Communication changes that might occur after a right hemisphere stroke

A stroke will affect everyone differently. Some people have what is called a small stroke, which might result in very view changes in physical, thinking, and communication skills. For other people, changes might be more noticeable and might make it hard to return to things that are important in their lives, including work and spending time with friends.

Even though every stroke is unique, the brain can broadly be divided into areas that are responsible for particular functions. A good example of this is that the right hemisphere of the brain controls movement in the left arm and leg, while the left hemisphere of the brain controls the opposite side of the body. Both sides of the brain play a role in communication; however, communication changes after a right hemisphere stroke are different to what someone would experience with a left hemisphere stroke.

Cognitive-communication disorder is the name for the communication difficulties that occur after a right hemisphere stroke.

When someone has a right hemisphere stroke, they might be diagnosed with a cognitive-communication disorder, while aphasia is used to describe communication changes after a left hemisphere stroke. Both are communication-related diagnostic terms that health professionals use. It is good to know about terminology such as cognitive-communication disorder so that you can find information that is specific, and most relevant to understanding and helping someone who has had a right hemisphere stroke.

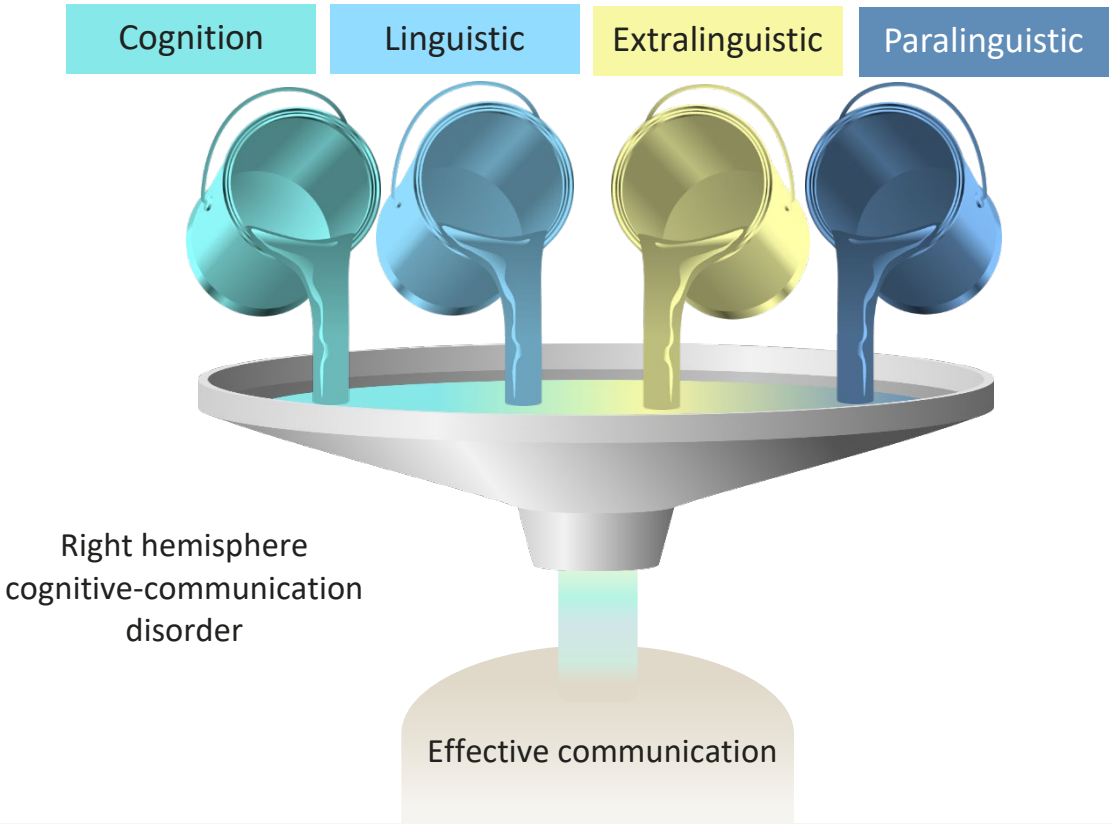
Most people who have a cognitive-communication disorder have changes in both cognition (thinking skills) and communication. Communication has many parts, all coming together to help us to understand and express ourselves when we read, write, listen, and speak. Many of these parts remain unaffected by a right hemisphere stroke, such as thinking about words or putting them together in a sentence.

Difficulties occur when we need to use the context to interpret what we read or hear, and to decide how best to respond. The context might be who we are speaking to, where we are, and what the purpose of our interaction is. When our communication seems out of sorts with the context, the term pragmatic impairment, or apragmatism, is used.

RIGHT HEMISPHERE STROKE

Communication changes that might occur after a right hemisphere stroke

It is important to remember that **everyone with a right hemisphere stroke will have a unique profile of areas of strength and areas that have changed**. We can group changes that might occur under cognition and communication (linguistic, extralinguistic, and paralinguistic skills). Some people will have difficulties with all of these areas, while others might only notice changes in one area. Each area is described in more detail on pages 3 and 4. This diagram is a reminder that effective communication relies on all these ingredients. When even a single ingredient is missing, communication may seem different, more effortful, or even out of character to people who know us.



