Venous Thromboprophylaxis (VTE) Policy

Document Summary

The intention of this policy is to ensure that all adult patients and service users of Cumbria Partnership Foundation NHS Trust are assessed for risk of venous thrombosis embolism (VTE) on admission to hospital and receive adequate and appropriate anti thrombotic care to guard against the risk of unnecessary harm arising out of VTE. It also ensures this care activity forms a documented part of overall care.

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<thead>
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<th>DOCUMENT NUMBER</th>
<th>POL/001/065</th>
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<tr>
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<tr>
<td>ACCOUNTABLE DIRECTOR</td>
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<td>POLICY AUTHOR</td>
<td>Integrated Services Manager - Furness Locality</td>
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Important Note:
The Intranet version of this document is the only version that is maintained.

Any printed copies should therefore be viewed as “uncontrolled” and, as such, may not necessarily contain the latest updates and amendments.
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1 SCOPE

This Policy applies to all staff providing care within CPFT in patient services. The main target audience is Nursing Staff dealing with the clinical care of patients on a day to day basis, Medical staff who will be required to undertake the risk assessment and provide prescribing guidance on what to administer to patients and Pharmacy staff.

2 INTRODUCTION

Venous Thromboembolism (VTE) is a significant patient safety issue, as highlighted by the Independent Expert Working Group Report on the prevention of VTE (DH, 2007). It is well established that VTE is the number one cause of avoidable hospital mortality, with 10% of patients dying in hospital or within three months after admission from VTE acquired during a hospital stay. Effective measures to prevent and treat VTE are proven to exist. Yet, research shows that half of all patients at risk of hospital acquired VTE do not receive appropriate prophylaxis (Global VTE Prevention Forum, 2011) (Maynard).

This policy follows advice from the National VTE Exemplar Centre Network and evidence based guidance from the National Institute for Health and Clinical Excellence, Clinical Guideline 92 “Venous Thromboembolism – Reducing the Risk of VTE in Patients Admitted to Hospital” and the Map of Medicine, “VTE Risk Assessment (all patients)”. It takes account of guidance from the National Patient Safety Agency on maintaining the standard for risk assessment through audit. (National Patient Safety Agency, 2011)

3 STATEMENT OF INTENT

This Policy is designed to ensure a systematic process is in place which ensures that every Patient / Service User being admitted within CPFT inpatient facilities has a Venous Thromboembolism (VTE) risk assessment within 24 hours of direct admission, and where clinically indicated are prescribed thromboprophylaxis suitable to their personal risk and existing conditions.

4 DEFINITIONS

Venous thromboembolism: (VTE)

- Venous thrombosis is a condition in which a blood clot (thrombus) forms in a vein in any part of the venous system.
- The thrombus can reduce blood flow through the affected vein, causing pain and swelling.
- Venous thrombosis most commonly occurs in the 'deep veins' in the legs, thighs, or pelvis. This is known as a deep vein thrombosis (DVT).
- When a part or all of the thrombus in the deep vein breaks off from the site where it is created and travels through the venous system. This is known as an embolism.
A dislodged thrombus that travels to the lung is known as a pulmonary embolism (PE).

However, deep vein thrombosis (DVT) and PE are the most common manifestations of venous thrombosis. DVT and PE are known as venous thromboembolism (VTE).

**Thromboprophylaxis:** Thromboprophylaxis is the treatment to prevent blood clots forming in veins.

**Significantly reduced mobility:** bedbound, unable to walk unaided or likely to spend a substantial proportion of the day in bed or in a chair.

5 **DUTIES**

**Chief Executive**

The Chief Executive has board responsibility for promoting patient safety within Cumbria Partnership NHS Foundation Trust

**Medical Director**

The Medical Director has overall clinical responsibility for medical staff compliance with VTE guidance

**Medical Staff & Non-Medical Prescribers**

Medical Staff are responsible for;

- Initial risk assessment of patients
- Prescribing appropriate prophylaxis
- Review of prophylaxis
- Instigation of incident reporting of any VTE cases and participation in root cause analysis
- Participation in clinical audit and routine review of compliance with VTE guidance

