Canadian Stroke
Best Practices™

Taking Action for Optimal Community and Long-Term Stroke Care (TACLS)

A resource for healthcare providers

Manual: overview and quick reference guides

Update 2021

Heart&Stroke™

Table of Contents

Overview

The goal of **Taking Action for Optimal Community and Long-Term Stroke Care (TACLS)** is to provide information and education to support healthcare providers as they work together with people who have had a stroke, and their families, assisting them to achieve optimal outcomes, regain their best level of functioning, and live meaningful lives.

Scope of TACLS

People who have experienced stroke often require ongoing support in one or more domains of functioning as they recover and regain their optimal level of functioning and independence. The TACLS program provides guidance and information to healthcare providers to enable them to safely care for people who have had a stroke across care settings. This may include care providers working in an acute care hospital, a rehabilitation centre or community settings such a person's home, residential homes, or long-term care homes.

The information provided in TACLS is applicable throughout recovery and while resuming activities of daily life, a process that may continue for months and years after a stroke has occurred. It focuses on the care needed as people advance to the next phases beyond acute care (i.e., after the first hours and days from when a stroke occurs). Note, this resource may also be informative to healthcare providers working in an acute care setting, providing basic stroke care information to compliment more in-depth training on acute stroke management that should be provided by the organization. Additional resources may also be found on the Heart and Stroke Foundation of Canada website at **www.strokebestpractices.ca**.

This resource is an update from the previously published, 2015 TACLS documents, and supersedes all previous content.

Target Audience

This resource is written primarily for healthcare providers such as Personal Support Workers, Health Care Aides, Home Care Attendants, Rehabilitation Assistants, Nurses and others who are planning, coordinating and/or providing direct care to people who have had a stroke. The focus is on rehabilitation and recovery in any setting across the continuum of care.

Other healthcare professionals working with people who have had a stroke and their families may also find the content helpful.

Caregivers, family members, and friends who provide informal support and care may also find this resource useful.

Organization of TACLS

The organization of TACLS follows the International Classification of Functioning, Disability and Health (ICF), the World Health Organization's framework for measuring health and disability. The ICF provides a standard language and framework to talk about functioning, disability, and health, using four domains: Body Structures, Body Functions, Activities and Participation, and Environmental Factors[1]. This document is structured around the first three, with environmental factors being integrated throughout rather than addressed in a separate section.

The TACLS program includes both a detailed presentation in the format of a PowerPoint slide deck for each section, with a corresponding Quick Reference Guide (QRG) that highlights the key messages. These QRGs are compiled into the TACLS Manual and include all available QRGs and links to the more comprehensive slide decks. The TACLS resources are subject to update based on current available evidence and leading practices.

TACLS Development

The TACLS content is developed through an iterative update process where groups of experts in each content area reviewed the previous content and updated where required to reflect the most current Canadian Stroke Best Practice Recommendations (CSBPR). Updates were made throughout each TACLS module. Final draft content underwent external review by the CSBPR advisory committee members to ensure accuracy and validity.

The information provided in TACLS is based on the Heart and Stroke Foundation Canadian Stroke Best Practice Recommendations (CSBPR), a set of guidelines informed by the most current research evidence and clinical expert opinion. The recommendations are developed and updated every 2-3 years under the leadership of the Heart and Stroke Foundation of Canada. Canadian healthcare professionals from many disciplines with expertise in stroke care review current research, evidence, and information from Canada and around the world to create the best practice recommendations. The best practice recommendations represent the gold standard in stroke care. Meeting all of the recommendations is a challenge; however, they serve as goals that healthcare professionals and healthcare systems can strive toward in a spirit of continuous quality improvement.

Following the stroke best practice recommendations narrows the gap between what is known about the best ways to treat stroke (evidence) and how stroke care is actually delivered on a daily basis (practice). Ultimately, implementing stroke best practices decreases the impact of stroke on individuals, families, caregivers, communities, and the healthcare system. Some recommendations from the Canadian Stroke Best Practice Recommendation Modules are included in this resource.

---

[1] World Health Organization. Towards a Common Language for Functioning, Disability and Health: ICF [Internet]. 2002. Available from: https://www.who.int/classifications/icf/icfbeginnersguide.pdf

The full recommendation content can be found at **www.strokebestpractices.ca**. The TACLS resources are not a replacement to reviewing and following the Stroke Best Practice recommendations, as it relates to your professional scope and role.

The CSBPR website (available at **www.strokebestpractices.ca**) includes extensive additional information and resources on all aspects of stroke care from public awareness and the recognition of the signs of stroke, through acute care, secondary prevention, rehabilitation and recovery, and systems of care which includes virtual care, patient and family education, and communication among health professionals. The CSBPR also include focused modules including vascular cognitive impairment and stroke in pregnancy. The CSBPR website additionally includes information on the types of services that should be available for people who have had a stroke; ways to measure how well stroke care is being delivered; and lists of tools, checklists and questionnaires that can be used to guide care for people who have had a stroke.

Additional resources are available for people living with stroke, their families, caregivers and the public. These include:

- **Your Stroke Journey: A guide for people living with stroke**
- **Post-Stroke Checklist**
- **Enabling self-management following stroke: A checklist for patients, families and caregivers**
- CSBPR Infographics: developed by people with lived experience, these are lay summary documents that highlight the key content from each CSBPR module (e.g., **Rehabilitation and Recovery**, **Transitions and Community Participation**, **Virtual Healthcare Checklist**) to support self-management and active participation in their care and recovery.

All resources are available from the Heart and Stroke Foundation on the CSBPR website at: strokebestpractices.ca/resources/patient-resources.

Disclaimer

Taking Action for Optimal Community and Long-Term Stroke Care is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.

Thank You

The Heart and Stroke Foundation of Canada gratefully acknowledges and thanks the dedicated group of healthcare professionals who gave their time, energy, and expertise to write, review and develop the creative products for the updated TACLS 2021 Program. Key members of the TACLS development group include Rebecca McGuff (Lead, HSFC National), Louise Nichol (Co-Lead, Manitoba), Patrice Lindsay (Senior Editor, HSFC National), Anita Mountain (Senior Advisor, Nova Scotia), Francine Forget-Marin (French Reviewer, HSFC National), Katie White (Reviewer, British Columbia), Joyce Fung (Reviewer, Quebec), Sepideh Pooyania (Reviewer, Manitoba), Tina Vallentin (Reviewer, Ontario), Brenda Semenko (Reviewer, Manitoba), Donna Cheung (Reviewer, Ontario), Kate Charbonneau (Reviewer, Ontario), Alexa Keeling (Reviewer, Alberta), Linda Lambert (Reviewer, Manitoba), Kristin Villanueva (Reviewer, Manitoba), Kim Baessler (Reviewer, Manitoba), and additional expert reviewers.
Heart and Stroke also acknowledges and thanks the Ontario Regional Stroke Networks' Community and Long-Term Care Group for their contributions to the TACLS content and supplementary materials. Heart and Stroke extends a large thank you to the **Evidence-Based Review of Stroke Rehabilitation** research group at the Robarts Institute, London, Ontario for their resources which assisted in the creation of this document, and the **Stroke Engine** team for their available information on current stroke rehabilitation intervention and assessment tools. Everyone's commitment to improving stroke care in Canada represents interprofessional collaboration at its best. We also thank the many thousands of healthcare providers, family members, and caregivers who provide invaluable assistance to people who have had a stroke.

Your comments, suggestions, and inquiries regarding this resource are welcome and appreciated. Share your comments with us by email: **strokebestpractices@heartandstroke.ca**

Global Stroke Bill of Rights

In 2014, following widespread consultation with people who have had a stroke and caregivers around the world, the World Stroke Organization (**www.world-stroke.org**) released a bill of rights for stroke patients. It highlights the care and treatment patients and families consider most important to their recovery. As healthcare providers, we all have a responsibility to provide people who have had a stroke the best care possible within available resource and geographic capacity.

Global Stroke Bill of Rights

As a person who has had a stroke
I have a right to:

Receive the best stroke care

- A rapid diagnosis so I can be treated quickly.
- Receive treatment by a specialised team at all stages of my journey (in hospital and during rehabilitation).
- Receive care that is well coordinated.
- Access treatment regardless of financial situation, gender, culture or place that I live.
- Receive treatment that is right for me as an individual considering my age, gender, culture, goals and my changing needs over time.

Be informed and prepared

- Have access to full and accurate information about stroke risk factors.
- Be informed about the signs of stroke so I can recognise if I am having one.
- Be fully informed about what has happened to me and about living with stroke for as long as I require it.

Be supported in my recovery

- Be provided with hope for the best possible recovery I can make now and into the future.
- Receive psychological and emotional support in a form that best meets my needs.
- Be included in all aspects of society regardless of any disability I may have.
- Receive support (financial or otherwise) to ensure I am cared for in the longer term.
- Be supported to return to work and/or to other activities I may choose to participate in after my stroke.
- Get access to formal and informal advocacy to assist me with access to the services I need.
- Be connected to other stroke survivors and caregivers so I may gain and provide support in my recovery from stroke.

World Stroke Organization

www.world-stroke.org

Global Stroke Bill of Rights

Stroke is a leading cause of death in developed and developing countries and a major cause of disability. **There are over 13.7 million new strokes each year.** Globally, **one in four people over age 25 will have a stroke in their lifetime.** There are over **80 million people currently living who have experienced a stroke globally. Five and a half-million people die of stroke annually.**

Behind these numbers are real lives.

Despite these shocking statistics, many people affected by stroke are unable to access the treatments, rehabilitation and support that would provide them with the greatest chance of a good recovery and a healthier, more productive and independent life.

The Global Stroke Bill of Rights is an important priority for the World Stroke Organization. These rights identify the aspects of care that are important for ALL stroke survivors and caregivers from across the world.

It is a tool that can be used by individuals and organizations to communicate with stroke care providers and with governments and their agencies about what people affected by stroke think are the most important things in their recovery. Many aspects of care considered important by those affected by stroke, and included in this document, have been shown to reduce death and disability after stroke.

The Stroke Bill of Rights is not a legal document. It is a guide to the elements of stroke care that are important to stroke survivors and care givers to drive to the best possible outcomes and experiences associated with stroke.

The Stroke Bill of Rights was developed by a group of stroke survivors and caregivers from each region of the world. They were supported by a larger group of survivors and caregivers and by thousands more from different countries, cultures and languages who completed surveys to understand if there are any differences in different parts of the world. Their responses demonstrated what is considered to be important in stroke recovery is consistent regardless of where people affected by stroke live.

The issues identified through this process are outlined in the Global Stroke Bill of Rights, listed according to the importance survivors and caregivers placed on them.

We hope it is a useful tool to help improve access to care for people affected by stroke across the globe.

World Stroke Organization

www.world-stroke.org

1 The Stroke Care Team

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/tacls**

Quick reference guide highlights

- **Always follow the current care plan** for the person you are working with.
- **Caregiver** can refer to a spouse, child, sibling, other relative, close friend or neighbour involved with the care of the person who has had a stroke. In this document, it excludes paid healthcare providers.
- **Note:** When working with the person's caregivers, ensure privacy and confidentiality is respected and followed. If unsure, check with the care team.
- People who have had a stroke can experience a wide range of challenges. Each member of the stroke care team contributes to a person's care and recovery journey.

Roles and responsibilities of the stroke care team

- **Communication** with the person who has had a stroke and their caregivers, as well as with the stroke care team.
- **Educate** the person and their caregivers about stroke, its effects and recovery.
- **Help** the person and their caregivers learn strategies to cope and adjust.
- **Develop** and update care plans.
- **Help** the person achieve the best possible outcomes.
- **Work to prevent or reduce** complications.
- **Be responsive** to changing needs, abilities, and goals of the person and their caregivers.

Providing person-centred care

- Follow the principles of **person-centred care**, meaning the healthcare provider puts the person at the centre of everything that is done. Remember in person-centred care there should be "nothing about me without me".*
  - Include the person in decision-making to the extent that they wish to be involved.

  - Respect each person as an individual, taking the time to get to know and understand them. Ask the person about their goals, preferences and values, and work as a team to incorporate these elements into the care plan.
  - Support their dignity and encourage independence without pushing the person beyond their limit or holding them back.
- The stroke care team works together so that people who have had a stroke can recover and heal in a safe and supportive environment and receive care that includes stroke and rehabilitative expertise to address their physical, social, cognitive and emotional needs.
- The **person who has had a stroke is the focus of the team's efforts and is a member of the team**. As much as possible, the person and their caregivers should have input into decisions about the care plan, goals, and the care that is provided.
- The stroke care team varies depending on factors such as stroke severity, needs of the person, stage of recovery, and location where the care is being provided. In addition to the person and their caregivers, team members can include: physicians, case managers, dietitians, healthcare support workers, nurses, occupational therapists, pharmacists, physiotherapists, psychologists/neuropsychologists, recreational therapists, rehabilitation assistants, social workers and speech-language pathologists.

Learn more about the stroke care team and their roles in **TACLS – The Stroke Care Team**.

The team approach

- **Assessment:** your observations and insights about the person with stroke can contribute to the team assessment. Be sure to report what you see.
- **Diagnosis**: based on the assessment, the physician will make a diagnosis to then minimize risk of complications and determine required treatment approaches and interventions.
- **Care Planning:** the team develops a care plan based on the assessment, diagnosis and goals of the person.
- **Implementation:** your input and communication can help determine the best way to carry out the plan.
- **Evaluation:** your observations and monitoring can help determine how well the plan is working and whether change or reassessment is needed.
- **All team members must work within their scope of practice.**

Your role as a part of the stroke care team

- Get to know each person as an individual. This makes it easier for you to adapt your care and approach to suit their needs and preferences.
- Empathize with the person's challenges and celebrate their successes.
- You may be the first to notice changes. Communicating your observations to the stroke care team can help the person experience the best possible care and recovery.

- Know the care plan and follow it. Always be familiar with each person's individualized care plan and know what your responsibility is. Make sure you know who your direct contact on the team is and always consult with your team if you are unclear about anything in the care plan, have questions, or are concerned about the person you're caring for.
- Follow your workplace guidelines for communicating with the team. Do not delay if a situation requires immediate attention – contact the appropriate team member as quickly as you can.

Note: There may be times when the information in these TACLS resources differ from the instructions or care plan that have been developed by the organization you work for or by the stroke team. **Always follow the direction from your employer, your team, and the care plan.**

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Rehabilitation and Recovery Following Stroke**, 6th Edition, Section 1
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS), – **The Stroke Care Team**
3. *Excerpt from Valerie Billingham, from a session at the Salzburg Global Seminar, (session 356) in 1998, "Through the Patient's Eyes."

