VENOUS THROMBOEMBOLISM (VTE) PROPHYLAXIS POLICY FOR COMMUNITY HOSPITAL IN-PATIENTS [Enoxaparin]

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Contents

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1. INTRODUCTION

In 2005 the House of Commons Health Committee published their Report on the Prevention of Venous Thromboembolism in Hospitalised Patients which highlighted that venous thromboembolism (VTE) accounted for up to 25,000 preventable deaths in Hospitals in England each year. In April 2007 the Department of Health published the report of an Independent Expert Working Group that provided a strategy for a national VTE prevention programme and in January 2010 NICE published guidance on the prevention of VTE. Treatment of non-fatal symptomatic VTE and related long-term morbidities is associated with considerable cost to the health service. This policy aims to ensure that all patients are given advice relating to their increased risk of thromboembolism and that they are offered appropriate pharmacological or mechanical VTE prophylaxis.

Throughout this policy 'significantly reduced mobility' is used to denote patients who are bedbound, unable to walk unaided or likely to spend a substantial proportion of the day in bed or in a chair (NICE, 2010).

THE RECOMMENDATIONS IN THIS POLICY MUST BE IMPLEMENTED TAKING INTO ACCOUNT THE PATIENT'S INDIVIDUAL CLINICAL SITUATION.

2. PURPOSE

The purpose of this policy is to ensure that all patients admitted to the community hospital are assessed for their thrombosis and bleeding risks within 24 hours of admission. The appropriate level and type of VTE prophylaxis is offered according to their risk factors and reason for admission. It will also ensure that accurate advice is given to patients to enable the patient to make an informed decision about their risk of VTE and whether or not to receive VTE prophylaxis.

3. SCOPE

This policy applies to medical, nursing and pharmacy staff, whether commissioned, contracted, or directly employed by the East Coast Community Healthcare (ECCH), who are working on the Community Hospital ward.

4. DEFINITIONS *(if relevant)*

The following definitions are intended to provide a brief explanation of the various terms used within this policy.

Term	Definition
Policy	A policy is a formal written statement detailing an enforceable set of principles or rules. Policies set the boundaries within

	which we operate. They also reflect the philosophy of our organisation.
ADD	ADD

5. RESPONSIBILITIES

(Add a list of all those with responsibilities pertaining to the implementation and purpose of this policy, and what those responsibilities are.)

- **Registered Nurses**
  - Ensure that a VTE risk assessment is completed for all patients admitted within 6 hours.
  - Provide patients with verbal and written information at admission on VTE prophylaxis.
  - Monitor and observe for any adverse effects of the VTE prophylaxis medication.
  - Only carry out the assessment once they have completed the appropriate training (see section 10) and been assessed as competent.
  - Identify and agree with their line manager any training needs

- **Prescribers**
  - Review the completed VTE risk assessment and sign the admission notes located in the medical kardex to confirm this has been actioned.
  - Prescribe VTE prophylaxis on drug chart if clinically indicated, document the decision in the medical notes and inform ward staff accordingly.
  - Regularly review patient's need for VTE prophylaxis and ensure that changes are made where indicated if the patients clinical condition changes.

- **Ward Managers**
  - Ensure all patients receive a VTE risk assessment on admission and all staff adhered to the standards set within this policy.

- **Pharmacists**
  - To ensure that VTE prophylaxis medication, dosage and route are appropriate for the patient.

6. PROCEDURE

Patient Information

An approved Information Leaflet on VTE (Appendix 1) must be given to all patients upon admission to one of our Community Hospital. Written and verbal information on VTE prevention must be offered to all patients as part of the discharge process. Patients who are discharged with pharmacological and/or mechanical VTE prophylaxis must be able to use it correctly (or have arrangements made for someone to be available who will be able to help them) and know how long they need to continue prophylaxis for.

Also, information on reducing their risk of VTE such as keeping well hydrated and, become more mobile if possible.

Be aware that heparins are of animal origin, and this may be of concern to some patients (e.g. Muslims, Jews, or vegetarians).

VTE and Bleeding Risk Assessment
(See, also Appendix 2: VTE pathway)

ALL patients admitted to the community hospital ward must be assessed for VTE and bleeding risk by a registered nurse using the risk assessment form at admission. VTE risk assessment tool (Appendix 3) form part of the Community Hospital Admission and Medical Record.

This includes patients who are transferred from another hospital or patient who have already been prescribed a different choice of VTE prophylaxis and treatment. Nurses carrying out the assessment must ensure that they have completed the appropriate training and been assessed as competent. If clinically indicated and patient consents, the admitting doctor must make decision on prescribing of VTE prophylaxis as soon as possible after risk assessment has been completed.

