UCHealth Trauma Services
Venous Thromboembolism (VTE) Prophylaxis Protocol

Trauma patient (age > 12 years)

SCD to uninjured lower extremities, early mobility

Bleeding Risk

Cr Clearance < 30 mL/min

No

Yes

No

Yes

See Bleeding Risk Guidelines

Enoxaparin (Lovenox):
• 30 mg SC BID (<= 90kg or BMI <= 35)
• 40 mg SC BID (> 90kg or BMI > 35)
In BMI > 35 group or ICU admissions:
• Monitor anti-Xa levels 3-4 hours after 3rd dose, adjust dosing

Unfractionated Heparin:
• 5000 U SC TID (<= 90kg or BMI <= 35)
• 7500 U SC TID (> 90kg or BMI > 35)

All trauma patients to be started on VTE chemoprophylaxis on admission unless bleeding risk
**Bleeding Risk Guidelines** *(Dosing as above unless otherwise specified)*

<table>
<thead>
<tr>
<th>Condition</th>
<th>VTE Prophylaxis Guidelines</th>
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<tbody>
<tr>
<td><strong>TBI / ICH</strong></td>
<td>BIG/BIG-MAC 1/2 - start VTE prophylaxis within 24 hours with stable neurologic findings</td>
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<td>BIG/BIG-MAC 3 - start VTE prophylaxis within 48 hours of stable CT Head</td>
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<tr>
<td><strong>Spinal Cord Injury</strong></td>
<td>Incomplete SCI or spinal epidural hematoma - start by 48 hours (24 hours with spine team</td>
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<td>clearance)</td>
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<td><strong>Spine Surgery</strong></td>
<td>Hold VTE prophylaxis on the morning of surgery, resume at 48 hours post-op</td>
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<td><strong>ICP Monitor / EVD / Spinal Drain / Epidural catheter</strong></td>
<td>Enoxaparin 40 mg daily, starting 12 hours after insertion (or Heparin if CrCl &lt; 30 mL/min)</td>
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<td><strong>Solid Organ Injury</strong></td>
<td>If initially hemodynamic stability - start within 24 hours</td>
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<td>Once hemodynamically stable, no active transfusions, or with bleeding control - start within</td>
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<td>24 hours of meeting these criteria</td>
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<td><strong>Intra-ocular injury with risk of hemorrhage</strong></td>
<td>Start at 24-48 hours with ophthalmology clearance</td>
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<td><strong>Uncorrected coagulopathy (INR &gt; 2, Platelets &lt; 50,000, oral anticoagulant use)</strong></td>
<td>Hold VTE prophylaxis until underlying coagulopathy addressed</td>
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<td><strong>Ongoing hemorrhage and resuscitation</strong></td>
<td>Hold VTE prophylaxis until stable and not requiring transfusion, then start within 24 hours</td>
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**Additional considerations**

- Chemoprophylaxis will **NOT** be held on the morning of surgery except for:
  - Neurosurgical, spine, or ophthalmologic surgeries
  - Axial blocks
- Isolated hip fractures – may substitute Xarelto PO for EnoxaparinSC as inpatient at orthopedic surgeon discretion
- Consider IVC filter for high risk patients (e.g. SCI, significant TBI, pelvic or lower extremity fractures, ICU admission) especially with anticipated prolonged contra-indications to chemical VTE prophylaxis
- Transfer patients – if > 24 hours from injury with unknown or inadequate chemoprophylaxis, consider screening 4 extremity duplex U/S on arrival of transfer
- Monitor Anti-Xa levels, drawn 3-4 hours after 3rd dose:
  - < 0.2 – Adjust enoxaparin up 10mg per dose
  - 0.2 – 0.5 – Maintain current dosing
  - > 0.5 – Adjust enoxaparin down 10mg per dose
- Outpatient prophylaxis
  - Enoxaparin 40 mg SC daily or Xarelto 10 mg PO daily
    - Pelvic/acetabular/hip fractures – 4 weeks
    - > 2 non-weight bearing extremities – 4 weeks post-op or until ambulatory
    - New SCI – 3 months
- VTE Prophylaxis will not be held without a physician/APP order
  - Please refer to patient refusal escalation pathway

This protocol represents a safe, preferred approach to patient care based on institutional and personnel capabilities. However, the ultimate determination regarding guideline application is to be made by the treating physician and healthcare professionals with full consideration of the individual patient’s clinical status as well as available institutional resources. Protocols are not intended to take the place of healthcare providers’ judgment in diagnosing and treating individual patients. Individual patient circumstances may warrant deviation from these guidelines, and it is the clinician’s judgment that should determine the course of management. Literature addressing the care of the injured patient is continually evolving.
References:


