THROMBOLYTIC (NON-CORONARY) THERAPY ICU/ED

PURPOSE: To outline the management of patients in the ICU/ED receiving thrombolytic infusion for thrombosis formed outside of the coronary vasculature.

SUPPORTIVE DATA: Implement this protocol until all IV anticoagulants (including heparin) are discontinued.

Thrombolytic therapy is used to disintegrate clots in disorders such as venous/arterial thrombosis, pulmonary emboli (PE) and ischemic (non-hemorrhagic) stroke. There are key contraindications to thrombolytic therapy including recent intracranial bleeding.
Contraindications:

- Active internal bleeding
- Recent intracranial or intraspinal surgery or serious head trauma
- Intracranial conditions that may increase the risk of bleeding
- Bleeding diathesis
- Current severe uncontrolled hypertension
- Current intracranial hemorrhage
- Subarachnoid hemorrhage

The intravenous line used for thrombolytic therapy may be removed by a nurse, but only a provider may remove any other catheter used for thrombolytic infusion.

ASSESSMENT:

1. Assess the following prior to administration:
   - Level of consciousness (LOC)
   - Extremity movement
   - Pupils
   - Presence/absence of facial droop, arm weakness/numbness, speech difficulty (when given for the indication of stroke)
   - Vital signs (VS)
   - Peripheral circulation
     - Pulses
     - Skin temperature, color

FOR STROKE:

2. Assess VS every 15 minutes during infusion, and post-administration as follows:
   - Every 15 minutes for 2 hours then
   - Every 30 minutes for 6 hours then
   - Every hour for 16 hours
3. Perform neurological assessment (LOC, extremity movement, pupils) every 15 minutes during infusion and post-administration as follows:
   - Every 15 minutes for 2 hours then
   - Every 30 minutes for 6 hours then
   - Every hour for 16 hours
   - Assessment to include: neurological assessment, vitals, mental status, pupils assessment, neuromuscular/extremities assessment, Glasgow Coma assessment
   - NIHSS must be documented prior to administration of thrombolytic and every 12 hours

FOR NON-STROKE INDICATIONS:

4. Assess the following post administration every 15 minutes x 4, then a minimum of every hour x 24 hours:
   - VS
   - Neurological assessment (LOC, extremity movement, pupils)

FOR ALL INDICATIONS:

5. Assess the following every 15 minutes x 4, then a minimum of every hour:
   - Peripheral circulation

- Signs of bleeding:
  - Bruising, petechiae
  - Hematoma

6. Assess for signs of drug reaction (rash, fever, anaphylaxis) during administration.
7. Assess for facial droop, arm weakness/numbness and speech difficulty a minimum of every 4 hours.
8. Assess urine each void and stool with each bowel movement for color change that may indicate bleeding.
9. Monitor the following as drawn:
   - Prothrombin time, INR, activated partial thromboplastin time (APTT)
   - XaI
   - Hemoglobin, hematocrit, platelet count
   - Fibrinogen

ADMINISTRATION:

10. Administer thrombolytic as ordered. Order to include:
    - Medication bolus dose (provider to administer bolus)
    - Medication infusion rate (if applicable)
11. Ensure two nurses perform independent double check to verify that medication and pumps settings match provider's order prior to administration.
12. For **tenecteplase** orders: Ensure lines are flushed with a 10ml NS flush before and after tenecteplase is administered.
13. For **alteplase** orders: Hang a 50ml NS bag and restart the pump after completion of alteplase to ensure the total dose of alteplase is administered.

SAFETY:

14. Ensure injectable diphenhydramine (Benadryl) and hydrocortisone are readily available throughout infusion.
15. Avoid the following during infusion and for 24 hours post-administration:
    - Invasive procedures/interventions
    - Brushing/flossing teeth (may use sponge swab for oral hygiene)
    - Shaving with a razor blade
    - Nasogastric tube insertion
    - Arterial puncture
    - Anticoagulant or antiplatelet

PATIENT/ FAMILY TEACHING:

16. Instruct on the following:
    - Purpose of medication
    - Notification of RN immediately for:
      - Extremity numbness, tingling
      - Dizziness, headache
      - Bleeding
      - Neurological changes (e.g. change in LOC, speech difficulty, facial droop, extremity weakness/numbness)

REPORTABLE CONDITIONS:

17. Notify the provider n for:
    - Signs/symptoms of bleeding/allergic reaction
    - Significant change in:
      - VS
      - Neurological changes
      - Peripheral circulation
      - Lab values

ADDITIONAL PROTOCOLS:

18. Refer to following as indicated:
    - Intravenous Therapy

DOCUMENTATION:

19. Document in accordance with documentation standards.

Initial date approved: 02/95	Reviewed and approved by: Professional Practice Committee Pharmacy & Therapeutics Nurse Executive Committee Attending Staff Association Executive Committee	Revision Date: 11/00, 03/05,02/16, 02/24