



SAMPLE VTE PROTOCOLS

VTE Protocol Specs: **Adult inpatients**
Institution: Carilion Medical Center Format: Paper Scope: new patients admitted
Pages: 1 Content/Use: this form evolved into a standing order for LMWH triggered when nurses identified risk factors during the admission intake assessment Formulary: two LMWHs (Dalteparin and Enoxaparin)

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MED/SURG SERVICES VENOUS THROMBOEMBOLIC (VTE) PROPHYLAXIS ORDERS (ADULT)

ORDER NUMBER: MS-27.0 LAST REVIEWED/REVISED: **PILOT 11/03**
DATE OF ORIGIN: 08/03 APPROVED:

DATE/TIME: _____ Height/Weight: _____
DIAGNOSIS: _____
ALLERGIES: _____

Risk Factors:
Any **two or more** is an indication for VTE prophylaxis

- ▶ Age over 40 years
- ▶ Obesity
- ▶ ICU admission
- ▶ Presence of a central venous line
- ▶ Prolonged immobility, more than 24 hours
- ▶ Past history of Chronic Lung Disease or an inflammatory disorder
- ▶ Admitted with or a history of heart failure, pneumonia or serious infection, varicose veins, nephrotic syndrome, sickle cell disease, pregnancy or estrogen use

“High” Risk Factors:
Any **One** is an indication for VTE prophylaxis

- ▶ Major trauma (abdomen, pelvis, hip or leg)
- ▶ Ischemic (non hemorrhagic) stroke or paralysis
- ▶ Malignancy
- ▶ Any prior history of deep vein thrombosis or pulmonary embolism

Anticoagulant prophylaxis exclusion criteria:

- ▶ Significant renal insufficiency (affects low molecular weight heparin only!)
- ▶ Uncontrolled hypertension
- ▶ Presence or history of heparin induced thrombocytopenia
- ▶ Recent intraocular or intracranial surgery
- ▶ Spinal tap or epidural anesthesia within the previous 24 hours
- ▶ Any active bleeding
- ▶ Coagulopathy or thrombocytopenia
- ▶ Current treatment with anticoagulants
- ▶ Hypersensitivity to unfractionated heparin or low molecular weight heparin

LAB: CBC with diff every 2 days while on Heparin or LMWH (Low Molecular Weight Heparin)

TREATMENTS: (please check appropriate boxes for patient)

For patients with three or more risk factors or any two risk factors with one risk factor being stroke/paralysis, cancer, major surgery, trauma, or prior VTE, consider using Enoxaparin every 12 hours or the higher dose of Dalteparin.

1. Intermittent Sequential Pneumatic Compression Device (SCD) bilateral for the leg/calf

PHARMACY: (please check appropriate boxes for patient)

2. Heparin 5000 units subcutaneously every eight hours
3. Enoxaparin (Lovenox) injection 40 milligrams subcutaneously daily or
 Enoxaparin (Lovenox) injection 30 milligrams subcutaneously every 12 hours
4. Dalteparin (Fragmin) injection 2500 units subcutaneously daily or
 Dalteparin (Fragmin) injection 5000 units subcutaneously daily
5. No VTE Prophylaxis at this time

Physician Signature: _____ date _____ Pager _____



Post Office Box 13727
Roanoke, Virginia 24036-3727

CBASH CFMH CGMH CMC-CRCH CMC-CRMH CNRV CSAH BMH

PHYSICIAN STANDING ORDERS, CarilionMedCtr_VTEprotocol.doc
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PATIENT IDENTIFICATION



VTE Protocol Specs: Adult inpatients
Institution: Idaho State University Format: Paper Scope: new patients admitted Pages: 1 Content/Use:
 this risk assessment supports decision making for any admission orders