Bringing together cognitive, linguistic, extralinguistic and paralinguistic skills to make sense of, produce, and change communication so that it is appropriate in a particular situation.

RIGHT HEMISPHERE STROKE

Communication changes that might occur after a right hemisphere stroke

Cognition

- Attention: our ability to notice, remain focused on or change our attention away from things in our environment. A right hemisphere stroke might make it difficult to attend to things on the left, which is known as unilateral spatial neglect (for what we see) or auditory neglect (for what we hear). Someone might miss the first few words of a sentence when they are reading (neglect dyslexia) or miss things that are being said by someone standing on their left.
- Social cognition: our ability to make sense of what someone else is feeling, thinking, or planning to do next. When social cognition is affected, perspective taking becomes difficult. When it is hard to see alternative points of view, we might misinterpret what our partner, a friend, or a work colleague is feeling or thinking. Our communication can then seem out of character or even rude if it does not consider the other person's needs.
- Executive functions: our ability to plan, see a task through to completion, weigh up options, think creatively through problems, and stop ourselves from doing or saying something when it is not the best option in a particular moment. Summarising the most important points of a movie, giving someone clear directions, and writing a work document to an expected level are examples of communication-based activities that may be hard when executive function skills change.
- Self-awareness: a right hemisphere stroke can make it difficult to notice things that have changed due to the stroke. Someone might deny that their thinking or communication has changed, find it difficult to understand how these changes are affecting people around them, and struggle to predict how they will do at returning to activities that used to be easy before the stroke.

Between 50 – 66% of people have communication difficulties after a right hemisphere stroke. As many as 80% have changes in cognition.

Communication

Linguistic skills, extralinguistic skills and paralinguistic skills all form part of the communication component of cognitive-communication disorders. As is true for cognition, any or all these communication skills may change due to a right hemisphere stroke.

RIGHT HEMISPHERE STROKE

Communication changes that might occur after a right hemisphere stroke

Linguistic

- Discourse: our ability to string words and sentences together to tell a story, have a conversation, describe a picture, or teach someone the steps to make a recipe. A right hemisphere stroke can change how we tell stories and have conversations. Some people talk less than what they used to before the stroke, while other people talk a lot more. It might be hard to stick to the topic of conversation. While for others it might be difficult to change what information is given, or how much information is given based on the person they are speaking to. Not everyone who has had a right hemisphere stroke will be aware that their discourse has changed.
- Reading and writing: there are several reasons why reading and writing might change. Cognitive changes in attention and memory might make it hard to read for a long period of time, and to remember what has been read. The first few words or even parts of a word on the left-hand margin of the page might be missed all together due to visual neglect. It might also be hard to see multiple meanings, or implied meanings such as when someone is being sarcastic. There might be no problems reading something straightforward such as a recipe; however, difficulties arise when the writing is more complicated, when meanings are implied (for example if someone is being sarcastic), or when there is a play on words that could mean more than one thing (e.g. a boiled egg every morning is hard to beat).

Extralinguistic

- Using and/or making sense of facial expression, gestures and eye contact

Non-verbal (no-words) ways of communicating can change after a right hemisphere stroke. Our gestures, facial expressions and use of eye contact is particularly important to show that we are interested in a topic or the person we are speaking to. It is also the way in which we show the person we are speaking to that we want their opinion or are waiting for them to tell us more.

Some people use less eye contact while others might hold eye contact for longer than what they used to in the past – this can make people feel uncomfortable if they do not understand that it is due to a stroke. Little change in facial expressions might make the person who has had a right hemisphere stroke appear bored or even rude to people who do not know that they have had a stroke. It might also be difficult to interpret other people's feelings and thoughts based on their facial expression, gesture and eye contact.

RIGHT HEMISPHERE STROKE

Communication changes that might occur after a right hemisphere stroke

Paralinguistic

- Aprosodia: when we speak, we do not only say words, we also decide how we want to say those words and sentences. We can do this by saying something faster, slower, louder, softer, or with a lower or higher tone of voice (pitch). If we are excited and happy, we might use a faster, louder and slightly higher tone of voice. The person listening then has an idea of what we are feeling or thinking purely by the way in which our speech sound. The way in which we change our speech is called prosody. When someone has a right hemisphere stroke, they might find it difficult to change how they speak (aprosodia). There are two types of aprosodia that might occur together.
    - Receptive aprosodia: difficulty understanding what someone is thinking or feeling based on how they are using their speech.
    - Expressive aprosodia: difficulty using speech to show others what we are thinking or feeling.

The cognitive-communication disorder that might be present after a right hemisphere stroke can make it difficult for people to return to work, keep friendships going, meet new people, tell or show their partners how they are feeling, and spend time in groups of people especially when it is in a noisy place such as a restaurant. It is important for friends and family to understand why communication and thinking skills might be different after a stroke so that they do not misinterpret what is being said.

If you, your partner, or family member is experiencing communication changes after a right hemisphere stroke it is important to let a healthcare professional such as your general practitioner or a speech pathologist know. Speech pathologists work with communication difficulties that occur after a stroke. They can provide you with information that is more specific to your unique circumstances than this handout. They can also work with you to improve your communication and to develop strategies that will support you, friends and family members.

RIGHT HEMISPHERE STROKE