Venous Thromboembolism (VTE) Prevention and Management Policy

Category:	Policy
Summary:	This document outlines the Trust policy for inpatient thromboprophylaxis (aged 16 years or over) including risk assessment, and the diagnosis and treatment of deep vein thrombosis and pulmonary embolism in patients aged 18 years or over (excluding pregnancy and the puerperium).
Equality Impact Assessed:	March 2023
Valid From:	April 2023
Date of Next Review:	April 2026
Approval Date/ Via:	Medicines, Administration, Prescribing, Supply Standards Group (MAPSS) Clinical Policy Group
Distribution:	Trustwide
Related Documents:	Venous thromboembolism in over 16s: reducing the risk of hospital-acquired deep vein thrombosis or pulmonary embolism – NICE NG89. Venous Thromboembolic diseases: the management of venous thromboembolic diseases and the role of thrombophilia testing-NICE NG 158. Venous thromboembolism in adults: diagnosis and management. NICE QS201 Medicine Information Leaflet (MIL) Volume 7 No 4 Prevention of hospital acquired venous thromboembolism (VTE) in inpatients aged 16 years or more. Reducing the Risk of Venous Thromboembolism (VTE) During and After Pregnancy Guideline Investigation and acute management of venous thromboembolism in pregnancy and the puerperium Children's Venous Thrombosis Prevention Operating Procedure. Incident Reporting, Investigation and Learning Procedure Pre-Operative and Pre-Procedural Fasting for Elective and Urgent Medical and Surgical Procedures
Author(s):	Consultant Haematologists Consultant Acute General Medical Physicians VTE Prevention Nursing Team Anticoagulation and Thrombosis Pharmacists Inpatient Anticoagulation safety nurse Senior Thrombosis Nurse
Further Information:	Anticoagulation and Thrombosis Intranet Site

This Document replaces:	Venous Thromboembolism prevention and management in adults Version 5.2 March 2019

Lead Director: Chief Medical Officer

Issue Date: June 2023

This document is uncontrolled once printed.

It is the responsibility of all users to this document to ensure that the correct and most current version is being used.
This document contains many hyperlinks to other related documents.
All users must check these documents are in date and have been ratified appropriately prior to use.

Document History

Date of revision	Version number	Author	Reason for review or update
June 2012	2.0	Consultant Haematologists Consultant acute General Medical Physicians VTE Prevention Nursing Team Anticoagulation and Thrombosis Pharmacists	To reflect the merged Oxford University Hospitals Trust
April 2013	3.0		Introduction of rivaroxaban. Guidance of investigation for underlying malignancy
July 2015	4.0		Introduction of apixaban. Alteration of policy on cancer screening
July 2016	5.0		Full review/update due.
August 2017	5.1		PE management section updated and re-included.
March 2019	5.2		Update with 2018 NICE thromboprophylaxis guidelines NG89
March 2023	6.0		Full review/update due.
November 2026	6.1		Update of Hyperlinks

Consultation Schedule

Who? Individuals or Committees	Rationale and/or Method of Involvement
Divisional Directors Clinical Directors Divisional CGRPs Matrons & Ward Sisters Divisional Nurses Practice Educators Medical Staff	Trust-wide consultation process and Anticoagulation and Thrombosis site
MAPSS CPG	Review and approval

Endorsement

Endorsee Job Title

Chief Medical Officer

Contents

Who should read this document?

1. This policy should be read by all clinical staff across the Trust

Key Standards/Messages

2. **Key Standards for venous thromboembolism (VTE) prevention:**

   With regard to VTE prevention, the Trust follows NICE [NG89], related to NICE quality statements [QS201] and own Trust standards that must be followed:

   NICE Statements:

   Statement 1: People aged 16 and over who are in hospital and assessed as needing pharmacological VTE prophylaxis start it as soon as possible and within 14 hours of hospital admission.

   Statement 2: People aged 16 and over who are discharged with lower limb immobilisation are assessed to identify their risk of VTE.

