

Heparin Monitoring with Anti-Xa Levels

Situation:

- New heparin nomograms will go live February 19, 2018.
- Anti-Xa testing is now available at MMC for monitoring of heparin therapy. There will be a transition from monitoring with aPTT (activated partial thromboplastin time) to the use of anti-Xa monitoring.

Background:

- The Medication Management Committee approved an update to the nomogram used for heparin monitoring. The new nomogram will be based on anti-Xa levels instead of aPTT levels. The anti-Xa level is a more accurate and safer measure of heparin activity, and it is affected by fewer variables compared to aPTT measurements.

Assessment:

- The American College of Chest Physicians recommends a target of 0.3-0.7 IU/mL.

Recommendations:

Heparin Nomogram – Cardiac with Bolus: Target 0.3-0.7 IU/mL

****EPIC will calculate the dose in “units” for the bolus and in “units/hr” for the infusion****

Initial Bolus: 50 units/kg (Max of 7,500 units)	
Initial Rate: 12 units/kg/hr (Max of 3,000 units/hr)	
Anti-Xa level (IU/mL)	Rate change
<0.1	50 units/kg bolus and increase rate by 4 units/kg/hr
0.1-0.19	25 units/kg bolus and increase rate by 2 units/kg/hr
0.2-0.29	Increase rate by 1 unit/kg per hour
0.3-0.7	No change
0.71-0.8	Decrease rate by 1 unit/kg/hr
0.81-0.9	Hold x 60 min and decrease rate by 2 units/kg/hr
0.91-1.1	Hold x 120 min and decrease rate by 4 units/kg/hr
>1.1	Hold heparin infusion and notify physician

Heparin Nomogram – DVT/PE Treatment: Target 0.3-0.7IU/mL

****EPIC will calculate the dose in “units” for the bolus and in “units/hr” for the infusion****

Initial Bolus: 80 units/kg (Max of 10,000 units)	
Initial Rate: 18 units/kg/hr (Max of 3,000 units/hr)	
Anti-Xa level (IU/mL)	Rate change
<0.2	80 units/kg bolus and increase rate by 4 units/kg/hr
0.2-0.29	40 units/kg bolus and increase rate by 2 units/kg/hr
0.3-0.7	No change
0.71-0.8	Decrease rate by 1 unit/kg/hr
0.81-0.9	Hold x 30 min and decrease rate by 2 units/kg/hr
0.91-1.1	Hold x 60 min and decrease rate by 3 units/kg/hr
>1.1	Hold heparin infusion and notify physician

- Timing of monitoring will remain the same. Anti-Xa levels peak 3-5 hours after dosing; levels will continue to be measured 6 hours after initial bolus and each rate change.
- The “Heparin Nomogram – No Bolus” order set will be inactivated.