

Low Molecular Weight Heparin (LMWH) Shared Care Guideline

South West Yorkshire
Area Prescribing Committee



LMWH Shared Care Guideline

Introduction	
General statements	<ul style="list-style-type: none">• LMWH's include: dalteparin, enoxaparin and tinzaparin.• The patient will receive supplies of the drug from the hospital until the transfer of shared care is agreed between consultant and the primary care prescriber.• The primary care prescriber must reply in writing to the request for shared care within two weeks if <u>unwilling</u> to participate.• The responsibility for prescribing and monitoring must be documented clearly in the patient's hospital and the primary care prescriber notes.• Shared care should only be considered when the patient's clinical condition is stable or predictable.
Indication	<ul style="list-style-type: none">➤ Treatment of adult patients with venous thromboembolism (VTE) presenting clinically as deep vein thrombosis (DVT), pulmonary embolism (PE) or both. <p>LMWH under this guideline may be used in: -</p> <ul style="list-style-type: none">• Patients unable to take warfarin and in whom a direct oral anticoagulant (DOAC) is not appropriate or contraindicated.• Patients in whom it has not been possible to stabilise on oral anticoagulant therapy and in whom a DOAC is not appropriate or contraindicated (for example: a patient with a replacement metal mitral heart valve and a sub-therapeutic INR and 'bridging' therapy is required).• IV drug users (where warfarin is generally considered inappropriate) and in whom a DOAC is not appropriate or contraindicated. <ul style="list-style-type: none">➤ Extended treatment & prophylaxis of VTE in adult patients with solid tumours.

Individual's Responsibilities	
Hospital specialist's responsibilities	<ul style="list-style-type: none">• Initial prescribing:<ul style="list-style-type: none">○ By the hospital specialist for the first 4 weeks of treatment.○ Patients with existing risk factors for osteoporosis will be at further risk while receiving dalteparin; consider if the patient requires treatment with prophylactic calcium and bisphosphonate.• Monitoring:<ul style="list-style-type: none">○ Baseline: FBC, serum creatinine & urea, LFTs, coagulation screen and weight (kg).○ For patients who have had exposure to heparin in the last 100 days perform a FBC 10-14 days after treatment initiation to detect for Heparin Induced Thrombocytopenia (HIT).○ Anti-Xa monitoring, if required, for patients with renal impairment or extremes of body weight- as directed by haematology.○ Monitor serum potassium 7-10 days after treatment initiation for patients at high risk of hyperkalaemia.• At discharge:<ul style="list-style-type: none">○ Inform the primary care prescriber that therapy has been initiated, baseline test results and intended duration of treatment.

Low Molecular Weight Heparin (LMWH) Shared Care Guideline

	<ul style="list-style-type: none"> ○ Prescribe/supply 4 week's LMWH and advise on the dose, frequency and any necessary dose alterations ○ Make appropriate arrangements for administration or training for self-administration and supply a sharps bin to the patient. ○ Provide the primary care prescriber with clear guidance on dosing and request agreement to share care and to take responsibility for prescribing. Send the primary care prescriber a copy of / link to the Shared Care Guideline ○ Arrange 3-month follow-up appointment. <ul style="list-style-type: none"> ● Follow-up at 3 months: <ul style="list-style-type: none"> ○ At 3 months the patient should be seen by a locally identified team/ clinician, decided by the initiating consultant, to review treatment duration and dose of dalteparin (with a further review at 6 months for patients with solid tumours).
<p>The primary care prescriber's responsibilities</p>	<ul style="list-style-type: none"> ● Ensure monitoring is undertaken according to shared care guideline and only continue prescribing if patient is compliant with monitoring, blood test results are satisfactory and no adverse or unwanted side effects. ● Ensure the hospital is notified if unwilling to carry-out the monitoring requested. ● For patient with solid tumours who are initiated on dalteparin: After the first 4 weeks of treatment the dose of dalteparin should be reduced to 75% of the initial dose (i.e. as per dosing below for patients with solid tumours), unless there are concerns regarding the patients bleeding risk. In such cases advice should be sought from a haematology specialist (this dose reduction should not occur in patient prescribed tinzaparin or enoxaparin). Refer to the SPC for dosing guidance in solid tumours. ● From week 4 onwards, produce monthly prescriptions for LMWH in accordance with the dose recommended by the hospital specialist, modified if necessary for any recent changes in the patient's weight or renal function. ● Contact the relevant Trust's haematologist for guidance on dosing in patients if their creatinine clearance (CrCl) falls below 30ml/min. $\text{CrCl (ml/min)} = \frac{F \times (140 - \text{age}) \times \text{weight in kg}}{\text{Creatinine in micromol/L}} \quad F = \begin{matrix} 1.23 \text{ (Male)} \\ 1.04 \text{ (Female)} \end{matrix}$
<p>Monitoring required</p>	<ul style="list-style-type: none"> ● Full Blood Count should be monitored monthly. Special caution is necessary in rapidly developing thrombocytopenia and severe thrombocytopenia (<100,000/µl or a drop in baseline platelets of more than 50%), contact the hospital clinician for advice in this instance. ● Serum creatinine or eGFR and weight should be monitored every 3 months and the dose of dalteparin reviewed when these results are available. The dalteparin dose should be recalculated using the Cockcroft and Gault equation (for equation, see under 'The primary care prescriber's responsibilities'). ● Serum Potassium — low molecular weight heparins (LMWH's) can cause hyperkalaemia due to suppression of aldosterone secretion. Patients at higher risk of this include those with diabetes mellitus, chronic renal failure, pre-existing metabolic acidosis, raised plasma potassium or those taking potassium-sparing drugs. Monitor serum potassium monthly in <u>at risk patients</u>.

Low Molecular Weight Heparin (LMWH) Shared Care Guideline

When and how to discontinue treatment	<ul style="list-style-type: none"> The duration of therapy should be indicated by the discharging consultant or following specialist 3 month review (& further review at 6 months for patients with solid tumours).
Information given to the patient	Patients will be provided with appropriate patient information leaflets
Contact details	Documented in letter from specialist care to the primary care prescriber

Product Information

The information in this Shared Care Guideline should be used in conjunction with the latest edition of the BNF and Summary of Product Characteristics

Dosage	Refer to the current BNF and http://www.mhra.gov.uk/spc-pil/ for complete and up to date information.
Serious adverse effects	Refer to the current BNF and http://www.mhra.gov.uk/spc-pil/ for complete and up to date information.
Precautions and contra-indications	Refer to the current BNF and http://www.mhra.gov.uk/spc-pil/ for complete and up to date information.
Clinically relevant drug Interactions and their management	Refer to the current BNF and http://www.mhra.gov.uk/spc-pil/ for complete and up to date information.
References	<ol style="list-style-type: none"> 1. Fragmin SPC accessed 11/08/2017. Available via: http://www.mhra.gov.uk/spc-pil/ 2. Clexane SPC accessed 11/08/2017. Available via: http://www.mhra.gov.uk/spc-pil/ 3. Innohep SPC accessed 11/08/2017. Available via: http://www.mhra.gov.uk/spc-pil/ 4. Sheffield Teaching Hospitals Exemplar centre resources