
Trauma Clinical Management Guideline: Venous Thromboembolism (VTE) prophylaxis for Severe Traumatic Brain Injured (TBI) Patients

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Purpose: To define guidelines for early clinical management of VTE prophylaxis in severe TBI patients.

Guidelines

1. Patients with TBI are at high risk for VTE with rates as high as 20-30%.
2. Sequential compression devices should be used on all head-injured patients at the time of admission.
3. Consider early placement of an IVC filter if the patient has contraindications to chemical VTE prophylaxis or if the initiation of Enoxaparin will be delayed >48 hours.
4. Chemical VTE prophylaxis should be considered within the first 72 hours (ideally within the first 24 hours) following TBI in most patients.
5. Chemical VTE prophylaxis may be initiated 48 hours after a stable head CT unless indicated otherwise by neurosurgery.
6. While DVT risk can be further reduced with antithrombotic therapy, this has to be weighed against the potential risk of hemorrhage expansion, which is greatest in the first 24 to 48 hours. The use and timing of antithrombotic agents in patients with TBI must therefore be individualized according to the degree of intracranial bleeding and the perceived risk of VTE.
7. Earlier initiation of pharmacologic prophylaxis (<72 hours) may be safe in patients at low risk for progression of intracranial bleeding where there is no hemorrhage progression at 24 hours after admission OR 48 hours after a stable head CT.

8. Chemical VTE prophylaxis dosing recommendations:
- Subcutaneous Enoxaparin is more effective in trauma patients than Heparin
 - Administer Enoxaparin 30mg every 12 hours if BMI <40
 - For patients with renal failure (CrCl <30) consider Enoxaparin 30 mg every day
 - Dosing for patients with high BMI consult pharmacy or consider Enoxaparin 40 mg BID
 - Oral anticoagulants are acceptable to use for DVT prophylaxis. Antiplatelet agents are not effective.

Approval: 7/17/18 Trauma Peer committee

References:

1. ACS TQIP-Best Practices in the Management of Traumatic Brain Injury accessed 7/19/17.
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3. Rogers, F.B., Cipolle, M.D., Velmahos, G., Rozycki, G., & Luchette, F.A. (2002). Practice management guidelines for the prevention of venous thromboembolism in trauma patients: The EAST practice management guideline work group. *Journal of Trauma-Injury, Infection, and Critical Care* 53 (1) 142-164.
4. Kearon, C et. Al. (2012). Antithrombotic therapy for VTE disease: Antithrombotic therapy and the prevention of thrombosis, 9th ed: American college of chest physicians evidence-based clinical practice guidelines. *Chest* 142, (6) 1698-1704.