Venous Thromboembolism Policy (VTE)

**DOCUMENT CONTROL:**

<table>
<thead>
<tr>
<th>Version:</th>
<th>2.1</th>
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</thead>
<tbody>
<tr>
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<td>Clinical Effectiveness Committee</td>
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<td>Date ratified:</td>
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</tr>
<tr>
<td>Name of originator/author:</td>
<td>Modern Matron St John’s Hospice</td>
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<td>Target Audience</td>
<td>Trust wide – All staff in inpatient areas (DCIS/Adults/Forensics/Learning Disabilities)</td>
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<tr>
<td>SECTION</td>
<td>PAGE NO</td>
</tr>
<tr>
<td>--------------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>1. INTRODUCTION</td>
<td>4</td>
</tr>
<tr>
<td>2. PURPOSE</td>
<td>4</td>
</tr>
<tr>
<td>3. SCOPE</td>
<td>4</td>
</tr>
<tr>
<td>4. RESPONSIBILITIES, ACCOUNTABILITIES AND DUTIES</td>
<td>4</td>
</tr>
<tr>
<td>4.1 Chief Executive</td>
<td>4</td>
</tr>
<tr>
<td>4.2 Medical Director</td>
<td>5</td>
</tr>
<tr>
<td>4.3 Medical Staff</td>
<td>5</td>
</tr>
<tr>
<td>4.4 Matron/Ward Manager</td>
<td>5</td>
</tr>
<tr>
<td>4.5 All Staff</td>
<td>5</td>
</tr>
<tr>
<td>5. PROCEDURE/IMPLEMENTATION</td>
<td>5</td>
</tr>
<tr>
<td>5.1 Guidance</td>
<td>5</td>
</tr>
<tr>
<td>5.2 Assessing the risk of VTE</td>
<td>5</td>
</tr>
<tr>
<td>5.2.1 All Patients within DCIS</td>
<td>5</td>
</tr>
<tr>
<td>5.2.2 Adult Mental Health In-Patient Services/Forensics</td>
<td>6</td>
</tr>
<tr>
<td>5.3 Reducing the risk of VTE</td>
<td>7</td>
</tr>
<tr>
<td>5.4 Using VTE prophylaxis</td>
<td>7</td>
</tr>
<tr>
<td>5.4.1 Mechanical VTE prophylaxis</td>
<td>7</td>
</tr>
<tr>
<td>5.4.2 Anti-embolism stockings</td>
<td>7</td>
</tr>
<tr>
<td>5.4.3 Foot impulse devices and intermittent pneumatic compression devices</td>
<td>8</td>
</tr>
<tr>
<td>5.4.4 Pharmacological VTE prophylaxis</td>
<td>8</td>
</tr>
<tr>
<td>5.4.4.1 Principles of Pharmacological VTE prophylaxis</td>
<td>8</td>
</tr>
<tr>
<td>5.4.4.2 Choice of LMWH</td>
<td>9</td>
</tr>
<tr>
<td>5.4.4.3 Dose recommendations</td>
<td>9</td>
</tr>
<tr>
<td>5.4.4.4 Monitoring requirements</td>
<td>10</td>
</tr>
<tr>
<td>5.5 All patients</td>
<td>10</td>
</tr>
<tr>
<td>5.5.1 All patients</td>
<td>10</td>
</tr>
<tr>
<td>5.5.2 Patients with central venous catheters</td>
<td>11</td>
</tr>
<tr>
<td>5.5.3 Patients in palliative care</td>
<td>11</td>
</tr>
<tr>
<td>5.5.4 Day Surgery Patients</td>
<td>11</td>
</tr>
<tr>
<td>5.5.5 Medical patients in whom pharmacological VTE prophylaxis is contra-indicated</td>
<td>12</td>
</tr>
<tr>
<td>5.5.6 Patients taking antiplatelets and anticoagulants</td>
<td>12</td>
</tr>
<tr>
<td>5.5.7 Patients with uncontrolled bleeding</td>
<td>12</td>
</tr>
<tr>
<td>5.6 Patient information and planning for discharge</td>
<td>12</td>
</tr>
<tr>
<td>5.6.1 Patient information</td>
<td>12</td>
</tr>
<tr>
<td>5.6.2 Planning for discharge</td>
<td>13</td>
</tr>
<tr>
<td>6. TRAINING IMPLICATIONS</td>
<td>14</td>
</tr>
<tr>
<td>7. MONITORING ARRANGEMENTS</td>
<td>14</td>
</tr>
<tr>
<td>8. EQUALITY IMPACT ASSESSMENT SCREENING</td>
<td>14</td>
</tr>
<tr>
<td>8.1 Privacy, Dignity and Respect</td>
<td>14</td>
</tr>
</tbody>
</table>
8.2 Mental Capacity Act

