



ALLERGIES

NKA or: _____

**ICU: Thrombolytic Therapy with Alteplase (tPA) for Inpatients
with Acute Stroke Symptoms Order Set**

M = MAR OE = Order Entry
K = Kardex N = Notified
ORDER PROCESSED (✓)

M	K	OE	N	Initials
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Admit to: _____ Dr. _____ to consult/assume MRP

Diagnosis: _____

Precautions: Contact Droplet Airborne - Reason: _____

Family Physician: _____

Consults

Neurology OT PT SLP SW
Other: _____ _____ _____

Confirm Alteplase (tPA) Eligibility

Assess patient for acute thrombolytic eligibility
 Refer to Canadian Best Practice Recommendation for Stroke Care Alteplase (tPA)
Eligibility Criteria (Appendix A)

Symptom Onset Time

Obtain and record symptom onset time or last time patient was seen as "normal" (LSN)
Date of Onset: _____ Time of onset or LSN _____

Diet

NPO until completion of Dysphagia Screening

Activity

Bed rest x 24hours then AAT Elevate head of bed to 30 degrees

Nasogastric Tube

Do not insert nasogastric tube

Urinary Catheter

If required, insert urinary catheter prior to tPA infusion

Oxygen Therapy

Titrate O₂ to achieve a target SpO₂ greater than or equal to 93% or _____%
 Notify RT if O₂ requirements exceed FiO₂ greater than 40% or 5 L/minute

IV Therapy

2 IV Saline Locks
 Bolus IV 0.9% NaCl _____ mL over _____
 IV Fluid Maintenance 0.9% NaCl at _____ mL/h
 Do not administer any medications through Alteplase (tPA) line
 Post Alteplase (tPA) infusion: Saline lock one line

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Vital Signs

- Manual BP only, **No automatic BP x 24 hours**
- Height and Weight Weekly Weight

Prior to Alteplase (tPA) Infusion

- Baseline T, HR, RR, BP, SpO₂
- Baseline NIHSS (Appendix C)

During and Post Alteplase (tPA) Infusion

- T:q30minutes x 2 hours, then T q1h x4 hours, then T q4h and PRN
- SpO₂ q4h x 48 hours
- HR, RR, BP: q15 minutes x 1 hour after start of infusion, then
 q30 minutes x 2 hours, then
 Maintain q1hour as per ICU routine

Neurovitals

- Neurovitals q15minutes x 1 hour after start of Alteplase (tPA) infusion, then
- Neurovitals q30minutes x 2 hours, then
- Neurovitals q1h x 16 hours, then
- Neurovitals q2h x 24 hours if stable
- NIHSS post Alteplase (tPA) bolus, then _____ hour

Prior to Alteplase (tPA) Infusion

Laboratory Investigations (if not already done)

- CBC PTT, INR TS for 2 units packed RC x 2
- Lytes, Urea, Creatinine, Glucose Blood C + S x 2 STAT
- Capillary Blood Glucose STAT
- BHCG if female of child bearing age

Diagnostics

- CXR
- Non-Contrast CT Head if not done as part of Code Teal Policy
- 12 Lead ECG

Administration of Alteplase (tPA)

- No anti-coagulants, No anti-thrombotics
- No arterial punctures, No IM injections, No Invasive Procedures
- Administer Alteplase (tPA):
 Total dose of Alteplase (tPA): patient weight (kg) _____ x 0.9 mg/kg = _____ mg
(max 90 mg)

To be administered as bolus dose followed by infusion in the following manner:

- Bolus dose** of Alteplase (tPA) = 0.1 x total dose = _____ mg (**max 9 mg**).
- Give bolus dose IV over 1 minute
- Infusion dose** of Alteplase (tPA) = 0.9 x total dose = _____ mg (**max 81 mg**)
- Give infusion dose IV over 60 minutes

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Post Initiation of Alteplase (tPA) Infusion

Laboratory Investigations

- If sudden neurological deterioration or evidence of systemic hemorrhage Post Alteplase (tPA):
 Repeat CBC, PTT, INR STAT Fibrinogen Level FIB STAT

Diagnostics

- CT 24 hours following tPA administration or if sudden deterioration in neurological status
 CXR - Reason: _____ Query: _____
 Carotid Doppler within 24 hours - Reason: _____ Query: _____
 ECG daily for 3 days - Reason: _____ Query: _____
 2D Echo - Reason: _____ Query: _____

24 hours post Alteplase (tPA) Infusion

Laboratory Investigations

- Fasting glucose
 Repeat Fasting glucose within 72 hours
 LIPID (HDL, LDL, CHOL, TRIG) Triglycerides (12 hour fasting recommended)
 HbA1C if diabetic and not done in past 30 days
 Lab Investigations daily x 3 days: CBC Lytes Creatinine Glucose

Monitoring

- Cardiac monitor during infusion of Alteplase (tPA)
 Monitor face, tongue and oropharynx for angioedema q15minutes for 1.5 hours after infusion and with vital signs for 24 hours after administration of Alteplase (tPa)
 Discontinue Alteplase (tPA) AND immediately notify Physician if:
- significant bleeding
 - new onset/worsening of headache occurs
 - nausea, or vomiting develop
 - significant change in neurological status
 - swelling of tongue or oropharynx
- Immediately notify Physician if:**
- SBP greater than 180 or less than 110 mmHg
 - DBP greater than 110 or less than 60 mmHg for 2 or more readings taken more than 5 - 10 minutes apart
 - HR less than 50/minute
 - RR greater than 24/minute
 - T greater than 37.5°C
 - SpO₂ is less than 92%



