Module 1: Early Assessment

This module identifies best practices for the early assessment of suspected TIA or minor (nondisabling) stroke. Patients typically present at the ED, but the same practices should be followed at an outpatient clinic or when patients are directly admitted to acute care. The recommendations emphasize assessing the patient to inform clinical decision-making and determine the most appropriate pathway.

Module 1 Recommended Practices	Contributing Sources of Evidence
1.1 Initial evaluation	
1.1.1 Rapid initial evaluation should be conducted for airway, breathing, and circulation	Based on CSBPR (level B evidence); consistent with AHA/ASA (class I recommendation, level B evidence) and Australia (level C evidence)
1.2 Initial examinations	
1.2.1 All patients should undergo a neurological examination to determine focal neurological deficits and assess stroke severity on a standardized stroke scale (NIHSS or CNS for stroke)	Based on CSBPR (level B evidence)
1.2.2 All patients should undergo brain imaging (CT or MRI) immediately	Based on CSBPR (level A evidence); consistent with SIGN (level A recommendation), AHA/ASA (class I, level B recommendation), NHS/NICE (level 4 evidence), and Australia (level A evidence)
1.2.3 Brain imaging should be interpreted immediately by a health care provider with expertise in reading CT and/or MRI	Based on AHA/ASA (class I, level C evidence); modified by expert advisory panel consensus
1.2.4 All patients should undergo ECG to detect atrial fibrillation and other acute arrhythmias	Based on CSBPR (level B evidence); consistent with AHA/ASA (class I recommendation, level B evidence) and Australia (level GPP evidence)
1.2.5 A chest x-ray should not delay assessment for thrombolysis	Taken from CSBPR (level C evidence); modified by expert advisory panel consensus
1.2.6 All patients should have the following blood work: • CBC • electrolytes • creatinine • glucose • INR • partial thromboplastin time • troponin test (if clinically indicated)	Based on CSBPR (level B evidence); modified by expert advisory panel consensus; consistent with SIGN (level C recommendation), AHA/ASA (class I recommendation, level B and C evidence), and Australia (level GPP evidence)
1.3 Assessment and early management of dysphagia	
1.3.1 All patients with stroke should be made NPO initially and have their swallowing ability screened using a simple, valid, reliable, bedside testing protocol as part of their initial assessment and before initiating oral medication, fluid, or food	Based on CSBPR (level B evidence); consistent with AHA/ASA (class I recommendation, level B evidence) and Australia (level B evidence)
1.3.2 All patients with stroke who are not alert within the first 24 hours should be monitored closely, and swallowing ability should be screened when clinically appropriate	Based on CSBPR (level C evidence); consistent with Australia (level GPP evidence)
1.3.3 Patients with stroke presenting with features indicating dysphagia or pulmonary aspiration should receive a full clinical assessment of their swallowing ability by a speech-language pathologist or appropriately trained specialist who would advise on swallowing ability and the required consistency of diet and fluids	Based on CSBPR (level B evidence)
1.4 Cross-continuum prevention assessment and therapies	
1.4.1 All patients, whether admitted to hospital or discharged from the ED, should be given appropriate cross-continuum secondary	Based on expert advisory panel consensus

Module 1 Recommended Practices	Contributing Sources of Evidence
prevention assessments and therapies (Modules 5 and 10)	
1.5 Triage tool for patients with TIA	
1.5.1 A standardized triage tool should be used to determine the appropriate location for the care of patients with TIA	Based on expert advisory panel consensus
1.6 Initial examinations for TIA or minor (nondisabling) stroke	
1.6.1 Patients with a TIA or minor (nondisabling) stroke presenting within 48 hours of symptom onset or with fluctuating motor or speech symptoms should undergo immediate vascular imaging of the neck arteries (carotid ultrasound, CTA, or MRA) unless the patient is clearly not a candidate for carotid artery revascularization	Based on CSBPR (level B evidence)
1.6.2 All other patients (presenting beyond 48 hours) with a TIA or ischemic stroke should undergo vascular imaging of the brain and neck arteries as soon as possible	Based on CSBPR (level B evidence)
1.7 Recommendations are not applicable to TIA or minor (nondisabling) stroke	

Abbreviations: AHA/ASA, American Heart Association/American Stroke Association; Australia, Australian Clinical Guidelines for Stroke Management; CBC, complete blood count; CSBPR, Canadian Best Practices Recommendations; CNS, Canadian Neurological Scale; CT, computed tomography; CTA, computed tomography angiography; ECG, electrocardiogram; ED, emergency department; INR, international normalized ratio; MRA, magnetic resonance angiography; MRI, magnetic resonance imaging; NHS/NICE, National Collaborating Centre for Chronic Conditions; NIHSS, National Institute of Health Stroke Scale; NPO, *nil per os* (nothing by mouth); SIGN, Scottish Intercollegiate Guidelines Network; TIA, transient ischemic attack.

The following implementation considerations were noted by members of the expert advisory panel.

Module 1 Implementation Considerations
General considerations
• Where feasible, EMS should divert patients to regional or district stroke centres if there is suspicion of stroke/TIA
• The process for EMS prenotification of the receiving hospital about a stroke/TIA patient arrival should be better established to ensure acute stroke teams receive timely and detailed information
• Collaboration between local EMS and institutions that provide stroke services should occur in all stroke networks across the province to support quality improvement and facilitate access to stroke care
• Ongoing education should be provided to EMS crews about the recognition of stroke/TIA symptoms and regional medical redirect protocols
• Standardized stroke/TIA assessment and treatment protocols/tools should be developed and used in all Ontario hospital EDs
• Upon receiving EMS prenotification, the receiving hospital's acute stroke team should be contacted and called to the ED (for appropriate patients)
• Sufficient human resources capacity should be ensured so that patients can be diagnosed and treated in a timely manner
• To facilitate early assessment, hospital-level CTAS I or CTAS II access to diagnostic imaging should be established for suspected stroke/TIA patients to facilitate early assessment
• A referral process for rapid-assessment TIA and minor stroke units/TIA clinics and provincial stroke-prevention clinics should be established in all hospitals for patients who are not admitted to hospital
• Efforts to raise public awareness about the symptoms of stroke/TIA and when to contact 911 should continue to be enhanced and funded

Abbreviations: CTAS, Canadian Triage and Acuity Scale; ED, emergency department; EMS, emergency medical services; TIA, transient ischemic attack.