It is important that patients are mobilised as soon as possible, particularly after surgery. Dehydration is also an important factor in the development of VTE and patients should not be allowed to become dehydrated unless clinically indicated during their stay in hospital.

FBC and U+Es should be checked after 5-7 days and then at 12 – 14 days of therapy to exclude heparin induced thrombocytopenia.

When bleeding occurs during anticoagulation, a prescriber must be contacted immediately for advice.

If major bleeding occurs during anticoagulation, therapy must stop and urgent transfer to an acute trust via 999 emergency ambulance.

VTE Risk Factors

All patients who are at risk of VTE if they are expected to have ongoing reduced mobility relative to their normal state plus any VTE risk factor below:

- Active cancer or cancer treatment
- Age over 60 years
- Dehydration
- Known thrombophilias
- Obesity (BMI > 30Kg/m2)
- One or more significant co-morbidities (e.g. heart disease; metabolic, endocrine or respiratory pathologies; acute infectious diseases; inflammatory conditions)
- Personal history or first-degree relative with a history of VTE
- Use of Hormone Replacement Therapy (HRT)
- Use of oestrogen-containing contraceptive therapy
- Varicose veins with phlebitis

- Significantly reduced mobility for 3 days or more or
- Hip replacement within past 4 weeks
- Knee replacement within past 2 weeks

Bleeding Risk

- Active or high risk of bleeding
- Acquired bleeding disorders e.g., acute liver failure
- Concurrent use of anticoagulants e.g., LMWH, Warfarin (when INR > 2), Rivaroxaban, Dabigatran or Apixaban.
- Lumber puncture/epidural/spinal anesthesia within the previous 4 hours or expected within the next 12 hours.
- Uncontrolled hypertension (≥ 230/120 mmHg)
- Acute stroke
- Thrombocytopenia (platelet < 75 x 109/l)
- Untreated inherited bleeding disorders e.g., hemophilia or van Willebrand's disease

Reassessment of VTE and Bleeding Risk

Patients' risks of bleeding and VTE must be reassessed within 24 hours of admission and whenever the clinical situation changes, to:

- ensure that the methods of VTE prophylaxis being used are still suitable
- ensure that VTE prophylaxis is being used correctly
- identify adverse events resulting from VTE prophylaxis

Pharmaceutical VTE Prophylaxis

Low molecular weight heparin (LMWH) Enoxaparin(Inhixa®) is the choice for pharmaceutical VTE prophylaxis in the community hospital. It should be considered in all patients, if the risk of VTE outweighs the risk of bleeding, provided there is no contraindication to Enoxaparin and patient is not already on a different choice upon admission.

Do not routinely offer VTE prophylaxis to patients admitted for terminal care or end-of-life care pathway.

Do not offer pharmaceutical VTE prophylaxis if the patient has any risk factor for bleeding and the risk of bleeding outweighs the risk of VTE or contraindicated to Enoxaparin e.g., hypersensitivity to Heparin / Heparin Induced Thrombocytopenia (HIT) or excipients. (Please refer to the current British National Formulary for a most up-to-date list) Consider alternative means of VTE prophylaxis e.g. anti-embolism (T.E.D.TM) stockings. However, remember TED Stockings are contraindicated in some patients

Do not regard aspirin or other antiplatelet agents e.g., clopidogrel as adequate prophylaxis for VTE. Consider adding additional pharmacological VTE prophylaxis to patients who are having antiplatelet agents who are assessed to be at increased risk of VTE. Take into account the risk of bleeding and co-morbidities such as arterial thrombosis.

Do not offer additional pharmacological VTE prophylaxis to patients who are already on full anticoagulant therapy e.g. treatment dose of LMWH, novel anticoagulants (NOACs), or Vitamin K antagonists (VKA warfarin, acenocoumarol and phenindione) and who are within their therapeutic range, providing anticoagulant therapy is continued.

The dose of Enoxaparin to be prescribed for prophylaxis is usually 40mg(4000 UNITS) once daily. Dose adjustment for prophylaxis is for patients with renal impairment. Enoxaparin sodium is not recommended for patients with end stage renal disease (creatinine clearance <15 mL/min) due to lack of data in this population outside the prevention of thrombus formation in extra corporeal circulation during hemodialysis.

Dosage for patients with severe renal impairment (creatinine clearance [15-30] mL/min): 20 mg (2000 UNITS) SC once daily.

