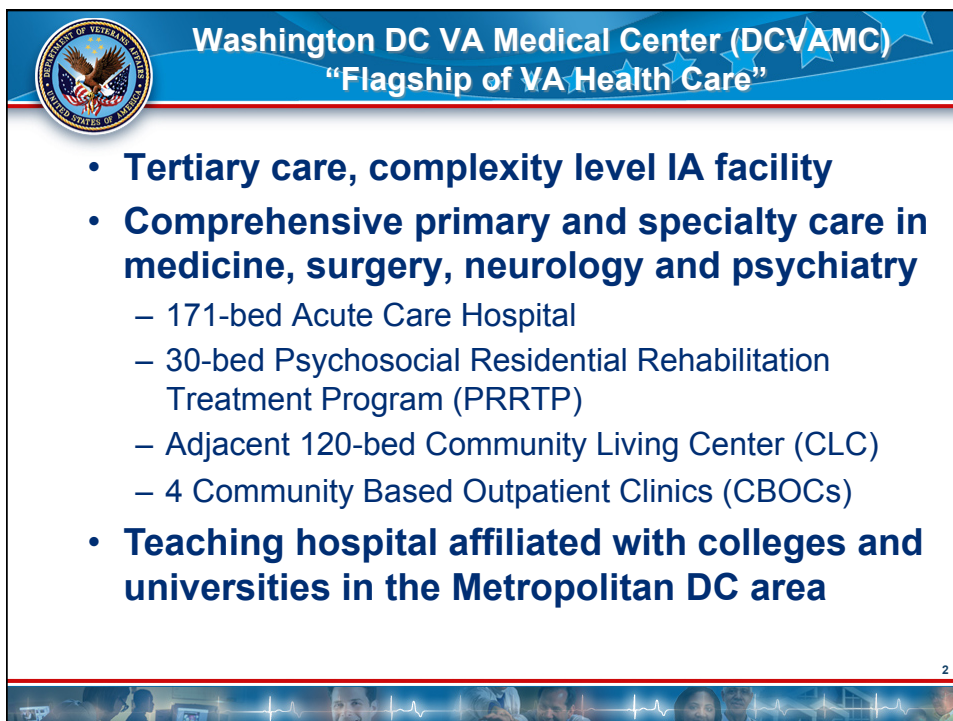





**7-Step Process:
Walk Providers Through an Evidence-Based
Medicine VTE Risk Factor Assessment**


Jovonne H. Jones, Pharm.D.
Pharmacy Practice Resident
Washington D.C., Veterans Affairs Medical Center
April 9, 2010



 **Washington DC VA Medical Center (DCVAMC)**
“Flagship of VA Health Care”

- **Tertiary care, complexity level IA facility**
- **Comprehensive primary and specialty care in medicine, surgery, neurology and psychiatry**
 - 171-bed Acute Care Hospital
 - 30-bed Psychosocial Residential Rehabilitation Treatment Program (PR RTP)
 - Adjacent 120-bed Community Living Center (CLC)
 - 4 Community Based Outpatient Clinics (CBOCs)
- **Teaching hospital affiliated with colleges and universities in the Metropolitan DC area**

2



Fully integrated Electronic Medical Record (EMR) called Computerized Patient Record System (CPRS)

VISTA CPRS in use by: Jones, Jovonne H (vista.washington.med.va.gov)

Electronic Medical Record-Demo | an Unassigned

File Edit View Tools Help | Print | Flag | Vistaweb | Postings WA

Active Problems: Coronary Artery Disease, Acute Cholecystitis, Lupus Erythematosus, Subacute Cutaneous, Essential Hypertension, Atrial Fibrillation, Diabetes Mellitus Type II Or Unspecified, Hyperlipidemia, Familial Combined, Glaucoma, Suspect (ICD-9-CM 365.00), Mitral Regurgitation, Essential Hypertension, Hypochlosterolemia, Sleep Apnea

Active Medications: Non-VA Non Va Med Not Listed Miscellaneous, Non-VA Enoxaparin 30mg/0.3ml Inj Syringe 0.3ml Active, Non-VA Aspirin 81mg Tab Active

