

SHARED CARE GUIDELINE

Drug: LOW MOLECULAR WEIGHT HEPARIN (LMWH) ENOXAPARIN

<p>Introduction</p>	<p>Indication: Extended treatment and prophylaxis of venous thromboembolism (VTE) in patients in whom oral anticoagulation is contra-indicated or not recommended [unlicensed indications] including:</p> <ul style="list-style-type: none"> • Cancer patients with active disease and/or receiving chemotherapy • Patients with liver disease especially if prothrombin time is prolonged • Patients unable to comply with oral anticoagulant therapy • Patients awaiting completion of investigations before commencing an oral anticoagulant • All other indications not included in the RED list below <p>The following indications are agreed RED (full supply from hospital):</p> <ul style="list-style-type: none"> • Treatment and prophylaxis of VTE in pregnancy • Prophylaxis of VTE in oncology patients on VTE inducing therapy • Pre and post-operative use as replacement for warfarin in high risk patients i.e bridging therapy. (Primary care to prescribe if due to unforeseen circumstances patients require additional doses). • Prophylaxis post-operatively e.g. TKR, THR, general surgery • Prophylaxis in patients with lower limb plaster cast <p>NB: Travel prophylaxis: Amber, see Clinical Knowledge Summaries for further information: http://cks.nice.org.uk/dvt-prevention-for-travellers#!scenario and consult haematologist for advice.</p>																		
<p>Dose & Administration</p>	<p>Enoxaparin is available in boxes of 10 as:</p> <ul style="list-style-type: none"> • 20mg, 40mg, 60mg, 80mg and 100mg pre-filled syringes containing 100mg/mL enoxaparin • 120mg and 150mg pre-filled syringes containing 150mg/mL enoxaparin <p>(also available as 300mg multidose vial containing 100mg/mL enoxaparin – this should not be prescribed for patients receiving enoxaparin in primary care)</p> <p>For treatment of VTE dose banding has been agreed as follows:</p> <table border="1" data-bbox="549 1541 1326 1832"> <thead> <tr> <th colspan="2">Enoxaparin 1.5 mg/kg subcutaneously once daily</th> </tr> <tr> <th>Weight (kg)</th> <th>Dose</th> </tr> </thead> <tbody> <tr> <td>40 – 46</td> <td>60mg once daily</td> </tr> <tr> <td>47 – 59</td> <td>80mg once daily</td> </tr> <tr> <td>60 – 74</td> <td>100mg once daily</td> </tr> <tr> <td>75 – 89</td> <td>120mg once daily</td> </tr> <tr> <td>90 – 110</td> <td>150mg once daily</td> </tr> <tr> <td>111 - 130</td> <td>180mg once daily (80mg plus 100mg)</td> </tr> <tr> <td colspan="2">In renal impairment (GFR<30mL/min) give 1 mg/kg once daily</td> </tr> </tbody> </table>	Enoxaparin 1.5 mg/kg subcutaneously once daily		Weight (kg)	Dose	40 – 46	60mg once daily	47 – 59	80mg once daily	60 – 74	100mg once daily	75 – 89	120mg once daily	90 – 110	150mg once daily	111 - 130	180mg once daily (80mg plus 100mg)	In renal impairment (GFR<30mL/min) give 1 mg/kg once daily	
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<p>Secondary Care Responsibilities</p>	<ol style="list-style-type: none"> 1. Confirm the diagnosis of VTE or the indication for extended prophylaxis. 2. Discuss the benefits and side effects of treatment with the patient. 3. Provide training on self-administration of enoxaparin if appropriate. 4. Provide sufficient enoxaparin for 10 days and a 1litre sharps bin. 																		

	<ol style="list-style-type: none"> 5. Arrange for the patient to have an FBC at the specified times during the first 14 days of treatment (see Monitoring below) to rule out thrombocytopenia. Ensure that the patient knows when and where to attend for blood tests and ensure that the GP is informed of the baseline platelet count. 6. Arrange shared care with the patient's GP. 7. Advise the GP on: <ul style="list-style-type: none"> • the treatment to be prescribed including dose, frequency, indication and expected duration • the patient's weight and initial renal function • any monitoring that is required • when to stop treatment 8. Review the patient as necessary. 9. Ensure that clear backup arrangements exist for GPs to obtain advice.
Primary Care Responsibilities	<ol style="list-style-type: none"> 1. Provide the patient with prescriptions for enoxaparin and a 1 litre sharps bin for the duration of treatment. 2. Ensure systems are in place for daily administration of enoxaparin if the patient is not self-administering. 3. Check dose is appropriate for patient's weight and renal function (NPSA/2010/RRR014). 4. Arrange to carry out any monitoring that is advised by the consultant. 5. Report any adverse events to the consultant.
Monitoring	<p>Heparin induced thrombocytopenia (HIT) is a rare side effect of heparin including LMWH. Thrombocytopenia, should it occur, usually appears between days 5 and 14 of treatment.</p> <ul style="list-style-type: none"> • All patients should have a platelet count before starting treatment. • For patients who have been exposed to heparin of any sort in the last 100 days a platelet count 24 hours after starting enoxaparin should be obtained. • All patients should have a platelet count on days 7 and 14 post initiation. If a significant decrease in the platelet count is observed (>30% drop from the initial value) then enoxaparin must be discontinued immediately. <p>Heparin can suppress adrenal secretion of aldosterone leading to hyperkalaemia. Potassium should be monitored before and during treatment in patients at risk e.g. renal impairment, diabetes mellitus and patients taking potassium sparing drugs. The referring consultant will specify if and with what frequency potassium should be monitored.</p> <p>Routine anti-Xa activity monitoring is not usually required but may be considered in patients at risk of under or over anticoagulation, e.g., in those with renal or hepatic impairment. The referring consultant will specify if and with what frequency anti-Xa should be monitored.</p>
Adverse Effects	<ul style="list-style-type: none"> • Bleeding may occur in the presence of associated risk factors e.g. lesions liable to bleed, invasive procedures or the use of medicines affecting haemostasis. Rarely, major haemorrhage. • Mild, transient, asymptomatic thrombocytopenia during the first few days of therapy. Rarely HIT (see MONITORING above). • Injection site reactions, usually mild and should not cause discontinuation of therapy. Seek advice if severe. • Long-term treatment with heparin increases the risk of osteoporosis.
Drug Interactions	<p>Drugs affecting haemostasis, e.g.</p> <ul style="list-style-type: none"> • antiplatelets • NSAIDs • systemic glucocorticoids • thrombolytics and anticoagulants <p>If the combination cannot be avoided enoxaparin should be used with careful clinical and laboratory monitoring.</p>

Contra-indications

- Active major bleeding and conditions with a high risk of uncontrolled haemorrhage, including recent haemorrhagic stroke, thrombocytopenia in patients with a positive in-vitro aggregation test in the presence of enoxaparin, active gastric or duodenal ulceration and severe liver disease.
- Acute bacterial endocarditis.
- Enoxaparin is not recommended in pregnant women with prosthetic heart valves.
- Epidural anaesthesia/analgesia is not recommended within 12 hours of prophylactic doses or within 24 hours of treatment doses of enoxaparin.

This guidance does not replace the SPC's, which should be read in conjunction with this guidance.