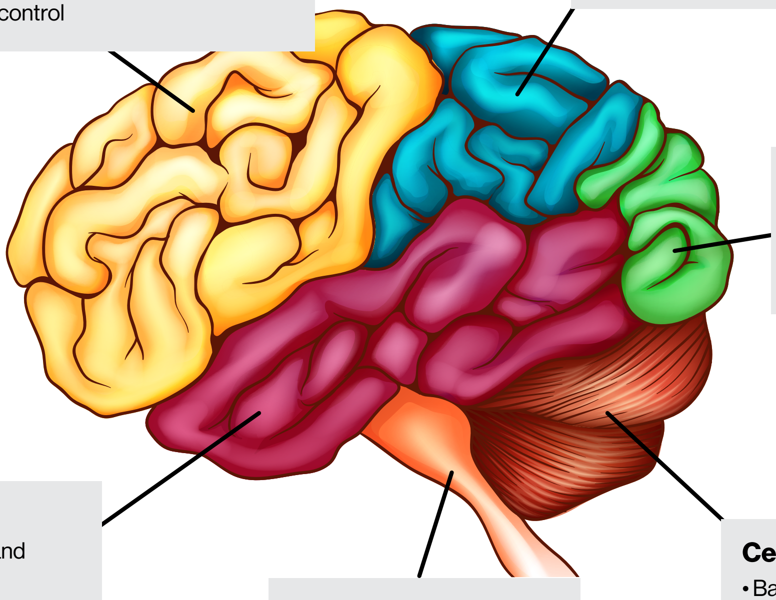
Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

2 Body Structure

2.1 The Brain

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/tacls**



Frontal
- Personality
- Emotions and arousal
- Intelligence
- Ability to concentrate, make decisions, plan, put things in order, solve problems
- Awareness of what is around you
- Voluntary movement
- Ability to speak and write
- Behaviour control

Parietal
- Sensations: pain, touch, temperature
- Understanding and interpreting sensory information, such as size, colour and shape
- Understanding space and distance
- Math calculations

Occipital
- Vision
- Interpreting what you see

Temporal
- Ability to understand language
- Hearing
- Memory, long-term storage of memories
- Organization and planning
- Behaviour and emotions

Brain stem
- Breathing
- Heart rate control
- Consciousness, alertness, wakefulness
- Swallowing
- Blood pressure
- Sweating

Cerebellum
- Balance
- Motor (movement) coordination
- Posture
- Fine motor skills

Areas of the brain

- The largest area of the brain is called the **cerebrum**, and is divided into two halves called hemispheres:
  - The **left hemisphere** controls the **right side of the body**.
  - The **right hemisphere** controls the **left side of the body**.
- Each hemisphere consists of four lobes that are responsible for different functions.
- The two hemispheres are connected to each other by nerve fibers, allowing the hemispheres to continually communicate and work together.
- The base of the brain has two other major components called the **cerebellum** and the **brainstem**.
- There are other smaller but equally important parts of the brain that are not covered in this document.

How the brain works

- The brain is a complicated organ, and is responsible for a lot of basic and very complex daily functions.
- **Some of the primary functions of the left hemisphere** include different components of movement and feeling on the right side of the body, sight in the right field of vision, language (i.e. spoken and written language), math and number skills, attention to detail, motor planning and sequencing, problem solving, and analytical and rational thought.
- **Some of the primary functions of the right hemisphere** include movement and feeling on the left side of the body, sight in the left field of vision, creative abilities, imagination and intuition, emotional thought, insight, understanding and awareness of nonverbal cues, awareness of and making sense of the surrounding environment (including spatial orientation).
- Each lobe of the brain has different functions. A person's impairments can vary depending on which side of the brain (right or left hemisphere) was impacted by stroke.

Main functions of the brain

Note: See TACLS – The Brain, for additional information.

- **Frontal lobe functions:** important for personality, emotion and mood regulation, cognition (particularly, executive functions), expressive language, voluntary movement, planning and sequencing complex tasks, and urinary continence.
  - **Effects of damage to the frontal lobe include:** loss of movement on the opposite side of the body, emotional and personality changes, trouble expressing oneself through speech and putting thoughts into words, decreased ability to plan, organize and carry out a sequence of complex tasks (apraxia), impaired judgment and problem solving, perseveration (or 'getting stuck') on a single idea or behaviour, and incontinence.
- **Parietal lobe functions:** important for sensation (e.g., touch, temperature, pain), proprioception, visual attention, movement coordination and object manipulation, reading, writing, math, constructing, and naming objects.

  - **Effects of damage to the parietal lobe include:** difficulty focusing visual attention, loss of sensation, diminished eye-hand coordination, impairments of body scheme and spatial relations (e.g., difficulty with right-left discrimination, neglecting part of the body or space), aphasia, agnosia, spatial disorientation and navigation difficulties.
- **Temporal lobe functions:** important for hearing ability, understanding language, memory (including storing information, retrieving words and past experiences), integrating sensory information, regulating behaviour and emotions.
  - **Effects of damage to the temporal lobe include:** difficulty recognizing faces, difficulty selectively attending to auditory and visual information, difficulty understanding spoken words (comprehension) and organizing verbal information, short-term and long-term memory loss, altered personality, emotional behaviour, sexual behaviour, impulsiveness, aggressiveness, depression, and persistent talking.
- **Occipital lobe functions:** important for vision, spatial organization and interpretation of visual information, and visual reflexes.
  - **Effects of damage to the occipital lobe include:** deficits in vision (e.g., visual field loss, double vision), inability to recognize familiar objects, words, colour, or movement of an object, difficulty with reading and writing.
- **Cerebellum functions:** important for motor control, maintaining posture and balance, coordination of movement, and muscle tone.
  - **Effects of damage to the cerebellum include:** limb and gait ataxia, difficulty judging distances, difficulty performing rapid movements, dizziness and vertigo, tremors, loss of postural control, balance and coordination, decreased coordination of fine motor movements and slurred speech (dysarthria).
- **Brainstem functions:** important in controlling basic body functions such as breathing, swallowing, heart rate, blood pressure, sweating, regulating sleep/wake cycles, alertness and consciousness, equilibrium/balance, and facial and eye movements.
  - **Effects of damage to the brainstem include:** inability to move eyes in different directions, inappropriate responses to visual or auditory stimuli, altered respiratory, cardiac and blood pressure function, altered taste and hearing, abnormal facial expression, problems with balance and postural control, dysphagia, altered sensation and limb weakness, vertigo, and sleeping difficulties.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **The Brain**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

2.2 Stroke and its Effects

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/tacls

What is a stroke

- A stroke happens when blood flow in an artery is interrupted either because the artery:
  - Becomes blocked – **ischemic stroke**.
  - Breaks open or leaks under pressure due to weakened walls – **hemorrhagic stroke**.
- As a result, some brain cells in the affected areas do not get the oxygen and nutrients they need. Neurons (brain cells) will start to die within minutes if blood flow is not restored. When the brain cells die, the area of the brain affected cannot function as it did before.
- **Transient ischemic attack (TIA)** (often called a 'mini-stroke') is a diagnosis that refers to a brief episode of neurological dysfunction caused by focal brain, spinal cord, or retinal ischemia, with clinical symptoms and without imaging evidence of infarction. TIA and minor acute ischemic stroke fall along a continuum. TIA symptoms fully resolve within 24 hours (usually within one hour). If any symptoms persist beyond 24 hours, then this would be considered a stroke, not a transient ischemic attack.
  - A TIA event is significant as it can be a warning of a future stroke event. Everyone should respond to an acute TIA as a potential emergency.
  - Symptoms of a TIA are similar to signs of a stroke. A person should seek immediate medical assessment, treatment and follow-up if they experience stroke signs/symptoms.
- **Ischemic stroke** is caused by a blockage or clot in an artery in the brain (about 85% of strokes).
  - The blockage can be caused when a substance called plaque builds up on the inside wall of an artery. The blockage or clot restricts blood flow to an area in the brain.
  - A blood clot can also form in another part of the body and travel to the brain.
- **Hemorrhagic stroke** occurs when a blood vessel in the brain breaks open (about 15% of strokes). The interrupted blood flow causes damage to the brain.
  - High blood pressure makes arteries weak over time, and is a major cause of hemorrhagic stroke. Weak spots in the arteries called aneurysms can stretch too far and eventually break open or start to leak.
- **Other causes of stroke** and additional factors that may increase the risk of stroke include:
  - Some people have abnormally formed blood vessels from birth called an arteriovenous malformation that can eventually break.
  - In rare cases, certain blood disorders, a tumor, an infection, illness, some medications or substance use, or brain trauma and/or swelling due to injury.

Signs of stroke

- It is important to act FAST (Face, Arms, Speech, Time) because the sooner the person gets to the hospital, the better their chance of receiving intervention that could help reverse or reduce the effects of stroke.
- Many medical interventions for stroke are time sensitive. Emergency Medical Services (EMS) will know which hospitals provide these medical interventions.
- Visit the Heart & Stroke YouTube Chanel for a **video on recognizing the FAST signs of stroke**.
- There are other signs of stroke that are less common including: vision changes, sudden severe headache, numbness, problems with balance.

Learn the signs of stroke

Face is it drooping?
Arms can you raise both?
Speech is it slurred or jumbled?
Time to call 9-1-1 right away.

Act FAST because the quicker you act, the more of the person you save.

If you or someone with you experiences any of these signs, call 9-1-1 or your local emergency number immediately.

Early treatment for ischemic stroke (clot)

- **Intravenous (IV) thrombolysis (a clot-busting drug)** **may** be recommended by physicians to help re-open blocked arteries.
  - The decision will depend on the type of stroke, amount of time since symptoms started, the results of the brain scan (e.g., CT or MRI) and other factors. IV thrombolysis can reduce the severity of a stroke, may reverse some of the effects and improve recovery.
  - IV thrombolysis must be given as soon as possible and within 4.5 hours after the symptoms began. This is why it's important to get to the hospital as quickly as possible once stroke symptoms are suspected. The longer the delay, the smaller the possible benefit.
- **Endovascular thrombectomy (EVT)** **may** be recommended by physicians if the clot is located in one of the large blood vessels of the brain.
  - Guided by X-ray imaging, a thin tube is threaded through blood vessels to the clot in the brain. The blood clot is then removed to restore blood flow in the brain. EVT helps to reduce impairment and is now considered the gold standard for treatment of patients with major ischemic strokes.
  - EVT is recommended for eligible patients within 6 hours of stroke onset, or up to 24 hours in select patients. The faster the blood flow can be restored, the greater their chance of an optimal outcome.

Early treatment for hemorrhagic stroke (bleed)

- Hemorrhagic stroke can be very serious and cannot be treated with intravenous thrombolysis or EVT. It typically requires a longer recovery time than an ischemic stroke. A neurosurgeon will determine if surgery is needed to control the bleeding in the brain, to fix the damaged artery and/or to lower the pressure in the brain.

Stroke risk factors

Three categories of risk factors that can increase a person's risk of having a stroke:

- **Medical risk factors:** some medical conditions can increase a person's risk of having a stroke (e.g., high blood pressure, high cholesterol, diabetes, atrial fibrillation, carotid stenosis, pre-eclampsia, sleep apnea, vascular cognitive impairment, heart conditions, cancer and other medical conditions).
- **Modifiable risk factors:** many risk factors can be managed through lifestyle changes, treatment and medication. These are sometimes called lifestyle risk factors (e.g., diet, not enough or lack of exercise and physical activity, weight management, smoking and vaping, heavy or binge drinking, unmanaged stress, use of recreational drugs such as cocaine or amphetamine, oral contraceptives (birth control) or hormone replacement therapy).
- **Non-modifiable risk factors:** there are other factors associated with a higher risk of stroke that are out of the person's control, they include:
  - Age (the older you are, the higher the risk)
  - Sex (risk of heart disease and stroke increases after menopause)
  - Family history of heart disease, stroke or TIA (parents or siblings)
  - Previous stroke or TIA
  - Indigenous heritage
  - South Asian or African descent
  - Social determinants of health

How you can help

- Review the TACLS PDF to learn strategies to support and reduce modifiable risk factors. Share resources (e.g., visit the Heart & Stroke – **Risk and Prevention**, **Are You At Risk**, **Patient and Caregiver Resources**, **Secondary Prevention Infographic**).
- It is important that a person is aware of their risk factors and takes measures to reduce their risk.
- Be aware of a person's risk factors and understand their goals for managing them. Reinforce recommendations that have been made by the team and report any concerns that you have. Ensure medications are taken as prescribed.
- Help the person set realistic goals, address barriers and track their progress. Provide support and encouragement.

Impairments and limitations

- **Impairments** are problems in body function or structure, such as significant deviation or loss*. These can be consequences or effects to a structure or organ of the body caused by the stroke (e.g., paralysis).
- **Limitations** involve the interaction between a person's impairments and/or health conditions and the environment** (e.g., person with paralysis may be unable to dress independently without assistance).
- Effects of stroke and extent of impairment depend on several factors including size and location of the blockage or bleed, amount of time the brain had restricted blood flow or accumulation of blood, amount of time between onset and medical intervention and/or extent of recovery.
- One side of the brain typically affects the opposite side of the body and impairments will usually occur on the opposite side to where the stroke happened.
- Some possible effects/impairments of a stroke include paralysis, weakness, sensory loss, balance impairment, vision changes, visual perceptual impairments, neglect or inattention, communication impairments, post-stroke fatigue, incontinence, changes in vital functions, changes in personality and mood, and/or cognitive difficulties.
- Remember, everyone's recovery journey is different. It may happen quickly or take months, years or be a lifelong journey. Recovery may not follow a consistent and/or continuous pattern.
- Rehabilitation needs to be considered for every person who has had a stroke or TIA. It is a key component of stroke care and should begin as soon after stroke as possible.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Acute Stroke Management**, 6th Edition, Section 1 and **Secondary Prevention of Stroke**, 7th edition, Sections 1,2, 3 & 4, **Rehabilitation and Recovery Following Stroke**
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS), – Stroke and Its Effects
3. *ICF **www.who.int/classifications/icf/icfbeginnersguide.pdf**
4. **Modified from the WHO definition of disability **www.who.int/health-topics/disability**

3 Body Function – Physical

3.1 Movement and Motor Recovery

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- There are many factors that can influence motor control (the ability to move parts of the body) and recovery after a stroke. It can be a long and frustrating experience. Recovery time after stroke is variable from one person to another.
- Stroke often affects **motor control**. Movement is usually affected on the side of the body opposite to where to stroke occurred in the brain. A stroke in the brainstem can affect movement on both sides of the body.
- Muscles in the face, trunk, arm and leg on the affected side of the body may be weak after a stroke. **Muscle weakness** can vary in severity and lead to difficulty moving a limb, movement in general, difficulty completing activities of daily living (ADL), a painful shoulder, and/or increased risk of falls and potential injuries.
- Stroke can interfere with **muscle tone.** Normal muscle tone enables controlled movements, the ability to hold a position and stops muscles from being pulled down by gravity.
- Often immediately after stroke, muscles become low tone and are in a state of flaccidity. Over time, muscles may develop high tone and lead to spasticity. Both flaccidity and spasticity interfere with moving a limb and movement in general. Always handle flaccid or spastic limbs carefully. See **TACLS – Shoulder Care** and **TACLS – Positioning** for more information.
- **Apraxia** is a motor discoordination and motor planning impairment. It can affect movement on both sides of the body (not just the affected or weak side). Apraxia can affect the ability to carry out daily activities even if the person has the physical ability to perform the movements. See **TACLS – Praxis** for more information.
- **Fatigue** is a very common effect of stroke and can be experienced at any point during recovery. Post-stroke fatigue does not necessarily improve with rest or sleep. Members of the stroke team such as an occupational therapist and physiotherapist can suggest ways to help the person conserve energy, cope with fatigue and participate in recovery, and help restore energy and wellness. **See TACLS – Fatigue** for more information.

- A person may have **limited** or **no sensation** in some parts of the body, which can affect quality of movement and safety. Changes in sensation can result in a person being unaware of the position and movement of limbs, unaware of pressure and/or pain, and/or feeling less sensitive to touch which can impact fine motor control. See **TACLS – Sensation** for more information.
- After a stroke, a person may experience **changes in vision and visual perception** and may also experience unilateral spatial neglect. This can result in a change of adaptation, the ability to make sense of what we see, respond appropriately, and make correct judgements when moving in the surrounding environment. See **TACLS – Vision and Visual Perception** for more information.

Promoting motor recovery

- Incorporate the affected limbs into daily activities as soon as safely possible. Even small movements can be used to help accomplish tasks.
- Rehabilitation therapists can provide guidance on appropriate activities that are meaningful, safe, and goal-oriented, aiming to enhance motor control and restore sensorimotor function.
- Carry out rehabilitation activities in the program developed by the rehabilitation therapist. They will provide all necessary training required to complete the activities with the person you are caring for. Some activity examples include:
  - Range of motion and/or muscle strengthening exercises.
  - Balance activities.
  - Visual perceptual activities.
  - Constraint Induced Movement Therapy (CIMT): forces usage of the affected limb by restraining the use of the unaffected limb.
  - Mental imagery: imagining the movement to reinforce practice of the task even at rest.