9 LINKS TO ANY ASSOCIATED DOCUMENTS

10 REFERENCES

11 APPENDICES
   Appendix 1 – Risk Assessment for Venous Thromboembolism (VTE)
   Appendix 2 – Trust VTE Information Leaflet
1. INTRODUCTION

In January 2010 the National Institute for Health and Clinical Excellence (NICE) launched an updated guideline “Venous thrombo-embolism: reducing the risk (VTE)” (CG-92/2010).

VTE is a condition in which a blood clot (thrombus) forms in a vein. It most commonly occurs in the deep veins of the legs; this is called deep vein thrombosis. The thrombus may dislodge from its site of origin to travel in the blood – a phenomenon called embolism.

VTE is an important cause of death in hospital patients and treatment of non-fatal symptomatic VTE and related long-term morbidities is associated with considerable cost to the health service.

The risk of developing VTE depends on the condition and/or procedure for which the patient is admitted and on any predisposing risk factors (such as age, obesity and concomitant conditions).

This Policy makes recommendations on assessing and reducing the risk of VTE in patients in hospital. The recommendations take in to account the potential risks of the various options for prophylaxis and patient preferences.

2. PURPOSE

The purpose of this document is to set out the organisational arrangements for implementing national best practice in relation to VTE. This policy offers best practice advice on reducing the risk of VTE in patients admitted to hospital and provides guidance for the prevention of VTE based on recommendations in NICE clinical guideline 92.

3. SCOPE

This policy applies to all staff within the inpatient areas who undertake VTE risk assessments and staff involved in the care of patients at risk of VTE.

The Older People’s Mental Health Business Division has a separate Standing Operating Procedure (SOP) for VTE and staff within this Business Division should refer to this for guidance.

Healthcare professionals should give patients verbal and written information on the following, as part of their discharge plan:

- The signs and symptoms of DVT and PE
- The correct use of prophylaxis at home
- The implications of not using the prophylaxis correctly.

4. RESPONSIBILITIES, ACCOUNTABILITIES AND DUTIES

4.1 Chief Executive

The Chief Executive is responsible for making arrangements to support the safe and effective implementation, monitoring and review of this policy.
4.2 Medical Director

The Medical Director is responsible for the implementation and monitoring of the policy.

4.3 Medical Staff

Consultants and Medical Staff are responsible for the safe and effective implementation and monitoring of this policy. In addition ensure VTE risk assessment completed within 24 hours of admission to the ward and as the patient’s condition changes.

4.4 Matron/Ward Manager

The Matron/Ward Manager are responsible for the safe and effective implementation of this policy. In addition:

- Monitoring compliance with VTE risk assessment within their service area.
- Monitoring compliance relating to staff training and competency outlined in this policy.

4.5 All Staff

All staff are responsible for:

- Ensuring that patients in their care have been assessed for their risk of VTE.
- Ensure VTE documentation is accurate and up-to-date.
- Where a patient’s assessed risk is changing, they receive information on their risk of VTE and methods of prevention on admission and as part of the discharge process.
- Ensure escalation to the medical staff regarding any omissions in VTE risk assessment and treatment.

The responsible Trust Committee is the Clinical Effectiveness Committee which is a sub group of the Clinical Governance Group.

5. PROCEDURE/IMPLEMENTATION

5.1 Guidance

The following guidance is based on the best available evidence.

Throughout this guidance “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.

5.2 Assessing the Risk of VTE

5.2.1 All Patients within Doncaster Integrated Community Services

Assess all patients on admission to identify those who are at increased risk of VTE:-
• All inpatients >18 years must undergo a mandatory risk assessment for the prevention of VTE.
• The risk assessment must be completed by a doctor or nurse and filed in the medical notes (Appendix 1).
• The risk assessment should be undertaken on admission to hospital or at pre-operative assessment (if undergoing elective surgery) and again if the patient’s clinical condition changes.
• The clinical decision on how to manage the risk of venous thrombo-embolism will be based on an assessment of the risk of VTE against the risks of preventative treatment for each individual patient and the decision will be informed by available published evidence. Following this the pharmacological and mechanical prophylaxis should be prescribed.

