Lincolnshire Community Health Services NHS Trust

Prevention of Venous Thromboembolism

Reference No:	P_CS_05
Version	3
Ratified by:	LCHS Trust Board
Date ratified:	10 July 2018
Name of originator / author:	Medical Director
Name of responsible committee / Individual	Quality Scrutiny Group
Date issued:	July 2018
Review date:	July 2020
Target audience:	Clinical Staff
Distributed via	Website

Lincolnshire Community Health Services Trust
Policy for Prevention of Venous Thromboembolism

Version Control Sheet

Version	Section / Para / Appendix	Version / Description of Amendments	Date	Author / Amended by
1	New Policy		28/02/2012	Dr P Mitchell
2	Full review and update with changes to Footers, Policy Statement, Section 5.2, 7a, Appendix 3	Change of CEO to Andrew Morgan, P4, removal of 'Training on VTE prevention and management will become part of clinical mandatory training', Section 5.2 expanded to include further detail in the use of AES, Section 7a added 'patients at the end of life', Appendix 3 – removal of 'major trauma and spinal injury flow chart' as not relevant for LCHS staff, Appendix 3 – removal of ' Critical Care flow chart' as not relevant for LCHS staff,	06/11/2014	Marcus Neno
2.1		Extension	30.1.17	Corporate Assurance Team
2.2		Extension	May 2017	Corporate Assurance Team
2.3		Extension	May 2017	Corporate Assurance Team
2.4		Extension	Nov 17	Corporate Assurance Team
3	Section 1 – NICE Guidance 92 changed to NICE NG89	New NICE guidelines replaces previous guidance	02/06/18	Matt MacKenzie
4	Appendix 3- Paragraph 1	Age changed from "over 18" to "over 16"	02/06/18	Matt MacKenzie
5	Page 24 – Paragraph 5	Fondaparinux – amended to reflect use for patients averse to porcine products. (No longer requires haematology approval)	02/06/18	Matt MacKenzie
6	Page 11 – section 9	Inserted new wording to consider transfer of	02/06/18	Matt MacKenzie

		patients with PE to acute setting for management		
7	Page 12 – section10	Changed wording from “load with warfarin” to “offer choice of treatment” (in line with NICE guidance)	02/06/18	Matt MacKenzie
8	Appendix 4	Journal article from 2005 removed and replaced with NICE guidance CG144 (up to date guidance regarding VTE treatment)	02/06/18	Matt MacKenzie
9	Page 19 – final paragraph	“Supporting evidence” replaced with current NICE guidance.	02/06/18	Matt MacKenzie
10	Appendix 2	Patient information leaflet replaced with current version	02/06/18	Matt MacKenzie
11	Appendix 3	9 flow charts removed and replaced with current NICE guidance (redacted to reflect patients suitable for community hospital)	02/06/18	Matt MacKenzie
12	Page 30	Removal of statement requiring “haematology approval” for use of Fondaparinux.	02/08/16	Matt MacKenzie
13	Page 30	Statement regarding Rivaroxaban amended to reflect change of use and introduction of other ‘Novel anticoagulatns’	02/06/18	Matt MacKenzie
14	Page 30	Caveat added for altering prescription dose of LMWH based upon bodyweight. Not licenced use but commonly used by other NHS Trusts locally & nationally.	02/06/18	Matt MacKenzie

Policy for Prevention of Venous Thromboembolism
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Policy Statement

Background

The purpose of this policy is to provide guidance that ensures all staff with clinical responsibilities working for Lincolnshire Community Health Services NHS Trust maintain an active awareness of the risks of venous thromboembolism (VTE) and take appropriate action to assess the risk for all patients under their care and initiate preventative measures to reduce that risk in proportion to the risk identified.

Statement

Lincolnshire Community Health Services NHS trust will develop local operating procedures that ensure patients are assessed for their risk of VTE and prescribe the appropriate interventions for the management of those risks taking into account individual patients' needs and other associated healthcare risks.

Responsibilities

Compliance with the policy will be the responsibility of all Lincolnshire Community Health Services clinical staff. Authors of operating procedures designed to implement policy are responsible for undertaking appropriate consultation with clinical staff during the development of guidelines and procedures. Service leads are responsible for ensuring local procedures are relevant and proportionate to the service needs and to ensure audit processes are in place that evidence concordance with local procedures and trust policy. It is expected that regular reporting on a monthly basis will inform clinical governance leads in business units on performance with respect to screening assessment and prophylactic treatment as well as incidences of VTE.

Training

Directors and service leads are responsible for ensuring training plans include training based on VTE prevention policy and local guidelines.

Dissemination

Website, Clinical Mandatory Training

Resource implication

This policy should not impose significant increases in resource usage as it is expected that current practice already manages VTE risk. The impact of audit and regular reporting may require additional management resources. A review of existing training packages may require additional resources. The baseline audit of clinical practice, reporting, clinical incidents and training may be necessary to accurately quantify resource requirements.

Consultation

It is expected that all local operating procedures are deployed following consultation with medical and nursing teams or their relevant professional leads

NHSLA Monitoring Template

This template should be used to demonstrate compliance with NHSLA requirements for the policy where applicable and/or how compliance with the policy will be monitored.

Minimum requirement to be monitored	Process for monitoring e.g. audit	Responsible individuals/group /committee	Frequency of monitoring /audit	Responsible individuals / group / committee (multidisciplinary) for review of results	Responsible individuals / group / committee for development of action plan	Responsible individuals / group / committee for monitoring of action plan
Standard 4 – Criterion 8 The organisation has an approved documented process for managing the risks associated with the prevention and management of venous thromboembolism that is implemented and monitored.	Audit of VTE risk assessments undertaken Audit of interventions prescribed VTE incident reporting Audit of clinical training completed/out standing	Ward managers and hospital matrons	Monthly	Medicines Management Committee	Clinical Governance Managers	Medicines Management Committee

1. Introduction

It is estimated that each year over 25 000 people in England and Wales die as a result of hospital acquired venous thromboembolism (VTE). Many of these deaths are preventable through the use of VTE prophylaxis. The House of Commons Select Committee Report on the Prevention of Venous Thromboembolism in Hospitalised Patients Feb 2005 and The Venous Thromboembolism in Hospitalised Patients Expert Working Group have been tasked with addressing this issue. NICE Guideline NG89 – "Venous thromboembolism in over 16s: reducing the risk of hospital-acquired deep vein thrombosis or pulmonary embolism" March 2018, gives clear guidance regarding national standards.

The appropriate use of thromboprophylaxis will:

Reduce morbidity due to VTE
Reduce mortality rates due to VTE
Reduce the cost of treatment of VTE

This policy summarises best practice based on current evidence for the prevention of Hospital acquired VTE.

2. Medicines Management Committee

The Medicines Management Committee will manage Trust performance of VTE prevention by scrutinising audit reports and monitor action plans arising as a result of audit findings. The medicines management committee will report to Trust Clinical Governance and Risk Committee and provide a quarterly report based on trust performance with regard to the VTE prevention.

In summary, the Medicines Management Committee will:

Promote best practice through local policies based on National Guidelines
Lead multi professional audit of the use of thromboprophylaxis
Promote and inform education and training
Report quarterly to the Operational Governance committee
The chair of the hospital thrombosis committee also sits on the patient safety group which meets monthly

3. Risk Assessment for all Patients on Admission to Hospital

All patients must be risk assessed on admission and have this assessment reviewed within 24 hours of admission. Inpatients must be re-assessed for risk factors every 72 hours or earlier if clinically indicated.