Always follow the current care plan and do not implement any new activities without talking to the rehabilitation therapistt.

Note: This information represents some of the priorities of care related to movement and recovery; consult the physician, nurse, occupational therapist and/or physiotherapist for any questions or concerns regarding movement and motor recovery.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Rehabilitation and Recovery Following Stroke**, 6th edition
2. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Mood, Cognition and Fatigue following Stroke**, 6th Edition, Section 3
3. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Movement and Motor Recovery**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

3.2 Post-Stroke Fatigue

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- **Post-stroke fatigue** is a common condition and can be experienced following a stroke at any point during the recovery process.
- The person may experience overwhelming tiredness, a lack of energy to perform daily activities, an abnormal need for naps or extended sleep, and tire more easily than pre-stroke.
- This fatigue does not necessarily improve with rest or sleep.
- It is often under-recognized and can negatively impact a person's ability to actively participate in rehabilitation, which has been associated with poorer long-term outcomes.
- It can occur in any person who has experienced a stroke and does not seem to be related to size, location, or severity of stroke.
- Post-stroke fatigue and motivation are not the same thing. A person can be extremely motivated to participate in all aspects of their recovery, but limited by the impacts of post-stroke fatigue.
- People who have experienced a stroke should be periodically screened for post-stroke fatigue and for medications and common and/or treatable post-stroke co-morbidities that are associated with and/or exacerbate fatigue (e.g., in acute care, primary care, home care, outpatient, stroke prevention and/or rehabilitation clinics).

How you can help

- Follow the current care plan and recommendations of the occupational therapist and physiotherapist to help the person conserve energy, cope with fatigue and participate in recovery.
- Encourage people who are experiencing post-stroke fatigue to communicate energy status and rest needs to healthcare providers, family members, caregivers, employers, and social group.
- Consult with the stroke care team (e.g., physician, occupational therapist, physiotherapist) for strategies to support the person experiencing post-stroke fatigue. For example:
  - Structure the day to include a balance of activity and scheduled periods of rest; anticipate energy requirements for each task and for completion of high priority activities. Relearning how to complete daily activities takes a great deal of energy.

- Keep an agenda of daily activities and plan activities a day in advance. Plan higher energy activities following rest and plan quiet or restful activities following activities that need more energy.
- Organize the physical environment to minimize efforts to move around (e.g., reduce stair climbing, have easy access to the most frequently used items).
- Have the person sit rather than stand when possible when doing activities such as chores and personal hygiene (e.g., washing dishes, ironing, brushing teeth, showering).
- Teach the person to use appropriate body mechanics, posture and sitting positions, and rest locations (e.g., rest in bed, rather than in a chair).
- Establish good sleep hygiene patterns, avoid sedating drugs and excessive alcohol. Always follow the current care plan, including medication use.
- Encourage the use of energy saving equipment and technology to reduce physical efforts (e.g., electric can opener, online shopping).
- Plan vocational and leisure activities ahead of time to ensure the person is well-rested prior to their activities of choice.
- If possible, delegate activities that are low priority or can be done by someone else, such as family members, friends, or caregivers.
- Develop a plan for healthy diet and proper nutrition to help with energy levels.
- Plan and establish routines that reduce stress, and incorporate activities that support mental health (e.g., mindfulness).
- Physiotherapists can recommend appropriate exercise schedules and physical activities that are safe, of interest to the individual and can help restore energy and wellness.

Note: This information represents some of the priorities of care related to supporting energy conservation and post-stroke fatigue; consult with the stroke care team for any questions or concerns regarding post-stroke fatigue.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Mood, Cognition and Fatigue following Stroke**, 6th Edition, Section 3
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Post-Stroke Fatigue**
3. Evidence-Based Review of Stroke Rehabilitation – **Chapter 17 Medical Complications Post Stroke**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

3.3 Swallowing and Dysphagia

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- All patients should be screened for swallowing impairment before any oral intake (e.g., medications, food, liquid) by an appropriately trained professional using a valid screening tool.
- Abnormal results from the initial or ongoing swallowing screens should prompt referrals to a speech-language pathologist, occupational therapist, dietitian or other trained dysphagia clinicians for more detailed bedside swallowing assessment and management of swallowing, feeding, nutritional and hydration status.
- It is very important to know whether the person you are working with has had a swallowing screen and/or assessment, if they have any swallowing issues, and what the current management strategy is to support safe swallowing.

Swallowing and dysphagia

- Swallowing requires the coordination of many muscles to move food and liquid through the mouth, throat, and esophagus to the stomach. A stroke can affect these muscles, resulting in **dysphagia (difficulty swallowing)**.
- Stroke can also cause decreased alertness and attention. This can also impact the ability to swallow safely.
- Eating problems and dysphagia may lead to: aspiration, choking, dehydration, malnutrition and impaired quality of life.
- Aspiration is the entry of saliva, food, liquid, or refluxed stomach contents into the airway. This can cause respiratory problems and pneumonia.
- People with dysphagia may need a modified diet (foods of specific textures and liquids of specific thicknesses) for safety. They are at risk of poor nutrition and need to be carefully monitored.
- Food textures will need to be modified by a trained professional if a person is unable to swallow food or liquid safely.

Common signs of dysphagia

- **Before giving food:** drooling, speech difficulties, reduced level of consciousness.
- **When giving food:** difficulty self-feeding or taking food/liquid from spoon/cup, poor lip closure, loss of food from mouth, not sensing food on lip or food spillage, difficulty moving food to start or complete the swallow, spitting food out, pocketing food in cheeks, under the tongue or side of the mouth, slow effortful chewing, rapid uncontrolled eating.
- **In addition to watching for signs, a person may report the following during or after meals:** difficulty chewing solids, coughing when swallowing liquids, coughing during or after meals, a tight throat, food sticking in throat or chest, reflux or heartburn, feeling full after eating very little, feeling anxious about mealtimes.
- **Signs of possible aspiration during/after a swallow or meal:** coughing, throat clearing or choking, shortness of breath, altered voice quality (e.g., wet or gurgling voice), watery eyes or runny nose.

How you can help

- Difficulties or problems with swallowing could lead to complications and interfere with recovery. Carefully monitor the person for any signs and symptoms of **dysphagia or aspiration** (such as coughing, choking). **If you observe any symptoms, or notice any changes in swallowing, report it to your team immediately.**
- Always follow the food and diet instructions in the current care plan. Never adapt a food texture or change a person's diet on your own – consult with a dietitian or speech-language pathologist.
- Do not alter medications (e.g., crush them) or change the delivery (e.g., yogurt instead of applesauce) without consulting the team pharmacist and speech-language pathologist, as you may impact the effectiveness of the medication.
- Consult the speech-language pathologist if the person is having difficulty managing and/or swallowing fluids, foods and/or medications.
- To reduce the risk of aspiration pneumonia, the care plan may indicate that the person is permitted and encouraged to feed themselves whenever possible. Follow the current care plan. Supervision may be required to promote safety.

How you can help – Positioning for eating/feeding

- Always use proper positioning for feeding:
  - Get the person out of bed to eat whenever possible, seated upright in a wheelchair or straight-back chair.
  - Position someone who is unable to get out of bed as close to 90 degrees as safely possible, and stabilize them with pillows.

- Keep the head midline and flexed forward slightly.
- Encourage the person to stay upright for at least 30 minutes after meals, or elevate the head of the bed 30 degrees to prevent reflux.
- If the person that you are working with uses a nasogastric (NG), percutaneous endoscopic gastrostomy (PEG) or other tube feed, please consult with the stroke care team for specific positioning strategies.

Note: This information represents some of the priorities of care related to eating and swallowing; consult with the stroke care team for any questions or concerns regarding swallowing, dysphagia and feeding positioning.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Acute Stroke Management**, 6th Edition, Section 9.6
2. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Rehabilitation and Recovery following Stroke**, 6th Edition, Sections 7.1 and 7.2
3. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Nutrition and Swallowing**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

3.4 Hydration

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- **Dehydration** occurs when the body loses more fluid than it takes in.
- Dehydration can quickly become life-threatening and can increase risk of infection, constipation, fecal impaction, and urinary tract infection.
- Dehydration can result in decreased physical, mental, and cognitive function.
- People who have had a stroke and have suspected nutrition concerns, hydration deficits, dysphagia, or other comorbidities that may affect nutrition, should be referred to a speech-language pathologist (SLP) and/or dietitian.
- **Dysphagia** (swallowing difficulties) is common in people who have had a stroke. An SLP, a dietitian and other trained professionals may recommend alterations in food and fluid consistencies to support safe swallowing and promote hydration.
- **Never** change a person's diet, adapt a food texture or fluid consistency without consulting an SLP or dietitian.
- People need at least six to eight cups of fluid a day to stay hydrated. The amount and type of fluid that a person needs should be specified in the current care plan.
  - Note: Sometimes a person may be on fluid restrictions and must restrict and monitor their fluid intake due to other conditions or comorbidities. If you are unsure, check with the care team. Always follow the current care plan for the person that you are working with.
- **Types of fluids** include*:
  - **Beverages** such as water, juice, milk, tea, and coffee.
  - **Frozen liquids** such as ice cubes, popsicles, or frozen juice bars.
  - **Some foods** such as jellied desserts, pudding, ice cream, soup, or canned fruit.
  - *Encourage water as a beverage of choice and limit high sugar drinks such as juice, popsicles, and jellied desserts.

How you can help

- Monitor fluid intake and be aware of factors that can impact fluid intake. For example: if a person has a fear of choking, they may avoid drinking. If a person has aphasia, they may not be able to communicate that they are thirsty.
- **Never** change a person's diet, adapt a food texture or fluid consistency without consulting an SLP or dietitian.
- Monitor urine output and characteristics, and frequency and consistency of bowel movements (watch for constipation related to dehydration).
- Be aware of signs & symptoms of dehydration including dark, cloudy, concentrated, or strong-smelling urine, decreased urine output, confusion, thick, stringy saliva.
- Report any concerns to the stroke care team immediately.

Note: This information represents some of the priorities of care related to hydration; consult with the SLP, dietitian or stroke care team for any questions or concerns regarding hydration.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Acute Stroke Management**, 6th Edition, Section 9.6
2. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Rehabilitation and Recovery following Stroke**, 6th Edition, Section 7.2
3. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Hydration**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

3.5 Bladder and Bowel Control

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/tacls**

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- Bladder incontinence, or loss of bladder control is common after stroke. Bowel incontinence can also occur after stroke.
- Incontinence can dramatically affect feelings of self-worth and well-being, as well as lifestyle and social interactions.
- All individuals who have had a stroke should be screened for urinary incontinence and retention (with or without overflow), fecal incontinence, and constipation.
- Individuals with urinary incontinence should be assessed by trained personnel using a structured functional assessment to determine causes and develop an individualized management plan.
- Incontinence can result in skin breakdown and pressure injury, urinary tract infection (UTI) and dehydration.
- Stroke can also impact the ability to safely access the bathroom independently (e.g., impaired vision and/or mobility). Maintain a safe environment including easy access to mobility aids and other equipment to promote independence and reduce risk of falls and injuries.
- Encourage use of a commode or toilet rather than a bedpan, if safe to do so. If using a bedpan, make sure the head of the bed is as upright as possible and do not leave the person on the bedpan for any longer than necessary.

Urinary incontinence

- A bladder-training program should be implemented in people who are incontinent; this includes timed and prompted toileting on a consistent schedule as prescribed and detailed in care plan.
- If using a bedside urinal, keep it where it can be easily seen and reached. It may help to keep a urinal on each side of the bed.
- Reduce risk of UTI by ensuring recommended fluid intake and limiting caffeinated drinks.
- Be alert for and report any signs or symptoms of UTI such as a temperature over 37.9 °C and/or blood in the urine. Report any new or worsening:
  - Burning or pain with urination.
  - Chills or shaking.
  - Delirium, confusion, agitation and/or change in behaviour.
  - Urinary urgency, frequency and/or incontinence.
  - Pain in the lower abdomen or side.

  - Change in urine colour or odour.
  - Urethral or vaginal discharge.

Indwelling catheters

- The use of indwelling catheters should be used cautiously due to the risk of UTI. If used, indwelling catheters should be assessed daily and removed as soon as possible by trained professionals. Excellent pericare and infection prevention strategies should be implemented.
- If a urinary catheter is in place:
  - Position the drainage bag below the bladder.
  - Position the catheter tubing so it does not kink and secure tubing to leg.
  - Empty the drainage bag at least every 8 hours (or according to the care plan).
  - Follow hospital procedures for disconnecting and connecting tubing.
- With catheter use, be alert for and report:
  - Any change in output over a 4-hour period.
  - Pain in the abdomen, pelvis, or at the catheter insertion site.
  - Restlessness or agitation.
  - Change in colour or consistency of urine including blood in urine.
  - Urine leakage around catheter.

Bowel incontinence

- A bowel management program should be implemented for individuals with persistent constipation or bowel incontinence. This will be prescribed and detailed in the care plan.
- Be alert for and report:
  - Fever.
  - Sudden change in bowel pattern or stool and/or no bowel movements in three days.
  - Constant straining with bowel movements and/or abdominal pain.
  - Rectal bleeding, blood in stool and/or liquid stools.

Note: This information represents some of the priorities of care related to bladder and bowel management; consult with the stroke care team for any questions or concerns.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Acute Stroke Management**, 6th Edition, Section 9.7
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Bladder and Bowel**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

3.6 Skin Integrity and Pressure Management

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- People who have had a stroke are at increased risk of skin breakdown and pressure injury due to factors such as: decreased ability to relieve pressure due to weakness/changes in mobility, decreased sensation, increased moisture from incontinence or perspiration, poor nutrition, dehydration and dry skin, inability to communicate pain and/or improper positioning.
- Establish a toileting routine to assist with incontinence. Incontinence products should only be used when absolutely necessary as they can increase skin temperature and prevent good air circulation which can impact the skin's ability to stay dry and healthy.
- Complete skin checks at least once a day paying special attention to bony prominences (e.g., elbows, heels, ankles, hip bones, sacral area – tail bone, ischial tuberosities – sitting bones). Protect bony prominences when positioning.
- DO NOT massage bony prominences or reddened areas. Report any redness or changes in skin integrity to the stroke care team.
- During the skin check, look for redness, blisters, bruising, bleeding, discharge and/or skin breaks.
- Ensure that the person is not sitting or lying on items that may cause pressure.

Pressure redistribution devices

- An occupational therapist may recommend pressure redistribution devices (e.g., specialty mattress, specialized wheelchair cushions, heel pads or boots, etc.) for a bed, chair and/or wheelchair. Follow care plan to ensure proper use.
- Avoid using donut devices as they can decrease blood flow and increase tissue breakdown.
- Use friction reducing devices as prescribed and instructed (e.g., a slider sheet).

Promote hygiene

- Teach appropriate skin care and hygiene for the person that you are working with.
- Change pads and linens when damp.
- Barrier creams, moisturizers and/or ointments may be recommended to protect and promote skin health. Only use creams and ointments prescribed in the care plan.

- A person may develop spasticity in their affected hand. This hand is at increased risk of skin breakdown and should be gently opened to provide skin/nail hygiene. Follow the care plan for strategies and techniques to complete care. Please refer to *TACLS Quick Reference Guide – Shoulder Care* and **TACLS Shoulder Care** for additional information on managing spasticity.

Positioning and repositioning

Reproduced by kind permission of Chest Heart & Stroke Scotland. © 2020 CHSS

- Assist with positioning as needed. If the person is unable to reposition themselves in bed, they should be turned at least every 2 hours.
- People who can shift their weight while sitting should do so every 15 minutes. If unable to shift their weight while sitting, they should be repositioned at least every hour, or according to the care plan.
- When positioning (sitting or lying), the goal is to maintain proper body alignment while reducing pressure on bony prominences and compromised areas.
- Avoid complete side-lying position to reduce the amount of pressure on the hip bone.
- Position the person at 30-degrees side-lying position, and support with pillows.
- Ensure affected arm and leg are supported with pillows. Use pillows between knees and ankles to separate boney area.
- Ensure that this position does not affect their breathing.