**Pharmacist**

- Support the selection of appropriate pharmacological prophylaxis products for local use
- Review inpatient therapy to check that risk assessment has been undertaken and that the appropriate prescription-right medicine, right dose has been written
- Contribute to the medicines reconciliation process required to ensure the patient’s inpatient regimen is properly informed by the medicines they were taking at home
- Contribute to the training of healthcare team with particular focus on pharmacological issues and questions that may arise about concurrent prescribing
- Support clinical audit and routine review of compliance with VTE guidance
Professional Lead for Adult Nursing & Non-medical, Independent Prescribing

- The Professional Lead has overall clinical responsibility for Nursing staff compliance with VTE guidance
- Contribute to the widening of Nursing practice, especially around prescribing of medicines both as part of locally agreed protocols and as independent prescribing

Registered Nursing and Allied Health Professional Staff (AHP)

Registered nurses and AHP’s are responsible for;
- Provision of mechanical VTE prophylaxis
- Ensuring correct provision of information for patients, as required within their area of practice
- Ensuring patients, families or carers are competent to administer chemical prophylaxis on hospital discharge
- Ensuring initial risk assessment has been completed

6 CLINICAL ASSESSMENT AND INTERVENTIONS FOR VTE
Follow “Care Pathway” – Page 15 and “Overview of Care” – Page 16

- VTE assessment to be undertaken by a Medical Practitioner/Clinical Decision Maker (CDM), this should normally be during the admission clerking for a patient being directly admitted from home.
- When a patient is stepped down from the acute trust over the weekend/bank holiday, the VTE assessment undertaken by the acute trust can be applied for up to 72 hours providing the patient remains medically stable.
- Out of hours - should the patient’s condition deteriorate, a CHOC visit and an urgent assessment may be required and the VTE should form part of the clinical assessment by the CHOC clinician.
- Patients being stepped down from the acute trust should be transferred with a management plan in place that includes an up to date VTE assessment, it is the responsibility of the admitting clinician to ensure that this is in place before accepting the patient. A prescription for enoxoparin should be requested from the acute trust, prior to accepting the patient, to avoid any delay in the administration of the drug.
- For a patient admitted over the weekend /bank holiday by CHOC then the assessment would be undertaken by them as part of the admission process.

6.1 Service User risk assessment

Medical Staff /CDM will assess all patients /service users using the VTE risk assessment tool (see Appendix 1). The patient / service user will be reassessed for risk within 72 hours and during the in-patient stay if the patient / service user’s condition changes or weekly as a minimum.

Some of the known side effects for anti-psychotic medication (e.g. sedation, weight gain) are known risk factors for VTE. Relevant risk factors are contained in the risk assessment documents (see Appendix 2). The identification of two or more risk
factors during assessment indicates the service user is at ‘high risk’ of VTE. See also flowcharts contained in NICE, CG92 for advice on VTE risk in specific conditions – medicine, surgery, trauma, lower limb plaster casts, critical care and pregnancy http://www.nice.org.uk/nicemedia/live/12695/47197/47197.pdf

6.2 Service User information

On admission to the ward all patients/service users will receive a VTE patient information document advising on the prevention of thromboembolism “Help us “Stop the Clot” (Appendix 3) Nursing staff will be fully aware of the information contained within the service users information, enabling them to answer general questions that may arise.

Planning for discharge – Appendix 3

(Help us “Stop the Clot-Going Home” and /or Help Us “Stop the Clot” Going home with blood thinning medicine)

Offer patients and/or their families or carers verbal and written information on:
- signs and symptoms of DVT and 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 anti-embolism stockings, ensure that the patient:
- understands the benefits of wearing them
- understands the need for daily hygiene removal
- is able to remove and replace the stockings or has someone who can do this
- knows what to look for, such as skin marking, blistering or discolouration, particularly over heels and bony prominences
- knows who to contact if there is a problem

If discharged with pharmacological or mechanical VTE prophylaxis ensure that:
- the patient is able to use it or has someone who can do this
- the patient’s GP is notified.

6.3 Prophylactic measures to prevent VTE

These measures include the use of Low Molecular Weight Heparins prescribed in licensed prophylactic doses and graduated compression anti embolic stocking.
6.4 Pharmacological

6.4.1 Low molecular weight Heparins (LMWH)

Enoxaparin is the LMWH used in the CPFT Provider Services. The indications, cautions and contraindications for the use of Enoxaparin are contained in the British National Formulary (BNF). Bleeding history or a pathology increasing the risk of bleeding are the principal areas for caution.

