BACKGROUND: The Champlain Regional Stroke Network created a set of practical stroke care guidance documents to support healthcare professionals who may not be fully familiar with managing acute ischemic and hemorrhagic stroke patients. The documents are designed to be guidance rather than strict directives, meaning they are intended to support, rather than replace, the clinical judgment of individual healthcare providers. By focusing on stroke care that aligns with best practices, these resources help ensure that stroke patients continue to receive appropriate and timely treatment, despite the challenges of the healthcare system.

Acute Stroke Care and Management

When possible:

- Consult with a practitioner with stroke expertise for support.
- Assign nurses with stroke expertise to the inpatient area where stroke patients are being admitted.
- Locate your organization specific order sets, clinical pathway, and GAP Tool

1. Initiate Order Sets

Hospitals providing stroke care will have specific stroke order sets for ischemic and hemorrhagic strokes. For hospitals using EPIC, here are examples of order sets:

- Admission for Acute Ischemic Stroke Post Treatment (Thrombolysis and/or Endovascular Treatment)
- Admission of Acute Ischemic Stroke Without Treatment
- Admission for Intracerebral Hemorrhagic Stroke

Other tools that may be available at your organization to support stroke practice and care:

- Stroke Pathway
- GAP Tool

2. Neurological Assessments and Observations

A neurological (neuro) assessment provides a standardized method to rapidly identify emerging stroke complications and will provide a better patient prognosis. Symptoms of change in neurological status may include:

- Restlessness
- Combativeness
- Confusion
- Lethargy / gradual loss of consciousness
- Pupillary changes, sluggish response
- Seizure

New or worsening:

- Weakness of face, arm, or leg
- Problem with coordination
- Problem with vision
- Balance / unsteadiness
- Difficulty speaking or trouble understanding speech.
- Headache

Perform **GCS** with **Neuro Vital Signs** according to the Stroke Order Set. If members of the care team are trained in performing the **NIHSS**, complete according to order set. **There is no expectation for health care professionals to complete NIHSS if not trained**. Speak to the most responsible physician if NIHSS is ordered and there is no staff trained to perform.

☐ **GLASGOW COMA SCALE (GCS)**

- The GCS is a neurological scale that aims to give a reliable and objective way of recording the state of a person's consciousness.
- Directions on how to complete the GCS can be found here

☐ **NIHSS**

- The NIHSS is a 15-item impairment scale intended to evaluate neurologic outcomes and degree of recovery for patients with stroke.
- The scale assesses the level of consciousness, extraocular movements, visual fields, facial muscle function, extremity strength, sensory function, coordination (ataxia), language (aphasia), speech (dysarthria), and hemi-inattention (neglect)
- **It is important to note that one must be both trained and certified to administer the NIHSS.**
- Information on training program and certification can be found here

3. Other Components of Inpatient Acute Stroke Care

☐ **Complete a swallowing screen**

- Use the validate screening tool in your organization e.g. Barnes Jewish Hospital Stroke Dysphagia Screen
- The swallowing screen should take place before any oral medication, nutrition, or hydration is administered.

- Patients will remain NPO until the screen is completed and passed.
- Register here to access an e-module on how to complete the BARNES or Standardized Swallowing Screen

☐ **Patient and family education**

- Ensure that you are keeping patients, family members/caregivers informed of all aspects of care and are providing any necessary education
- Use Your Stroke Journey: A Guide for People Living with Stroke to support patient/family education

The Champlain Regional Stroke Network developed a guide to Understanding Stroke and TIA Prevention to help stroke survivors learn about TIA and stroke and learn how to prevent another one in the future:

What Causes a Transient Ischemic Attack (TIA) or Stroke?
What Are My Stroke Risk Factors?
How Can I Address My Risk Factors?
What Are My Targets?
My SMART goals

Exercise
Eating Habits
Measuring Your Own Blood Pressure
Quit Smoking
Stress Reduction & Wellness
Taking Your Medication

Common Stroke Prevention Medications
Atrial Fibrillation
Education Workshops
Online and Local Resources
Learn the Signs of Stroke

The Champlain Regional Stroke Network has developed the following **infographics** to help patients better understand some of the common concerns following a stroke:

Aphasia
Communication
Dysphagia
Changes to Emotions and Mood
Driving
Exercise and Mobility
Healthy Eating
Incontinence

Oral Health
Pain
Quit Smoking
Sexuality Post Stroke
Spasticity
Visual Field Deficit
Taking Your Medications
Medication – Apixaban

Medication - Aspirin
Medication – Dabigatran
Medication - Edoxaban
Medication – Plavix
Medication – Rivaroxaban
Medication – Statins
Medication – Warfarin

Additional infographics as they become available can be found on our website here.