Reproduced by kind permission of Chest Heart & Stroke Scotland. © 2020 CHSS

- If positioning on back, relieve heel pressure by floating the heels with a pillow under the calves (not behind knees) or use off-loading boots.
- Support the head, affected arm and hip with pillows.
- Avoid raising the head of the bed unnecessarily to help reduce sheering forces. Encourage the person to keep the head of the bed at or below 30 degrees.
  - Note: If it must be raised for certain activities, raise to lowest point possible and limit to as short a time as possible. Ensure the knee gatch is raised appropriately prior to elevating to help prevent sliding.
- Always consult the care plan, as sometimes there may be orders for the head of the bed to be raised to a specific angle.

Note: This information represents some of the priorities of care related to skin integrity and pressure management; consult with nurse, occupational therapist and physiotherapist with any questions or concerns.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Acute Stroke Management**, 6th Edition, Section 8.1
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Skin Integrity and Pressure Management**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

4 Body Function – Sensory

4.1 Vision and Visual Perception

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- All people with stroke should be screened for visual, visual motor and visual perceptual deficits as a routine part of the broader rehabilitation assessment process.
- Basic visual skills (visual acuity, oculomotor control, visual fields) form the foundation for visual perception and visual cognition. This allows us to develop an accurate perception of our world. This first and most basic level includes:
- **Visual acuity**: ability to see small details both close-up and at a distance (e.g., reading a menu, road signs and seeing details on a face).
    - Stroke can result in **visual acuity loss** causing a person to experience blurred vision.
    - How well a person sees things can also be impacted by lighting as well as the amount of contrast between what the person is looking at, and the background. This **loss of contrast sensitivity** can make it difficult to see contrast between an object and its background and may result in an inability to distinguish objects in the foreground from objects in the background.
- **Oculomotor control:** ability of both eyes to work together to maintain focus on an object, have depth perception and to track objects. Lack of oculomotor control after a stroke can result in:
    - **Impaired eye movements**, affecting the eye's ability to move smoothly from focus on one object to another target, and/or to maintain focus on a moving object.
    - Inability to move both eyes together which can cause blurred and/or **double vision** (diplopia).
    - **Constant and unintentional eye movement**, making focusing difficult (nystagmus).
    - **Impaired depth perception**, creating difficulty with locating objects and making it hard to judge distance.

- **Visual fields**: includes the ability to see everything in front while looking straight ahead.
  - **Visual field loss**, results in a person only being able to see part of what is in front of them.
  - The amount of visual field loss varies but people often experience loss of the left or right fields of vision from both eyes.
  - A person is often unaware of the missing area of vision as the brain "fills in" the missing information, but inaccurately. They may bump into doors or objects on the side of the visual field loss, are unable to locate objects, use the wall as a guide when walking and/or have difficulty reading as they only see one half of a sentence or a page.
- **Visual cognition:** refers to higher level visual and visual perceptual abilities, and relies on visual foundational skills described above. Impairments of visual cognition can affect for example, the ability to take in visual information, recognize shapes, understand concepts, orient oneself in relation to other objects, remember, and use visual information to solve problems.

How you can help – **Visual field loss**

- Encourage the person to look more towards the affected side.
- Place items on affected side and/or walk on the affected side to increase awareness of that visual space.
- Practice scanning activities to encourage looking from left to right in a repetitive way; this can help the person become more aware of their visual field loss and remind the person to look further to their affected side.

How you can help – **General strategies**

- Team members trained to address vision and visual perception impairments (e.g., occupational therapists and neuro-ophthalmologists) will provide support and strategies to adapt to the impairments and recommendations to reduce their impact.
- Encourage the person to use the recommended strategies from the care plan.
- You can help family members understand that vision and visual perceptual problems are a result of the stroke, and once the problem is identified, strategies can be developed and implemented to improve or manage function. This may reduce frustration for everyone and improve safety, independence, and self-esteem. Examples of strategies that may be recommended include:
  - **Manage the environment:** keep spaces organized and uncluttered; always place items in the same place; use reference points and/or increase colour contrasts to highlight edges of tables or stairs.

- **Support safe mobility:** supervise transfers and encourage aids if prescribed; reduce obstacles and clutter; ensure good lighting; encourage use of the handrail and going slow on stairs; take the same route to a location every time, noting landmarks along the way.
- **Use practical approaches:** do activities that require sustained vision for small amounts of time with frequent rest breaks; identify yourself when coming up to a person who has difficulty recognizing faces.

Note: This information represents some of the priorities of care related to vision and visual perception; consult the physician, neuro-opthalmologist and occupational therapist for any questions or concerns regarding vision and visual perceptual changes or impairments.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Rehabilitation and Recovery following Stroke**, 6th Edition, Section 8
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Vision and Visual Perception**
3. Warren M. A hierarchical model for evaluation and treatment of visual perceptual dysfunction in adult acquired brain injury, Part 1. *Am J Occup Ther*. 1993 Jan;47(1):42-54. doi: 10.5014/ajot.47.1.42. PMID: 8418676.

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

4.2 Unilateral Spatial Neglect

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- All persons with stroke should be screened for visual, visual motor and visual perceptual deficits as a routine part of the broader rehabilitation assessment process.
- After a stroke, a person may experience unilateral spatial neglect, where the person may show a lack of awareness of their affected side and lack the ability to pay attention to their surroundings. The person cannot perceive or process stimuli on the affected side of the body or environment.
- Treatment approaches for unilateral spatial neglect include strategies to increase awareness of the affected side (e.g., visual scanning, verbal and sensory cueing, frequent reminders to use affected limbs and education).
- In more persistent situations, use of compensatory strategies (e.g., placing objects on non-affected side so they will be noticed) may be necessary.
- **Personal neglect** occurs when a person has neglect of one side of the body (body parts). The person may be observed to only perform self-care and/or hygiene on one side of the body, leave the affected limb dangling, and/or keep their head turned away from the neglected side.
- A person with **near extrapersonal neglect** will be inattentive to space within reaching distance. The person may be observed to only eat half the food on a plate, have difficulty finding objects placed on one side of a table, closet, drawer etc., and/or have difficulty reading as they only attend to words on one half of the page or of a sentence.
- A person with **far extrapersonal neglect** will be inattentive to space beyond reaching distance. The person may be observed bumping into objects on the affected side, being unaware of someone approaching on the neglected side, and/or reading only half of a sign resulting in possible misinterpretation of what the sign says.

How you can help

- You can help the person stay safe by helping to increase awareness of their affected side and the surrounding area, and working through neglect concerns during your daily care and interactions.
- Talk with the occupational therapist about how to best reinforce use of the neglected side in daily activities.

- Position or help the person position the affected limb so that they can see it.
- Encourage use of affected arm and hand during daily activities if the person has movement in the extremity. Use hand over hand guidance if needed.
- Talk to the person on the neglected side and use cues to draw attention to the affected side.
- Have the person use a mirror to provide feedback when dressing or grooming.
- Follow the occupational therapist's recommendations for helping the person increase their attention to the neglected side and/or compensate for unilateral spatial neglect. This may include:
  - Practice scanning to the affected side to locate items within near or far space when carrying out daily activities.
  - If improvement is limited, you may need to place frequently used items on the person's unaffected side, so they are easy to find.
- Always use the same technique and order for dressing, starting with the neglected side.
- Practice taking the same route to a place every time, so the person becomes familiar with the route.
- Place your hand on top of their neglected limb or gently rub the limb to offer sensory feedback to help them notice the affected body part.

Note: This information represents some of the priorities of care related to unilateral spatial neglect; consult the occupational therapist and stroke care team for any questions or concerns regarding unilateral spatial neglect.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Rehabilitation and Recovery following Stroke**, 6th Edition, Section 8
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Unilateral Spatial Neglect**

4.3 Body Scheme

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- A person who has had a stroke may experience impairments of body scheme. Body scheme is defined as awareness of the:
  - Body parts (on self and others).
  - Position of body parts in relation to each other.
  - Position of body parts in relation to objects in the environment.
- With body scheme impairments, a person might lack understanding and awareness of body parts and the relationship of these parts to each other and the environment.
- Some terms used to describe the components of body scheme impairments include autotopagnosia, somatognosia, anosognosia and right-left discrimination.

Autotopagnosia and somatognosia

- A person who **does not recognize their own body parts** and their **relationship to each other** may **lack an accurate sense of their own body** structure (called **autotopagnosia**).
  For example, a person may:
  - Be unable to find their mouth, but can show you the part of the body that they eat with.
  - Be able to carry out daily activities that require use of body parts such as putting on a shirt, but will have difficulty if asked to put an "arm" into their sleeve.
  - Have difficulty using both hands for two-handed activities if asked to do so.
  - Have difficulty following directions that involve use of body parts (e.g., during dressing, bathing, mobility and/or transfers).
- A person may have **difficulty identifying parts of the body on others** (called **somatognosia**). The person may lack awareness of the body structure and relationship of the body parts on another person. They may have difficulty with:
  - Identifying body parts during personal care and/or following directions that involve use of body parts (e.g., during mobility and/or transfers).
  - Identifying body parts on others and/or they may be able to find a body part on another person but not on themselves.

- Naming a body part, but not say where it is in relation to other body parts (e.g., they can identify the nose, but not know that it is between the eyes).
- Using both hands for two-handed activities if asked.

How you can help

- Reinforce and name the parts of the body during personal care activities (e.g., say "You are doing a good job of washing your left arm").
- Touch the limb you are referring to, to provide sensory input rather than asking the person to move their arm or leg (e.g., tap/touch their left leg to encourage the movement during a transfer).
- Reinforce the strategies recommended by the occupational therapist (OT) in the care plan during your interactions with the person.

Anosognosia

- Another example of a body scheme disorder is when a person does not recognize or is unaware that they have an impairment, such as their own hemiplegia (called anosognosia). For example, a person may:
  - Deny the presence and/or severity of any impairments such as weakness or paralysis affecting one side of the body (hemiplegia).
  - Lack insight of their functional difficulties and as a result may try to transfer on their own when they should be waiting for help or will try to lift a heavy pot on the stove using their weak arm.
- When a person does not recognize that they have functional difficulties or impairments they may have difficulty: remaining safe as they carry out daily activities; accepting help from others; understanding and believing they have limitations or impairments as a result of their stroke.

How You Can Help

- Encourage independence while emphasizing safety.
- Educate the person on their limitations and show patience, support and repetition when providing care.

Right-Left discrimination

- Another component of body scheme is the ability to differentiate or discriminate between right and left on the body and/or within the environment. This also includes understanding the concepts of "right" and "left". A person may have difficulty with:
  - Daily activities, due to difficulty following directions if words left and right are used.
  - Dressing, as the person cannot match the right pant leg with the right leg.
  - Mobility, as they cannot respond to "turn left" or "turn right".
  - Cueing, as they have difficulty responding when you ask them to turn their head left/right.

How you can help

- Follow the OT's recommendations to help the person re-orient to right and left.
- Mark objects with tape or writing to differentiate between right and left.
- Have the person always wear a watch or bracelet on the same wrist to help remember the difference between their right and left sides.
- When giving instructions do not only use the words "right" or "left." Instead, point and touch the body part you are referring to and/or refer to an object by its location. For example:
    - While touching a person's right hand say, "use your right hand to pick up your toothpaste".
    - Say: "the washroom door is just before your bedroom door on the right" instead of "the washroom door is on your right".

Note: This information represents some of the priorities of care related to body scheme; consult with the occupational therapist for any questions or concerns regarding impairments of body scheme.

References:

1. Canadian Stroke Best Practice Recommendations: www.strokebestpractices.ca, Rehabilitation and Recovery following Stroke, 6th Edition, Section 8
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – Body Scheme
3. Evidence-Based Review of Stroke Rehabilitation – Chapter 2 – Clinical Consequences of Stroke

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

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/tacls**

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**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

4.5 Sensation

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- Stroke can impair the area in the brain where the sensory input is received and interpreted.
- A person who has had a stroke may have limited or no sensation in parts of the body affected by stroke.
- The person may lose the ability to feel sensations of touch and/or experience hypersensitivity, have altered pain or temperature sensation and/or lack awareness of their affected arm/leg and its position in space.
- A person may also experience numbness, pins and needles, tingling and/or be very hypersensitive to touch in different parts of the body.
- Impaired sensation can affect personal safety. It can affect the ability to carry out daily activities, impact quality of movement and increase risk for burns, cuts, blisters, falls and/or injury. It is very important to take steps to support safety during personal care and day-to-day activities.
- Follow any recommendation made by the occupational therapist or physiotherapist to increase a person's safety and awareness of sensory loss.

Touch and hypersensitivity

- A person may lose the ability to feel light touch or deep pressure or be hypersensitive.
- A person may be unable to feel something touching their body and/or skin like a blanket or clothing or have difficulty moving objects in their hands, like a button on a shirt. This can lead to blisters or pressure injury if, for example, the person is unable to feel that a shoe it too tight or if the person is sitting and/or lying too long in one position.
- If experiencing hypersensitivity, a person might describe pins and needles, a sharp twinge or pain when they touch something or when they are being touched during personal care.

Temperature

- A person who has had a stroke may have difficulty feeling the difference between hot and cold or be unable to recognize the temperature they are feeling.

- Help the person reduce risks of injury in their daily activities (e.g., remind the person to check water temperature with their unaffected hand, or make sure to keep the affected side away from a hot stove element or oven while preparing a meal).

Joint position

- A person may lose the ability to sense the position of where their joints and limbs are in space and cannot tell where their body parts are without looking at them.
- For example, the person may leave a leg behind during a transfer, not swing their leg while walking, not grasp their walker properly, or not realize their arm is hanging over the side of the wheelchair.
- Provide verbal cues and touch the affected limb when providing care to remind the person of what is happening on affected side e.g., say "your right arm has fallen off of your wheelchair" while touching that arm.
- Monitor and ensure proper positioning of the affected side.

Note: This information represents some of the priorities of care relating to changes in sensation; consult with the stroke care team for any questions or concerns.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Rehabilitation and Recovery following Stroke**, 6th Edition, Sections 5.3 and 6.3
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Sensation**

4.6 Pain

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you're working with, to help with management of different types of pain.**
- **Note:** Always work within your scope and consult the care plan and the stroke care team with any questions regarding various interventions and any impact that it may have to your role. Always seek medical advice regarding medication use to manage pain.
- Pain after stroke is common. It often occurs in the affected shoulder; however pain can occur in other parts of the body.
- Pain may be present in parts of the body with impaired movement or sensation, in people with cognitive impairment including dementia, or even in a person who is not conscious.
- Pain is usually described by how long it has been present (duration), what caused it (source), location, type of sensation experienced, intensity, and how it interferes with function.
- **Acute pain:** usually short-lived and comes from an event such as an injury.
- **Chronic pain:** may occur as a long-term consequence of the stroke, may have been present before the stroke, or may have no clear explanation. This pain usually lasts more than 3-6 months.
- Untreated pain can contribute to anxiety, sleep disturbances, memory problems, reduced appetite, poor posture, depression, irritability, mood, and other symptoms, and can interfere with recovery.
- Pain can interfere with daily activities like going to the bathroom, dressing, and grooming and the ability to move and participate in activities. Pain can also decrease participation in social activities.

How you can help – General strategies

- Recognizing and identifying the type of pain can lead to the right treatment. You might be the first to hear about or notice signs of pain.
- Report the person's pain or changes to your team so an assessment can be completed. Make sure to note when the pain started, the location, and severity.
- Ask simple questions (e.g., yes/no) to better understand the type and intensity of the pain such as: Can you point to areas where you have pain? Do you have pain during/after movement?
- Be patient. They may need more time to explain what they feel.
- Acknowledge the person's pain, and provide reassurance and empathy.
- Monitor pain intensity, what increases pain, and the effectiveness of strategies used to reduce pain.
- Discuss the person's pain with the team, to ensure that pain management and medication are adequate. Ask how you can best support the person you are working with.