   OUH Standards:

   Standard 1: Medical and surgical patients have their risk of VTE, and bleeding assessed using a national tool within 6 hours of admission and will be re-assessed when clinical condition changes.

   Standard 2: An individual VTE risk assessment must be carried out on every inpatient aged 16 years or older, with the exception of patients who fulfil the cohort criteria.

   Standard 3: Patients assessed to be at risk of VTE are offered thromboprophylaxis (both pharmacological and mechanical) in accordance with NICE guidance.

   Standard 4: Thromboprophylaxis to be administered within 14 hours of admission if indicated.

   Standard 5: Patients provided with anti-embolism stockings and intermittent pneumatic compression devices have them fitted and monitored in accordance with NICE guidance.

   Standard 6: All patients (and/or carers) should be offered verbal and written information on VTE prevention as part of admission and discharge processes.

   Standard 7: Patients are offered extended (post hospital) thromboprophylaxis in accordance with NICE guidance.

3. **Key Standards for VTE diagnosis and management:**

   With regard to VTE diagnosis and management, the Trust follows NICE [NG89] and [NG158], related to NICE quality statements [QS201] and their own Trust standards and these must be followed:

   NICE Statements:

   Statement 3: People aged 18 and over with a deep vein thrombosis (DVT) Wells score of 2 points or more have a proximal leg vein ultrasound scan within 4 hours of it being requested.

Statement 4: People aged 18 and over taking anticoagulation treatment after a VTE have a review at 3 months and then at least once a year if they continue to take it long term.

Statement 5: People aged 18 and over having outpatient treatment for suspected or confirmed low-risk pulmonary embolism (PE) have an agreed plan for monitoring and follow-up.

OUH Standards:

Standard 1: People with suspected DVT are offered an interim therapeutic dose of anticoagulation therapy if diagnostic investigations are expected to take longer than 4 hours from the time of first clinical suspicion.

Standard 2: People with suspected DVT have all diagnostic investigations completed within 24 hours of first clinical suspicion.

Standard 3: People with suspected PE are offered an interim therapeutic dose of anticoagulation therapy if diagnostic investigations are expected to take longer than 1 hour from the time of first clinical suspicion.

Standard 4: People without cancer who receive anticoagulation therapy have a review within 3 months of diagnosis of confirmed proximal DVT or PE to discuss the risks and benefits of continuing anticoagulation therapy.

Standard 5: People with active cancer who receive anticoagulation therapy have a review within 6 months of confirmed proximal DVT or PE to discuss the risks and benefits of continuing anticoagulation therapy.

Standard 6: People aged 16 to 17 years old who require treatment for confirmed VTE with therapeutic dose anticoagulation should have individualised therapy plans as per the transition policy.

Background/Scope

4. Venous Thromboembolism (VTE) is a significant cause of mortality, long term disability and chronic ill health. The prioritisation of VTE prevention in the NHS was accepted by government in 2005, when VTE was estimated by the Health Select Committee (2005) to cause in excess of 25,000 deaths each year, a substantial proportion of which would be preventable with appropriate thromboprophylaxis.

5. The House of Commons Health Committee produced the report 'Prevention of Venous Thromboembolism in Hospitalised Patients' (2005). In response, a ministerial statement concluded that VTE risk assessment of every patient on admission to hospital must become a reality.

6. VTE risk assessment followed by appropriate prophylaxis reduces VTE related morbidity and mortality. It is proposed that by following guidelines for adult thromboprophylaxis risk assessment and management, this will assist in reducing the incidence of VTE.

7. This document summarises the Trust's approach to the risk assessment and prevention of VTE for inpatients 16 years or more and the investigation and treatment of VTE for patient 18 years or more. For patients who are pregnant

or up to 6 weeks post-partum, please refer to the VTE Reducing the Risk of Venous Thromboembolism (VTE) During and After Pregnancy and Investigation Guideline and acute management of venous thromboembolism in pregnancy and the puerperium Guideline. For those under the age of 16 please refer to the Children's Venous Thrombosis Prevention Operating Procedure.

