Thromboprophylaxis in pregnancy, labour and after vaginal delivery

University Hospitals of Leicester NHS
NHS Trust

Scope:

This guideline is intended for the use of all Healthcare Professionals responsible for the care of women who require Thromboprophylaxis in pregnancy, labour or after vaginal delivery in an **in-patient setting**. For risk assessments in other settings please see 'Booking process and Risk Assessment in Pregnancy and the Postnatal period' guideline. For women who delivered by Caesarean section please refer to Caesarean section guideline.

Legal Liability (standard UHL statement):

Guidelines issued and approved by the Trust are considered to represent best practice. Staff may only exceptionally depart from any relevant Trust guidelines providing always that such departure is confined to the specific needs of individual circumstances. In healthcare delivery such departure shall only be undertaken where, in the judgement of the responsible health professional' it is fully appropriate and justifiable – such decision to be fully recorded in the patient's notes.

Related documents:

Title:
Investigation and Management of VTE in Pregnancy and Puerperium
UHL Anticoagulation Policy
Obesity in Pregnancy, Labour and the Puerperium
Obstetric emergencies
Booking process and Risk Assessment in Pregnancy and the Postnatal period
Caesarean section guideline

1. Assessment:

- Complete assessment on admission (in-patient).
- Information leaflet MED038-1108 “Preventing Blood Clots While You Are in Hospital” to be given to all patients on admission.
- Repeat assessment of new onset or transient risk factors every 48-72 hours (as risk of venous thromboembolism may change as events change).
- Assessment to be completed by trained staff (midwife or obstetrician).
- Assessment to be documented on proforma.

2. Assessment of risk factors:

Please see VTE assessment form below.

3. Thromboprophylaxis management:

-Women with a total of **three or more risk factors** should receive Thromboprophylaxis with Low Molecular Weight Heparin:

Pre-pregnancy or booking weight	**Dalteparin Dose**
Body weight <50 kg Or e-GFR <30/ml	2500 units OD
Normal body weight	5000 units OD
Morbidly obese (BMI>40)	7500 units OD

-Duration of thromboprophylaxis:

Women with 3 or **more pre-existing risk factors**	For the remainder of the pregnancy
Women with **new onset/transient risk factors**	Until the condition has resolved and total number of risk factors has fallen to 2 or less

-Contraindications to Dalteparin

- Known bleeding disorder or platelets <50 x 109/l
- Haemorrhagic stroke or risk of CNS bleed such as head injury
- Not routinely used in ischaemic stroke unless haemorrhagic risk excluded
- Risk of gastrointestinal bleed
- Bacterial endocarditis, pericarditis or throracic aortic aneurysm (discuss with cardiologist)
- History of heparin induced thrombocytopenia (consider if platelets fall after 5-10 days of treatment)

- Renal failure GFR<30ml/min (reduce dose of dalteparin to 2500 units od) OR
- Other condition with high risk of serious bleed (discuss with consultant if risk / benefit balance not clear,)
- Regional anaesthesia. At least 12 hours should be allowed to elapse following dalteparin, before insertion / removal of an epidural catheter. If therapeutic doses are used, 24 hours should be allowed to elapse.
- After insertion / removal of a catheter, dalteparin should be delayed for 4 hours

4. Monitoring:

Full blood count before starting dalteparin if the woman has not has one taken within the previous two weeks.

Where dalteparin is required for longer than five days a full blood count should be repeated.

Heparin induced thrombocytopenia (HIT) – decrease in platelet count of 50% - refer to Haem Obs Clinic.

If advice needed refer to Haem Obs Clinic.

5. Symptoms of VTE

If patients present with symptoms of VTE (e.g chest pain, breathlessness, calf swelling etc) during pregnancy or puerperium, their pre-existing and acquired risk factors need to be taken into account and appropriate clinical probability scoring performed to ensure they receive adequate investigations. Please refer to the 'Investigations of VTE in pregnancy' guideline.

6. Management plan

Women who are receiving thromboprophylaxis as a result of their risk scoring should have an intrapartum and postnatal management plan documented in their health record by the responsible clinician. As a minimum this should include:

- Peripartum management of thromboprophylaxis (e.g. when to omit Dalteparin and when to resume if at all)
- Any additional measures to be taken intrapartum including the third stage
- The need for postpartum continuation of thromboprophylaxis, including duration and the need for follow up.
- Prior to discharge, any required follow up arrangements with Haematology services should be made.

7. Implementation

All staff will have access to the guideline in both hard copies in all areas of working and readily available via InSite (The Trust intranet site). There is also a Specialist Nurse for haematology (available on ext 5990) identified as a lead to assist implementation at clinical level and act as a resource.