Acute Inpatient Stroke Care Recommendations

Topic	Key Messages	Where to Find More Information
Body Temperature	• Monitor body temperature regularly • If elevated > 37.5^0 Celsius, use treatments to reduce fever, consider underlying infection	• CSBPR, Acute Stroke Management 7th Edition – Section 9.3
Blood Pressure	• Monitor blood pressure and be aware of the different parameters depending on the type of stroke • Administer anti-hypertensives according to BP target	• CSBPR, Acute Stroke Management 7th Edition – Section 4.3 and Section 5
Heart Rate, Respiration Rate & Oxygen Saturation	• Follow parameters as set by the physician • Report any new atrial fibrillation to the physician	• Refer to your hospital stroke order sets and/or organizational standard operating procedures
Blood Glucose	• Monitor blood glucose levels as ordered • HbA1c and fasting glucose on admission	
Pupils	• Subtle neurological changes, such as changes in pupil shape, reactivity & size may indicate rising intracranial pressure • Record the size of the pupils in mm using a pupil scale prior to the application of the light stimulus. Indicate the reaction of pupils as either: **+** = Brisk Reaction **S** = Sluggish **–** = No Reaction • It is critical to report a change in either pupil size, shape, or reactivity	
Neuro Assessment	• Complete GCS and neurological assessment as per physician order	
Swallow Screen	• All stroke patients are NPO until swallowing screen completed • Swallow screen done within 24 hours of admission • Monitor for signs and symptoms of aspiration such as coughing, choking, wet/gurgly voice/ breath sounds or breathlessness during or immediately following meal – if present, place NPO and inform/consult SLP • Failed swallow screen: keep NPO, consult SLP • If NPO as per Swallow Screen or SLP assessment, discuss plan for enteral feeding	• CSBPR, Acute Stroke Management 7th Edition – Section 4.6 and 9.6 • Dysphagia Post Stroke Infographic

Topic	Key Messages	Where to Find More Information
Nutrition & Hydration	• Monitor and document oral intake at each meal • Consult Dietetics if consumes less than 50% of meals over 3 days • If enteral feeding, follow recommendations from Dietetics	• CSBPR, Acute Stroke Management 7th Edition – Section 9.6
Oral Care	• Provide oral care after meals and at HS, even if the patient is NPO • Use a toothbrush and toothpaste • Brush teeth/dentures and tongue *Poor oral care results in bacterial colonization in the mouth and a higher risk of aspiration pneumonia*	• CSBPR, Acute Stroke Management 7th Edition – Section 9.8
Transfers & Positioning	• Mobilize early if safe to do so (consider medical stability, ability to follow instructions, insight, impulsivity, strength) • Positioning: Support the hemiplegic side • Do not pull on the hemiplegic arm • Consult OT / PT for further tips on transfers, positioning, and mobility	• Positioning in Bed: Poster • Positioning in Chair: Poster • R hemi 1-person pivot • L hemi 1-person pivot • R hemi 2-person pivot • L hemi 2-person pivot
Bowel & Bladder	• Constipation and incontinence are common after stroke, especially if the patient is not able to mobilize independently. Enteral feeding may cause constipation or diarrhea • Use of indwelling catheters should be avoided unless clinical indication • Implement a toileting routine and transfer to toilet or commode, if safe to do so	• Incontinence Infographic • CSBPR, Acute Stroke Management 7th Edition – Section 9.7
Communication	• Aphasia (a disorder that affects your ability to speak, read, write and understand) • In non-fluent aphasia, the patient may understand speech and know what they want to say but has difficulty expressing speech. Given the awareness of deficits, the patient may become easily frustrated • In fluent aphasia, the patient may speak in long sentences that have no meaning, create made-up words, and not understand fully what is said to them. The patient is often unaware of his/her spoken mistakes • Apraxia (difficulty initiating and executing voluntary movement patterns necessary to produce speech) • Dysarthria (speech disorder that is characterized by poor articulation, respiration, and/or phonation. This includes slurred, slow, effortful, and rhythmically abnormal	• Communication Disorders Post Stroke Infographic • Aphasia Infographic • Communication

Topic	Key Messages	Where to Find More Information
	speech) • Consult SLP for strategies on how to communicate with a patient with communication difficulties	
Pain	• Pain assessments should be performed regularly using an aphasia friendly pain scale • Patient repositioning is important for pain management • Consult PT / OT for pain relieving strategies	• Pain Infographic
Skin Integrity	• Complete Braden Skin Assessment • Mobilize early, frequent position changes • If immobile, consider a pressure relief mattress • Promote early optimal nutrition	• Positioning in Bed: Poster • Positioning in Chair: Poster
Falls	• Ensure appropriate falls prevention strategies in place	• Corporate Falls Prevention Policy
Vision & Perception	• Patient may present with inattention to one side of their body or space • Patient may present with visual field deficits to one side • Ensure call bell and room set-up is on the unaffected side • Ensure you approach and speak to the patient on the unaffected side	• Visual Field Deficit • Apraxia & Motor Planning Deficit: How can I help • Unilateral Spatial Neglect: How can I help
Discharge planning	• Review discharge plan with the interprofessional team, patient, and family • To support patient and family education around stroke, how it has affected them, and how to prevent one in the future refer to: ○ Your Stroke Journey: A guide for people living with stroke ○ Understanding Stroke and TIA Prevention	• Champlain Stroke Regional Landscape

Contact Isabelle Martineau or Hailey Pettem, Champlain Regional Stroke Network Nurse Specialists for questions.

imartineau@toh.ca **613-798-5555 extension 16177**

hpettem@toh.ca **613-798-5555 extension 16152**