Key Updates

8. The key standards for VTE prevention and diagnosis and management of VTE have been updated to reflect NICE [NG89] guidance.

Aim

9. The purpose of this Policy is to ensure that:

   9.1. All inpatients aged 16 years and above have an accurate VTE risk assessment and are offered appropriate thromboprophylaxis.

   9.2. Suspected deep vein thromboses (DVTs) and pulmonary emboli (PE) are diagnosed and treated as required in adults aged 18 and above.

VTE Risk Assessment Process

10. The VTE risk assessment tool is available electronically in the electronic clinical patient record (EPR). This sits within the Cerner Millennium EPR system. The VTE risk assessment tool is based on the national tool and complies with NICE guidance.

11. All patients aged 16 years or older admitted to the Trust must be **VTE risk assessed within 6 hours of the decision to admit a patient to hospital** with the exception of patients who fulfil the cohort criteria (as agreed by Divisional Director and OUH Chief Medical Officer). All approved cohorts are located on ORBIT and a cohort application form is available on the Intranet.

12. All (out)patients aged 16 years or more with lower limb immobilisation should be VTE risk assessed by using a tool such as the OxFord venous ThromboEmbolism risk Number (OFTEN) assessment tool. Please see related Medicine Information Leaflet (MIL): Venous Thromboembolism for lower limb immobilisation in outpatients aged 16 or more.

13. At the time of admission the admitting clinical team will complete a VTE risk assessment. The risk factors for thrombosis and bleeding are listed on the electronic Trust VTE risk assessment form and as part of the flow diagrams in the related MIL: Prevention of hospital associated venous thromboembolism in patients aged 16 years or more. The completed electronic risk assessment provides a powerplan prescription which must be activated (situated under suggested powerplans in request and prescribing tab) for appropriate thromboprophylaxis for the patient. It is imperative that this guidance is considered unless there is a clinical reason not to. In this case, the reason must be documented in the medical notes.

14. It is the responsibility of the admitting clinician to prescribe appropriate thromboprophylaxis (both mechanical and pharmacological) on the prescription chart as soon as possible after the VTE risk assessment has been completed. All eligible patients must have appropriate VTE prevention measures **administered within 14 hours of admission**.

15. The patient's risk of VTE and bleeding should be re-assessed whenever the patients clinical condition changes, to ensure that the methods of VTE thromboprophylaxis being used are suitable, correctly and to identify adverse events resulting from thromboprophylaxis. Clinicians must ensure that other pertinent information relating to risk assessment and treatment decisions is recorded within the patient's medical notes.

Pharmacological thromboprophylaxis

16. Once a VTE risk assessment has been completed, pharmacological thromboprophylaxis should be given if indicated, in accordance with NICE clinical guideline NG89 (2018).

17. Pharmacological thromboprophylaxis will not be routinely offered to patients with risk factors for bleeding. The risk and benefits of offering thromboprophylaxis will be discussed with a senior member of the admitting team and the decision documented in the patient's medical notes.

18. With the exception of cases of extended thromboprophylaxis, pharmacological thromboprophylaxis should be continued for the duration of hospitalisation and does not need to be continued on discharge.

19. Dalteparin is the OUH low molecular weight heparin (LMWH) of choice for pharmacological prophylaxis.

20. Heparins are derived from pigs, and this may be of concern to some people. Discuss the alternatives with people who have concerns about using animal products, after discussing their suitability, advantages and disadvantages. Alternatives are outlined in the Prevention of hospital associated venous thromboembolism in patients aged 16 years or more MIL.

21. The licensed dose for medical patients is dalteparin 5,000 units once daily. However, there is evidence to suggest dose banding based on weight provides more effective prophylaxis and should be considered in patients at the extremes of body weight.

22. Weight based doses for medical and surgical patients can be found in the Prevention of hospital associated venous thromboembolism in patients aged 16 years or more MIL.

23. Certain high-risk procedures carry a significant risk of VTE that continues post discharge, and as such extended thromboprophylaxis is indicated after these procedures. Further guidance on extended thromboprophylaxis can be found on the protocol and guidance page.