Regard patients as being at increased risk of VTE if they:
• Have had or are expected to have significantly reduced mobility for 3 days or more or
• Are expected to have on-going reduced mobility relative to their normal state and have one or more of the risk factors as shown in box 1 below.

**Box 1 – Risk factors for VTE**

- Age over 60 years
- Active cancer or cancer treatment
- Acute or chronic lung disease
- Acute or chronic inflammatory disease
- Chronic heart failure
- Acute infectious disease, eg pneumonia
- Dehydration
- Known thrombophilia
- Obesity (body mass index (BMI) over 30 kg/m2)
- Lower limb paralysis (excluding aortic stroke)
- Personal history or first-degree relative with a history of VTE
- Use of oestrogen-containing contraceptive therapy/hormone replacement therapy
- Varicose veins with phlebitis
- Injecting illicit drugs users

Reassess patient’s risks of bleeding and VTE within 24 hours of admission and whenever the clinical situation changes, to:
• Ensure that the methods of VTE prophylaxis being used are suitable.
• Ensure that VTE prophylaxis is being used correctly.
• Identify adverse events resulting from VTE prophylaxis.

### 5.2.2 Adult Mental Health In-Patient Services/Forensics

As the patients admitted to the Mental Health In-Patient Wards are generally fully mobile and physically fit, a risk assessment of the prevention of DVT will only need to be completed if the patient has any of the risk factors as detailed in Section 5.2.1 above.

- The risk assessment must be completed by a doctor or qualified nurse and
filed in the patient’s records. (Appendix 1)

- Advice is to be sought from the District Nursing Team with regard to the management of the identified risk.
- A care plan will be put into place giving clear guidance to clinical staff as to how the risk it to be managed.
- The risk assessment is to be reviewed if the patient’s clinical condition changes.
- A VTE assessment must be completed for all patients prior to ECT

5.3 Reducing the Risk of VTE

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.

Consider a referral for temporary inferior vena caval filters to patients who are at very high risk of VTE (such as patients with a previous VTE event or an active malignancy) and for whom mechanical and pharmacological VTE prophylaxis are contraindicated.

5.4 Using VTE Prophylaxis

5.4.1 Mechanical VTE Prophylaxis

Base the choice of mechanical VTE prophylaxis on individual patient factors including clinical condition, surgical procedure and patient preference. Choose any one of:

- Anti-embolus stockings (thigh or knee high).
- Foot impulse devices.
- Intermittent pneumatic compression devices.

5.4.2 Anti-embolism Stockings – Need to be prescribed

Do not offer anti-embolism stockings to patients who have:
- Suspected or proven peripheral arterial disease, eg absent pedal pulses.
- Peripheral arterial bypass grafting.
- Peripheral neuropathy or other causes of sensory impairment.
- Any local conditions in which stockings may cause damage, for example fragile “tissue paper” skin, dermatitis, gangrene or recent skin graft.
- Known allergy to material or manufacture.
- 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 judgment when applying anti-embolism stockings over venous ulcers or wounds.

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 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 re-fitted.

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 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-embolism stockings if there is marking, blistering or discoloration of the skin, particularly over the heels and bony prominences, or if the patient experiences pain or discomfort. If suitable, offer a foot impulse or intermittent pneumatic compression device as an alternative.

Show patients how to use anti-embolism stockings correctly and ensure they understand that this will reduce their risk of developing VTE.

Monitor the use of anti-embolism stockings and offer assistance if they are not being worn correctly.

5.4.3 Foot Impulse Devices and Intermittent Pneumatic Compression Devices

Do not offer foot impulse or intermittent pneumatic compression devices to patients with a known allergy to the material of manufacture.

Encourage patients on the ward who have foot impulse or intermittent pneumatic compression devices to use them for as much of the time as is possible and practical, both when in bed and when sitting in a chair.

5.4.4 Pharmacological VTE Prophylaxis

5.4.4.1 Principles of Pharmacological VTE Prophylaxis

Assess all patients for risk of bleeding before offering pharmacological VTE prophylaxis. Prescribers should consult the summary of product characteristics for the pharmacological VTE prophylaxis being used or planned for further details and individual drug contra-indications.