Allergies / Adverse Reactions: Tetracyclines, Clindamycin, Aspirin/Caffeine/Dihydrocodeine, Penicillin G, Penicillin, Codeine, Penicillin, Lisinopril, Amiodarone, Levogran, Iodine Contrast Even With Prep, Peanuts, Bactrim

Clinical Findings: DEPRESSION SCREENING, Annual LDL in Diabetes/CAD, Diabetic-Creatinine, Diabetic Foot Exam, Elevated LDL in Diabetes/CAD, Pain Assessment, Patient Education (Provider), DIABETES-ANNUAL HGB A1C, Screen for Embedded Fragments, D-C Influenza H1n1 Vaccine

Recent Lab Results: No Orders Found

Vitals: T 98.6 F, P 83, R 14, BP 101/53, HT 79 in, WT 169 lb, FN 0, PDX 100, D/P 14 cmH2O, CG Refused, BMI 20.32

Appointments/Visits/Admissions: Jan 25, 2010 07:56:36.7 C, Jan 25, 2010 07:55, Jan 25, 2010 07:55, Jan 25, 2010 07:55, Sep 14, 2009 12:50, Nov 16, 2009 08:49, Dec 12, 2009 14:05, Dec 12, 2009 14:05, Nov 09, 2009 08:00, Mar 23, 2009 08:28, Nov 16, 2009 08:49

3

Timeline of Development/Implementation

Internal Process


- Spring 2007:** Recognize VTE Prophylaxis As Quality Improvement Initiative
- Fall 2007:** Risk Assessment Study
- July 2008:** Order Set Goes Live At DC VAMC
- Fall 2008:** Order Set Implementation Study
- Fall 2009:** Education Intervention Study
- Winter 2010:** VTE Audit Tool Implemented

External Process

- Summer 2007:** Mentorship Collaborative Program With Society Of Hospital Medicine (SHM)
- Summer/Fall 2007:** Dayton & Iowa City VAs Joined the SHM Collaborative
- Fall 2007:** Partnered With VHA Hospitalist Field Advisory Committee (FAC) & Additional VAs Joined
- Winter/Spring 2008:** Order Set Built Through SHM-FAC Collaborative
- Fall 2008:** National VA IPEC Independently Looking At VTE Prophylaxis
- Spring 2009:** Presented Order Set to National Quality Management & Chief Medical Officers Call
- Winter 2010:** VA /SHM Collaborative Working to Deploy Audit tool Nationally

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| Table 1. Research completed within the Washington DC VAMC that evaluated the VTE prophylaxis order set | | | |
|--|--|---|---|
| Author | Objective | Results | Conclusion |
| 2007-Maples et al <i>“Analysis of the venous thromboembolism (VTE) prophylaxis protocol at the Washington, DC Veterans Affairs Medical Center”</i> | Assess the number of HAVTE occurrences before and after the implementation of the protocol & to determine the overall cost effectiveness of the VTE prophylaxis protocol | <p>Pre-Protocol</p> <p>VTE Occurrence •Overall: 36 Cases [13 PE & 26 DVT] •HAVTE: 9 Cases [4 PE & 5 DVT] •Preventable HAVTE: 4 Cases [2 PE & 2 DVT]</p> <p>Estimated Total Cost •VTE: \$83,597 •Preventable HAVTE: \$38,298 •PE: \$24,296 •DVT: \$14,002</p> <p>Post-Protocol</p> <p>Due to order set not being deployed by end of study no results were obtained</p> | <p>•Pre-protocol data shows potential need for VTE prophylaxis protocol & \$40,000 savings potential from preventable HAVTE</p> <p>•Post data unable to be collected due to the order set not being deployed by completion of study</p> |
| 2008- Wildman et al <i>“Effect of thromboprophylaxis protocol on the incidence of hospital acquired venous thromboembolism (HAVTE) at the Washington, DC Veterans Medical Center”</i> | Evaluate the effectiveness and appropriate usage of the VTE order set among the various services at the medical center over 4 month period in the first year of deployment | <p>How many people received prophylaxis and how did they get it? (P<0.0001)</p> <ul style="list-style-type: none"> – 73.5% with the order set – 33.7% without the order set <p>How many people received appropriate prophylaxis?</p> <ul style="list-style-type: none"> – 72% with appropriate prophylaxis – 28% without appropriate prophylaxis <p>How many people received appropriate prophylaxis through order set usage?</p> <ul style="list-style-type: none"> – 50 +/- 7% | The rate of VTE prophylaxis in services that used the order was more than double the rate of services that did not use the order set |



