



**Please Document Times**

1. \_\_\_\_\_ Time Last Known Well (TLKW)
2. \_\_\_\_\_ Arrival ASRH
3. \_\_\_\_\_ Alteplase (IV tPA) Bolus Given
4. \_\_\_\_\_ Alteplase (IV tPA) Infusion Started
5. \_\_\_\_\_ Departure from ASRH
6. \_\_\_\_\_ Alteplase Infusion Completed
7. \_\_\_\_\_ Normal Saline Line Clear Started
8. \_\_\_\_\_ Normal Saline Line Clear Completed

**Time Goals**

- 15 min. Door to Stroke Alert Activation
- 10 min. Door to Stroke Team Arrival
- 25 min. Door to CT start
- 45 min. Door to CT resulted
- 60 min. Door to Alteplase (IV tPA) Given
- 90 min. Door to Transfer out of ASRH

**St. Luke's Call: 218-249-4444**  
 Fax packet / records: 218-249-5590  
 Call nursing report to: 218-249-4444

**St. Mary's - Essentia Call: 1-877-786-4944**  
 Fax packet / records: 218-786-7396  
 Call nursing report & updated ETA: 1-877-786-4944

## Alteplase Inclusion / Exclusion Criteria

<b>Inclusion Criteria</b>	Yes	No
Symptoms suggestive of ischemic stroke that are deemed to be disabling	<input type="checkbox"/>	<input type="checkbox"/>
Improving symptoms that remain disabling	<input type="checkbox"/>	<input type="checkbox"/>
Able to initiate IV alteplase within 4.5 hours of time last known well or at baseline	<input type="checkbox"/>	<input type="checkbox"/>
BP < 185/110 (may be lowered using antihypertensive agents prior to alteplase)	<input type="checkbox"/>	<input type="checkbox"/>

<b>Contraindications</b>	No	Yes
CT demonstrates extensive changes or acute intracranial hemorrhage	<input type="checkbox"/>	<input type="checkbox"/>
Severe head trauma within past 3 months or post-traumatic infarction	<input type="checkbox"/>	<input type="checkbox"/>
Intracranial or spinal surgery within past 3 months	<input type="checkbox"/>	<input type="checkbox"/>
Suspicion of subarachnoid hemorrhage	<input type="checkbox"/>	<input type="checkbox"/>
INR > 1.7, aPTT > 40 seconds, PT > 15 seconds or Platelet Count < 100,000/mm <sup>3</sup>	<input type="checkbox"/>	<input type="checkbox"/>
Received LMWH within past 24 hours (only therapeutic dose for treatment of DVT/PE)	<input type="checkbox"/>	<input type="checkbox"/>
Received Novel Oral Anticoagulant within past 48 hours (unless normal coagulation can be established via aPTT, INR, platelet count, or direct factor Xa activity assay)	<input type="checkbox"/>	<input type="checkbox"/>
Active internal bleeding	<input type="checkbox"/>	<input type="checkbox"/>
GI bleeding within the past 21 days or GI malignancy	<input type="checkbox"/>	<input type="checkbox"/>
Infective endocarditis	<input type="checkbox"/>	<input type="checkbox"/>
Intra-axial, intracranial neoplasm	<input type="checkbox"/>	<input type="checkbox"/>

<b>Considerations for Exclusion:</b> (individualized risk vs. benefit analysis must be done)	No	Yes
Mild strokes with non-disabling symptoms	<input type="checkbox"/>	<input type="checkbox"/>
Blood Glucose < 50 or > 400 mm/dl (should treat if symptoms persist after glucose normalized)	<input type="checkbox"/>	<input type="checkbox"/>
Seizure at stroke onset (determine if symptoms post-ictal phenomenon vs. stroke)	<input type="checkbox"/>	<input type="checkbox"/>
Ischemic stroke in past 3 months	<input type="checkbox"/>	<input type="checkbox"/>
History of intracranial hemorrhage (consider cause, time since hemorrhage, volume of encephalomalacia and whether in the same vascular distribution as current stroke)	<input type="checkbox"/>	<input type="checkbox"/>
Major surgery within 14 days	<input type="checkbox"/>	<input type="checkbox"/>
Major trauma within 14 days	<input type="checkbox"/>	<input type="checkbox"/>
Concurrent or recent (within 3 months) myocardial infarct	<input type="checkbox"/>	<input type="checkbox"/>
History of bleeding diathesis	<input type="checkbox"/>	<input type="checkbox"/>
Patients with hx of stroke and diabetes mellitus in the 3-4.5 hour window	<input type="checkbox"/>	<input type="checkbox"/>