Enoxaparin must be prescribed in the appropriate section of the drug charts. If a decision has been made not to prescribe Enoxaparin the doctor must cross through the Dalteparin section on the drug chart and state, on the drug chart, the reason why it is not being prescribed. **Units must always be written in full**; 'U' or 'IU' are not allowed.

If the prescriber is in any doubt as to whether Enoxaparin is suitable for a patient or not, specialist advice should be sought from the Hematologists at the James Paget University Hospital.

VTE Prophylaxis in Post-Operative Patients

Anti-embolism (TED) stockings and/or pharmacological VTE prophylaxis may already been prescribed for patient upon transfer to one of our hospitals, they must still be assessed on admission so the GP can decide whether ongoing treatment with VTE prophylaxis is still clinically indicated for the patient.

All mechanical VTE prophylaxis must be continued until patient's mobility is no longer significantly reduced.

Patients who have undergone elective hip or knee replacements will often be prescribed Rivaroxaban (instead of LMWH) as the pharmacological VTE prophylaxis upon admission to the community hospital. All other post-surgical patients will be prescribed Enoxaparin where indicated. It is important that the choice of pharmacological VTE prophylaxis and the appropriate course is continued during their stay in our Community Hospital bed and following discharge.

Current NICE recommendation on VTE prophylaxis duration following surgery:

- Elective total hip replacement – continue for 28 – 35 days
- Elective knee replacement – continue for 10 – 14 days
- Hip fracture after surgery - continue for 28 – 35 days
- Major cancer surgery in the abdomen or pelvic area – continue for 28 days
- Other surgeries – continue until mobility is no longer significantly reduced (usually 5-7 days)

Anti-embolism Stockings

Mechanical methods of prophylaxis e.g., anti-embolism (TEDS) stockings are not proven to prevent VTE in medical patients and should only be considered in those patients that cannot be prescribed pharmacological VTE prophylaxis.

Anti-embolism stockings must not be used in patients who have:-

- suspected or proven peripheral arterial disease
- peripheral arterial bypass grafting
- peripheral neuropathy or other causes of sensory impairment
- any local conditions in which stockings may cause damage, e.g. fragile ‘tissue paper’ skin, dermatitis, gangrene or recent skin graft
- known allergy to material of manufacture
- cardiac failure
- severe leg oedema or pulmonary oedema from congestive heart failure
- unusual leg size or shape
- major limb deformity preventing correct fit.

Use caution and clinical judgement when applying anti-embolism stockings over venous ulcers or wounds.

Patients who need anti-embolism stockings must have their legs measured and the correct size of stocking provided. They should be re-measured, and stockings refitted if oedema or postoperative swelling develops.

Anti-embolism stockings should be fitted, and patients shown how to use them, by staff trained in their use.

Use anti-embolism stockings that provide graduated compression and produce a calf pressure of 14-15mmHg.
Patients should be encouraged to wear their anti-embolism stockings day and night until they no longer have significantly reduced mobility.

Remove anti-embolism stockings daily for hygiene purposes and to inspect skin condition. In patients with a significant reduction in mobility, poor skin integrity or any sensory loss, inspect the skin two or three times per day, particularly over the heels and bony prominences.

Discontinue the use of anti-embolic stockings if there is marking, blistering, or discolouration of the skin, particularly over the heels and bony prominences, or if the patient experiences pain or discomfort.

Nursing staff should make regular checks, at least twice a day of anti-embolic stockings to ensure patients are wearing them correctly.

Planning for Discharge

Offer patients and/or their families or carers verbal and written information on:

- Signs and symptoms of deep venue thrombolysis (DVT) and pulmonary embolism (PE).
- Importance of seeking medical help and who to contact if DVT, PE or other adverse event suspected.

If discharged with VTE prophylaxis, also offer patients and/or their families or carers information on:

- correct use and duration of VTE prophylaxis at home
- importance of using VTE at home correctly and for recommended duration
- signs and symptoms of adverse events related to VTE prophylaxis
- who to contact if they have problems using VTE prophylaxis at home.

If discharged with VTE prophylaxis, nursing staff must ensure that:

- the patient is able to use it or has someone who can do this
- the patient's GP is notified.

Training

Training is available on Venous Thromboembolism (VTE) from the following places. The list is not exhaustive.

