

# Pediatric Venous Thromboembolism (VTE) Prophylaxis Guidelines

Endorsed by: Children's Service Line

### BayCare Medical Guideline

This BayCare Best Practice Guideline provides evidence-based criteria for venous thromboembolism (VTE) prophylaxis in pediatric patients 10 to 17 years old. It can be considered for patients less than 10 years of age at the physician discretion.

### Purpose

VTE is one of the leading causes of hospital-acquired morbidity for children in the U.S. It significantly increases hospitalization costs and prolongs the length of stay. The estimated incidence of pediatric VTE ranges from 0.07 to 0.49 per 10,000 children; however, VTE rates are much higher in hospitalized children, 4.9–21.9 per 10,000 hospital admissions. About 50 percent of these VTEs occur in children 11-18 years old, with the majority of hospital-acquired VTEs considered preventable.<sup>1</sup> Therefore, it is important to identify risk factors for VTE in order to identify these hospitalized children that are at risk for hospital-acquired VTE (HA-VTE) and initiate timely prophylaxis.

### Procedure

1. Pediatric patients 10 to 17 years old to be assessed **on admission** AND again **in 48-72 hours**
2. List of VTE risk factors

- Mechanical ventilation
- Central venous catheter
- Systemic blood infection
- Surgery (orthopedic, thoraco-abdominal)
- Altered mobility
- Hyperosmolar state (serum osmolality >320 mOsm/kg)
- Prior VTE
- Surgery within past 48 hours (orthopedic, thoraco-abdominal)
- Malignancy
- Asparaginase therapy for leukemia
- Inflammatory disease (IBD, SLE, Crohn's)
- Obesity (body mass  $\geq$  95th percentiles)
- Trauma
- Known thrombophilia (Ex: Factor V Leiden, prothrombin gene mutation, anticoagulant deficiency, nephrotic syndrome and others)
- Oral contraceptive use
- Altered mobility (confined to bed or limited movement out of bed)

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### 3. VTE Risk Category

Risk Category	Number of Risk Factors
Low	0-1
Moderate	2
High	≥ 3

### 4. VTE prophylaxis recommendation by risk category

Risk Category	Recommended Prophylaxis
Low	Early ambulation
Moderate	Early ambulation Mechanical prophylaxis (SCD)*
High	<ul style="list-style-type: none"><li>■ Early ambulation</li><li>■ Mechanical prophylaxis</li><li>■ Consider pharmacological prophylaxis<ul style="list-style-type: none"><li>▪ Dosing: Enoxaparin 0.5 mg/kg/dose q12h</li><li>▪ Maximum dose: 30 mg q12h</li><li>▪ Monitoring: Anti-Xa level should be obtained 4-6 hrs after the 3rd or 4th dose. Goal level: 0.1-0.3 IU/mL</li><li>▪ Re-check Anti-Xa at least once weekly and more frequently in case of renal dysfunction</li><li>▪ Contraindications to prophylactic anticoagulation: active bleeding, history of HIT, hypersensitivity to heparin, bleeding disorder, current VTE, lumbar puncture or epidural within 24 hrs, PLT &lt; 50,000.</li><li>▪ Consult hematology for patients at risk for bleeding or patients with renal dysfunction</li></ul></li></ul>

\* Contraindications to SCD use: skin conditions such a burn, severe dermatitis, extremity used has fracture or PIV in place, unable to obtain correct size of SCDs to fit limb

### 5. Reevaluate the need for VTE prophylaxis when risk factors change or at least once weekly.

## Citations

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