Medical patients must be assessed for patient related risk factors for VTE using a standard risk assessment tool (Appendix 1) or equivalent SystMOne template. If VTE prophylaxis is withheld for any reason (e.g. bleeding risk) this must be documented clearly in the patient's health records.

Elective surgical patients must be risk assessed and managed according to the current guidelines determined by the surgical speciality and planned procedures. For all other surgical patients (i.e. emergency admissions and patients admitted for elective surgery without dedicated VTE prevention protocol) the standard risk assessment tool must be completed.

Patients who are admitted for end of life care must be risk assessed, if in the final dying phase of their life VTE prophylaxis is rarely appropriate and should be reviewed as part of palliative care medication review. If in doubt advice should be sought from the specialist palliative care team. Decisions should be reviewed every 72 hours or earlier if the patient's condition improves.

The responsibility for documenting the risk assessment and prescribing thromboprophylaxis lies with the admitting doctor. For elective surgery patients, the responsibility lies with the pre-assessment clinic doctor, nurse or pharmacist.

4. Information for Patients

All patients must be given verbal information on admission about the risks of VTE and the effectiveness of prophylaxis. Written information should be available to patients if requested in the form of a leaflet (Appendix 2).

Surgical patients must be informed that immobility associated with continuous travel of more than 3 hours in the 4 weeks before or after surgery may increase the risk of VTE. Surgical patients on the combined oral contraceptive pill should consider stopping 4 weeks before elective surgery. Alternative contraceptive measures should be advised.

Surgical patients must be given verbal and written information on the following, as part of their discharge plan:

- The signs and symptoms of DVT
- The correct use of extended prophylaxis (if appropriate)
- The implications of not using prophylaxis (if appropriate)

5. Methods of VTE Prophylaxis

5.1 General measures

Early mobilisation and leg exercises

If appropriate, all patients will be encouraged to mobilise as soon as possible. Patients who are unable to mobilise will be encouraged to do regular leg exercises.

Hydration

Ensure patients are adequately hydrated.

5.2 Mechanical thromboprophylaxis

Mechanical thromboprophylaxis is recommended primarily where the bleeding risk is high or as adjunct to pharmacological measures. The options for mechanical thromboprophylaxis include:

Anti embolic stockings (AES)

Patients using anti-embolic stockings (AES) should be shown how to wear them correctly by healthcare professionals trained in the use of that product. Stocking use will be monitored and assistance provided if they are not being worn properly.

Staff must ensure that:

Patients who need anti-embolism stockings have their legs measured and that the correct size of stocking is provided. Anti-embolism stockings must be fitted by staff trained in their use.

If arterial disease is suspected seek medical opinion before fitting anti embolism stockings.

Patients who develop oedema or postoperative swelling have their legs re-measured and anti-embolism stockings refitted.

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

Patients are encouraged to wear their anti-embolism stockings day and night until they no longer have significantly reduced mobility.

The use of anti-embolism stockings is monitored and offer assistance if they are not being worn correctly

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

It is important that stockings are removed daily for hygiene purposes and skin inspected. In patients with a significant reduction in mobility, poor skin integrity or any sensory loss, inspect the skin two or three times a day, particularly over the heel and bony prominences.

Anti-embolism stockings must be discontinued if there is marking, blistering or discolouration of the skin particularly over the heel and bony prominences. Stockings must also be removed if the patient experiences pain or discomfort.

Contraindications to mechanical prophylaxis:

.Suspected or proven peripheral arterial disease

.Peripheral arterial bypass grafting

.Major limb deformity preventing correct fit

.Unusual shape or size of leg

.Pulmonary oedema from congestive cardiac failure

.Cardiac failure

.Gross leg oedema

.Known allergy to material of stockings

.Local condition in which stockings may cause damage e.g. leg ulcers, dermatitis, recent skin graft, gangrene or fragile tissue paper skin

Intermittent pneumatic compression devices (IPC)

Foot impulse devices (FID) or venous foot pumps may be used as alternatives or in addition to anti-embolic stockings (AES) where appropriate while surgical patients are in hospital.

5.3 Anti-platelet agents

Aspirin – aspirin is NOT recommended as prophylaxis against VTE in any patient group

5.4 Low Molecular Weight Heparin

See VTE clinical guideline for doses of Low Molecular Weight Heparin & Pharmacological VTE prophylaxis (Appendix 3).

Potential side effects of Heparin:

- Bleeding – LMWH should be stopped. Consideration of use of a reversal agent depends on the severity of the bleeding. Protamine sulphate will only partially reverse the anticoagulant effect. The Haematologist on call is available for advice.

- Heparin Induced Thrombocytopenia (HIT) – All patients should have a baseline platelet count. HIT is much less likely with LMWH than with Unfractionated heparin but should always be considered if the platelet count falls by >50%. Always discuss management of these patients with a Consultant Haematologist. Guidelines on the management of HIT are available on the intranet.

- Osteoporosis – Heparins are associated with an increased risk of osteoporosis and bone fracture with prolonged use (>12 weeks at prophylactic doses). This risk is greater in pregnancy and older women.

5.5 Vena Caval Filters

These should be considered for surgical patients with recent (within 1 month) or existing VTE in whom anticoagulation is contraindicated. It is not expected patients under the care of LCHS will fall into this category and their care would be transferred to an acute hospital trust.

5.6 Regional Anaesthesia

Regional anaesthesia reduces the risk of VTE compared to general anaesthesia. The suitability of regional anaesthesia for an individual patient should be considered, in addition to any other planned method of thromboprophylaxis.

6. Extended Thromboprophylaxis

Extended thromboprophylaxis with either low molecular weight heparin or rivaroxaban is now recommended in:

- elective total hip arthroplasty
- elective knee arthroplasty
- fractured neck of femur
- major cancer surgery in the abdomen or pelvis

7. Cancer Patients

Patients with cancer have an approximate 7 fold increased risk of VTE, accounting for ~20% of community presenting VTE. Cancer patients undergoing surgery have a two-fold or greater increased risk for fatal PE compared with those without cancer who are undergoing similar procedures. Patients with active cancer and particularly those with central venous lines and those receiving chemotherapy are at a significantly increased risk for VTE. Inpatients with cancer must be managed according to the medical, surgical or critical care guidelines as appropriate.

7a Patients at the End of Life

For patients undergoing terminal care or on an end of life pathway do not use pharmacological or mechanical thromboprophylaxis

For patients undergoing palliative care with potentially reversible acute pathology and is at increased of VTE consider using enoxaparin if no contraindications

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

8. Pregnant Patients

Pregnancy increases risk of thromboembolism in combination with other risk factors and dependant on gestation. Advice should be sought from maternity unit if patient presents in second or third trimester with a view to transferring patient to an acute unit should admission be indicated.

9. Procedure to be Followed if Venous Thromboembolism is Suspected

If an inpatient already receiving thromboprophylaxis is suspected to have a DVT or PE they should be treated with therapeutic dose Pharmacological anticoagulation and have the appropriate radiological investigations (either a duplex Doppler scan of the lower limb or a CT pulmonary angiogram).