Learning Resource	Format	Approx. Time	How to access	For which staff group(s)
eVTE	Online learning	60 – 90 minutes	https://www.e-lfh.org.uk/programmes/venous-thromboembolism/	Medical Nursing Pharmacist
VTE Prevention	Online learning	15 minutes	https://www.england.nhs.uk/2013/06/vte-prog/	Medical Nursing Pharmacist
NHS Choices – Deep Vein Thrombosis	Video, Structured Reading	10 minutes	http://www.nhs.uk/conditions/deep-vein-thrombosis/Pages/Introduction.aspx	Medical Nursing Pharmacist
Mechanical VTE Prophylaxis – Stocking Training	Video	15 minutes	http://kingsthrombosiscentre.org.uk/kings/multimedia/kingsOtherMaterials/mechanicalThromboprophylaxis/index.htm	Nursing

7. MONITORING AND REVIEW

The policy will be monitored and reviewed by the Medicines Management Group. It will be fully reviewed every two years or sooner if deemed necessary due to changes in national or local guidance, professional practice, or user feedback.

Compliance with this policy will be achieved through the monthly audit of all in- patients on a specified day per month across all community hospitals within the organisation.

8. REFERENCES *(if relevant)*

- British National Formulary accessed 06/12/2018 (publication update 13/11/2018)
- National Institute for Health and Clinical Excellence (2010) Venous thromboembolism – reducing the risk (Last updated June 2015)
- National Institute for Health and Clinical Excellence (2015) Reducing the risk of venous thromboembolism in hospital patients
- National Institute for Health and Clinical Excellence (2015) Venous thromboembolism – non-orthopaedic surgery
- National Institute for Health and Clinical Excellence (2015) Venous thromboembolism – orthopaedic surgery
- National Institute for Health and Clinical Excellence (2015) Venous thromboembolism – medical patients
- Summary of Product Characteristics – Enoxaparin (Inhixa) Pre-Filled Syringes (24/8/2017). Accessed at http://emc.medicines.org.uk/ on 06/02/2019
- Department of Health (2010) Risk Assessment for Venous Thromboembolism (VTE)
- James Paget University Hospitals NHS Foundation Trust (2012) Thromboprophylaxis Clinical Guideline

9. AUTHOR

Francoise Price

10. APPENDICES

1. Appendix 1 – VTE LEAFLET

General Information on VTE

VTE occurs in 1 in 500 of the general population.

You may have heard of people getting a clot in their leg from long periods of time on aircraft, sometimes referred to as 'economy – class syndrome'.

VTE happens when blood flow is restricted or reduced for some reason causing the blood to clot in the vein.

People can help reduce the risk by staying active. This can be done by walking around or doing gentle leg exercises to keep the blood flow moving.

Conditions that can increase your risk of a blood clot include

- **Being overweight**
- **Smoking**
- **Pregnancy**
- **Cancer**
- **Taking hormone therapy**
- **Reduced mobility**
- **Family history of blood clots**
- **Having an operation**
- **Being dehydrated**

This is not an exhaustive list. Please ask your nurse or doctor if you wish to discuss your own personal risk factors

More information can be found at
www.nice.org.uk
www.dh.gov.uk
www.eoe.nhs.uk

Help us to improve patient information

We welcome any comments or suggestions you may have to help us improve the content of this leaflet.

Complaints and Comments

If you wish to discuss any aspects of the care you have received during your hospital stay, please speak to the nurse in charge.

Alternatively, contact East Coast Community Healthcare Patient Advice and Liaison Service (PALS) on 01502 718666 or e-mail ECCH.patientliaison@nhs.net
You have the right at any time, to contact The Information Commissioner's Office on: 01625 545 745

If you would like this leaflet in large, audio, Braille alternative format or in a different language please contact East Coast Community Healthcare on 01502 718666 and we will do our best to help

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January 2016 V1.1

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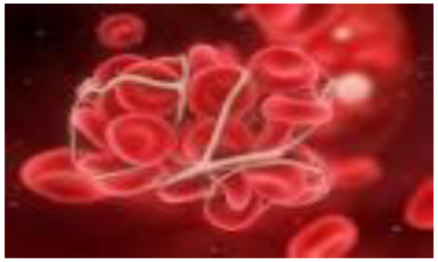
Venous ThromboEmbolism (VTE)

PREVENTION



Information for patients admitted to a Community Hospital

Our Commitment to you

East Coast Community Healthcare (ECCH) is committed to maintaining the safety of all patients in our care. It has been well documented that patients in hospital have an increased risk of developing a blood clot or venous thromboembolism (VTE) if preventative action is not taken.

To ensure we maintain your safety all patients admitted to our Community Hospitals will be assessed on admission for any risk factors that might increase the likelihood of a clot and be advised regarding treatment.

