# Risk Assessment & Treatment Guide for Obstetric Thromboprophylaxis

## Definitions

- **High-Risk Thrombophilies**
  - Factor V Leiden Homozygote
  - Factor V Homozygote (+ Prothrombin G20210A)
  - Factor V Heterozygote with Factor II Heterozygote Combination
  - Antithrombin III Deficiency

- **Low-Risk Thrombophilies**
  - Protein C Deficiency
  - Protein S Deficiency
  - Factor V Leiden Heterozygote
  - Factor II Heterozygote

## When to Test

- History of unprovoked VTE
- 1st Degree relative with history of high-risk thrombophilia

## Workup

- Acquired Thrombophilia Panel:
  - Anti-cardiolipin
  - Lupus anticoagulant
  - Anti-beta 2 glycoprotein

- One or more UDF or SAE after 10 wga
- One or more preterm births due to condition associated with placental insufficiency (eclampsia/severe pre-e)
- Three or more unexplained SAE before 10 wga

## Laboratory Evaluation

- **Full Thrombophilia Panel**:
  - Protein C & S deficiencies
  - Factor V Leiden
  - Prothrombin G20210A
  - Anti-cardiolipin
  - Lupus anticoagulant
  - Anti-beta 2 glycoprotein

## Treatment

### Antepartum

**High Risk Categories**

- Treat Throughout Entire Pregnancy
- High-risk thrombophilia without history of VTE
- History of unprovoked VTE
- History of VTE caused by pregnancy or high estrogen state
- Antiphospholipid syndrome with prior adverse pregnancy outcome
- Low-risk thrombophilia with history of VTE

- **Prophylactic Dose**
- History of VTE caused by pregnancy or high estrogen state
- Antiphospholipid Syndrome without history of VTE with previous adverse pregnancy outcome
- Low-risk thrombophilia with history of VTE

- **Therapeutic Dose**
- High-risk thrombophilia with history of VTE
- History of >2 VTE not already on treatment
- Antiphospholipid Syndrome with history of VTE

- Return to previous therapy

**Intermediate Risk Categories**

- Starting at 28 weeks gestational age
- Sickle cell disease
- Maternal heart disease
- Active lupus flare
- Active inflammatory polyarthropy
- Active inflammatory bowel disease
- Uncontrolled nephrotic syndrome
- Type 1 diabetes mellitus with nephropathy

- **Prophylactic Dose**
- Sickle cell disease
- Maternal heart disease
- Active lupus flare
- Postpartum transfusion
- Immobilization/bed rest for >7 days per expert opinion

**Low Risk Categories**

- If > 4 factors = prophylactic treatment throughout pregnancy
- If > 3 factors = prophylactic dosage starting at 28 weeks gestational age
- If < 3 factors = close surveillance

- Low risk thrombophilia without history of VTE
- History of provoked VTE (i.e., long car ride, surgery)
- 1st degree relative with history of estrogen-provoked VTE
- Active smoker > 10 cigarettes/day
- Active smoker > 10 cigarettes/day
- Age > 35 years old at expected delivery date
- BMI > 40 pre-pregnancy
- Active pre-eclampsia, mild or severe
- Multiple gestational pregnancy
- Immobilization/bed rest for >7 days

## Dosage Guides

<table>
<thead>
<tr>
<th>Therapeutic dosing</th>
<th>LMWH: Enoxaparin 1mg/kg SC q12h</th>
<th>UFH: IV dose of 5,000 IU loading, then follow protocol and aPTT levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prophylactic dosing</td>
<td>LMWH: 40mg SC daily</td>
<td>20mg SC daily</td>
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<tr>
<td></td>
<td>LMWH: 40mg SC q12h</td>
<td>40mg SC daily</td>
</tr>
<tr>
<td></td>
<td>UFH: First trimester 5,000 BID</td>
<td>7,500 BID</td>
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<tr>
<td></td>
<td>UFH: Second trimester 7,500 BID</td>
<td>10,000 BID</td>
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</tbody>
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## Unique Cases

- **Ovarian hyperstimulation syndrome**: Therapeutic dosage from onset to 12 weeks gestation only
- **Acute VTE in this pregnancy**: Therapeutic dosage until at least 6 weeks postpartum, for a total of 6 months from diagnosis
- **Surgery during pregnancy (i.e., appendectomy)**: Prophylactic dosage while inpatient during hospital stay
- **Cardiomyopathy or maternal cancer**: Prophylactic dosing at conception if pre-existing conditions or at time of diagnosis during pregnancy and continue through 6 weeks postpartum
- **Mechanical heart valve**: Maintain Coumadin if <= 5mg throughout convert to therapeutic LMWH 1 wk prior to delivery