NHS
Pan Mersey
Area Prescribing Committee

Prescribing Support Information

Low Molecular Weight Heparin (LMWH) for adults

AMBER patient retained by specialist

For the following indications it is RED and outside the scope of this document

- For surgical or medical prophylaxis with a defined treatment length for the episode. Patients requiring revision surgery will require more than 6 weeks LMWH.
- For the prevention of miscarriage
- Bridging therapy prior to surgery

Your patient has been identified as being suitable to receive low molecular weight heparin (LMWH) in accordance with the indications detailed below. They have been started on treatment and have been reviewed to assess the efficacy and adverse effects of the treatment by the specialist team.

LMWH has been considered as appropriate for prescribing in primary care and the information contained in this document has been provided to support you to prescribe the medicine for your patient in the community.

The National Patient Safety Agency issued a Rapid Response Report NPSA/2010/RRR014 "Reducing treatment dose errors with low molecular weight heparins" in July 2010[1]. This highlighted that the dose should be based on weight and renal function and that this information as well as the duration of treatment should be provided at the transfer of care. It is also recommended that weight and renal function should be monitored periodically to ensure continued correct dosing.

The specialist/specialist team will initiate treatment, supply the initial 4 weeks of treatment and carry out the initial monitoring and renal function. Ongoing monitoring will be the responsibility of the GP as detailed below.

Locally agreed indications

- Treatment of deep vein thrombosis (DVT) and/or pulmonary embolism (PE) where oral anticoagulant therapy is unsuitable, including patients with cancer and in pregnancy
- Patients with atrial fibrillation or stroke for whom oral anticoagulant therapy is unsuitable
- Patients with a heart valve replacement or who have had coronary artery bypass graft surgery for whom oral anticoagulant therapy is unsuitable.
- Thromboprophylaxis in pregnancy. Within the standard weight range, the dose is fixed.
- Thromboprophylaxis in patients with cancer.

Drug, Form and Dose

Therapeutic doses of LMWH will be based on the patient's weight and renal function and administered by subcutaneous injection. Doses should be expressed both in international units and in milligrams (mg)[2]. (See the relevant SPC for dosing regimens).

Three low molecular weight heparins are available: dalteparin, enoxaparin (and biosimilars) and tinzaparin. Where more than one preparation is available, prescribing should be by brand.

The dose differs for each low molecular weight heparin and for different indications. The dose will be recommended by the specialist/specialist team.

Enoxaparin SPC , Dalteparin SPC , Tinzaparin SPC

Available Preparations

See the Pan Mersey website, SPC or the BNF.

How long the medicine should be prescribed for

The specialist/specialist team will specify the duration of treatment. Patients with cancer-associated thrombosis receive 6-12 months of LMWH treatment.

Pregnant patients receive LMWH treatment for the duration of pregnancy and until 6 weeks after delivery. GP to stop prescribing for these patients as communicated in the discharge/clinic letter.

Monitoring recommendations

Routine monitoring is not necessary for prophylactic doses in pregnancy (Green-top guidelines). The consultant will indicate what monitoring will be done in the first letter to the GP. The following table details generic monitoring recommendations by indication.

The patient's weight will also be monitored by the GP.

	Baseline	VTE (inc Cancer)	Pregnancy (prophylaxis)	Pregnancy (treatment)	AF/Stroke	Heart Valve
FBC	✓	4-6 monthly	No routine monitoring	3 monthly	4-6 monthly	3-4 monthly
U&E	✓	4-6 monthly	No routine monitoring	3 monthly	4-6 monthly	3-4 monthly
Weight	✓	4-6 monthly	No routine monitoring	No routine monitoring	4-6 monthly	3-4 monthly
DEXA Scan		Every 2 years	No routine monitoring	No routine monitoring	Every 2 years	Every 2 years

The specialist may monitor anti-factor Xa in selected patients. The anti-factor Xa will be reviewed by the specialist and communicated to the GP along with any dose change recommendations if applicable.

Contra-indications

- Known hypersensitivity to low molecular weight heparins or any excipients
- Active major bleeding and conditions with a high risk of uncontrolled haemorrhage, including recent haemorrhagic stroke
- Recent thrombotic stroke
- Recent surgery to eye or nervous system
- Thrombocytopenia (including history of heparin-induced thrombocytopenia)

Please refer to the summary of product characteristics (SPC) for complete list.

Adverse effects

- Localised pain, bruising and irritation at the injection site.
- Headache
- Bleeding disorders are rare but there is an increased tendency to bleed.
- Heparin induced thrombocytopenia
- Rarely, an increase in liver enzymes.

Please note this list is not exhaustive – refer to the SPC for complete list.

Interaction with other medicines

Please refer to the SPC for the full list of drug interactions.

When to seek specialist advice

- Any adverse effects, other concerns or relevant changes in the patient's condition should be reported to the specialist/specialist team.

Other information

This prescribing support information should be read in conjunction with the SPC of the relevant low molecular weight heparin.

The prescriber will supply the sharps bins and local arrangements for the disposal of sharps bins will apply.

Contact details for advice

Please refer to the contact details included in the clinic letter issued by the specialist/specialist team.

Responsibilities for specialist initiating treatment

It is the responsibility of the specialist who initiates treatment with LMWH to ensure the following information is documented at the point of transfer of prescribing to primary care. This should be documented in the discharge summary or clinic letter.

Indication

Dose

Duration

Administration- is the patient able to self-administer or have appropriate arrangements been made**.**

Monitoring- as detailed above and any additional monitoring requirements.

This should be done on discharge if there is to be no local specialist follow up, or at the point of transfer of prescribing back to primary care. It is also good practice to include the current weight and renal function of the patient (calculated as creatinine clearance using actual body weight).

References

1. Reducing treatment dose errors with low molecular weight heparins. NPSA/2010/RRR014 July 2010. http://www.nrls.npsa.nhs.uk/alerts/?entryid45=75208
2. Direct Healthcare Professional Communication Clexane (enoxaparin sodium): Updates to strength expression, dose regimens in DVT/PE, use in patients with severe renal impairment Safety advice
3. British National Formulary BNF

Acknowledgements

The basis for the locally agreed indications, information on the duration of treatment and the monitoring table were provided by the haematology team at the Royal Liverpool Hospital.