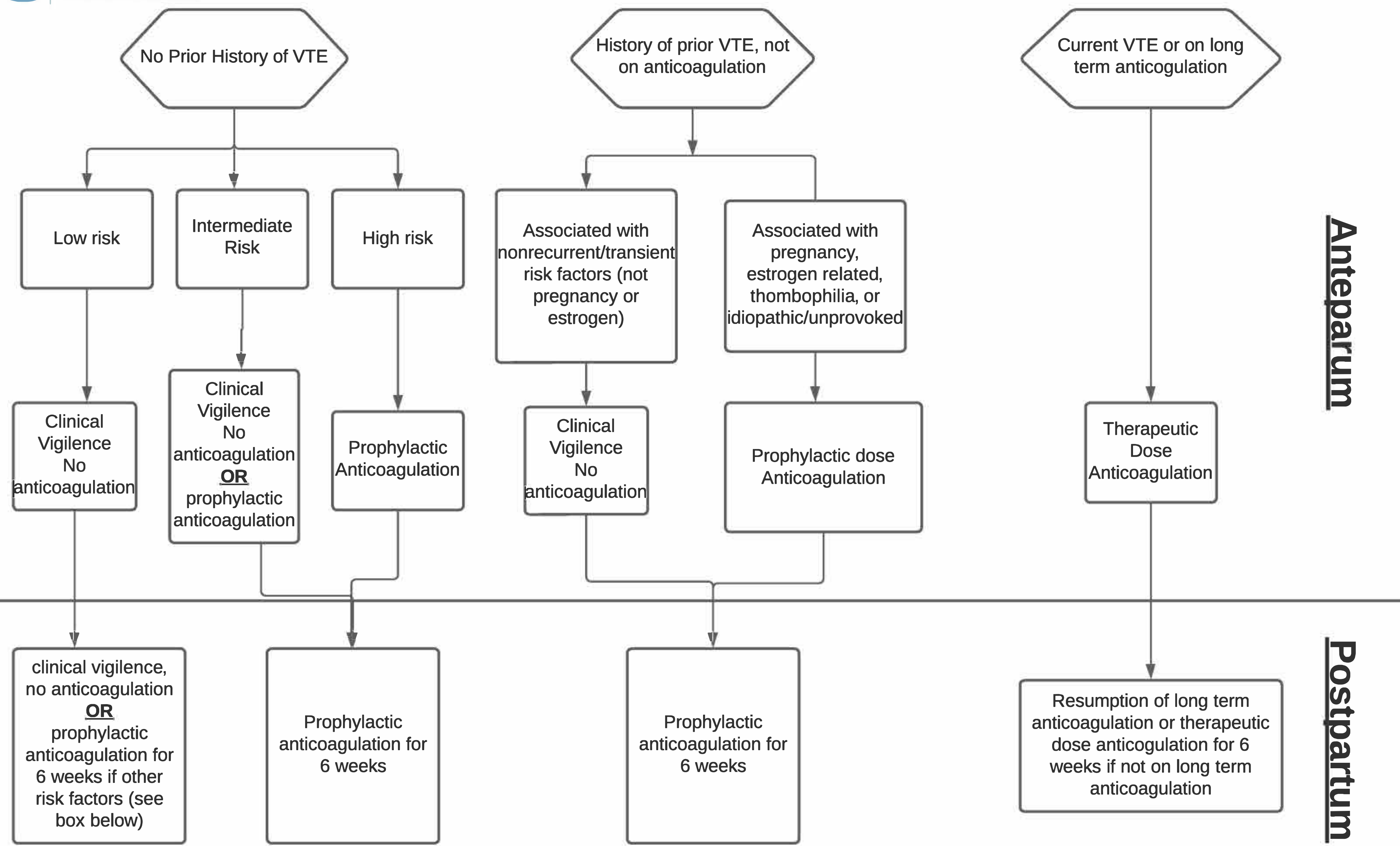
Management of Thromboembolic Disease in Pregnancy



Low Risk
No family history
(first degree relative with VTE <50)
AND
low risk thrombophilia

Intermediate Risk
Positive family history (first degree relative with VTE <50)
AND
low-risk thromboophilia

High Risk
High risk thrombophilia

Other risk factors to consider Postpartum
Cesarean delivery, Age >39, BMI >30kg/m2, medical comorbidities (cancer, heart failure, active SLE, IBD, nephrotic syndrome, T1DM with nephropathy, sickle cell disease, current IVDU), current smoker, immobility (paraplegia), pregnancy complications (multiple pregnancy, FGR, HTN), peripartum hemorrhage >1000mL, hysterectomy, general anesthesia, postpartum infection

Low risk thrombophilia; Factor V Leiden heterozygous, prothrombin G20210A heterozygous, protein C or S deficiency, antiphospholipid antibody syndrome (no history thrombosis)

High risk thrombophilia:
Homozygous Factor V Leiden or prothrombin G20210A, heterozygous for both FVL and prothrombin G20210A, antithrombin III deficiency, APS (with history of thrombosis)

Note: Women with a history of thrombosis who have not had a complete evaluation of possible underlying etiologies should be tested for antiphospholipid antibodies and for inherited thrombophilias. The results of testing may alter the recommendations for thromboprophylaxis or dosing and timing of anticoagulation.