Thorough assessment

By discussing with you your lifestyle, medical history, reason for admission and your usual levels of activity and mobility a nurse will complete this assessment. The doctor will then review this assessment and decide on what treatment, if any, you will need to prevent a clot occurring.

Risk factors for clot formation include increased age, reduced mobility, obesity, a diagnosis of cancer, heart failure, hormone therapy, conditions that cause blood to clot more easily, recent surgery and acute infections. This list is not exhaustive.

What can I do to reduce my risk of VTE?

- **Keep moving / walking during your stay in hospital – Leg exercise information is available from your nurses**
- **Ensure you have at least eight drinks a day to keep you well hydrated**

What can the hospital do to reduce my risk of VTE?

- **Anti-embolism stockings. Some patients will be encouraged to wear elasticated stockings which help your body keep the blood flow moving in your legs**
- **Some patients will be suitable for an anticoagulant (clot preventing) injection each day or a tablet to decrease risk of clots**

What if I already take medication to thin my blood?

Some patients may already be taking medication such as Aspirin or Warfarin for other conditions which are used to thin the blood. Your nurses and doctor will consider this when you are admitted so that you are given the correct treatment in hospital

What happens when I leave hospital?

When you are discharged from hospital your doctor will advise you if you need to continue with any treatment. If you are on injection therapy you will be encouraged to learn how to give this to yourself or a relative or carer may be shown how to give the medication before you are discharged.

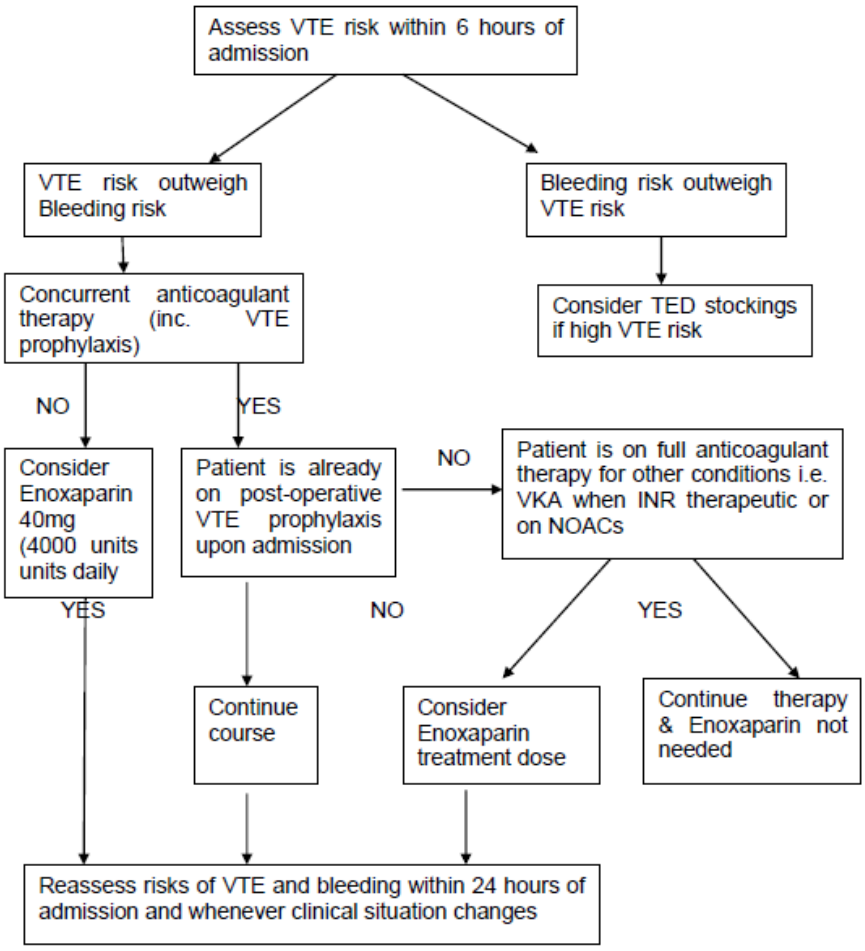
Keep a look out for signs and symptoms

When you are discharged you should look out for pain or tenderness in your legs particularly the calf area. This sign may be seen with swelling, warmth and redness of the skin.

If a clot becomes dislodged patients may suffer with a shortness of breath or chest pain. You should seek urgent medical advice if you experience these signs or symptoms.

