(Order Set: 2254)

Revised: (7/29/2015)

WEIGHT:
HEIGHT:

DATE/TIME ORDERED

ANGIOMAX (BIVALIRUDIN) WEIGHT BASED DOSING PROTOCOL

1. **Criteria for use:**
   - Should be used for suspected or confirmed HIT or other intolerance to heparin in patients with indications for full anticoagulation (e.g., DVT, PE, atrial fibrillation, mechanical prosthetic valve)
   - May be used in patients with renal and hepatic dysfunction
   - If bleeding develops at any time, **IMMEDIATELY** notify Physician
   - This dosing protocol is not intended for use in PCI or other invasive procedures (vascular surgery, cardiac surgery, etc.)

2. **Baseline Labs:** PTT, PT/INR, platelet count, serum creatinine, HIT assay (if not already done). All labs should be drawn after discontinuation of heparin products.

3. **Available concentration:** 1 mg/1 mL

   Initial Adult Dosage:

Patient Characteristic	Dosage (mg/kg/hr)
Creatinine clearance (mL/min)	
> 60	0.08
30-60	0.05
≤29 or CRRT	0.03
Hemodialysis	0.02

4. **Laboratory Monitoring:**
   - Check PTT 3 hours after start of infusion and adjust dose (see chart below)
   - Check PTT 3 hours after each dose adjustment
   - After two consecutive PTT readings in therapeutic range (55-75), may check PTT daily
   - CBC daily
   - INR daily (if on warfarin)

5. **Infusion Rate Adjustments (Goal PTT 55-75 seconds):**

PTT (sec)	Recommendation
< 40	Increase by 0.01 mg/kg/hr
40 - 54	Increase by 0.005 mg/kg/hr
55 - 75	No change - goal PTT
76 - 90	Decrease by 0.005 mg/kg/hr
91 - 105	Hold for 2 hr, then decrease by 0.01 mg/kg/hr
> 105	Hold and recheck PTT every 3 hr until PTT in goal range, then decrease by 0.01 mg/kg/hr

If PTT not at goal within 24 hours, pharmacist may make adjustments to protocol.

6. **Guidelines for administration with Warfarin: (Physician must order)**
   - Angiomax and warfarin should be overlapped for a minimum of 5 days.
   - Do not start warfarin until the platelets reach at least 150,000.
   - Starting warfarin dose recommended to be 5 mg per day. No loading dose recommended.
   - Combination of Angiomax and warfarin results in **"false elevation"** of INR. This does not necessarily increase the risk of bleeding.
   - Discontinue Angiomax when the INR is greater than 3.0. An INR should be drawn 3 hours after the infusion is stopped, to confirm that the INR is within desired therapeutic range. Notify prescriber.
   - If the repeat INR is less than the desired therapeutic range, the most recent infusion rate should be restarted, INR drawn the next day, and this process repeated until the INR is within the desired therapeutic range.

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7. Perioperative Hold Parameters

Patient Characteristic	Recommendation
Creatinine clearance (mL/min)	
> 60	Hold for 2 - 4 hr and recheck aPTT
≤ 60	Hold for 4 - 6 hr (may need to hold longer during off-dialysis period in patients receiving hemodialysis) and recheck aPTT until aPTT is back to baseline

Physician Signature:_____ Date:_____ Time:_____

(Order Set: 2266) Revised: (2/27/2014)

WEIGHT:
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ARGATROBAN ORDERS AND DOSING PROTOCOL

1. **Criteria for Use:**
   - Should be used for suspected or confirmed heparin-induced thrombocytopenia (HIT) or other intolerance to heparin
   - This dosing protocol is not intended for use in PCI or other invasive procedures (vascular surgery, cardiac surgery, etc.)

2. **Baseline Labs:**
   PTT, PT/INR, platelet count, HIT assay (if not already done), liver panel

3. **Available Concentration:** 1 mg/mL (1000 mcg/mL)

4. **Laboratory Monitoring:**
   - Check PTT 3 hours after start of infusion and adjust rate (see chart below)
   - Check PTT 3 hours after each rate adjustment
   - After two consecutive PTT values in therapeutic range (55-75), check PTT daily
   - CBC daily
   - INR daily (if on warfarin)

5. **Initial Rate and Rate Adjustments (Goal PTT 55-75 seconds)**

PHYSICIAN MUST SPECIFY INITIAL RATE

	☐ Normal Hepatic Function **Initial Rate: 2 mcg/kg/min**	☐ Hepatic Impairment/Critically Ill* **Initial Rate: 0.5 mcg/kg/min**
PTT (sec)	Dosage adjustment **FROM CURRENT RATE**	
<36	Increase rate by 1 mcg/kg/min	Increase rate by 0.2 mcg/kg/min
36-54	Increase rate by 0.5mcg/kg/min	Increase rate by 0.1 mcg/kg/min
55-75	**NO CHANGE *Goal PTT***	
76-100	Decrease rate by 50%	Decrease rate by 50%
>100	**Stop** infusion for 1 hour, then decrease rate by 1 mcg/kg/min and restart infusion	**Stop** infusion for 1 hour, then decrease rate by 0.2 mcg/kg/min and restart infusion

- ***Critically ill** defined as patients with heart failure, multiple organ dysfunction, severe anasarca, or post cardiac surgery
- Do not exceed doses of 10 mcg/kg/min
- If PTT not at goal within 24 hours, pharmacist may make adjustments to protocol

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ARGATROBAN ORDERS AND DOSING PROTOCOL

6. **Guidelines for Administration with warfarin (Physician must order)**
   - Argatroban and warfarin should be overlapped for a **minimum** of 5 days
   - Do not start warfarin until platelet count is at least 150,000
   - Starting warfarin dose should be no greater than 5 mg per day. No loading dose recommended.
   - Discontinue argatroban when INR is greater than 4. An INR should be drawn 4-6 hours after the infusion is stopped to confirm that INR is within desired therapeutic range. Notify Physician.
   - If repeat INR is less than desired therapeutic range, the most recent infusiom rate should be restarted, INR drawn in 24 hours, and this process repeated until INR is within desired therapeutic range. Discontinue argatroban if repeat INR within desired therapeutic range.

Physician Signature:_____ Date:_____ Time:_____