Subject: Scope of Practice/Procedure – ALS Local Optional Scope
Monitoring Intravenous Heparin Infusions

Associated Policies:

I. Actions
   A. Anticoagulant.
   B. Metabolized in the liver; excreted in urine; half-life of 30-180 minutes.
   C. IV onset of action immediate; peak 5 minutes; duration 4-6 hours.

II. Indications
   A. Prevention and/or treatment of all types of thromboses and emboli, including deep vein thrombosis (DVT), pulmonary emboli (PE), and embolization associated with atrial fibrillation.
   B. Adjunct in treatment of coronary occlusion with acute myocardial infarction (MI).
   C. Prevention of re-thrombosis or re-occlusion during MI after thrombolytic therapy.
   D. Prevention of clotting in surgery of the heart or blood vessels, during blood transfusion, and hemodialysis.
   E. Treatment of disseminated intravascular coagulation (DIC).
   F. Maintain patency of peripheral and central IV lines, catheters, and ports.

III. Contraindications
   A. Absolute
      1. Sensitivity to heparin.
      2. Blood dyscrasias or bleeding disorders, e.g., hemophilia, severe thrombocytopenia.
      3. Uncontrolled bleeding except DIC.
   B. Relative
      1. Any disease state where risk of hemorrhage may be increased
      2. Aneurysm.
      3. Severe hypertension.
      4. Diverticulitis or ulcerative colitis.
      5. Severe hepatic disease or renal disease.
      6. Subacute bacterial endocarditis
      7. Following major surgery or spinal tap.

IV. Adverse effects
   A. Hemorrhage at any site, but may be manifested as easy bruising, petechiae, epistaxis, bleeding gums, hemoptysis, hematuria, melena, vaginal bleeding.
   B. Fever, chills (due to sensitivity).
   C. Abdominal cramps, nausea/vomiting, diarrhea (due to sensitivity).
   D. Rash, urticaria, anaphylaxis (due to sensitivity).

V. Administration
   A. Infusions containing heparin may only be monitored by specifically trained EMT-Ps. Patients with IV heparin infusions monitored by EMT-Ps may only be

transported by ALS providers approved by North Coast EMS.

B. Heparin may not be started or added to an IV solution. Patient has a pre-existing heparin infusion in a peripheral or central IV line. (Infusion was initiated by physician or medical staff.)

C. **EXCEPTION:** If heparin administration is interrupted (IV infiltration, accidental disconnection, etc.), the paramedic may restart the IV line and resume infusion as per transfer orders.

D. Patient does not have more than two (2) medicated infusions running, **exclusive** of potassium chloride (KCl).

E. Maximum concentration of heparin that can be monitored is 100 units/cc of IV fluid. (Normally pre-mixed at 25,000 units/500cc D5W.)

F. Infusion rate not to exceed 2000 units/hour.

G. Must use infusion pump for accuracy.

H. Patients being transported with a Heparin drip with be maintained on a 12 Lead monitor with reassessment for ECG changes every 10 minutes.

I. Reassessment of vital signs every 10 minutes and documented in the PCR.

J. Heparin infusion rate will remain constant during transport. Consult base hospital prior to adjusting infusion rate.

K. Consult base hospital immediately if patients shows evidence of any of the following conditions:
   1. Hemorrhage at any site.
   2. Possible cerebral hemorrhage, including:
      a) Altered level of consciousness.
      b) Severe headache
      c) Symptoms of increasing intracranial pressure (ICP).

VI. Precautions

A. Use with caution in the following patients:
   1. Pregnant
   2. Alcoholic (due to decreased hepatic function)
   3. Elderly (due to decreased hepatic and renal function and increased injury capability)

B. Avoid IM injections or other procedures that might cause bleeding.

C. Move patient gently to avoid bruising or bleeding.

VII. North Coast EMS retrospective evaluation of paramedic interfacility transports of patients on Heparin infusions:

A. Heparin infusion approved ALS provider agencies must alert North Coast EMS via a faxed copy of the corresponding PCR and the North Coast EMS Hep/Nitro Infusion Ambulance Transport Form each time a patient is transported using the Heparin infusion during Interfacility Transfers policy.

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Associated Policies:

B. Heparin infusion approved ALS provider agencies must include an evaluation of each Heparin infusion transport in their Quarterly QIP report.

C. North Coast EMS will quarterly review Heparin infusion transports for:
1. Number of Heparin infusion transports.
2. Compliance with documentation/signature/written order requirements.
3. Compliance with administration protocol.
   a. Vitals monitored and documented appropriately.
   b. Patient monitored for adverse effects.
   c. Changes to dosing and patient response.
   d. Patient origins and destinations.
4. Other significant findings, including transfer delays.

Approved: _____ **Date:** 8/14/24

Approved as to Form: Z Karstedt **Date:** 8/14/24