

## Weight-based unfractionated heparin protocol for venous thromboembolism

Before you initiate a heparin infusion always check a baseline Heme 8, PT and aPTT

**Initial bolus:**

Low bleeding risk 80U/kg (Max 7500 U)

**Initial infusion rate:**

Low bleeding risk: 18U/kg/h (Max 1600 U/hr)

**Dose adjustment algorithm**

Check first aPTT 4 hours after infusion initiated

aPTT ratio (X control)	Re-bolus	Hold infusion	Change infusion	Repeat aPTT
< 1.2	Repeat original weight based bolus#	0	+ 4 U/kg/h	4 hrs.
1.2 – 1.4	Repeat 0.5X original weight based bolus dose#	0	+ 2 U/kg/h	4 hrs.
1.5 – 2.5	0	0	0	6 hrs.*
2.6 – 3.2	0	0	- 2U/kg/h	6 hrs.
3.3 – 4.0	0	60 min	- 4 U/kg/h	7 hrs.
4.1 – 5.0	0	120 min	- 6 U/kg/h	8 hrs.
>5.0	0	Hold infusion until aPTT ratio < 3.5 then restart at reduced rate	- 7 U/kg/hr	Q2hrs. while holding infusion then 6 hrs. after restart infusion

**(Always round to nearest 50 U)**

# If given bolus when initiating heparin infusion (i.e. may not be given to neurology patients, post-operative patients and trauma patients with VTE- clinicians will have to make this judgment)

\*Check aPTT q6 hrs. 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.

Check Heme 8 at least q day  
Check stool Hemocult qod

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

Use heparin with caution in:

- Post-operative patients
- Patients with liver disease
- Patients with thrombocytopenia (platelet count < 100,000)
- Patients with a history of heparin allergy/HIT
- 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)
- Patients on thrombolytic or anti-platelet therapy
- Patients with a baseline INR > 1.5

Duration of heparin therapy: at least 5-7 days during initiation of warfarin for venous thromboembolism