Thromboprophylaxis in Pregnancy and Puerperium Guideline

INTRODUCTION

This guidance refers to the RCOG green top guideline for reducing the risk of venous thromboembolism (VTE) in pregnancy and the puerperium (2015). However due to potential confusion between the use of risk factors and use of risk scores, this NHSL guidance relies on the use of RISK FACTORS with individualised clinical input for each woman.

The **VTE/Thromboprophylaxis Treatment t**ool/form in Badger should be used to assist with this determination and will be described further in this guideline*. The RCOG guideline refers to the NUMBER of risk factors in guiding treatment. The severity of the risk factor is also important. Badger recommendations (local) have been updated to assist with decision making .

If there is doubt, especially whether Postnatal Thromboprohylaxis should be 10 days or longer, then senior advice should be sought.

A VTE risk assessment should be done

A) At booking

B) At 28 weeks gestation

C) At/After delivery

D) At any inpatient admission: Consider thromboprophylaxis

In NHS Lanarkshire all women who have had caesarean sections are recommended a minimum of 10 days of low molecular weight heparin (if not contraindicated), as per local agreement. This is currently stated within the Badger Recommended Management Plan

*** See Page 4-6 for Guidance on How the VTE tool must be used in NHSL**

- **A Genetic/Hereditary Thrombophilia** screen should be offered to all those with personal and/or **1st degree** family history (< age 50) of VTE if not previously performed
    - State: "Genetic/Hereditary Thrombophilia screen only" on request form
    - DO NOT REQUEST ANTIPHOLIPID ANTIBODIES
    - State: "DO NOT PERFORM ANTIPHOSPHOLIPID ANTIBODIES" on request form
- Women who have had a past VTE or VTE in current pregnancy should be referred to the Medical Obstetric Thrombophilia (MOT) clinic
- Women with complex medical histories or Risk Factors which place them at risk of VTE should be referred for preconception counselling at the PEARL clinic.
- All women with known anti-phospholipid antibody syndrome should be managed through the MOT clinic
- LMWH – enoxaparin is the thromboprophylaxis drug of choice in NHS Lanarkshire
    - Doses are weight related, see Appendix 2
    - Safe in breastfeeding
    - Do not need to monitor Anti-Xa routinely if BMI>50 or <90 kg
    - Caution in patients with renal impairment (consider unfractionated heparin)
    - **See Appendix 1 for contraindications; Appendix 2 for dosage**
- Women should be counselled not to inject further doses of LMWH if they have any episodes of vaginal bleeding and contact their community midwife or triage
- Regional procedures should be avoided if possible until at least 12 hours post last dose of prophylactic LMWH (24 hours for therapeutic doses)
- LMWH should not be given for 4 hours after use of spinal or removal of epidural catheter
- Women on antenatal thromboprophylactic LMWH undergoing elective caesarean section should omit their dose on the day preceding surgery.

