Alberta Health Services

Acute Ischemic Stroke Thrombolytic Protocol Tenecteplase (TNKase®)

Last Name *(Legal)*	First Name *(Legal)*	
Preferred Name ☐ Last ☐ First	DOB *(dd-Mon-yyyy)*	
PHN	ULI ☐ Same as PHN	MRN
Administrative Gender ☐ Male ☐ Female ☐Non-binary/Prefer not to disclose (X) ☐ Unknown		

Physician to complete.

These criteria are designed to guide clinical decision-making; however, the decision to use tenecteplase in these situations should be based on the clinical judgment of the treating physician. The relative benefits of tenecteplase therapy versus any potential risks or contraindications should be weighed on an individual basis, and discussed with patient and family.

Inclusion Criteria *(Inclusion requires both criteria to be present)*

☐ Diagnosis of ischemic stroke causing disabling neurologic deficit in a patient who is 18 years of age or older.
For adolescents, decision to administer tenecteplase should be based on clinical judgment, presenting symptoms, and patient age; and, if possible, consultation with a pediatric stroke specialist.

☐ Time from last known well *(onset of stroke symptoms)* less than 4.5 hours before tenecteplase administration.

Absolute Exclusion Criteria *(**Any** criteria present qualifies as exclusion to tenecteplase protocol)*

☐ Any active hemorrhage or any condition that could increase the risk of major hemorrhage after tenecteplase administration.

☐ Any hemorrhage on brain imaging.

Relative Exclusion Criteria *(Requiring clinical judgement based upon the specific situation. Consult Stroke Specialist at Comprehensive Stroke Centre for the presence of any of the relative exclusion criteria listed)*

Historical

☐ History of intracranial hemorrhage.
☐ Stroke or serious head or spinal trauma in the preceding three months.
☐ Major surgery, such as 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 seven days.

Clinical

Diagnosis is not ischemic stroke

☐ Symptoms suggestive of subarachnoid hemorrhage.
☐ 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.

Co-morbid conditions that indicate a higher risk

☐ Hypertension refractory to aggressive hyperacute antihypertensive treatment such that target blood pressure less than 180/105 cannot be achieved or maintained. Blood pressure should be treated rapidly and aggressively to this target. Treatment may be concurrent with administration of intravenous thrombolysis.
☐ Patient anticoagulated eg. currently prescribed and taking a direct non-vitamin K oral anticoagulant (DOAC) or elevated International Normalized Ratio (INR) greater than 1.7 or elevated aPTT *(not due to lupus anticoagulant)*

Physician Signature	Date *(dd-Mon-yyyy)*	Time *(hh:mm)*

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Relative Exclusion Criteria *(continued)*

CT or MRI Findings or Laboratory Findings

- ☐ CT or MRI showing early signs of extensive infarction
- ☐ Blood glucose concentration below 2.7 mmol/L or above 22.2 mmol/L.
- ☐ Platelet count below 100,000 per cubic millimetre.

Tenecteplase (TNKase®) Administration

Patient Weight _____ Kg ☐ Actual ☐ Estimated

Imaging

☐ CT Scan Head Result: Non-hemorrhage

Dose

Usual Adult:

- Patient will receive a single bolus dose of tenecteplase 0.25mg/Kg *(maximum dose 25 mg)* over 5 seconds.
- Flush IV with normal saline prior to and following administration to ensure full delivery of drug dosage.

Mixing/Administration of Tenecteplase

- Draw up all diluent from the vial and slowly inject into powder. Avoid aggressive agitation of solution. Do not shake, gently swirl. Precipitation may occur if tenecteplase is administered in an IV line containing dextrose.
- Draw up amount in milliliters (ml). The dose will be between 3-5 ml**not to exceed 5 ml.
- Perform an independent double check with a member of the stroke team. Dosing for Ischemic Stroke is **NOT the SAME** as for Myocardial Infarction**.** Failure to give the ischemic stroke dose could result in intracranial hemorrhage and be fatal.
- Run 0.9% NaCI to keep vein open.
- Ensure CBC, electrolyte panel, PT(INR), random glucose, and pregnancy test *(if applicable)* were done and results are available.
- Notify physician if blood pressure is higher than 185/110 mmHg.
- **No anticoagulant or antithrombotic** agents for 24h after tenecteplase.