Recognizing pain

- Watch for signs that the person may be in pain.
- The person experiencing pain is the only one who can describe the severity.
- Be alert to body language and movement, especially if a person is unable to communicate. If the person cannot tell you, ask a family member how the person usually shows pain.
- People may express pain in various ways such as:
  - **Verbally:** uses words such as "That hurts! Stop that!" and/or uses pain-related words (e.g., sharp, dull, burning, throbbing).
  - **Making sounds:** moans, groans, grunts, cries, gasps, sighs.
  - **Physically:** rubbing or massaging the painful area, bracing, holding, or guarding an area, especially when they move, frequent shifting, restlessness, rocking, or not able to stay still, impaired bowel and bladder function.
  - **Facial expressions:** such as frowning, grimacing or wincing.
  - **Behaviour changes**: such as restlessness, anger, irritability and/or changes in appetite.
- Pain scales are sometimes used to measure the intensity of someone's pain. Check with your team whether you should be using a pain scale to detect or monitor pain.

Common types of pain include:

Note: Please see full **TACLS-Pain** for additional information and how you can support individuals with these various types of pain.

- **Hemiplegic Shoulder Pain:** Shoulder pain on the affected side may begin within a few days, weeks, or months after the stroke and can occur for different reasons such as shoulder subluxation, mishandling, or poor positioning of the arm. **Shoulder Subluxation:** Gravity, improper handling, and positioning of the affected arm can lead to subluxation (partial dislocation) of the shoulder which causes pain and impaired movement.
  - Preventing shoulder pain is key. Identifying and treating shoulder pain early is also very important.
  - Early supportive positioning and correct handling can help prevent shoulder pain. Treatment is more difficult after the pain is established and becomes chronic.
  - Always handle and move the affected arm carefully in all care activities to prevent painful stretching of muscles and ligaments. Do not lift the person underneath the shoulder. Ensure the arm is always appropriately supported when the person is sitting, standing, or walking. Work with the therapy team to ensure you know how to handle and position the affected arm correctly.
- **Spasticity and Contractures:** Spasticity, or increased muscle tone, may develop in a limb weeks or months after a stroke, and make the limb feel stiff and more difficult to move. This can lead to pain, muscle shortening, reduced joint range and muscle contractures, and impact functional recovery.
  - A therapist may recommend positioning, range of motion exercises, stretching, and a splint to maintain optimal muscle length in some cases. A physician may recommend medications and other medical therapies to help manage spasticity.
  - Handle and position affected limbs carefully and according to the care plan. Do not force the limb to move. Refer to positioning guidelines. If you notice increased joint stiffness or pain, report it to a team member.
- **Hand Edema:** A person who had a stroke with paralysis or weakness of the arm and hand may develop fluid buildup in the tissues of the wrist and hand called edema (swelling). Edema can contribute to pain, stiffness, disuse and decreased active movement.
  - An occupational therapist and physiotherapist may provide recommendations to manage hand edema (swelling). Follow the current care plan.
- **Complex Regional Pain Syndrome (CRPS):** Less commonly, a person may develop a painful complication of stroke, CRPS. It can lead to chronic pain and is not well understood. Prevention and early diagnosis are critical to effective management.
  - Early signs and symptoms include: burning, throbbing pain, sensitivity to touch or cold, swelling of the painful area, changes in skin temperature and colour, joint stiffness, very limited range of motion in a limb, and decreased ability to use the affected limb.
- **Central Post-Stroke Pain (CPSP):** CPSP is rare but can occur when a stroke affects the parts of the brain that process sensory stimuli like heat, cold, and touch. It causes the brain to register all sensations as pain. Primary symptoms are pain and loss of sensation, usually in the face, arms, and/or leg.

  - CPSP can dramatically hinder a patient's ability to perform ADLs, interfere with sleep and reduce quality of life.
  - A person with stroke, family members, and caregivers all need training on the treatment of CPSP, including the dosing, timing, and contraindications of pain medication .
- A person may report other types of pain (e.g., from previous conditions such as arthritis or back pain). **It is important to report all pain to the stroke care team.**

Note: This information represents only some of the priorities of care related to pain; consult the physician, nurse, occupational therapist and/or physiotherapist for any questions or concerns regarding pain and pain management.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Rehabilitation and Recovery following Stroke**, 6th Edition, Sections 5.2, 5.3 and 9
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Pain**
3. Evidence-Based Review of Stroke Rehabilitation – **Chapter 17 – Medical Complications Post Stroke**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

5 Body Function – Mental and Emotional

5.1 Behaviour Changes

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/tacls

Quick reference guide highlights

- **Always** follow the current care plan for the person that you are working with to promote safety and independence. Strategies will be individualized based on the person and their needs.
- Some people who have had a stroke may show little or no changes in behaviour, while others may experience significant changes.
- Some behaviour changes stem from damage in the areas of the brain that control cognition, perception, mood, emotions, personality and other abilities. Some changes may be related to frustration the person is feeling from being unable to communicate, move or function the way they used to.
- It is important to remember that most post-stroke behaviour changes are a consequence of the stroke. For example, a person's behaviour may not match how they are feeling; they may not realize how their behaviour affects others; they may have extreme mood swings; have a loss of interest in things they previously enjoyed and/or appear stubborn, selfish or demanding.
- Regardless of the behaviour observed, use patience, common sense, empathy and a problem-solving approach.

Anger and aggression

- **Anger and aggression** can be caused by the area of the brain that was damaged by the stroke and/or a result of coping with changes that stroke can bring.
- Anger is a normal human reaction to a perceived threat or irritation, and can be caused by many factors (e.g., frustration, pain, fear).
- Stroke-related deficits can make managing (or controlling) anger and aggression difficult.

How you can help

- Identify triggers that cause the anger; this can help find solutions and/or help avoid triggers if possible.
- Predictability can help prevent outbursts; know and follow the person's daily routines and preferences. Explain what you are doing so the person is prepared for what will happen next.
- Approach from the unaffected side. Coming up to someone on the affected side can cause alarm and possibly an angry outburst.
- Offer support or assistance during activities that cause frustration, and help the person feel successful by alternating between easy and more difficult tasks.
- During an outburst always use a calm approach; discreetly remove the person from the situation or activity that triggered the outburst if possible. If this is not possible, redirect the person's attention elsewhere, such as to a favourite activity.
- Stay safe. If the person becomes violent, give them space and seek help if necessary. Report the incident to a relevant team member. If anger and aggression seem out of control or is distressing for the person and their loved ones, discuss it with the stroke care team.

Social isolation

- Social isolation can occur because of many stroke-related physical (e.g., feeling unsafe, unable to participate), emotional (e.g., sadness, despair, loss of purpose) and cognitive changes (e.g., lack of confidence, safety).
- Following stroke, screening should be done by the stroke care team to determine pre-stroke and current leisure goals, interests and social participation. The healthcare team can provide targeted therapeutic interventions and individualized plans for participation.

How you can help

- Look for ways to help the person overcome barriers to return to what they previously enjoyed, or to find new activities. Support the person in participating in those activities.
- Promote independence by encouraging safe participation in the person's own care as well as inclusion in discussion and decisions about personal care and daily activities.
- If the person is experiencing difficulty engaging in leisure and other social activities consult with the healthcare team for strategies to support participation.

Apathy

- **Apathy** is commonly described as a decrease in goal directed behaviour, emotion and cognition. It can be observed as: a loss of motivation, concern, interest, and emotional response.
- This can result in a loss of initiative, decreased interaction with their environment and a reduced interest in social life.

How you can help

- Learn about the person's interests and make it as easy as possible for them to participate. Reinforce and support interests that they show in activities with praise and encouragement.
- If an initial attempt to do an activity fails, encourage them to try again. If they refuse an attempt do not force them, instead, try again later.

Social judgement

- **Social judgement** is saying and doing the right thing in a social situation.
- Personality and cognitive changes from a stroke may lead to poor social judgment, irrational behaviour, or behaviour that is out of character for the person. The person may not realize that they are not responding appropriately.

How you can help

- Recognize the person's limitations and avoid situations that require the person to make complex decisions that may be too difficult to complete at this time.
- Provide private and tactful feedback and cues as soon as possible after the behaviour occurred to explain how it was inappropriate. Be gentle and straightforward rather than critical.
- Support and reinforce appropriate behaviour with praise and encouragement.
- Encourage the person to stay well-rested as fatigue can intensify changes in behaviour.

Note: This information represents some of the priorities of care related to behaviour changes; consult with the stroke care team for any questions or concerns.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Mood, Cognition and Fatigue**, 6th Edition, Sections 1.7 and 2.3
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Behaviour Changes**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

5.2 Mood and Depression

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- Stroke can affect a person's mental health and self-image, as well as their relationships. After a stroke, many people experience fear, anxiety, frustration, anger, sadness and grief for all their losses. These feelings are a natural response and should be addressed.
- Damage to the brain caused by a stroke can lead to emotional disturbances, personality changes and/or **post-stroke depression**.
- **Shock** is a common first emotional response felt by people after a stroke. This may be followed by some stages of grief as the person deals with loss.
- **Worry** may be experienced as the person may wonder about survival, another stroke, how their family will cope and concern about returning to usual activities.
- **Anxiety** is characterized by feelings of tension, extreme apprehension and worry, and sometimes physical symptoms such as an increase in blood pressure. Anxiety disorders occur when symptoms become excessive or chronic. Your support can help them cope.
- A person may feel frustration, embarrassment, sadness and/or have post-stroke fatigue.
- **Emotional lability** is a **lack of emotional control**. This may be observed in emotional responses that appear excessive for the situation, or responses that do not match the expected response for a given situation, such as laughing at bad news. Emotional lability can be embarrassing to the person who has had a stroke and may lead to communication difficulties when people misinterpret their emotional responses.
  - Ask the person if the feelings they are showing match what they are feeling on the inside.
  - **DO NOT** tell the person to stop the behaviour. This could lead to frustration/embarrassment.
  - Try distraction by calling the person's name or asking an unrelated question to help the person regain emotional control and continue with an activity.
  - Encourage the person to slow down and take deep breaths. Reassure the person and their loved ones that loss of emotional control is common.

Depression

- **Post-stroke depression** is a medical condition resulting from chemical changes in the brain.
- A physician will consider the following when determining if a person meets the criteria for post-stroke depression: **depressed mood** or **loss of interest or pleasure along with four other symptoms** of depression (e.g., weight loss, insomnia, psychomotor agitation, fatigue, feelings of worthlessness, diminished concentration, suicidal ideation) **lasting two or more weeks**.

- Post-stroke depression can manifest in physical, attitudinal, emotional, and cognitive symptoms, which should be watched for and noted should patterns emerge.
- All people who have experienced a stroke should be considered at risk for **post-stroke depression**, which can occur at any stage of recovery. Screening should be undertaken by trained professionals using a validated screening tool to maximize detection of depression. It can be more difficult to identify depression when communication or cognitive challenges are present.
- Depression can be treated. Appropriate identification, diagnosis and treatment of post-stroke depression have been associated with improved outcomes. Please see **TACLS – Mood and Depression** for a list of possible signs and symptoms.

How you can help

- Observe and report concerns about a person's mood to team members, especially if symptoms are recurring and consistent.
- Take immediate action by advising the appropriate team member if the person expresses recurrent thoughts of death, recurrent suicidal ideation with or without a specific plan for suicide, or a suicide attempt.
- Build a connection with the person by communicating with care and empathy. Ask the person how they are feeling and listen carefully to their response. This helps build rapport and can help identify causes for low mood and better detect patterns in mood changes.
- Offer support to the person and family members and help to reduce stigma by reminding them that depression is a medical condition. Help them find available resources to share.
- Help plan and structure each day, as routine can help the person adjust.
- Remain hopeful, reminding the person that help is available, and that depression can be treated. Remind the person that most people who have had a stroke continue to improve for weeks, months and even years.
- Encourage participation in activities they enjoy and help the person access them.
- Encourage the person to talk about their emotions and express their feelings.
- Gently encourage the person to be as **independent** as possible, **normalize** their struggles and highlight their **successes**.

Note: This information represents some of the priorities of care related to Mood and Depression; consult with the stroke care team for any questions or concerns.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Mood, Cognition and Fatigue**, 6th Edition, Section 1
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Mood and Depression**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

5.3 Cognition and Vascular Cognitive Impairment

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with** to promote safety and independence. Strategies will be individualized based on the person and their needs.
- **Cognition** refers to how we know things and how we think. When people have trouble with cognition, they are said to have **cognitive deficits or impairments**. Impairments can be subtle, difficult to see, or more obvious.
- Cognitive impairment can impact different components of a person's cognition (e.g., attention, orientation, memory, insight, judgement, sequencing, problem solving, and executive functioning).
- **Vascular Cognitive Impairment (VCI)** includes the cognitive and behavioural disorders associated with cerebrovascular disease and risk factors, from mild cognitive deficits to frank dementia.
  - VCI is a syndrome with cognitive impairment affecting at least one cognitive domain (e.g., attention, memory, language, perception or executive functions) and with evidence of clinical stroke or subclinical vascular brain injury.
  - VCI encompasses a large range of cognitive deficits, from relatively mild cognitive impairment of vascular origin to vascular dementia, the most severe form of VCI.
  - VCI also plays an important role in people with Alzheimer's disease pathology who have coexisting vascular lesions.
- **Cognitive impairments** can have a major impact on how well the person functions, and their level of independence and safety.

Attention: ability to attend and concentrate and focus on a task

How you can help

- Reduce distractions (e.g., television, radio, and reduce side conversations).
- Give short and simple step-by-step instructions and ensure the individual understands and completes one step before moving on to the next step.
- Help the person focus on one step at a time by gently bringing their attention back to the task.
- Make eye contact and speak slowly, pausing so the person has more time to think; give time for the person to answer.

Orientation: awareness of time, place, and person

How you can help

- Remind the person of your name and the date by mentioning it when you arrive; put up a calendar to help the person keep track of the day and date by crossing each day off.
- Post personal information (e.g., address, phone numbers) and family pictures on a bulletin or white board where the person can see them easily.
- Keep to a regular schedule of meals and activities to minimize confusion.

Memory: Ability to recall and retain experiences and to learn and retain new skills

How you can help

- Encourage the person to use memory aids (e.g., planner, smartphone, calendar, signs, pictures).
- Use routines and repetition (e.g., store items in the same place and repeat information).
- Provide clear, concise information one step at a time, to help the person focus on the key points.

Insight: ability to recognize and understand one's abilities and limitations

How you can help

- Promote safety through education and modifying the environment (e.g., place mobility aids and assistive devices nearby and remove obstacles that could be tripping hazards).
- Post reminders to use mobility aids and key instructions such as "put on the brakes before getting up from your wheelchair".
- Provide sufficient supervision and support independence for tasks that can be completed safely.

Judgement: ability to make good choices and decisions, understand capabilities and appreciate risk

How you can help

- Discuss safety concerns with the team; develop strategies to promote independence and safety.
- Set up the environment to promote safety (remove tripping hazards, keep mobility aids within reach, ensure brakes are on mobility devices). Try and make sure the person does not end up in challenging situations where they may be unable to decide what actions are safe.

Impulsivity: acting quickly without thinking things through

How you can help

- Give clear and specific instructions and remind the person to slow down; divide tasks into smaller steps so the person can focus on one part of the task at a time.
- Make the environment as safe as possible.

Sequencing: **ability to perform steps and actions in the right order including knowing where to begin and how to proceed to complete the task successfully**

How you can help

- Plan the task together and break tasks into small steps, giving clear step-by-step instructions.
- Allow lots of time to practice and remind the person to perform the task the same way each time.

Problem solving: **being able to recognize a problem and find a reasonable solution**

How you can help

- Work together to identify different ways of solving the problem; talk about ways to approach the problem; break task into small steps and simplify the tasks for the person to succeed.
- Give verbal cues as needed, but also allow the person to find solutions on their own.

