Clinical Practice Guideline for Initiation of Venous Thromboembolism (VTE) Prophylaxis In the Pediatric ICU

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- *Assess all patients at admission to PICU and upon any change in diagnosis/ symptom/surgical severity*
- *Patient should receive standard intervention based on risk level within 24 hours of admission*
- *Use the order set for PICU Venous Thromboembolism Prophylaxis Orders in EPIC*

*Assessment	Low Risk	At Risk		High Risk
Mobility Status	Baseline	Baseline	Altered	Altered
VTE Risk Factors	None	1 or more	0 - 1	2 or more

Intervention	Low Risk	At Risk		High Risk
Encourage Ambulation/Mobility	X	X	X	X
PT/OT		X	X	X
SCD and/or Compression Stockings			X	X
Anticoagulation Prophylaxis *(see Pharmacologic Considerations below)*				X

*adapted from http://www.solutionsforpatientsafety.org/wp-content/uploads/SPS-Recommended-Bundles.pdf

Mobility Definitions:

***Baseline**-Usual state of ambulation or mobility*

- ***<2 years old (not at age or definitive in ability to ambulate):** motor milestones achieved in development pre-morbidity*
- ***2-4 years old:** if in normal development pre-morbidity, ability to ambulate at least 150 feet*
- ***≥5 years old:** if in normal development pre-morbidity, ability to ambulate approximate to adult ability*

***Altered**-Temporary inability to ambulate freely, includes an acute state of altered mobility or due to pharmacologic interventions, intubation, or injury. Expected immobility ≥72 hrs.*

*VTE Risk Factors

- Braden Q of 2 or less in the past 12 hours
- Recent or current Central Venous Line/PICC in place
- Current diagnosis or personal history of thrombosis/Deep Venous Thrombosis/Pulmonary Embolism/Stroke
- Inherited Thrombophilia
  Gene mutations: Factor V Leiden or prothombin
  Deficiencies: protein C, S or antithrombin
- Family history of VTE in a 1st degree relative
- Chronic immobilization
- Critically ill
- Trauma
- Recent surgery (<30 days)
- Acute infection/MRSA/Sepsis
- Burns: >50-65% body surface area
- Exogenous estrogen/Oral Contraceptive use-current or within past 2 weeks
- Obesity:
  BMI>95 percentile in <18 years of age
  BMI>30 in ≥18 years of age
- Active cancer/malignancy
- Antiphospholipid antibody syndrome
- DKA
- Hyperosmolar state
- Inflammatory Bowel Disease
- Systemic Lupus Erythematosus
- Spinal Cord Injury
- Severe Dehydration
- Protein-losing disorder:
  Nephrotic syndrome, Protein Losing Enteropathy, draining chylous effusion
- Cyanotic heart disease or low-flow states

Pharmacologic Considerations

Pharmacologic Prophylaxis-Enoxaparin

- Patients < 2 months: 0.75 mg/kg subcutaneous BID
- Patients ≤ 60 kg: 0.5mg/kg subcutaneous BID
- Patients > 60 kg: 40mg subcutaneous **Daily** Or 30mg subcutaneous **BID**

Continue Enoxaparin until Patient can ambulate 150 feet, at baseline mobility, &/or Risk Factors are resolved

Contraindications to Pharmacologic Prophylaxis

- Ongoing or uncontrolled bleeding
- Uncorrected coagulopathy (PLT<50,000; INR>1.5; or PTT>2x control)
- <1 year since acute stroke
- Suspected or known paraspinal hematoma
- Major allergy to pork products
- History of heparin induced thrombocytopenia
- Intracranial monitoring (EVD/Bolt)
- CNS drain (epidural catheter/other)
- Risk for major surgical bleeding

Monitoring

- Monitor heparin assay and adjust dose if creatinine clearance is < 30 ml/min
- Consider heparin assay if creatinine clearance is < 60 ml/min or if patient is < 1 year and UOP is < 1 ml/kg/hr
- Heparin assay should be 0.2-0.4

Consider consulting pharmacy or hematology