Basildon and Thurrock University Hospitals NHS
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LOW MOLECULAR WEIGHT PRESCRIBING GUIDANCE FOR PRIMARY CARE

The scope of this document is to provide sufficient information to ensure LMWHs are used safely and appropriately across the Essex STP area. It is aimed at all healthcare professionals involved in the prescribing, dispensing or administration of low molecular weight heparins for patients in Primary care. It aims to cover all recognised indications (licensed and unlicensed) for the prevention or treatment of venous thromboembolism. It is applicable to all patients who are to receive LMWHs and have been discharged from hospital. These patients may still be under the routine care of a hospital specialist through outpatient follow up, or may be managed solely by primary care health care professionals.

The aims of this document are;

- To support General Practitioners in the governance and safety of continuing the prescribing of LMWHs once initiated by an appropriate specialist.
- To minimise the inconvenience for patients by reducing unnecessary patient follow-up visits to hospital to simply collect prescriptions for LMWHs.

Points to Note:

- Not all LMWHs are licensed for all indications.
- There is no licensed LMWH for use in pregnancy (although the BNF does advise on dosing).
- Dosing of each type of LMWH needs to be within BNF / SPC licensed recommendations: prophylaxis or treatment.

Disclaimer:

The following table is a guide to the prescribing of Low Molecular Weight Heparins (LMWHs) for Prescribers in the Essex STP area. This information is a recommendation of safe practice and is a guide only. Certain Low Molecular Weight Heparins may remain listed on the local formularies as 'hospital only' medicines (March 2018).

This table or guidance does not imply the GP *must* take on the prescribing in any of the suggested indications below.
A risk assessment has been undertaken on the indications below on the prescribing of LMWHs in Primary Care and when an individual GP is confident of the diagnosis, duration and monitoring, continuation may be appropriate on a patient case-by-case basis.

LMWH should be initiated by specialists including anticoagulation clinic only. GP may be asked to continue prescribing if patients fulfil the criteria in Table 1 below:

Table 1:	**LMWH Indications and responsibilities**				
Speciality	**Indication**	**Duration**	**Initiated by**	**Prescribing continued by**	**Monitored by**
Anticoagulation	When INR is sub-therapeutic AND interim treatment is required (bridging) within first month of diagnosis of a DVT or PE OR where a recurrent DVT or PE is suspected OR AF (fast AF/high stroke risk) as bridge to warfarin	Until warfarin initiated and / or target INR is in range *OR* until a diagnosis of DVT is excluded.	Hospital or service monitoring INR	Hospital or Community specialist/Anticoagulant Team Not for **GP** prescribing	Hospital and service in charge of monitoring INR
		• Where long term LMWH is required • Where warfarin / NOAC is contraindicated	Hospital Hospital	GP GP	GP GP
Obstetrics & Gynaecology	Treatment of DVT / PE		Hospital Obstetric Specialist only	Hospital Obstetric Specialist only	Hospital Obstetric Specialist only
	Confirmed high risk pregnancy	Until the onset of labour and advice sought from hospital specialist to continue after birth for 6 weeks	Hospital	Hospital Obstetric Specialist only	Hospital Obstetric Specialist only
Oncology/ haematology	Treatment of DVT/PE in oncology patients. LMWH are given first line as deemed superior to warfarin for the whole treatment course. A LMWH is also given in place of warfarin to patients undergoing chemotherapy which can often interact with warfarin	Dependent on indication: 3-6 months for DVT 6 months for PE Or as indicated by a specialist. Patient may be on LMWH long term if	Oncology team	Hospital Oncology Team if patient is undergoing regular oncology treatment or GP prescribing (with prior agreement)	Hospital oncology team if patient is undergoing regular oncology treatment or GP prescribing(with prior agreement)

	Prophylaxis of cancer related VTE	Determined by hospital surgeon	Hospital	Hospital	Hospital
General surgery, orthopaedics gynaecology prophylaxis	General surgical patients postoperatively	As directed by surgeon.	Hospital	Hospital	Hospital
Travel	Prophylaxis in certain high risk patients (previous VTE, thrombophilia, recent major trauma, recent high risk surgery/ pregnancy	Single injection 2 to 4 hours before travel as a prophylaxis dose	Seek advice from haematology specialist	**GP** – only on advice of haematology specialist	Not required. Single doses only
Extended prophylaxis	Bridging (up to 5 weeks)	As directed by surgeon/ anticoagulation service	Hospital Surgical team	Hospital Surgical team - – All patients requiring extended prophylaxis following discharge should be given sufficient LMWH on discharge to complete the full course	Anticoagulation clinic
Orthopaedics	Prophylaxis of DVT post-surgery	As determined by hospital surgeon	Hospital	Hospital – All orthopaedic patients requiring extended prophylaxis following discharge should be given sufficient LMWH on discharge to complete the full course	Hospital

Guidance for General Practice

Essential information such as dose, weight, renal function, indication and duration of treatment is communicated at transfers of care (e.g. by discharge letters) and used to ensure that future doses are safe.