VTE PROPHYLAXIS ASSESSMENT			
Low Risk	Moderate Risk	High Risk	Very High Risk
Outpatient surgery	No "risk factors" and general moderate/major surgery in patient age 40 to 60 years old	General moderate/major surgery in patient age over 60 and no other risk factors	Elective major lower extremity arthroplasty (hip or knee)
No "risk factors" and minor surgery in patient age less than 40 years old	No "risk factors" and major gynecological surgery for benign disease	Major gynecologic surgery for malignant disease	Non-elective hip, pelvic or other lower extremity orthopedic procedure
No "risk factors" vascular surgery	No "risk factors" and extensive open GU procedures	Risk factors and general moderate/major surgery in patient age greater than 40	Acute spinal cord injury with paresis
No "risk factors", minor laparoscopic procedure	Risk factors and minor general surgery	Risk factors and vascular surgery	Multiple major trauma
0-1 "risk factors" and independent ambulatory medical patient	Risk factors and laparoscopic procedures	Risk factors and major gynecological surgery for benign disease	
	Medical patients with risk factors but not high risk medical conditions	Risk factors and extensive open GU procedures	
		High risk medical conditions: Ischemic CVA with limited mobility Central venous catheter with 2 or more risk factors ICU admission with 2 or more risk factors	

RECOMMENDED PROPHYLAXIS			
Low Risk	Moderate Risk	High Risk	Very High Risk
Early ambulation	Intermittent pneumatic compression devices AND/OR	Intermittent pneumatic compression devices AND	Intermittent pneumatic compression devices AND
Range of motion exercises	Enoxaparin 40 mg SC daily OR Heparin 5,000 units SC q 8 hours OR Heparin 5,000 units SC q 12 hour OR Heparin 7,500 units SC q 12 hours	Enoxaparin 40 mg SC daily OR Heparin 5,000 units SC q8 hours OR Heparin 7,500 units SC q12 hours	Enoxaparin 30 mg SC q12 hours OR Fondaparinux 2.5 mg SC daily OR Warfarin INR 2-3

RISK FACTORS	RELATIVE OR ABSOLUTE CONTRAINDICATION TO PHARMACOLOGIC PROPHYLAXIS
<ul style="list-style-type: none"> ○ Age over 65 ○ Prior history of VTE ○ Decompensated CHF ○ Bed rest/impaired mobility ○ Central line ○ Estrogen or other hormonal therapy ○ Myeloproliferative disease ○ Known thrombophilia ○ Active malignancy ○ Obesity ○ Pregnancy/post partum ○ Inflammatory bowel disease ○ Active or chronic lung disease ○ Active rheumatological disease ○ Nephrotic syndrome ○ Sickle cell disease ○ Tobacco use ○ Dehydration ○ Varicose veins or venous stasis 	<p>Lumbar puncture or epidural anesthesia within 24 hours</p> <p>Active bleeding</p> <p>Coagulopathy (INR greater than 1.5) or thrombocytopenia (platelet count less than 60,000)</p> <p>Significant renal insufficiency (Creatinine clearance less than 30 – do not use LMWH or fondaparinux)</p> <p>Hypertensive urgency, emergency or crisis</p> <p>Presence or history of HIT (heparin induced thrombocytopenia)</p> <p>Recent intraocular or intracranial surgery or lesions</p>

RE-ASSESS DAILY!!!



VTE Protocol Specs: Adult inpatients

Institution: Caritas Christi Format: Paper Scope: new patients admitted Pages: 1 Content/Use: this is a standing order

**Caritas Norwood Hospital
ADULT DVT PROPHYLAXIS
PHYSICIAN ORDER SHEET**

ALLERGIES (FOOD AND/OR DRUG): [] NKA

HEIGHT: WEIGHT:

Risk Factors for Deep Vein Thrombosis / Pulmonary Embolism (DVT/PE) (Check risk factors)

