NHS
Bath and North East Somerset, Swindon and Wiltshire
Integrated Care Board

Guidance on Prescribing of Low Molecular Weight Heparin in adults (LMWH)
Local LMWH of choice: Dalteparin (See http://www.bswformulary.nhs.uk/)

This document summarises the local guidance for the safe and appropriate prescribing of low molecular weight heparin (LMWH). It is aimed at all health care professionals involved in the prescribing, dispensing or administration of LMWH for patients.

- In most cases, once initiated, the prescribing of LMWH therapy remains the responsibility of the initiating specialist team.
- Primary care should only be requested to prescribe LMWH in the circumstances highlighted as suitable for transfer of care in Table 1.

Key Safety Considerations when Prescribing LMWH in Primary Care

- Before agreeing to take on prescribing, the primary care clinician should ensure that they are confident of the diagnosis, dose, intended duration and monitoring of LMWH therapy.
- Essential information, including dose, bodyweight, renal function, indication and duration of treatment, must be communicated at the point of transfer of care.
- Dosing should be based on a recent accurate bodyweight.
- Dosing should be based on up-to-date prescribing information from the British National Formulary (BNF) or Summary of Prescribing Characteristics (SPC) for LMWH. If there are concerns regarding the dose, the primary care clinician should confirm with the initiating clinician.
- Dosing frequency often depends on indication – please check carefully whether the patient is prescribed once or twice daily doses.
- The intended duration of therapy should be clearly documented in the patient notes and discharge summary – a STOP date should be added to the repeat prescription where appropriate.

Monitoring of LMWH

- Careful re-assessment of the risk / benefit of continued therapy should be undertaken regularly. Baseline full blood count (including platelets) and urea and electrolytes (U& Es) should be measured and creatinine clearance (CrCl) calculated using the Cockcroft-Gault equation on transfer of care and at regular intervals throughout therapy.
- Thrombocytopenia, if it occurs, usually appears between the 5th and 21st day of treatment. If platelet count drops below 30% of baseline – contact Haematology for advice. Most patients do not require routine repeat monitoring of platelets within the first few weeks other than those receiving unfractionated heparin, those post cardio-pulmonary bypass graft or those patients who are postoperative and have been exposed to heparin within the past 100 days.
- If severe renal dysfunction occurs during therapy (calculated CrCl < 30ml/min) - contact Haematology for advice.

Administration of LMWH therapy

Patients should be taught how to self-administer dalteparin, and the majority of patients will be able to do so or have a carer do so. It is the responsibility of the prescriber initiating treatment to ensure patients and/or their carers are adequately trained where they are to self-administer. Only where patients are unable or unwilling to self-administer, and where carers cannot support them, then it is the responsibility of the prescriber initiating treatment to make referral to district nursing teams.

Waste Disposal: Where people treat themselves, it is their responsibility to dispose of any waste, clinical or household, that arises in a responsible way. Patients will need to be supplied with a 1L yellow SharpsGuard® or SharpsSafe®1L bin on a normal FP10 prescription. The syringes come with a needle already attached. For further information, see this guidance which includes how to dispose of the bins: BSW-Guidance-Sharps-Disposal-and-Prescribing-Sharps-Bins-on-FP10-v02-Feb-2023.pdf (bswtogether.org.uk)

Table 1; Low Molecular Weight Heparin Prescribing Responsibilities

Indication	Duration	Dose	Initiated by	Prescribed by	Monitored by	Joint formulary Traffic Light Status
For cover of sub-therapeutic INR in high-risk patients taking warfarin. This may include patients: • within the first month of diagnosis of DVT/PE or stroke • with a mechanical heart valve (risk may vary depending on valve type, position and other risk factors (discuss with a cardiologist if needed) • with antiphospholipid syndrome **Please discuss with a specialist or anticoagulation team if needed.**	Until therapeutic INR is achieved.	Therapeutic dose as per weight and BNF.	Specialist/ anticoagulation team or PRIMARY CARE PRESCRIBER	Specialist/ anticoagulation team or PRIMARY CARE PRESCRIBER	Specialist/ anticoagulation team or PRIMARY CARE PRESCRIBER	Primary care and/or secondary care
• Suspected new or recurrent DVT or PE • Atrial fibrillation (AF) - fast AF or high stroke risk and interim treatment is required • IV drug users • Patients with extensive superficial thrombophlebitis **at high risk of extension into DVT** (6/52 or 3/12 treatment depending on risk) **Please note that DOACs may also be considered for management of superficial vein thrombosis (prophylactic dose, or therapeutic if close proximity to deep vein) (off label). D/W specialist.**	Until confirmation of suspected DVT/PE and for intended treatment duration or until oral anticoagulation can be established (e.g. DOAC/warfarin). For patients being transitioned to warfarin, continue dalteparin for at least 5 days and until therapeutic INR is achieved. Dalteparin must be stopped prior to commencing a DOAC.	Therapeutic dose as per weight and BNF.	Specialist/ anticoagulation team or PRIMARY CARE PRESCRIBER	Specialist/ anticoagulation team or PRIMARY CARE PRESCRIBER	Specialist/ anticoagulation team or PRIMARY CARE PRESCRIBER	Primary care and/or secondary care