- LMWHs should be considered for all service users
- Where prescribed for post surgical patients, LMWHs should normally be administered until the day of discharge from the acute hospital. On transfer to the Community Hospital / Step-up/Step-down Unit or Mental Health / Learning Disability inpatient services, patients should be reassessed for their continued risk of VTE and their level of mobility post operatively. The GP / Medical Staff are responsible for the decision to prescribe further anticoagulation therapies given the patient/ service users medical condition their ongoing risk on transfer, and any ongoing prescription advice from the acute hospital

VTE prophylaxis should be commenced as soon as possible after risk assessment has been completed. Continue until the service user is no longer at increased risk of VTE. It is important to document and report any adverse affects to the GP / Medical Staff and where appropriate complete an incident form.

6.4.2 Enoxaparin

Standard dose: is 40 mg s/c once a day. Inpatients with renal impairment (creatinine clearance <30 mls/hour) use a reduced dose of 20 mg s/c once daily.

Timing of treatment: Enoxaparin should not be given for 4-6 hours after surgery and only when excessive bleeding has been excluded. Inpatient ward areas will routinely give this at 1800 each day. If any other time is chosen then this must be clearly indicated and the Nursing Team informed. In patients admitted the day before surgery a pre-operative dose not later than 1800 may be given if indicated.

Measurement of bleeding: Enoxaparin is not reversed by Fresh Frozen Plasma (FFP). Treatment should be stopped until the cause of bleeding is identified and controlled. Senior advice should be sought. The platelet count and clotting screen should be checked. If there is no correctable cause then consider Protamine. 1 mg of Protamine will neutralize the effect of 1 mg of Enoxaparin. Maximum dose of Protamine is 50 mg.

Monitoring of Therapy: If Enoxaparin is continued for more than 5 days there is a small risk of the patient developing a Heparin-induced thrombocytopenia (HIT). The platelet count should be measured before treatment and after 5-7 days or if the patient develops a skin rash or other signs of an allergic reaction.

Duration of Therapy: Treatment should continue until mobility is no longer significantly reduced. Hip replacement and hip fracture patients should receive
prophylaxis for 28 days. Elective knee replacements should receive 14 days prophylaxis. Consider extending prophylaxis to 28 days post-operatively for higher risk patients who have had major cancer surgery in the abdomen or pelvis.

### 6.4.3 Rivaroxaban

This is only licensed for use in patients undergoing elective hip or knee replacement. **Standard dose:** Usual dose is 10 mg oral once daily.

**Monitoring of Therapy:** No routine monitoring is necessary.

**Duration of Therapy:** Treatment should be continued for 14 days for knee replacements and for 35 days for hip replacements.

### 6.4.4 Patients already having Antiplatelet Agents or Anticoagulants on Admission or needing them for Treatment

Consider offering additional mechanical or pharmacological VTE prophylaxis to patients who are having antiplatelet agents to treat other conditions and who are assessed to be at increased risk of VTE (see Appendix 1). Take into account the risk of bleeding and of comorbidities such as arterial thrombosis. If the risk of VTE outweighs the risk of bleeding, consider offering pharmacological VTE prophylaxis with Enoxaparin according to the reason for admission. If the risk of bleeding outweighs the risk of VTE, offer mechanical VTE prophylaxis.

Do not offer additional pharmacological or mechanical prophylaxis for VTE to patients who are taking warfarin or other Vitamin K antagonists and who are within their therapeutic range, providing anticoagulant therapy is continued. Seek haematology or pharmacy advice if treatment requires to be discontinued for surgery / procedure.

Do not offer additional pharmacological or mechanical VTE prophylaxis to patients who are having full anticoagulant therapy (for example, fondaparinux sodium, low molecular weight heparin (LMWH) or unfractionated heparin (UFH).

### 6.4.5 Reducing the Risk of Gastro-intestinal (GI) Bleed

If patients are receiving Enoxaparin or Rivaroxaban and are also concurrently prescribed aspirin / clopidogrel / non-steroidal anti-inflammatory drugs (NSAID), consider giving GI protections with proton pump inhibitors (PPI) or H2-Antagonists for the duration of Enoxaparin / Rivaroxaban treatment. Please contact pharmacy for further advice.