Do not offer pharmacological VTE prophylaxis to patients with any of the risk factors for bleeding shown in box 2, unless the risk of VTE outweighs the risk of bleeding.
Box 2 – Risk factors for bleeding

- Untreated inherited bleeding disorders (such as haemophilia and von Willebrand’s disease)
- Acute stroke in previous month (haemorrhagic or ischaemic)
- Uncontrolled systolic hypertension (230/120 mmHg or higher)
- Severe liver disease (prothrombin time above normal or known varices)
- Major bleeding risk, existing anticoagulant therapy
- Thrombocytopenia (platelets less than 75 x 109/l)
- Active bleeding

5.4.4.2 Choice of Low Molecular Weight Heparin (LMWH)

Different LMWH has been chosen by the acute Trusts working in the different localities of RDaSH. The following are the first choice LMWH in each of the localities [as at February 2015]

- Doncaster area - Dalteparin
- Rotherham area - Tinzaparin
- Scunthorpe area - Enoxaparin

Fondaparinux Sodium should be used in individuals who are allergic to Heparin.

5.4.4.3 Dose Recommendations

Dalteparin

Prophylaxis for Medical and Surgical Patients

<table>
<thead>
<tr>
<th>eGFR &gt; 20</th>
<th>eGFR &lt; 20 ml/min*</th>
</tr>
</thead>
<tbody>
<tr>
<td>5000 units EVE</td>
<td>2500 units EVENING</td>
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</tbody>
</table>

*This lower dose should also be used in all those with evidence of acute kidney injury (oliguria over 12 hours or doubling or serum creatinine) – including obese patients.

Prophylaxis in Extremes of Body Weight (unlicensed)

<table>
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<th>Weight (kg)</th>
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<tr>
<td>&lt;46</td>
<td>2500 units EVENING</td>
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<tr>
<td>≥120-&lt;150</td>
<td>7500 units EVENING</td>
</tr>
<tr>
<td>≥150</td>
<td>5000 units BD</td>
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</tbody>
</table>

Tinzaparin

Tinzaparin

It is administered subcutaneously once daily until patients no longer significantly immobile, generally 5-7 days.

Extended duration is recommended after some surgical procedures, e.g. Orthopaedic (hip and knee replacement and hip fracture) and patients undergoing abdominal and pelvic surgery for cancer.

Contraindications to Tinzaparin

See Risk Assessment form Appendix 1

Dose of Tinzaparin
<table>
<thead>
<tr>
<th>eGFR</th>
<th>Weight &gt; 20 mL/minute</th>
<th>&lt;20 mL/minute</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30 – 49 kg 2500 units OD</td>
<td>1st dose 2500 units OD*</td>
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<tr>
<td>&gt;50kg</td>
<td>4500 units OD</td>
<td>3500 units OD</td>
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</table>

Consider 50 units/kg at extremes of weight, e.g less than 30kg or more than 130kg.
* Continue with 2500units once daily with daily monitoring of renal function and bleeding time.

**Enoxaparin**

The dose is not weight related and is prescribed at Enoxaparin 20mg or 40mg subcutaneously once daily.

**Mild or no renal impairment (eGFR>30) – Enoxaparin 40mgs OD Moderate renal impairment (eGFR 15-30) – Enoxaparin 20mgs OD**

**Alternatives to Tinzaparin/Dalteparin/Enoxaparin**

All low molecular weight Heparins are derived from porcine origin. Alternatives may be considered following discussion with the haematologists.

Fondaparinux 2.5 mg daily SC

### 5.4.4.4 Monitoring requirements

**Investigations prior to initiating a LMWH**

Before prescribing a LMWH the following should be checked: Full Blood Count (FBC), INR + APTT

Urea and Electrolytes (U&E) and eGFR Liver Function Test (LFT’s)

**On-going Monitoring**

All patients should have a baseline platelet count prior to starting treatment. This should be repeated very 2-4 days from days 4-14 of treatment. Patients who have received Heparin in the last 100 days should have a platelet count 24 hours after starting LMWH.

LMWH’s can cause hyperkalaemia. The risk appears to increase with increased duration of therapy. Patients at increased risk include: Patients with diabetes mellitus, chronic renal failure, acidosis, raised plasma potassium, or those on potassium sparing diuretics, ACE Inhibitors. Plasma Potassium concentration should be monitored in patients at increased risk prior to starting treatment and regularly thereafter, particularly if treatment is to be continued for longer than 7 days.

