.”

(Anderson 1992)

Finally, research suggests that stroke survivors often do leave hospital with discharge plans and recommendations in place, but that often there are shortfalls in services (as evidenced in the above example); furthermore, not all needs can be anticipated prior to discharge (Luker & Grimmer-Somers, 2009). This suggests that services need to be flexible, and subject to a patient's 6-month or annual stroke review (NICE, 2013).

Long-term

Communication disability has a long-term negative impact on recovery after stroke (Tilling et al. 2001). It significantly affects quality of life, even when other variables, such as emotional

state and social support, are factored out (Cruise et al. 2003; Hilari et al. 2003a; Hilari, 2011). The long-term social consequences of stroke and aphasia often include loss of work and consequent drop in income, a need to give up driving, restrictions in social life, and falling away of friends (Cruise et al. 2006; Hilari & Northcott 2006; Parr et al. 1997). Fatigue is often a profound and persistent problem. Additionally, there may be lasting emotional effects, with a high incidence of depression in people with aphasia in the long-term post stroke (62%, Kauhanen et al., 1999). These consequences are particularly concerning, as after stroke, poor social support is associated with worse recovery (Tsouna-Hadjis et al., 2000), and increased likelihood of a future adverse event such as a second stroke (Boden-Albala et al., 2005); and depression is associated with worse rehabilitation outcomes, lower quality of life and higher mortality (Ayerbe et al., 2014).

These findings suggest that to improve their quality of life, interventions need to focus not just on communication, but also on promoting emotional well-being, facilitating activities and strengthening social networks and social participation. Therapies to address these factors are emerging and report positive findings (Thomas et al., 2013; Northcott et al., 2015).

Those with severe communication impairment and additional problems post-stroke may require care in nursing homes. A recent population-based study of people living in long-term care facilities in Canada (n = 66,193) compared the impact of 60 diseases and 15 conditions on caregiver-assessed preference-based quality of life. After adjusting for age, sex, and other diagnoses, aphasia exhibited the largest negative impact on quality of life, even over and beyond cancer and Alzheimer's disease (Lam & Wodchis, 2010). It is therefore paramount to address the communication needs and support the psychosocial well-being of people with post-stroke communication problems in long-term care. SLTs play an important role in educating others on how to communicate effectively with people with aphasia and on how to establish a supportive communication environment in nursing homes (Hickey et al., 2004).

However, the long-term picture for people with communication difficulties after stroke is not all negative. Some individuals report positive changes that include: freedom from previous restrictions such as work; having more time; a slower, more relaxed life style; closer family relationships and an enhanced sense of the value of life (Parr in (Jordan & Kaiser 1996)). There are personal accounts in the literature of individuals with long term aphasia who have

achieved new and satisfying lives (see (Hinckley 2006) and Aphasia Now website: <http://www.aphasianow.org>). Positive experiences of care in the acute phase can be the first step towards attaining this goal.

CONCLUSION

Strokes can cause a range of communication impairments. In some cases problems are confined to the pronunciation of words. In others, all aspects of language are affected, including understanding. These problems, in turn, affect recovery, rehabilitation, well-being and quality of life, with consequences that are felt both by the stroke survivor and his or her family and friends.

Even when problems are severe the picture is not all bleak. Most people experience some degree of spontaneous recovery and therapies are available with demonstrated effectiveness. A wide range of strategies can support communication with affected stroke survivors. These include using simplified language, supporting speech with pointing and gesture and, above all, giving the person time to communicate. Family members and carers can also be helped. They need education and advice, for example about the nature of stroke and aphasia and how to maintain communication.

Speech and language therapists play a key role in supporting people with communication impairments following stroke. So it is vital that patients are referred if such impairments are suspected. However, all members of the multidisciplinary team should understand the potential consequences of stroke for communication. Nurses, who have the most contact with acute stroke patients, make a particular difference to the quality of care. By using sensitive and thoughtful communication strategies in the early stages, a nurse can help to lay the foundations for successful stroke rehabilitation.

