DEPARTMENT OF HEALTH
STROKE PROGRAM

Inclusion and Exclusion Criteria for IV Thrombolytic Treatment of Ischemic Stroke

FOR CONSIDERATION OF ELIGIBILITY WITHIN 0-4.5 HOURS OF TIME LAST KNOWN WELL

INCLUSION CRITERIA: Patients who should receive IV thrombolytic

- Symptoms suggestive of ischemic stroke that are deemed to be disabling, regardless of improvement. *Refer to the list at the end of this document for **considered** disabling symptoms.*
- Able to initiate treatment within 4.5 hours of Time Last Known Well (document clock time)
- Age 18 years or older

EXCLUSION CRITERIA: If patient has any of these, do NOT initiate IV thrombolytic

- CT scan demonstrating intracranial hemorrhage
- CT exhibits extensive regions (>1/3 MCA Territory on CT) of clear hypoattenuation
- Unable to maintain BP <185/110 despite aggressive antihypertensive treatment
- Severe head trauma within last 3 months
- Active internal bleeding
- Arterial puncture at non-compressible site within last 7 days
- Infective endocarditis
- Gastrointestinal or genitourinary bleeding within last 21 days or structural GI malignancy
- Intracranial or spinal surgery within last 3 months

Laboratory:

- Blood glucose <60 mg/dL; however, should treat if stroke symptoms persist after glucose normalized.
- INR >1.7 *Results not required before treatment unless patient is on anticoagulant therapy or there is another reason to suspect an abnormality*
- Platelet count <100,000, PT >15 sec, aPTT >40 sec

Medications:

- Full dose low molecular weight heparin (LMWH) within last 24 hours (patients on prophylactic dose of LMWH should NOT be excluded)
- Received novel oral anticoagulant (DOAC) within last 48 hours (assuming normal renal metabolizing function)
- Commonly prescribed DOACs: apixaban (Eliquis), dabigatran (Pradaxa), rivaroxaban (Xarelto), edoxaban (Savaysa)

CONSIDERATION FOR EXCLUSION: Seek neurology consultation from a stroke expert

- Mild stroke with **non-disabling** symptoms
- Pregnancy
- Major surgery or major trauma within 14 days
- Seizure at onset and postictal impairment without evidence of stroke
- Myocardial infarction within last 3 months
- Acute pericarditis
- Lumbar puncture within 7 days
- Ischemic stroke within last 3 months
- Any other condition or history of bleeding diathesis which would pose significant bleeding risk to patient
- History of intracranial hemorrhage
- Presence of known intracranial conditions that may increase risk of bleeding (arteriovenous malformation, aneurysms >10mm, intracranial neoplasm)
- High likelihood of left heart thrombus (e.g., mitral stenosis with atrial fibrillation)
- Blood glucose >400 mg/dL (however should treat with IV alteplase if stroke symptoms persist after glucose normalized)
- For wake up strokes and unknown time of onset seek neurology consultation for advanced imaging recommendations to establish eligibility for acute reperfusion therapies. Protocols may be personalized to hospitals individually to include these presentations in their process.
- Anti-amyloid drugs (lecanemab, donanemab)—especially <6 months of initiation

CONSIDERED DISABLING SYMPTOMS: Should be considered for IV thrombolytic treatment

1. Symptoms are considered potentially disabling in the view of the patient and the treating practitioner? i.e., do presenting symptoms interfere with lifestyle (work, hobbies, and entertainment)? Clinical judgement is required.
2. Complete hemianopsia (≥2 on NIHSS question 3) or **severe aphasia** (≥2 on NIHSS question 9) or
3. **Visual or sensory extinction** (≥1 on NIHSS question 11) or
4. **Any weakness limiting sustained effort against gravity** (≥2 on NIHSS question 6 or 7) or
5. **Any deficits that lead to a total NIHSS score >5**
    a. Note: this is an example based on current best practices for hospitals to implement and operationalize. Specific criteria may vary by hospital.

This document is developed in partnership with the Minnesota Stroke Advisory Group. Last updated: November 2025. For questions, please contact the MDH Stroke Program at health.stroke@state.mn.us

References:

1. 2018 Guidelines for Management of Acute Ischemic Stroke. A Guideline for Healthcare Professionals from the American Heart/American Stroke Association. *Stroke, Vol. 49*

2. Anti-Amyloid Therapies for Alzheimer's Disease and Amyloid-Related Imaging Abnormalities: Implications for the Emergency Medicine Clinician. *Annals of Emergency Medicine, Vol 85, Issue 6. June 2025*