Booking and Antenatal Thromboprophylaxis

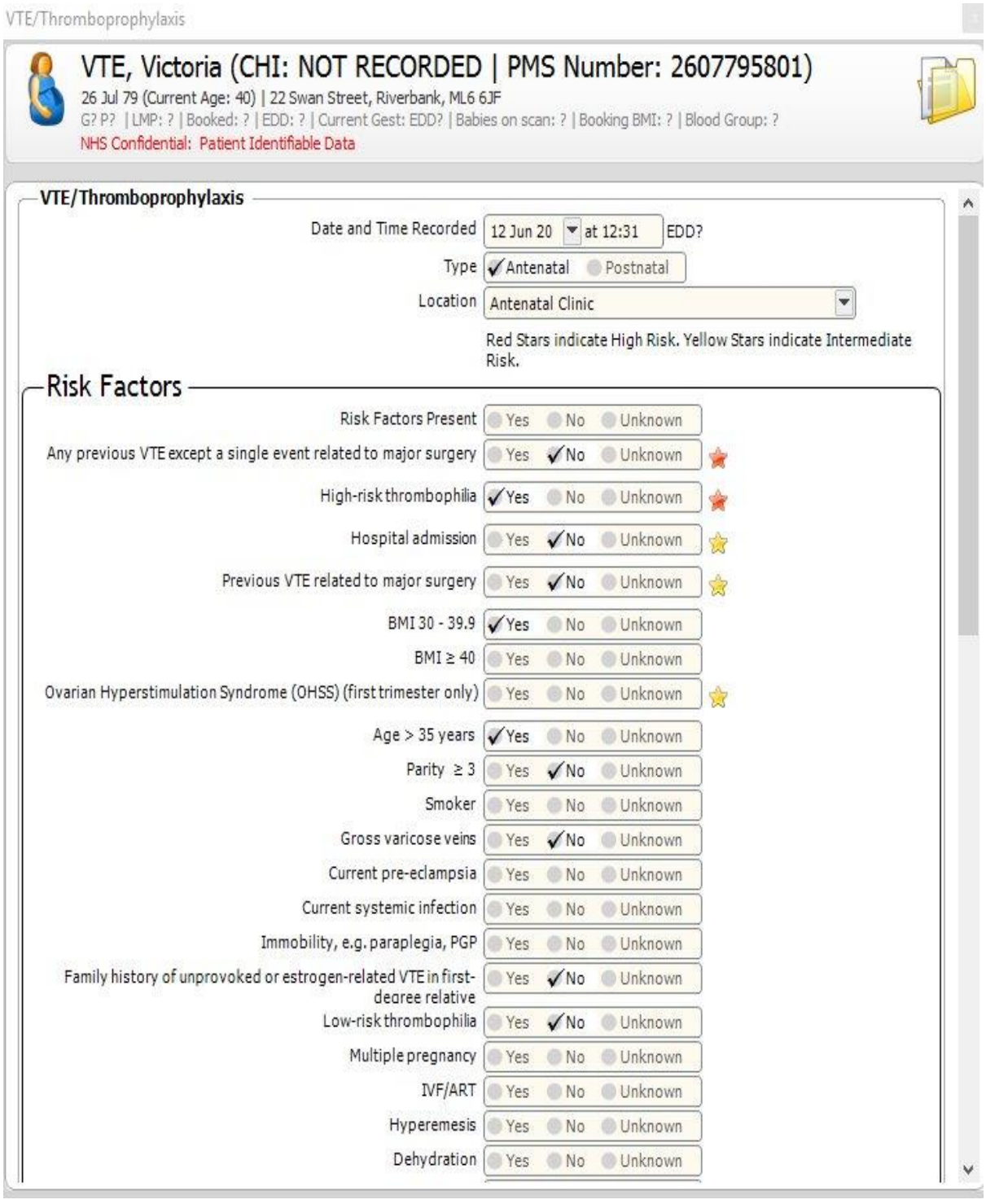
- High risk women especially with a previous DVT or on anticoagulation should be referred to be seen at the next possible MOT clinic.
- Women on oral anticoagulation should be converted to therapeutic Enoxaparin ASAP
- Women with a known thrombophilia should be referred for early consultant review
- Risk assessment should be conducted at booking using the BadgerNet VTE tool (pages 4-6)
- Antenatal thromboprophylaxis in the first trimester should be considered in the following circumstances:
    - 4 or more identified RISK FACTORS for VTE
    - Any previous VTE associated with pregnancy or combined oral contraceptive pill
    - Any previous unprovoked VTE
    - All women with recurrent previous VTE regardless of aetiology
- Women with previous distal venous thromboses should be offered TED stockings to reduce the severity of post thrombotic syndrome during pregnancy
- TEDS can be used as prophylaxis when LWMH is contraindicated
- Those requiring antenatal LMWH will usually require 6 weeks postpartum thromboprophylaxis – reassessment should be undertaken

At 28 Weeks Gestation

- All women should have a 28 week VTE assessment using the BadgerNet risk assessment tool
- If there are ≥3 RISK FACTORS then they should receive LMWH prophylaxis until delivery and a minimum of 10 days postnatal thromboprophylaxis. Consider for longer thromboprophylaxis if > 3 RISK FACTORS, usually 6 weeks.

Each woman must be individualised as circumstances can vary greatly. The actual RISK FACTORS and their severity are important and discussion with senior staff is warranted when there is any doubt.