Routine monitoring or doe adjustment of IMWH is not required beyond 14 days of prescribing.

### 5.5 All Patients

#### 5.5.1 All Patients

Offer pharmacological VTE prophylaxis to patients assessed to be at increased
risk of VTE.

Start pharmacological VTE prophylaxis as soon as possible after risk assessment has been completed. Continue until the patient is no longer at increased risk of VTE.

5.5.2 Patients with Central Venous Catheters

Do not routinely offer pharmacological or mechanical VTE prophylaxis to patients with central venous catheters who are ambulant.

Consider offering pharmacological VTE prophylaxis to patients with central venous catheters who are at increased risk of VTE (see section 5.2.0).

5.5.3 Patients in Palliative Care

Consider offering pharmacological VTE prophylaxis to patients in palliative care who have potentially reversible acute pathology. Take in to account potential risks and benefit and the views of patients and their families and/or carers.

Do not routinely offer pharmacological or mechanical VTE prophylaxis to patients admitted for terminal care or those commenced on an end-of-life care pathway.

Review decisions about VTE prophylaxis for patients in palliative care daily, taking in to account the view of patients, their families and/or carers and the multidisciplinary team.

5.5.4 Day Surgery Patients

Offer VTE prophylaxis to patients undergoing Day Surgery who are assessed to be at increased risk of VTE (see Appendix 1)

- Start mechanical VTE prophylaxis at admission. Choose any one of:
- Anti-embolism stockings (thigh or knee length)
- Foot impulse devices
- Intermittent pneumatic compression devices (thigh or knee length)
- Continue mechanical VTE prophylaxis until the patient no longer has significantly reduced mobility.
- Add pharmacological VTE prophylaxis for patients who have low risk of major bleeding, taking into account individual patient factors and according to clinical judgment.

Choose any one of:

- LMWH
- UFH (for patients with renal failure)

If the patient is expected to have significantly reduced mobility after discharge, continue pharmacological VTE prophylaxis, generally for 5-7 days.
5.5.5 Patients in whom Pharmacological VTE Prophylaxis is Contra-indicated

Consider offering mechanical VTE prophylaxis to patients in whom pharmacological VTE prophylaxis is contraindicated.

5.5.6 VTE Prophylaxis and actions to be taken if patients taking antiplatelets and anticoagulants for other conditions.

<table>
<thead>
<tr>
<th>Antiplatelets/Anticoagulants</th>
<th>Actions to be taken regarding prophylaxis and interacting medicines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin</td>
<td>Medical: Prescribe LMWH; Surgical: Discontinue aspirin 7 days before surgery. Prescribe LMWH</td>
</tr>
<tr>
<td>Clopidogrel</td>
<td>Medical: Prescribe LMWH; Surgical: Discontinue Clopidogrel 7 days before surgery except for patients prescribed for percutaneous coronary stents, for whom before considering surgery, seek advice from Cardiologist/Haematologist</td>
</tr>
<tr>
<td>Prasugrel</td>
<td>Medical: Prescribe LMWH; Surgical: Discontinue Clopidogrel 7 days before surgery except for patients prescribed for percutaneous coronary stents, for whom before considering surgery, seek advice from Cardiologist/Haematologist</td>
</tr>
<tr>
<td>Vitamin K Antagonists</td>
<td>Medical: Do not prescribe LMWH; Surgical: Bridging with LMWH required. See perioperative management of patients taking oral anticoagulants</td>
</tr>
<tr>
<td>Unfractionated Heparin LMWH</td>
<td>Medical: Do not prescribe LMWH; Surgical: Bridging with LMWH required. See perioperative management of patients taking oral anticoagulants</td>
</tr>
<tr>
<td>Fondaparinux</td>
<td>Medical: Do not prescribe LMWH; Surgical: Bridging with LMWH required. See perioperative management of patients taking oral anticoagulants</td>
</tr>
</tbody>
</table>

5.5.7 Uncontrolled bleeding

In the event of uncontrolled bleeding contact the ambulance service and arrange transfer to the local acute hospital.

