Additional Recommendations for the Management of Anticoagulation in Pregnant COVID-19 patients:

Prophylactic-dose anticoagulation is recommended for pregnant patients hospitalized for severe COVID-19, if there are no contraindications to its use, and generally discontinued when the patient is discharged to home. Decisions regarding VTE prophylaxis in the pregnant and postpartum patient should be individualized, considering concomitant VTE risk factors.

Unfractionated heparin is generally preferred for pregnant patients who might be proximate to delivery because it is more readily reversed than low molecular weight heparin (LMWH). For these patients and those who have a contraindication to LMWH, prophylactic unfractionated heparin can be used. For pregnant patients who are unlikely to be delivered within a few days, prophylactic- or intermediate-dose LMWH is reasonable (e.g., enoxaparin 40 mg subcutaneously daily or 0.5 mg/kg SQ daily).

- Hold prophylactic anticoagulation during active labor or if delivery is anticipated within 12-24 hours.
- Guidance for Intermediate-Dosing in Pregnancy:
  - BMI < 40 and determined viable per MFM and LOW risk for urgent delivery -> enoxaparin 0.5 mg/kg SQ q24h
  - BMI < 40 and determined viable per MFM and HIGH risk for urgent delivery -> UFH 7,500 units SQ q12h
  - BMI >/= 40 and determined viable per MFM and LOW risk for urgent delivery -> enoxaparin 0.5 mg/kg SQ q12h
  - BMI >/= 40 and determined viable per MFM and HIGH risk for urgent delivery -> UFH 10,000 units SQ q12h

Appendix A: Standard vs Intermediate-Dose Prophylaxis or Therapeutic Anticoagulation in COVID-19 patients

Most guidelines and guidance documents favor the use of standard prophylactic anticoagulation for most acute and critically-ill hospitalized patients with COVID-19. Findings from recent randomized controlled trials do not support routine empirical use of intermediate dose prophylaxis or therapeutic anticoagulation in unselected ICU patients. Whether intermediate dose is superior to standard low-dose prophylaxis in critically ill patients also remains uncertain. An individualized assessment of the patient’s risk of thrombosis and bleeding is important when deciding on anticoagulation intensity. Some panel members acknowledge that higher-intensity anticoagulation may be preferred for patients judged to be at high thrombotic risk and low bleeding risk.

Decisions to escalate to therapeutic anticoagulation in the absence of confirmed VTE/PE is generally not recommended. In critically ill COVID-19 patients, therapeutic anticoagulation offered no additional benefit compared to low or intermediate-dose thromboprophylaxis with a high probability of inferiority. It remains unknown if therapeutic anticoagulation is beneficial over low or intermediate dose thromboprophylaxis in non-critically ill patients. Clinicians should continue to weigh the potential benefits and harms based on the most up-to-date available evidence in caring for their patients.

For patients receiving intermediate dose prophylaxis that are improving and transferring out of intensive care to the general ward environment, it is reasonable to de-escalate to standard VTE prophylaxis dosing. Appropriate dose and duration of anticoagulation (i.e. full
therapeutic dose, intermediate dose, or standard prophylaxis dose) should be a careful multidisciplinary decision, based upon the individual patient’s severity and duration of illness in the intensive care unit, deconditioning, mobility status, risks of thrombosis, and bleeding risk.

**Appendix B: Timing for Anti-Xa Monitoring when using Intermediate or Therapeutic Enoxaparin Dosing**

In order to balance the risk of thrombotic and bleeding events in COVID-positive patients, the following Anti-Xa monitoring schedules are recommended:

- For enoxaparin Q12 hour dosing frequency: first lab draw 4 hours after the 3rd dose; second lab draw 4 hours after the 7th dose
- For enoxaparin Q24 hour dosing frequency: first lab draw 4 hours after the 2nd dose; second lab draw 4 hours after the 4th dose

**Appendix C: Dose Adjustments for Patients outside target range when using Intermediate or Therapeutic Enoxaparin Dosing:**

When anti-Xa levels result below the target range for patients on enoxaparin, the following dose adjustment parameters are recommended. All dosage adjustments should be rounded to the nearest 10mg increment available, ensuring doses are rounded UP if levels are below target range.

<table>
<thead>
<tr>
<th>Anti Xa level (units/mL)</th>
<th>Dosage Change</th>
<th>Next level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate-Dose Prophylaxis (Based on Expert Opinion)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 0.1 unit/mL</td>
<td>Increase by 20%</td>
<td>4 hours after next dose</td>
</tr>
<tr>
<td>0.11 – 0.19 unit/mL</td>
<td>Increase by 10%</td>
<td>4 hours after next dose</td>
</tr>
<tr>
<td>0.2 – 0.49 unit/mL</td>
<td>NO CHANGE</td>
<td></td>
</tr>
<tr>
<td>0.5 – 1 unit/mL</td>
<td>Decrease by 10-20% per multi-disciplinary discussion of risk vs benefit</td>
<td></td>
</tr>
<tr>
<td>&gt; 1 unit/mL</td>
<td>Hold dose until anti-Xa level 0.5 units/ml, then decrease by 30-40% per multi-disciplinary discussion of risk vs benefit</td>
<td></td>
</tr>
</tbody>
</table>

Therapeutic dosing

See Lexi-Comp for Dosage titration to achieve therapeutic dose of 0.5 to 1.1 unit/mL for 1mg/kg q12h dosing