Shared Care Guideline for Enoxaparin (GP Summary)

It is essential that a transfer of care only takes place with agreement of the GP and when sufficient information has been received. If the GP does not agree to share care they will inform the Consultant responsible for the patient's care. This decision should be reviewed for each subsequent pregnancy.

Basingstoke, Southampton & Winchester District Prescribing Committee

Specialist Contact Details	**Patient ID Label**
Name:_____	**Surname:**_____
Location:_____	**Forename:**_____
Date:_____	**NHS Number:**_____
Tel:_____	**Date of Birth:**_____

Indications

Prevention and treatment of deep vein thrombosis and pulmonary embolism in pregnancy.

Dose & Response

Prophylactic doses

- In the antenatal period, these are prescribed in the following groups of patients (see weight based dose banding table below for dosing guidelines):
  - **High risk** of pregnancy venous thromboembolism (VTE) defined by:
    - Previous history of unprovoked personal VTE
    - Previous oestrogen related VTE
    - Previous single VTE and anti-thrombin deficiency or protein C deficiency or 2 combined thrombophilia defects or more than 1 previous VTE *
    - Positive family history of thrombosis or thrombophilia but no personal VTE i.e. a 1st degree family member with ≥ 2 spontaneous VTE episodes or 1 proven oestrogen related VTE (aged less than 50 years) or proven hereditary thrombophilia, unless relative had acquired cause for thrombosis (antiphospholipid syndrome, malignancy or other pro-thrombotic diagnosis)
    - Positive Antiphospholipid syndrome *
  - Women on longer term warfarin or direct oral anticoagulant (DOAC) therapy (any cause)*

NB: a single provoked VTE does **NOT** require thromboprophylaxis unless ≥1 other VTE risk factors

- Doses are calculated on the booking weight or most recent weight.

Booking or most recent weight	Prophylactic dose of enoxaparin
< 50kg	20mg daily
50-90kg	40mg daily
91-131kg	60mg daily
131-170kg	80mg daily
>170kg	0.6mg/kg/day

* Certain risk groups may require higher antenatal enoxaparin doses (either 50%, 75% or full treatment dose).

- Postnatally, women requiring 10 days – 6 weeks of thromboprophylaxis at the time of discharge will usually be supplied the full course in secondary care.

Treatment Doses

- Initial therapeutic dose is 1mg/kg twice daily based on early pregnancy weight. The dose to be given is calculated to the nearest syringe size as per the dose banding table below:

Early Pregnancy weight	Prophylactic dose of enoxaparin
< 50kg	40mg twice daily
50-69kg	60mg twice daily
70-89kg	80mg twice daily
>90kg	100mg twice daily

Once daily dosing at 1.5mg/kg may be considered if there are practical difficulties around twice daily dosing or whilst waiting for definitive diagnosis.

- Therapeutic anticoagulation would usually continue for at least six months. If the VTE occurs early in pregnancy, the dose of enoxaparin may be reduced to prophylactic levels approaching term. This must be done under specific guidance from consultant hospital medical staff.
- Enoxaparin should usually be stopped or reduced at the time of delivery.
  - **Spontaneous labour** - the woman should be advised not to inject any further doses once she is in established labour or thinks she is in labour.
  - **Induction of labour** - the dose of enoxaparin should be reduced to its thromboprophylactic dose (i.e. usually 40mg once daily) on the day prior to induction of labour. Treatment doses (usually twice daily) may be restarted 6-12 hours following delivery.
  - **Elective caesarean section** – thromboprophylactic dose should be given on the day before the planned delivery. Dose should be omitted on the day of planned delivery. The thromboprophylactic dose may be restarted either 3 - 6 hours post caesarean (for those without epidural analgesic) or 4 hours after epidural removed. Treatment doses can usually be recommenced on the evening of the caesarean, if there are no surgical contra-indications.
- Post-delivery, treatment with enoxaparin should be continued for 6-12 weeks, depending on whether the venous thromboembolism occurred early or late in pregnancy. This information will be communicated to the GP by the consultant.

In all instances, the specialist is to counsel the patient and make them alert to any possible side effects to be aware of e.g. bleeding risk, localised skin reactions (see BNF / SPC for full list of side effects). The patient should notify the specialist as soon as possible of any side effects that occur.

GP responsibilities

Prescribe as requested by UHS Maternity Team

Primary care monitoring

Anti Xa levels

Monitoring is not required when enoxaparin is used for thromboprophylaxis

For treatment doses, monitoring is not usually indicated unless concerns about compliance, overdose, renal failure or if maternal weight is >150kg. Levels taken four hours post injection (for 12 hourly administration) should achieve a peak of 0.5-1.0 units/ml.

Platelet Counts

Routine platelet counts are not required as heparin induced thrombocytopenia (HIT) with low molecular weight heparins (LMWH) is extremely rare in pregnancy.

However, if the woman has had prior exposure to unfractionated heparin during this pregnancy then the platelet count should be checked every 2-3 days from day 4 to 14 or until enoxaparin is stopped, whichever occurs first. Bloods should have been taken at UHS to confirm baseline platelet levels prior to commencing enoxaparin. Should the platelet count fall by more than 30% of the baseline, enoxaparin should be discontinued

	and the patient referred urgently to UHS maternity team via the on-call bleep system.
Actions to be taken in response to monitoring	Inform UHS Maternity Team
Contra-indications	• Hypersensitivity to enoxaparin • History of immune mediated heparin-induced thrombocytopenia (HIT) within the past 100 days or in the presence of circulating antibodies. • Active clinically significant bleeding and conditions with a high risk of haemorrhage e.g. labour, recent birth within 8 hours, peptic ulcer; seek specialist advice from UHS Maternity Team
Cautions	• Increased risk of bleeding at low body weights
Important adverse effects & management	• Risk of bleeding at any site. In the event of bleeding, treatment should be stopped, the origin of the haemorrhage should be investigated and appropriate treatment instituted. Specialist advice should be sought from UHS Maternity Team following immediate management. • Heparin induced thrombocytopenia – if suspected, enoxaparin should be discontinued and specialist advice sought from UHS Maternity Team. • Hyperkalaemia – heparins can suppress adrenal secretion of aldosterone leading to hyperkalaemia, particularly in patients such as those with diabetes mellitus, chronic renal failure and pre-existing metabolic acidosis. Whilst likelihood of hyperkalaemia is rare, plasma potassium monitoring may be required in patients at higher risk, at the discretion of the GP. Most low risk patients on short courses will not require routine monitoring. • Skin reactions – skin necrosis and vasculitis have been reported with LMWHs and should lead to prompt treatment discontinuation. See BNF or SPC for full list of possible side effects.
Important drug Interactions	Platelet aggregation inhibitors such as aspirin may increase the risk of bleeding whilst on enoxaparin. Despite this, use of aspirin in pregnancy is recommended for women with risk factors for growth restriction and hypertension. No intervention is necessary unless clinically significant bleeding occurs.

Date approved: December 2020
Review Date: December 2022