Clinical judgement should be used to establish if the patient is suitable to remain in Primary Care or requires transfer to secondary care for acute treatment.

10. Management of a Patient Once a Positive Diagnosis of Venous Thromboembolism is Made

If a DVT or PE is confirmed the patient should be offered a choice of low molecular weight heparin (LMWH) or fondaparinux, for guidance see (Appendix 4).

11. Patients Admitted with Hospital Acquired Thrombosis (HAT)

A hospital acquired thrombosis (DVT or PE) is defined as occurring within 3 months of a hospital admission. A clinical incident form for patients with hospital acquired thrombosis should be completed and a root cause analysis investigation undertaken.

Collection of data on patients with hospital acquired thrombosis should be reported to the Medical Director via the following pathway:

The Consultant under whose care the patient was admitted when the hospital acquired thrombosis occurred should be notified in writing, SystMOne notification/task or secure e-mail.
After completing the root cause analysis investigation, the identified learning points that will reduce the risk of future hospital acquired thrombosis should be disseminated by the service leads with clinical staff.
The incidence of hospital acquired thrombosis and root cause analysis findings should be reported to the Medicines Management Committee and Clinical Governance and Risk Committee for assessment of trends across the organisation and the identification of actions required reducing identified risks across LCHS.

12. Monitoring Compliance

The Trust-wide Audit of VTE prophylaxis is mandatory. This is part of the
Commissioning for Quality and Innovation (CQUIN) target contract 2010 which states that 90% of patients admitted have to be risk assessed on admission and within 24 hours and of patients assessed as being at high risk, 100% have to receive appropriate thromboprophylaxis.

Data on completion of risk assessment on all patients admitted to hospital is collected and reported to the Department of Health on a monthly basis. The results of the monthly data collection will be reviewed by the Trust Board via the trust performance management system and the Medicines Management Committee to identify any trends across the organisation and necessary actions required reducing identified risks.

A review of risk assessment compliance and findings is also monitored as part of the
Quality Review Process as determined by commissioning organisations.

13. References

Scottish Intercollegiate Guidelines Network (SIGN), Prophylaxis of Venous Thromboembolism. A National Clinical Guideline. October 2002

Prevention of Venous Thromboembolism. The 8th ACCP conference on Antithrombotic and Thrombolytic Therapy. Geerts WH et al. Chest 2008;133:381S-453S

Report of the independent expert working group on the prevention of venous thromboembolism in hospitalised patients. Department of Health, A report to Sir Liam Donaldson, Chief Medical Officer. 2007

Government Response to the House of Commons Health Committee report on the prevention of Venous thromboembolism in Hospitalised Patients – second report of session 2004-5. July 2005

Prevention of Pulmonary embolism and deep vein thrombosis with low dose aspirin: Pulmonary embolism prevention (PEP) trial. Lancet 2000; 355:1295-302

Heit JA, Siverstein MD, Mohr DN, et al. Risk factors for PE and DVT: a population based control study. Arch Intern. Med 2000:160:809-815

NICE Clinical Guideline 89 Venous thromboembolism in over 16s: reducing the risk of hospital-acquired deep vein thrombosis or pulmonary embolism. 2018

All-party parliamentary thrombosis group Thrombosis: Awareness, Management and Prevention November 2007

Kakkar AK, Coleman R et al. Prevention and Treatment of Cancer-Associated Thrombosis: A Report on a Roundtable Meeting. British Journal of Cancer vol 102, supplement 1, 13 April 2010

Haemostasis, Anticoagulation & Thrombosis (HAT) Committee, UK Clinical Pharmacy Association. UKMi Medicines Q&A 326.1: What doses of thromboprophylaxis are appropriate for adult patients at extremes of body weight? April 2010. Available from www.nelm.nhs.uk, date accessed: 21st February, 2011.

Templeman, E. UKMi Medicines Q&A 257.2: Should prophylactic doses of low molecular weight heparins be used in patients with renal impairment? July 2010. Available from www.nelm.nhs.uk, date accessed: 21st February, 2011

RISK ASSESSMENT FOR VENOUS THROMBOEMBOLISM (VTE)

All patients should be risk assessed on admission to hospital. Patients should be reassessed within 24 hours of admission and whenever the clinical situation changes.

STEP ONE

Assess all patients admitted to hospital for level of mobility (tick one box). All surgical patients, and all medical patients with significantly reduced mobility, should be considered for further risk assessment.

STEP TWO

Review the patient-related factors shown on the assessment sheet against thrombosis risk, ticking each box that applies (more than one box can be ticked).

Any tick for thrombosis risk should prompt thromboprophylaxis according to NICE guidance.

The risk factors identified are not exhaustive. Clinicians may consider additional risks in individual patients and offer thromboprophylaxis as appropriate.

STEP THREE

Review the patient-related factors shown against bleeding risk and tick each box that applies (more than one box can be ticked).

Any tick should prompt clinical staff to consider if bleeding risk is sufficient to preclude pharmacological intervention.

Guidance on thromboprophylaxis is available at:

National Institute for Health and Clinical Excellence (2010) Venous thromboembolism: reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to hospital. NICE clinical guideline 92. London: National Institute for Health and Clinical Excellence.

https://www.nice.org.uk/guidance/ng89

This document has been authorised by the Department of Health
Gateway reference no: 10278

Department of Health

Mobility – all patients (tick one box)	Tick		Tick		Tick
Surgical patient		Medical patient expected to have ongoing reduced mobility relative to normal state		Medical patient NOT expected to have significantly reduced mobility relative to normal state	
Assess for thrombosis and bleeding risk below				Risk assessment now complete	

Thrombosis risk			
Patient related	Tick	Admission related	Tick
Active cancer or cancer treatment		Significantly reduced mobility for 3 days or more	
Age > 60		Hip or knee replacement	
Dehydration		Hip fracture	
Known thrombophilias		Total anaesthetic + surgical time > 90 minutes	
Obesity (BMI >30 kg/m^2)		Surgery involving pelvis or lower limb with a total anaesthetic + surgical time > 60 minutes	
One or more significant medical comorbidities (eg heart disease;metabolic,endocrine or respiratory pathologies;acute infectious diseases; inflammatory conditions)		Acute surgical admission with inflammatory or intra-abdominal condition	
Personal history or first-degree relative with a history of VTE		Critical care admission	
Use of hormone replacement therapy		Surgery with significant reduction in mobility	
Use of oestrogen-containing contraceptive therapy			
Varicose veins with phlebitis			
Pregnancy or < 6 weeks post partum (see NICE guidance for specific risk factors)			

Bleeding risk			
Patient related	Tick	Admission related	Tick
Active bleeding		Neurosurgery, spinal surgery or eye surgery	
Acquired bleeding disorders (such as acute liver failure)		Other procedure with high bleeding risk	
Concurrent use of anticoagulants known to increase the risk of bleeding (such as warfarin with INR >2)		Lumbar puncture/epidural/spinal anaesthesia expected within the next 12 hours	
Acute stroke		Lumbar puncture/epidural/spinal anaesthesia within the previous 4 hours	
Thrombocytopaenia (platelets< 75x10^9/l)			
Uncontrolled systolic hypertension (230/120 mmHg or higher)			
Untreated inherited bleeding disorders (such as haemophilia and von Willebrand's disease)			

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Appendix 2

Preventing hospital-acquired blood clots Information for patients.