Major	Minor
<input type="checkbox"/> Prior DVT or PE <input type="checkbox"/> Malignancy <input type="checkbox"/> Age greater than 60 yrs <input type="checkbox"/> Hypercoagulable state, inherited or acquired <input type="checkbox"/> Central venous access <input type="checkbox"/> Nonhemorrhagic Stroke <input type="checkbox"/> Prolonged Immobility (greater than 72 hrs), or Paralysis <input type="checkbox"/> Major Surgery <input type="checkbox"/> Immobilizing Lower Extremity Cast <input type="checkbox"/> Myocardial Infarction <input type="checkbox"/> Heart Failure (Decompensated) <input type="checkbox"/> Sepsis or Severe Infection	<input type="checkbox"/> Age 40-60 yrs <input type="checkbox"/> Heart Failure, Compensated <input type="checkbox"/> Obesity (BMI greater than or equal to 30) <input type="checkbox"/> Inflammatory bowel disease <input type="checkbox"/> Trauma/Burns <input type="checkbox"/> Smoking <input type="checkbox"/> Minor Surgery <input type="checkbox"/> Pregnancy or less than 1 month postpartum <input type="checkbox"/> Oral Contraceptive, Hormone Replacement Therapy use <input type="checkbox"/> Estrogen Receptor Modulators (i.e. Tamoxifen, Raloxifene) <input type="checkbox"/> Varicose veins

Contraindications for Anticoagulation Therapy

Hx -Heparin Induced Thrombocytopenia Severe hypertension (uncontrolled) Head or spinal trauma (w/ hemorrhage) Hemorrhagic CVA Dissecting or cerebral aneurysm	Hemorrhagic blood dyscrasia PT or aPTT greater than 1.5 x control Severe thrombocytopenia (Plt below 100,000) Active, uncontrolled bleeding Recent TURP (within 6 weeks)	Active peptic ulcer disease Bacterial endocarditis Threatened abortion Pre/post spinal decompression surgery (within 10 days) Eye or brain surgery (within 48 hours)
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Use of epidural requires clearance by anesthesiology

DVT Prophylaxis for Medical and Surgical Patients

Review risk factors/Contraindications prior to ordering appropriate prophylaxis

Patient Category	Risk Factors (RF)	Risk	Prophylaxis Method
<ul style="list-style-type: none"> Minor procedure and less than 40 yrs and no additional RF Medical inpatient with no major or minor RF 		Low	<input type="checkbox"/> Early ambulation – Prophylaxis Not Indicated
<ul style="list-style-type: none"> Non-major procedure (less than 45 min) and 40-60 yrs or additional RF Major surgery (greater than 45 min) and less than 40 yrs without additional RF 		Moderate	<input type="checkbox"/> Heparin 5000 units subcut every 12 hours
<ul style="list-style-type: none"> Non-major surgery greater than 60 yrs or additional RF Major surgery (greater than 45 min) greater than 40 yrs or additional RF Medical inpatient with any risk factor 		High	<input type="checkbox"/> Heparin 5000 units subcut every 8 hours
<ul style="list-style-type: none"> Knee Replacement Surgery Trauma (Major or Lower Extremity) (warfarin not indicated) 		High	<input type="checkbox"/> Enoxaparin (Lovenox) 30mg subcut Q12h <input type="checkbox"/> Warfarin (Coumadin) orally per MD order
<ul style="list-style-type: none"> Hip Replacement Surgery 		High	<input type="checkbox"/> Enoxaparin (Lovenox) 40mg subcut daily <input type="checkbox"/> Warfarin (Coumadin) orally per MD order
<ul style="list-style-type: none"> Combine with pharmacologic methods in high risk surgical patients and multiple RF Contraindications to anticoagulation therapy 		High	<input type="checkbox"/> Intermittent pneumatic compression device <input type="checkbox"/> Graduated Compression Stockings
<ul style="list-style-type: none"> Check CBC with platelet count on day 2 of heparin or enoxaparin and every third day thereafter. Notify MD if platelet counts falls 50% or more from baseline. 			

