

## Weight-based lepirudin protocol for heparin-induced thrombocytopenia (aPTT ratio target range 1.5-2.0)

Initial infusion rate: 0.1 mg/kg/h (Max 16.5 mg/hr)

Renal dose adjustments:

<u>Creatinine clearance</u>	<u>Initial infusion rate</u>
45-60 ml/min	0.05 mg/kg/h (Max 5 mg/hr)
30-44 ml/min	0.03 mg/kg/hr (Max 3 mg/hr)
< 30 ml/min	Avoid, Consider argatroban

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)

(If both severe renal and hepatic dysfunction, consider bivalirudin)

### Dose adjustment algorithm

Check aPTT at baseline and then 6 hours after infusion initiated

<b><i>aPTT ratio (X control)</i></b>	<b><i>Hold infusion</i></b>	<b><i>Change infusion</i></b>	<b><i>Repeat aPTT</i></b>
< 1.2	0	+ 20%	6 hrs.
1.2 – 1.4	0	+ 10%	6 hrs.
1.5 – 2.0	0	0	6 hrs. <sup>1</sup>
2.1 – 3.2	0	- 10%	6 hrs.
3.3 – 4.0	60 min	- 20%	7 hrs.
4.1 – 5.0	120 min	- 30%	8 hrs.
>5.0 <sup>2</sup>	Hold infusion until aPTT ratio < 3.5 then restart at 50% lower rate	- 50%	Q2hrs. then 6 hrs. after restart infusion

<sup>1</sup>Check aPTT q6 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 4-6 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 lepirudin contamination of the specimen

Check Heme 8 at least q day

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

Use lepirudin with caution in:

Post-operative patients	Patients on thrombolytic or anti-platelet therapy
Patients with liver disease	Patients with a baseline INR > 1.5
Patients with a recent stroke or gastrointestinal bleed (< 3 months)	
Patients with a baseline aPTT ratio > 1.3 (possibilities include a lupus anticoagulant or hemophilia)	

Duration of lepirudin therapy: Lepirudin should be continued until platelet count normalizes after which warfarin co-therapy can be initiated. Lepirudin therapy should continue for at least 5-7 days after initiation of warfarin and until a therapeutic INR of 2-3 is achieved.