## Alteplase Inclusion / Exclusion Criteria

<b>Efficacy and Risk Not Well Established</b>	<b>No</b>	<b>Yes</b>
Age < 18	<input type="checkbox"/>	<input type="checkbox"/>
Sickle Cell Disease	<input type="checkbox"/>	<input type="checkbox"/>
Intracranial arterial dissection	<input type="checkbox"/>	<input type="checkbox"/>
Current Malignancy	<input type="checkbox"/>	<input type="checkbox"/>
Unruptured unsecured intracranial vascular malformation	<input type="checkbox"/>	<input type="checkbox"/>
Unsecured giant aneurysm (> 10 mm)	<input type="checkbox"/>	<input type="checkbox"/>
Acute pericarditis if mild/moderate stroke likely to produce mild disability	<input type="checkbox"/>	<input type="checkbox"/>
Arterial puncture at a non-compressible site in the past 7 days	<input type="checkbox"/>	<input type="checkbox"/>
NIHSS > 25 in 3-4.5 hour window	<input type="checkbox"/>	<input type="checkbox"/>

**Conclusion: Must choose one**

- Patient meets criteria for Alteplase (tPA)
- Patient does not meet criteria for Alteplase (tPA)

Comments:

MD Signature: \_\_\_\_\_

Date/Time: \_\_\_\_ / \_\_\_\_ / \_\_\_\_   :

# NIHSS

Category	Scale Definition	Date/Time	Date/Time	Date/Time
<b>1a. Level of Consciousness</b> (Alert, drowsy, etc.)	0= Alert 1= Drowsy	2= Stuporous 3= Coma		
<b>1b. LOC Question</b> (Month, age)	0= Answers both correctly 1= Answers one correctly	2= Answers neither correctly		
<b>1c. LOC Commands</b> (Open, close eyes, make fist, let go)	0= Performs both correctly 1= Performs one correctly	2= Performs neither task		
<b>2. Best Gaze</b> (Eyes open – patient follows examiners fingers/face)	0= Normal 1= Partial gaze palsy	2= Forced deviation		
<b>3. Visual</b> (Introduce visual stimulus [or threat] to patient visual field quadrants)	0= No visual loss 1= Partial hemianopia (blind)	2= Complete hemianopia 3= Bilateral hemianopia		
<b>4. Facial Palsy</b> (Show teeth, raise eyebrows, and squeeze eyes shut)	0= Normal 1= Minor paralysis	2= Partial paralysis 3= Complete paralysis		
<b>5. Motor Arm</b> <b>5a. Left Arm</b> (Elevate extremity to 90 and score drift/movement)	0= No drift 1= Drift 2= Some effort against gravity	3= No effort against gravity 4= No movement UN=Amputation or joint fusion		
<b>5b. Right Arm</b> (Elevate extremity to 90 and score drift/movement)	0= No drift 1= Drift 2= Some effort against gravity	3= No effort against gravity 4= No movement UN=Amputation or joint fusion		
<b>6. Motor Leg</b> <b>6a. Left Leg</b> (Elevate extremity to 30 and score drift/movement)	0= No drift 1= Drift 2= Some effort against gravity	3= No effort against gravity 4= No movement UN=Amputation or joint fusion		
<b>6b. Right Leg</b> (Elevate extremity to 30 and score drift/movement)	0= No drift 1= Drift 2= Some effort against gravity	3= No effort against gravity 4= No movement UN=Amputation or joint fusion		
<b>7. Limb Ataxia</b> (Finger, nose, heel down shin)	0= Absent 1= Present in one limb	2= Present in both limbs UN=Amputation or joint fusion		
<b>8. Sensory</b> (Pinprick to face, arm [trunk] and leg – compare side to side)	0= Normal 1= Mild to moderate sensory loss	2= Severe to total sensory loss		
<b>9. Best Language</b> (Name items, describe a picture and read sentences)	0= No aphasia, normal 1= Mild to moderate aphasia	2= Severe aphasia 3= Mute, global aphasia		
<b>10. Dysarthria</b> (Evaluate speech clarity by patients repeating listed words)	0= Normal 1= Mild to moderate	2= Severe dysarthria UN= Intubated		
<b>11. Extinction and inattention</b> (Use information from prior testing to identify neglect or double simultaneous stimuli)	0= No neglect 1= Partial neglect	2= Profound neglect		
		<b>Score</b>		
		<b>Initial</b>		

Initials: \_\_\_\_\_ Signature: \_\_\_\_\_

Initials: \_\_\_\_\_ Signature: \_\_\_\_\_

Initials: \_\_\_\_\_ Signature: \_\_\_\_\_

**Alteplase**

Bolus date / time: \_\_\_\_\_

Infusion start / complete time: \_\_\_\_\_/\_\_\_\_\_

NS line clear start / complete time: \_\_\_\_\_/\_\_\_\_\_

(50ml normal saline at same rate)

**B/P Goal:**

Less than  
180/105. If  
greater treat  
w/in 5 min

Pupil reaction		Movement	Smile	Tongue Deviation
B- Brisk	I - Irregular	N - Normal	S - Symmetrical	M- Midline
S - Sluggish	L - IOL	W - Weak	R - Right droop	R- Right
F- Fixed	C - cataract	C - Can't overcome gravity	L - Left droop	L - Left
H - Hippus	U - Unable to assess	S - Slight movement only	U - Unable to assess	U - Unable to assess
		P - Complete paralysis		