Executive functions: **higher level cognitive skills that work together to help a person get things done.** These include planning, organization, processing information, multi-tasking, problem solving, decision making, reasoning, finding your way around and managing emotions and social cognition.

How you can help

- Consult the occupational therapist for individualized strategies to support the individual. Examples may include: providing instructions one step at a time, using a consistent approach to complete tasks, using lists and planners to support organization, time management and sequencing.

Note: This information represents some of the priorities of care related to cognition and VCI; consult the occupational therapist for any questions or concerns regarding a person's cognitive impairments.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Mood, Cognition and Fatigue**, 6th Edition, Section 2
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Cognition**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

6 Activities and Participation

6.1 Communication

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- Communication is the exchange of ideas through speech, language, gestures, reading or writing.
- Stroke can cause communication impairments. Some common impairments include:
  - **Dysarthria:** slurred speech, problems making the sounds of speech.
  - **Aphasia:** difficulty understanding language and/or using language.
  - **Cognitive communication impairments:** difficulty forming and organizing thoughts; difficulty communicating clearly, may have trouble understanding or remembering what they have heard
- There are several types of **aphasia** that can impact a person who has had a stroke.
  - **Receptive aphasia** (able to hear and see words, but unable to determine what they mean; the person may take word meanings very literally and be unable to understand some humour).
  - **Expressive aphasia** (the person knows what they want to say but the wrong words come out or don't make sense through verbal or written communication).
  - **Fluent aphasia** (someone may talk constantly without making much sense or use made-up words, the person may not realize their speech is incomprehensible).
  - Always consult the care plan to determine if an aphasia or other communication impairment is present, and what specific type of strategies can be used to support communication.
- A Speech-language pathologist (SLP) can assist with determining a person's communication and speech difficulties and make recommendations for communication methods.
- Health Care providers must take responsibility to use methods to support communication.

How you can help

When communicating with someone with a communication disorder:

- Reduce distractions and talk face to face in a quiet place, speaking slowly and clearly in a normal voice, using short simple sentences, and maintain eye contact.
- Avoid interrupting and allow plenty of time for person to respond.
- Communication aids such as paper and pen, whiteboard and marker, a communication board with pictures, or use of non-verbal cues such as thumbs up for 'yes', thumbs down for 'no' may be helpful with some people.
- Keep conversation simple:
  - Provide specific choices (e.g., would you like an apple or an orange).
  - Avoid open ended questions (e.g., "are you feeling ill?" instead of "what's wrong?").
  - Print key words in large clear letters.
  - Include only one thought or idea in each sentence or question.
  - Do not ask compound questions (e.g., two or more questions in one sentence).
- Pay attention to facial expressions, body language and tone of voice to help you know if they understood. If they say 'yes', but sound angry or frustrated, ask if they meant 'no'.
- Verify by providing clarification and repeating important information. Do not pretend to understand if you do not.
- Acknowledge their competence and never underestimate their ability to understand. Provide frequent encouragement and reassurance.
- Some strategies will work, and others will not. Keep trying different approaches.
- When you are developing a communication partnership with a person who has had a stroke, knowing the person is just as important as knowing the right communication strategies.

Note: This information represents some of the priorities of care related to communication; consult with the SLP who can assist with determining a person's communication difficulties and make recommendations for the best methods for you to communicate with that person.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Mood, Cognition and Fatigue**, 6th Edition, Section 10
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Communication**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

6.2 Positioning

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- Always consult the care team regarding positioning, safe client handling guidelines and equipment. Follow site protocols and/or bed and chair positioning posters if available.
- Stroke can affect a person's ability to move and position their body, especially the affected arm and leg. Proper positioning can help minimize complications such as contractures and pain, and also assist people to be more independent, safe and comfortable.
- The goals of positioning a person include to: maintain normal body alignment, reduce pressure on bony and compromised areas, encourage normal muscle tone, increase awareness of the affected side, manage pain and swelling, and encourage optimal functional recovery.
- If a person cannot turn in bed alone, they will need to be moved regularly to reduce the risk of pressure injuries. When sitting, encourage the person to shift their weight at least every 15 minutes (if they are able) or help to reposition them every hour, or according to the care plan.
- When helping a person move, reduce friction by lifting and rolling. **Do not drag/pull the person**. Use friction reducing devices (sliders) when recommended in the care plan.
- Always explain what you are going to do so they are ready and ask if they are comfortable once positioned.
- Ensure that position does not affect breathing.

Note: For more detailed descriptions of positioning, please refer to full TACLS Positioning resource. Positioning posters can be found in the appendice.

In following images, the side affected by stroke is blue.

Steps to follow for positioning – Lying on the back

Reproduced by kind permission of Chest Heart & Stroke Scotland.. © 2020 CHSS.

- Position their head in a neutral position, supported by a pillow.
- On the affected side, place a small pillow under the shoulder blade, and place the hand on a pillow above heart level.
- A pillow under the affected hip and/or knee is optional; keep feet in neutral position.
- Support the person's head, affected arm, and affected hip with pillows.
- Avoid raising the head of the bed unnecessarily (keeping the head of the bed at or below 30 degrees) to help reduce sheering forces.
  - If the head of the bed must be raised, raise it to the lowest point possible and for the shortest amount of time. Ensure the knee gatch is raised prior to elevating the head of the bed to help prevent sliding.

Steps to follow for positioning – Lying on the affected side

Reproduced by kind permission of Chest Heart & Stroke Scotland.. © 2020 CHSS.

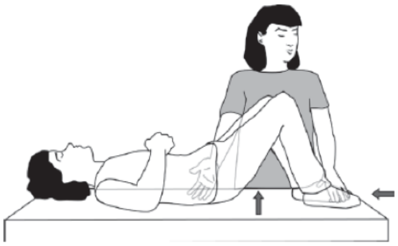
- Turn the person onto their affected side and place a pillow under head, neck slightly bent.
- Position the affected leg straight, slightly behind their trunk and position the person in a side-lying position.
- Position affected shoulder slightly forward so the shoulder blade (scapula) lays flat and the arm is slightly forward from the trunk. Do not pull on affected arm. **Aim to have elbow wrist and fingers as straight as possible, with palm facing up.**
- Place a pillow under the upper arm in front of their stomach, so the person doesn't fall forward.
- Place the unaffected leg forward on one or two pillows with the hip and knee bent.
- Place a pillow between the legs to reduce friction and pressure points. Place a pillow behind the person's back and ensure the person is not lying directly on their hip bone. Ensure that position does not affect breathing.

Steps to follow for positioning – Lying on the unaffected side

Reproduced by kind permission of Chest Heart & Stroke Scotland.. © 2020 CHSS.

- Ask the person to bend their knees before rolling to make the roll easier.
- Ask the person to look in the direction they want to roll. This is easier when they lift and turn their head in the direction they want to roll.
- Be aware of their affected arm. A person may "leave the affected side behind" when rolling onto the unaffected side. Position the affected shoulder forward with the arm supported on a pillow.
- Place a pillow behind their back and ensure they are not lying directly on their hip bone.
- With affected arm on top and supported by pillows, make sure the shoulder is protracted forwards with the elbow extended and the affected leg is supported by pillows and with the hip extended and the foot in neutral position.

Moving on the bed



© Heart and Stroke Foundation of Canada, 2013

- Bilateral bridging can help a person raise their hips when they are on the bed. This can help when providing personal care or when the person needs to move towards the end of the bed.
- The physiotherapist may be working on this activity and can provide strategies to support you.
- To assist: have the person lie on their back and bend at hips and knees with feet flat on bed, with upper body supported. Secure feet. Ask the person to raise their hips, putting weight through both feet. Avoid pushing too hard which can cause sliding towards the head of the bed.

Moving from lying to sitting and from sitting to standing

- Consult the care plan to determine if a person is ready and able to transition from lying to sitting and standing.
- Know the amount of assistance required. A person may require assistance from one or more person, equipment to do so safely or be unable to complete this movement.
- Consult the full **TACLS Positioning** document for tips on moving from lying to sitting and sitting to lying.

Proper sitting position

- For proper sitting position, a person's hips should be back and centered. Use the 90-degree rule: hips, knees, and ankles should beee flexed at 90 degrees.
- Regularly remind the person to keep their hips back in the chair, support the affected arm on a lap tray or pillow, and ensure the wheelchair footrests support feet with ankles at 90 degrees.
- Ask the occupational therapist if you are having trouble seating a person in their wheelchair.

Note: This information represents some of the priorities of care related to positioning strategies; consult the occupational therapist and physiotherapist for any questions or concerns regarding proper positioning.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Rehabilitation and Recovery following Stroke**, 6th Edition, Section 5.3
2. Semenko, B., Thalman, L., Ewert, E., Delorme, R., Hui, S., Flett, H. and Lavoie, N. (2017). An Evidence Based Occupational Therapy Toolkit for Assessment and Treatment of the Upper Extremity Post Stroke. [PDF] Available at: **https://professionals.wrha.mb.ca/old/professionals/occupational-therapy/files/UpperExtremityToolkit2017.pdf**.
3. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Positioning**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

6.2a Shoulder Care

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- As many as 72% of people with stroke will experience shoulder pain – this can result in depression, sleeplessness and reduced quality of life.
- Typically, during the early stages of stroke recovery, the arm is in a flaccid stage of recovery (low tone); a high tone arm (spasticity) often occurs in later stages of recovery, although may start to present before hospital discharge.
- It is critical to know the correct techniques and strategies to handle the upper extremity affected by stroke to help prevent damage, pain and loss of function, particularly around the shoulder. Consult with an occupational therapist (OT) and physiotherapist (PT) for correct positioning strategies.
- **NEVER** perform exercises on an affected shoulder unless recommended by an OT or PT and they have demonstrated correct technique for you.

Low tone (flaccidity) in early stages of recovery

- A flaccid or low-tone arm feels heavy and limp.
- A shoulder that is affected by stroke can be injured more easily than the unaffected shoulder. Because of the multiple bones and muscle attachments as well as the influence of gravity, it is not as stable as other joints in the body. This makes it more at risk for complications such as subluxation due to muscle weakness or pain due to impingement.
- Muscles affected by stroke may no longer hold the shoulder complex in proper alignment. When poor alignment occurs, movement is affected, and pain can occur.

How you can help

- Mishandling the affected low tone arm can result in further arm and shoulder damage, pain and loss of function – this can be prevented with proper care.
- Joint protection strategies should be used during the early or flaccid stage of recovery to prevent or minimize arm and shoulder pain and injury.
- **NEVER pull on the affected arm.**
- The affected shoulder should **not be moved passively beyond 90 degrees**.
- **Consult with OT and PT for strategies to position and support the affected arm.**
- Position and support the low tone arm during rest, while in a chair or in bed. For example, by using pillows in bed and pillows plus an adjustable table/arm board while sitting in a chair. If using a table, consult with OT to ensure that it is at an appropriate height.
- Protect and support the arm during wheelchair use, for example using a hemi-tray, arm trough or pillow (consult OT to set up appropriate support).
- Protect and support the affected arm when standing, walking, during transfers and during all personal care (e.g., dressing, bathing, repositioning).
- Use of a sling is discouraged except during the flaccid arm stage.
- **ONLY use a sling** if recommended by an OT or PT; follow the current care plan.
- Remove sling when the individual is resting in bed or chair. Ensure the affected arm is supported appropriately.
- Follow site protocols and/or bed & chair positioning posters if available. Resources available on **www.strokebestpractices.ca**.

High tone (spasticity) in later stages of recovery

- A high tone or arm with spasticity feels stiff and difficult to move through normal range.
- Increased tone usually occurs in the flexor muscles and can result in the arm being pulled into the chest and the fingers closing into a fist.
- Spasticity can be painful and interfere with functional recovery. If not managed properly, contractures, skin breakdown and decreased quality of life can occur.

How you can help

- Support the arm as recommended by OT and PT; use all recommended equipment and positioning strategies.
- Spasticity may make it challenging to provide care. Moving the arm for washing and dressing may be difficult and may be painful for the person who has had a stroke. An OT can provide strategies to support the person with these activities of daily living.

- Never force movement in an arm/ hand with spasticity. Gentle, slow movement is important.
- PT and OT will recommend appropriate range of motion exercises, stretches, support, positioning and pain management methods to manage an upper extremity with high tone. Follow the plan closely and ask for the PT or OT to demonstrate if helpful to you.

Note: This information represents only some of the priorities of care related to shoulder care; consult the OT and PT for any questions or concerns regarding care of the upper extremity post stroke.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Rehabilitation and Recovery following Stroke**, 6th Edition, Sections 5.2 and 5.3
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Shoulder Care**
3. **For example of positioning strategies see pages 33 and 34:** Semenko, B., Thalman, L., Ewert, E., Delorme, R., Hui, S., Flett, H. and Lavoie, N. (2017). An Evidence Based Occupational Therapy Toolkit for Assessment and Treatment of the Upper Extremity Post Stroke. [PDF] Available at: **https://professionals.wrha.mb.ca/old/professionals/occupational-therapy/files/UpperExtremityToolkit2017.pdf**.

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

6.3 Transfers and Repositioning

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/tacls

Quick reference guide highlights:

- **Always follow the current care plan for the person that you are working with.**
- The way people are transferred and repositioned may vary from one site to another. Be aware and always follow your employer's safe work procedures and safe client handling guidelines.
- When assisting a person with a stroke, there are additional factors to consider to help maintain your safety and the safety of the person you are assisting.
- A stroke can affect a person's ability to move their body, transfer from one place to another and increase their risk of falls. Unsafe transfers and repositioning can result in injury to you or the person you are assisting.
- **Definitions:**
  - A **transfer** is when someone moves from place to place (e.g., bed to chair).
  - **Repositioning** is when someone changes position on the same surface (e.g., changing position on a bed or in a wheelchair).
- An occupational therapist (OT) and/or physiotherapist (PT) will assess each person and determine the most suitable methods/techniques, equipment requirements and number of people to assist. Always check and follow the care plan.
- Consult **TACLS – Transfers** for additional information on transfers and repositioning.

Before you transfer or reposition

- Check the care plan for the correct methods/techniques to use. Be sure that the information is up to date (e.g., ensure there have been no changes in the person's physical or cognitive status and abilities, so safety is not compromised).
- Gather all prescribed equipment (e.g., arm sling, transfer belt, cane, walker and mechanical lift and sling).

- Assist the person to put on any brace or sling (e.g., ankle-foot orthosis, arm sling).
- **Never pull on the affected arm** or grab under the shoulders/armpits.
- Know how to protect and support the affected arm and leg.
- If transferring, check the care plan to determine if the person should be transferring towards their right or their left. Note: it is typical for a person with a stroke to transfer towards their stronger (unaffected) side. Support the affected arm/leg as recommended.
- Ensure you and the person you are assisting are wearing non-slip footwear.
- If you are ever unsure how to complete safely, ask for help. Consult with the OT and/or PT if you are unsure of a person's ability to transfer or reposition, how to apply or position the sling/brace, use prescribed equipment, or you need a demonstration of the transfer and/or repositioning methods.

When transferring

- There are many different types of transfers including a one-person manual assist, a two-person manual assist and transfers that use a mechanical lift. The OT and/or PT will determine the most appropriate method for the person.
- **Set the environment up for success**, prior to beginning the transfer. For example:
    - Set up transfer surfaces to be near equal height (just above the person's knee height or wheelchair seat surface).
    - Ensure that the surface the person is transferring to is set up and positioned correctly (e.g., when transferring from bed to wheelchair, place wheelchair close to the bed, parallel or at a slight angle).
    - Apply brakes on the bed, wheelchair, gait aid or commode.
    - Ensure a clear and safe path in the areas that you assist.
- Communicate clearly before, during and after the transfer.
- **Use good body mechanics** to promote safety for all involved in the transfer:
    - Position yourself close to the person (so that you are not overreaching) and face their affected side. This will allow you to be in a good position to brace their affected knee using your leg as needed to prevent buckling.
    - Bring your shoulders to neutral position. Tighten abdominal muscles (engage your core) to protect your back.
    - Keep elbows tucked into your sides and bend your hips and knees. Maintain a sturdy and wide base of support. You want to use your legs to complete most of the work.
    - When ready, weight shift with your legs to assist the person to transfer their weight.