Date/Time

Prescriber Signature

Print Name

The Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy Evidence-Based Guidelines. Supplement to Chest Vol 126/No. 3/Sept 2004



VTE Protocol Specs: Adult medical inpatients

Institution: Presbyterian Healthcare Format: Paper Scope: new patients admitted to general medicine service Pages: 1 Content/Use: one of several pre-printed order sets used by providers who write admission orders; at times competes with disease-specific admission order sets Formulary: whenever LMWH is ordered, pharmacy makes automatic substitutions with SQ Heparin

Date/Time: _____ Sent to Pharmacy _____

Diagnosis/Chief Complaint: _____

- Billing Status: _____
- Attending physician: _____ TEAM (if PICS) _____
- Courtesy list Dr. _____ Do not call
- Condition: _____
- Code Status: _____

No known allergies Allergies: _____

VTE prophylaxis options:	VTE Risk Factor Assessment	
	Patient meets any 1:	Patient meets any 2 or more:
<input type="checkbox"/> Heparin 5000 units subcutaneously q8h <input type="checkbox"/> Sequential/compression stocking <input type="checkbox"/> Other: _____	<ul style="list-style-type: none"> • History of DVT/PE • Ischemic stroke (non-hemorrhagic) or paralysis • Malignancy • Hypercoagulable state 	<ul style="list-style-type: none"> • Age > 40 years • Obesity • History of chronic lung disease or inflammatory disorder • Admission with (or history of): heart failure, pneumonia, serious infection, varicose veins, nephrotic syndrome, sickle cell disease, recent major surgery, pregnancy, or estrogen use • Indwelling central venous line • Prolonged immobility, > 24 hours

Pharmacy / IV's:

- Initiate Insulin Subcutaneous Orders Order Set (MD to indicate insulin type of intensity of regimen): _____ correction dose FSBS q6h AC/HS q____h **Place order set on chart.**
- Initiate Nicotine Abstinence order set for _____ (MD to indicate patch/gum strength). **Place order set on chart.**
- Acetaminophen (Tylenol) 650 mg PO/PR q4h prn pain or temperature >101°F (not to exceed 4 grams per 24 hours)
- Promethazine (Phenergan) 6.25 – 25 mg IM/IV/PO/PR q4h prn nausea /vomiting
- Ondansetron (Zofran) 4 mg PO/IV q4h prn nausea/vomiting
- Milk of Magnesia (MOM) 15 ml PO q6h prn constipation
- Magnesium/Aluminum (Maalox) 30 ml PO q6h prn indigestion
- Guaifenesin (Robitussin) 10 ml PO q6h prn expectoration
- Zolpidem (Ambien) 5 mg po hs prn insomnia, **for patients ≥ 65 years of age only**
- Zolpidem (Ambien) 5-10 mg po hs prn insomnia, **for patients < 65 years of age only**
- Other medication hs prn sleep: _____
- Nitroglycerin 0.4 mg SL q5min prn chest pain. If no relief after 3 doses, get STAT ECG and notify MD.
- IV fluid: _____ @ _____ ml/hr
- Normal saline flush scheduled and prn for prn adapter as per policy
- Additional medications: _____

Phone/Verbal	MD		RN		
Order entered by:	Time	Non Rx Orders verified by:	Time	Rx Orders verified by:	Time



Department: Internal Medicine
Admission Orders

OS-D-IM-9100B R 11/3/2006

patient label/ addressograph



VTE Protocol Specs: Adult inpatients

Institution: UCSF Medical Center Format: Paper Scope: newly admitted patients Pages: 1 Content/Use: provider adds up risk factors to get a total score and then uses the score to choose from a menu of recommended prophylaxis options



Adult Venous Thromboembolism Prophylaxis Order Form

Questions? Call Comprehensive Hemostasis & Antithrombotic Service (CHAS) at 719-4023.

Unit Number: _____

Pt. Name: _____

DRAFT 12

Birthdate: _____

Location: _____

Date: _____

DATE: _____	TIME: _____	ALLERGIES: _____
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RECOMMENDED REGIMENS FOR PROPHYLAXIS BASED ON RISK FACTOR ASSESSMENT

- Assign risk score:** _____ (see reverse side for risk assessment criteria)
- Patient has contraindication to pharmacologic prophylaxis** (circle one): **Y** or **N**
(See reverse side for list of relative and absolute contraindications)
- Order for thromboprophylaxis** (*✓ in box activates order*)
NOTE: Do not use these guidelines if the patient is receiving therapeutic anticoagulation.