5.6 Patient Information and Planning for Discharge

5.6.1 Patient Information

Be aware that heparins are of animal origin and this may be of concern to some patients with certain religious beliefs. For patients who have concerns about using animal products, consider offering synthetic alternatives (Fondaparinux sodium) based on clinical judgement and after discussing their suitability, advantages and disadvantages with the patient. This should be documented in the patients record

Patients (and relatives and carers as appropriate) should have the
opportunity to be involved in decisions regarding thrombo-prophylaxis for the prevention of VTE.

Before starting VTE prophylaxis, offer patients and/or their families or carers the VTE information leaflet (Appendix 2) which provides written information on:

- The risks and possible consequences of VTE.
- The importance of VTE prophylaxis and its possible side-effects.
- The correct use of VTE prophylaxis (for example, anti-embolism stockings, foot impulse or intermittent pneumatic compression devices).
- How patients can reduce their risk of VTE (such as keeping well hydrated and, if possible, exercising and becoming more mobile).

Staff will ensure information about the risk of VTE is provided in a format to meet the patients individual requirements

5.6.2 Planning for Discharge

As part of the discharge plan, ensure that the VTE information leaflet has been given to patients and/or carers which provides written information on:

- The signs and symptoms of deep vein thrombosis and pulmonary embolism.
- The correct and recommended duration of use of VTE prophylaxis at home (if discharged with prophylaxis).
- The importance of using VTE prophylaxis correctly and continuing treatment for the recommended duration (if discharged with prophylaxis).
- The signs and symptoms of adverse events related to VTE prophylaxis (if discharged with prophylaxis).
- The importance of seeking help and who to contact if they have any problems using the prophylaxis (if discharged with prophylaxis).
- The importance of seeking medical help and who to contact if deep vein thrombosis, pulmonary embolism or other adverse events are suspected.
- Refer to substance misuse services if required

Ensure that patients who are discharged with anti-embolism stockings:

- Understand the benefits of wearing them.
- Understand the need for daily hygiene removal.
- Are able to remove and replace them, or have someone available who will be able to do this for them.
- Know what to look for, such as skin marking, blistering or discoloration, particularly over the heels and bony prominences.
- Know who to contact if there is a problem.

Ensure that patients who are discharged with pharmacological and/or mechanical VTE prophylaxis are able to use it correctly, or have arrangements made for someone to be available who will be able to help them.

Notify the patient’s GP if the patient has been discharged with pharmacological and/or mechanical VTE prophylaxis to be used at home.
6. TRAINING IMPLICATIONS

<table>
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<tr>
<td><strong>Staff groups requiring training</strong></td>
<td><strong>How often should this be undertaken</strong></td>
<td><strong>Length of training</strong></td>
<td><strong>Delivery method</strong></td>
<td><strong>Training delivered by whom</strong></td>
<td><strong>Where are the records of attendance held?</strong></td>
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<td>3 hours</td>
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<td>Electronic Staff Record system (ESR)</td>
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<td>3 hours</td>
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<td>Electronic Staff Record system (ESR)</td>
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7. MONITORING ARRANGEMENTS

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<th>Who by</th>
<th>Reported to</th>
<th>Frequency</th>
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<td>Clinical Effectiveness Committee</td>
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<td>Monitoring of staff training</td>
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<td>Service Leads</td>
<td>Clinical Effectiveness Committee</td>
<td>Annual</td>
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8. EQUALITY IMPACT ASSESSMENT SCREENING

The completed Equality Impact Assessment for this Policy has been published on the Equality and Diversity webpage of the RDaSH website [click here](http://www.rdash.org.uk)

8.1 Privacy, Dignity and Respect

The NHS Constitution states that all patients should feel that their privacy and dignity are respected while they [Indicate how this will be met](http://www.rdash.org.uk)
are in hospital. High Quality Care for All (2008), Lord Darzi’s review of the NHS, identifies the need to organise care around the individual, ‘not just clinically but in terms of dignity and respect’.

As a consequence the Trust is required to articulate its intent to deliver care with privacy and dignity that treats all patients with respect. Therefore, all procedural documents will be considered, if relevant, to reflect the requirement to treat everyone with privacy, dignity and respect, (when appropriate this should also include how same sex accommodation is provided).

8.2 Mental Capacity Act

Central to any aspect of care delivered to adults and young people aged 16 years or over will be the consideration of the individuals capacity to participate in the decision making process. Consequently, no intervention should be carried out without either the individuals informed consent, or the powers included in a legal framework, or by order of the Court.