When repositioning

- Follow your employer's guidelines and the care plan for repositioning someone in bed, in a wheelchair or other surface. This task can be very specific to each person.
- Repositioning may require equipment such as a friction reducing device (slider) or a mechanical lift, and may require one, two or more staff to complete. Always practice good body mechanics.

Note: This information represents some of the priorities of care related to transfers and repositioning; always consult with OT and/or PT for questions or concerns. Always follow the current care plan.

References:

1. Canadian Stroke Best Practice Recommendations: www.strokebestpractices.ca, Rehabilitation and Recovery following Stroke, 6th Edition, Sections 6.1 and 6.3
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – Transfers and Repositioning

6.4 Mobility

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person you are working with.**
- The stroke care physician and physiotherapist (PT) will assess the person to determine when they can begin mobilization.
- The PT and stroke care team will provide recommendations and guidance on how to support mobilization. Work with the stroke care team to ensure you have all necessary skills and training to support the person with their mobility.
- A stroke can affect a person's ability to maintain their balance, use their affected leg, and/or walk. As a result, the person may need assistance and/or walking aids.
- Make sure to review the current care plan prior to mobilization as it will identify the technique and assistance needed for safety (such as equipment and number of people needed to assist).
- If the person has motor planning/coordination difficulties and/or unsteady/staggering gait, the PT will assess and make recommendations specific to the person.
- A person who is experiencing cognitive or visual perceptual impairments may require additional assistance and specific strategies to support their mobilization.
  - For example, if the person has visual or visual perceptual problems, remind them to turn their head to look towards the neglected side, so that they do not bump into walls or other obstacles.

How you can help – Mobility

- Use mobility devices or aids that have been recommended in the care plan such as a transfer belt, arm sling, ankle-foot orthosis (AFO), other ankle support and/or cane or walker.
  - If you are unsure how to use any of the assistive devices, consult with the PT and/or occupational therapist (OT).
  - The PT will choose the right type of mobility aid and make sure it is set to the correct height. The OT will advise on use of an arm sling and/or splint and provide instructions for use.
- Always consult a member of the team if you have questions on how to use a person's assistive devices. Check regularly for signs of redness or skin irritation,

swelling, or discomfort as a result of using any assistive device and report these changes to the PT and/or OT.

- To avoid falls and injury after a stroke, stress the importance of safety; remind the person to slow down, be aware of their functional abilities and limitations, and pay attention to foot placement.
- Make sure the person is wearing appropriate footwear (e.g., not slippers) with good support and grip prior to walking. Inappropriate footwear could lead to a fall or injury.
- When assisting a person to walk, stand on the person's affected side to provide support. Provide support by bracing the elbow and hand if needed. **DO NOT pull on the affected arm.**
- Posture is important. Have the person stand upright and tall, with eyes looking forward, resisting the temptation to look at their feet. Provide verbal cues and/or physical cues (e.g., placing your hand on the person's back and asking them to stand up tall towards your hand) when needed.
- Make sure the person is balanced before they begin to move. Have the person keep the affected leg straight and feel steady weight before taking a step.
- If the person begins to lose balance while walking, have them stop and regain it before continuing.
- Make sure the person is shifting their weight to the standing leg before swinging the other leg forward. As they take a step forward, remind them to feel contact with the ground before transferring their weight to that side.
- Try to discourage: sliding feet on the ground, landing with feet too close together, swinging the leg out to the side, looking at feet, and leaning forward while walking.
- Muscle weakness on the affected leg will make it challenging to take all of the body's weight. Encourage the person to focus strength in that leg ("Stand strong on that leg!"), take it slow, and avoid leaning too much on the walking aid. Relying too much on the stronger side will result in compensation and limit recovery of normal walking movements.
- Communication is important when assisting mobility. Always explain what you are doing to make sure the person understands before you begin. Make sure the instructions are simple and concise and demonstrate if necessary. Encourage participation as much as possible.

How you can help – Stairs

- **NEVER** take someone on stairs until they have been properly assessed and always follow the instructions in the current care plan. Do not continue if you feel it is unsafe to you or the person you are helping. Use a transfer belt if one has been recommended.

- When helping with stairs remind the person to proceed slowly and thoughtfully, put their full foot on the stair, use the handrail where possible, and to stop, stand, and rest when needed.
- When **ascending** stairs, assist from behind and ask the person to lead with the unaffected (strong) leg to step up onto the stair then follow with the affected (weaker) leg onto the same stair-step.
- When **descending**, assist from the front and ask the person to lead with the affected leg to the stair-step below and follow with the unaffected leg onto the same stair-step.

Wheelchair use

- Some people who have had a stroke will require a wheelchair for all or part of the day. You may need to reinforce or remind the person how to use their wheelchair.
- Some challenges using a wheelchair may include: sliding forward in the seat, inability to reach the ground with feet, leaning excessively to one side, discomfort, letting the affected arm hang over the side, bumping into obstacles, not using the brakes, and/or difficulty positioning when transferring.

How you can help

- Always make sure to discuss these challenges with the team and get the proper training to assist with use of a wheelchair. The OT will decide what type of wheelchair is needed and whether a specialized back support, pressure redistribution cushion or additional accessories are needed.

Note: This information represents some of the priorities of care related to safe and effective mobility; consult with the team PT and OT for any questions or concerns regarding mobility.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**; **Mood, Cognition and Fatigue following Stroke**, 6th Edition, Section 3; **Rehabilitation and Recovery following Stroke**, 6th Edition, Sections 3, 6.1 and 6.3
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Mobility**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

6.5 Activities of Daily Living (ADL) & Instrumental Activities of Daily Living (IADL)

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/tacls

Quick reference guide highlights

- **Activities of Daily Living (ADL)** is a term used to describe various basic tasks and activities that people carry out daily, such as bathing, grooming, and getting dressed.
- **Instrumental Activities of Daily Living (IADL)** is a term used to describe more complex tasks and activities that require more thinking, planning, and organizational skills such as meal preparation, banking, managing medications, driving, employment and other vocational roles.
- A person who has had a stroke may have difficulties with ADL and IADL, and may need help, supervision or hands-on care. The goal is to help a person participate in meaningful and desired ADL and IADL as safely and independently as possible.
- There are many factors that could affects someone's ability to complete ADL and/or IADL such as: loss of movement or weakness, lack of sensation or decreased awareness to the affected side, cognitive impairments, changes in vision, impaired motor planning and sequencing.
- To promote independence, it is important to allow the person to complete as much of an activity that is safely possible and that their abilities allow, even if it takes extra time. Try to ensure the activity is important to the person, safe to carry out, and not too hard, tiring, or frustrating.

Strategies to support activities of daily living

Always follow the current care plan for the individual that you are working with.

- **Set the stage:** determine the person's goals and make sure they are ready to begin the activity, review and agree on expectations together, let the person know how you will assist, limit distractions, allow adequate time, let them lead, and be familiar with the person's impairments.
- **Prepare the tools:** gather assistive devices and supplies in advance, put items in a convenient place within the person's reach and arrange the items in the order they will be needed.
- **Position yourself properly:** always position the person and yourself according to the care plan, incorporate safe client handling procedures, work from the person's affected side to increase awareness of that side (where possible). Be ready to help if the person loses their balance, and support the affected arm according to the care plan.

- **Encourage use of the affected limb:** using the affected limb can help improve sensory awareness, promote motor recovery and/or increase functional use of the affected limb, which can lead to greater independence. Only provide assistance when necessary. Ask the occupational therapist (OT) how the person you're working with can safely incorporate their affected arm and hand during activities.
- **Cue and guide:** provide assistance and support by giving instructions and cues. It may be helpful to break the activity into small steps; give clear and simple instructions; talk about the required steps; and, if there are communication challenges, demonstrate how to proceed.
- **Use assistive devices:** have the person use recommended assistive devices to make it easier and safer to work towards greater independence (e.g., rocker knife, pants with an elastic waist band, bath bench or grab bars). An OT or other member of the stroke team can advise on the best equipment and assistive devices, based on each person's abilities and environment.
- **Recognize and encourage:** recognize and acknowledge a person's successes to help build self-esteem and motivate the person to keep trying. A person may require assistance with parts of an activity, but it is important to recognize the components that they are able to do.

See TACLS slide deck for additional tips on supporting toileting, bathing, grooming and dressing.

When providing assistance with IADL, the previously described strategies should be considered. At all times prioritize safety and encourage independence whenever safely possible. An OT or other member of the care team can provide further guidance and recommendations for IADLs.

Examples of assistive devices to support ADL

Toileting

- Wall grab bars and floor to ceiling poles can help the person rise and maintain their balance while you complete or assist with personal hygiene and clothing.
- Raised toilet seats and toilet frames can help make rising and sitting down on the toilet safer and easier. Commodes can be used as an alternative if the bathroom is not accessible and/or a commode at bedside would improve access and safety.

Bathing

- Bath and shower chairs, and bath boards allow those with low activity tolerance or reduced balance to sit and rest when needed while bathing. Tub transfer benches can be used to promote safety through the transfer and provide a secure surface to sit on while bathing.

Dressing

- It is typically easier to dress the affected side first and undress the unaffected side first.
- Specific clothing choices and adaptations may be used to support independence with dressing such as loose-fitting clothing or elasticized waist bands. Assistive devices such as a long-handled reacher, dressing stick and/or a sock-aid may also be helpful.

- To learn more on assisting with dressing, Heart & Stroke has a series of dressing after stroke demonstration videos for putting on common clothing items that can be accessed at: **www.heartandstroke.ca/stroke/recovery-and-support/everyday-tasks/personal-care**.

Strategies to support instrumental activities of daily living

Driving

- The ability to drive may be significantly impacted for a person who has had a stroke. The loss of this ability, whether temporary or permanently can be a devastating result of stroke.
- Safe driving can be impacted by impairments such as changes in vision, visual perception, cognition, movement and/or sensation.
- In accordance with the Canadian Council of Motor Transport Administrators (CCMTA) Medical Standards for Drivers:
  - People should be advised to **stop driving for at least one month after a stroke**.
  - People who have had one or multiple TIAs should be instructed to stop driving until a comprehensive neurological assessment shows no residual loss of functional ability and discloses no obvious risk of sudden recurrence that could create a hazard while driving.
- It is important that a person discuss whether they can resume driving with their physician and occupational therapist.
- A comprehensive driving evaluation by an occupational therapist and/or provincial driver examiner may be required to assess how a person's stroke has impacted their ability to safely resume driving.

How you can help

- Persons unable to drive should be educated and assisted on how to access transportation alternatives, and be offered support/counselling on coping with the loss of the ability to drive.
- Alternate methods of transportation may also be recommended, e.g., public bus, taxi or transportation services for people with disability.
- Encourage the person to work with their rehabilitation team (e.g., social worker, occupational therapist) to problem solve transportation challenges, and overcome barriers (e.g., new learning, costs, eligibility and applications for programs).

Return to work/Vocational roles

- Employment and other vocational roles are often a very important IADL. These roles can provide a sense of purpose, value, accomplishment, financial security, and promote social and community participation.
- A person's ability to resume a vocational role (e.g., employment) may be affected following a stroke (e.g., due to changes in physical functioning, cognition, energy levels, mood).
- Screening and assessment should occur to determine a person's abilities and readiness to return to work, school, or a volunteer activity. An occupational therapist (OT) and/or neuropsychologist may complete these assessments and assist with planning.

How you can help

- Counselling and referrals may be appropriate (e.g., vocational rehabilitation services) to assist with a gradual return to vocational activities. Encourage the person to speak with the OT and/or social worker for support.
- The stroke care team may make recommendations to support the person in returning to work. You may be asked to help the person practice activities that will promote recovery and return to work (e.g., cognitive or physical endurance activities).
- Always follow the care plan and ask questions if you are unsure how to carry out the recommendations.

Note: This information represents some of the priorities of care related to supporting ADL and IADL; consult with the OT for any questions or concerns regarding ADL and IADL.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Rehabilitation and Recovery following Stroke**, 6th Edition, Section 5
2. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**, **Transitions and Community Participation Following Stroke**, 6th Edition, Section 4
3. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **ADL & IADL**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

6.6 Leisure and Social Activities

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- Following stroke, people should be screened for pre-stroke and current leisure goals, interests, and social participation.
- Meaningful leisure and social activities post-stroke are very important as they give people a positive sense of self, offers meaning to their life and enhances their quality of life.
- Leisure must be meaningful for the person you are working with and not just a "time-filler". Meaningful leisure activities play an important role in helping someone who has had a stroke occupy their time in a meaningful way, structure their day, and maintain physical and mental well-being.
- Leisure can help meet the person's needs for: social connection, fitness, sense of accomplishment and control, intellectual stimulation, creative expression and stress relief.
- Getting to know the person you are working with can help with identifying and planning appropriate leisure activities.
- After a stroke, a person may be able to return to their previous leisure activities however, they may also need some modifications to support the previously enjoyed activity (please see 'assistive devices' below for examples). A person may also take up new leisure activities.

How you can help

- Learn more about the person you are working with and their interests by asking if they enjoy leisure activities, if so, what kind, with whom, when, and where.
- If a person is unable to describe their leisure interests due to communication or cognitive difficulties, you can:
  - Work with your team to create a resource list that includes activity ideas.
  - Show pictures of various leisure activities and ask the person to point to options that they might enjoy.
  - Speak with family members or have family members bring items related to previous interests or hobbies.
  - Consult with the team speech-language pathologist regarding strategies to support communication related to leisure activities.

- Look for community and online resources. Community organizations offer many activities; check the community newspaper, leisure guides, recreation centre brochures and websites for information on local organizations to identify options and see what may be coming up.
- If you are unsure whether an activity is safe or appropriate, want to know how to modify an activity, or would like to receive recommendation(s) on assistive devices, consult the recreational therapist or occupational therapist (OT) on the care team.
- **Assistive devices** are available to help people with impairments (such as vision loss, decreased mobility, and/or the use of only one hand) take part in leisure activities. Consult with the OT for additional assistive devices to support leisure activities. Assistive devices are available to aid with leisure activities such as:
  - Games (e.g., card holder for one-handed playing, automatic card shuffler, large-piece jigsaw puzzles, pool cue holder).
  - Reading and writing (e.g., book holder, audiobooks or eBooks, large print crosswords, Sudoku, word search puzzles).
  - Computers (e.g., modified keyboard, voice recognition software, narrator which can read out loud what is displayed on a computer screen).
  - Arts, crafts and music (e.g., enlarged grips for pens, pencils, paint brushes, and other tools, one-handed knitting and crochet, needle threader, online tutorials).
  - Outdoor activities (e.g., three-wheeled bicycle, fishing rod holder that secures the rod to a body vest, the wheelchair or side of the boat, raised garden/flower beds).
  - Sports (e.g., pool noodles and life jackets for swimming, wheelchair based sports, stick curling, bowling ball ramp or bowling ball pusher).

Note: This information represents some of the priorities of care related to leisure and social activities; consult the occupational therapist or recreational therapist for any questions or concerns regarding leisure and social activities.