**“Quality Assurance Pharmacist Educational Intervention:
Improving Compliance of the Thromboprophylaxis Protocol at the
Veterans Affairs Medical Center, Washington, D.C.”**

- **Objectives**
 - Primary
 - Evaluate internal medicine physicians' use of the VTE prophylaxis order set for internal medicine patients pre & post the implementation of a pharmacist's driven educational intervention in the 2nd year of deployment
 - Secondary
 - Assess appropriate VTE prophylaxis selection based on the patient's risk factors
- **Baseline data**
 - 27% of patients in medicine service received prophylaxis by the use of the order set
- **Data Collection**
 - Chart Review and VTE Prophylaxis Audit Tool


6



7-Step Process

1. Select High/Intermediate/Low Risk Group
2. Educate patient order (automatic)
3. Contraindications (No/Yes/Relative)
4. Select prophylaxis drug/device
5. Accept order for drug/device
6. If additional prophylactic method needed
7. Click “Done”

7



ADD NEW ORDERS (Clinician) Done

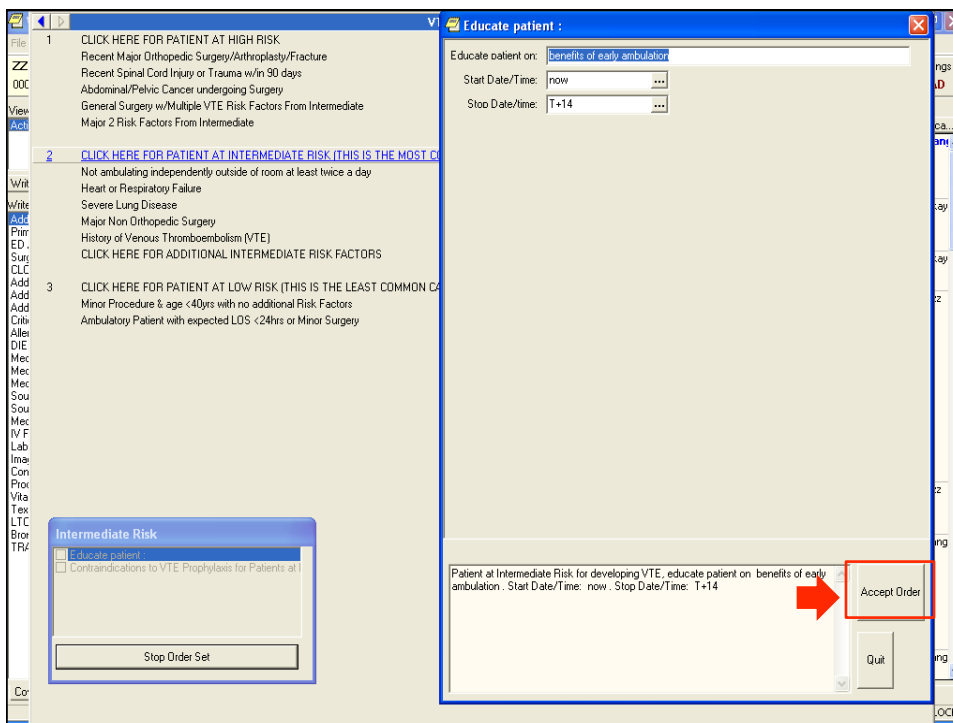
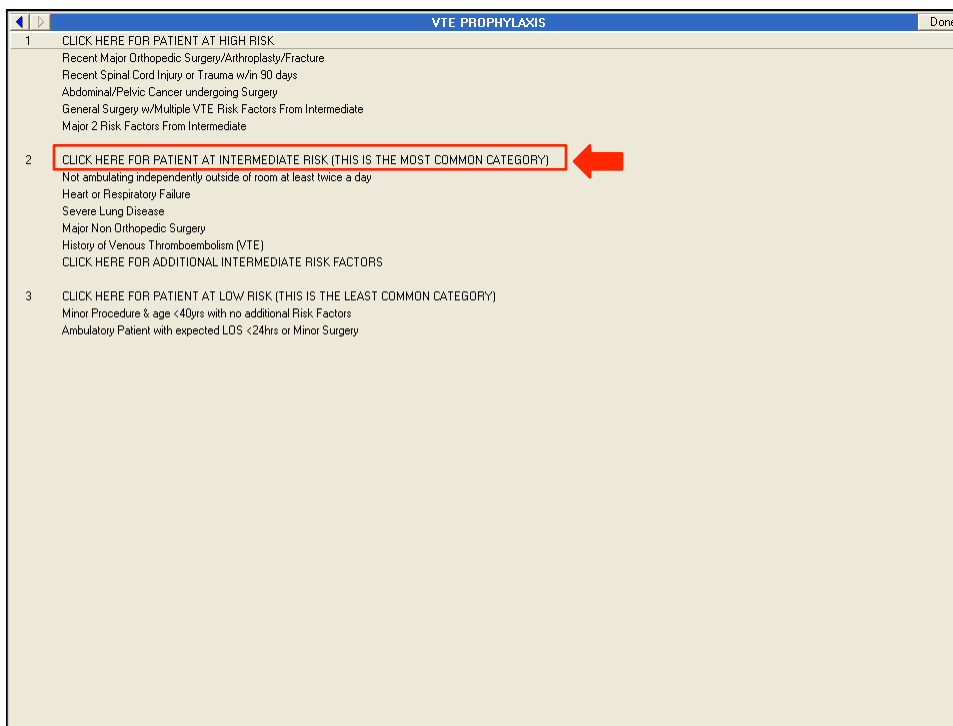
| ADMISSION | ACTIVITY | IMAGING |
|--|----------------------------------|---|
| 1 MED ADMIT/ACCEPT... | 40 ACTIVITY ORDERS... | 70 IMAGING PROCEDURES... |
| 3 Admit for Congestive Heart Failure | | 71 Nuclear Stress Test Inpt |