Date:	Pre TPA	Q 15min x 2hrs								Q30 min x 6hrs				
		1	2	3	4	5	6	7	8	1	2	3	4	
Time:														
HR														
BP														
RR														
Pupil size R mm														
Pupil size L mm														
Pupil reaction R														
Pupil reaction L														
R arm movement														
L arm movement														
R leg movement														
L leg movement														
Smile														
Tongue Deviation														
Angioedema														
RN Initials														
		Q 30 min x 6hrs						Q 1hr x 16hrs (continue on back)						
		5	6	7	8	9	10	11	12	1	2	3	4	5
Time:														
HR														
BP														
RR														
Pupil size R mm														
Pupil size L mm														
Pupil reaction R														
Pupil reaction L														
R arm movement														
L arm movement														
R leg movement														
L leg movement														
Smile														
Tongue Deviation														
Angioedema														
RN Initials														

		Movement	Smile	Tongue Deviation
B- Brisk	I - Irregular	N - Normal	S - Symmetrical	M- Midline
S - Sluggish	L - IOL	W - Weak	R - Right droop	R- Right
F- Fixed	C - cataract	C - Can't overcome gravity	L - Left droop	L - Left
H - Hippus	U - Unable to assess	S - Slight movement only	U - Unable to assess	U - Unable to assess
		P - Complete paralysis		

Q1hr x 16hrs (Further vitals and neuro checks per physician order)											
	6	7	8	9	10	11	12	13	14	15	16
Time:											
HR											
BP											
RR											
Pupil size R mm											
Pupil size L mm											
Pupil reaction R											
Pupil reaction L											
R arm movement											
L arm movement											
R leg movement											
L leg movement											
Smile											
Tongue Deviation											
Angioedema											
RN Initials											

\_\_\_\_\_/\_\_\_\_\_  
RN/EMT-P Signature Initials

\_\_\_\_\_/\_\_\_\_\_  
RN/EMT-P Signature Initials

\_\_\_\_\_/\_\_\_\_\_  
RN/EMT-P Signature Initials

\_\_\_\_\_/\_\_\_\_\_  
RN/EMT-P Signature Initials

\_\_\_\_\_/\_\_\_\_\_  
RN/EMT-P Signature Initials

\_\_\_\_\_/\_\_\_\_\_  
RN/EMT-P Signature Initials

\_\_\_\_\_/\_\_\_\_\_  
RN/EMT-P Signature Initials

\_\_\_\_\_/\_\_\_\_\_  
RN/EMT-P Signature Initials

# Acute Ischemic Stroke Medication Considerations

## Blood Pressure - avoid hypotension

1. **BEFORE** IV Alteplase (tPA) or other acute reperfusion therapy BP > 185/110 mmHg
  - a. Systolic > 185 mmHg or Diastolic > 110 mmHg
    - i. Labetalol 10 – 20 mg IV over 1-2 minutes, may repeat x1  
OR
    - ii. Nicardipine infusion 5 mg/hr, titrate by 2.5 mg/hr every 5-15 min, maximum dose 15 mg/hr. When desired BP attained, adjust to maintain proper BP limits.  
OR
    - iii. Other agents (hydralazine, enalaprilat, etc.) may be considered

**\*\*If BP is not maintained at or below 185/110 mmHg, do not administer tPA**

2. **DURING and AFTER** IV Alteplase (tPA) or other acute reperfusion therapy BP > 180/105 mmHg
  - a. Maintain BP at or below 180/105 for at least the first 24 hours post tPA
  - b. Monitor BP and Neuros q 15 min x 2 hrs, q 30 min x 6 hrs and q 1 hr x 16 hrs
  - c. Systolic > 180 - 230 or Diastolic > 105-120
    - i. Labetalol 10 mg IV followed by continuous IV infusion 2-8 mg/min  
OR
    - ii. Nicardipine infusion 5mg/hr, titrate by 2.5 mg/hr every 5-15 min. Max. dose 15 mg/hr
    - iii. If BP not controlled or diastolic BP > 140 mmHg, consider IV sodium nitroprusside
3. **Non-Alteplase/reperfusion patients**
  - a. Most patients with ischemic stroke do not require treatment for hypertension; however, it is generally agreed that patients with markedly elevated BP may have their BP lowered. A reasonable goal would be to lower BP by ~15% during the first 24 hours after onset of stroke. The level of BP that would mandate such a treatment is not known, but consensus exists that medications should be withheld **unless systolic BP is > 220 mmHg or the diastolic is > 120 mmHg.**

## Angioedema

1. **If facial, tongue and/or pharyngeal angioedema is present**
  - a. STOP the alteplase infusion and contact PSC
  - b. Treatment considerations
    - i. Diphenhydramine 50 mg IV
    - ii. Ranitidine 50 mg IV or famotidine 20 mg IV
    - iii. Methylprednisolone 125 mg IV
    - iv. If there is further increase in angioedema, cautious administration of epinephrine (0.1%) at 0.3ml subcutaneous may be considered; be aware of possible hypertension.