

4.4 Praxis

There are many considerations that are crucial to promoting safety and optimizing recovery when working with people who have had a stroke. The TACLS Quick Reference Guides were developed from the TACLS resource and can be used as quick reference to help *support healthcare providers* and informal caregivers who may not typically work with and care for people who have had a stroke.

We recommend reviewing the full **TACLS resource** for more complete information:
strokebestpractices.ca/resources/professional-resources/tacsl

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- **Apraxia** is a motor planning impairment due to damage to a specific area of the brain which may result in difficulty planning movement, coordinating and executing the motor sequence required to carry out a task (e.g., shaving, dressing, writing).
- **Apraxia** can occur even if a person understands what they have been asked to do, has good comprehension, sensation, and movement.
- When assisting a person with apraxia, be patient and help the person work through the challenges with your guidance rather than taking over the task.
- Different strategies may be recommended depending on the type of apraxia as cues for one apraxia may not be effective for another type of apraxia. Consult with the occupational therapist (OT), physiotherapist (PT) and speech language pathologist (SLP) for appropriate strategies. The following outlines some types of apraxia that might be seen in someone who has had a stroke.

Ideomotor and ideational apraxia

- **Ideomotor apraxia** is the inability to imitate gestures or perform a purposeful motor task on command even though the person understands the idea or concept of what is being asked.
 - For example, if asked to pass the shampoo bottle, the person might look at the shampoo bottle, understand it is shampoo and what it is used for, but not be able to figure out how to initiate the movement to reach for it and hand it to you.
- The person might have an awkward grasp on the shampoo bottle, appear slow and clumsy, and may take longer to complete the task. However, you might notice that while having a shower, the person might automatically reach for and use the shampoo in the correct manner.
- **Ideational apraxia** is the loss of the idea and planning ability of how to perform a multistep task, rather than the inability to initiate a task (as with ideomotor apraxia).
- With **ideational apraxia**, the person has lost the “concept” or “idea” of how to do a task, rather than being unable to initiate or complete the task.
 - For example, they may use an item incorrectly, such as using a toothbrush to brush their hair.



How you can help

- Use short and simple instructions to limit confusion and break the task into simple steps.
- Encourage repetition and practice using the same steps every time the task is performed.
- Do activities in as normal an environment as possible (e.g., brush teeth in the bathroom at the sink after eating, not at the bedside in the middle of the day).
- Encourage the person to briefly close their eyes and visualize movement/task.
- Instead of telling the person what to do, provide hand-over-hand guidance where you guide the person with your hand over theirs.
- Instead of using commands, state the task to be completed; rather than “brush your hair”, say, “here is your hairbrush” and pass it to them.

Limb apraxia

- A person with limb apraxia has difficulty executing fine, precise movements of the upper extremities.
- For example, a person may have difficulty doing up buttons, manipulating keys or entering numbers on a phone - even though they are physically capable of doing so.



How you can help

- Promote success by teaching new ways to deal with difficult activities and support and/or avoid activities that create the most frustration if necessary.
- Practice activities using the same recommended approach every time.

Dressing apraxia

- A person who has difficulty with dressing even though they are physically capable of completing the activity may be said to have a “dressing apraxia”.
- Although commonly described as an “apraxia” this challenge is better explained as impairments with visual-spatial and body scheme disorders.
- A person may have difficulty understanding and applying concepts such as up and down, left and right and or top and bottom as they dress themselves. They may make mistakes orienting clothing and might put their clothes on backwards, upside down or put arms through the neck hole of a shirt.



How you can help

- Cue the person to use labels to orient clothing to front and back.
- When buttoning a shirt, encourage a person to begin with bottom button and work upward. Encourage the use of pullover shirts if buttoned shirts are too difficult.
- Use the same recommended technique and order; practice and repetition are important.

Verbal apraxia

- Apraxia of speech is described as a difficulty initiating and producing the movements needed to make speech when there is no weakness of the speech muscles.
- The person will have difficulty producing the desired sound or word, putting syllables together in the right order to make words, saying long or complex words, and/or using the correct rhythm or rate of speaking. They may make errors in speech such as substitution of words, syllables or sounds, or add incorrect syllables to words, and these errors can be inconsistent.
- Verbal apraxia may be accompanied by another language impairment called aphasia.



How you can help

- To support people with verbal apraxia, follow recommendations from the speech-language pathologist.
- For example, you may start practice with simple words and progress to words with multiple syllables and eventually into short sentences.

Note: This information represents some of the priorities of care related to praxis; consult with the OT and PT for any questions or concerns regarding ideomotor, ideational, limb or dressing apraxia; consult SLP regarding verbal apraxia.

References:

1. Canadian Stroke Best Practice Recommendations: www.strokebestpractices.ca, **Rehabilitation and Recovery following Stroke**, 6th Edition, Sections 8 and 10
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Praxis**
3. Evidence-Based Review of Stroke Rehabilitation – **Stroke Rehabilitation Clinician Handbook: 5. Rehabilitation of Cognitive Impairment Post Stroke**

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