



Venous Thromboembolism Prophylaxis

PERFORMANCE IMPROVEMENT TOOLS

Figure 1. Risk Factors for VTE

Surgery	Selective estrogen receptor modulators
Trauma (major trauma or lower-extremity injury)	Estrogen-containing oral contraceptives or hormone replacement therapy
Immobility, lower-extremity paresis	Erythropoiesis-stimulating agents
Cancer (active or occult)	Acute medical illness
Cancer therapy (hormonal, chemotherapy, angiogenesis inhibitors, radiotherapy)	Inflammatory bowel disease
Venous compression (tumor, hematoma, arterial abnormality)	Nephrotic syndrome
Previous VTE	Myeloproliferative disorders
Increasing age	Paroxysmal nocturnal hemoglobinuria
Pregnancy and the postpartum period	Obesity
	Central venous catheterization
	Inherited or acquired thrombophilia





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Figure 2. Thromboembolism Risk and Thromboprophylaxis in Hospital Patients

Levels of Risk	DVT Risk Without Thromboprophylaxis	Suggested Options
LOW RISK		
Minor surgery in mobile patients	< 10%	No specific thromboprophylaxis Early and “aggressive” ambulation
Fully mobile medical patients		
MODERATE RISK		
Most general, open gynecologic or urologic surgery patients	10–40%	LMWH, UFH bid or tid, fondaparinux
CHF		Mechanical prophylaxis
Medical patients, bed rest or sick		
COPD, pneumonia		
HIGH RISK		
Hip or knee arthroplasty, HFS	40–80%	LMWH, fondaparinux, VKA (INR 2–3)
Major trauma, SCI		Mechanical prophylaxis may be used if risk of bleeding is high; switch to anticoagulants when risk decreases
Abdominal/pelvic cancer surgery		



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Figure 3. VTE Retrospective Performance Review

	Chart 1	Chart 2	Chart 3	Chart 4	Chart 5	Chart 6
How was this patient evaluated for VTE risk?						
ACCP high/moderate/low						
List of risk factors						
Printed						
Computer						
Quantitative evaluation (eg, Caprini score)						
Evaluated if 1 or more risk factors present						
Not evaluated						
Risk factors identified						
History of VTE						
Trauma						
Major surgery						
Cancer or chemotherapy						
Age > 40						
Immobilization						
CVD						
Pregnancy						
Estrogen therapy						
Erythropoiesis-stimulating agent						
Other						
Number of risk factors identified (0-10)						
Prophylaxis initiated						
Heparin/LMWH						
Mechanical						
Fondaparinux						
Warfarin						
Other						



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Figure 3. VTE Retrospective Performance Review (cont)

	Chart 1	Chart 2	Chart 3	Chart 4	Chart 5	Chart 6
How long was prophylaxis continued?						
Not initiated						
Until discharge						
10 days						
30 days						
90 days						
Indefinitely						
Outcome						
DVT						
PE						
Death						
Bleeding						
No thromboembolic events						
If there was an event, when did it occur?						
In hospital						
Within 10 days						
Within 30 days						
Within 90 days						
After 90 days						
Did a VTE alert system encourage evaluation of this patient?						
Yes						
No						
Would your hospital benefit from a VTE alert system?						
Yes						
No						
Already in place, adequate						
Already in place, should be improved						
What will you change in your practice in the future?						