### 6.5 Mechanical Graduated compression

Following risk assessment Prescribers should decide whether pharmacological prophylaxis may be contraindicated and consideration should be given for knee or thigh high graduated compression anti embolic stockings to be administered. Where anti embolic stockings are considered, patients / service users should be measured for their application by appropriately trained and competent nursing staff as soon as
possible on admission to the ward. It is important to ensure that Stockings should be removed and changed to allow the patient to have their legs washed on a daily basis as a minimum requirement for hygiene purposes and to monitor for adverse events such as blisters, marking or skin deterioration. They should be reapplied as soon as possible and continue to be worn from the day of admission until the day of discharge. Accurate documentation of the assessment, application and monitoring of a patient requiring anti embolic stockings must be documented by the ward nursing staff in the patient's notes. (see Appendix 4 –VTE Risk Assessment Tool for Anti-embolism Stockings (AES) with Daily Assessment Chart).

E-learning on use of AES: [http://www.kingsthrombosiscentre.org.uk/cgi-bin/kingsthrombosis/centre.pl?_default_siteObject_siteObjectID=237183](http://www.kingsthrombosiscentre.org.uk/cgi-bin/kingsthrombosis/centre.pl?_default_siteObject_siteObjectID=237183)

### 6.5.1 Exceptions

Anti-embolic stockings must **not** be offered to patients:

- Admitted for stroke
- Admitted for cardiac failure
- With severe leg oedema or pulmonary oedema from congestive heart failure
- Admitted with suspected or proven arterial disease
- With local conditions in which stocking may cause damage, for example:
  - Fragile tissue paper skin dermatitis
  - Gangrene
  - Recent Skin Graft
- With known allergy to material of manufacture
- With central venous catheters who are ambulant
- Undergoing surgical procedure with local anaesthesia by local infiltration with no limitation of mobility
- Who are taking Vitamin K antagonists and who are within their therapeutic range, providing anticoagulant therapy is continued
- Who are having full anticoagulant therapy, for example fondaparinux sodium, low molecular weight heparin (LMWH), unfractionated heparin (UFH)

Anti-embolic stocking should not be routinely offered to patients:

- Admitted for terminal care or those commenced on end of life care pathway
- Undergoing a surgical procedure with local anaesthesia by local infiltration with no limitation of mobility
- With cancer having oncological treatment who are ambulant
6.5.2 Additional Considerations

Ensure that patients who need anti-embolism stockings have their legs measured and that the correct size of stocking is provided. Anti-embolism stockings should be fitted and patients / service users shown how to use them by staff trained in their use.

Ensure that patients who develop oedema or post-operative swelling have their legs re-measured and anti-embolism stockings refitted.

If arterial disease is suspected, seek expert opinion before fitting anti-embolism stockings.

Use anti-embolism stockings that provide graduated compression and produce a calf pressure of 14 – 15 mmHg.

**Encourage patients to wear their anti-embolism stockings day and night until they no longer have significantly reduced mortality.**

Remove anti-embolism stockings daily for hygiene purposes and to inspect skin condition. In patients with 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-embolism stockings if there is marking, blistering or discolouration of the skin, particularly over the heels and bone prominences or if the patient experiences pain or discomfort.

6.6 Nursing Care Plan

For an example of a nursing care plan for VTE, see Appendix 5

6.7 Audit

See NICE audit criterion for VTE audit at:
http://guidance.nice.org.uk/CG92/AuditSupport/doc/English

7 TRAINING

There is no mandatory training associated with this policy. Ad hoc training sessions may be indicated based on an individual’s training needs as defined within their annual appraisal or job plan.

There are a number of self-study, e-learning resources:

1) E-VTE

e-VTE is an e-learning resource for VTE developed by the Chief Medical Officer’s VTE Implementation Working Group (IWG) in partnership with e-Learning for
Healthcare (e-LfH). A resource for medical staff which can be found at http://e-lfh.org.uk/projects/vte/launch/

2) SECOND EDITION - VTE Prevention e-Learning module

This e-learning resource is designed to help nurses, pharmacists and junior doctors understand quickly the concept of hospital-associated venous thromboembolism, how to prevent it and to identify which steps of the prevention pathway are necessary to audit. The course is found at: http://www.kingsthrombosiscentre.org.uk/cgi-bin/kingsthrombosis/elearningdetail.pl?_default_siteObject_siteObjectID=246806

Key documents from the National VTE Prevention Programme can be accessed and downloaded, enabling participants to continue their learning after course completion. The course concludes with three challenging clinical cases that require risk assessment and then decision-making on appropriate thromboprophylaxis. On successful completion, participants receive a certificate for their records.

