

# BTS VTE Prophylaxis Guideline for Trauma Patients

Consider VTE prophylaxis in **ALL** hospitalized trauma patients\*

## Precautions for pharmacologic prophylaxis include:

- ☐ Active hemorrhage/bleeding
- ☐ Coagulopathy: platelet count  $< 50,000/\text{mm}^3$  or INR  $> 2$
- ☐ Recent surgery (within the past 36-48 hrs)
- ☐ Imminent surgery (in the next 12 hrs)
- ☐ For placement or removal of epidural catheter, refer to BWH Guidelines for Regional Anesthesia in Anticoagulated Patients
- ☐ For patients with heparin-induced thrombocytopenia, refer to BWH HIT Guidelines

## Precautions for mechanical prophylaxis include:

- ☐ Severe PAD
- ☐ Severe HF or pulmonary edema
- ☐ Acute superficial or DVT
- ☐ Lower extremity fracture
- ☐ Recent skin graft, skin breakdown, or wound on affected extremity

Precautions allow for  
***mechanical prophylaxis only***

Precautions do  
not exclude  
prophylaxis

Precautions allow for  
***pharmacologic prophylaxis only***

## Mechanical Prophylaxis

- ☐ Intermittent pneumatic compression

*If using only mechanical prophylaxis:*

Reason for avoiding pharmacologic prophylaxis resolves

NO

- ☐ Continue mechanical prophylaxis
- ☐ Consider use of IVC filter for very high risk patients who cannot receive pharmacologic prophylaxis

Use both

YES

## Pharmacologic Prophylaxis (in order of preference):

1. Enoxaparin 40mg SQ daily (WT  $< 150\text{kg}$ , CrCl  $> 30\text{mL/min}$ )
2. Enoxaparin 30mg SQ daily (WT  $< 150\text{kg}$ , CrCl = 10-29mL/min)
3. Enoxaparin 40mg SQ BID (WT  $> 150\text{kg}$ , CrCl  $> 30\text{mL/min}$ )
4. Heparin 5000 units SQ q8h
5. Heparin 5000 units SQ q12h (small patient and/or poor renal function and/or higher risk of bleeding)

## For neurosurgical patients (when repeat head CT shows non-progression of bleed):

Mechanical prophylaxis and heparin 5000 units SQ unless neurosurgical team allows enoxaparin

## Monitor:

- ☐ Verify order has been written and not held
- ☐ Platelets at least q48h
- ☐ Renal function
- ☐ Signs/symptoms of bleeding and VTE
- ☐ Reassess daily for bleeding and thrombosis risk

\*For list of VTE risk factors of higher concern, see reverse side

# Risk Assessment for VTE

Venous thromboembolisms are a leading cause of fatal complications from traumatic injuries. They also result in prolonged hospitalizations and recovery. VTE prophylaxis must consider the risk of a VTE against the risk of bleeding. Timely and ongoing VTE risk assessment and implementation of appropriate prophylaxis modalities are priorities for patient safety. The ultimate goal is return to full ambulation as soon as possible. Risk stratification for VTE requires assessment of both the patient's individual and procedure-specific risk factors. While all inpatient trauma patients should be considered at risk, recognition should be made of those at high potential for VTE. The risk has been seen to increase with the number of risks identified. Below are some variables that have been found to heighten the risk of VTE:

**Does the patient meet one of the following:**

- ☐ Multiple trauma (<1 month)
- ☐ Hip, pelvis, or leg fracture (<1 month)
- ☐ Acute spinal cord injury (<1 month)
- ☐ TBI or spinal injury
- ☐ Elective major lower extremity arthroplasty
- ☐ History of VTE
- ☐ Hypercoagulable state
- ☐ Major surgery (intra-abdominal surgery and all others >45 minutes)

**AND/OR**

**Does the patient meet a combination of the following:**

- ☐ Age >70
- ☐ Immobility or bed rest
- ☐ Major venous injury/repair, varicose veins
- ☐ Presents in shock
- ☐ Central line or femoral catheter
- ☐ Active malignancy
- ☐ Pregnant or  $\leq 1$  month post partum
- ☐ Obesity (BMI  $\geq 30$ )

**These guidelines have been assimilated from literature, research, hospital guidelines, and consensus. The types of injury and invasive procedures vary in risk of bleeding. Thus, this is meant to support but never replace clinicians' professional decision making based on the patient's unique presentation.**

Gould, M., Garcia, D., Wren, S. et al. Prevention of VTE in Non Orthopedic Surgical Patients. *Chest*. 141 (2): 227S-277S. February 2012 Supplement.  
DeMuro, J. & Hanna, A. Prophylaxis of Deep Vein Thrombosis in Trauma Patients: A Review. *Journal of blood disorders and Transfusion*. 2013, 4:151.