

**DOCTOR'S ORDER SHEET**

Room Number \_\_\_\_\_

Authorization is hereby given to dispense a chemically identical drug (according to hospital formulary policy) unless box provided is checked   
 Allergies: \_\_\_\_\_

Date	Time	<b>Venous Thromboembolism Prophylaxis in Gynecological Surgical Patients PRE-OPERATIVELY</b>	<i>Nurse Signature Time posted</i>
		<input type="checkbox"/> <b>Low Risk:</b> <ul style="list-style-type: none"> <li>Surgery less than 30 minutes for benign disease.</li> <li>Laparoscopic procedures in patients without additional VTE risk factors. (See reverse) (If laparoscopic surgery is prolonged, clinician may consider surgery to be 'moderate risk' and follow recommendations below.)</li> </ul> <b>No prophylaxis needed pre-operatively</b>	
		<input type="checkbox"/> <b>Moderate Risk:</b> <ul style="list-style-type: none"> <li>GYN surgery longer than 30 minutes for benign disease with <u>no</u> additional risk factors for VTE. (See reverse)</li> <li>Laparoscopic surgery in patients with additional VTE risk factors. (See reverse)</li> </ul> <input type="checkbox"/> Compression boots started before surgery <input type="checkbox"/> Heparin 5000 units SQ x 1 dose given 1-2 hours preoperatively	
		<input type="checkbox"/> <b>High Risk:</b> <ul style="list-style-type: none"> <li>Surgery in patients undergoing extensive surgery for malignancy.</li> <li>GYN surgery longer than 30 minutes in patients with additional risk factors for VTE. (See reverse)</li> </ul> Choose <b>ONE</b> of the following options: <ul style="list-style-type: none"> <li><input type="checkbox"/> Compression boots started before surgery</li> <li><input type="checkbox"/> Heparin 5000 units SQ x 1dose given 1-2 hours preoperatively.</li> <li><input type="checkbox"/> Enoxaparin 40mg SQ x 1dose given 1-2 hours preoperatively.</li> </ul> NOTE: Enoxaparin may NOT be used from 12 hours prior to epidural or spinal anesthesia until 2 hours after epidural/spinal catheter is removed. <input type="checkbox"/> <b>Combined therapy</b> (circle <b>ONE</b> of the options below) <ul style="list-style-type: none"> <li>A) Heparin 5000 units SQ x 1dose given 1-2 hours preoperatively with compression boots.</li> <li>B) Heparin 5000 units SQ x 1dose given 1-2 hours preoperatively with elastic stockings</li> </ul>	

Provider Signature \_\_\_\_\_

Date	Time	<b>Venous Thromboembolism Prophylaxis in Gynecological Surgical Patients POST-OPERATIVELY</b>	<i>Nurse Signature Time posted</i>
		<input type="checkbox"/> <b>Low Risk (as defined above):</b> <b>No prophylaxis needed aside from early and persistent mobilization</b>	
		<input type="checkbox"/> <b>Moderate Risk (as defined above):</b> Choose <b>ONE</b> of the following options: <ul style="list-style-type: none"> <li><input type="checkbox"/> Heparin 5000 units SQ q12h</li> <li><input type="checkbox"/> Compression boots used continuously while patient is not ambulatory until discharge</li> </ul>	
		<input type="checkbox"/> <b>High Risk (as defined above):</b> Choose <b>ONE</b> of the following options: <ul style="list-style-type: none"> <li><input type="checkbox"/> Heparin 5000 units SQ q8h</li> <li><input type="checkbox"/> Enoxaparin 40 mg SQ q24h</li> </ul> NOTE: Enoxaparin may NOT be used from 12 hours prior to epidural or spinal anesthesia until 2 hours after epidural/spinal catheter is removed. <input type="checkbox"/> Compression boots used continuously while patient is not ambulatory until discharge. <input type="checkbox"/> <b>Combined therapy</b> (circle <b>ONE</b> of the options below) <ul style="list-style-type: none"> <li>A) Heparin 5000 units SQ q12h with compression boots while patient is not ambulatory until discharge</li> <li>B) Heparin 5000 units SQ q12h with elastic stockings</li> </ul>	
		<b>CBC with platelet count every 48 hours in patients on heparin</b>	
		Provider Signature _____ Provider Printed _____ Provider Beeper _____	

# Risk Factors for Venous Thromboembolism Prophylaxis (VTE)

## Most Potent Risk Factors

- Cancer
- Previous history of VTE
- Age >60 years

## Other Risk Factors to Consider

- Immobility, paresis
- Age 40-60 years
- Pregnancy and the post-partum period
- Estrogen containing oral contraception or hormone replacement therapy
- Selective Estrogen Receptor Modulators
  
- Inherited or acquired thrombophilia (Deficiencies in protein S, C or antithrombin; genetic polymorphisms such as factor V Leiden, prothrombin gene polymorphism; acquired conditions such as antiphospholipid antibody and the lupus anticoagulant; and mixed disorders such as hyperhomocysteinemia)
  
- Acute Medical Illness
- Heart or Respiratory Failure
- Inflammatory Bowel Disease
- Nephrotic Syndrome
- Myeloproliferative Disorders
- Paroxysmal Nocturnal Hemoglobinuria
  
- Obesity
- Smoking
- Varicose veins
  
- Central venous catheterization
- Trauma (major or lower extremity)

## Timing of initiation of thromboprophylaxis and choosing between the different types

Thromboprophylaxis with unfractionated heparin or pneumatic compression boots ideally should be begun 1 to 2 hours preoperatively but it is reasonable for these interventions to be started anytime up to the induction of anesthesia.

The one important exception is that Low Molecular Weight Heparin (LMWH) (ie. enoxaparin) should NOT be used from at least **12 hours prior** to the initiation of the spinal/epidural anesthesia until **at least 2 hours after** the epidural/spinal catheter has been removed. However, LMWH is less likely to cause heparin induced thrombocytopenia than Unfractionated Heparin (UFH).

Although pneumatic compression boots are an option for all patient risk categories, the evidence for their efficacy is generally less strong than that for UFH and LMWH and they are believed to be most effective when started before surgery and **used continuously whenever the patient is not ambulating until the time of discharge.**

## Monitoring of patient on UFH/LMWH

Patients on UFH or LMWH should have their platelet counts checked periodically in the first two weeks of therapy for evidence of **Heparin Induced Thrombocytopenia (HIT)**.