Remember to keep as active as you are able, eat a well balanced diet and have at least eight drinks a day to keep your body healthy

2. Appendix 2 – VTE Pathway



For all patients:

- Do not allow patients/service users to become dehydrated unless clinically indicated.
- Encourage patients/service users to mobilise as soon as possible.
- Do not regard aspirin or other antiplatelets agents as adequate prophylaxis for VTE.
- Do not routinely offer VTE prophylaxis to patients admitted for terminal care or end-of-life care pathway.
- Check renal function – consider dosage reduction if renal impairment

3. Appendix 3 – VTE Risk Assessment Tool

Venous Thromboembolism (VTE) Risk Assessment for Patients over 18 years of age.

An estimated 25,000 people in the UK die from preventable hospital acquired VTE every year (House of Commons Health Committee 2005). To reduce risk all patients will be assessed on admission by a registered nurse using the flow chart below. Prescription of appropriate prophylaxis will be informed by this risk assessment, but all prescribing remains accountability of the prescriber. VTE assessment will be reviewed during medical clerking and whenever a clinical situation change e.g., patient regains normal mobility level.

STEP ONE – MOBILITY Tick one box

Medical or post-surgical patient expected to have reduced mobility relative to normal state ☐ If ticked Assess for thrombosis and bleeding risk by completing all steps below	Palliative care patient ☐ If ticked Risk assessment now complete – no thromboprophylaxis required – Go to Step 4	Medical patient NOT expected to have significantly reduced mobility relative to normal state ☐ If ticked Risk assessment now complete – no

STEP TWO – THROMBOSIS RISK
CIRCLE ALL THOSE KNOWN TO APPLY

Age > 60 years, Dehydration, Significantly reduced mobility for 3 days or more

Active cancer or cancer treatment Obesity Significant co-morbidities,

First degree relative with history of VTE Hormone therapy (male and female)

Varicose veins with phlebitis Known clotting disease

Hip replacement within past 4 weeks Knee replacement within last 2 weeks

Recent surgery with significant reduction in mobility Other – please specify

STEP THREE – BLEEDING RISK - CIRCLE ALL THOSE KNOWN TO APPLY

Active bleeding acquired bleeding disorders e.g. acute liver failure acute stroke
Concurrent use of anticoagulants such as Warfarin, Rivaroxaban or Dabigatran
Thrombocytopenia* Uncontrolled systolic hypertension other – please specify

*If patient history or recent full blood count result not available at admission do not circle and tick here □

STEP FOUR - RISK OF VTE - Tick appropriate category

High risk of VTE with **low** bleeding risk	**High** risk of VTE with **significant** bleeding risk	**Low** risk of VTE

NURSES SIGNATURE	DATE TIME
DOCTORS SIGNATURE Enoxaparin prescribed YES NO	DATE TIME

4. Appendix 4 – Prescribing Guidance (with thanks James Paget Hospital)

Enoxaparin Switch Guidelines.pdf

James Paget University Hospitals NHS
NHS Foundation Trust

Author: Kalvin Scott, Haematology Pharmacist Version: 1.0 Issue date: 17/10/18

Temporary use of Enoxaparin while Dalteparin is unavailable within the Trust

There is a national shortage of dalteparin that will affect the Trust during October and November 2018. During this time we will need to use an alternative, which will by the Inhixa brand of enoxaparin.

Prescribing guidance is as below:

Prescribing

Calculate renal function as outlined below:

Creatinine clearance (mL/min) = $\frac{\text{F x (140-age) x weight* (kg)}}{\text{Serum creatinine (µmol/L)}}$ Male F= 1.23 Female F=1.04

- Use ideal body weight (IBW) in patients unless over or under weight:

IBW Females = [45.5kg + (2.3 x every inch over 5ft)] kg
IBW Males = [50kg + (2.3 x every inch over 5ft)] kg

- Use adjusted body weight in obese patients = IBW + 0.4 x (actual body weight – IBW) kg
- Use actual body weight in underweight patients

A creatinine clearance calculator is also available on the Trust intranet or can be accessed by following this link

