Enoxaparin
Pediatric Dosing and Monitoring Protocol

All patients &/or families should receive teaching prior to discharge on this medication.
Pediatric neurosurgery patients need clearance prior to initiating enoxaparin.

Dosing

- Pedi doses will be ordered using **Pediatric Enoxaparin Order Set**
  - Doses ≤ 10 mg – Round to nearest 0.1 mg
  - Doses 11- < 40mg – Round to nearest 1 mg
  - Doses ≥ 40 mg – Round dose to nearest 5 mg
- Time dose to be administered between the hours of 8:00 and 22:00 if possible, to avoid waking patient in the middle of the night for injections

Initial Enoxaparin Dose Based on Age and Indication

Age Group	VTE Treatment	VTE Prophylaxis
Preterm Infants	2 mg/kg/dose	0.75mg/kg/dose SC every 12 hours
Term Infants <1 month old	1.7 mg/kg/dose	0.75mg/kg/dose SC every 12 hours
Infants 1 to < 2 months old	1.5mg/kg/dose SC every 12 hours	0.75mg/kg/dose SC every 12 hours
Infants ≥ 2 months and children ≤18 years	1mg/kg/dose SC every 12 hours	0.5mg/kg/dose SC every 12 hours **OR** (if weight is greater than 40kg) 40mg once daily OR 30 mg every 12 hours (preferred in trauma patients)

LMW Heparin Assay (Anti-Xa) Monitoring for Treatment Dosing

- Due to variability in dose response, routine monitoring of the LMW Heparin concentration (Anti-Xa) in children and neonates receiving **treatment dose** enoxaparin is necessary.
- Draw first LMW Heparin assay in the morning, **4 hours after the 2nd or 3rd dose**
- If therapy is interrupted (≥ 2 doses held) and restarted, obtain a new LMW heparin assay after the 2nd or 3rd dose
- Lab is titled "**LMW heparin assay**" in Sunrise, and results are located in the results tab, under coagulation
- **Target LMW Heparin concentration (Anti-Xa) for treatment is 0.5 – 1 units/mL**
- Target LMW Heparin concentration (Anti-Xa) for prophylaxis is 0.2 - 0.4 units/mL

Dose Adjustments for Treatment Dose Enoxaparin in Pediatrics

LMW Heparin Assay (Anti Xa) (units/mL)	Hold Next Dose	Dose Change	Repeat LMW Heparin Assay
< 0.35	No	↑ 25%	4 hours after next dose
0.35 – 0.49	No	↑ 10%	4 hours after next dose
0.5 – 1	**No**	**No change**	**Once weekly**
1.1 – 1.5	No	↓ 20%	4 hours after next dose
1.6 - 2	No	↓ 30%	4 hours after next dose
> 2	YES- Hold until < 0.5 units/mL	↓ 40%	Every 12 hours until level < 0.5 units/mL

Monitoring

- Baseline labs- CBC, Chem 7
    - Dosage adjustments should be made for CrCl < 30 mL/min (dose once daily instead of q 12 hours)
- CBC should be checked 24 hours after initiation and upon restart of therapy. Then, every 2 or 3 days from Day 4 through Day 14 of therapy for signs of heparin induced thrombocytopenia.

Warfarin Bridging

- Overlap warfarin for at least 4-5 days **AND** until 2 therapeutic INRs on separate days are achieved

Reference:
Linkins LA, Dans AL, Moores LK, et al. Chest 2012; 141 (suppl):e495S-e530S
Monagle P, Chalmers E, Chan A, et al. Chest 2008;133(suppl);887S-968S.

Developed by: Anticoagulation Safety Committee 2009
Approved by: P&T 10/2009, P&T 06/2018
Revised by: Crystal Franco-Martinez, Pharm.D, BCPS, Ana Nicho, PharmD, BCPPS, Kay Green, RPh, Melissa Frei-Jones, MD 7/2017
Approved by: Anticoagulation Safety Committee 7/2017
Approved by: Pediatric Subcommittee 4/2018