

Acute Ischemic Stroke Intravenous Thrombolysis Protocol Checklist (Applies to Tenecteplase or Alteplase)

Adapted from Acute Stroke Management, 7th Edition Update 2022 Box 5B

Refer to *Acute Stroke Management, 7th edition Section 4.2 and Box 4A* for detailed recommendations on neuroimaging-based selection criteria

Inclusion Criteria (Inclusion requires all criteria to be present)

- Diagnosed with an acute ischemic stroke.
- The stroke is disabling (i.e., significantly impacting function), usually defined as National Institutes of Health Stroke Scale (NIHSS) >4.
- The risks and benefits of thrombolysis are within the patient's goals of care and take into consideration their functional status prior to stroke.
- Life expectancy of 3 months or more.
- Age ≥18 years.
 - a. For adolescents, a decision to administer intravenous thrombolysis should be based on clinical judgment; presenting symptoms; patient age; and, if possible, consultation with a pediatric stroke specialist.
- Time from last known well (onset of stroke symptoms) is <4.5 hours before thrombolysis administration. **For patients >4.5 hours refer to Acute Stroke Management 7th edition, Section 5.1 for additional information.*

Absolute Exclusion Criteria (Either criteria present qualifies as exclusion to intravenous thrombolysis)

- Any active hemorrhage or any condition that could increase the risk of major hemorrhage after intravenous thrombolysis administration.
- Any evidence of recent hemorrhage on brain imaging.

Relative Exclusion Criteria (Requiring clinical judgement based upon the specific situation.

Consult Stroke Specialist at Comprehensive Stroke Centre if there are any questions or concerns about these criteria)

Historical

- History of intracranial hemorrhage.
- Stroke or serious head or spinal trauma in the preceding 3 months.
- Major surgery (e.g., cardiac, thoracic, abdominal, or orthopedic) in the preceding 14 days. Risk varies according to the procedure.
- Arterial puncture at a non-compressible site in the previous 7 days.

Clinical

- Stroke symptoms due to another non-ischemic acute neurological condition such as seizure with post-ictal Todd's paralysis or focal neurological signs due to severe hypo- or hyperglycemia.
- Hypertension refractory to aggressive hyperacute antihypertensive treatment such that target blood pressure <180/105 cannot be both achieved and maintained.
- Currently prescribed and taking a direct non-vitamin K oral anticoagulant. (*Refer to Acute Stroke Management 7th edition, Section 5.2 Clinical Considerations for additional information.*)

CT or MRI Findings

- CT showing early signs of extensive infarction (e.g., >1/3 of middle cerebral artery [MCA] territory, or ASPECTS score <6).

Laboratory

- Blood glucose concentration <2.7 mmol/L or >22.2 mmol/L may indicate a higher likelihood that the diagnosis is not stroke, but that neurological findings are due to metabolic changes
- Elevated activated partial-thromboplastin time
- International Normalized Ratio >1.7
- Platelet count <100,000 per cubic millimetre may indicate a higher likelihood of serious bleeding if bleeding were to occur (see absolute contraindication #1)

Acute Ischemic Stroke Endovascular Thrombectomy Protocol Checklist

Adapted from *Acute Stroke Management, 7th Edition Update 2022 Box 5C*

Refer to *Acute Stroke Management, 7th edition Section 4.2 and Boxes 4B and 4C* for detailed recommendations on neuroimaging-based selection criteria

Inclusion Criteria (Inclusion requires all criteria to be present)

- Diagnosed with an acute ischemic stroke.
- The stroke is disabling (i.e., significantly impacting function), usually defined as National Institutes of Health Stroke Scale (NIHSS) >4.
- There is a proven, clinically relevant (symptomatic), intra- or extracranial acute arterial occlusion that is amenable to endovascular intervention.
- The risks and benefits of endovascular thrombectomy are within the patient's goals of care and take into consideration their functional status prior to stroke.
- Age ≥18 years. (Refer to pediatric guidelines for treatment <18 years of age).
 - a. Currently, there is no evidence for EVT in pediatric populations and the decision to treat should be based on the potential benefits and risks of the therapy, made by a physician with pediatric stroke expertise in consultation with the EVT provider and the patient and/or family or substitute decision-makers.
- Intravenous thrombolysis:** If intravenous thrombolysis is given in conjunction with EVT, refer to *Acute Stroke Management 7th edition Box 5B* for additional inclusion criteria.
- Premorbid condition criteria:** In general, individuals considered eligible for EVT are those who were deemed functionally independent before their index stroke (i.e., mRS <3) and have a life expectancy >3 months. *Note: These criteria are based on major clinical trial inclusion criteria. Decisions should be based on these factors, clinical judgement, and the patient's goals of care.*
- Imaging:** Patients must qualify for imaging criteria in early and late windows as described in the *Acute Stroke Management 7th edition Boxes 4B and 4C*.
- Time to treatment:** The decision to proceed with EVT should be shared by the physician with clinical stroke expertise and the neuro-interventionalist, who will use the available imaging information as is indicated.
 - a. Specifically:
 - i. Patients should have immediate neurovascular imaging (see above) to determine eligibility). Patients can be considered for imaging **within a 24-hour window** from stroke symptom onset or last known well.
 - ii. For patients presenting **<6 hours** from stroke symptom onset or last known well to initiation of treatment (i.e., arterial puncture), all patients who meet eligibility criteria should be treated.
 - iii. For patients presenting **between 6 and 24 hours** from last known well, selected patients may be treated if they meet clinical and imaging criteria and based on local protocols and available expertise in EVT.

Note: these checklists are an adapted excerpt from the *Acute Stroke Management Module, 7th Edition*. Please refer to the *Acute Stroke Management Module 7th edition* for further details and information