Risk Factor Score	NON-PHARMACOLOGIC		PHARMACOLOGIC (Send order to Pharmacy)				Other
	Early Ambulation Only	SCD (Knee High)	Unfractionated Heparin		Enoxaparin (Low Molecular Weight Heparin)		
			5,000 Units SQ Q12H	5,000 Units SQ Q8H	30 mg SQ Q12H	40 mg SQ Q24H	
Contraindication to drug therapy							
Low (0)							
Moderate (1-2)							
High (3-4)							
Very High (>4)							

4. **Order for laboratory** (*✓ in box activates order*)
- CBC with platelets every other day** if Heparin or Low Molecular Weight Heparin is used
- Daily INR** if Warfarin is used
- Other laboratory order (describe):** _____

SPECIAL CONSIDERATIONS:

Renal impairment: Use low molecular weight heparins with caution in patients with SCr>2 or CrCL <30 mL/min. Use of fondaparinux is contraindicated in patients with a CrCL<30 mL/min.

Patients <50kg: consider dose adjustments for pharmacologic prophylaxis in patients with a weight of < 50 kg.

Fondaparinux should not be used in patients<50 kg.

Obesity: Appropriate dosing for obese patients is not well established. Consider CHAS consult.

Signature _____ M.D.# _____ Time _____ Date _____ Pager _____
FLAG CHART Checked by _____ R.N. Time _____ Date _____



VTE Protocol Specs: Adult inpatients (reverse of UCSF form)

Institution: UCSF Medical Center Format: Paper Scope: newly admitted patients Pages: 2 Content/Use: provider adds up risk factors to get a total score and then uses the score to choose from a menu of recommended prophylaxis options

DEEP VEIN THROMBOSIS RISK FACTOR ASSESSMENT

Check all pertinent thromboembolism risk factors (RFs)

RFs with value of 1 point	RFs with value of 2 points	RFs with value of 3 points
<input type="checkbox"/> Age 41-60 years <input type="checkbox"/> Prior history of postoperative DVT <input type="checkbox"/> Family history of DVT or PE <input type="checkbox"/> Leg swelling, ulcers, stasis, varicose veins <input type="checkbox"/> MI/CHF <input type="checkbox"/> Stroke with paralysis <input type="checkbox"/> Inflammatory bowel disease <input type="checkbox"/> Central line <input type="checkbox"/> Bed confinement / immobilization >12 hours <input type="checkbox"/> General anesthesia time >2 hours <input type="checkbox"/> Pregnancy, or postpartum <1 month <input type="checkbox"/> Obesity (>20% over IBW) <input type="checkbox"/> Hyperviscosity syndromes <input type="checkbox"/> Estrogen therapy	<input type="checkbox"/> Age 61-70 years <input type="checkbox"/> Prior h/o unprovoked/idiopathic DVT <input type="checkbox"/> Major surgery <input type="checkbox"/> Malignancy <input type="checkbox"/> Multiple trauma <input type="checkbox"/> Spinal cord injury with paralysis	<input type="checkbox"/> Age over 70 years <input type="checkbox"/> Prior history of PE <input type="checkbox"/> Inherited thrombophilia * <input type="checkbox"/> Acquired thrombophilia *
TOTAL RISK FACTOR SCORE =		
Low=0 Moderate=1-2 High=3-4 Very High=>4		

* Thrombophilia includes Factor V Leiden, and prothrombin variant mutations; anticardiolipin antibody syndrome; antithrombin, protein C or protein S deficiency; hyperhomocysteinemia; myeloproliferative disorders.

Abbreviations

LDUH - low dose unfractionated heparin **LMWH** - low molecular weight heparin
SCD - sequential compression device

Low Risk (0 RFS)	Moderate Risk (1-2 RFS)	High Risk (3-4 RFS)	Very High Risk (>4 RFS)
<ul style="list-style-type: none"> • Early ambulation 	<ul style="list-style-type: none"> • LDUH (5,000 Units) q 8-12 h <i>or</i> • LMWH <i>or</i> • SCD 	<ul style="list-style-type: none"> • LDUH (5,000 Units) q 8h <i>or</i> • LMWH <i>or</i> • SCD 	<ul style="list-style-type: none"> • LMWH <i>or</i> • Warfarin, INR 2-3