Therefore, the Trust is required to make sure that all staff working with individuals who use our service are familiar with the provisions within the Mental Capacity Act. For this reason all procedural documents will be considered, if relevant to reflect the provisions of the Mental Capacity Act 2005 to ensure that the interests of an individual whose capacity is in question can continue to make as many decisions for themselves as possible.

9. LINKS TO ANY ASSOCIATED DOCUMENTS

10. REFERENCES

NICE guideline 92: Venous thromboembolism, reducing the risk of venous thromboembolism in patients admitted to hospital (2010).


E-learning Venous Thromboembolism: http://www.e- lfh.org.uk/projects/vte

11. APPENDICES

Appendix 1  Risk assessment for venous thromboembolism (VTE)
Appendix 2  Trust VTE Information Leaflet
Risk Assessment for Venous thromboembolism (VTE)

<table>
<thead>
<tr>
<th>Mobility – all patients (tick one box)</th>
<th>Tick</th>
<th>Tick</th>
<th>Tick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient expected to have on-going reduced mobility relative to normal state</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient NOT expected to have significantly reduced mobility relative to normal state</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Assess for thrombosis and bleeding risk below | Risk assessment now complete |

### Thrombosis risk

<table>
<thead>
<tr>
<th>Patient related</th>
<th>Tick</th>
<th>Admission related</th>
<th>Tick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active cancer or cancer treatment</td>
<td></td>
<td>Significantly reduced mobility for 3 days or more</td>
<td></td>
</tr>
<tr>
<td>Age &gt; 60</td>
<td></td>
<td>Surgery with significant reduction in mobility</td>
<td></td>
</tr>
<tr>
<td>Dehydration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Known thrombophilias</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obesity (BMI &gt; 30kg/m²)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One or more significant medical comorbidities (eg heart disease; metabolic, endocrine or respiratory pathologies: acute infectious diseases: inflammatory conditions, injecting drug use)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Personal history or first-degree relative with a history of VTE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of hormone replacement therapy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of oestrogen-containing contraceptive therapy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicose veins with phlebitis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnancy or &lt; 6 weeks post-partum (see NICE guidance for specific risk factors)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Bleeding risk

<table>
<thead>
<tr>
<th>Patient related</th>
<th>Tick</th>
<th>Admission related</th>
<th>Tick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active bleeding</td>
<td></td>
<td>Other procedure with high bleeding risk</td>
<td></td>
</tr>
<tr>
<td>Acquired bleeding disorders (such as acute liver failure)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concurrent use of anticoagulants known to increase the risk of bleeding (such as warfarin with INR &gt; 2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thrombocytopenia (platelets &lt; 75 x 10⁹/l)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncontrolled systolic hypertension (230/120 mmHg or higher)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Untreated inherited bleeding disorders (such as haemophilia and von Willebrand’s disease)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Clinical Decision

<table>
<thead>
<tr>
<th>Tick</th>
<th>Tick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low risk, no thromboprophylaxis required</td>
<td>High risk, thromboprophylaxis indicated</td>
</tr>
<tr>
<td>Thromboprophylaxis contraindicated</td>
<td>VTE patient information leaflet given</td>
</tr>
</tbody>
</table>

Signature: .................................. Print Name: .................................. Designation: .................................
before you are discharged. Enoxaparin is easy to inject at home and can be done either by you or a relative. Do not hesitate to ask about anything that concerns you - injecting at home is easy, and it is important that you feel confident about doing so. If you are unable to manage this, a district nurse may be asked to visit to give you the injection.

Are there any side effects with Enoxaparin? It is unlikely that you will experience any problems with Enoxaparin. However, you should contact your doctor immediately, day or night, if you:

- Feel chest pains or develop shortness of breath
- Injure yourself, particularly on your head, eyes or joints
- Cut yourself and bleed heavily
- Have nose bleeds or your gums bleed heavily
- Have a very heavy menstrual period
- Notice unexpected bruises, such as brown or black spots on the skin
- Vomit blood or something that looks like coffee grounds
- Pass blood in your urine or motions (either obvious blood or sticky, black stools)
- Develop a sudden change in your general health, e.g. vomiting, diarrhoea, fever etc.

What happens once I am out of hospital?