This leaflet explains more about blood clots, which can form after illness and surgery, especially when you are moving around less than usual.

What are hospital-acquired blood clots?
A hospital acquired-blood clot can develop in patients when they are in hospital, and up to 90 days after a stay in hospital.

There are two kinds of clot

1. Deep vein thrombosis (DVT): This is a blood clot (also known as a thrombosis) that forms in a deep vein, most commonly in your leg or pelvis. It may cause no symptoms at all or cause swelling, redness/discolouration, warmth and pain.

2. Pulmonary embolism (PE): If a clot becomes dislodged and passes through your blood vessels it can reach your lungs. This is called a PE. Symptoms include coughing (with blood stained phlegm), chest pain, breathlessness or collapse.

Health professionals use the term venous thromboembolism (VTE), to cover both DVT and
PE.

If you develop any of these symptoms either in hospital or after you go home, please get medical advice immediately.

Are blood clots common?
Blood clots occur in the general population in about one out of 1,000 people every year. You may have heard about DVT occurring in people flying for long periods, but you are much more likely to get a blood clot after going into hospital. In fact, about two thirds of all blood clots occur during or after a stay in hospital. The Government recognises that hospital-acquired blood clots are an important problem and has asked
hospital doctors, nurses and pharmacists to assess each patient's risk. If you are at risk, your doctor or nurse will talk with you about what will be done to offer you protection against clots.

Who is at risk?
Any unwell adult admitted to hospital is at risk – that is most adults. Other factors that put people at greater risk include:

- if you or a close relative (parent, brother, sister or child) has had a previous clot
- cancer and it's treatment
- certain 'sticky blood' conditions such as antiphospholipid syndrome or Factor V Leiden
- being overweight
- being immobile (not walking or moving around)

- use of oestrogen-containing contraceptives and hormone replacement therapy (HRT)
- having an operation
- significant injury or trauma
- pregnancy (during and after)
- age over 60 years
- dehydration

What can I do to reduce my risk of developing a clot?

- Drink plenty of water and other non-alcoholic drinks to keep hydrated (unless advised otherwise).
- Move around as much as you can
- Do the following exercises two or three times an hour (in bed or in your chair)
- Keeping your legs and knees straight, quickly bend and straighten your ankles 10 times to stretch your calf muscles.

What will the hospital staff do to reduce my risk?

Stockings: In hospital, you might be measured and fitted with elastic anti-embolism stockings for your legs.

- The stockings should not have wrinkles in them, these can dig into the skin and cause tissue damage.
- The stockings should not be turned or rolled down as this can cause circulation problems.
- The stockings should be worn day and night until you are told you do not need them anymore.
- They should be removed at least once a day to wash and dry your legs and to check for blisters or red marks, especially on the heels, shins and toes.
- Report any pain, numbness or tingling in your feet or legs to a member of staff
- Staff will help you put them on if needed. You will be given the information leaflet from the stockings for more information.

Blood thinners: Most patients at risk will be prescribed a small dose of an anticoagulant (blood thinning) medicine in the form of a tablet or injection. These medicines reduce the chance of having a blood clot by thinning your blood slightly. If you need to take these medicines when you leave hospital, you will be told how long to take them for. The anticoagulant most often used is a type of heparin, which is given by injection into the fatty layer just under the skin of the stomach, thigh or upper arm.

All blood thinners can increase your risk of bleeding. If you develop bleeding or unexplained bruising while you are taking a blood thinner you should report it immediately to a member of staff.

Heparin injections are made from pork derived products. If you have concerns about this please speak to the doctor, nurse or pharmacist to discuss alternatives.

What happens when I go home?
Until you return to your usual level of activity, you may need to wear anti-embolism stockings after you go home. Your nurse will tell you how to put them on and what you should check your skin for. If you need to continue anticoagulation injections at home, your nursing team will teach you how to do this. If you have any concerns make sure you speak to a nurse before you leave.

If you develop any signs or symptoms of a clot at home, then seek medical advice immediately, either from your general practitioner (GP) or the emergency department in your nearest hospital. If you have chest pain or difficulty breathing call 999.
Information supported by:
Useful sources of information
• Please ask your doctor or nurse for more information.
• **NHS choices** website has information on blood clots. Visit www.nhs.uk
NHS 111 is a free-to-call single non-emergency number medical helpline operating in England and Scotland.
• **Lifeblood: The thrombosis charity** also has information. www.thrombosis-charity.org.uk

Based on information contained within leaflets published by
St Guy's and St Thomas'NHS Foundation Trust 'Preventing Hospital Acquired Blood Clots' 2011 and
The Leeds Teaching Hospitals NHS Trust " Preventing blood clots(Deep vein thrombosis and pulmonary embolism) Information for patients 2017

Appendix 3

Venous Thromboembolism: Reducing the Risk

Objectives

All patients aged over the age of 16 years admitted to hospital are assessed to identify their risk factors for developing venous thromboembolism.

Patients covered

All patients aged over 18 admitted under the care of a physician or surgeon.

Target users

Pre-assessment nursing staff
Ward nursing staff
Medical staff
Pharmacy Staff

Clinical Recommendations (including different options for the management of conditions)

See attached speciality flowcharts. Use Department of Health risk assessment tool.

Auditable Standards

% of patients risk assessed in each speciality
% of patients given appropriate thromboprophylaxis
% of patients given information (documented in the notes that information e.g. patient information leaflet, has been given).

System for Audit / Monitoring, Review of Results and Monitoring of Action Plans

Electronic data collection (spreadsheet) snapshot audits of risk assessment and appropriate thromboprophylaxis, results to be presented at audit meetings, to be shared with the Directorate management team action plans to be developed and implemented to ensure audit loop closed. Re-audit will only take place once evidence of action plan implementation where appropriate is complete.

Supporting evidence / references (recommendations should be supported with a list of references on which they are based unless they are based on national guidelines etc in which case this should be specified).

NICE GUIDANCE:

- *Venous Thromboembolism in Adults: Reducing the risk in Hospital (*QS3) March 2018
- *Venous Thromboembolism in over 16's: reducing the risk of Hospital-acquired DVT or PE (*NG89) March 2018
- *Venous thromboembolic disease: diagnosis, management and thrombophilia testing* (CG144) November 2015
- *Venous thromboembolism in adults:Diagnosis and management* (QS29) Arpil 2016

Assessing risks of VTE and bleeding

<table>
<tr><th colspan="2">Patients who are at risk of VTE</th></tr>
<tr><td>Medical patients:

• If mobility significantly reduced for > 3 days or

• If expected to have ongoing reduced mobility relative to normal state plus any VTE risk factor</td><td>Surgical patients and patients with trauma:

• If total anaesthetic + surgical time >90 minutes or

• If surgery involves pelvis or lower limb and total anaesthetic + surgical time >60 minutes or