3) NICE care – preventing VTE

A course on the prevention of VTE from the Royal College of Nursing. This learning area has been primarily developed for student nurses, registered nurses, registered midwives and healthcare assistants who may be routinely dealing with patients at risk of developing venous thromboembolism (VTE). Student and registered nurses will also find this learning opportunity relevant for updating their own awareness of VTE, how it develops and how it can be prevented. Registered nurses and midwives may also wish to use this material to raise the awareness of colleagues for whom they have responsibility.

This learning opportunity is based on the NICE guideline, ‘Venous thromboembolism: reducing the risk’ and focuses primarily on understanding and preventing VTE, identifying patients at risk and includes an in-depth look at VTE risk assessments.

After completing all the sections in this learning area, the learner should be able to:

- understand what the acronym 'VTE' stands for
- describe the basic anatomy and physiology of VTE formation
- identify at least three kinds of 'typical' patient at risk of developing VTE
- understand when and how, to carry out a VTE risk assessment
- explain the difference between 'pharmacological' and 'mechanical' prophylaxis, and when to use which one
- describe the key points when fitting patients for anti-embolism stockings
- describe the key points when fitting patients for other anti-thromboembolic mechanical devices including intermittent pneumatic compression devices and footpumps
- describe the key points when talking to patients/carers about VTE risk and prevention.
The course can be accessed at: http://www.rcn.org.uk/development/practice/patient_safety/nice_care_preventing_ve
nousthromboemboli

4) E-learning on mechanical prophylaxis and heparin injections, resources for Nurses can be found at: http://www.kingsthrombosiscentre.org.uk/cgi-
bin/kingsthrombosis/centre.pl?_default_siteObject_siteObjectID=237183

5) Fifteen minute VTE prevention e-Learning module designed for hospital induction training programmes http://www.kingstrhombosiscentre.org.uk/induction/

6) Venous thromboembolism – learning@lunch Centre for Pharmacy Postgraduate Education (CPPE)

The overall aim of this programme is to support pharmacists and pharmacy technicians in advancing their knowledge and skills in relation to the prevention and treatment of venous thromboembolism (VTE) in the trust setting.

The programme builds on knowledge gained from undertaking the e-Learning for Health e-VTE programme and reading key national and local policies. It then considers practical issues such as implementation of your local VTE prevention and treatment guidelines and working with other healthcare professionals involved in this area. This programme is available to pharmacists and registered pharmacy technicians via www.cppe.ac.uk


8 MONITORING COMPLIANCE WITH THIS DOCUMENT

The table below outlines the Trust’s monitoring arrangements for this policy/document. The Trust reserves the right to commission additional work or change the monitoring arrangements to meet organisational needs.

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<th>Aspect of compliance or effectiveness being monitored</th>
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<th>Frequency of the monitoring activity</th>
<th>Group / committee which will receive the findings / monitoring report</th>
<th>Group / committee / individual responsible for ensuring that the actions are completed</th>
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<tr>
<td>VTE risk assessment &amp; thromboprophylaxis</td>
<td>NICE Quality Standards for VTE prevention</td>
<td>Pharmacist Matron</td>
<td>Annual</td>
<td>Safe Medicines Practice Group</td>
<td>Professional Lead for Adult Nursing</td>
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</table>
9 REFERENCES/ BIBLIOGRAPHY


10 RELATED POLICY

North Cumbria University Hospital NHS Trust (August, 2010) “Prevention of Venous Thromboembolism in Adults – Clinical Guideline” v. 1
Morecambe Bay University Hospital NHS Foundation Trust (June, 2010) “Protocol for Venous Thromboembolism Prophylaxis (deep vein thrombosis & pulmonary embolism) in Adult Patients” v.2

Policy and Procedures for the Physical Exam and Care of Service Users, May 2011 (CLPOL/001/012)
Care Pathway (NICE, CG92) -- see also—Overview of Care (next page)

Patient admitted to hospital

Assess VTE Risk

Assess bleeding Risk

Balance risks of VTE and bleeding
Offer VTE prophylaxis if appropriate.
Do not offer pharmacological VTE prophylaxis if patient has any risk factor for bleeding and risk of bleeding outweighs risk of VTE

Reassess risks of VTE and bleeding within 48 - 72 hours of admission and whenever clinical situation changes

FOR ALL PATIENTS

- Do not allow patients to become dehydrated unless clinically indicated.
- Encourage patients to mobilise as soon as possible
- Do not regard aspirin or other antiplatelet agents as adequate prophylaxis for VTE
### OVERVIEW OF CARE

