Health PEI
One Island Health System

ORGANIZED CARE STROKE SOINS COORDONNÉS DE L'AVC
PRINCE EDWARD ISLAND/ÎLE-DU-PRINCE-ÉDOUARD

ACUTE STROKE CLINICAL PATHWAY

The clinical pathway is based on evidence informed practice and is designed to promote timely treatment, enhance quality of care, optimize patient outcomes and support effective transition/ discharge planning. **These are not orders**, only a guide to usual orders.

INCLUSION CRITERIA

- All patients admitted to hospital with a suspected diagnosis of acute ischemic stroke (AIS) non-surgical intracerebral hemorrhage (ICH), post surgical/medical managed subarachnoid hemorrhage, transient ischemic attack (TIA) or venous sinus thrombosis.
- Patients with co-morbid diagnoses where care is focused on non-stroke illness will initially be managed outside the Acute Stroke Clinical Pathway. When appropriate, the patient will be transferred to the Acute Stroke Clinical Pathway.

REMINDER: Please ensure all stroke and TIA patients admitted to hospital are designated as "Stroke Service" in Cerner.

EXCLUSION CRITERIA

- Patients with significant complications where care is focused on their non-stroke illness
- Patients who are palliative, due to the severity of stroke, are generally not included.
- Patients who do not have an acute stroke or TIA.

If patient is excluded please document reason in your notes.

TRANSFERS TO THE PROVINCIAL ACUTE STROKE UNIT

Transfers to the Provincial Acute Stroke Unit (PASU) should be considered high priority as per the *Canadian Best Practice Recommendations for Stroke Care.* Process is as follows:

- Call QEH Admitting Bed Control @ (902) 894-2238 for physician contact
- Referring physician contacts hospitalist/ GP for possible admission to Provincial Acute Stroke Unit
- Accepting physician advises QEH Admitting Bed Control transfer has been accepted
- QEH Admitting Bed Control contacts Patient Flow Coordinator/ Nursing Supervisor for bed availability.
- Patient Flow Coordinator/ Nursing Supervisor contacts transferring facility to advise of first available bed.

Canadian Best Practice Recommendations for Stroke Care:
www.strokebestpractices.ca

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PROCESS	EMERGENCY PHASE (0-3 HOURS)
ASSESSMENT (OBSERVATIONS/ MEASUREMENTS)	Assessment within 10 minutes of hospital arrival. Relevant/ emergent co morbidities documented. MD determination of eligibility for alteplase therapy
	Glasgow Coma Scale on admission; neuro checks q 15 minutes. MD completes NIHSS as per alteplase protocol.
	Initial Vital signs, including Sp02; If Alteplase therapy given assess vital signs q15min x 2hrs then q30min
	Notify physician if SBP ≥ 220 or DBP ≥ 120 for 2 or more readings 5 - 10 minutes apart *Note: Very high blood pressure should be treated in patients receiving thrombolytic therapy for acute ischemic stroke – target below 180/105 mmHg*
	Treat temps >37.5° Celsius. Notify MD for Temp > 38.5° C
	Screen for elevated blood glucose, and blood glucose below 4 mmol/L. Hypoglycemia should be corrected immediately.
	Chest assessment
	Pain assessment
	Record height and weight
	Monitor intake/ output, document urine color
	Continuous cardiac monitor/ rhythm strips interpreted and attached
	Document patient history of irregular heart rate / previous stroke
DIAGNOSTICS/ LABORATORY	CT/CTA scan of head w/o contrast within 15 minutes of hospital arrival
	ECG – Note: *Unless patient is hemodynamically unstable, ECG should not delay CT scan.*
	Portable Chest Xray if evidence of acute heart disease or pulmonary disease. Note: *Unless patient is hemodynamically unstable, xray can be deferred until after a decision regarding acute treatment; not to delay thrombolytic decision making .*
	Blood work (specifically CBC, APTT, INR, Electrolytes, Creatinine, Glucose, Troponin). Consider B-HCG if female <50 years of age.
TREATMENTS/ INTERVENTIONS	IV site established/ insitu and satisfactory, IV as ordered
	Avoid use of indwelling catheter
	O2 if needed
MEDICATIONS	Medication history
	Acetaminophen 650 mg PO/PR q4hrs for temperature ≥ 37.5° C or for analgesia (**max 4,000 mg in 24 hrs**)