• If acute surgical admission with inflammatory or intra-abdominal condition or

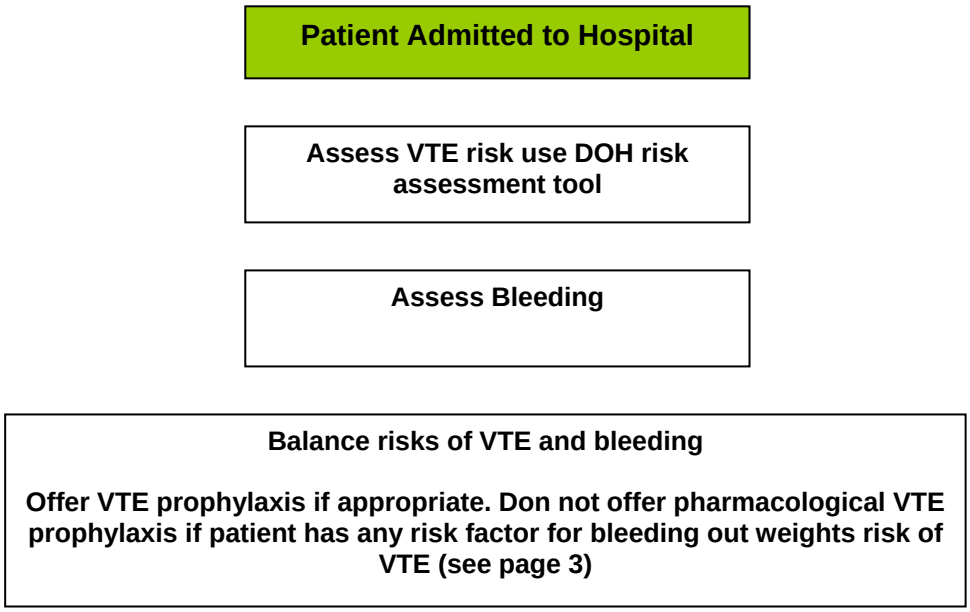
• If expected to have significant reduction in mobility or

• If any VTE risk factor present</td></tr>
<tr><td colspan="2">VTE risk factors[1]

• Active cancer or cancer treatment
• Age > 60 years
• Critical care admission
• Dehydration
• Known thrombophilias
• Obesity (BMI >30 kg/m2)
• One or more significant medical co-morbidities (for example: 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 HRT
• Use of oestrogen-containing contraceptive therapy
• Varicose veins with phlebitis</td></tr>
</table>

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 >2) • Lumbar puncture/epidural/spinal anaesthesia within the previous 4 hours or expected within the next 12 hours • Acute stroke • Thrombocytopenia (platelets <75 x 109/l) • Uncontrolled systolic hypertension (> 230/120 mmHg) • Untreated inherited bleeding disorders (such as haemophilia or von Willebrand's disease)

Care Pathway



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 anti-platelet agent as adequate prophylaxis for VTE
- Consider offering temporary inferior vena caval filters to patients who are at very high risk of VTE (such as patients with a previous VTE event or active malignancy) if mechanical and pharmacological VTE prophylaxis contraindicated.

For patients having elective surgery

Oral contraceptives and HRT

- Advise women to consider stopping oestrogen-containing contraceptives or HRT 4 weeks before surgery

Pre-existing anti-platelet therapy

- Assess risks and benefits of stopping pre-existing anti-platelet therapy 1 week before surgery. Consider involving the multidisciplinary team in the assessment.

Anaesthesia

- Consider regional anaesthesia, in addition to other methods of VTE prophylaxis, as it carries a lower risk of VTE than general anaesthesia. Take into account patient preferences, suitability for regional anaesthesia and any other planned method of VTE prophylaxis.

- If regional anaesthesia is used, plan the timing of pharmacological prophylaxis to minimise risk of epidural haematoma. If antiplatelet or anticoagulant agents are being used or their use is planned, refer to the summary of product characteristics for guidance about safety and timing of these agents in relation to regional anaesthesia.

- Do not routinely offer pharmacological or mechanical VTE prophylaxis to patients having surgery with local anaesthesia by local infiltration with no limitation of mobility.

Overview of Care

Who	When	What
Patients having elective surgery	Before Admission	• Advise women to consider stopping oestrogen-containing oral contraception or HRT 4 weeks before surgery • Assess the risks and benefits of stopping anti-platelet therapy 1 week before surgery • Plan anaesthesia (see page 4)
All patients	At admission	• Assess risk of VTE • Assess risk of bleeding • Offer patients verbal and written information on VTE • 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 page 10) • 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 for help
Patients discharged with VTE prophylaxis		• Offer information on correct use and 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

Definitions and abbreviations

Definitions

- Major bleeding: a bleeding event that results in one or more of the following:
  - death
  - a decrease in haemoglobin concentration of > 2 g/dl
  - transfusion of > 2 units of blood
  - bleeding into a retroperitoneal, intracranial or intraocular site
  - a serious or life-threatening clinical event
  - a surgical or medical intervention
- Renal failure: estimated glomerular filtration rate (eGFR) <30 ml/min/1.73 m2
- Significantly reduced mobility: bed bound, unable to walk unaided or likely to spend a substantial proportion of the day in a bed or in a chair

Abbreviations

BMI: body mass index
DVT: deep vein thrombosis
Fondaparinux: fondaparinux sodium
HRT: hormone replacement therapy
INR: international normalised ratio (standardised laboratory measure of blood coagulation)
LMWH: low molecular weight heparin
PE: pulmonary embolism
UFH: unfractionated heparin
VTE: venous thromboembolism

Key priorities for implementation

Assessing the risks of VTE and bleeding

- Assess all patients on admission to identify those who are at increased risk of VTE

- Regard medical patients as being 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 ongoing reduced mortality relative to their normal state and have one or more of the risk factors shown on page 3

- Regard surgical patients and patients with trauma as being at increased risk of VTE if they meet one of the following criteria:

  - surgical procedure with a total anaesthetic and surgical time of more than 90 minutes or 60 minutes if the surgery involves the pelvis or lower limb
  - acute surgical admission with inflammatory or intra-abdominal condition
  - expected significant reduction in mobility
  - one or more of the risk factors shown on page 3

- Assess all patients for risk of bleeding before offering pharmacological VTE prophylaxis[3]. Do not offer pharmacological VTE prophylaxis to patients with any of the risk factors for bleeding shown on page 3, unless the risk of VTE outweighs the risk of bleeding

- Reassess patients' 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

Reducing the risk of VTE

- Encourage patients to mobilise as soon as possible

- Offer pharmacological VTE prophylaxis to general medical patients assessed to be at increased risk of VTE. Choose any one of:

    - Fondaparinux sodium (Product suitable for patients who are averse to porcine products for cultural or religious reasons – no longer requires haematological approval)
    - Low molecular weight heparin (LMWH4)
    - Unfractionated heparin (UFH) (for patients with renal failure) 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.

Patient information and planning for discharge

- Before starting VTE prophylaxis, offer patients and/or their families or carers verbal and written information on:

    - the risks and possible consequences of VTE
    - the importance 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).

- As part of the discharge plan, offer patients and/or their families or carers verbal and 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 signs and symptoms of adverse events related to VTE prophylaxis (if
    - discharge 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 another adverse event is suspected

Patient-centred care

Treatment and care should take into account patients individual needs and preferences. Good communication is essential, supported by evidenced-based information, to allow patients to reach informed decisions about their care. Follow Department of Health advice on seeking consent from the Department of Health if needed. If the patient agrees, families and carers should have opportunity to be involved in decisions about treatment and care.

Using VTE prophylaxis

Choice of VTE prophylaxis

- Base the choice of mechanical VTE prophylaxis on clinical condition, surgical procedure and patient preference.:
  - anti-embolism stockings (thigh or knee length
  - foot impulse devices
  - intermittent pneumatic compression devices (thigh or knee length)

- Base the choice of pharmacological VTE prophylaxis on local policies, clinical condition (for example, renal failure) and patient preference.

