

LAC+USC MEDICAL CENTER POLICY

		Page 1	Of 4
Subject: THROMBOLYTIC ADMINISTRATION FOR ISCHEMIC STROKE	Original Issue Date: 8/9/16	Policy # 936	
	Supersedes: 8/23/19	Effective Date: 11/4/22	
Departments Consulted: Neurology Neurosurgery Emergency Medicine Pharmacy	Reviewed & Approved by: Attending Staff Association Executive Committee Senior Executive Council	Approved by:	
		(Signature on File) Chief Medical Officer	
		(Signature on File) Chief Executive Officer	

PURPOSE

To outline the use of thrombolytics in select acute ischemic stroke patients.

POLICY

LAC+USC Medical Center is available for emergent evaluation and management of acute stroke patients 24 hours a day, 7 days a week. The aim is to achieve a “door-to-needle” time of 60 minutes or less for acute ischemic stroke patients eligible for treatment with intravenous thrombolysis as per American Heart Association (AHA) and Brain Attack Coalition (BAC) guidelines

Please refer to the **Primary Stroke Receiving Center** Policy (MC937) for additional information.

PRE-ADMINISTRATION REQUIREMENTS

- The use of thrombolytics is recommended in patients presenting with new neurologic deficits within 4.5 hours of last known well time (LKWT). All patients without absolute contraindications should be considered for thrombolytic therapy if presenting within 3 hours of last known well time. All patients presenting between 3 and 4.5 hours and without absolute OR relative contraindications should be considered for thrombolytic therapy and be informed of the additional risk of thrombolytic therapy at the time of consent if feasible.
- The responsible provider must calculate and document the patient’s National Institute of Health Stroke Scale (NIHSS) and must use an up-to-date contraindication checklist prior to administering the medication. All met exclusion criteria should be documented in the patient’s chart.
- Possible contraindications include the following
 - a. Current intracranial hemorrhage
 - b. Subarachnoid hemorrhage
 - c. Active internal bleeding
 - d. Recent (within 3 months) intracranial or intraspinal surgery or serious head trauma
 - e. Presence of intracranial conditions that may increase the risk of bleeding
 - f. Bleeding diathesis
 - g. Current severe uncontrolled hypertension
- The decision to thrombolysed the patient will be made jointly between Neurology and the ED

Subject: THROMBOLYTIC ADMINISTRATION FOR STROKE IN THE EMERGENCY DEPARTMENT	Effective Date: 11/4/22	Policy # 936
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based on the patient's presentation or by Neurology and the primary team for an in-patient. Neurology will be responsible for ordering the medication.

- Consent:
Verbal informed consent should be obtained if it will not delay administration. If obtained, the provider should explicitly document the discussion of the thrombolytic therapy with the patient or representative in the medical record. If the patient is unable to consent and no family members or representatives are available, emergency exception for treatment should be applied and documented appropriately, provided there are no contraindications. In that circumstance, thrombolysis should be given as indicated and the provider should explicitly document the indication for treatment in the chart, why consent could not be obtained, and efforts made to obtain consent.

THROMBOLYTIC ORDERS

Stroke order sets are available in ORCHID for thrombolytic bolus and infusion dosage.

Consider initiating thrombolytics before the complete blood count (CBC) and coagulation studies in patients with no history of warfarin or other anticoagulant use, active cancer, liver or renal disease, or alcoholism.

THROMBOLYTIC ADMINISTRATION

Dosing and administration of thrombolytics should be performed in conjunction with ED pharmacy and/or ICU Pharmacy.

TRANSITION OF CARE

All patients receiving thrombolytic therapy for acute stroke should be admitted to the Intensive Care Unit.

DOCUMENTATION

The following should be documented on all patients receiving thrombolytics for acute stroke:

1. The patient's last known well time
2. The exact thrombolytic administration start time (bolus and continuous infusion)
3. During infusion and post-infusion vital signs, Neuro checks, and nursing assessment must be documented in ORCHID in accordance with non-coronary thrombolytic nursing policy (NCP 636).
4. The baseline NIHSS score (prior to thrombolytic administration)
5. Informed consent as appropriate

ANAPHYLAXIS AFTER THROMBOLYTIC THERAPY

Allergic reaction, including angioedema, may occur within 24 hours of thrombolytic administration.

1. Mild reactions (rash, itching)

The following therapies should be considered:

- Immediately stop the thrombolytic infusion
- Administer diphenhydramine (Benadryl), corticosteroids (Hydrocortisone), beta-agonist

Subject: THROMBOLYTIC ADMINISTRATION FOR STROKE IN THE EMERGENCY DEPARTMENT	Effective Date: 11/4/22	Policy # 936
--	--------------------------------	---------------------

nebulizations (if bronchospasm)

2. Moderate/severe reactions (facial/lingual swelling, anaphylaxis)

Resuscitate as appropriate.

The following therapies should be considered:

- Immediately stop the thrombolytic infusion
- Administer the drugs described under “mild reactions”
- Administer epinephrine IM or IV as needed.
- Bolus 1-2 L NS rapidly

INTRACRANIAL HEMORRHAGE AFTER THROMBOLYTIC THERAPY

For suspected hemorrhage after thrombolytics (symptoms such as neurologic deterioration, new headache, acute hypertension, vomiting) have been initiated:

- Resuscitation and continuous cardiac monitoring should be performed
- IV infusion of thrombolytics should be held (if still infusing) until CT is performed.
- A CT head without contrast should be obtained immediately.
- Check STAT labs: CBC, PT/PTT, fibrinogen, and D-dimer
- A type and screen and cross-match for blood products should be initiated
- If an intracranial hemorrhage is identified, Neurosurgery and Pharmacy should be consulted and the following therapies should be considered²:
 - a. Aminocaproic acid (Amicar) 5g IV over 15 minutes OR Tranexamic acid (TXA) 1000mg IV over 10 minutes; may repeat TXA 1000 mg over next 8 hours not to exceed total of 2 grams.
 - b. Cryoprecipitate 5-10 units IV
 - c. Platelets
 - d. Activated Prothrombin Complex Concentrate (aPCC)

RESPONSIBILITY

Department of Neurology
 Department of Neurosurgery
 Department of Emergency Medicine
 Pharmacy
 Nursing

REFERENCES

1. 2018 Guidelines for the Early Management of Patients With Acute Ischemic Stroke: A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association. *Stroke*2018;49:e46-e110.
2. Massachusetts General Hospital Stroke Service Protocol. Special Considerations and Management of Bleeding Complications After IV tPA. Retrieved from: <https://stopstroke.massgeneral.org/protocolThromSpec.aspx#continuedBleed>
3. Activase® [package insert]. South San Francisco, CA: Genetech;

Subject: THROMBOLYTIC ADMINISTRATION FOR STROKE IN THE EMERGENCY DEPARTMENT	Effective Date: 11/4/22	Policy # 936
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4. Brain Attack Coalition Door-To-Needle

REVISION DATES

November 4, 2022