References:

1. Canadian Stroke Best Practice Recommendations: **www.strokebestpractices.ca**; **Transitions and Community Participation Following Stroke**, 6th Edition, Section 4.5
2. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Leisure and Social Activities**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication.*

6.7 Caregivers, Family and Friends

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/tacls

Quick reference guide highlights

- **Always follow the current care plan for the person that you are working with.**
- A stroke affects the whole family as well as the person's community of supports. Each family is unique and family members may react differently, depending on their relationship with the person who has had a stroke and their own personalities and coping mechanisms.
- People with stroke, their families, and caregivers, should be screened for their level of coping, risk for depression, and other physical and psychological issues. Ideally screening should take place at each transition and additionally when indicated.
- In this document, caregiver can refer to a spouse, child, sibling, other relative, close friend or a neighbour. It excludes paid healthcare providers.
- Just like the person who had a stroke, caregivers may feel like they are on an emotional roller coaster. Caregivers may experience grief and different emotions which can be intense.

Denial

- A caregiver may initially be in shock that their loved one has had a stroke. They may have difficulty processing what has happened and thinking about what the future may hold.
- This can result in denial; the caregiver may feel that all the effects of stroke will go away quickly. A caregiver may need time to process what has happened.

How you can help

- Present a realistic sense of hope about the future – be honest, and do not give false hope.
- Remind the caregiver that most people who have had a stroke continue to improve for months or even years in some cases.
- Encourage the caregiver to talk with stroke care team members about recovery, available support and questions.

Anger

- It is natural for a caregiver to feel anger that a loved one has had a stroke.
- This anger may manifest as feeling resentful, making uncharacteristic and negative comments, expressing a lack of recognition and/or not feeling valued.

How you can help

- Listen and validate their emotions.
- Communicate clearly and consistently with them.
- Ask what can be done to decrease the demands placed on them. Avoid lecturing and passing judgement.

Stress, anxiety, worry, fear, guilt

- A caregiver may experience stress, anxiety, worry, fear as concerns arise regarding longevity of caregiving, financial stress, quality of care, judgement from others, fear of a worsening situation and/or social isolation.
- A caregiver may also express feelings of guilt, using statements such as “what if…” or “if only…”

How you can help

- Be aware that they may be uncomfortable discussing these feelings, as they may be concerned with judgement.
- Suggest talking with a member of the care team, such as a social worker, or someone in their faith community. Ask how they feel and take time to listen.
- Provide resources as able for support.

Despair, sadness and/or feeling overwhelmed

- A caregiver may feel some despair, sadness and/or feel overwhelmed. Weeping, anger, poor eye contact, and withdrawal from others are possible signs of sadness or a depressed mood.
- If you are concerned about the caregiver, share these observations with your team.

How you can help

- Listen to the caregiver; they may want to share their feelings.
- Suggest that they call someone who can help them cope with their emotions, such as a social worker, other member of the care team or someone in their faith community.

Relationships, intimacy, sexuality

- As a person who had a stroke and their partner readjust to life after stroke, they may become more aware of how stroke can impact intimacy, sexuality and their relationships. A person who has had a stroke and/or their partner may have concerns about safety with sexual activity, physical limitations and the emotional consequences of stroke.

- When indicated, a person and/or their partner should be supported and be offered an opportunity to discuss intimacy, relationships, sexuality and sexual function.
- Support could be in the form of counselling, individual education (verbal or written), and/or group education sessions to address frequently asked questions, e.g., changes in relationships, emotions, impact of medication and/or fears with sexual activity.
- Support for the person and partner should be considered prior to discharge from hospital and with transition back to community.

How you can help

- Be supportive with the person and/or their partner by listening to and validating their concerns about changes in relationships, intimacy, and sexuality.
- Ensure they are aware that you will bring their concerns/questions forward to an appropriate member of their care team such as a social worker and/or a medical practitioner who can then provide necessary education and support.

Caregiver fatigue

- Being a caregiver for a person who has had a stroke can be mentally and physically challenging and can result in extreme fatigue or exhaustion.
- It can also bring new financial challenges and changes in roles and responsibilities within the family.

How you can help

- Watch for signs of caregiver fatigue, stress, or changes in mood.
- Provide caregivers with information and support to help them feel confident in their abilities. Reassure them about the care that is being provided and demonstrate your ability to meet the person's needs.
- Learn about the caregiver's support system and encourage the person who had a stroke and their caregivers to accept help from others. Provide information about peer support.
- Encourage caregivers to take time for themselves to prevent extreme fatigue or exhaustion.
- Always encourage the caregiver to talk with the stroke care team members about recovery, available support and questions they may have.

When supporting a caregiver, encourage them to

- Share concerns with the healthcare team. The team is there to answer questions, identify and address the physical, social, emotional, mental and cognitive needs and provide education.
- Write about their achievements and progress, record information about medications or therapy, keep track of medical appointments, and write down questions to ask at future appointments.

- Use a checklist as it gives the person with stroke and the caregiver an ongoing record of progress, makes it easier for healthcare providers to understand how the caregiver is dealing with everyday challenges and to then recommend appropriate resources, support and services.
- Remember, it is a team effort. Care should involve collaborative goal setting, shared decision making and an individual recovery plan that is developed together, regularly reviewed and updated as progress is noted.
- Participate in community. Caregiver communities share experiences, quality information and tips, and offer social and emotional support in a safe, inclusive and respectful community.
- **If you feel a caregiver is not doing well and needs more support, talk to your case manager/coordinator or suggest that the caregiver call the case manager/coordinator or social worker to discuss options**.

Note: This information represents some priorities of care related to Caregivers; consult with the stroke care team, such as the social worker, for any questions or concerns. For additional caregiver resources, refer to **full TACLS** and the **Heart and Stroke website for the Care Supporter's Community and the Community of Survivors**.

References:

1. Canadian Stroke Best Practice Recommendations: **Transitions and Community Participation Following Stroke**, 6th Edition, Sections 1 and 2
3. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS) – **Caregivers, Family, and Friends**

Chair positioning following a stroke – Left side affected

Patient's name: ______________________________ Date: ____________________
(dd/mm/yyyy)

Always follow the current care plan. Contact your occupational therapist for any questions.

Sitting in chair – Table

- Ensure person sits back in the centre of chair.
- Position trunk in midline.
- Place affected arm forward on a pillow on a table with arm supported as shown.
- Position affected forearm pointing forward with hand open and supported.
- Position feet resting flat on floor in neutral position, hip width apart.
- Protect feet with footwear.

© Heart and Stroke Foundation of Canada, 2020

Sitting in wheelchair – Half lap tray

- Ensure person sits back in the centre of chair.
- Position trunk in midline.
- Place affected arm forward, on half lap tray supported as shown.
- Position affected forearm pointing forward with hand open and supported.
- Use medial or lateral support if arm is falling off tray or pulling into internal rotation.
- Do not strap arm to lap tray.
- Position feet resting flat on wheelchair footrests.

© Heart and Stroke Foundation of Canada, 2020

Sitting in wheelchair – Full lap tray

- Ensure person sits back in centre of chair.
- Position trunk in midline.
- Place arms forward on the full lap tray with arm supported as shown.
- Position affected forearm pointing forward with hand open and supported.
- Position feet resting flat on wheelchair footrests .

© Heart and Stroke Foundation of Canada, 2020

Sitting in wheelchair – Arm trough

- Ensure person sits back in the centre of chair.
- Position trunk in midline.
- Place arm in trough, supported as shown.
- Keep hand open and supported.
- Do not strap arm in the trough.
- Position feet resting flat on wheelchair footrests.

© Heart and Stroke Foundation of Canada, 2020

Note: Routinely check for pressure points in sitting. Follow repositioning protocols as indicated in care plan. Report any signs of hand or wrist swelling, skin discoloration and/or reports of pain.

Similar documents reviewed include: Southwestern Ontario Stroke Network – **Hemi-arm Protocol**

Chair positioning following a stroke – Right side affected

Patient's name: ______________________________ Date: ____________________
(dd/mm/yyyy)

Always follow the current care plan. Contact your occupational therapist for any questions.

Sitting in chair – Table

- Ensure person sits back in the centre of chair.
- Position trunk in midline.
- Place affected arm forward on a pillow on a table with arm supported as shown.
- Position affected forearm pointing forward with hand open and supported.
- Position feet resting flat on floor in neutral position, hip width apart.
- Protect feet with footwear.

© Heart and Stroke Foundation of Canada, 2020

Sitting in wheelchair – Half lap tray

- Ensure person sits back in the centre of chair.
- Position trunk in midline.
- Place affected arm forward, on half lap tray supported as shown.
- Position affected forearm pointing forward with hand open and supported.
- Use medial or lateral support if arm is falling off tray or pulling into internal rotation.
- Do not strap arm to lap tray.
- Position feet resting flat on wheelchair footrests.

© Heart and Stroke Foundation of Canada, 2020

Sitting in wheelchair – Full lap tray

- Ensure person sits back in centre of chair.
- Position trunk in midline.
- Place arms forward on the full lap tray with arm supported as shown.
- Position affected forearm pointing forward with hand open and supported.
- Position feet resting flat on wheelchair footrests.

© Heart and Stroke Foundation of Canada, 2020

Sitting in wheelchair – Arm trough

- Ensure person sits back in the centre of chair.
- Position trunk in midline.
- Place arm in trough, supported as shown.
- Keep hand open and supported.
- Do not strap arm in the trough.
- Position feet resting flat on wheelchair footrests.

© Heart and Stroke Foundation of Canada, 2020

Note: Routinely check for pressure points in sitting. Follow repositioning protocols as indicated in care plan. Report any signs of hand or wrist swelling, skin discoloration and/or reports of pain.

Similar documents reviewed include: Southwestern Ontario Stroke Network – **Hemi-arm Protocol**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication..*

Bed positioning following a stroke – Left side affected

Patient's name: ______________________________ Date: ____________________ (dd/mm/yyyy)

Review the TACLS positioning resource for more detailed information. Always follow the current care plan. Contact your occupational therapist or physiotherapist with questions.

The affected side is shown in blue below.

Lying on affected side

Reproduced by kind permission of Chest Heart & Stroke Scotland, 2020

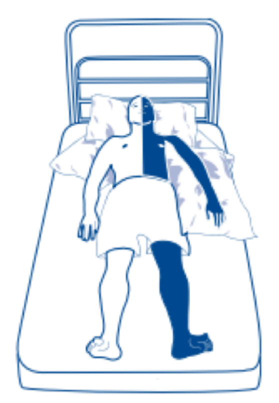
- Position in side-lying, not lying on hip bone; support this position with pillow behind back.
- Position affected shoulder forward with **elbow, wrist, and fingers straight as possible**, and palm facing up.
- Do not pull on affected arm.
- Place pillow under unaffected arm in front of stomach to prevent rolling.
- Position affected leg straight.
- Position unaffected leg forward on pillows with hip and knee bent.
- Place pillow between legs to reduce friction and pressure points.

Lying on unaffected side

Reproduced by kind permission of Chest Heart & Stroke Scotland, 2020

- Position in side-lying, not lying on hip bone; support this position with pillow behind back.
- When rolling from back to side-lying, ensure affected arm doesn't get 'left behind'.
- Position affected shoulder forward, with arm on top of pillow(s), supported as shown.
- Position elbow, wrist and fingers as straight as possible.
- Support affected leg on pillows.

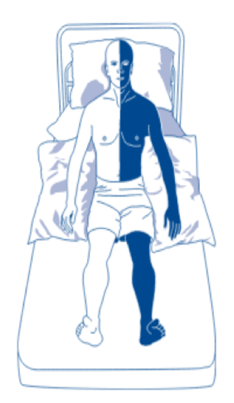
Lying on back



Reproduced by kind permission of Chest Heart & Stroke Scotland, 2020

- Ensure head is in a neutral position, supported by pillow.
- Place pillow behind affected shoulder blade.
- Position affected hand on pillow above heart level.
- Place a pillow under affected hip and/or knee (optional). Ensure feet are in neutral position.
- Pressure can be reduced on heels by placing a pillow, or thick foam under calves (not behind knees), with or without a specialty boot.

Sitting in bed



Reproduced by kind permission of Chest Heart & Stroke Scotland, 2020

- Raise knee gatch before elevating head of bed to reduce sliding.
- To help reduce shearing forces, avoid raising head of bed unnecessarily; keep head of the bed at or below 30° (from horizontal).
- Position affected arm on pillows beside the body.
- Ensure person is sitting with trunk in midline.

Note: whenever possible, rather than remaining in bed, position the person in a wheelchair or straight back chair for daily activities, such as eating.

Note: Routinely check skin integrity for pressure points particularly at bony prominences (e.g., heels, ankles, hips and buttocks). Ensure positioning does not impact breathing. Follow positioning protocols in care plan. Ask person "Are you comfortable?" after each repositioning.

Similar documents reviewed include: Southwestern Ontario Stroke Network – **Hemi-arm Protocol**. Chest Heart and Stroke – **Positioning for People Affected by Stroke**, 2013; An Evidence Based Occupational Therapy Toolkit for Assessment and Treatment of Upper Extremity Post Stroke, **2017**

Taking Action for Optimal Community and Long-Term Stroke Care *is for informational and educational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. Healthcare providers and other users of this TACLS content are responsible for adhering to their professional college standards of practice, their organizational standards and policies, and for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication..*

Bed positioning following a stroke – Right side affected

Patient's name: ______________________________ Date: ____________________
(dd/mm/yyyy)

Review the TACLS positioning resource for more detailed information. Always follow the current care plan. Contact your occupational therapist or physiotherapist with questions.

The affected side is shown in blue below.

Lying on affected side

Modified by kind permission of
Chest Heart & Stroke Scotland, 2020

- Position in side-lying, not lying on hip bone; support this position with pillow behind back.
- Position affected shoulder forward with **elbow, wrist, and fingers straight as possible**, and palm facing up.
- Do not pull on affected arm.
- Place pillow under unaffected arm in front of stomach to prevent rolling.
- Position affected leg straight.
- Position unaffected leg forward on pillows with hip and knee bent.
- Place pillow between legs to reduce friction and pressure points.

Lying on unaffected side

Modified by kind permission of
Chest Heart & Stroke Scotland, 2020

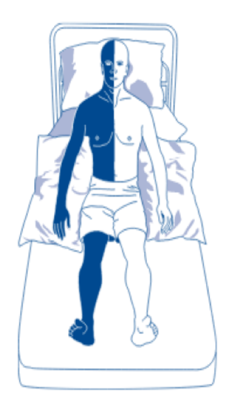
- Position in side-lying, not lying on hip bone; support this position with pillow behind back.
- When rolling from back to side-lying, ensure affected arm doesn't get 'left behind'.
- Position affected shoulder forward, with arm on top of pillow(s), supported as shown.
- Position elbow, wrist and fingers as straight as possible.
- Support affected leg on pillows.

Lying on back

Modified by kind permission of
Chest Heart & Stroke Scotland, 2020

- Ensure head is in a neutral position, supported by pillow.
- Place pillow behind affected shoulder blade.
- Position affected hand on pillow above heart level.
- Place a pillow under affected hip and/or knee (optional). Ensure feet are in neutral position.
- Pressure can be reduced on heels by placing a pillow, or thick foam under calves (not behind knees), with or without a specialty boot.

Sitting in bed



Modified by kind permission of
Chest Heart & Stroke Scotland, 2020

- Raise knee gatch before elevating head of bed to reduce sliding.
- To help reduce shearing forces, avoid raising head of bed unnecessarily; keep head of the bed at or below 30° (from horizontal).
- Position affected arm on pillows beside the body.
- Ensure person is sitting with trunk in midline.

Note: whenever possible, rather than remaining in bed, position the person in a wheelchair or straight back chair for daily activities, such as eating.

Note: Routinely check skin integrity for pressure points particularly at bony prominences (e.g., heels, ankles, hips and buttocks). Ensure positioning does not impact breathing. Follow positioning protocols in care plan. Ask person "Are you comfortable?" after each repositioning.

Similar documents reviewed include: Southwestern Ontario Stroke Network – **Hemi-arm Protocol**. Chest Heart and Stroke – **Positioning for People Affected by Stroke**, 2013; An Evidence Based Occupational Therapy Toolkit for Assessment and Treatment of Upper Extremity Post Stroke, **2017**

Heart&Stroke™

1-888-473-4636
heartandstroke.ca

Update 2021