References:

-Lewis G ed *Saving mothers' lives: reviewing maternal deaths to make motherhood safer - 2003-2005. The seventh report of the Confidential Enquiries into Maternal Deaths in the United Kingdom*. London: CEMACH, 2007
-RCOG *Thromboprophylaxis during pregnancy, labour and after vaginal delivery (No: 37)* January 2004
-NICE *Reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to hospital. (CG92)* March 2009.
-RCOG *Reducing the risk of thrombosis and embolism during pregnancy and the puerperium.* November 200

PREGNANCY VTE RISK ASSESSMENT Insert date of assessment in the appropriate column and tick all factors that apply.

Pre-existing factors- **Date**	
Single previous VTE **AND** thrombophilia or family history (See below)	See below
Unprovoked / oestrogen related VTE	
Previous recurrent VTEs	
Single previous provoked VTE without thrombophilia or family history	See below
Thrombophilia and NO VTE	
Age over 35 years	
Obesity (BMI>30) either pre-pregnancy or in early pregnancy	
Parity ≥3	
Smoker	
Gross varicose veins	
Paraplegia	
Sickle cell disease	
Pre-existing proteinuria >3g/day	
Inflammatory bowel or joint disorders	
Medical disorder e.g. Nephrotic syndrome, heart or lung disease	
SLE, IV drug user, Cancer	
Myeloproliferative disorder e.g. thrombocythaemia, polycythaemia vera	
Total number of pre-existing risk factors	
Assessment completed by – sign and print name	

New onset or transient factors- **Date**							
Admission to hospital							
Surgical procedure in pregnancy or puerperium							
Severe infection e.g. pyelonephritis, chest infection, cellulitis, HIV, post-partum wound infection							
Dehydration							
Hyperemesis							
Immobility (>4 days bed rest)							
Pre-eclampsia							
New onset proteinuria >3g/day							
Excessive blood loss >1L							
Recent long-haul travel (>4hrs by any transport)							
Lower limb in plaster / SPD							
Trauma – moderate or major							
Multiple pregnancy or assisted conception							
Ovarian hyperstimulation syndrome (OHSS): Current – refer to OHSS guidelines Earlier in this pregnancy – add as a factor							
Total number of combined pre-existing and new onset / transient factors							
Assessment completed by – sign & print name							

Thromboprophylaxis management:

- ❑ **Women with a total of 3 or more risk factors should receive Dalteparin - see tables for dose and duration**

	Duration of thromboprophylaxis
Women with 3 or more **pre-existing risk factors or high risk**	For the remainder of the pregnancy
Women with **new onset / transient risk factors**	Until the condition/s have resolved and number of risk factors has fallen to 2 or less

Pre-pregnancy or booking weight	**Dalteparin dose**
< 50kg	2500 units once daily
Normal body weight	5000 units once daily
Morbidly obese (BMI >40)	7500 units once daily

THROMBOPHILIAS	
Congenital thrombophilia:	Acquired thrombophilias (antiphospholipid syndrome):
Antithrombin deficiency	Lupus anticoagulant
Protein C deficiency	Anticardiolipin antibodies
Protein S deficiency	β glycoprotein 1 antibodies
Factor V Leiden	
Prothrombin gene variant	

Addressograph

High risk.
Has patient been seen in Haem / Obs Clinic?
Yes: see individual plan of care
No: Urgent referral
Requires antenatal prophylaxis with LMWH

Intermediate risk.
Has patient been seen in Haem / Obs Clinic?
Yes: See individual plan of care
No: Urgent referral
Give antenatal prophylaxis with LMWH if admitted to hospital

Monitoring	
Process for monitoring:	Retrospective review of health records
How often will monitoring take place:	Quarterly
Population:	8 sets of health records of women who have delivered following thromboprophylaxis during the antenatal period. 8 sets of health records of women who have delivered following thromboprophylaxis during the postnatal period.
Person responsible for monitoring:	Specialist Nurse/Midwife for Obstetric Haematology Senior Midwives for Intrapartum and Inpatient Services
Auditable standards:	• A risk assessment has been made and documented on admission to hospital • Repeat assessment has been made every 48-72 hours of new onset or transient risk factors • Appropriate action taken where patient presents with signs and symptoms of VTE • On identification of specified risk factors Dalteparin was commenced at an appropriate dose and duration • Where risk was high antiembolic stockings were used • There is an individual management plan for labour and delivery of women on thromboprophylaxis • Intrapartum plan has been followed where appropriate • On identification of specified risk factors thromboprophylaxis is appropriately administered in the postnatal period at the recommended dose and duration
Results reported to:	Maternity Services Governance Group
Person responsible for producing action plan:	Senior Midwives for Intrapartum and Inpatient Services Specialist Nurse/Midwife for Obstetric Haematology
Action plan to be signed off by:	Maternity Services Governance Group
Action plan to be monitored by:	Maternity Services Governance Group
How will learning take place: in one or more of the following fora	Feedback from audit Delivery suite forum Intrapartum meetings Team meetings Unit meetings The following may also be used: Communication boards Newsletters Posters Emails Face to face feedback where appropriate