

Common Core Elements for Acute Stroke Care - updated as of July 11, 2012

Background: As part of the Toronto Stroke Flow Initiative, the Toronto Stroke Networks (TSNs) facilitated meetings with the GTA Stroke Nursing Leadership Committee to collectively develop common core elements for processes of care documents (e.g., stroke protocols, pathways, etc.). These common core elements were developed by stroke nursing leaders from 16 acute care and rehab organizations across the GTA, and reflect input from their interprofessional stroke teams, the Canadian Stroke Strategy's Canadian Best Practice Recommendations for Stroke Care (2010) and the Toronto Stroke Flow Recommendations. The TSNs and the GTA Stroke Nursing Leadership Committee have developed this document to promote a standardization of stroke care across the GTA, and to assist organizations with prioritization and implementation of stroke best practices.

	Assessment & Management	Diagnostics	Activity & Therapy	Transitions of Care
Hyperacute	<ul style="list-style-type: none"> Stroke triage assessment and documentation by the admitting nurse that includes: <ul style="list-style-type: none"> LOC Vital signs Respiratory status Blood glucose levels PMHx Medications (includes over-the-counter & herbal medications) allergies Patient history and physical exam by an emergency department physician, stroke neurologist, or a nurse practitioner; this would include the neurological exam, NIH Stroke Scale (NIHSS) and/or Canadian Neurological Scale (CNS). 	<ul style="list-style-type: none"> Priority access to CT, MRI, magnetic resonance angiography (MRA), and computed tomography angiography (CTA) (within 24 hours of admission). Carotid dopplers (if above are not applicable or if MRA/CTA are not done) In addition to routine blood work (CBC, electrolytes, creatinine, etc.), Tissue Plasminogen Factor (tPA) work-up and tests for urine creatinine clearance; blood and urine monitoring should also be considered after the hyperacute phase. 12-lead ECG or telemetry; if acute onset of atrial fibrillation, 	<ul style="list-style-type: none"> Early mobilization as determined by the interprofessional team within 24 hours of symptom onset. Assessment of shoulder alignment and positioning (OT and PT). Management of shoulder alignment and positioning (interprofessional stroke team). 	<ul style="list-style-type: none"> Medication reconciliation (pre-hospital to acute care admission) Education for persons with stroke and their families/caregivers which includes: <ul style="list-style-type: none"> Expected LOS Orientation to team and care protocols Team member expertise and responsibilities of care Location and type of stroke Medications What will happen next (rehab, ALC, repatriation, discharge to the community, follow-up appointments, other) Diagnostic tests and imaging

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<p>Hyperacute (cont'd)</p>	<ul style="list-style-type: none"> Determining the appropriateness for tPA or hyperacute TIA/minor stroke management. If the persons with stroke is appropriate for tPA and requires services from the nearest regional stroke centre, a "Code Stroke" should be reported to EMS as soon as possible. Swallowing Screen – using a standardized and valid tool (e.g., TOR-BSST®). Determining the appropriateness of an advanced care planning discussion with the persons with stroke and his/her family/caregiver. If the persons with stroke is considered an external "Code Stroke" (and lives out of catchment), processes in place to prepare the persons with stroke and his/her family for repatriation. 	<p>initiate anticoagulant treatment as appropriate.</p> <ul style="list-style-type: none"> Stroke specific laboratory studies including assessment of coagulation and kidney function. EEG 		

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Hyperacute (cont'd)	<ul style="list-style-type: none"> For persons with stroke who are not repatriated, processes in place to prepare the persons with stroke and his/her family for an in-hospital transfer to critical care or the acute stroke unit (within 3 hours of admission). 			
Day 1	<ul style="list-style-type: none"> Conducting a neurological exam that includes the NIHSS or CNS. Assessment of vitals, respiratory status, blood sugar level, neurological status, cognitive status, medications, swallowing and communication, pain, skin integrity, DVT, bowel and bladder continence, fluid and nutrition, and mobility. Education for persons with stroke re: new medications. Review of diagnostic test results. Assessment of safety risk (falls, medications, 	<ul style="list-style-type: none"> Same as the hyperacute phase if not done in the hyperacute phase. Assessment of fasting lipid profile and diabetes work-up (HbA1C and fasting blood sugar). Echocardiogram and/or TEE may be ordered. EEG may be ordered. Holter x 24-48 hours (before Echo if possible); holter should not initiated if there is a known diagnosis of atrial fibrillation. 	<ul style="list-style-type: none"> Establishing goals for persons with stroke – encouraging persons with stroke and their families/caregivers to be involved in the goal setting process Based on the initial assessment, provision of goal-based therapies as tolerated; tasks should be task-relevant, repetitive, and novel; Assessment of shoulder alignment and positioning (OT and PT). Management of shoulder alignment and positioning (interprofessional stroke team). 	<ul style="list-style-type: none"> Ongoing patient and family education. Interprofessional collaborations regarding mobilization plan. Identification of risks/obstacles that could delay discharge (medical or social issues).