Indication	Duration	Dose	Initiated by	Prescribed by	Monitored by	Joint formulary Traffic Light Status
Patients requiring anticoagulation but who have a contraindication to/ unable to tolerate oral anticoagulant therapies	For duration of indication i.e. Valve / AF: indefinite DVT / PE 3-6 months or more if ongoing risk of recurrence. Please discuss relevant patients with specialist/ anticoagulation team to ensure there are no possible oral options. For patients continuing dalteparin long term >12 months discuss with specialist/ anticoagulation team to ensure no additional monitoring required (e.g. bone mineral density monitoring).	Therapeutic dose as per weight and BNF.	Specialist/ anticoagulation team or PRIMARY CARE PRESCRIBER	Specialist/ anticoagulation team or PRIMARY CARE PRESCRIBER	Specialist/ anticoagulation team or PRIMARY CARE PRESCRIBER	Primary care (**on advice** from secondary care specialist/ anticoagulation team).
VTE prevention for high-risk patients undertaking long haul travel (e.g. >5 hours in patients with previous history of unprovoked/ travel related VTE and not currently anticoagulated, recent surgery, active cancer, known thrombophilia etc.) **A DOAC may also be considered (off label), D/W specialist.**	Single injection 2 - 4 hours before travel as a prophylaxis dose.	Prophylactic dose as per local policy.	Seek advice from haematology specialist/ anticoagulation team.	PRIMARY CARE PRESCRIBER – only on advice of hematology specialist/ anticoagulation team.	N/A	Primary care (**on advice** from secondary care specialist/ anticoagulation team).
Treatment and secondary prevention of DVT / PE in patients with cancer. Dalteparin may also be given in place of usual anticoagulation with DOAC or warfarin during chemotherapy on advice from the patient's oncologist/hematologist. **A DOAC may also be considered for treatment of VTE in cancer on the advice of a specialist (off-label).**	Usually at least 6 months for DVT / PE. Extended duration as advised by specialist OR until initiation of oral anticoagulation.	Therapeutic dose as per weight and BNF.	Oncology/ Haematology team	Hospital oncology/hematology team or PRIMARY CARE PRESCRIBER prescribing with prior agreement	Hospital oncology/hematology team or PRIMARY CARE PRESCRIBER prescribing with prior agreement	Shared care guideline for pts under the care of RUH or SFT see here. **For pts under the care of GWH: Specialist only (RED).**

Indication	Duration	Dose	Initiated by	Prescribed by	Monitored by	Joint formulary Traffic Light Status
Treatment of DVT / PE in pregnancy	For the duration of the pregnancy, for at least 3 months in total and at least 6 weeks post-partum.	Therapeutic dose as per local policy/ RCOG guidelines.	Obstetric specialist only	Obstetric specialist only	Obstetric specialist only	Specialist only
VTE prevention during pregnancy and post-partum	As per local policies and advice from specialist.	Prophylactic dose as per local policy/ RCOG guidelines.	Obstetric specialist only	Obstetric specialist only	Obstetric specialist only	Specialist only
VTE prevention post-surgery or whilst immobile (e.g. due to lower limb immobilization) **DOACs may also be used in some instances on the advice of secondary care/specialist.**	Dependent on surgery/procedure and other risk factors. As advised by responsible team for carrying out surgery/procedure or specialist/ anticoagulation team.	Prophylactic dose as per local policy.	Responsible team for carrying out surgery/ procedure	Responsible team for carrying out surgery/procedure	Responsible team for carrying out surgery/procedure	Specialist only
Bridging therapy (for patients who usually take warfarin and require bridging with therapeutic dalteparin pre- and post-surgery/procedure).	Whilst INR is sub-therapeutic pre- and post-surgery/procedure .	Therapeutic dose as per weight and BNF.	Responsible team for carrying out surgery/ procedure or specialist/ anticoagulation team.	Responsible team for carrying out surgery/procedure or specialist/ anticoagulation team.	Responsible team for carrying out surgery/procedure or specialist/ anticoagulation team.	Specialist only

- For clinical information regarding the use of Dalteparin please refer to the Summary of Product Characteristics.
- For advice on subtherapeutic INR, see our local BSW guidance found here.

Please note that although we have assigned traffic light status for individual indications for use, there may be occasions where the usual arrangements for provision are not possible and hence a pragmatic approach may be required, depending on the situation to ensure that the patient receives supplies of LMWH in a timely manner.

Monitoring of LMWH No routine platelet count monitoring is required after 14 days even if the treatment course is longer.

Monitoring of blood results (Primary care)
If patient is post cardio-pulmonary bypass surgery, prescribed unfractionated heparin or post-operative with previous heparin exposure in the past 100 days, check the platelet count once between day 4-7 and again once between days 10-14 days after initiation.
If the platelet count falls by 50% or more or the patient develops new thrombosis or skin allergy at injection sites between Day 4 and 14 consider a diagnosis of Heparin induced thrombocytopenia (HIT) and discuss with a haematologist urgently.
There is NO need to monitor anticoagulant activity of dalteparin (e.g INR or APTT) .
Monitoring of blood results (secondary care)
For inpatients a platelet count should be performed every 2-4 days from day 4 to day 14.
All patients who are to receive LMWH should have a platelet count checked on the day of starting LMWH
Patients exposed to LMWH in the last 100 days should have another platelet count 24 hours after starting LMWH.
For inpatients a platelet count should be performed every 2-4 days from day 4 to day 14.
Checking platelet count 4-7 and 10-14 days after initiation for patients in outpatients or request primary care to check platelets

Contact details for support

Organisation	E-mail	Telephone number
RUH Haematology	Ruh-tr.AnticoagulationTeam@nhs.net Ruh-tr.haematologysecs@nhs.net	01225 825812 (Anticoagulation & Thrombosis Team) 01225 824704 (Haematology Secs) Or via CINAPSIS.
GWH Haematology	gwh.anticoag.clinic@nhs.net	01793 604344
SFT Haematology	sft.anticoagulation.service@nhs.net	01722 429006
Primary care prescribing enquiries	Bswicb.prescribing@nhs.net	

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