Ensure accurate patient weight is being used. Accurate patient weight should be obtained and recorded at first contact with primary or secondary care and throughout treatment. Reasons for not obtaining weight should be clearly documented. The exception to this is in pregnancy. A pre-pregnancy weight should be used throughout pregnancy

- **Weigh the patient**. Estimating the weight is often inaccurate and can lead to incorrect dosing. The range of weighing equipment available should prevent the need for estimation in all but the most exceptional circumstances.
- **Check your equipment**. Your weighing device should meet the requirements for clinical weighing scales. (The equipment should be of the Class III type, and should be regularly maintained and correctly calibrated).
- **Consider patient mobility**. Many patients in primary and secondary care cannot stand on a set of scales. Weighing equipment should be suitable and available for the intended patient group. Lack of equipment should be highlighted using local risk assessment processes.

Dosing and duration

Dosing should be based on up-to-date information and obtained from the latest BNF or Summary of Product Characteristics. (See also tables 2-4 below)

Prescribe as an acute item.

Ensure the prescription dosing is correct according to the indication and whether it should be ONCE or TWICE daily dosing.

Prescribers should consult the summary of product characteristics for the individual LMWH.

Informed consent for off-label use should be obtained and documented e.g. antenatal and postnatal LMWH **(although this should remain under the responsibility of secondary care)**

Duration including a prescription STOP date or 'indefinite" (where clinically appropriate) must be specified and documented on the prescription and in the consultation medical notes within the GP practice.

Extremes of body weight

For treatment doses of most LMWHs (with the exception of fondaparinux) no dose adjustments are recommended in obesity or low body weight. There is no evidence for capping the dose in obesity and these patients should be dosed on actual body weight.

However for patients less than 50kg and over 150kg haematology should be contacted for advice because they may require anti-Xa activity monitoring.

Note that pregnancy dosage of LMWHs are based on pre-pregnancy or early pregnancy weight.

Dosing to be initiated by hospital and will depend on LMWH used and indication

Monitoring

Risk assessment and clinical monitoring are important predictors of the risk of potential bleeding. Reassess risk / benefit of thromboprophylaxis at regular intervals.

FBC (including platelets) and U&Es: Monitor on initiation of treatment with LMWH and at regular intervals thereafter as clinically appropriate

- Thrombocytopenia, if it occurs, usually appears between the 5th and 21st day after starting therapy. If platelet count drops 30-50% from baseline contact haematology immediately.
- Hyperkalaemia risk increases with duration of therapy.
- In addition, in **renal impairment** (creatinine clearance<30ml/min) contact Haematology for advice with regard to monitoring.

Anti-Xa activity monitoring might be considered in those patients treated with LMWH who also have either an increased risk of bleeding such as in paediatric patients, patients with renal failure, very underweight patients, morbidly obese patients>150 kg, pregnant women, patients with severe hepatic impairment or at a known increased risk of bleeding.

NHS England has issued a Patient Safety Alert warning on "Harm from using Low Molecular Weight Heparins when contraindicated", stating that various circumstances when the use of LMWHs may be contraindicated also include but are not limited to: active bleeding; acquired bleeding disorder (such as acute liver failure); concurrent use of anticoagulants known to increase risk of bleeding (including rivaroxaban, apixaban, dabigatran); concurrent use of antiplatelets agents (may however be necessary in certain cases and do not usually preclude prophylactic doses of LMWH) and other interacting medicines; or, lumbar puncture/epidural/ spinal anaesthesia within the previous four hours, or expected within the next 12 hours. Full information here

- History of Heparin Induced Thrombocytopenia
- Significant hepatic impairment
- Thrombocytopenia with platelet count less than 100
- Severe hypertension
- Recent cerebral haemorrhage
- Recent neurosurgery or eye surgery
- Active gastric or duodenal ulceration or oesophageal varices
- Haemophilia and other inherited bleeding disorders
- Hypersensitivity to heparin, low molecular weight heparins or any other constituent
- Acute bacterial endocarditis
- Children under 16
- locoregional and neuraxial anaesthesia is **contraindicated** in patients receiving LMWHs except in the case of prophylactic doses of enoxaparin no higher than 40 mg bd, with avoidance of insertion or removal of needle/catheter within 12 hours of prophylactic LMWH, and of administration of LMWH any sooner than 4 hours post insertion.

Administration

In most circumstances the patient, relative or a carer will be trained to administer the subcutaneous injection of LMWHs. If this is not possible a referral will be made to the district nursing team to administer due to the potential workload pressures this may cause this option should be considered as a last resort