Supplementary Material

Initial Dosing and Dosage Adjustments

Heparin should be dosed based upon actual body weight (kg): ____

1. Bolus doses (round to nearest 10 units) – **Maximum bolus dose = 10,000 units**
   - ◻ Initial bolus dose **80 units/kg**
   - ◻ Other initial bolus: _____ units/kg
   - ◻ No initial bolus
   - ◻ No bolus EVER

2. Continuous infusion rate (round to nearest 10 units) – **Maximum initial rate = 1,800 units/hour**
   - ◻ Initiate infusion at **18 units/kg/h**
   - ◻ Other initial infusion rate : _____ units/kg/h
   - ◻ **Non-weight based** initial infusion rate : _____ **units/h**

3. Monitoring
   - ◻ Draw INR/PT, CBC with platelet count and aPTT prior to starting heparin
   - ◻ Draw STAT anti-factor Xa 6 hours after starting heparin
   - ◻ Monitor anti-factor Xa and adjust per Weight-Adjusted Heparin Nomogram (target anti-factor Xa 0.3-0.7 units/mL)
   - ◻ Platelet count should be monitored daily for a minimum of 2 weeks and hemoglobin/hematocrit at least weekly

Weight-Adjusted Heparin Nomogram

Anti-Xa (units/mL)	Repeat Heparin Bolus Dose	Hold Infusion (minutes)	Rate Change	Repeat Anti-Xa level
Less than 0.2*	80 units/kg†	0	Increase 1.5 units/kg/h	6 hours
0.2-0.29	40 units/kg†	0	Increase 1 units/kg/h	6 hours
0.3-0.7	None	0	No change	6 hours**
0.71-0.8	None	0	Decrease 1 units/kg/h	6 hours
0.81-0.99	None	30 min	Decrease 1.5 units/kg/h	6 hours
Greater than or equal to 1*	None	60 min	Decrease 3 units/kg/h	6 hours

*Notify physician if 2 consecutive Anti-Xa values are in this range

**When 2 consecutive Anti-Xa values are in therapeutic range (0.3-0.7 units/mL), obtain Anti-Xa assay the next morning and every 24 hours thereafter

† Please ensure physician has not selected "No bolus ever" option above

This institutional heparin nomogram, based on anti-Xa level monitoring (calibrated specifically for unfractionated heparin) and designed for the treatment of deep vein thrombosis (DVT) or pulmonary embolism (PE), is the protocol utilized for the patients involved in this study. As described above, ordering physicians have the ability to select whether an initial or ongoing boluses will be given. The maximum rate, section 2 in red, applies only to the initial rate and is based on previously reported safety data. Once a patient has demonstrated subtherapeutic levels at the initial maximum rate, if reached due to weight, the rate can be increased based on the nomogram.

Monitoring and adjustment based on the nomogram is performed either by a clinical pharmacist, who has the authority to change orders in the EMR based on levels, or by a nurse with the supervision of a clinical pharmacist.