VTE Prophylaxis					
Indication		**CrCl >30ml/min/1.73m2**		**CrCl ≤30ml/min/1.73m2**	
		Enoxparin	**Dalteparin**	**Enoxaparin**	**Dalteparin**
Medical patients or high risk surgical patient	<50kg	20mg ONCE daily	2500 IU ONCE daily	20mg ONCE daily	2500 IU ONCE daily
	50-100kg	40mg ONCE daily	5000 IU ONCE daily	20mg ONCE daily	2500 IU ONCE daily
	100-150kg	40mg TWICE daily	5000 IU TWICE daily	40mg ONCE daily	5000 IU ONCE daily
	150-180kg	60mg TWICE daily	7500 IU TWICE daily	60mg ONCE daily	7500 IU ONCE daily
	>180kg	Contact haematologist	Contact haematologist	40mg TWICE daily	5000 IU TWICE daily
		CrCl >15ml/min/1.73m2		**CrCl ≤15ml/min/1.73m2**	
				Enoxaparin	**Dalteparin**
Elective hip replacement		Enoxaparin 40mg ONCE daily **OR** Dalteparin 5000 IU ONCE daily until discharge then Rivaroxaban 10mg ONCE daily for a total of 35 days post surgery		20mg ONCE daily for 28 days	2500 IU ONCE daily for 28 days
Elective knee replacement		Enoxaparin 40mg ONCE daily **OR** Dalteparin 5000 IU ONCE daily until discharge then Rivaroxaban 10mg ONCE daily for a total of 14 days post surgery		20mg ONCE daily for 14 days	2500 IU ONCE daily for 28 days
Antenatal and postnatal thromboprophylaxis					
Weight		**CrCl >30ml/min/1.73m2**		**CrCl ≤30ml/min/1.73m2**	
		Enoxaparin	**Dalteparin**	**Enoxaparin**	**Dalteparin**
<50kg		20mg ONCE daily	2500 IU ONCE daily	20mg ONCE daily	2500 IU ONCE daily
50-90kg		40mg ONCE daily	5000 IU ONCE daily	20mg ONCE daily	2500 IU ONCE daily
91-130kg		60mg daily **	7500 IU ONCE daily	Contact haematologist	Contact haematologist
131-170kg		80mg daily **	10000 IU daily **	Contact haematologist	Contact haematologist
>170kg		0.6mg/kg/day **	75 IU/kg/day **	Contact haematologist	Contact haematologist

**** Can be given as either one dose or two divided doses. 0.6mg/kg dose should be rounded to nearest 10mg.**

VTE Treatment				
Indication	**CrCl >30ml/min/1.73m2**		**CrCl ≤30ml/min/1.73m2**	
	Enoxaparin	**Dalteparin**	**Enoxaparin**	**Dalteparin**
Pulmonary Embolism / Deep Vein Thrombosis	1.5 mg/kg ONCE daily	See body weight table	1.0 mg/kg ONCE daily	See body weight table
STEMI/Non-STEMI/ACS – **requiring** therapeutic anticoagulation***	1.0mg/kg TWICE daily	120 IU/kg TWICE daily	1.0mg/kg ONCE daily	120 IU/kg ONCE daily
	CrCl >20ml/min/1.73m2		**CrCl ≤20ml/min/1.73m2**	
			Enoxaparin	**Dalteparin**
STEMI – **not** requiring therapeutic anticoagulation	Fondaparinux 2.5mg IV OD day one then SC OD for up to a maximum of 8 days or on discharge		1.0mg/kg ONCE daily	120 IU/kg ONCE daily
Non-STEMI – **not** requiring therapeutic anticoagulation	Fondaparinux 2.5mg SC OD for up to a maximum of 8 days or on discharge		1.0mg/kg ONCE daily	120 IU/kg ONCE daily

*** - e.g. mechanical prosthetic valve, recent or recurrent VTE, AF with high risk of cardiac thromboembolism, high risk thrombophilia, recent arterial embolism of cardiac origin etc

For treatment doses, round dose using dose banding tables below. NOTE: ACTUAL BODY WEIGHT should be used when determining rounded dose.

