

**Low Intensity (VV ECMO flow rates 3 L/min or greater): Goal aPTT 45-60 seconds**

**□ Heparin 25,000 unit/250 mL Titrate**

|                       |                                                                                       |                                                    |
|-----------------------|---------------------------------------------------------------------------------------|----------------------------------------------------|
| Initial Infusion Rate | 7.5 units/kg/hr (max. 1000 units/hr)                                                  | Check aPTT in 2 hours                              |
| aPTT less than 39     | Increase infusion rate by 2 units/kg/hr                                               | Check aPTT in 1 hour                               |
| aPTT 39 to 44         | Increase infusion rate by 1 units/kg/hr                                               | Check aPTT in 2 hours                              |
| aPTT 45 to 60         | No Rate Change<br>(target range)                                                      | Check aPTT in 4 hours                              |
| aPTT 61 to 90         | Decrease infusion rate by 1 units/kg/hr                                               | Check aPTT in 2 hours                              |
| aPTT 91 to 100        | Hold infusion for 30 minutes. Decrease<br>infusion rate by 2 units/kg/hr              | Check aPTT in 2 hours<br>after infusion re-started |
| aPTT above 100        | Hold infusion for 60 minutes. Decrease<br>infusion rate by 50% (multiply rate by 0.5) |                                                    |

**Bivalirudin (Angiomax) 250 mg/250 mL Titrate**

|                       |                                                                                                                                                                                                                                           |                                                    |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Initial Infusion Rate | <input type="checkbox"/> 0.15 mg/kg/hr ( <b>CrCl &gt;60 mL/min</b> )<br><input type="checkbox"/> 0.1 mg/kg/hr ( <b>CrCl 30-60 mL/min</b> )<br><input type="checkbox"/> 0.05 mg/kg/hr ( <b>CrCl &lt;30 mL/min OR Hemodialysis / SLED</b> ) | Check aPTT in 2 hours                              |
| aPTT below 45         | Increase infusion rate by 0.02 mg/kg/hr                                                                                                                                                                                                   | Check aPTT in 1 hour                               |
| aPTT 45 to 60         | No Rate Change (target range)                                                                                                                                                                                                             | Check aPTT in 2 hours                              |
| aPTT 61 to 75         | Decrease infusion rate by 0.01 mg/kg/hr                                                                                                                                                                                                   | Check aPTT in 4 hours                              |
| aPTT 76 to 90         | Decrease infusion rate by 0.02 mg/kg/hr                                                                                                                                                                                                   | Check aPTT in 2 hours                              |
| aPTT above 90         | Hold infusion for 1 hour. Decrease infusion rate by 50% (multiply<br>rate by 0.5)                                                                                                                                                         | Check aPTT in 2 hours<br>after infusion re-started |

If dialysis paused, held, or discontinued, reduce infusion rate to last therapeutic rate prior to initiating dialysis. If dialysis re-started, increase rate to the previous therapeutic rate while on dialysis.

**Medium Intensity (VV ECMO flow rates below 3 L/min; VA ECMO flow rates 3 L/min or greater): Goal aPTT 60-80 seconds**

**□ Heparin 25,000 unit/500 mL Titrate**

|                   |                                                                                    |                                                 |
|-------------------|------------------------------------------------------------------------------------|-------------------------------------------------|
| Initial Infusion  | 7.5 units/kg/hr (max. 1000 units/hr)                                               | Check aPTT in 2 hours                           |
| aPTT less than 39 | Increase infusion rate by 2 units/kg/hr                                            | Check aPTT in 1 hour                            |
| aPTT 39 to 59     | Increase infusion rate by 1 units/kg/hr                                            | Check aPTT in 2 hours                           |
| aPTT 60 to 80     | No Rate Change (target range)                                                      | Check aPTT in 4 hours                           |
| aPTT 81 to 90     | Decrease infusion rate by 1 units/kg/hr                                            | Check aPTT in 2 hours                           |
| aPTT 91 to 110    | Hold infusion for 30 minutes. Decrease infusion rate by 2 units/kg/hr              | Check aPTT in 2 hours                           |
| aPTT above 110    | Hold infusion for 60 minutes. Decrease infusion rate by 50% (multiply rate by 0.5) | Check aPTT in 2 hours after infusion re-started |