VTE/Thromboprophylaxis Assessment Screen Shots



Manually select any Risks that Badger does not automatically populate

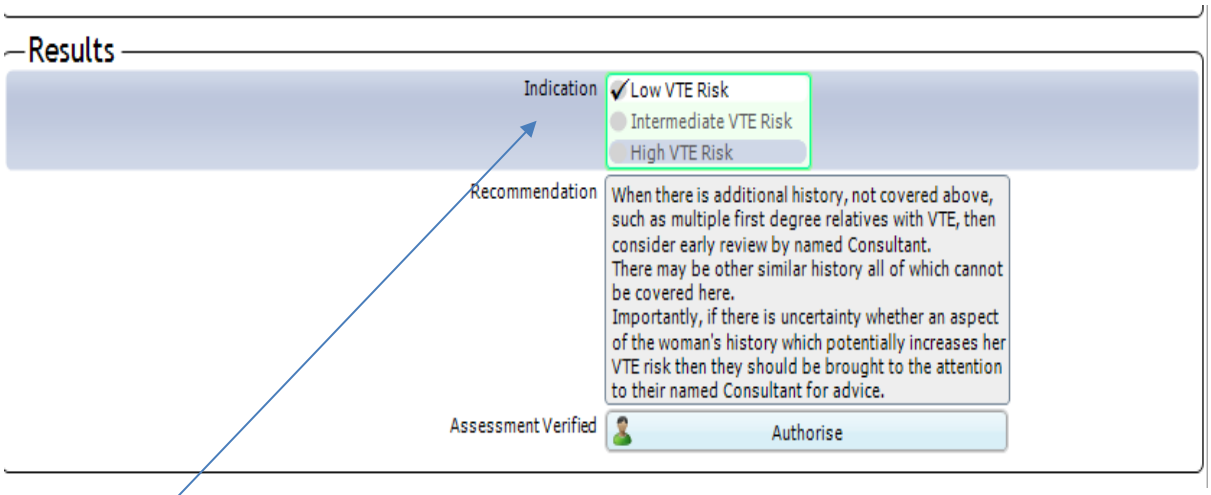
Using the Badger VTE Risk Assessment tool/form and Management Plans

As always note the **Number (and severity) of the Risk factors**

Select/Tick the risk factors that exist at the time of assessment. This no longer generates a risk score (local arrangement). Co-morbidities: severity must be individualised for each patient.

Using the number and severity of Risk Factors:

- **In the Results section, Indication box**:
- The person doing the VTE assessment must **Manually** select Low/Intermediate/High Risk
- This generates a local Recommendation



You must tick the Indication based on the patients Risk Factors as this will NOT automatically populate the correct risk

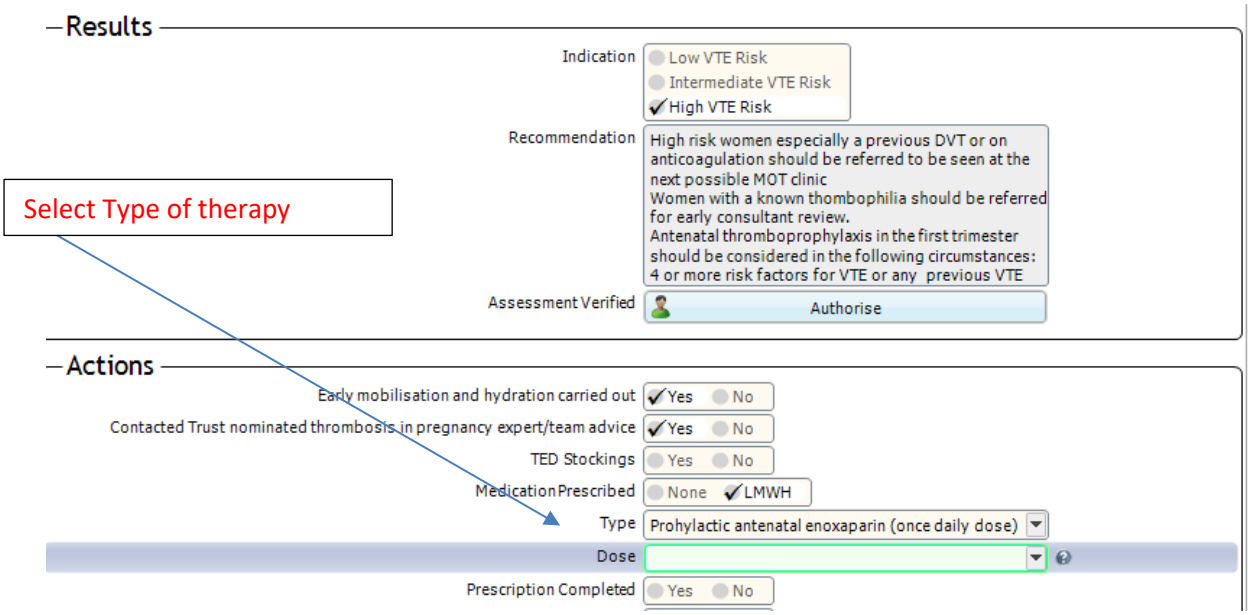
Do not accept the automatic Recommendation

