

# Heparin Advisor: Cardiac Subphase

## Heparin Advisor/All BayCare

\*Discontinue any enoxaparin (Lovenox) 8 hours prior to starting Heparin, or fondaparinux (Arixtra) 18 hours prior to starting Heparin, or dabigatran (Pradaxa), rivaroxaban (Xarelto), edoxaban (Savaysa), or apixaban (Eliquis) 12 hours prior to starting Heparin.

### Initial Bolus: 60 units/kg (max 5000 units)

- If patient weighs less than 83.4 kg, use 60 units/kg heparin bolus (rounded to nearest 100 units)
- If patient weighs greater than or equal to 83.4 kg, use MAX INITIAL bolus 5000-units heparin

**Initial Infusion Rate:** Dependent on whether patient is simultaneously receiving GPIIb/IIIa therapy (eptifibatide (Integrilin) or tirofiban (Aggrastat)).

### Standard Rate (not receiving GPIIb/IIIa inhibitors) – 12 units/kg/hr (max 1000 units/hr)

- If patient weighs less than 83.4 kg, use 12 units/kg/hr heparin drip
- If patient weighs greater than or equal to 83.4 kg, use MAX INITIAL rate 1000 units/hr heparin drip

### Lower Intensity Rate (receiving GPIIb/IIIa inhibitors) – 7 units/kg/hr (max 800 units/hr)

- If patient weighs less than 114.3 kg, use 7 units/kg/hr heparin drip
- If patient weighs greater than or equal to 114.3 kg, use MAX INITIAL rate 800 units/hr heparin drip

## Labs

- Anti-Xa, aPTT and CBC prior to start of therapy
- Anti-Xa/aPTT every 6 hours or 6 hours after each change until 2 consecutive therapeutic Anti-Xa/aPTT; Anti-Xa/aPTT daily once therapeutic
- CBC without differential performed at minimum q72h while on heparin infusion
- Notify Physician if platelets are less than 100,000 or 50% decrease from baseline

## Lab Monitoring Modality (anti-Xa vs. aPTT)

- Default monitoring for heparin drips is **anti-Xa**
- Monitoring switches to **aPTT** if any of the following conditions are present:
  - Baseline anti-Xa > 0.3 IU/mL AND level drawn PRIOR to administering heparin
  - Triglyceride level > 807 mg/dL
  - Total bilirubin level > 100 mg/dL

## Heparin Titrations

\*Dose titrations are made in either units/kg/hr or units/hr, which is weight-dependent based on the initial infusion rate above.

Adjustments to heparin drips should not be made prior to 4 hours from initiating the heparin infusion or from a previous titration recommendation. Ensure follow-up lab is entered 6 hours from initiating a heparin drip or therapy adjustments.

Anti-Xa	aPTT level	Titration Recommendation: <i>Units/kg/hr</i>	Titration Recommendation: <i>Units/hr</i>
Less than 0.2	Less than 45	Bolus: 25 units/kg rounded to the nearest 100 units Increase rate by 3 units/kg/hr	Bolus: 25 units/kg rounded to the nearest 100 units Increase rate by (3 units/kg/hr * patient weight (kg)) = _____ units/hr
0.2 to 0.29	45 to 52.9	Increase rate by 2 units/kg/hr	Increase rate by (2 units/kg/hr * patient weight (kg)) = _____ units/hr
0.3 to 0.6	53 to 79	No Change - Therapeutic	No Change - Therapeutic
0.61 to 0.7	79.1 to 87	Decrease rate by 1 units/kg/hr	Decrease rate by (1 units/kg/hr * patient weight (kg)) = _____ units/hr
0.71 to 0.9	87.1 to 103.9	Decrease rate by 2 units/kg/hr	Decrease rate by (2 units/kg/hr * patient weight (kg)) = _____ units/hr
0.91 to 1	104 to 112	Hold infusion for 1 hour Decrease rate by 3 units/kg/hr	Hold infusion for 1 hour Decrease rate by (3 units/kg/hr * patient weight (kg)) = _____ units/hr
Greater than 1	Greater than 112	Hold infusion for 1 hour Decrease rate by 4 units/kg/hr	Hold infusion for 1 hour Decrease rate by (4 units/kg/hr * patient weight (kg)) = _____ units/hr

## Instructions for Heparin Infusions Held for Reason other than aPTT/anti-Xa Levels

### Held less than 4 hrs:

1. Confirm with provider prior to resuming heparin.
2. Restart heparin infusion at previous recommended rate prior to being held.
3. Repeat appropriate monitoring (aPTT or anti-Xa) 6 hr after restarting.
4. Resume with *Heparin Advisor* dosing instructions.

### Held 4 hrs or more, OR protamine given within last 4 hrs:

1. Confirm with provider prior to resuming heparin.
2. Draw STAT appropriate monitoring (aPTT or anti-Xa) prior to restarting infusion.
3. Restart heparin infusion at previous recommended rate prior to being held. **Important:** Do not wait for STAT monitoring to result prior to resuming heparin drip.
4. Review STAT results:
  - If aPTT less than 39 **OR** anti-Xa less than 0.2, administer heparin 25 units/kg IV bolus once.
  - If aPTT greater than or equal to 39 **OR** anti-Xa greater than or equal to 0.2, continue at current infusion rate.
5. Repeat appropriate monitoring (aPTT or anti-Xa) in 6 hr and resume with *Heparin Advisor* dosing instructions.

**Heparin Infusion Held for Surgical Procedure:** Provider specifies resume instructions.