



ENOXAPARIN - SAFE PRESCRIBING - CHECK IT OUT

- CHECK THE RENAL FUNCTION IS NORMAL
- CHECK INR, APTT, PLATELET COUNT AND LIVER FUNCTION ARE NORMAL
- CHECK IF THERE IS AN INCREASED RISK OF HAEMORRHAGE
- CHECK THE DOSE IS APPROPRIATE
- CHECK ADMINISTRATION TECHNIQUE

Enoxaparin is used for the prevention and treatment of VTE (venous thromboembolism) and for the treatment of acute coronary syndromes.

Check the following parameters to reduce the risk of a significant bleed.

CHECK THE RENAL FUNCTION IS NORMAL

If renal function is compromised, the clearance of enoxaparin will be delayed, and the risk of bleeding will increase. Calculate the patient's estimated creatinine clearance (CrCL) using the formula below or an online calculator; click here for an example.

CrCL (mL/min) = $F \times (140\text{-age}) \times \text{weight (kg)}$ F = 1 male 0.814 x serum creatinine (micromol/L) F = 0.85 female

- If the calculated CrCL is between 30-80mL/min, use the standard dose
- If the calculated CrCL is less than 30mL/min, adjust the dose as per tables overleaf

Note: The initial dose should be a standard dose to ensure an effective concentration is achieved.

CHECK INR, APTT, PLATELET COUNT AND LIVER FUNCTION ARE NORMAL

Make sure the patient has a normal coagulation profile (INR, APTT), platelet count, and liver function prior to prescribing enoxaparin.

- If platelet count is < 50x10⁹/L, enoxaparin is contraindicated
- If there is a decrease of 30-50% from baseline during treatment, enoxaparin should be discontinued immediately in case of HIT (heparin-induced thrombocytopenia).

HIT is a very rare immune-mediated reaction, usually appearing between 5-10 days of treatment. The risk is greatest postoperatively, or with prolonged exposure to heparins. Ask patients to report any symptoms of a new VTE or painful skin lesions.

CHECK IF THERE IS A RISK OF HAEMORRHAGE

Enoxaparin is contraindicated if there is a high risk of haemorrhage, for example a recent history of haemorrhagic stroke, bacterial endocarditis, or conditions such as peptic ulcer disease or ulcerative colitis. Use with caution if patients have uncontrolled hypertension, diabetic retinopathy, congenital or acquired bleeding disorders, or recent neurological or ophthalmologic surgery.

Other anticoagulants should be discontinued prior to enoxaparin therapy, unless strictly indicated. Bleeding can occur at any site, so a fall in haemoglobin or blood pressure should be investigated immediately.

CHECK THE DOSE IS APPROPRIATE

Dosing of enoxaparin following elective surgery is the responsibility of the surgeon, however, it is important to be aware of the dosing requirements and the length of the course so that it is not continued (or discontinued) in error.

Standard dose	40mg once daily
Duration	
High risk surgery	7-10 days or until risk diminished
Medical patients	6-14 days or until full ambulation
Exceptions	
Low weight < 45kg	20mg once daily
CrCL < 30mL/min	20mg once daily
Hip replacement	Should continue for 30 days
	post operatively
BMI > 40kg/m ²	Consider 40mg twice daily
Note: If the patient i	s at extremes of weight, refer to a
haematologist for a	nti-factor Xa monitoring.





ENOXAPARIN

Treatment of VTE	
Standard dose	1.5mg/kg once daily or
	1mg/kg twice daily
Duration	Minimum 5 days
	Continue enoxaparin until therapeutic
	anticoagulant effect (INR 2-3) has been
	achieved for 2 consecutive days.
	Initiate warfarin within 72 hours where
	appropriate.
Exceptions	

CrCL < 30mL/min	1mg/kg once daily (after initial standard dose)
Weight > 100kg	1mg/kg twice daily

Weight > 200kg*
Consider dosing as per lean body weight

Pulmonary embolism 1mg/kg twice daily

Active malignancy 1mg/kg twice daily for 2 weeks, then

1.5mg/kg once daily for 2weeks,
then 1mg/kg once daily (on advice
from haematologist)

*Refer to a haematologist for advice if patient weighs over 150kg

Trefer to a flacifiatologist for advice if patient weighs over 130k

Lean body weight: Male: 50kg + (0.9kg/cm >150cm)

Female: 45kg + (0.9kg/cm > 150cm)

For convenience, prescribe to the nearest 10mg dose (as per graduations on the pre-filled syringe) until 120mg, and then round to 135mg or 150mg. Always measure precisely.

SPECIAL AUTHORITY CRITERIA

Enoxaparin is available fully subsidised for 1 year for:

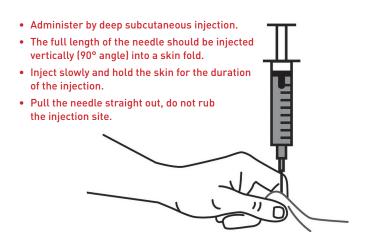
- Pregnant women who require LMWH
- Treatment of VTE for patients with a malignancy

Subsidy is valid for 1 month for:

- Short-term treatment of VTE prior to establishing a therapeutic level of oral anticoagulant treatment
- Prophylaxis and treatment of VTE in high-risk surgery
- Cessation or re-establishment of existing oral anticoagulant treatment pre or post-surgery
- Prophylaxis and treatment for VTE in ACS (Acute Coronary Syndrome) with surgical intervention
- Cardioversion of AF (Atrial Fibrillation)

CHECK ADMINISTRATION TECHNIQUE

Do not expel the air bubble before injection. If the volume needs to be adjusted, hold the syringe down to dispel excess enoxaparin without expelling the air bubble. Administer by deep subcutaneous injection as below.



To avoid scarring from multiple injections, alternate the injection site between the left and right abdomen. Ask patients to check their injection sites, and to report any painful skin reactions. Emphasise safe storage of new and used syringes to all patients.

ACKNOWLEDGEMENTS

We wish to thank Dr Eileen Merriman, Consultant Haematologist and, Elizabeth Brookbanks, Pharmacist, at Waitemata District Health Board for their valuable contribution to this bulletin.

KEY REFERENCES

- Sanofi-Aventis New Zealand Limited. Clexane® and Clexane Forte® (Enoxaparin sodium) datasheet 28-05-14 www.medsafe.govt.nz/profs/datasheet/c/Clexaneinj.pdf (Accessed 11-03-15)
- Application for subsidy by special authority. Enoxaparin sodium.
 Form SA1174 April 2015 www.pharmac.govt.nz/2015/04/01/SA1174.pdf
 (Accessed 30-03-15)
- 3. Low molecular weight heparin use in primary care. Best Practice
 Journal Nov 2009 [24] 32-36 www.bpac.org.nz/BPJ/2009/November/heparin.aspx (Accessed 30-03-15)
- New Zealand Formulary. Enoxaparin sodium. http://nzf.org.nz/nzf_1453 (Accessed 11-03-15)

CLICK HERE FOR FURTHER INFORMATION ON ENOXAPARIN AND A FULL REFERENCE LIST

For further information on other high-risk medicines visit our website at: www.saferx.co.nz