Mechanical thromboprophylaxis

24. Within OUH, anti-embolism stockings (AES) and/or intermittent pneumatic compression devices (IPC) are available for use. For surgical patients, AES and/or IPC should be used unless contraindicated.

25. Medical patients should not generally be prescribed mechanical thromboprophylaxis. Medical patients at high risk of VTE and for whom pharmacological thromboprophylaxis is contraindicated may be considered for mechanical thromboprophylaxis at the medical team's discretion. In these circumstances there is greater evidence to support the use of IPC when compared to AES.

26. Mechanical thromboprophylaxis must be prescribed by the medical team on EPR.

27. Patients who require AES and/or IPC should have them fitted and monitored by a trained member of staff. Training is bookable on the my learning hub system under mechanical thromboprophylaxis.

28. Nursing staff must document skin safety checks within interactive view at least every 8 hours. These skin checks should be carried out more frequently if there are tissue viability concerns. Further guidance on AES and IPC can be found on the Mechanical Thromboprophylaxis intranet webpage.

Compliance

29. Compliance with NICE quality statements, and National Contract requirements, will be monitored (see monitoring compliance section). The OUH process for hospital associated thrombosis (HAT) reporting was agreed at Clinical Effectiveness Committee September 2015. The HAT form and a flow diagram of the agreed HAT process are linked to this policy

Procedure to be followed if VTE suspected

DVT Outpatient

30. Most patients suspected of having a lower limb DVT can be managed as an out-patient and can follow the DVT diagnostic pathway offered in Oxford at the Haemophilia and Thrombosis Centre, or at the DVT clinic at the Horton Hospital in Banbury. Full details of the outpatient guidance pathway can be found on our intranet site. Patients will be seen, where possible, on the same day as their referral. Most referrals to this service will come from ED or the patient's GP. Suspected upper limb DVTs should be referred to the vascular team.

DVT Inpatient

31. Inpatients suspected of having a DVT can be assessed using a Well's score. D-dimer values are not reliable for patients admitted to hospital, as they can often be elevated due to the underlying reason for the in-patient stay. When DVT is suspected and the Well's score is 'likely', send bloods for FBC, LFT, U&E, Coag. Request and send the patient for an USS. Interim anticoagulation should be offered to the patient if the USS is likely to be more than 4 hours from request.

32. It will usually be simplest to give a treatment dose of dalteparin to provide 24 hours of cover. If the risk of therapy is felt to outweigh the benefit, this should be documented in the medical notes. If a VTE is confirmed, then transition to an oral therapy is recommended as soon as possible.

33. Patients who are started on Warfarin whilst an inpatient will need to be referred to their local anticoagulation service on discharge. Referral information is available on the referral intranet webpage.

PE Pathway

34. Patient suspected of having a PE should be assessed initially with a full history and examination. There are a number of scoring systems which are useful in the management of PE. If the patient is perceived to be low risk then a PERC

score can exclude a PE diagnosis without any further bloods or other investigations needed. If the patient is higher risk, or has a positive PERC score, a 2 level Wells score should then be performed. In low-risk wells score patients a d-dimer may be helpful (although this test can be raised for many reasons other than PE). The d-dimer can be interpreted in conjunction the YEARS score and if negative in these contexts a PE can be excluded. If the patient has a high Wells score, or the d-dimer is positive despite being adjusted for age and YEARS criteria, imaging is warranted. This can be via a CTPA or VQ scan. Young female patients, those with contrast allergy or pregnant patients may benefit from a VQ scan but for most patients a CTPA is most appropriate. If selecting a VQ scan significantly delays the imaging by over 24hrs and a CTPA can be safely organised in a timely fashion, then a CTPA should be ordered. Patients should be anticoagulated if their wait for a definitive diagnosis is over 1 hour or if they are perceived to have a very high probability of having a PE.

