

## Clinical Practice Guideline

---

### TITLE: Prophylaxis Against Venous Thromboembolism after Trauma

#### EFFECTIVE:

---

**PURPOSE:** This is a clinical practice guideline for medical interventions to be used to minimize the risk of venous thromboembolic disease (VTED) following acute injury. This is a guideline only. This does not constitute a standard of care or hospital policy. Clinicians can deviate from this guideline when clinically appropriate but must document a reason for doing so.

#### I. Scope

All injured persons admitted to the George Washington University Hospital, irrespective of admitting service.

This is a guideline only. The attending physician responsible for the patient's care can deviate from this guideline as clinically indicated but must document the reason for deviation in the medical record.

#### II. Background

A. Pulmonary embolism is the 3<sup>rd</sup> leading cause of death in those who survive for > 24 hours after injury

B. Risk factors for VTED following trauma include: age, lower extremity or pelvis fracture, emergency operation, femoral central venous line placement, major vein injury or repair, immobility, and delay in initiation of pharmacologic prophylaxis against VTED.

#### III. Procedures and Interventions

A. All trauma patients must receive some form of prophylaxis – mechanical and/or pharmacologic – against VTED

B. Routine screening duplex ultrasound is not needed for all trauma patients. The attending physician shall determine the need for imaging to diagnose VTED based on his/her clinical exam and judgment.

a. Screening duplex ultrasound is recommended within 72 hours of admission in patients who receive suboptimal pharmacologic prophylaxis against VTED (as defined below) for any reason


C. In the absence of contraindications, pharmacologic prophylaxis combined with mechanical prophylaxis is strongly favored in moderate to severely injured trauma patients defined as ISS score > 9

a. The risk of bleeding should be weighed against the significant benefit of pharmacologic prophylaxis. Pharmacologic prophylaxis should be started as soon as the risk of hemorrhage is deemed to be lower than the risk of VTED as assessed by the attending physician

## Clinical Practice Guideline

---

- b. The recommendations noted below apply to all trauma patients, including those with spinal cord injury and head injury.
- c. Enoxaparin 30 mg SC q12 hours is the agent of choice for prophylaxis against VTED following injury.
  - i. Unfractionated heparin can be used in place of Enoxaparin if the latter agent is contraindicated. However, the contraindication should be noted in the chart.
  - ii. Fondaparinux 2.5 mg SC daily may be used as an alternate agent to Enoxaparin.
  - iii. Aspirin and/or clopidogrel are not sufficient measures against VTED in the trauma population
- D. The use of inferior vena cava filters for patients who fail or are not candidates for conventional pharmacologic therapy or as a prophylactic measure against pulmonary embolism is covered under a separate clinical guideline



---

Babak Sarani, MD, FACS, FCCM  
Director, Trauma and Acute Care Surgery

1/31/2013  
Date

### REF:

1. Geerts, et al. ACCP Guidelines: Prevention of Venous Thromboembolism. Chest 133(6 suppl): 381S-453S; 2008
2. Lu, et al. Fondaparinux for prevention of venous thromboembolism in high risk trauma patients. JACS. 209(5): 589-594; 2009
3. Spinal cord injury thromboprophylaxis investigators. Prevention of VTED in the rehabilitation phase after spinal cord injury. J Trauma. 54(6): 1111-5; 2003