LOS ANGELES GENERA MEDICAL CENTER POLICY

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:	Reviewed & approved by:	Approved by:
Neurology Neurosurgery Emergency Medicine Pharmacy	Attending Staff Association Executive Committee Senior Executive Officer	(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

Los Angeles General 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 thrombolyse the patient will be made jointly between Neurology and the ED

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

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 considered[2]:
  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;

4. Brain Attack Coalition Door-To-Needle

REVISION DATES

November 4, 2022