Enoxaparin Dose banding – 1.5mg/kg dosing				
Body weight	**Rounded dose**	**Syringe**	**Number of syringes**	**Injection volume**
40-49	60mg	60mg in 0.6ml	1	0.6ml
50-59	80mg	80mg in 0.8ml	1	0.8ml
60-74	100mg	100mg in 1.0ml	1	1.0ml
75-89	120mg	60mg in 0.6ml	2	1.2ml (2x0.6ml)
90-99	140mg	80mg in 0.8ml and 60mg in 0.6ml	2	1.4ml (0.8ml + 0.6ml)
100-109	150mg	100mg in 1.0ml and 60mg in 0.6ml	2	1.5ml (1.0ml + 0.5ml)
110-114	160mg	100mg in 1.0ml and 60mg in 0.6ml	2	1.6ml (1.0ml + 0.6ml)
115-120	180mg	100mg in 1.0ml and 80mg in 0.8ml	2	1.8ml (1.0ml + 0.8ml)
121-135	200mg *	100mg in 1.0ml	2	2.0ml (2x1.0ml)
136-150	220mg *	100mg in 1.0ml and 60mg in 0.6ml	3	2.2ml (1.0ml + 2x0.6ml)
>150	Contact haematologist			
*Measure anti-Xa between days 5-7 and adjust to target anti-Xa level <0.1-0.3U/mL – contact haematology for advice if required.				
Enoxaparin Dose banding – 1.0mg/kg dosing				
Body weight	**Rounded dose**	**Syringe**	**Number of syringes**	**Injection volume**
30-39	30mg	60mg in 0.6ml	1	0.3ml
40-49	40mg	40mg in 0.4ml	1	0.4ml
50-59	50mg	60mg in 0.6ml	1	0.5ml
60-69	60mg	60mg in 0.6ml	1	0.6ml
70-79	70mg	80mg in 0.8ml	1	0.7ml
80-89	80mg	80mg in 0.8ml	1	0.8ml
90-99	90mg	100mg in 1.0ml	1	0.9ml
100-109	100mg	100mg in 1.0ml	1	1.0ml
110-119	110mg	60mg in 0.6ml	2	1.1ml (0.6ml + 0.5ml)
120-129	120mg	60mg in 0.6ml	2	1.2ml (2x0.6ml)
130-139	130mg	80mg in 0.8ml and 60mg in 0.6ml	2	1.3ml (0.8ml + 0.5ml)
140-149	140mg	80mg in 0.8ml and 60mg in 0.6ml	2	1.4ml (0.8ml + 0.6ml)
150-160	150mg	80mg in 0.8ml	2	1.5ml (0.8ml + 0.7ml)
>150	Contact haematologist			

17 For information

VTE Treatment Dalteparin Dose Banding		
Weight	Dose	CrCl <30ml/min
<46kg	7500 IU ONCE daily	Give normal treatment dose as per body weight dose banding, measure pre-dose anti-Xa level between day 5-7. Pre-dose level should be between <0.1-0.3 U/ml to exclude renal accumulation
46-56kg	10000 IU ONCE daily	
57-68kg	12500 IU ONCE daily	
69-82kg	15000 IU ONCE daily	
83-135kg	18000 IU ONCE daily	
>135kg or complex cases	Contact haematologist	

11. EQUALITY & DIVERSITY IMPACT ASSESSMENT

In reviewing this policy, the HR Policy Group considered, as a minimum, the following questions:
- Are the aims of this policy clear?
- Are responsibilities clearly identified?
- Has the policy been reviewed to ascertain any potential discrimination?
- Are there any specific groups impacted upon?
- Is this impact positive or negative?
- Could any impact constitute unlawful discrimination?
- Are communication proposals adequate?
- Does training need to be given? If so is this planned?

Adverse impact has been considered for age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion and belief, sex, sexual orientation.

Blank version of the full Equality & Diversity Impact assessment can be found here:

http://eccho/Home/FormsGuidance.aspx?udt_575_param_index=E&udt_575_param_page=2

12. DOCUMENT CONTROL

Version Date	Version No.	Author/ Reviewer	Comments
Feb 2011	2	Claire Parfrey	
Sept 2012	3	Emma Tang	Version control, monitoring & review added, change of agent, contact updated.
Jan 2015	4	Emma Tang & Hayley Brown	Minor changes: title, roles, and responsibilities, VTE assessment form, discharge planning, removed reversal section
Jan 2017	5	Hannah Lambert & Sue Jenkins	Minor changes - appendices,
Dec 2018	6	Charles Barsted	Enoxaparin LMWH off choice. Update links to training sites, minor changes.

DOCUMENT CONTROL SHEET

Name of Document:	Venous Thromboembolism (VTE) Prophylaxis Policy for Community Hospital In-patients
Version:	6
File Location / Document Name:	ECCHO

Date Of This Version:	February 2019
Produced By (Designation):	Pharmacy and Medicines Management Team
Reviewed By:	Medicines Management Group
Synopsis And Outcomes Of Consultation Undertaken:	Changes relating to relevant committees/groups involved in ratification processes.
Synopsis And Outcomes Of Equality and Diversity Impact Assessment:	
Ratified By (Committee):-	Medicines Management Group
Date Ratified:	July 2019
Distribute To:	All ECCH Community Hospital Wards, contracted GPs
Date Due For Review:	August 2022
Enquiries To:	Pharmacy and Medicines Management Team
Approved by Appropriate Group/Committee **Approved by Policy Group** **Presented to IGC for information**	☐ Date: ☐ Date: ☐ Date: