

Neonatal and Paediatric: Enoxaparin sodium (Inhixa)

Presentation:	<ul style="list-style-type: none"> Pre-filled syringes 20mg/ml prepared in pharmacy Pre-filled syringes (100mg/ml) 60mg, 80mg, 100mg 																					
Indication:	<ul style="list-style-type: none"> Prophylaxis of thrombotic episodes Treatment of thrombotic episodes 																					
Dose:	<p><u>Prophylaxis of thrombotic episodes</u></p> <ul style="list-style-type: none"> Neonate: 750 micrograms/kg twice daily 1 month: 750 micrograms/kg twice daily 2 months - 17 years: 500 micrograms/kg twice daily; max. 40mg per day <p><u>Treatment of thrombotic episodes</u> dose as per BNFc</p> <ul style="list-style-type: none"> Neonate: 1.5-2mg twice daily 1 month: 1.5mg/kg twice daily 2 months- 17 years: 1mg/kg twice daily <p>Routine monitoring of anti-Factor Xa activity is not usually required during treatment with enoxaparin, except in neonates; monitoring may also be necessary in severely ill children and those with renal or hepatic impairment. If levels are being monitored check anti-Xa level 4 hours after 3rd dose and adjust according to table below:</p> <table border="1"> <thead> <tr> <th>Anti-Xa level (unit/ml)</th> <th>Dose adjustment</th> <th>Next anti-Xa level</th> </tr> </thead> <tbody> <tr> <td><0.35</td> <td>Change Insuflon[®] site Increase dose by 25%</td> <td>4 hours post dose</td> </tr> <tr> <td>0.35 – 0.49</td> <td>Increase dose by 10%</td> <td>4 hours post dose</td> </tr> <tr> <td>0.5 – 1.0</td> <td>No change</td> <td>Twice weekly (4 hours post dose)</td> </tr> <tr> <td>1.01 – 1.5</td> <td>Decrease dose by 20%</td> <td>Pre next dose</td> </tr> <tr> <td>1.51 – 2.0</td> <td>Delay dose by 3 hrs & decrease by 30%</td> <td>Pre next dose (trough). Then 4 hours after next dose</td> </tr> <tr> <td>>2</td> <td>Delay dose until anti-Xa level = 0.5unit/ml Decrease dose by 40%</td> <td>Pre next dose (trough). Check anti-Xa every 12 hrs until <0.5 unit/ml Check anti-Xa 3.5 hours post dose</td> </tr> </tbody> </table> <p>Target level is 0.5 – 1.0 U/ml for therapeutic dosing.</p> <p>**Please ensure lab is aware you are sending a sample for analysis. If results are not requested for the same day sample may be frozen for weekly 'batch' analysis**</p>	Anti-Xa level (unit/ml)	Dose adjustment	Next anti-Xa level	<0.35	Change Insuflon [®] site Increase dose by 25%	4 hours post dose	0.35 – 0.49	Increase dose by 10%	4 hours post dose	0.5 – 1.0	No change	Twice weekly (4 hours post dose)	1.01 – 1.5	Decrease dose by 20%	Pre next dose	1.51 – 2.0	Delay dose by 3 hrs & decrease by 30%	Pre next dose (trough). Then 4 hours after next dose	>2	Delay dose until anti-Xa level = 0.5unit/ml Decrease dose by 40%	Pre next dose (trough). Check anti-Xa every 12 hrs until <0.5 unit/ml Check anti-Xa 3.5 hours post dose
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Route of administration:	<p>Subcutaneous injection</p> <p>Insuflon[®] device can be used if necessary – this should be changed every 4-5 days and flushed with 0.5ml sodium chloride 0.9% after each dose to ensure dose delivery. Insuflon information available: insuflon™ Intrapump</p> <p>Doses from manufacturer's syringes: Expel the excess enoxaparin from the syringe to the correct graduation for the prescribed dose to be administered.</p>																					

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<p>Instructions for preparation and administration:</p>	<p>Doses < 20mg These doses cannot be reliably administered from manufactures syringe. Ward to prepare first dose then pharmacy to manufacture subsequent doses.</p> <ol style="list-style-type: none"> 1. Transfer 0.2 ml (20 mg) from the manufactures syringe into a 1 ml syringe 2. Using a filter needle, dilute with water for injection to 1 ml in the 1 ml syringe (20 mg/ml) 3. Using a transfer device, transfer the required diluted enoxaparin into a new 1 ml syringe <p>Doses ≥20mg to be administered using licensed prefilled syringes (100mg/ml) 20mg and 40mg syringes are not graduated and cannot be used to administer part doses.</p> <p>Please round to a measurable dose as per table below.</p> <p>Table of measurable doses:</p> <table border="1" data-bbox="336 674 1501 1267"> <thead> <tr> <th>Enoxaparin dose (mg)</th> <th>Volume of 100mg/ml syringe to be administered (mls)</th> <th>Enoxaparin dose (mg)</th> <th>Volume of 100mg/ml syringe to be administered (mls)</th> </tr> </thead> <tbody> <tr><td>20</td><td>0.2</td><td>52.5</td><td>0.525</td></tr> <tr><td>22.5</td><td>0.225</td><td>55</td><td>0.55</td></tr> <tr><td>25</td><td>0.25</td><td>57.5</td><td>0.575</td></tr> <tr><td>27.5</td><td>0.275</td><td>60</td><td>0.6</td></tr> <tr><td>30</td><td>0.3</td><td>62.5</td><td>0.625</td></tr> <tr><td>32.5</td><td>0.325</td><td>65</td><td>0.65</td></tr> <tr><td>35</td><td>0.35</td><td>67.5</td><td>0.675</td></tr> <tr><td>37.5</td><td>0.375</td><td>70</td><td>0.7</td></tr> <tr><td>40</td><td>0.4</td><td>72.5</td><td>0.725</td></tr> <tr><td>42.5</td><td>0.425</td><td>75</td><td>0.75</td></tr> <tr><td>45</td><td>0.45</td><td>77.5</td><td>0.775</td></tr> <tr><td>47.5</td><td>0.475</td><td>80</td><td>0.8</td></tr> <tr><td>50</td><td>0.5</td><td></td><td></td></tr> </tbody> </table>	Enoxaparin dose (mg)	Volume of 100mg/ml syringe to be administered (mls)	Enoxaparin dose (mg)	Volume of 100mg/ml syringe to be administered (mls)	20	0.2	52.5	0.525	22.5	0.225	55	0.55	25	0.25	57.5	0.575	27.5	0.275	60	0.6	30	0.3	62.5	0.625	32.5	0.325	65	0.65	35	0.35	67.5	0.675	37.5	0.375	70	0.7	40	0.4	72.5	0.725	42.5	0.425	75	0.75	45	0.45	77.5	0.775	47.5	0.475	80	0.8	50	0.5		
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<p>Prescribing</p>	<p>RDH Paediatrics: prescribe all doses on Lorenzo NICU: prescribe on regular side of white prescription chart</p> <p>QHB: prescribe on Meditech</p> <p>Prescribe brand name (Inhixa) and drug name</p>																																																								
<p>Additional Comments:</p>	<p>Anti-Xa levels will be affected by use of unfractionated heparin, renal failure (delayed excretion), hepatic failure and coexisting coagulopathy (e.g. in sepsis). Increased anti-Xa assay may be required if there are bleeding concerns. If patients are being discharged on enoxaparin for administration by parents/carers, the parent/carer must be counselled by nursing or pharmacy staff to ensure they are using the correct technique</p>																																																								

Note: The contents of this monograph should be read in conjunction with information available in the BNFC and Medusa

References:

1. BNF for Children, accessed online 13/12/23
2. UHDB aseptic worksheet. QPULSE. Paediatric enoxaparin (approved 6/7/17). Accessed 13/12/23
3. Nottingham University Hospitals. Clinical guideline: paediatric nephrology enoxaparin Intravenous Immunoglobulin (koha-ptfs.co.uk). Accessed 13/12/23

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4. EMC enoxaparin [Inhixa 15,000 IU \(150mg\)/1 mL solution for injection - Summary of Product Characteristics \(SmPC\) - \(emc\) \(medicines.org.uk\)](#), accessed 13/12/23
5. University Hospitals Bristol and Weston. Low molecular weight heparin therapy in children and neonates clinical guideline (Low Molecular Weight Heparin Lmwh Therapy In Child-2_5.pdf). Accessed 13/12/23

Document control sheet

GUIDELINE NUMBER	
AREA IN WHICH THIS MONOGRAPH APPLIES	Paeds/NICU

DIVISIONAL AUTHORISATION	
GROUP	DATE
Paediatric monograph review group	

AUTHORS		
Author	Position	Date
Written by: Lisa Taylor	Specialist Paediatric Pharmacist	June 2016
Checked by: Berglind Palsdottir	Specialist Paediatric Pharmacist	June 2016

If review:

	Position	Date
Reviewed by:	Ellie Cheale, Specialist Pharmacist Women's and Children's	December 2023
Checked by:	Lamia Ahmed, Advanced Pharmacist Women's and Children's	December 2023

Change history:

Changes Reference	Change details	Date
	Timings of Anti-Xa levels and target level	April 2020
	Type of charts/EPMA	April 2020
	References	April 2020
	Insuflon information	April 2020
	Addition of QHB prescribing. Addition of preparation instructions for ward staff not pharmacy overnight service has finished. Added that it should be prescribed by brand. Altered factor Xa level table to match dosage handbook. Removed expired reference	December 2023