Alberta Health Services

Acute Ischemic Stroke Thrombolytic Protocol Alteplase (Activase®)

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 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 *(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 alteplase 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 alteplase administration.

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

☐ Any 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. 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)*

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.

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

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Alteplase (Activase®) Administration

Patient Weight _____ Kg ☐ Actual ☐ Estimated

Imaging

☐ CT Scan Head Result: Non-hemorrhage

- Start 2 large bore IVs (avoid affected limb). Run 0.9% NaCl 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 prior to infusion.
- **Do not** administer any other medications in alteplase IV line.
- **No anticoagulant or antithrombotic** agents for 24h after alteplase.
- Follow instructions in package for reconstitution. Do not shake the vial.
- Alteplase 1 mg/mL concentration *(Refer to infusion chart on next page to confirm amount of drug for bolus, infusion rate, and discarded amount).*

Physician Alteplase Orders

Total dose _____ *(mg) (0.9 mg/kg - **not to exceed 90 mg**)*

Bolus dose _____ *(mg) (10% of total dose to be given over 1 - 2 minutes. **Do not give** until just before infusion is ready to be commenced due to short half-life of drug).*

Infusion dose _____ *(mg) (infused over 1 hour by electronic infusion pump)*

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

Alteplase Administration

Total dose _____ *(mg) (0.9 mg/kg - **not to exceed 90 mg**)*

Time total dose and patient weight checked *(hh:mm)*	Provider	Provider

Bolus dose _____ *(mg) (10% of total dose to be given over 1 - 2 minutes. **Do not give** until just before infusion is ready to be commenced due to short half-life of drug).*

Date given *(yyyy-Mon-dd)*	Time *(hh:mm)*	Provider	Provider

Infusion dose _____ *(mg) (infused over 1 hour by electronic infusion pump)*

Time infusion started *(hh:mm)*	Provider	Provider

When total dose completed:

- Flush and lock IV site with saline
- Discard tubing, bottle and any remaining solution in biohazard waste
- Send completed alteplase replenishment request form to Pharmacy if applicable to your site

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Alteplase, Activase® Infusion Chart (100 mg vial) for Ischemic Stroke
Highlight appropriate dosage row

Weight (kg)	Total Dose (mg)	Bolus Dose (mg)	Bolus Amount (mL)	Infusion Dose (mg)	Infusion Rate (mL/h)	Amount Left in tubing/bottle (mL) *Discard tubing/bottle and any remaining solution in biohazard waste container*
41 - 42	37.5	3.75	3.8	34.1	34	62.2
43 - 44	39.5	3.95	4	35.5	36	60
45 - 47	41.5	4.15	4.1	37.4	37	58.9
48 - 49	43.5	4.35	4.4	39.1	39	56.6
50 - 51	45.5	4.55	4.6	40.9	41	54.4
52 - 54	48	4.80	4.8	43.2	43	52.2
55 - 56	50	5	5	45	45	50
57 - 58	51.5	5.15	5.1	46.4	46	48.9
59 - 60	53.5	5.35	5.4	48.1	48	46.6
61 - 62	55.5	5.55	5.6	49.9	50	44.4
63 - 64	57.5	5.75	5.8	51.7	52	42.2
65 - 66	59	5.90	5.9	53.1	53	41
67 - 68	60.5	6.05	6	54.5	55	39
69 - 70	62.5	6.25	6.3	56.2	56	37.5
71 - 72	64.5	6.45	6.5	58	58	35.5
73 - 74	66.5	6.65	6.7	59.8	60	33.2
75 - 76	68	6.80	6.8	61.2	61	32.2
77 - 78	69.5	6.95	7	62.5	63	30
79 - 80	71.5	7.15	7.2	64.3	64	28.8
81 - 82	73.5	7.35	7.4	66.1	66	26.6
83 - 84	75.5	7.55	7.6	67.9	68	24.4
85 - 86	77	7.70	7.8	69.2	69	23.2
87 - 88	78.5	7.85	7.9	70.6	71	21
89 - 90	80.5	8.05	8.1	72.4	72	19.8
91 - 92	82.5	8.25	8.3	74.2	74	17.6
93 - 94	84.5	8.45	8.5	76	76	15.5
95 - 96	86	8.60	8.6	77.4	77	14.4
97 - 98	87.5	8.75	8.8	78.7	78	13.2
99	89.5	8.95	9	80.5	81	10
100 - Up	90	9	9	81	81	10

Do Not Exceed Maximum Dose = 90 mg

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Monitoring and Treatments

- Neuro vital signs including vital signs **prior** to infusion, 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.
- *National Institute of Health Stroke Scale (NIHSS)* to be completed prior to or immediately following alteplase 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)*.
- Notify physician immediately if evidence of bleeding, neurologic deterioration, new headache, nausea or worsening of stroke symptoms, a drop of 2 or more points on the Glasgow Coma Scale, an increase in the NIHSS of greater than 4 points, or if BP is greater than 180/105 prior to infusion.
- Continuous cardiac and SpO2 monitoring x 24h.
- **NPO** and hold oral meds, then pending swallow screen. Consider dietary consult if needed and or Speech/swallowing assessment.
- Avoid indwelling urethral catheter.
- If urethral catheter is required avoid insertion during alteplase infusion and for 6h after, unless essential.
- Bedrest x 12h post alteplase, 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.
- Head of bed 0 - 30° unless contraindicated.
- Apply pressure dressings to puncture sites.
- Avoid IM injections, unnecessary arterial or venous punctures for 24h.
- Reassess within 24 hours for appropriate VTE prophylaxis.
- Physician to order brain imaging *(CT or MRI)* at 18h-54h post thrombolysis.
- Admit to monitored bed.
- Initiate **Admission Stroke Orders**

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