

## Weight-based bivalirudin protocol for heparin induced thrombocytopenia (aPTT ratio target range 1.5-2.5)

Initial infusion rate: 0.15 mg/kg/h

Renal dose adjustments:

<u>Creatinine clearance</u>	<u>Initial infusion rate</u>
30-60 ml/min	0.08-0.1 mg/kg/hr
< 30 ml/min	0.05 mg/kg/hr
Hemodialysis or CVVHD	0.03 mg/kg/hr

Combined hepatic-renal failure 0.03 mg/kg/hr

Cockcroft-Gault creatinine clearance calculation

Est. Creatinine Clearance =  $[(140 - \text{age}(\text{yr})) \times \text{weight}(\text{kg})] / [72 \times \text{serum Cr}(\text{mg/dL})]$   
(multiply by 0.85 for women)

### Dose adjustment algorithm

Check baseline aPTT and then first aPTT 2 hours after infusion initiated

<i>aPTT ratio (X control)</i>	<i>Hold infusion</i>	<i>Change infusion</i>	<i>Repeat aPTT</i>
< 1.2	0	+ 20%	4 hrs.
1.2 – 1.4	0	+ 10%	4 hrs.
1.5 – 2.5	0	0	4 hrs. <sup>1</sup>
2.6 – 3.2	0	- 10%	4 hrs.
3.3 – 4.0	30 min	- 20%	5 hrs.
4.1 – 5.0	60 min	- 30%	6 hrs.
>5.0 <sup>2</sup>	Hold infusion until aPTT ratio < 3.5 then restart at reduced rate	- 50%	Q2hrs. then 4 hrs. after restart infusion

<sup>1</sup>Check aPTT q4 h until aPTT in therapeutic range on 2 consecutive lab values then check aPTT q12 h X 2 then qAM as long as aPTT remains in the normal range and no dose adjustments are made. If the dose is changed, check the aPTT in 4 hours after the infusion change is made.

<sup>2</sup>Always recheck aPTT ratio values > 6.9 to make sure the value is not an artifact due to argatroban contamination of the specimen

Check Heme 8 at least q day

Risk factors for bleeding include: age>70, renal failure

Use bivalirudin with caution in:

Patients with recent surgery or trauma

Patients on thrombolytic or anti-platelet therapy

Patients with a baseline INR > 1.5

Patients with a recent stroke or gastrointestinal bleed (< 3 months)

Patients with renal dysfunction

Patients with severe hypertension

Patients with a baseline aPTT ratio > 1.3 (possibilities include a lupus anticoagulant or hemophilia)

Duration of therapy: When treating HIT, bivalirudin should be continued until the platelet count normalizes and then continued during warfarin co-therapy for at least 5-7 days until a therapeutic INR is achieved. (warfarin should not be started until a normal platelet count is achieved)