Information for patients about VTE prophylaxis

- Before starting VTE prophylaxis, offer verbal and written information on:
  - risks and possible consequences of VTE
  - importance of VTE prophylaxis and its possible side effects
  - correct use of VTE prophylaxis
  - how to reduce risk of VTE

Anti-embolism stockings

- Do not offer anti-embolism stockings to patients with:

  - Suspected or proven peripheral disease
  - Peripheral arterial bypass grafting
  - Peripheral neuropathy or other causes of sensory impairment
  - Local condition in which stockings may cause damage, such as “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

- Measure legs and use correct stocking size. Staff who fit stockings should be trained in their use and should show patients how to use them
- If oedema or postoperative swelling develops, ensure legs are re-measured and stockings refitted
- If arterial disease suspected, seek expert opinion before fitting stockings
- Use stockings that provide graduated compression and produce a calf pressure of 14-15 mmHg

- Encourage patients to wear the stockings day and night from admission until they no longer have significantly reduced mobility
- Remove stockings daily for hygiene purposes and to inspect skin condition. If patient has significant reduction in mobility, poor skin integrity or sensory loss, inspect skin in two or three times per day, particularly over heels and bony prominences
- Discontinue use of stockings if there is marking, blistering or discolouration of skin, particularly over heels and bony prominences, or if patient has pain or discomfort. If suitable, offer intermittent pneumatic compression or foot impulse devices as alternative
- Show patients how to use anti-embolism stockings correctly and ensure they understand that this will reduce their risk of developing VTE
- Monitor use of anti-embolism stockings and offer assistance if they are not being worn correctly

Foot impulse and intermittent pneumatic compression devices

- Do not offer these devices to patients with a known allergy to the material of manufacture
- Encourage patients on the ward who have 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

VTE prophylaxis for patients already having anti-platelet or anticoagulant therapy to treat other conditions

- Consider offering additional mechanical or pharmacological VTE prophylaxis if patient is at risk of VTE. Take into account risk of bleeding and of co-morbidities such as arterial thrombosis.

    - **If the risk of VTE outweighs the risk of bleeding**, consider offering pharmacological VTE prophylaxis 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 VTE prophylaxis to patients who are taking vitamin K antagonists and who are within their therapeutic range, providing anticoagulant therapy is continued

- Do not offer additional pharmacological or mechanical VTE prophylaxis to patients who are having full anticoagulant therapy for example fondaparinux sodium, LMWH or UFH

NICE Guidance - When considering pharmacological VTE prophylaxis

When to start pharmacological VTE prophylaxis
If using pharmacological VTE prophylaxis for medical patients, start it as soon as possible and within 14 hours of admission, unless otherwise stated in the population-specific recommendations.

Acutely-ill medical patient

Offer pharmacological VTE prophylaxis for a minimum of 7 days to acutely ill medical patients whose risk of VTE outweighs their risk of bleeding:
LMWH[2] as first-line treatment If LMWH is contraindicated use fondaparinux sodium[3].
See what NICE says on acutely ill patients in hospital.

Patient in palliative care

Consider pharmacological VTE prophylaxis for people who are having palliative care. Take into account temporary increases in thrombotic risk factors, risk of bleeding, likely life expectancy and the views of the person and their family members or carers (as appropriate):
Use LMWH[1] as first-line treatment
If LMWH is contraindicated, use fondaparinux sodium[2].
Do not offer VTE prophylaxis to people in the last days of life.
For recommendations on shared decision-making in the last days of life, see what NICE says on caring for an adult at the end of life.
Review VTE prophylaxis daily for people who are having palliative care, taking into account the views of the person, their family members or carers (as appropriate) and the multidisciplinary team.

Patient with cancer

Do not offer VTE prophylaxis to people with cancer who are receiving cancer-modifying treatments such as radiotherapy, chemotherapy or immunotherapy and who are mobile, except as outlined below, unless they are also at increased risk of VTE because of something other than the cancer.
Consider pharmacological VTE prophylaxis for people with myeloma who are receiving chemotherapy with thalidomide, pomalidomide or lenalidomide with steroids. Choose either:
aspirin[1] (75 or 150 mg) or LMWH[2].
Consider pharmacological VTE prophylaxis with LMWH for people with pancreatic cancer who are receiving chemotherapy.
If giving VTE prophylaxis to people with cancer, continue for as long as they are receiving chemotherapy.]

Patient with renal impairment

If using pharmacological VTE prophylaxis for people with renal impairment, choose either LMWH[3] or UFH.
If needed, reduce the dose of LMWH and UFH for people with renal impairment. Base the decision on multidisciplinary or senior opinion, or locally agreed protocols.

Glossary

APTT
activated partial thromboplastin time
CTPA
computed tomography pulmonary angiogram

Discharge
(in these recommendations, 'discharge' refers to discharge from hospital as an inpatient or after
a day procedure)
Discharged
(in these recommendations, 'discharge' refers to discharge from hospital as an inpatient or after
a day procedure)
DVT
deep vein thrombosis
Fondaparinux
fondaparinux sodium

HRT
hormone replacement therapy
INR
international normalised ratio (a standardised laboratory measure of blood coagulation used to
monitor the adequacy of anticoagulation in patients who are having treatment with a vitamin K
antagonist)
LMWH
low molecular weight heparin
LMWHs
low molecular weight heparins
Major bleeding
a bleeding event that results in one or more of the following: death, a decrease in haemoglobin
concentration of ≥ 2 g/dl, transfusion of ≥ 2 units of blood, bleeding into a retroperitoneal,
intracranial or intraocular site, a serious or life-threatening clinical event, a surgical or medical
intervention
PE
pulmonary embolism
Proximal
in the popliteal vein or above; sometimes referred to as 'above-knee'
Provoked
occurring in a patient with an antecedent (within 3 months) and transient major clinical risk
factor for venous thromboembolism – for example surgery, trauma, significant immobility
(bedbound, unable to walk unaided or likely to spend a substantial proportion of the day in bed
or in a chair), pregnancy or puerperium – or in a patient who is having hormonal therapy (oral
contraceptive or hormone replacement therapy)

Renal impairment

an estimated glomerular filtration rate (eGFR) of less than 30 ml/min/1.73 m2. (For more
detailed information on renal impairment, see what NICE says on chronic kidney disease in
adults.)

Severe renal impairment or established renal failure
estimated glomerular filtration rate of less than 30 ml/min/1.73m2

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

UFH
unfractionated heparin

Unprovoked
occurring in a patient with: no antecedent major clinical risk factor for venous thromboembolism
– for example surgery, trauma, significant immobility (bedbound, unable to walk unaided or likely
to spend a substantial proportion of the day in bed or in a chair), pregnancy or puerperium –
who is not having hormonal therapy (oral contraceptive or hormone replacement therapy) **or**
active cancer, thrombophilia or a family history of venous thromboembolism, because these are
underlying risks that remain constant in the patient

V/Q SPECT
ventilation/perfusion single photon emission computed tomography

VTE
venous thromboembolism

Wells score
a clinical prediction rule for estimating the probability of DVT or PE– there are a number of
versions of Wells scores available; this guidance recommends the two-level DVT Wells score
and the two-level PE Wells score

Sources

'© NICE NG89 [2018] Venous thromboembolism in over 16s: reducing the risk of hospital-acquired deep vein thrombosis or pulmonary embolism of rights

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Usual contraindications and cautions apply to the above. All the patients on enoxaparin should have platelet counts (FBC) done around the 5th post-operative day. If the platelet count falls to less than 50% of the baseline (pre-op pre-assessment clinic FBC) or the patient develops a new thrombocytopenia (i.e. count below the lower limit of normal) then a diagnosis of HIT (Heparin Induced Thrombocytopenia) should be excluded.