35. It will usually be simplest to give a treatment dose of dalteparin to provide 24 hours of cover. If the risk of therapy is felt to outweigh the benefit, this should be documented in the medical notes. If a VTE is confirmed, then transition to an oral therapy is recommended as soon as possible.

36. Patients who are started on warfarin whilst an inpatient will need to be referred to their local anticoagulation service on discharge. Referral information is available on the referral intranet webpage.

Anticoagulation options once a VTE has been diagnosed

37. Treatment for a VTE can either be with a DOAC (e.g. apixaban), LMWH and warfarin or LMWH alone. The choice is dependent on several patient factors including medical history, current medications, renal function, and body weight. Detailed information on these options can be found in the following Medicines Information Leaflets:

- Treatment of VTE in adults with anticoagulation
- Treatment of VTE in adults with dalteparin (Fragmin®)
- Initiating oral anticoagulation with vitamin K antagonists (VKAs) in adult patients

Counselling, duration of treatment and follow-up

38. All patients should be counselled on the indication for anticoagulation and how to take the medicine safety, complications and side effects of anticoagulation medications, the signs, and symptoms of recurrent VTE, and the duration of anticoagulation. Appropriate information will be supplied accordingly (e.g. a patient information booklet).

39. Best practice, especially for those patients on the ambulatory VTE pathway or those who are discharged early is to provide contact information and where they can seek advice should they have specific related concerns.

40. Patients with proximal DVT should be treated for at least 3 months. For a first proximal DVT or a PE associated with transient risk factors treatment will usually stop at three months and follow-up in haematology clinic is not generally

necessary. Long–term treatment will be considered for recurrent thrombosis, patients with an on-going risk factor, or whose event was unprovoked.

41. It may be possible to decide on finite (3 months) or indefinite anticoagulation when treatment is started but many patients (e.g. those with a first unprovoked proximal DVT or PE) will need to be reviewed at three months to decide whether to stop anticoagulation or whether to continue indefinitely. Patients can be referred to the thrombosis consultants for a three month review if required.

42. Since the publication of a clinical trial in 2018 of anticoagulant therapy in patients with known antiphospholipid syndrome (APS) it is recommended that patients who are considered clinically at high risk of having APS (e.g. recurrent VTE on anticoagulation, a history of venous and arterial thrombosis) have tests taken for APS. The three tests that should be taken are: anti-cardiolipin antibodies, beta-2-glycoprotein 1 antibodies and lupus anticoagulant.

Review

43. This policy will be reviewed every 3 years, as set out in the *Policy for the Development and Implementation of Procedural Documents.*

References

44. House of Commons Health Committee (2005) The prevention of venous thromboembolism in hospitalised patients, second report of session 2004-05. Available at http://www.publications.parliament.uk/pa/cm200405/cmselect/cmhealth/99/99.pdf (Accessed 24th January 2023)

45. NICE (2018) Venous thromboembolism in over 16s: reducing the risk of hospital-acquired deep vein thrombosis or pulmonary embolism NG-89. Available at: https://www.nice.org.uk/guidance/NG89 (Accessed 24 January 2023)

46. NICE (2010, last updated June 2018) Venous thromboembolism: reducing the risks for patients in hospital CG-92. Available at https://www.nice.org.uk/guidance/cg92/resources/venous-thromboembolism-reducing-the-risk-for-patients-in-hospital-975745995973 (Accessed May 24th 2019)

47. NICE (2012, last updated March 2020) Venous thromboembolic diseases: the management of venous thromboembolic diseases and the role of thrombophilia testing- NG 158 Available at https://www.nice.org.uk/guidance/ng158 (Accessed 02/02/2023)

48. NICE (2010) Venous thromboembolism in adults: reducing the risk in hospital, Quality Standard QS201, Available at https://www.nice.org.uk/guidance/qs3/resources/venous-thromboembolism-in-adults-reducing-the-risk-in-hospital-58294387141 (Accessed 24th January 2023)

Appendix 1: Responsibilities

The **Chief Executive Officer** has overall accountability for ensuring the Trust has processes in place to risk assess for VTE; the **Chief Medical Officer** has overall responsibility for the clinical content of the policy and the **Director of Clinical services** has responsibility for delivery of this policy as executive lead.