<table>
<thead>
<tr>
<th>WHO</th>
<th>WHEN</th>
<th>WHAT</th>
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| **All patients**             | At admission                | Assess risk of VTE  
Assess risk of bleeding  
Offer patients verbal and written information on VTE (see patient leaflet in this document)  
Offer VTE prophylaxis if appropriate |
| **All patients**             | During Ward-based Care      | Reassess risks of VTE and bleeding  
Review VTE prophylaxis  
Monitor use of mechanical VTE prophylaxis (see stocking chart in this document)  
Keep patients hydrated and encourage them to mobilise as soon as possible |
| **All patients**             | Before discharge            | Offer information on signs and symptoms of DVT and PE  
Offer information on the importance of seeking medical help and who to contact if DVT, PE or other adverse event suspected |
| **Patients discharged with VTE prophylaxis** | Before discharge | Offer information on current use of duration of VTE prophylaxis to be used at home and who to contact for help  
Ensure patients are able to use the VTE prophylaxis at home, or have someone available to help them  
Offer information on signs and symptoms of adverse events related to VTE prophylaxis and who to contact for help  
Inform GP that patient has been discharged with VTE prophylaxis |
# Risk assessment tool for venous thromboembolism

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<th>Tick</th>
<th>Haemorrhage Risk</th>
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<tr>
<td>Aged over 60</td>
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<td>Haemophilia or other bleeding disorder</td>
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<tr>
<td>Previous DVT/PE</td>
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<td>Known platelet count of below &lt;75 x 10^9/l</td>
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<tr>
<td>Active cancer</td>
<td></td>
<td>Acute stroke in previous month</td>
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<td></td>
<td></td>
<td>(ischaemic or haemorrhagic)</td>
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</tr>
<tr>
<td>Acute or chronic lung disease</td>
<td></td>
<td>BP (over 200 systolic or over 120 diastolic)</td>
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<tr>
<td>Acute or chronic inflammatory disease</td>
<td></td>
<td>Severe liver disease</td>
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<tr>
<td>Chronic heart failure</td>
<td></td>
<td>Severe renal disease</td>
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<td>Lower limb paralysis (excluding stroke)</td>
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<td>Active bleeding</td>
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<tr>
<td>Acute infection</td>
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<td>Major bleeding risk (existing anticoag/platelet therapy)</td>
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<tr>
<td>BMI greater than 30Kg/m2</td>
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<td>Neuro, spinal or eye surgery</td>
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<td></td>
<td></td>
<td>Other procedures with high bleeding risk</td>
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<td></td>
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<td>Lumbar puncture/spinal/epidural in previous 4 hours</td>
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This list is not exhaustive, any additional risk factors or clinical comments

Thromboprophylaxis:  

<table>
<thead>
<tr>
<th>IS to be given</th>
<th>IS NOT to be given</th>
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<tr>
<td>Compare VTE risk against haemorrhagic risk and determine if intervention is indicated</td>
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<td>If no boxes are ticked, no intervention is indicated, re assess 48 to 72 hours after initial assessment.</td>
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Recommended prophylaxis

Enoxaparin 40 mgs once daily at 6pm

(If CrCl below 30 mls/min use Enoxaparin 20 mgs)

Refer to Trust guidelines for further information

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Reassessment for venous thromboembolism

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APPENDIX 2

### PATIENTS WHO ARE AT RISK OF VTE

<table>
<thead>
<tr>
<th>MEDICAL PATIENTS</th>
<th>SURGICAL PATIENTS &amp; PATIENTS WITH TRAUMA</th>
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| • If mobility significantly reduced for equal/more than 3 days **or**
  • If expected to have ongoing reduced mobility relative to normal state plus any VTE risk factor |
| • If total anaesthetic + surgical time equal / more than 90 minutes **or**
  • If surgery involves pelvis or lower limb and total anaesthetic + surgical time equal / more than 60 minutes **or**
  • If acute surgical admission with inflammatory or intra-abdominal condition **or**
  • If expected to have significant reduction in mobility **or**
  • If any VTE risk factor present |