See page 6:

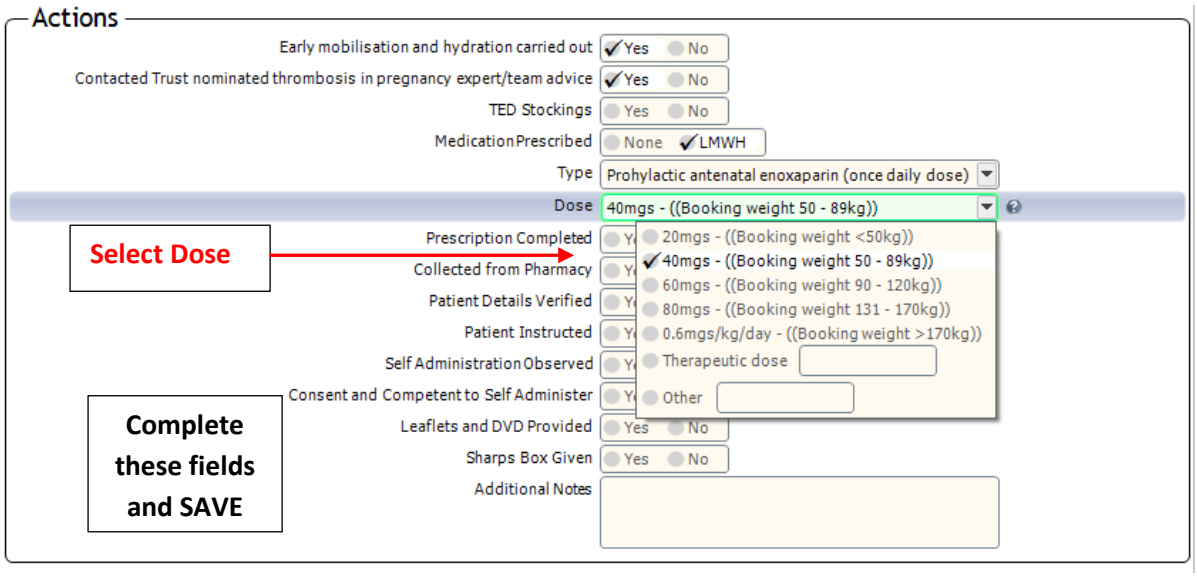
Selecting Intermediate/High Risk opens the appropriate Recommendations

Therapy Type can now be selected in the Actions field

See Below



You can now select the correct weight based thromboprophylaxis Dose as agreed in NHSL



Complete a Management Plan

It is recommended that the Antenatal or Postnatal Management Plans are completed once management is decided. This ensures it is visible on the Patient Summary page at the start

This is accessed by **completing an Antenatal and Post Natal Management Plan separately**

See Page 7-8

Search for this as usual (or click on Antenatal Management Plan button from Specialist Review form)

Once a Management plan is decided:

1. Complete the **Actual** Management Plan Box (copy and paste from Recommended Management Plan Box if appropriate)
2. **Tick**-> Management plan reviewed
3. **Tick->**Do you want to change actual Management Plan->Yes->Yes
4. The Postnatal Management plan can be completed on the same form located lower down
5. **Save and Close**

The Management Plan will now appear on the Patient Summary. It can be amended at any stage