- In patient with allergy or aversion (for cultural /religious reasons) to enoxaparin, consider Fondaparinux.

VTE prophylaxis

Enoxaparin should be given once a day at 17.00 – 18:00 hours.
Monitor FBC after 5 days and then weekly.
For patients requiring anticoagulation following MI refer to Trust protocol

Ward Based Epidural Surgical patients (follow the ward-based protocol)

Heparin / enoxaparin sodium - prior to removing the epidural catheter, check to see if the patient is on either s/c heparin or enoxaparin sodium.
Do not remove catheter less than 12 hours after s/c enoxaparin sodium.
Do not remove catheter less than 4 hours after s/c Heparin.
After removal wait a further 2 hours before the next s/c heparin / enoxaparin sodium injection.

Rivaroxaban, Apixaban, Dabigatran & other novel anticoagulants

Novel anticoagulants may be prescribed for the prevention of VTE under specific circumstances. See NICE Guidance regarding 'Anticoagulation- oral' for more information.

Special Patient Groups
There is no dose adjustment of LMWH for the elderly or those of low body weight. (It is worth noting that there is evidence to suggest that modified doses are suitable for patients with bodyweight <50kg and >100kg and this has been adopted by other NHS Trusts locally and nationally. However, these altered doses are 'off-licence' and it is the individual prescriber's clinical decision whether to adjust the dose of LMWH)
Patients with mild to moderate renal hepatic impairment can receive the normal dose. Patients with more severe renal or hepatic impairment should be assessed before prescribing.

Rivaroxaban can be used with caution if CrCl is less than 30ml/min **BUT** it is quite important to note the **increased bleeding risk** when CrCl is 15 to 29/min. For patients with CrCl less than 15ml/min Rivaroxaban is **NOT** recommended.

Precautions

Spinal/epidural anaesthesia or puncture
The risk of epidural or spinal haematoma is increased by the use of anticoagulants including rivaroxaban. An epidural catheter is not to be removed earlier than 18 hours after the last administration of rivaroxaban. The next rivaroxaban dose is to be administered not earlier than 6 hours after the removal of the catheter. If traumatic puncture occurs the administration of rivaroxaban is to be delayed for 24 hours.

Side effects
The most frequent side effects reported in clinical trials (classified as 'common', and affecting >1/100 to <1/10 patients treated, were:

- Nausea
- Disturbance of some liver function tests
- Post-procedural haemorrhage (incl. post-op anaemia and wound haemorrhage)
- Anaemia
- Other uncommon side effects included haemorrhage from sites other than the wound

Please note that NICE noted that rivaroxaban increased anticoagulant efficacy but there is a small increased risk of major bleeding compared with enoxaparin clinicians should be aware and ensure robust risk assessment.

Planning for discharge

- Offer patients and/or their families or carers verbal and written information on:
  - signs and symptoms of DVT and PE
  - the 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

Based information contained within a leaflet published by United Lincolnshire Hospital Trust 'Venous Thromboembolism Reducing the Risk' (May 2010 – amended April 2011).

Appendix 4

Pharmacological interventions

Deep vein thrombosis or pulmonary embolism

1.2.1 Offer a choice of low molecular weight heparin (LMWH) or fondaparinux to patients with confirmed proximal DVT or PE, taking into account comorbidities, contraindications and drug costs, with the following exceptions:

- For patients with severe renal impairment or established renal failure (estimated glomerular filtration rate [eGFR] <30 ml/min/1.73 m^2) offer unfractionated heparin (UFH) with dose adjustments based on the APTT (activated partial thromboplastin time) or LMWH with dose adjustments based on an anti-Xa assay.
- For patients with an increased risk of bleeding consider UFH.
- For patients with PE and haemodynamic instability, offer UFH and consider thrombolytic therapy (see recommendations 1.2.7 and 1.2.8 on pharmacological systemic thrombolytic therapy in pulmonary embolism).

  Start the LMWH, fondaparinux or UFH as soon as possible and continue it for at least 5 days or until the international normalised ratio (INR) (adjusted by a vitamin K antagonist [VKA]; see recommendation 1.2.3 on VKA for patients with confirmed proximal DVT or PE) is 2 or above for at least 24 hours, whichever is longer. **[2012]**

1.2.2 Offer LMWH to patients with active cancer and confirmed proximal DVT or PE, and continue the LMWH for 6 months[3]. At 6 months, assess the risks and benefits of continuing anticoagulation[4]. **[2012]**

1.2.3 Offer a VKA to patients with confirmed proximal DVT or PE within 24 hours of diagnosis and continue the VKA for 3 months. At 3 months, assess the risks and benefits of continuing VKA treatment (see recommendations 1.2.4 and 1.2.5). **[2012]**

1.2.4 Offer a VKA beyond 3 months to patients with an unprovoked PE, taking into account the patient's risk of VTE recurrence and whether they are at increased risk of bleeding. Discuss with the patient the benefits and risks of extending their VKA treatment. **[2012]**

1.2.5 Consider extending the VKA beyond 3 months for patients with unprovoked proximal DVT if their risk of VTE recurrence is high and there is no additional risk of major bleeding. Discuss with the patient the benefits and risks of extending their VKA treatment. **[2012]**

Thrombolytic therapy

Deep vein thrombosis

1.2.6 Consider catheter-directed thrombolytic therapy for patients with symptomatic iliofemoral DVT who have:

- symptoms of less than 14 days' duration **and**
- good functional status **and**
- a life expectancy of 1 year or more **and**
- a low risk of bleeding. **[2012]**

Pulmonary embolism

1.2.7 Consider pharmacological systemic thrombolytic therapy for patients with PE and haemodynamic **instability** (see also recommendation 1.2.1 on pharmacological interventions for DVT and PE). **[2012]**

1.2.8 Do not offer pharmacological systemic thrombolytic therapy to patients with PE and haemodynamic **stability** with or without right ventricular dysfunction (see also recommendation 1.2.1 on pharmacological interventions for DVT and PE). If patients develop haemodynamic instability, refer to recommendation 1.2.7. **[new 2015]**

Mechanical interventions

Proximal deep vein thrombosis or pulmonary embolism

1.2.9 Do not offer elastic graduated compression stockings to prevent post-thrombotic syndrome or VTE recurrence after a proximal DVT. This recommendation does not cover the use of elastic stockings for the management of leg symptoms after DVT. **[new 2015]**

1.2.10 Offer temporary inferior vena caval filters to patients with proximal DVT or PE who cannot have anticoagulation treatment, and remove the inferior vena caval filter when the patient becomes eligible for anticoagulation treatment. **[2012]**

1.2.11 Consider inferior vena caval filters for patients with recurrent proximal DVT or PE despite adequate anticoagulation treatment only after considering alternative treatments such as:

- increasing target INR to 3–4 for long-term high-intensity oral anticoagulant therapy **or**
- switching treatment to LMWH. **[2012]**

1.2.12 Ensure that a strategy for removing the inferior vena caval filter at the earliest possible opportunity is planned and documented when the filter is placed, and that the strategy is reviewed regularly. **[2012]**

Source- NICE Guidelines CG144 “Venous thromboembolic diseases: diagnosis, management and thrombophilia testing”. https://www.nice.org.uk/guidance/cg144/chapter/Recommendations#treatment-2

Appendix 5

Equality analysis

Introduction

The general equality duty that is set out in the Equality Act 2010 requires public authorities, in the exercise of their functions, to have due regard to the need to:

- Eliminate unlawful discrimination, harassment and victimisation and other conduct prohibited by the Act.
- Advance equality of opportunity between people who share a protected characteristic and those who do not.
- Foster good relations between people who share a protected characteristic and those who do not.

