

Title: TRAUMA VENOUS THROMBOEMBOLISM (VTE) PROPHYLAXIS GUIDELINE**Scope:**

Adult Trauma Patients. Joint Level II Trauma policy for Tacoma General Hospital and St. Joseph Medical Center.

Policy Statement:

Prophylaxis guidelines for adult trauma patients.

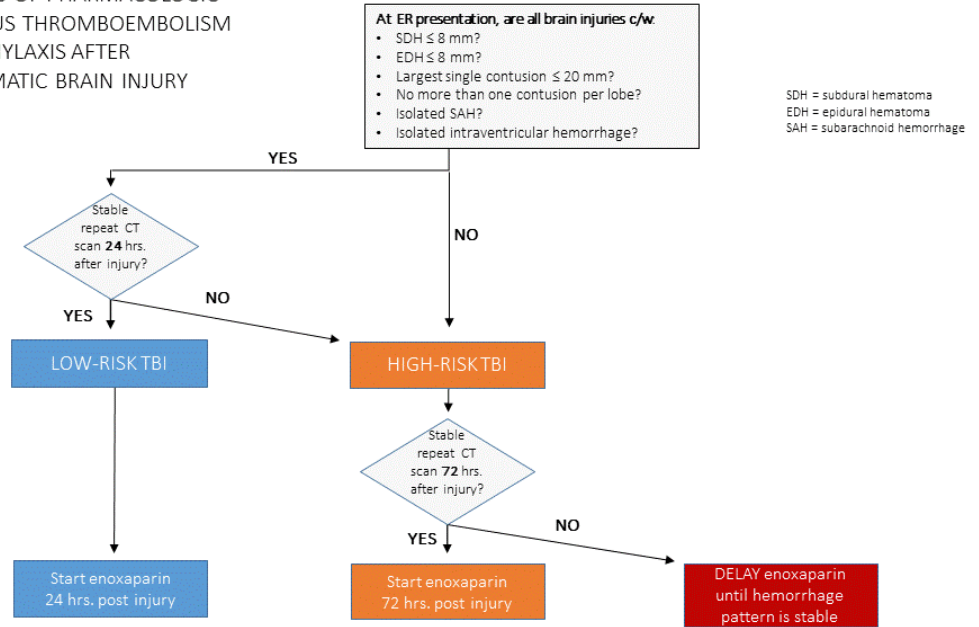
Procedure:

- I. General Trauma Service Guidelines:
 - A. Trauma patients are high risk for venous thromboembolism (VTE), which includes deep vein thrombosis (DVT) and pulmonary embolus (PE).
 - B. All patients on the trauma service will have DVT prophylaxis addressed.
- II. Mechanical prophylaxis
 - A. All patients will have sequential compression devices (SCDs) placed while in bed unless contraindicated.
- III. Chemical prophylaxis:
 - A. Unless contraindicated, chemical prophylaxis will start 12 hours after bleeding is controlled.
 - B. Choice of agent: Preferred chemoprophylaxis is enoxaparin in patients with normal renal function. Heparin should be used for patients with decreased renal function.
 - C. Dosing:
 1. Normal renal function, BMI < 40: enoxaparin 40 mg SQ BID
 2. Normal renal function, BMI ≥ 40: enoxaparin 0.5 mg/kg/dose BID
 3. Decreased renal function, BMI < 40: heparin 5000 units SQ Q8 hours
 4. Decreased renal function, BMI ≥ 40: heparin 7500 units SQ Q8 hours; *consider discussion with pharmacist for optimal dosing.*
 - D. Subcutaneous Heparin will be used instead of enoxaparin in patients with epidural catheters
- IV. Chemical prophylaxis should not be held prior to, or the morning of, surgeries or procedures unless specifically requested by the surgeon/proceduralist for extreme bleeding risks.
- V. Screening:
 - A. Duplex ultrasound screening is not indicated in asymptomatic (i.e., no symptoms of DVT/PE), standard-risk patients. Patient who are unable to have chemical VTE prophylaxis and have high-risk injury patterns (e.g., spinal cord injury, pelvic injuries, prolonged immobility), may have duplex screening ultrasound at the discretion of the attending physician.