	Ischemic non-thrombolytic and non hemorrhagic stroke **ONLY**: ASA 160mg post CT
MOBILITY/ACTIVITY	Bed Rest
NUTRITION	NPO until TorBSST dysphagia screening completed by trained staff
	Determine alternate routes for meds if NPO
PSYCHOSOCIAL SUPPORT/ EDUCATION	Inform patient and caregiver(s) of diagnosis/ reason for admission
	Advance directive discussion addressed
	Address immediate concerns
TRANSITION PLANNING	If Alteplase therapy given or patient is medically unstable: Transfer to ICU
	If hemorrhagic or pediatric stroke: consider Out of Province transfer
	All other stroke/TIA admissions transfer to the Prov Acute Stroke Unit; ideally within 3 hrs of hospital arrival
	If staying longer than 3 hrs in emergency department activate ICU or Acute Care Phase
	Designate as "Stroke Service" for all Stroke and TIA hospital admissions

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PROCESS	ICU PHASE (POST THROMBOLYTICS: 24 Hours)
ASSESSMENT (OBSERVATIONS/ MEASUREMENTS)	Toronto Bedside Swallowing Screening Test (Tor-BSST) by trained staff if not already done in ER
	Neurological assessment q1hr x 12hrs, then q 2 hrs X 12hrs. Report any changes in neuro status to MD
	Vital signs, including SpO2: Baseline, then q15min x 2hrs; q30min x 6hrs; q1hr x 4hrs; q2hrs x 12hrs
	Notify MD if SBP > 180 mmHg OR if DBP > 110 mmHg for 2 or more readings 5 -10 min apart. Avoid BP in arm with IV or venipuncture if possible.
	Blood Glucose monitoring q6hrs. Call MD if Blood Glucose is ≥ 12 mmol/L
	Record regularity of heart rate (Note if patient aware of any past anomalies)
	Temp q4h x 24hrs; treat temps >37.5 Celsius
	Chest assessment
	Pain assessment
	Monitor intake/ output q shift, document urine color. Assess all body excretions for blood
	Braden risk assessment completed on admission
	TLR assessment completed on admission
	Assess Risk/Need for Venous thromboembolism (VTE) Prophylaxis with MD,
PATIENT SAFETY CUES	Conley falls risk assessment completed on admission and PRN
	TLR cue cards in place in room
CONSULTS	Provincial Acute Stroke Unit consults to: neurologist, physiotherapist (PT), occupational therapist (OT), speech language pathologist (SLP), dietitian and social worker initial assessment ideally within 48 hours of hospital admission
DIAGNOSTICS/ LABORATORY	CT scan of head w/o contrast after 24 hours
	MRI if ordered
	ECG if not already completed in ER
	Portable Chest Xray if evidence of acute heart disease or pulmonary disease.
	Carotid imaging if ordered
	Echocardiogram if ordered
	Blood work as ordered if not already done in ER

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MEDICATIONS	Best possible medication history if not already done
	Determine alternate routes for meds if patient is NPO
	Acetaminophen 650 mg PO/PR q4hrs for temperature ≥ 37.5° C or for analgesia (**max 4,000 mg in 24 hrs**)
	No antiplatelets or anticoagulants for 24 hours
TREATMENTS/ INTERVENTIONS	Oxygen to keep SpO2 > 90%
	IV and/or intermittent set observation and site care q 1 hour. Minimize venous or arterial sticks if possible.
	VTE protocol
	Oral Care protocol
	Avoid use of indwelling catheter
MOBILITY/ACTIVITY	Bed rest with minimal handling
	Head of bed raised 30-60 degrees, unless contraindicated.
	Use positioning techniques to maintain proper body alignment in bed
NUTRITION	NPO until TorBSST dysphagia screening completed by trained staff or SLP assessment
	Avoid NG Tube placement for 24 hours
	Therapeutic diet as per Dietitian and SLP recommendations
PSYCHOSOCIAL SUPPORT/ EDUCATION	Orientation to unit and procedures, review visiting guidelines
	Introduce patient pathway
	Encourage patient and caregiver(s) to ask questions. Address patient and family concerns
TRANSITION PLANNING	Transfer to Provincial Acute Stroke Unit after 24 hours post thrombolytics
	Designate as "Stroke Service" for all Stroke and TIA hospital admissions

