VENOUS THROMBOEMBOLISM (VTE) PROPHYLAXIS IN THE HOSPITALIZED MEDICAL PATIENT

Year 2003 DVT Prophylaxis Consensus Panel* Guidelines and Recommendations

**DVT Prophylaxis Consensus Panel**

- Samuel Z. Goldhaber, MD
  - Hospitalist, New York Presbyterian Hospital
  - Associate Professor of Medicine, Columbia University
- Uri Elkayam, MD
  - Los Angeles, California
  - Associate Professor of Medicine, University of California, Los Angeles
- Roger D. Yusen, MD, MPH
  - Minneapolis, Minnesota
  - Department of Medicine, University of Minnesota

---

**RISK FACTOR ASSESSMENT**

Does the patient have restricted mobility? And is at least one of the VTE risk factors in Table 1 present?

- [ ] Yes
- [ ] No

---

**PHARMACOLOGIC PROPHYLAXIS FOR VTE INDICATED**

![Image](Image)

---

**EXCLUSION CRITERIA**

Are exclusion criteria for pharmacologic (i.e., anticoagulant) prophylaxis present?

- [ ] Yes
- [ ] No

---

**PROPHYLAXIS GUIDELINES**

**ENDOXAPARIN 40 mg Subcutaneously once daily**

**UNFRACtionated heparin (UFH) 5000 IU subcutaneously every 8 hours**

Clinical trials support use of pharmacological prophylaxis for about 7 to 12 days, although a shorter or longer duration of prophylaxis may be appropriate based on clinical factors or length of hospitalization.

---

**VTE RISK FACTORS**

- [ ] Age > 40 years (VTE risk increases with advancing age)
- [ ] Intensive care unit (ICU) admission
- [ ] Prior history of VTE (DVT or PE)
- [ ] Obstetric
- [ ] Ischemic (non-hemorrhagic) stroke
- [ ] Heart failure
- [ ] Chronic lung disease
- [ ] Respiratory failure
- [ ] Pneumonia
- [ ] Infection
- [ ] Malignancy
- [ ] Thrombophilia (hematological disorders that promote thrombosis)
- [ ] Active collagen-vascular disorder
- [ ] Inflammatory disorder (e.g., inflammatory bowel disease, etc.)
- [ ] Central venous line/saturator
- [ ] Varicose veins
- [ ] Birth control pills
- [ ] Estrogen replacement therapy
- [ ] Nephrotic syndrome

This is a partial list of common risk factors. Clinicians are advised to consider other risk factors or conditions that may predispose to VTE.

---

**TABLE 1**

**POSSIBLE EXCLUSION CRITERIA FOR PHARMACOLOGICAL VTE PROPHYLAXIS**

- Bleeding (active)
- Hypersensitivity to UFH or LMWH
- Uncontrolled hypertension
- Significant renal insufficiency (creatinine clearance <30 ml/minute)
- Coagulopathy
- Hepatic-induced thromboprotein
- Recent intracranial or intravascular surgery
- Spinal tap or epidural anesthesia within 12 hours
- Other relative or absolute exclusion criteria for pharmacological prophylaxis, including surgical procedures placing patients at high risk for bleeding

This is a list of possible exclusion criteria. Accordingly, clinicians are advised to consider other risk factors or conditions that, in the individual patient, may be relative or absolute. Clinicians should be cautious about the use of prophylaxis in patients with active cancer who have VTE risk factors that are attributable to cancer.

---

**VTE RISK FACTORS DURING HOSPITALIZATION**

- Prevention of DVT in medical patients is an ACCP (American College of Chest Physicians) grade A recommendation for patients without risk factors.
- UFH (unfractionated heparin) is preferred for VTE prophylaxis in patients with risk factors, as recent clinical evaluations suggest that LMWH (low-molecular weight heparin) is more effective in preventing VTE in prophylaxis, especially the older men and women, with no renal insufficiency. In a recent meta-analysis, UFH was superior in preventing VTE.
- Although enoxaparin 40 mg once daily is FDA-approved for neurosurgical patients, it is not further support for use of LMWH, since there is no evidence for this subgroup as reported in the PREVENT trial (www.theheart.org) using dalteparin. UFH is a reasonable alternative (FDA approved for medical prophylaxis).
- There are insufficient data regarding precise prophylactic dosing of enoxaparin for obese patients weighing >150 lb. The ACCP recommendation is that obese patients be given the LMWH regimen in the following dosing.
REFERENCES


38. Goldhaber SZ, Dunn K, MacDougall RC. New onset of venous thromboembolism among hospitalized patients at Brigham and Women’s Hospital is caused more often by prophylaxis failure than by withholding treatment. Chest 2000;118:1680-1684.