**Bivalirudin (Angiomax) 250 mg/250 mL Titrate**

|                       |                                                                                                                                                                                                                                           |                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Initial Infusion Rate | <input type="checkbox"/> 0.15 mg/kg/hr ( <b>CrCl &gt;60 mL/min</b> )<br><input type="checkbox"/> 0.1 mg/kg/hr ( <b>CrCl 30-60 mL/min</b> )<br><input type="checkbox"/> 0.05 mg/kg/hr ( <b>CrCl &lt;30 mL/min OR Hemodialysis / SLED</b> ) | Check aPTT in 2 hours                           |
| aPTT below 60         | Increase infusion rate by 0.03 mg/kg/hr                                                                                                                                                                                                   | Check aPTT in 1 hour                            |
| aPTT 60 to 80         | No Rate Change (target range)                                                                                                                                                                                                             | Check aPTT in 2 hours                           |
| aPTT 81 to 90         | Decrease infusion rate by 0.01 mg/kg/hr                                                                                                                                                                                                   | Check aPTT in 4 hours                           |
| aPTT 91 to 110        | Decrease infusion rate by 0.02 mg/kg/hr                                                                                                                                                                                                   | Check aPTT in 2 hours                           |
| aPTT above 110        | Hold infusion for 1 hour. Decrease infusion rate by 50% (multiply rate by 0.5)                                                                                                                                                            | Check aPTT in 2 hours after infusion re-started |

If dialysis paused, held, or discontinued, reduce infusion rate to last therapeutic rate prior to initiating dialysis. If dialysis re-started, increase rate to the previous therapeutic rate while on dialysis.

**High Intensity (VA ECMO flow rates below 3 L/min; intracardiac thrombus; prosthetic valves; mechanical circulatory support-Impella; and documented circuit thrombosis): Goal aPTT 70-90 seconds**

**□ Heparin 25,000 unit/500 mL Titrate**

|                   |                                                                                    |                                                 |
|-------------------|------------------------------------------------------------------------------------|-------------------------------------------------|
| Initial Infusion  | 7.5 units/kg/hr (max. 1000 units/hr)                                               | Check aPTT in 2 hours                           |
| aPTT less than 39 | Increase infusion rate by 2 units/kg/hr                                            | Check aPTT in 1 hour                            |
| aPTT 39 to 69     | Increase infusion rate by 1 units/kg/hr                                            | Check aPTT in 2 hours                           |
| aPTT 70 to 90     | No Rate Change (target range)                                                      | Check aPTT in 4 hours                           |
| aPTT 91 to 110    | Decrease infusion rate by 1 units/kg/hr                                            | Check aPTT in 2 hours                           |
| aPTT above 110    | Hold infusion for 30 minutes. Decrease infusion rate by 50% (multiply rate by 0.5) | Check aPTT in 2 hours after infusion re-started |

**Bivalirudin (Angiomax) 250 mg/250 mL Titrate**

|                       |                                                                                                                                                                                                                                           |                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Initial Infusion Rate | <input type="checkbox"/> 0.15 mg/kg/hr ( <b>CrCl &gt;60 mL/min</b> )<br><input type="checkbox"/> 0.1 mg/kg/hr ( <b>CrCl 30-60 mL/min</b> )<br><input type="checkbox"/> 0.05 mg/kg/hr ( <b>CrCl &lt;30 mL/min OR Hemodialysis / SLED</b> ) | Check aPTT in 2 hours                           |
| aPTT below 70         | Increase infusion rate by 0.03 mg/kg/hr                                                                                                                                                                                                   | Check aPTT in 1 hour                            |
| aPTT 70 to 90         | No Rate Change (target range)                                                                                                                                                                                                             | Check aPTT in 2 hours                           |
| aPTT 91 to 110        | Decrease infusion rate by 0.02 mg/kg/hr                                                                                                                                                                                                   | Check aPTT in 2 hours                           |
| aPTT above 110        | Hold infusion for 30 minutes. Decrease infusion rate by 50% (multiply rate by 0.5)                                                                                                                                                        | Check aPTT in 2 hours after infusion re-started |

If dialysis paused, held, or discontinued, reduce infusion rate to last therapeutic rate prior to initiating dialysis. If dialysis re-started, increase rate to the previous therapeutic rate while on dialysis.