Intravenous tenecteplase (TNKase®; 0.25mg/kg, max 25 mg)
Weight-based Band Dosing Table
[50mg lyophilized drug per vial diluted with 10ml Sterile Water = 5 mg/ml]

Patient Weight (kg)	Dose of tNK to be administered (mg)	Volume of tNK to be administered (ml)
Less than 60	15	3
60 to 69	17.5	3.5
70 to 79	20	4
80 to 89	22.5	4.5
Equal to or greater than 90	25	5

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Physician Tenecteplase Orders

Bolus dose *(mg)*	Date *(yyyy-Mon-dd)*	Time *(hh:mm)*
Physician Name	Signature	

Tenecteplase Administration

Bolus dose *(mg)*	Date *(yyyy-Mon-dd)*	Time *(hh:mm)*
Health Provider Name	Signature	
Health Provider Name	Signature	

Nursing Management

After the administration of tenecteplase

- Monitor for 24 hours in a monitored unit for signs of neurological change or bleeding.
- Close observation as indicated *(see nursing care below)* x the first 6 hours post treatment.
- One IV line infusing with Normal Saline at ☐ 50 mL/hr **OR** ☐ _____ml/hr
- Verify the collection of the following tests *(re-order STAT if not previously collected)*
  - 12 lead EKG
  - CBC, Electrolyte panel, PT(INR), random glucose, pregnancy test if applicable

Vital Signs/Neurological Vital Signs

- Neuro vital signs including vital signs:
  - P**rior to** bolus;
  - Then every 15 min x 2h;
  - Then every 30 min x 6h;
  - Then every 1h x 16h;
  - Then every 4h x 48h;
  - Then frequency to be reassessed.
- If BP **greater than 185/110** repeat in 5 minutes.
- **Notify MRHP if BP is greater than 185/110 or above specified parameters and/or if Glasgow Coma Scale drops 2 or more points below the baseline score.**

Monitoring and Treatment

NIHSS

- *National Institute of Health Stroke Scale (NIHSS)* to be completed prior to or immediately following tenecteplase bolus and then repeated at 30min, 60 min, 3h, 6h, 12h, 24h, and 72h thereafter and with any change in neurological condition *(refer to Form 05553)*.

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Monitoring and Treatment *(continued)*

Monitor for sudden neurological worsening:

- Increase in NIHSS greater than 4 points
- Sudden severe headache with blood pressure spike

If clinical deterioration is detected, call the stroke team or MRHP and arrange for immediate CT scan of head

- Continuous cardiac monitoring and SPO2 monitoring x 24 hours
- Alert MRHP immediately if patient exhibits signs of bleeding (including sudden headache, backache, abdominal pain, hematuria, GI bleeding, and gingival bleeding); record all or any potential adverse effects on the health record; avoid IM injections, unnecessary invasive procedures to reduce risk of bleeding; do arterial punctures on an upper extremity vessel that is accessible to manual compression; apply pressure dressing to puncture sites.
- Bed rest x 12h, then reassess
- Glucometer/Chemstrip, if less than 8mmol/L, glucose monitoring BID; if greater than 8mmol/L notify stroke team or MRHP for insulin orders
- NPO and hold oral meds, then pending swallow screen; consider dietary consult if needed and or Speech/swallowing assessment
- Carefully and gently insert Foley catheter only if absolutely required
- Reassess within 24 hours for appropriate VTE prophylaxis
- Physician to order brain imaging (CT or MRI) at 18-54 hours post thrombolysis
- No intravenous heparin or ASA until repeat imaging. No anticoagulant or antithrombotic agents for 24h after tenecteplase.
- Initiate **Admission Stroke Orders**

Physician Signature	Date *(dd-Mon-yyyy)*	Time *(hh:mm)*