| 5 Admit for Community Acquired Pneumonia | MEDICATIONS | 72 Nuclear Stress Test Outpt |
| 7 Admit to r/o TB | 45 Inpt Medications | 73 2d Echo |
| 9 MICU ONLY... | 46 Outpatient Medications | 74 Cardiac MRI |
| 11 PSYCH ADMIT ORDERS... | 47 HEPARIN PROTOCOL... | 75 Doppler Study |
| | 48 INSULIN ORDERS... | CONSULTS |
| NURSING | 49 Nonformulary Med Consult | 80 Consult |
| 20 VITAL/MEASUREMENTS... | 50 PCA ORDERS... | 81 Prosthetics |
| 21 Call HD on | 51 Pneumonia Vaccine | 82 Rehabilitation |
| 22 Falls Precautions | 52 Seasonal Influenza Vaccine | 83 Speech/Language |
| 23 Glucose Fingertick (order valid 7 days) | 53 Sound Awake/Look Awake Inpt | |
| 24 I & O... | 54 Sound Awake/Look Awake Outpt | DNR |
| 25 RESTRAINTS... | 55 VTE PROPHYLAXIS... | 90 DNR [ALSO NEEDS ADVANCE DIRECTIVE DISCUSSION NOTE] |
| 26 Saline Lock Insert | ALLERGY | |
| 27 OTHER NURSING CARE | 60 Allergy/Adverse Reaction | DISCHARGE/TRANSFER |
| DIETARY | IV FLUIDS | 95 Discharge Pt. |
| 30 DIET ORDERS... | 65 IV FLUIDS AND INFUSION ORDERS | 96 Transfer Pt. |
| 32 Nutrition Consult | LABS | TEXT ORDER |
| | 68 Lab Tests | 99 Nursing Text Order |
| | PROCEDURES | SPECIALTY SERVICES |
| | 69 EKG | 100 BRONCHOSCOPY... |
| | | 101 POST CARDIAC CATH... |
| | | 102 TEE... |
| | | 110 PSYCH WARD LAB... |