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Tables

Table 8.1: Signs of Aphasia	
Modality	Possible Signs
Speech	Limited output with long pauses
	Obvious word finding difficulties
	Word selection or production errors, such as calling a carrot a 'potato' or a 'karrik'
	Fluent but incomprehensible speech that may contain non words
	Grammatical errors or a lack of grammar
Comprehension	Failure to follow instructions
	Errors in following instructions, such as looking down when asked to look up
	Helped by repetition, simplified speech, pointing and gesture
Reading and Writing	Refuses books and newspapers, or only chooses texts with pictures
	Fails to complete menu card or makes obviously incorrect selections
	Not able to clarify information when given a pen and paper
	Distress when asked to write
	Obvious discrepancy between pre-morbid writing and current abilities
	Word selection or spelling errors in writing; only parts of words achieved

Table 8.2: Adapting Language for the Patient with Aphasia	
Message	Aphasia Friendly Version
After I have taken your blood pressure I need to give you your cardiac medication	I am going to take your blood pressure (the nurse shows the patient the equipment and carries out the test). Now I need to give you your pills (the nurse shows the patient the medication). They are for your heart (the nurse gestures to his/her own heart).
After you have been discharged tomorrow you will receive correspondence from us about your review appointment.	Tomorrow you are going home. The doctor will write to you. She will ask you to come back to the hospital so we can find out how you are getting on.

Table 8.3: The seven different types of dysarthria (adapted from Duffy, 2013)	
Type of dysarthria	Signs and symptoms
Unilateral upper motor neuron	Unilateral lower facial weakness (below the eye), slow speech rate, quiet voice and intermittent speech sound errors.
Spastic	Slow speech rate, with strained or strangled voice quality. Monotone and effortful speech.
Flaccid	Nasal sounding speech, breathy voice, talks in short phrases, audible breathing, imprecise consonants. Specific speech characteristics depend on which cranial nerves are damaged.
Hypokinetic	Monotone and typically quiet speech. Lots of inappropriate silences and increased or 'rushed' speech rate. Reduced stress (or emphasis).
Hyperkinetic	Abnormal involuntary movements, which disturb the rhythm and rate of speech.
Ataxic	Inaccurate articulation, excess and equal stress (affecting intonation and emphasis) and excessively loud speech.
Mixed	Multiple types of dysarthria present at the same time, e.g. spastic-flaccid in motor neuron disease.

Table 8.4: Communication Strategies for the Patient with Dysarthria

Tips for the Patient

- Introduce your topic with a single word or short phrase before attempting more complete sentences
- Speak slowly and loudly; pause frequently
- Check with the listeners to make sure that they understand you
- Try to limit conversations when you feel tired, as your speech will be more difficult to understand
- Use other methods as well as speech, such as pointing, gesturing, or writing key words; if you get very frustrated take a rest and try again later

Tips for the Nurse

- Try to speak to the patient in a quiet environment with no distractions
 - Make sure the patient is in a good sitting posture
 - If relevant, make sure the patient has their hearing aid and glasses
 - Pay attention to the speaker and watch them as they talk
 - Be honest and let the patient know if you do not understand them; do not pretend to understand
 - Repeat the part of the message that you understood so that the speaker does not have to repeat the entire message
 - If you cannot understand the message after repeated attempts, ask yes/no questions and/or encourage the patient to write
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Table 8.5: Strategies to Help the Patient with RHD		
Modality	Sign	Strategy
Comprehension	Takes expressions like 'the Physio will be up in a minute' literally and gets anxious when the Physio is 'late'	Be literal, e.g., say 'the Physio will be up soon'
	Has difficulty drawing inferences	Be clear and check understanding.
		If appropriate, alert other patients to the nature of RHD communication difficulties.
	Has difficulty recognising the speaker's intention	Make your intention obvious; eg if you are being funny say: 'I am only joking'
Memory	Gets disorientated; asks the same questions again and again	Have a daily routine. Discuss the routine, e.g. at the beginning of the day and after lunch
	Forgets appointments	Have a diary of events and frequently remind the patient to use it.
	Does not practise exercises	
Reading	Has difficulty reading menu cards, TV guide due to L side neglect	Have something of different texture and colour under reading material, and track the left edge with finger before starting reading
		Write key words vertically