	<p>VI. Inferior Vena Cava (IVC) filters</p> <p>A. IVC filters are not recommended for prophylaxis.</p> <p>B. Temporary IVC filters can be used in patients with documented DVT/PE and a contraindication to anticoagulation, or in patients with free floating clot seen on duplex US. The temporary filter should be removed as soon as is deemed safe.</p> <p>VII. Intracranial hemorrhage Patients:</p> <p>A. Patients with mild intracranial hemorrhage may be started on prophylaxis 24 hours after injury for low-risk injuries (see appendix A).</p> <p>B. High risk intracranial hemorrhage should have chemical prophylaxis start when the patient has a stable head CT scan at 72 hours post-injury (see appendix A).</p> <p>C. Patients with spinal hematoma should undergo mechanical prophylaxis only until cleared by the spine surgeon.</p> <p>VIII. Post Discharge Prophylaxis:</p> <p>A. Chemical prophylaxis should continue post discharge in, patients with limited mobility, pelvis and acetabulum fractures, and patients who undergo inpatient rehabilitation (including spinal cord injury patients). These patients should have enoxaparin for a minimum of 4 weeks. If enoxaparin is not possible, rivaroxaban can be used.</p>
	<p>Appendix: Appendix A: Trauma Trust Guidelines for VTE Prophylaxis in Head Injury Patients</p>
	<p>Related Policies/Documents: Pharmacological Reversal of Oral Anticoagulants</p>
	<p>References:</p> <p>Pannucci, C. J., Fleming, K. I., Agarwal, J., Rockwell, W. B., Prazak, A. M., & Momeni, A. (2018). The impact of once-versus twice-daily enoxaparin prophylaxis on risk for venous thromboembolism and clinically relevant bleeding. <i>American Society of Plastic Surgeons</i>, 142(1), 239-249. https://doi.org/10.1097/prs.00000000000004517</p> <p>Shelkrot, M., Miraka, J., & Perez, M. E. (2014). Appropriate enoxaparin dose for venous thromboembolism prophylaxis in patients with extreme obesity. <i>Hospital Pharmacology</i>, 49(8), 740-747. https://doi.org/10.1310/hpj4908-740</p> <p>Stephenson, M. L., Serre, A. E., Neeper, J. M., Caballero, D. C., & McNulty, J. (2016). A randomized controlled trial of differing doses of postcesarean enoxaparin thromboprophylaxis in obese women. <i>Journal of Perinatology</i>, 36(2), 95-99. https://doi.org/10.1038/jp.2015.130</p> <p>Walker, C. K., Sandmann, E. A., Horyna, T. J., & Gales, M. A. (2016). Increased enoxaparin dosing for venous thromboembolism prophylaxis in general trauma patients. <i>The Annals of Pharmacotherapy</i>, 51(4), 323-331. https://doi.org/10.1177/1060028016683970</p>
<p>Approval By: TG Adult Trauma Multidisciplinary Committee P&T Tacoma Med Ops MHS Quality Safety Steering Council Original Date:</p>	<p>Date of Approval: 3/3/11, 10/14, 11/21 1/22 2/22 3/22 3/11</p>

Appendix A: Trauma Trust Guidelines for VTE Prophylaxis in Head Injury Patients

TIMING OF PHARMACOLOGIC VENOUS THROMBOEMBOLISM PROPHYLAXIS AFTER TRAUMATIC BRAIN INJURY



Sources:

- ACS TQIP Best Practices In The Management Of Traumatic Brain Injury. American College Of Surgeons Committee On Trauma. Jan 2015. <https://www.facs.org/quality-programs/trauma/tqip/best-practice> Accessed Feb 7th 2017.
- Pastorek RA, Cripps MW, Bernstein IH, et al. The Parkland Protocol's Modified Berne-Norwood Criteria Predict Two Tiers of Risk for Traumatic Brain Injury Progression. *J Neurotrauma*. 2015; 31:1737-1743.