VTE PROPHYLAXIS Done

- 1 **CLICK HERE FOR PATIENT AT HIGH RISK**
 Recent Major Orthopedic Surgery/Arthroplasty/Fracture
 Recent Spinal Cord Injury or Trauma w/in 90 days
 Abdominal/Pelvic Cancer undergoing Surgery
 General Surgery w/Multiple VTE Risk Factors From Intermediate
 Major 2 Risk Factors From Intermediate
- 2 **CLICK HERE FOR PATIENT AT INTERMEDIATE RISK (THIS IS THE MOST COMMON CATEGORY)**
 Not ambulating independently outside of room at least twice a day
 Heart or Respiratory Failure
 Severe Lung Disease
 Major Non Orthopedic Surgery
History of Venous Thromboembolism (VTE)
CLICK HERE FOR ADDITIONAL INTERMEDIATE RISK FACTORS ←
- 3 **CLICK HERE FOR PATIENT AT LOW RISK (THIS IS THE LEAST COMMON CATEGORY)**
 Minor Procedure & age <40yrs with no additional Risk Factors
 Ambulatory Patient with expected LOS <24hrs or Minor Surgery

Additional Intermediate Risk Factors Done

- ↑ **Additional Intermediate Risk Factors**
- Prior Immobilization (>72hrs) pre op
- Obesity (>30BMI)
- Stroke
- Inflammatory Bowel Disease (IBD)
- Central Venous Access
- Hormonal Replacement or Oral Contraceptive
- Nephrotic Syndrome
- Burns
- Patient age >40yrs
- Hypercoagulable State
- Cellulitis
- Varicose Veins
- Paresis
- Active infectious or inflammatory process
- Active malignancy



Next

Contraindications to VTE Prophylaxis for Patients at Intermediate Risk

ABSOLUTE

- Acute hemorrhage from wounds or drains or lesions
- Intracranial hemorrhage within the prior 24hrs
- Heparin Induced Thrombocytopenia (HIT) [Consider Fondaparinux]
- Severe trauma to head or spinal cord or extremities
- Epidural Anesthesia/Spinal Block within 12 hrs of initiation of anticoagulation (concurrent use of an epidural catheter and LMWH thromboprophylaxis needs to be approved by anesthesia)
- Patient on Warfarin or Heparin or Enoxaparin for other indications

RELATIVE

- GI or GU Hemorrhage within the past 6 months
- Coagulopathy (INR > 1.5)
- Intracranial Lesion/Neoplasm
- Severe Thrombocytopenia (Plt < 50k)
- Spinal Cord Injury
- Trauma
- Intracranial Hemorrhage within the past 6 months

- 1 No Contraindications to Prophylaxis
- 2 Absolute Contraindications to Pharmacological Prophylaxis (SCD suggested)
- 3 Relative Contraindications to Prophylaxis

Next

VTE Prophylaxis for Intermediate Risk Patients

MUST USE PHARMACOLOGIC PROPHYLAXIS

PHARMACOLOGIC TREATMENT

- 1 Heparin 5000 units SQ q8hrs
- 2 Heparin 5000 units SQ q12hrs (if underweight or age > 75)
- 3 Enoxaparin 40mg SQ daily
- 4 Enoxaparin 30mg SQ daily (CrCl < 30mL/min but not on Hemodialysis)
- 5 Fondaparinux 2.5mg SQ daily (CrCl > 30mL/min)

(OPTIONAL)

NONPHARMACOLOGIC TREATMENT

- 20 Sequential Compression Devices (SCDs)
- 21 Antiembolic Stockings (TEDS)

Intermediate Risk Patient with No contraindications

#1

VTE Prophylaxis for Intermediate Risk Patients

MUST USE PHARMACOLOGIC PROPHYLAXIS

PHARMACOLOGIC TREATMENT

- Heparin 5000 units SQ q8hrs ← #1a
- Heparin 5000 units SQ q12hrs (if underweight or age > 75)
- Enoxaparin 40mg SQ daily
- Enoxaparin 30mg SQ daily (CrCl < 30mL/min but not on Hemodialysis)
- Fondaparinux 2.5mg SQ daily (CrCl > 30mL/min)

(OPTIONAL)

NONPHARMACOLOGIC TREATMENT

- Sequential Compression Devices (SCDs)
- Antiemetic Stockings (TEDS)