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Antithrombotic Therapy and VTE Prophylaxis Therapy

24 hours post tPA: Contact MD for Antiplatelet Therapy and VTE Prophylaxis Orders

Blood Pressure Management During and Post tPA Infusion

Target SBP less than 185 mmHg and DBP less than 105 mmHg
 Target SBP less than _____ mmHg and DBP less than _____ mmHg

First Choice:

Labetalol 10 mg IV over a period of 2 minutes q10minutes (by MD) until target BP is reached (maximum 300 mg) (If HR less than 50 beats/minute, do not administer Labetalol)

OR

Second Choice:

Enalaprilat 1.25 mg IV over 5 minutes to be administered by MD (If Labetalol is not effective, or contraindicated or DBP greater than 140 mmHg)
 If target BP not achieved within one hour, notify MD to repeat Enalaprilat 1.25 mg IV

OR

Nitroprusside _____ micrograms/kg/minute IV infusion. Titrate to target BP (0.5 - 10 microgram/kg/minute)
 Other _____

Pain/Fever and Nausea Management

Acetaminophen 325 - 650 mg PR q4h PRN for pain or Temperature greater than 37.5°C (**max 4,000 mg in 24 hours**)
 dimenhydrinate 25 - 50 mg IV q4h PRN
 Other: _____

After 24 hours

Patient to be re-assessed by Intensivist for possible transfer to Inpatient Unit using the following order set: "Acute Stroke/TIA Admission Order Set" – Form # H3135

Additional Orders:

Use	daily	every other day	mL or millilitre	Unit	full drug name	mcg	right, left, both eye(s)
Do not Use	OD/QD	QOD	cc	U or IU	Abbreviated drug name	µg	OD, OS, OU

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**Appendix A:
Canadian Best Practice Recommendation for Stroke Care tPA Eligibility
June 2018**

*****Goal: Door-to-Needle Time: 60 minutes*****

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

Inclusion Criteria:

- Diagnosis of ischemic stroke causing disabling neurologic deficit in a patient who is 18 years of age or older
- Time from last known well (onset of stroke symptoms) less than 4.5 hours before alteplase administration. For patients beyond 4.5 hours refer to **Appendix B**

Absolute Exclusion Criteria:

- Any source of active hemorrhage or any condition that could increase the risk of major hemorrhage after alteplase administration
- Any hemorrhage on brain imaging

Relative Exclusion Criteria: (requiring clinical judgement based upon the specific situation)

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 procedure
- Arterial puncture at a non-compressible site in the previous seven days

Clinical

- 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
- 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 in order to minimize delays to thrombolysis.
- Patient currently prescribed and taking a direct non-vitamin K oral anticoagulant (DOAC).

CT or MRI Findings

- CT or MRI showing early signs of extensive infarction

Laboratory

- Blood glucose concentration below 2.7 mmol/L or above 22.2 mmol/L
- Elevated activated partial-thromboplastin time
- International Normalized Ratio greater than 1.7
- Platelet count below 100,000 per cubic millimetre



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**Appendix B:
Canadian Best Practice Recommendation for Stroke Care: Endovascular Thrombectomy
Treatment Eligibility
June 2018**

Exclusion criteria:

Age

- < 18 years of age – There currently is no evidence to support pediatric populations. Discuss with Pediatric Stroke Expert
- Life expectancy of less than 3 months
- Functionally dependant

Eligibility must be discussed with Regional Stroke Center



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Appendix C:

**National Institute of Health Stroke Scale (NIHSS) Thrombolytic Therapy
with tPA for Acute Stroke Order Set**

1a. Level of Consciousness (LOC)	0 1 2 3	Alert Drowsy Stuporous Comatose	7. Best Motor RIGHT LEG	0 1 2 3 4	No drift Drift Some effort against gravity No effort against gravity No movement
1b. LOC Questions	0 1 2	Answers both questions correctly Answers one question correctly Answers neither question correctly	8. Best Motor LEFT LEG	0 1 2 3 4	No drift Drift Some effort against gravity No effort against gravity No movement
1c. LOC Commands	0 1 2	Performs both tasks correctly Performs one task correctly Performs neither task correctly	9. Limb Ataxia	0 1 2	Absent (or in coma) Present in 1 limb Present in 2 or more limbs
2. Best Gaze	0 1 2	Normal Partial gaze palsy Forced deviation	10. Sensory	0 1 2	Normal Partial loss Dense loss (or in coma)
3. Visual Fields	0 1 2 3	No visual loss (or in coma) Partial hemianopia Complete hemianopia Bilateral Hemianopia	11. Best Language	0 1 2 3	No dysphasia Mild Severe dysphasia Mute
4. Facial Palsy	0 1 2 3	Normal Minor Partial Complete	12. Dysarthria	0 1 2	Normal articulation Mild – moderate dysarthria Unintelligible or worse
5. Best Motor RIGHT ARM	0 1 2 3 4	No drift Drift Some effort against gravity No effort against gravity No movement	13. Neglect	0 1 2	No neglect (or in coma) Partial neglect Complete neglect
6. Best Motor LEFT ARM	0 1 2 3 4	No drift Drift Some effort against gravity No effort against gravity No movement	NIHSS Total Score		_____



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