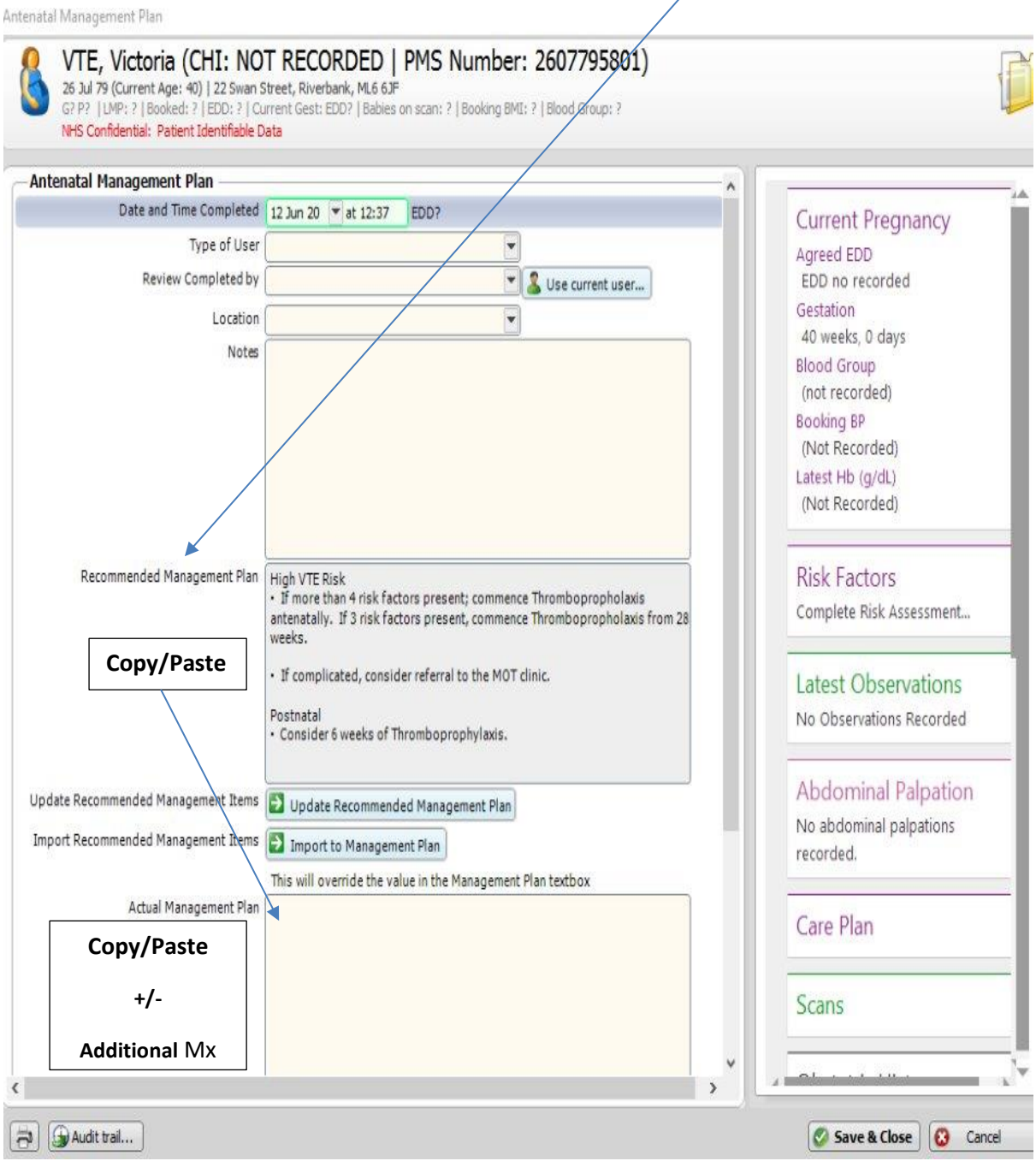
If you do not know how to use Management Plan forms (Antenatal/Postnatal) please seek help

Completing Management Plan

On completion of the VTE Assessment->

Open up a new Management Plan ->

The Recommend Management Plan for NHSL will automatically come through in accordance with the patients VTE Indication that you selected previously



You can then complete the Actual Management Plan box (copy and paste if appropriate. The Management Plan will now appear on Patient Summary

Timing of Delivery and Intrapartum Management

- Epidural/spinal anaesthetic is contraindicated within 12 hours of prophylactic doses of LMWH and 24 hours of therapeutic doses
- As such it may be appropriate to assess and counsel women about elective induction of labour, if favourable, to allow this. This will allow the timing of safe discontinuation of LMWH prior to IOL.