Medication Order

HEPARIN INJ SOLN

Warning: * HIGH-ALERT MEDICATION * Verify DRUG & DOSE

| Dosage / Rate | Complex | Route | Schedule (Day-D/Week) | PRN |
|---------------|---------|--------------|-----------------------|--------------------------|
| 5000UNT/1ML | | SUBCUTANEOUS | Q8H | <input type="checkbox"/> |
| 1000UNT/1ML | | SUBCUTANEOUS | Q5MINX4D0SES | <input type="checkbox"/> |
| 5000UNT/1ML | | | Q5PM | <input type="checkbox"/> |
| 10000UNT/1ML | 1.6 | | Q6H | <input type="checkbox"/> |
| | | | Q6H PRN | <input type="checkbox"/> |
| | | | Q7 DAYS | <input type="checkbox"/> |
| | | | Q7Z | <input type="checkbox"/> |
| | | | Q7D | <input type="checkbox"/> |
| | | | Q7H | <input type="checkbox"/> |
| | | | Q7PM | <input type="checkbox"/> |
| | | | Q8H | <input type="checkbox"/> |
| | | | Q8H PRN | <input type="checkbox"/> |
| | | | Q90MIN | <input type="checkbox"/> |
| | | | Q96H | <input type="checkbox"/> |
| | | | QAC | <input type="checkbox"/> |
| | | | QAM | <input type="checkbox"/> |
| | | | QAM INSULIN | <input type="checkbox"/> |

Comments:

Give additional dose now

Admin Time: Not defined for Clinic Locations

Priority: [ROUTINE]

ENTER BY THE ML

HEPARIN INJ SOLN
5000UNT/1ML SUBCUTANEOUS Q8H

#1b → Accept Order

VTE Prophylaxis for Intermediate Risk Patients

MUST USE PHARMACOLOGIC PROPHYLAXIS

PHARMACOLOGIC TREATMENT

- Heparin 5000 units SQ q8hrs
- Heparin 5000 units SQ q12hrs (if underweight or age > 75)
- Enoxaparin 40mg SQ daily
- Enoxaparin 30mg SQ daily (CrCl < 30mL/min but not on Hemodialysis)
- Fondaparinux 2.5mg SQ daily (CrCl > 30mL/min)

(OPTIONAL)

NONPHARMACOLOGIC TREATMENT

- Sequential Compression Devices (SCDs) ←
- Antiemetic Stockings (TEDS)

#2

Intermediate Risk Patient with No contraindications

The screenshot shows the 'VTE Prophylaxis' software interface. On the left, under 'NONPHARMACOLOGIC TREATMENT', item 20 'Sequential Compression Devices (SCDs)' is highlighted with a red box and a red arrow pointing to it, with a large red '#2a' overlaid. On the right, the 'Seq Comp Device' configuration window is open, showing 'Order: SEQ COMP DEVICE' and 'Special Instructions: To both lower extremities'. At the bottom right of this window, the 'Accept Order' button is highlighted with a red box and a red arrow, with a large red '#2b' overlaid. The Windows taskbar at the bottom shows the time as 2:15 PM.

The screenshot shows the 'VTE PROPHYLAXIS' software interface with three risk categories listed:

- 1 [CLICK HERE FOR PATIENT AT HIGH RISK](#)
Recent Major Orthopedic Surgery/Arthroplasty/Fracture
Recent Spinal Cord Injury or Trauma w/in 90 days
Abdominal/Pelvic Cancer undergoing Surgery
General Surgery w/Multiple VTE Risk Factors From Intermediate
Major 2 Risk Factors From Intermediate
- 2 [CLICK HERE FOR PATIENT AT INTERMEDIATE RISK \(THIS IS THE MOST COMMON CATEGORY\)](#)
Not ambulating independently outside of room at least twice a day
Heart or Respiratory Failure
Severe Lung Disease
Major Non Orthopedic Surgery
History of Venous Thromboembolism (VTE)
[CLICK HERE FOR ADDITIONAL INTERMEDIATE RISK FACTORS](#)
- 3 [CLICK HERE FOR PATIENT AT LOW RISK \(THIS IS THE LEAST COMMON CATEGORY\)](#)
Minor Procedure & age < 40yrs with no additional Risk Factors
Ambulatory Patient with expected LOS < 24hrs or Minor Surgery

A red arrow points to a 'Done' button in the top right corner of the window.