Anticoagulation Regimens

Low Molecular Weight Heparin (LMWH)- Recommended

Prophylactic <100kg bodyweight: Enoxaparin 40mg SC once daily
Dalteparin 5000 IU SC once daily
Tinzaparin 3500 IU SC once daily
≥ 100kg bodyweight Enoxaparin 60mg SC once daily
Dalteparin 7500 IU SC once daily
Tinzaparin 4500 IU SC once daily

Therapeutic Enoxaparin 1 mg/kg SC q 12hrs
Dalteparin 200 units/kg SC daily OR 100 units/kg SC q12 hrs
Tinzaparin 175 units/kg once daily

Unfractionated Heparin (UFH)

Prophylactic 1st trimester: 5,000-7,500 units SC q12hrs
2nd trimester: 7,500 - 10000 units SC q12hrs
3rd trimester: 10,000 units SC q12hrs OR 5,000 units SC q8hrs
**consider using q8h dosing if significant concern for unscheduled delivery*

Therapeutic 216 u/kg q12hrs (adjust to target aPP of 1.5-2.5 6 hrs after injection)

*Patients receiving prophylactic anticoagulation n pregnancy do not need monitoring as optimal anti-factorXa levels in pregnancy have not been determined. Consider checking Anti -Xa levels for extremes of body weight (BMI >40) , which should be 0.6 - 1.0 units/mL for q12 hr dosing of LMWH.
*Commonly available syringe sizes for enoxaparin for concenration 100 mg/mL are as follows: 30 mg/0.3mL; 40 mg/0.4mL; 60mg/0.6mL; 80 mg/0.8mL. For patients whose dosing falls between a commonly available syringe dose, round up or down to an available syringe dose after considering bleeding and thrombosis risks. Consider rounding down for individuals with renal disease or those with high risk of preterm birth.

Preparation for Delivery

*Consider switching to UFH at 36 weeks (or earlier if high risk for early delivery). UFH has a shorter half life and ability to reverse using protamine sulfate.

OR

*Continue LMWH with plan to hold prior to scheduled IOL or Cesarean delivery (Table 1).

Table 1. Suggested time to start and stop LMWH relative to delivery

	When to hold before delivery	When to restart after delivery
Intermediate dose or Therapeutic LMWH	If IOL: hold for atleast 24 hrs prior to anticipated neuraxial placement If C/S: hold for atleast 24 hrs prior to scheduled procedure	•In consensus with anesthesia removal of catheter and considering surgical bleeding risk •Plan to restart atleast 24 hrs neuraxial anesthesia placement and atleast 4 hrs after epidural catheter removal
Prophylactic LMWH	If IOL or C/S: hold for 12hrs prior to anticipated neuraxial placement	•In consensus with anesthesia removal of catheter and considering surgical bleeding risk •Plan to restart atleast 12 hrs after neuraxial anesthesia placement and at least 4 hrs after epidural catheter removal

**Note: if patient is at high risk for VTE morbidity/mortality and cannot be off of anticoagulation for 24 hrs, please consult with OB anesthesia and consider use of heparin gtt. Please include that patient is on anticoagulation when messaging to schedule IOL or C/S.*

Intrapartum

Hold anticoagulation throughout intrapartum course (or see note above if anticoagulation cannot be held for at least 12-24 hours)
Sequential Compression Devices

Postpartum

Continue Sequential Compression Devices

If restarting LMWH/UFH: see Table 1

If starting coumadin:
- first dose PM after delivery
- bridge with LMWH/UFH for 5 days and until INR 2-3 for 2 days
- breast feeding permitted

Prior to Discharge:
Re-dose LMWH or UFH to day-of-discharge weight for homegoing

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These algorithms are designed to assist the primary care provider in the clinical management of a variety of problems that occur during pregnancy. They should not be interpreted as a standard of care, but instead represent guidelines for management.Variation in practices should take into account such factors as characteristics of the individual patient, health resources, and regional experience with diagnostic and therapeutic modalities.
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Revised 09.25.23 JJ