### VTE RISK FACTORS

- Active Cancer or Cancer Treatment
- Age above 60 years
- Critical Care Admission
- Dehydration
- Known Thrombophilias
- Obesity (BMI above 30 kg/m²)
- One or more significant medical comorbidities (for example: heart disease; metabolic, endocrine or respiratory pathologies; acute infectious diseases; inflammatory conditions)
- Personal history or fist-degree relative with a history of VTE
- Use of HRT
- Use of oestrogen-containing contraceptive therapy
- Varicose veins with phlebitis

For women who are pregnant or have given birth within the previous 6 weeks – consider offering LMWH (or UFH – for women with renal failure) if one or more risk factors present. Before offering VTE prophylaxis assess the risks and benefits; discuss VTE prophylaxis with the woman and with healthcare professionals who have knowledge of the proposed method of prophylaxis during pregnancy and post partum; plan timing of VTE prophylaxis to minimize risk of bleeding.

### PATIENTS WHO ARE AT RISK OF BLEEDING

**All Patients** who have any of the following.

- Active bleeding
- Acquired bleeding disorders (such as acute liver failure)
- Concurrent use of anticoagulants known to increase the risk of bleeding (such as warfarin with INR above 2)
- Lumbar puncture / epidural / spinal anaesthesia within the previous 4 hours or expected within the next 12 hours
- Acute stroke
- Thrombocytopenia (platelets less than 75 x 10⁹/l)
- Uncontrolled systolic hypertension (equal or greater 230/120 mmHg)
- Untreated inherited bleeding disorders (such as haemophilia or von Willebrand’s disease)
APPENDIX 3

Help us ‘Stop the Clot’

If you are unwell and are not moving around as much as normal, your risk of developing blood clots, (otherwise known as venous thromboembolism or VTE) may be higher than normal. Your doctor will assess your risk of VTE - you may be prescribed injections or stockings to reduce your risk. However there are things that you can do to help yourself.

1. **Get out of bed as soon as you can.**
   Staying in bed makes your muscles weak. The sooner you get out of bed the sooner you will get better.

2. If you have been told to stay in bed **exercise your legs** every hour
   - pump each foot up and down briskly for 30 seconds by moving your ankle
   - move each foot in a circular motion for 30 seconds
   - bend and straighten your legs – one leg at a time, three times for each leg.

3. **Take deep breaths.** Every hour, sit up straight and take a couple of really deep breaths, in and out.

4. **Drink plenty.** Unless your doctor has told you otherwise, you should drink a glass of water (or squash) every hour throughout the day.

If you have any questions about VTE, please ask the doctors or nurses caring for you.
Help us ‘Stop the Clot’
Going Home

When you were admitted to hospital, we told you that your risk of developing blood clots (otherwise known as venous thromboembolism or VTE) may be higher than normal.

Now that you are up and about your risks are less, but research shows that some people may develop a blood clot up to 3 months after they go home. Here are things that you can do to help prevent a blood clot when you are at home.

1. **Keep active**
   Get some exercise every day. If you find this difficult, make sure that you can carry on with your leg exercises.

2. **Drink plenty**
   Unless your doctor has told you otherwise, you should drink a glass of water (or squash) every hour throughout the day.

3. **Don’t smoke**
   Speak to your GP or Practice Nurse or Community Pharmacist for help to stop smoking.
   For expert advice and tips visit: [www.smokefree.nhs.uk](http://www.smokefree.nhs.uk)
   or call 0800 022 4 332

4. **Speak to your GP** if you have any questions about VTE.

5. **Contact your GP/CHOC urgently if:**
   - You develop pain, swelling or redness in a leg, or
• You become suddenly short of breath, or have chest pain.
Help us ‘Stop the Clot’
Going Home with blood thinning medicine

When you were admitted to hospital, we told you that your risk of developing blood clots (otherwise known as venous thromboembolism or VTE) may be higher than normal.

Now that you are up and about your risks are less, but research shows that some people may develop a blood clot up to 3 months after they go home. Here are things that you can do to help prevent a blood clot when you are at home.

1. Have your “blood thinning” injection every day. If you have been given stockings, wear them every day. If you are not sure how long to take the medicine for, or how long to wear the stockings for, please ask your GP.

2. Keep active
Try to get some daily exercise. If this is difficult, make sure that you can carry on with your leg exercises.

3. Drink plenty
Unless your doctor has told you otherwise, you should drink a glass of water (or squash) every hour throughout the day.