Vista CPRS in use by: Jones, Jovonne H (vista.washington.med.va.gov)

File Edit View Action Options Tools Help

Order Completed and Documented in Medical Record

Pt Insur VistaWeb Postings
Flag Remote Data WAD

View Orders Active Orders (includes Pending & Recent Activity) - ALL SERVICES

| Send | Order | Start / Stop | Provider | Nurse | Clerk | Chart | Status | Loca |
|---------|--|--------------------------|------------|-------|-------|-------|----------|------|
| Nursing | >> Patient at Intermediate Risk for developing VTE, educate patient on benefits of early ambulation - Start Date/Time: NOW - Stop Date/Time: 14 DAYS FROM TODAY *UNSIGNED* | Start: now Stop: T+14 | Shroff, D | | | | unrele | Oran |
| Out. Me | HEPARIN INJ, SOLN 5000UNT/1ML SUBCUTANEOUS Q8H *UNSIGNED* | | Shroff, D | | | | unrele | Oran |
| Nursing | >> Seq Comp Device To both lower extremities: *UNSIGNED* | Start: NOW | Shroff, D | | | | unrele | Oran |
| AD/PT | >> Discharge Patient to Home - BLOSE, PAUL M. Resident: DUGGAN, FRANCIS P.; Attending: HERBERS, JEROME - Instruction/comments: TESTING ONLY... DISCHARGE INSTRUCTION; | Start: 10/19/99 16:09 | Casagay, E | KH | | | active | Zzky |
| | >> Transfer Patient; TRANSFER TESTING; Intern: BLOSE, PAUL M.; Resident: DUGGAN, FRANCIS P.; Attending: HERBERS, JEROME | Start: 08/25/99 11:56 | Zeller, J | | PJ | | active | Zzky |
| Nursing | >> Patient at Intermediate Risk for developing VTE, educate patient on benefits of early ambulation - Start Date/Time: NOW - Stop Date/Time: 14 DAYS FROM TODAY | | Shroff, D | | | | cancelle | Oran |
| | >> Seq Comp Device To both lower extremities | | Shroff, D | | | | cancelle | Oran |
| | >> Heparin Lab Orders * RN to order TIMED PTT, as PTT Heparin Monitoring, 6 hours after start of infusion * Order TIMED PTT, as PTT Heparin Monitoring, every 6 hours until 2 consecutive PTTs are within therapeutic range of ordered protocol * Order TIMED PTT for 6 hours after any dosage change * Adjust heparin based on ordered protocol * If platelets <150,000 or decreased 30% - Notify physician * Notify physician if infusion exceeds 1,500 units/hr at any time | Start: 11/16/09 06:40 | Shroff, D | | | | active | Zzzz |
| | >> * If significant bleeding - STOP Heparin infusion immediately. - Order STAT PTT and CBC | Start: 11/16/09 06:40 | Shroff, D | | | | active | Zzzz |

Cover Sheet | Problems | Meds | Orders | Notes | Consults | Surgery | D/C Summ | Labs | Reports |

Microsoft PowerPoint - [Presentation1] [Compatibility Mode]

Order Set Process

From the patient's electronic medical record the provider finds the VTE Prophylaxis Order Set under the "Add New Orders (Clinician)" option which guides the physician through an assessment of risk factors. The steps to completing the VTE order set is as follows:


1. Select Option **"55-VTE Prophylaxis"**
2. Select Option **"1-High, 2-Intermediate or 3-Low Risk"**
3. Select **Accept Order** in the Educate Patient Screen
4. Select Option **"1-No, 2-Absolute, or 3-Relative Contraindications"**
5. Select **Pharmacologic or Nonpharmacologic Prophylaxis**
6. Accept order for **Pharmacologic or Nonpharmacologic Prophylaxis**
7. Add Additional Prophylactic Method if needed
8. Click **"Done"**