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<p>Day 1 (cont'd)</p>	<p>skin breakdown, pain, nutrition, hydration, LOC).</p> <ul style="list-style-type: none"> • An interprofessional assessment by OT, PT, SLP, and SW within 24 to 48 hours of admission to an acute stroke unit; involvement of nutrition services, pharmacy, or other specialties as appropriate. • If possible, cognitive screening initiated by OT (using the MoCA®). • Swallowing screen - using a standardized and valid tool (e.g., TOR-BSST®). • If the person with stroke is still NPO after the swallowing assessment by SLP, consider alternate types of feeding (NG, enteral feeds) and types of feed. • Review of the height and weight for persons with stroke; weekly weights taken for enteral feeds. 		<ul style="list-style-type: none"> • Assessment of sitting tolerance to determine a sitting schedule. • Early mobilization as determined by the team within 24 hours of symptom onset. • Provision of bed exercises that includes involvement of persons with stroke and their families/caregivers. • Provision of appropriate assistive devices or gait aids. • Set-up of an individualized falls prevention plan (within 72 hours) that can be modified based on clinical changes and/or the occurrence of a fall). • Introduction of a Discharge Planner or SW who is involved in discharge planning. 	

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Day 1 (cont'd)	<ul style="list-style-type: none"> IV fluid considerations as per physician discretion. Assessment of mobility (OT and PT). Involvement of a stroke nurse in secondary prevention clinic referral processes. 		<ul style="list-style-type: none"> A process to communicate to the team any potential barriers for discharge (e.g., house renovation delays, changes in family supports or finances). Arranging the first family meeting with the person with stroke and his/her family/caregiver. 	
Day 2	<ul style="list-style-type: none"> Assessment of vitals, respiratory status, blood sugar level, neurological status, cognitive status, medications (reinforcement of previous teaching), swallowing and communication, pain, skin integrity, DVT, bowel and bladder continence, fluid and nutrition, mobility, activities of daily living (ADLs), and instrumental activities of daily living (IADLs). Assessment for depression and provision of resource materials for 	<ul style="list-style-type: none"> Repeat brain imaging if required - some facilities did this automatically while other facilities did this depending on the physician's decision or clinical status changes. Hypercoagulable work-up – dependent on age. Fasting lipid profile follow-up. 	<ul style="list-style-type: none"> Re-assessment of goals for persons with stroke. Re-assessment of shoulder alignment and positioning as needed (OT and PT). Management of shoulder alignment and positioning as needed (interprofessional stroke team) Assessment of sitting tolerance as needed. Ongoing assessment and progression of mobility as tolerated. 	

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Day 2 (cont'd)	<p>persons with stroke and their families or caregivers.</p> <ul style="list-style-type: none"> Implementations to reduce adverse outcomes (related to nutrition/hydration, cognitive decline, swallowing issues, skin integrity, continence, bowel functioning, depression, social isolation, pain, and contractures). 	<ul style="list-style-type: none"> Follow-up regarding diabetes work-up (HbA1C and fasting blood sugar) – initiate treatment for hyperglycemia if indicated. Holter monitoring if there is no known diagnosis of atrial fibrillation. 	<ul style="list-style-type: none"> Provision of bed exercises that includes involvement of persons with stroke and their families/caregivers. Set-up of an individualized falls prevention plan (within 72 hours) that can be modified based on clinical changes and/or the occurrence of a fall). 	<ul style="list-style-type: none"> Ongoing patient and family education. Interprofessional collaborations regarding mobilization plan. Identification of risks/obstacles that could delay discharge (medical or social issues).
Day 3	<ul style="list-style-type: none"> Assessment of vitals, respiratory status, blood sugar level, neurological status, cognitive status, medications (reinforcement of previous teaching), swallowing and communication, pain, skin integrity, DVT, bowel & bladder continence, fluid and nutrition, mobility, ADLs, and IADLs. Implementation of interventions to reduce 	<ul style="list-style-type: none"> Lab work continued. Cerebroangiogram may be ordered. 	<ul style="list-style-type: none"> Re-assessment of goals for persons with stroke. Re-assessment and management of shoulder alignment and positioning as needed. Assessment of sitting tolerance as needed. Ongoing assessment and progression of mobility as tolerated. Set-up of an individualized falls 	<ul style="list-style-type: none"> Care conference for persons with stroke and their families/caregivers by Day 3. AlphaFIM® Instrument completed on Day 3. Rehab application process started by Day 3 if required. Mobilization plan Identification of risks/obstacles that could delay discharge