Continue to wear your compression stockings if you have been issued with them. Once your recovery is under way, the best thing to do is exercise. Blood that is moving is less likely to clot. Exercise, eg walking, helps the blood to circulate and can help to prevent DVT. Regular, gentle exercise is something you should try to incorporate into your daily routine, if your health allows you. Not only will it help you keep your weight down, but it will also make you feel fitter and more energetic. You should ask your doctor what exercise is safe for you to do and when you can start.

What are the signs of a DVT or PE?

If you experience any of the following signs and symptoms, you should inform a member of the healthcare team or your GP immediately:

DVT

- Calf pain in either leg (throbbing, tightness)
- Swelling of one leg, which is new or increasing
- Any redness / skin inflammation to your calf / thigh area

PE

- Breathlessness
- Coughing up blood-stained phlegm
- Chest pain or discomfort, especially worsened on deep breathing or coughing
- Cyanosis (a bluish tinge to the complexion due to lack of oxygen)
- Sudden collapse

If you experience any of these symptoms, call a doctor immediately.

Venous Thrombo-embolism (VTE) Information Leaflet
PREVENTING BLOOD CLOTS WHILE YOU’RE IN HOSPITAL

What is deep vein thrombosis?
Whenever we cut ourselves, our blood hardens and a scab forms. This process is called blood clotting, or coagulation. Sometimes, a clot of blood can occur within a blood vessel, forming a ‘plug’ that can interrupt the normal flow of blood, a condition called thrombosis. When a clot forms in a vein deep within the leg, this is called deep vein thrombosis (DVT).

Why does blood clot?
Blood clotting is a natural, protective mechanism that is triggered by the body in response to a cut or wound and prevents you from bleeding too much. The blood clotting process is a complex sequence of chemical reactions. Your blood contains blood clotting proteins, anti-clotting proteins and cells called platelets, all of which are important in this process.

Thrombosis can occur as a result of inactivity (for example, prolonged bed rest) or inflammatory illnesses. Some people are born with abnormalities of the clotting or anti-clotting proteins in the blood that increase their risk—this is known as thrombophilia. This can sometimes be associated with a family history of blood clots.

Is a DVT serious?
If the blood clot stays in the leg, it may not cause serious problems and some clots cause no symptoms at all. After large clots, long-term swelling and discomfort in the leg can result. If a clot becomes dislodged from the vein in the leg, it can travel through the circulation to reach, and block, the blood vessels in the lungs, a condition called pulmonary embolism (PE). This condition can be trivial or life threatening, depending on the size of the clot. Because symptoms of a PE can be the first sign of a problem, it is very important to prevent clots from forming in the first place.

Why might I be at risk of developing blood clots?
There are several risk factors that increase your chances of developing a DVT or PE. These are commonly seen in patients in hospital. The main risk factors include:

- Major operations
- Reduced mobility
- Pregnancy
- Trauma (fractures)
- Acute medical illness
- Stroke or paralysis
- Cancer and its treatments
- Some oral contraceptives or Hormone Replacement Therapy (HRT) - see below*
- Smoking
- Previous blood DVT or PE
- A known blood abnormality causing a clotting tendency (thrombophilia) or family history of clots

We generally advise that women who are either on the pill or on HRT should continue to take these. If you are undergoing a procedure associated with increased risk of clotting, we will then take measures to address this.

What can be done to prevent blood clots?
When you are admitted to hospital, you will have a clotting risk assessment performed and, if you are found to be at risk, measures will be put in place to address this. These include:

Anti-thrombotic stockings (TED stockings)
They should be worn day and night and not removed for more than 30 minutes a day (for bathing). It is important that the stockings are fitted properly, so that they will have the desired effect in preventing clotting. If your stockings are falling down or too tight, speak to a trained nurse, who will be able to measure your legs and issue a more appropriate stocking. The stockings are designed to be washed up to 30 times. Wash them by hand, using a mild detergent in warm water and dry naturally.

Anticoagulants
If you are felt to be at high risk of clotting, you may also be prescribed an anti-coagulant or ‘blood thinner’. These work with the body’s natural anti-clotting system to prevent blood clots.

What type of anticoagulant is used? A common anticoagulant is Low Molecular Weight Heparin (Enoxaparin), a type of heparin. It is given by your nurse as an injection, once every day, whilst you are in hospital.

You may be given Enoxaparin until you are fully mobile. In certain cases, your doctor may decide that you need to continue with Enoxaparin for a while after you go home from hospital. If this is the case, the doctor or nursing staff will discuss this with you.