

# CLINICAL STROKE ADVISORY

## HIGH-RISK TIA PROTOCOL

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Individuals with transient ischemic attacks (TIA) and minor strokes are at high risk for symptom recurrence and/or progression, and subsequent disability, particularly within the first week of symptom onset. **Please review the new provincial TIA referral form and TIA triaging tool** (attached), which embody the current recommendations of the Canadian Stroke Best Practice guidelines. This memo serves to introduce these tools and clarify the timing of assessment, neurologic consultation, and imaging acquisition for high-risk TIA and minor stroke patients and subsequent triaging throughout the Saskatchewan Health Authority.

### Recommendations

- **Patients presenting to medical attention with high-risk transient ischemic attacks (TIA) or minor stroke require urgent neurology involvement (by phone consultation via ACAL or Bedline).**
- **Under direction of a neurologist subsequent brain parenchymal imaging and non-invasive vascular imaging (i.e. CT brain and CT angiography from aortic arch to vertex) must be performed as soon as possible within the next 24 hrs.**
- **Patients presenting to a medical facility that is not capable of performing CT and CTA need to be sent to the nearest primary or tertiary stroke centre for further assessment and imaging acquisition.**
- **After imaging has been obtained and reviewed, the patient can then be properly triaged to same-day neurological consultation or urgent referral to the nearest stroke prevention clinic.**

The possibility of stroke symptom recurrence or progression can be quite high after TIA or minor stroke, shown to be up to 5.2% at one week after symptom onset<sup>(1)</sup>, and 10% at 90 days<sup>(2)</sup>. Importantly, up to half of this risk is frontloaded within the first 48 hours<sup>(1, 3)</sup>. As such, identification of patients at high risk of recurrence is paramount. This can be facilitated by both clinical assessment and urgent imaging acquisition.

Very-high-risk patients are those who present within 14 days with sudden onset speech disturbance and/or unilateral weakness. High-risk patients include the above, but also are those that present within 48 hours with sudden onset unilateral numbness, transient monocular blindness (amaurosis fugax), or homonymous hemianopia.

Patient who are deemed very-high or high risk based on clinical assessment require urgent neurology consultation (by phone via ACAL or Bedline), and subsequent CT brain and CT angiography (CT/CTA) as soon as possible within the next 24 hours. Patients found to have acute ischemia/infarct on non-contrast CT head, or a significant extra- or intracranial vascular lesion on CTA, are at the highest risk of symptom recurrence or progression, and as such, are at the highest risk of disability at 90 days<sup>(4)</sup>.

Significant vascular lesions can be defined as a >50% stenosis in an ipsilateral extracranial internal carotid artery (ICA), ipsilateral intracranial ICA, or a major branch of the circle of Willis (i.e. MCA, ACA, PCA, or basilar artery). Significant vascular lesions can also include an intracranial occlusion, large artery dissection, free floating thrombus, or pedunculated aortic arch atheroma.

After CT/CTA has been obtained, and imaging has been reviewed, the patient can be appropriately triaged to same-day neurologic assessment or referral to the most appropriate stroke prevention clinic.

### Summary

A new provincial TIA referral form and TIA triaging tool has been developed to help identify patients at highest risk of stroke recurrence or symptom progression, and is based on current Canadian Stroke Best Practice guidelines. Patients with high-risk TIAs and minor stroke require urgent neurologic consultation, and brain parenchymal imaging and non-invasive vascular imaging by CT and CTA, respectively, and may require transfer to a primary or tertiary stroke centre capable of advanced stroke care and imaging. Patients can then be triaged appropriately to same day neurologic assessment or urgent stroke prevention clinic follow-up, based on imaging results. Adopting this protocol is important, as TIA offers the greatest opportunity to prevent stroke that physicians encounter. A TIA should be treated as a medical emergency, as up to 80% of strokes after TIA are preventable<sup>(5)</sup>, and those at highest risk can be identified by obtaining timely CT/CTA.

Standardized system processes within the Saskatchewan Health Authority are critical to providing safe, quality, patient care. The Saskatchewan Stroke Expert Panel is available and willing to work with the province's primary stroke centres to improve timely access to CT/CTA. Thank you for your commitment to providing safe, timely, and quality care to patients.

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  3. Perry JJ, Sharma M, Sivilotti ML, Sutherland J, Worster A, Emond M, et al. A prospective cohort study of patients with transient ischemic attack to identify high-risk clinical characteristics. *Stroke*. 2014;45(1):92-100.
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*The Saskatchewan Stroke Expert Panel was formed in 2016 to oversee quality improvement and standards of stroke care. The expert panel is co-chaired by Dr. Michael Kelly (clinical) and Pamela McKay (SHA). To contact the Saskatchewan Stroke Expert Panel, e-mail [lori.latta@health.gov.sk.ca](mailto:lori.latta@health.gov.sk.ca).*