CONTRAINDICATIONS TO PHARMACOLOGIC PROPHYLAXIS

Relative	Absolute
<input type="checkbox"/> History of cerebral hemorrhage <input type="checkbox"/> Craniotomy within 2 weeks <input type="checkbox"/> GI, GU hemorrhage within the last 6 months <input type="checkbox"/> Thrombocytopenia <input type="checkbox"/> Coagulopathy (PT >18 sec) <input type="checkbox"/> Active intracranial lesions/neoplasms/monitoring devices <input type="checkbox"/> Proliferative retinopathy <input type="checkbox"/> Vascular access/biopsy sites inaccessible to hemostatic control	<input type="checkbox"/> Active hemorrhage <input type="checkbox"/> Heparin or warfarin use in patients with heparin-induced thrombocytopenia <input type="checkbox"/> Warfarin use in the first trimester of pregnancy <input type="checkbox"/> Severe trauma to head, spinal cord or extremities with hemorrhage within the last 4 weeks <input type="checkbox"/> Epidural/indwelling spinal catheter – placement or removal

Recommendations for the Use of Antithrombotic Prophylaxis in Patients with Epidural Catheters

For patients receiving low-dose SQ unfractionated heparin (5,000 units Q12h)

- Wait 4-6 hours after a prophylactic dose of unfractionated heparin before placing or removing a catheter.
- Initiate unfractionated heparin thromboprophylaxis 1-2 hours after placing or removing a catheter.
- Concurrent use of epidural or spinal catheter and SQ low-dose unfractionated heparin is not contraindicated.

For patients receiving prophylactic-dose Low Molecular Weight Heparin

- Wait 24 hours after a prophylactic dose of low molecular weight heparin before placing a catheter or performing a neuraxial block.
- Wait 12-24 hours after a prophylactic dose of low molecular weight heparin before removing a catheter.
- Initiate low molecular weight heparin thromboprophylaxis 2-4 hours after removal of the catheter.
- Initiate low molecular weight heparin thromboprophylaxis 24 hours after a "single shot" spinal procedure.
- Concurrent use of an epidural catheter and low molecular weight heparin thromboprophylaxis needs to be approved by the pain service

For patients receiving fondaparinux

- Extreme caution is warranted given the sustained antithrombotic effect, early postoperative dosing, and "irreversibility."
- Until further clinical experience is available, an alternate method of prophylaxis should be utilized.



VTE Protocol Specs: Adult inpatients admitted, transferred between units, or post-op

Institution: Emory Hospitals Format: Paper Scope: every non-orthopedic patient admitted or transferred to any service from any area including post-op Pages: 1st of two pages. Content/Use: any service has the freedom to staple this as an another page in pre-printed order sets, but is foremost encouraged to copy/paste the check box options into revisions of existing order sets while pasting the risk stratification/decision support on the back Formulary: one LMWH (Enoxaparin)



Standardized VTE Risk Assessment

Page 1 of 1

DATE: ___/___/___ TIME: _____

VENOUS THROMBOEMBOLISM (VTE) PROPHYLAXIS and Risk Stratification:

--For decision support, see tables on reverse: "VTE Risk Stratification" and "Contraindications to Pharmacologic VTE Prophylaxis"--

Medical & Surgical (Non-Orthopedic) patients

- Enoxaparin (Lovenox) 40 mg SQ q 24 hr, or
 - Enoxaparin (Lovenox) 30mg SQ q 24 hr (CrCl < 30)
 - Heparin 5000 units SQ q 8 hr, or
 - Heparin 5000 units SQ q 12 hr (inadequate except for age > 75 yrs)
- } **Intermediate – to – High Risk**
- Ambulate q shift
- } **Low Risk**

Special Situations

Contraindication(s) to Pharmacologic VTE Prophylaxis (or as supplement to anticoagulation for higher risk patients)

- Graduated Compression Stockings, or
- Pneumatic / Sequential Compression Devices

Contraindication to Heparin-Based Pharmacologic VTE Prophylaxis

- Fondaparinux 2.5mg SQ q24 hr

Alternative prophylaxis

- Patient already on therapeutic anticoagulation
- No order for VTE prophylaxis requires reason here: _____

Physician Signature: _____ Contact Number: _____



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VTE RISK STRATIFICATION

Low Risk	Intermediate – to – High Risk
<ul style="list-style-type: none"> 0 risk factors (or expected LOS \leq 2 days), plus patient ambulatory, or Minor Surgery (same day or < 45 minutes OR time) 	Any VTE risk factor below.