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PROCESS	ACUTE CARE PHASE
ASSESSMENT (OBSERVATIONS/ MEASUREMENTS)	Toronto Bedside Swallowing Screening Test (Tor-BSST) by trained staff if not already done in ER/ ICU
	Neurological assessment q 4hrs x 48 hrs, then q8 hrs until stable.
	Vital signs, including Sp02 q4hrs x 48hrs (include ICU time), then QID x 48hrs, then BID when stable
	Notify MD if SBP ≥ 220 mmHg OR if DBP ≥ 120 mmHg for 2 or more readings 5 -10 min apart
	Record regularity/ irregularity of heart rate (Note if patient aware of any past anomalies)
	Temp q4hrs x 48 hrs (include ICU time), then BID when stable; treat temps >37.5 C
	Chest Assessment q shift and as needed
	Pain Assessment using 10 point Likert Analog Scale
	Height and weight on admission if not already completed
	Monitor Intake and Output q shift, document urine color
	Modified Rankin Scale on admission **and** upon discharge from acute care or prior to admission to rehabilitation unit
	Braden risk assessment on admission and PRN
	TLR assessment on admission, weekly or PRN
	Venous thromboembolism (VTE) Prophylaxis assessment
	Hospital Anxiety Depression Screen (HADS)
	Alpha FIM assessment on admission **and** upon discharge from acute care or prior to admission to rehabilitation unit
	Oral Care assessment
	Bladder and Bowel Assessment
	Nutritional and hydration status screened within 48 hrs of admission
PATIENT SAFETY CUES	Conley falls risk assessment completed on admission and PRN
	TLR cue cards in place in room
CONSULTS	Neurologist, Physiotherapist (PT), Occupational Therapist (OT), Speech Language Pathologist (SLP), Dietitian and Social Worker initial assessment ideally within 48 hrs of hospital admission

	Rehabilitation consult within 4 days if appropriate (screening tool TBD)
DIAGNOSTICS/ LABORATORY	CT scan of head w/o contrast if not already done in ER / ICU
	MRI if ordered
	ECG if not already completed in ER/ ICU
	Portable Chest Xray if evidence of acute heart disease or pulmonary disease.
	Carotid imaging if indicated
	Echocardiogram if indicated
	Blood work as ordered if not already done in ER/ ICU
	Holter if indicated
MEDICATIONS	Best possible medication history if not already done
	Determine alternate routes for meds if patient NPO
	Acetaminophen 650 mg PO/PR q4hrs for temperature ≥ 37.5° C or for analgesia (max 4,000 mg in 24 hrs)
TREATMENTS/ INTERVENTIONS	IV care
	Remove urinary catheter if present
	VTE protocol
	Oral Care protocol
	Bladder/ Bowel protocol
	Conley Falls Risk interventions
	Therapeutic activities as per PT, OT and SLP recommendations
MOBILITY/ACTIVITY	Activity as tolerated. Please refer to Canadian Stroke Best Practice Guidelines 4.2.4 for contraindications to mobilization.
	Head of bed raised 30-60, unless contraindicated.
	Use positioning techniques to maintain proper body alignment in bed and in chair
	Use recommended equipment as per PT and OT direction
	Blood pressure, oxygen saturation and heart rate monitored prior to mobilization for the first 3 days following admission
NUTRITION	NPO until Tor-BSST dysphagia screening completed by trained staff or SLP assessment
	Therapeutic diet as per Dietitian and SLP recommendations
	NG feeding established if ordered
PSYCHOSOCIAL SUPPORT/ EDUCATION	Orientation to unit and procedures, review visiting guidelines
	Introduce or review patient pathway

	Provide "Your Stroke Journey – A Guide for People Living with Stroke" and other educational materials as appropriate. Complete stroke education form on Cerner.
	Encourage patient and caregiver (s) to ask questions. Address patient and family concerns
TRANSITION PLANNING	Ongoing interdisciplinary team discussions regarding appropriateness/ readiness for discharge to pre-admission residence. If appropriate target discharge within 10 days
	Ongoing interdisciplinary team discussions regarding appropriateness/ readiness for rehabilitation unit and transfer ideally between 5 to 10 days
	Involve patient and family in transition planning and organize family meeting as appropriate. Discuss anticipated discharge date.
	If discharged home ensure patient and caregiver(s) are aware of follow up referrals and applicable appointments (blood work, Ambulatory Stroke Rehabilitation Services, Stroke Prevention Clinic (patients who live within PCH catchment) and community support services.
	Explain medications to patient and caregiver(s)
	Review diet if appropriate, encourage appropriate hydration
	Ensure appropriate equipment has been arranged
	Train caregiver(s) in safe mobility and activities of daily living within functional abilities
	Review driving status
	Review bowel and bladder routine if appropriate
	Complete discharge/ transition summaries and ensure family physician is aware of management plans within 24 hours of discharge