Postnatal Thromboprophylaxis

- In NHSL, the following women should have a minimum 10 days thromboprophylaxis
    - All women who have a caesarean section thromboprohylaxis with LMWH unless contraindicated by local agreement.
    - Women with a BMI of $\geq$ 40 should be considered for 10 days thromboprophylaxis
    - $\geq$ 2 known pre-existing risk factors for VTE
- 6 weeks thromboprophylaxis recommended in
    - Women with previous VTE
    - Known thrombophilia, with or without previous VTE
    - >3 risk factors for VTE after senior discussion regarding duration
- **Each woman must be individualised as circumstances at delivery can vary greatly.**
- **The actual RISK FACTORS are important and discussion with senior staff warranted when there is any doubt.**

Special Considerations

- All women with previous VTE and/or known thrombophilia/on long term anticoagulation/with VTE associated medical conditions/with anti-phospholipid antibody syndrome should be offered pre-conception counselling
- Women on warfarin or other long term anticoagulation should discontinue these immediately upon falling pregnancy and be converted with therapeutic low molecular weight heparin on a twice daily regime based on body weight, and referred to the MOT clinic
- Consider addition of low dose aspirin when there is a history of antiphospholipid antibody syndrome
- Complex patients should be managed through the MOT clinic

- For example, women with multiple thrombophilia, a severe thrombophilia (antithrombin, FV Leiden homozygous), unusual thromboses such as hepato/splenic or arterial/unusual thrombus site

- Women with asymptomatic thrombophilias (no previous VTE)
  - Assess risks using Badger VTE tool to assess if thromboprophylaxis is required at booking and at 28 weeks
  - All of these women should have 6 weeks post natal thromboprohylaxis

Reassessment should be undertaken with new/prolonged admissions/change in clinical picture and all those on long antenatal thromboprolylaxis should receive at least 6 weeks postpartum thromboprophylaxis

Appendix 1: Contraindications to LMWH

Contraindications/cautions to LMWH use
Known bleeding disorder (e.g. haemophilia, von Willebrand's disease or acquired coagulopathy)
Active antenatal or postpartum bleeding
Women considered at increased risk of major haemorrhage (e.g. placenta praevia)
Thrombocytopenia (platelet count < 75 × 109/l)
Acute stroke in previous 4 weeks (haemorrhagic or ischaemic)
Severe renal disease (glomerular filtration rate [GFR] < 30 ml/minute/1.73m2)
Severe liver disease (prothrombin time above normal range or known varices)
Uncontrolled hypertension (blood pressure > 200 mmHg systolic or > 120 mmHg diastolic)

Appendix 2: LMWH dose guide (prophylaxis)

Weight	Enoxaparin
< 50 kg	20 mg daily
50–89 kg	40 mg daily
90–120 kg	60 mg daily*
121–170 kg	80 mg daily*
> 170 kg	0.6 mg/kg/day*
(High prophylactic dose for women weighing 50–90 kg	40 mg 12 hourly)

*may be given in divided doses

Appendix 3

Concurrent use of LDA and LMWH at higher doses

- Discontinue LDA at 36 weeks

References

1. Reducing the risk of Venous Thromboembolism during Pregnancy and Puerperium. RCOG. Green Top Guideline No 37a April 2015
2. MBRRACE-UK. Saving lives, Improving Mothers' care. Lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2013–15. December 2017
3. Wysowski DK el al *N Engel J Med* 1998; **338** 1774-1775
4. Vandemeulin EP et al *Anaesthesia and Analgesia* 1994; **79** 1165-1177
5. Venous thromboembolism in over 16s: reducing the risk of hospital-acquired deep vein thrombosis or pulmonary embolism. NICE guideline [NG89] Published: 21 March 2018 Last updated: 13 August 2019
6. Caesarean birth. NICE guideline [NG192] Published: 31 March 2021
7. Bates SM, Greer IA, Middeldorp S, Veenstra DL, Prabulos AM, Vandvik PO; American College of Chest Physicians. VTE, thrombophilia, antithrombotic therapy, and pregnancy: Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. Chest 2012;141 2 Suppl:e691S–736S.
8. Brill-Edwards P, Ginsberg JS, Gent M, Hirsh J, Burrows R, Kearon C, et al.; Recurrence of Clot in This Pregnancy Study Group. Safety of withholding heparin in pregnant women with a history of venous thromboembolism. N Engl J Med 2000;343:1439–44

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