VTE RISK FACTORS

Patient Circumstances	Medical or Surgical Conditions	
Age > 40 years	<u>CV</u> Myocardial Infarction (< 3months)	<u>ID</u> Sepsis
Hospitalization for <u>surgery</u> or <u>acute illness</u>	CHF (NYHA Class III or IV)	<u>Hemel/</u> Hypercoagulable state
Obesity (BMI > 30)	Venous stasis/ varicose veins	<u>Onc</u> Sickle cell disease
Immobility (confined to bed or chair)	<u>Pulm</u> Lung disease (acute or chronic)	Malignancy (active)
Previous ischemic stroke w/paresis	<u>Renal</u> Dehydration, severe (>10% weight)	Myeloproliferative disorder
Multiple major trauma*	Nephrotic syndrome	<u>Rheum</u> Rheumatologic disease (active)
Central venous catheter	<u>GI</u> Inflammatory bowel disease	<u>Ortho</u> Elective hip or knee arthroplasty*
History of DVT or PE	<u>Neuro</u> Acute ischemic stroke	Fractured hip, pelvis, femur, or leg
Family history DVT or PE (1 st deg relative)	Spinal cord injury*	<u>Gyn</u> Pregnancy or post-partum (<1month)
Recent major surgery (\leq 3 months)		Estrogen-based therapy (OCP, HRT)

Evidence: *Prevention of venous thromboembolism: the 7th ACCP Conference on Antithrombotic and Thrombolytic Therapy. Chest. 2004 Sep;126 (3 Suppl):338S-400S.*

CONTRAINDICATIONS TO PHARMACOLOGIC VTE PROPHYLAXIS

ABSOLUTE	RELATIVE	Within
Spine surgery	Intracranial hemorrhage	1 year
Active hemorrhage	GI hemorrhage	1 month
Hemorrhage from severe trauma to head or spinal cord (< 1 month)	GU hemorrhage	1 month
	Craniotomy	2 weeks
	Intraocular surgery	2 weeks
	Epidural catheter insertion	12 hours
	Epidural catheter removal	4 hours
	Post-operative bleeding concerns	
	Active intracranial lesions/neoplasm	
	Hypertensive urgency/emergency	
	Thrombocytopenia (<50K) or falling platelet count	
	Coagulopathy (INR > 2, or PT > 18)	
	End stage liver disease	
	Other: _____	

CONTRAINDICATIONS TO HEPARIN-BASED PHARMACOLOGIC VTE PROPHYLAXIS*

<p>IMMUNE MEDIATED HEPARIN INDUCED THROMBOCYTOPENIA (HIT)</p> <p>For management of HIT, see “HIT Algorithm” and “Fondaparinux/Argatroban” order form (available online at MD Support)</p> <p>* Heparin-based pharmacologic prophylaxis = unfractionated heparin, or low molecular weight heparin (Enoxaparin)</p>
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VTE Protocol Specs: Adult inpatients admitted, transferred between units, or post-op
Institution: UCSD **Format:** CPOE (shown here in paper format) **Scope:** every patient admitted or transferred to any service from any area including post-op **Pages:** N/A in CPOE **Content/Use:** when completing admission, transfer, or post-op orders (and every 4 days) in CPOE, the provider receives a prompt to complete an order for VTE prophylaxis **Formulary:** one LMWH (Enoxanarin)