Venous Thromboembolism Risk Assessment

| Risk Level | Pharmacologic Treatment | Non-Pharmacologic Treatment |
|--|---|--|
| High Risk Major Orthopedic Surgery Spinal Cord Injury or Major Trauma Abdominal/Pelvic Cancer undergoing Surgery Lower Extremity Arthroplasty Hip or Pelvic or Severe Lower Extremity Fracture | Enoxaparin 40mg SQ daily Enoxaparin 30mg SQ daily (CrCl <30ml/min but not on HD) Enoxaparin 30mg SQ q12hrs (Total Knee Arthroplasty) Fondaparinux 2.5mg SQ daily (CrCl >30ml/min) Warfarin Heparin 5000 units SQ q8hrs | Sequential Compression Devices (SCDs) Antiemphobic Stockings (TEDS) |
| Intermediate Risk (Most Common) Not ambulating independently outside of room at least twice a day Active Infection or Inflammatory Process Active Malignancy Major Non-Orthopedic Surgery History of Venous Thromboembolism (VTE) Prior Immobilization (>72hrs) pre-op Obesity (>30 BMI) Stroke Inflammatory Bowel Disease Central Venous Access Hormonal Replacement or Oral Contraceptive Nephrotic Syndrome Burns Patient Age > 50 yrs Hypercoagulable State Cellulitis Varicose Veins Paralysis | Heparin 5000 units SQ q8hrs Heparin 5000 units SQ q12hrs (if underweight or age >75) Enoxaparin 40mg SQ daily Enoxaparin 30mg SQ daily (CrCl <30ml/min but not on HD) Fondaparinux 2.5mg SQ daily (CrCl >30ml/min) | Sequential Compression Devices (SCDs) Antiemphobic Stockings (TEDS) |
| Low Risk (Least Common) Minor Procedure & age <40yrs with no additional Risk Factors Ambulatory Patient with expected LOS <24hrs or Minor Surgery | | Sequential Compression Devices (SCDs) Antiemphobic Stockings (TEDS) |

Contraindications to Pharmacologic Therapy



| Absolute Contraindications | Relative Contraindications |
|--|--|
| Acute hemorrhage from wounds or drains or lesions Intracranial hemorrhage within the prior 72hrs Heparin Induced Thrombocytopenia (HIT) Severe trauma to head or spinal cord or extremities Neuraxial Anesthesia/Spinal Block within 12hrs of initiation or discontinuation of anticoagulation Patient on Warfarin or Heparin or Enoxaparin for other indications | GI or GU Hemorrhage within the past 6 months Coagulopathy (INR >1.5) Intracranial Lesion/Neoplasm Severe Thrombocytopenia (Plt <50k) Neuraxial Anesthesia/Spinal Block Intracranial Hemorrhage within the past 6 months |



“Quality Assurance Pharmacist Educational Intervention: Improving Compliance of the Thromboprophylaxis Protocol at the Veterans Affairs Medical Center, Washington, D.C

- **Results**
 - Post-pharmacist driven educational intervention in medicine service
 - Pre-intervention: 27% usage of the order set
 - Post-intervention: 53.2% usage of the order set
 - 26.2% increase from baseline (P<0.001)
 - % of patients who received appropriate prophylaxis pending
- **Conclusion**
 - Anticipate that this study will demonstrate that a pharmacist-driven educational intervention will increase the usage of the thromboprophylaxis order set and that patients will receive appropriate prophylaxis
- **Discussion**
 - We believe that the usage decreased in the 2nd year compared to the 2008 study due to our facility being an academic institution with constantly rotating house staff who primary users of the order set


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VTE Prophylaxis Audit Tool

- **Real-time monitoring tool**
- **Daily reports completed by clinical nurse leaders and case managers**
- **Engage this staff to become future educators**
- **Ultimate goal**
 - Increase VTE risk assessments and appropriate prophylaxis through the use of the VTE order set

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Collaborative Current Projects

- **Collaborative Current Goals**
 - VTE order set to be formally recognized as a national solution
 - Adoption by VA's nationally
 - **Bronze level:** VTE prophylaxis order set utilized
 - **Silver level:** VTE prophylaxis order set and audit tool utilized
 - **Gold level:** Main facilities, participate in conference calls, utilize order set and audit tool
 - Perfecting audit tool so it can be deployed nationally
 - Conjunction with National VA Inpatient Evaluation Center (IPEC)

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Protocol Champions

Divya Shroff, M.D., Associate Chief of Staff, Informatics

Donna Calliari, RN, MN, Clinical Applications Coordinator Developer

Ira Laster, Pharmacy ADP Coordinator

Ivan P. Cephas, Pharm.D., Emergency Pharmacy Specialist, Residency Program Director

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Thank You!

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