1.1. The **VTE Prevention Team** are responsible for:

- Updating Trust policy in accordance with new evidence and updated guidelines providing assurance for the NICE quality statements [QS201] and OUH standards
- Facilitating reporting of VTE risk assessment nationally and locally
- Facilitating audits of key performance measures of VTE prevention, such as appropriateness of thromboprophylaxis and information given to patients
- Facilitating Hospital Associated Thrombosis (HAT) process
- In collaboration with the patient safety team the potentially preventable HATs will be investigated, and shared learning distributed
- Facilitate education and training for clinical staff on all aspects of VTE Prevention
- Provide support to clinical areas and thrombosis champions
- Work collaboratively with the EPR team facilitating electronic VTE prevention solutions
- In association with the clinical risk practitioner's areas of good practice and disseminate learning gained from appreciative inquiry to other areas highlighted.

Training and Implementation

1.2. The VTE Prevention and Anticoagulation Team will ensure provision of training to relevant managers, supervisors and staff, to enable them to carry out their duties and responsibilities, relating to VTE prevention, management and anticoagulation.

1.3. VTE prevention and anticoagulation training will be provided every three years for all clinical staff

1.4. **All clinical staff:** It is the responsibility of all members of the clinical and multi-disciplinary teams:

- To ensure that they are conversant with this policy and the role that they play in ensuring appropriate VTE risk assessment takes place and appropriate thromboprophylaxis is received. Measures should be in place to ensure that all patients remain hydrated and are encouraged to mobilise as soon as practically possible.
- Comply with local VTE Prevention and Management policies, procedures, and guidelines.

1.5. **Medical practitioners** working with patients aged 16 years or above are responsible for:

- following the procedure if VTE is suspected and prescribing anticoagulation
- understanding the importance of VTE risk assessment and for using the standard risk assessment tool as outlined in this document
- prescribing appropriate thromboprophylaxis or anticoagulation on the prescription chart and documenting plans if doses are to be withheld
- responsible for counselling patients about anticoagulation and thromboprophylaxis.

1.6. **Clinical Leads and all Managers** are responsible for overseeing VTE prevention and management of VTE within the areas of their responsibility at a local level and ensuring these areas work together to comply with all aspects of the Trust's VTE prevention and management policies and procedures.

1.7. **Registered nurses** working with patients aged 16 years or above are responsible for: (a) checking that an appropriate VTE risk assessment has been completed, and if this is not the case to bring this to the attention of the clinician in charge of the patient's care. (b) administering pharmacological and mechanical thromboprophylaxis as prescribed. (c) counselling patients about anticoagulation and thromboprophylaxis.

1.8. **Thrombosis Champions** have a responsibly to: (a) support local mangers in the implementation of this policy. (b) provide a local resource of knowledge and education in the clinical area. (c) promote high standards of clinical practice and care supported by the VTE prevention team.

1.9. **Pharmacists** working with inpatients aged 16 years or above are responsible for: (a) reviewing thromboprophylaxis and anticoagulation as part of their clinical duties (b) highlighting to the team any concerns relating to anticoagulation such as dose, frequency, route, interactions, or duration (c) counselling patients about anticoagulation and thromboprophylaxis.

1.10. **The Thrombosis Working Group** is the group responsible for: reviewing and monitoring compliance with this policy and for identifying remedial actions to improve compliance.

1.11. **Patient Safety and Clinical Risk Committee** is responsible for: Providing assurance to the Clinical Governance Committee on the effectiveness of the Trust's Patient Safety and Clinical Risk activities and programmes and the sharing of learning across Divisions; as well as to monitor and hold to account the reporting sub-committees ensuring that progress against programmes of work is reported upon. The Thrombosis Working Group is a sub-committee of the Patient Safety and Clinical Risk Committee.