Venous Thromboembolism (VTE) Risk in the Hospitalized Inpatient		
☐ LOW	☐ MODERATE	☐ HIGH
<ul style="list-style-type: none"> ▪ Ambulatory patient <i>without</i> additional VTE Risk Factors ▪ Ambulatory patient with expected LOS <= 2 days, or same day/minor surgery Only a few patients! <p><i>Ambulation and Education</i></p>	<ul style="list-style-type: none"> ▪ All other patients Most patients! (not in LOW or HIGH category) <p><i>LMWH or UFH 5000 units q 8h</i></p>	<ul style="list-style-type: none"> ▪ Elective major lower extremity arthroplasty ▪ Hip, pelvic, or severe lower extremity fractures ▪ Acute spinal cord injury with paresis ▪ Multiple major trauma ▪ Abdominal or pelvic surgery for cancer <p><i>LMWH or Arixtra or Coumadin, AND IPC</i></p>

Pharmacologic Prophylaxis Options: Choose ONE:

- Enoxaparin 30 mg subcutaneous q 12 hours (HIGH risk, knee replacement)
- Enoxaparin 40 mg subcutaneous q 24 hours (both MODERATE and HIGH risk patients, except knee replacement)
- UFH 5000 units subcutaneous q 8 h (MODERATE risk only)
- UFH 5000 units subcutaneous q 12 h. (for MODERATE risk patients < 50 kg or > 75 years of age)
- Fondaparinux 2.5 mg subcutaneous q 24 hours (alternate in selected HIGH risk patients)
- Coumadin _____ mg po daily, target INR 2-3 (alternate in selected HIGH risk patients)
- NO pharmacologic prophylaxis, patient has a contraindication to pharmacologic prophylaxis or is on therapeutic anticoagulation (please check contraindication(s) on reverse.)
- NO pharmacologic prophylaxis, patient has NO VTE risk factors listed on reverse and meets LOW risk criteria above.

Mechanical Prophylaxis:

- Venodynes (IPC) (Default adjunct in HIGH risk patients, or if contraindications to anticoagulation)
- Graduated compression stockings
- NO mechanical VTE prophylaxis

VTE Risk Factors and Contraindications listed on reverse

Physician Signature: _____ Contact Number: _____

Date and Time: _____



VTE Protocol Specs: Adult inpatients admitted, transferred between units, or post-op
Institution: UCSD Format: CPOE (shown here in paper format) Scope: every patient admitted or transferred to any service from any area including post-op Pages: N/A in CPOE Content/Use: this decision support is available to providers within CPOE

Venous Thromboembolism Risk Factors		
Age > 50 years Myeloproliferative disorder Dehydration CHF Active malignancy Hormonal replacement Moderate to Major surgery	Prior history of VTE Impaired mobility Inflammatory bowel disease Active rheumatic disease Sickle cell disease Estrogen based contraceptives Central venous catheter	Acute or chronic lung disease Obesity Known thrombophilic state Varicose veins /chronic stasis Recent post-partum w/ immobility Nephrotic syndrome Myocardial infarction

Contraindications or other Conditions to Consider with Pharmacologic VTE Prophylaxis		
<input type="checkbox"/> ABSOLUTE <ul style="list-style-type: none"> ▪ Active hemorrhage ▪ Severe trauma to head or spinal cord <i>with hemorrhage</i> in the last 4 weeks ▪ Other _____ 	<input type="checkbox"/> RELATIVE <ul style="list-style-type: none"> ▪ Intracranial hemorrhage within last year ▪ Craniotomy within 2 weeks ▪ Intraocular surgery within 2 weeks ▪ GI, GU hemorrhage within the last month ▪ Thrombocytopenia (<50K) or coagulopathy (PT > 18 seconds) ▪ End stage liver disease ▪ Active intracranial lesions/neoplasms ▪ Hypertensive urgency / emergency ▪ Post-operative bleeding concerns* 	<input type="checkbox"/> OTHER CONDITION <ul style="list-style-type: none"> ▪ Immune mediated HIT ▪ Epidural analgesia with spinal catheter (current or planned)

*Scheduled return to OR within the next 24 hours *Major Ortho: 24 hours leeway
 *Spinal cord or Ortho Spine: 7 days leeway *General Surgery, s/p transplant, s/p Trauma admission: 48 hours leeway