4. Don’t smoke
Speak to your GP or Practice Nurse or Community Pharmacist for help to stop smoking.
For expert advice and tips visit: www.smokefree.nhs.uk
or call 0800 022 4 332

5. Speak to your GP if you have any questions about VTE

6. Contact your GP/CHOC urgently if:
   - you develop pain, swelling or redness in a leg, or
   - you become suddenly short of breath, or have chest pain.
### APPENDIX 4

**VTE Risk Assessment Tool for Anti-Embolism Stockings (AES)**

<table>
<thead>
<tr>
<th>Ward:</th>
<th>Date:</th>
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</thead>
<tbody>
<tr>
<td>VTE Risk Assessment completed: YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

If NO, please ensure it is completed by Doctor / Nurse

---

**Can be completed by all Nursing Staff including HCAs who have been trained by the supplier how to measure and apply the stockings**

**CONTRAINDICATIONS**

<table>
<thead>
<tr>
<th>Contraindications to Anti-Embolic Stockings (AES)</th>
<th>Tick</th>
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</thead>
<tbody>
<tr>
<td>Severe PVD or vascular surgery</td>
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<tr>
<td>Insensate leg (numbness) due to local anaesthesia block, neuropathy, diabetes etc.</td>
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<td>Cellulitis</td>
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<td>Dermatitis</td>
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<td>Massive oedema</td>
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<td>Leg / foot ulcers</td>
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<td>Gangrene</td>
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<td>Fragile “tissue paper” skin</td>
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<td>Cardiac failure</td>
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<td>Major limb deformity preventing correct fit</td>
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<td>Allergy to the material of manufacture</td>
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</table>

**If any contraindications present – Do not apply stockings – Seek Medical Advice and Document on Form /Nursing / Medical Notes**

Have you given patient information leaflet “Stop the Clot” | YES | NO |

Signed by Assessor: Date: 

Ensure the reason for all actions are explained to the patient

Stockings MUST be removed and legs washed at least daily
Skin must be assessed and condition recorded
Stockings should then be re-applied
Clean stockings should be re-applied every 3rd day

### Daily Assessment Chart

<table>
<thead>
<tr>
<th>Ward</th>
<th>Date</th>
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<th>Right Leg Measure</th>
<th>Size Applied</th>
<th>Comment on condition including skin evaluation noting any oedema and leg evaluation</th>
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Clean stockings should be re-applied every 3rd day

Can be completed by all Nursing Staff including HCAs who have been trained by the supplier how to measure and apply the stockings

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APPENDIX 5 – EXAMPLE OF NURSING CARE PLAN FOR VTE

Problem Mrs ***** is potentially at risk of VTE due to hospitalisation
Goal To minimise her risk of VTE

Nursing interventions:

- Provide verbal and written information regarding risk of VTE and thromboprophylaxis
- Assess risk using VTE risk assessment tool or ensure doctor has completed the risk assessment
- Ensure risk assessment outcome has been documented in patient records
- Document which thromboprophylaxis modalities are appropriate depending on the level of risk
- Check and record if there are any contraindications to thromboprophylaxis
- Ensure thromboprophylaxis is prescribed on the patient’s drug chart
- Administer or apply thromboprophylaxis as per drug chart
- Measure and document size of her foot/calf/thigh/length of leg as appropriate depending on which thromboprophylaxis modality is used and size of stocking/sleeve or foot cuff applied and follow manufacturer’s instructions regarding washing
- Consider the patient’s cultural and spiritual beliefs and gain consent prior to administering LMWH as it is porcine derived or seek alternative from doctor
- Encourage mobilisation (if medically fit) and leg and deep breathing exercises (refer to physiotherapist if necessary)
- Make clinical observations 4–6 hourly (blood pressure, pulse, respirations) and observe her legs for signs of DVT
- Check for side-effects of thromboprophylaxis and report immediately to doctor (including checking skin integrity and circulation)
- Inform the patient that she should watch for signs and symptoms of VTE or adverse effects from thromboprophylaxis and report them to a clinician immediately
- If the patient’s VTE risk factors change, ensure that her risk is reassessed as soon as possible
- Document date and time when mechanical thromboprophylaxis is removed
• Ensure the patient's VTE risk on discharge is considered and decide whether or not thromboprophylaxis needs to be continued and, if so, for how long

• If the patient is discharged with LMWH then ensure patient or significant other is taught to administer injections (or community services are informed to administer) and that provision of a sharp’s bin is included in the prescription (Inform Patient that Community Services will dispose of sharp's bin.)

• Other........

Evaluation date: ........