The Pediatric Enoxaparin Treatment (Low-Molecular Weight Heparin) Order Set has been approved by the P & T Committee to be implemented by Pharmacists. These orders are not used to treat patients with serious hemorrhagic complications.

**Pediatric Enoxaparin Treatment Indications:**
- ✔ Venous Thromboembolism (VTE)
- ✔ Pulmonary Embolism (PE)
- □ Other

**Hematology Consult:**
- □ Creatinine clearance less than 30 mL/min
- □ NICU patient (pediatric hematology consult is recommended)
- □ Other

**Labs**
- Draw prior to first enoxaparin dose:
  - ✔ CBC
  - ✔ PTT  □ PT/NR
  - ✔ Fibrinogen  ✔ Creatinine
  - ✔ CBC weekly for 2 weeks starting date: ____________
- ✔ Anti-Xa (LMWH) level: 4 hours after 2nd dose of enoxaparin for patients less than 18 years. No Anti-Xa (LMWH) needed for patients over 18 years of age with normal renal function. (Additional labs to be ordered by pharmacy.)
- □ Patient is on maintenance enoxaparin therapy: (see below)
- □ Anti-Xa (LMWH) and creatinine if anti-Xa has not been drawn in the last month.
- □ Anti-Xa (LMWH) and creatinine monthly if patient is at goal.
- Most recent Anti-Xa date ____________

**Dosing**
- ✔ Pharmacist will refer to the dosing nomograms in Table 1 and Table 2 to calculate and document ongoing enoxaparin dosing and labs. (Round enoxaparin dose to nearest whole number.)
- □ Enoxaparin anticoagulation therapy to be managed and orders written by patient’s physician / LIP according to the Anticoagulation Policy and low-molecular-weight heparin guideline.

**Table 1: For Initial dose calculation**

<table>
<thead>
<tr>
<th>Patient Age</th>
<th>Usual Dose/Normal Renal Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 3 months</td>
<td>1.7 mg/kg/dose Sub.Q. every 12 hours</td>
</tr>
<tr>
<td>3 months to 12 months</td>
<td>1.5 mg/kg/dose Sub.Q. every 12 hours</td>
</tr>
<tr>
<td>Greater than 12months to less than 5 years</td>
<td>1.2 mg/kg/dose Sub.Q. every 12 hours</td>
</tr>
<tr>
<td>5 years and older</td>
<td>1.1 mg/kg/dose (max dose 125 mg) Sub.Q. every 12 hours</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose per kg</th>
<th>Total Dose</th>
<th>Route</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Enoxaparin – Based on Table 1</td>
<td>_______ mg/kg</td>
<td>_______ mg (max dose 125 mg)</td>
<td>Sub Q</td>
<td>Every 12 hours</td>
</tr>
<tr>
<td>□ Enoxaparin – Continue patient’s therapeutic home dose</td>
<td>_______ mg/kg</td>
<td>_______ mg (max dose 125 mg)</td>
<td>Sub Q</td>
<td>Every 12 hours</td>
</tr>
</tbody>
</table>

**Table 2: For dose titration based on Anti-Factor Xa level**

<table>
<thead>
<tr>
<th>Anti-Factor Xa Level (Units/mL)</th>
<th>Hold Next Dose?</th>
<th>Dose Adjustment</th>
<th>When to Repeat Anti-Factor Xa (LMWH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 0.35</td>
<td>No</td>
<td>Increase by 25%</td>
<td>4 hours after next AM dose</td>
</tr>
<tr>
<td>0.35 - 0.49</td>
<td>No</td>
<td>Increase by 10%</td>
<td>4 hours after next AM dose</td>
</tr>
<tr>
<td>0.5 - 1</td>
<td>No</td>
<td>None</td>
<td>Next day (24 hours after last draw), then 1 week later, and then monthly</td>
</tr>
<tr>
<td>1.1 - 1.5</td>
<td>No</td>
<td>Decrease by 20%</td>
<td>4 hours after next AM dose</td>
</tr>
<tr>
<td>1.6 - 2</td>
<td>Yes</td>
<td>Decrease by 30%</td>
<td>Prior to next dose (trough), check creatinine as well. THEN anti-Xa 4 hours after next dose</td>
</tr>
<tr>
<td>Greater than 2</td>
<td>Yes, until anti-factor Xa is less than 1 unit/mL</td>
<td>All further doses should be held; check anti-factor Xa level every 12 hours until it is less than 1 unit/mL. The enoxaparin can then be restarted at a dose 40% less than originally prescribed. Call Hematology</td>
<td></td>
</tr>
</tbody>
</table>

If dose is greater than 2 mg/kg/dose and Anti-Factor Xa is NOT therapeutic, consider Hematology consultation.

**Signature:** ____________________________ (MD/LIP) Date: ____________ Time: ____________

**Signature:** ____________________________ (RN) Date: ____________ Time: ____________

**Signature:** ____________________________ (HUC) Date: ____________ Time: ____________
# Pediatric Enoxaparin Guideline – Revised Aug 2013

## Treatment for
- Venous thromboembolism (VTE)
- Others
- Pulmonary Embolism (PE)

## Contraindications
- Active bleeding or significant bleeding in last 24 hours
- Surgery within 12-24 hours
- Hemorrhagic disorders
- Received thrombolytic therapy within the last 12 hours
- Hematuria
- Risk for intracranial/intraocular hemorrhage
- Received epidural anesthesia within 24 hours – An enoxaparin treatment dose is defined as greater than 1mg/kg/dose. (Initiate only if LMWH anti Xa level less than 0.1)
- Known or suspected hemorrhagic stroke or HIT (Heparin Induced Thrombocytopenia)

## Cautions
- Renal dysfunction; creatinine clearance less than 30 mL/min
- Prolonged aPTT - consult hematology
- Hemodialysis
- Platelet count less than 100,000/mm³
- Morbid obesity

Consider hematology consult but do not delay emergent treatment. For neonatal patients, a pediatric hematology consult is strongly recommended.

## Notify LIP if the patient develops any of the following:
- Bleeding or positive stool guaiac
- Anti-factor Xa level greater than 1
- Platelet count less than 100,000/cu/mm or a greater than 50% drop from baseline, or 2 gram drop in Hgb
- Unusual headache or change in neurological exam

## Daily Care
- Strongly consider discontinuing aspirin containing products and anti-inflammatory medications (NSAIDS)
- No intramuscular injections
- Applying pressure over injection site for 2-5 minutes may help minimize bruising
- Avoid unnecessary venous or arterial punctures
- Guaiac stools that appear black, tarry, or contain frank blood

## Labs
- CBC, PTT, PT/INR, fibrinogen, creatinine prior to first dose
- Draw a CBC weekly for 2 weeks
- Anti-factor Xa (LMWH) level 4 hrs after 2nd dose for pts less than 18 years
- Subsequent anti-factor Xa (LMWH) levels ordered according to protocol Table 2
- No anti-factor Xa (LMWH) levels for patients greater than 18 yrs with creatinine clearance greater than 30 mL/min.

## Dosage and Administration for Treatment of VTE and PE
- Please dose in accordance with Tables 1 and 2 of the pediatric enoxaparin protocol

**CONVERSION TO ORAL ANTICOAGULANT THERAPY:** Continue enoxaparin for at least 5 days in combination with warfarin therapy. Ensure INR is therapeutic for at least two days prior to stopping enoxaparin therapy.

These guidelines are intended to be a guide to common clinical circumstances, and may not apply to certain patients and situations. The treating clinician must use judgment in application of guidelines to the care of individual patients. If there are questions regarding Enoxaparin please call hematology or the treating physician.