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<p>Day 3 (cont'd)</p>	<p>adverse outcomes (related to nutrition/hydration, cognitive decline, swallowing issues, skin integrity, continence, bowel functioning, depression, social isolation, pain, and contractures).</p> <ul style="list-style-type: none"> • AlphaFIM® Instrument completed on Day 3. • Initiation of E-Stroke Referral process for inpatient and outpatient rehab services. • If the person with stroke is being discharged home, consider CCAC services as appropriate. 		<p>prevention plan (within 72 hours) that can be modified based on clinical changes and/or the occurrence of a fall).</p>	<p>(medical or social issues).</p>
<p>Day 4</p>	<ul style="list-style-type: none"> • Assessment of vitals , respiratory status, blood sugar level, neurological status, cognitive status, medications (reinforcement of previous teaching), swallowing and communication, pain, skin integrity, DVT, bowel & bladder 	<ul style="list-style-type: none"> • Lab work continued. • Cerebroangiogram may be ordered. 	<ul style="list-style-type: none"> • Re-assessment of goals for persons with stroke. • Re-assessment and management of shoulder alignment and positioning as needed. • Assessment of sitting tolerance as needed. 	<ul style="list-style-type: none"> • Follow-up appointments (e.g., secondary prevention clinic, cardiology, diagnostics) • Processes to capture and communicate the transfer of information (e.g., Transition Improvement for Continuity of Care

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Day 4 (cont'd)	<p>continence, fluid and nutrition, mobility, ADLs, and IADLs.</p> <ul style="list-style-type: none"> Implementation of interventions to reduce adverse outcomes (related to nutrition/hydration, cognitive decline, swallowing issues, skin integrity, continence, bowel functioning, depression, social isolation, pain, and contractures). 		<ul style="list-style-type: none"> Ongoing assessment and progression of mobility as tolerated. 	<p>Stroke Passport).</p> <ul style="list-style-type: none"> A summary of what was done – outcome tools, clinical assessments, physician test results. Preparations for the discharge summary. Communication re: community resources and peer support. Interprofessional collaborations during the clinical handover of complex cases – considering ongoing issues or concerns. Medication reconciliation (acute care to rehab or community) Transitions of care to the family physician.
Days 5-7	<ul style="list-style-type: none"> Assessment of vitals, respiratory status, blood sugar level, neurological status, cognitive status, medications (reinforcement of previous teaching), 	<ul style="list-style-type: none"> Lab work continued. Cerebroangiogram may be ordered. 	<ul style="list-style-type: none"> Re-assessment of goals for persons with stroke. Re-assessment and management of shoulder alignment and positioning as needed. 	<ul style="list-style-type: none"> Same as Day 4.

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<p>Days 5-7 (cont'd)</p>	<p>swallowing and communication, pain, skin integrity, DVT, bowel & bladder continence, fluid and nutrition, mobility, ADLs, and IADLs.</p> <ul style="list-style-type: none"> Interventions to reduce adverse outcomes (related to nutrition/hydration, cognitive decline, swallowing issues, skin integrity, continence, bowel functioning, depression, social isolation, pain, and contractures). Monitoring weight on a weekly basis. Provision of appropriate anticoagulant or antiplatelet therapy prior to discharge (anticoagulant or antiplatelet therapy may be initiated earlier in some facilities). 		<ul style="list-style-type: none"> Assessment of sitting tolerance as needed. Ongoing assessment and progression of mobility as tolerated. 	

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<p>Other Considerations</p> <ul style="list-style-type: none"> • Early access to NG feeds (?enteral feeds) if appropriate – if available, providing educational resources that will assist persons with stroke and their families/caregivers in making decisions re: enteral feeds. • Integration of patient and family education into processes of care documents. • Assessing emotional needs of the persons with stroke and their families/caregivers. • Discharge Modified Rankin Score (mRS) • Integration of early screening for depression into processes of care documents. • While in acute care, considerations regarding standard procedures for 	<ul style="list-style-type: none"> • If the person with stroke has new stroke/TIA symptoms while in acute care (an internal "Code Stroke"), consider stat imaging, blood glucose monitoring, blood work, and ECG to expedite tPA treatment within 1 hour; team should refer to imaging department protocols in the case of an internal "Code Stroke". 	<ul style="list-style-type: none"> • 7-days per week of therapy. 	<ul style="list-style-type: none"> • Communication processes in place for persons with stroke and their families/caregivers. • Supported conversation for adults' (SCA) for persons with Aphasia and referral to the Aphasia Institute if appropriate. • Involvement of language interpretation services as appropriate. • Patient and family education and involvement in the care plan. • Assessing the person with stroke's readiness to receive education. • Emotional support throughout the care continuum. • Standard order sets 	

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<p>Other Considerations (cont'd)</p>	<p>assessment of persons with stroke who have new stroke/TIA symptoms (e.g., a process in place to ensure that stat calls are made to stroke specialists for directions regarding initial stages of care).</p>			<ul style="list-style-type: none"> Other transitions to consider: a) transition from acute care to the community; b) transition from acute care to outpatient rehab; c) transition from acute care to acute care (repatriated patients). Processes for passing written documentation (includes info regarding diagnostics and lab test results, etc.) between acute care and the secondary prevention clinic If the person with stroke has developed new stroke/TIA symptoms while in acute care (an internal "Code Stroke"), considerations should be made regarding stat portering for rapid access to necessary imaging; if imaging is not on site, consider interfacility transfers and communication processes between facilities (e.g., standard

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<p>Other Considerations (cont'd)</p>				<p>processes in place for transfers between rehab and the nearest regional stroke centre).</p> <ul style="list-style-type: none"> • Palliative and end-of-life care