The general equality duty does not specify how public authorities should analyse the effect of their existing and new policies and practices on equality, but doing so is an important part of complying with the general equality duty. It is up to each organisation to choose the most effective approach for them. This standard template is designed to help LCHS staff members to comply with the general duty.

Title: Policy for Prevention of Venous Thromboembolism
Relevant line in:
What are the intended outcomes of this work? The purpose of this guidance is to implement a co-ordinated and uniform approach to preventing venous thromboembolism. Lincolnshire Community Health Services NHS Trust will develop further implementation plans that will embed the policy into procedures and clinical audit will monitor performance.
Who will be affected? All staff and service users.
Evidence Report of the independent expert working group on the prevention of venous thromboembolism in hospitalised patients. Department of Health, A report to Sir Liam Donaldson, Chief Medical Officer. 2007 Government Response to the House of Commons Health Committee report on the prevention of Venous thromboembolism in Hospitalised Patients – second report of session 2004-5. July 2005 NICE Clinical Guideline 92 Venous thromboembolism: reducing the risk. Reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to hospital. January 2010
What evidence have you considered? *List the main sources of data, research and other sources of evidence (including full references) reviewed to determine impact on each equality group (protected characteristic). This can include national research, surveys, reports, research interviews, focus groups, pilot activity evaluations etc. If there are gaps in evidence, state what you will do to close them in the Action Plan on the last page of this template.* The diverse needs of our service, population and work force.
Disability *Consider and detail (including the source of any evidence) on attitudinal, physical and social barriers.* All policies available in alternative format on request for staff requiring support in access.
Sex *Consider and detail (including the source of any evidence) on men and women (potential to link to carers below).* The policy provides to be appropriate to all within the diversity.
Race *Consider and detail (including the source of any evidence) on difference ethnic groups, nationalities, Roma gypsies, Irish travellers, language barriers.* The policy is designed to meet the diverse needs of our service, population and work force ensuring

that none are placed at a disadvantage over others. The policy is written in a style that is concise and uses clear terms and language. Consideration has been given to producing appropriate documents in alternative formats upon request (e.g. other languages, large print or Braille, via text Relay) to respond to the needs of the diverse community of Lincolnshire.
Age *Consider and detail (including the source of any evidence) across age ranges on old and younger people. This can include safeguarding, consent and child welfare.* Not Applicable as policy determines clinical needs taking in to account all patient factors
Gender reassignment (including transgender) *Consider and detail (including the source of any evidence) on transgender and transsexual people. This can include issues such as privacy of data and harassment.* Not Applicable
Sexual orientation *Consider and detail (including the source of any evidence) on heterosexual people as well as lesbian, gay and bi-sexual people.* Not Applicable
Religion or belief *Consider and detail (including the source of any evidence) on people with different religions, beliefs or no belief.* Not Applicable
Pregnancy and maternity *Consider and detail (including the source of any evidence) on working arrangements, part-time working, infant caring responsibilities.* The policy is provided appropriately with regard to diversity. The needs of pregnant patients are included in the policy.
Carers *Consider and detail (including the source of any evidence) on part-time working, shift-patterns, general caring responsibilities.* Not Applicable
Other identified groups *Consider and detail and include the source of any evidence on different socio-economic groups, area inequality, income, resident status (migrants) and other groups experiencing disadvantage and barriers to access.* Not Applicable
Engagement and involvement Was this work subject to the requirements of the Equality Act and the NHS Act 2006 (Duty to involve)? **No**
How have you engaged stakeholders in gathering evidence or testing the evidence available? Ratification process Policy will be audited
How have you engaged stakeholders in testing the policy or programme proposals? Ratification process Policy will be audited
For each engagement activity, please state who was involved, how and when they were engaged, and the key outputs: Medicines Management Committee/Clinical Governance and Risk Committee/Trust Board ratification NHSLA standards
Summary of Analysis *Considering the evidence and engagement activity you listed above, please summarise the impact of your work. Consider whether the evidence shows potential for differential impact, if so state whether adverse or positive and for which groups. How you will mitigate any negative impacts. How you will include certain protected groups in services or expand their participation in public life.* Policy is designed to meet needs of all patients and is clinically driven by best practice standards. Where exceptions are identified within implementation expert specialist advice is sought on case by case basis. *Now consider and detail below how the proposals impact on elimination of discrimination, harassment and victimisation, advance the equality of opportunity and promote good relations between groups.*
Eliminate discrimination, harassment and victimisation *Where there is evidence, address each*

protected characteristic (age, disability, gender, gender reassignment, pregnancy and maternity, race, religion or belief, sexual orientation). Not Applicable
Advance equality of opportunity *Where there is evidence, address each protected characteristic (age, disability, gender, gender reassignment, pregnancy and maternity, race, religion or belief, sexual orientation).* Not Applicable
Promote good relations between groups *Where there is evidence, address each protected characteristic (age, disability, gender, gender reassignment, pregnancy and maternity, race, religion or belief, sexual orientation).* Not Applicable
What is the overall impact? *Consider whether there are different levels of access experienced, needs or experiences, whether there are barriers to engagement, are there regional variations and what is the combined impact?* No Adverse Impact
Addressing the impact on equalities *Please give an outline of what broad action you or any other bodies are taking to address any inequalities identified through the evidence.* No Action Required
Action planning for improvement *Please give an outline of the key actions based on any gaps, challenges and opportunities you have identified. Actions to improve the policy/programmes need to be summarised (An action plan template is appended for specific action planning). Include here any general action to address specific equality issues and data gaps that need to be addressed through consultation or further research.* No Action Required
Please give an outline of your next steps based on the challenges and opportunities you have identified. Include here any or all of the following, based on your assessment • Plans already under way or in development to address the **challenges** and **priorities** identified. • Arrangements for continued engagement of stakeholders. • Arrangements for continued monitoring and evaluating the policy or service for its impact on different groups as the policy\service is implemented (or pilot activity progresses) • Arrangements for embedding findings of the assessment within the wider system, other agencies, local service providers and regulatory bodies • Arrangements for publishing the assessment and ensuring relevant colleagues are informed of the results • Arrangements for making information accessible to staff, patients, service users and the public • An arrangement to make sure the assessment contributes to reviews of DH strategic equality objectives.
For the record **Name of person who carried out this assessment:** Dr P Mitchell Medical Director
Date assessment completed: 28/02/2012
Name of responsible Director/Director General: Dr P Mitchell Medical Director
Date assessment was signed: 28/02/2012