1.12. **Clinical Improvement Committee** is responsible for reviewing the results of the Trust wide VTE audits, and for ensuring oversight of appropriate action plans and support.

1.13. **SIRI forum** is responsible for reviewing appropriate reports of

'potentially preventable' thrombosis in an open and consistent manner, to ensure an appropriate level of further investigation and shared learning.

1.14. **The Performance and Information Team** are responsible for**:** providing clinical, operational and strategic information with regard to activity recording, performance and outcome measures.

1.15. **Medicines Management and Therapeutics Committee** is responsible for**:** ensuring drugs used within the Trust are being delivered and monitored, utilising consistent evidenced based and appropriate clinical protocols and guidance.

Appendix 2: Definitions

1. AES: antiembolism stockings.
2. APS: antiphospholipid syndrome (APS).
3. Coag: Coagulation profile.
4. Cohort group: a group of patients admitted for the same procedure who are considered to have a similar risk profile and are assessed as a group as being at low risk of VTE.
5. CTPA: a CT pulmonary angiogram.
6. FBC: full blood count.
7. HAT: hospital associated venous thromboembolism, a deep vein thrombosis (DVT) or pulmonary embolus (PE) following an inpatient stay within the preceding 90 days, or one that is diagnosed during a patient stay, but that was not present on admission.
8. IPC: Intermittent pneumatic compression.
9. LFT: liver function test.
10. LMWH: low molecular weight heparin.
11. OFTEN: OxFord venous ThromboEmbolism risk Number assessment tool.
12. ORBIT: Oxford University Hospitals Reporting Business Intelligence tool database.
13. Thromboprophylaxis: a measure (which can be pharmacological or mechanical) taken to prevent the development of a venous thromboembolism.
14. U&E: urea and electrolytes.
15. PERC: The pulmonary embolism rule out criteria.
16. VTE: venous thromboembolism is a condition in which a blood clot (thrombus) forms in a vein. Blood flow through the affected vein can be limited by the clot, and may cause swelling and pain. Venous thrombosis occurs most commonly in the deep veins of the leg or pelvis; this is known as a deep vein thrombosis (DVT). An embolism occurs if all or a part of the clot breaks off from the site where it forms and travels through the venous system. If the clot lodges in the lung a potentially serious and sometimes fatal condition, pulmonary embolism (PE) occurs. Venous thrombosis can occur in any part of the venous system. However, DVT and PE are the most common manifestations of venous thrombosis. The term VTE embraces both the acute conditions of DVT and PE, and also the chronic conditions which may arise after acute VTE-such as post thrombotic syndrome and pulmonary hypertension-both problems being associated with significant ill-health and disability.

17. VQ: a ventilation–perfusion scan.
18. Wells score: is a number that reflects your risk of developing deep vein thrombosis (DVT).

Appendix 3: Education and Training

1. For policies which include mandatory training, include a standard statement that:

   1.1. Clinical staff involved with VTE Prevention, Diagnosis and Management of VTE must complete their role specific VTE Prevention and Anticoagulation My Learning Hub Package. Training required to fulfil this policy will be provided in accordance with the Trust's Training Needs Analysis. Management and monitoring of training will be in accordance with the Trust's Learning and Development Policy. This information can be accessed via the Practice Development and Education pages on the Trust intranet.

Appendix 4: Monitoring Compliance

1. Data collection will be critical in evaluating the impact of VTE risk assessment and appropriate management on improving health outcomes for patients. A detailed report on risk assessment compliance is available within the ORBIT data base, highlighting Division's and Consultant's Percentage Compliance.

Compliance with this policy will be monitored in the following ways: What is being monitored:	How is it monitored:	By who, and when:	Minimum standard	Reporting to:
Percentage of patients assessed for their risk of developing VTE (16yrs and over)	Monthly VTE Risk Assessment Performance Reports (ORBIT)	Divisional Directors Monthly	95%	Thrombosis Working Group will review overall compliance quarterly, Monthly data will be reviewed at divisional level
Audits on appropriateness of thromboprophylaxis	Trust-wide and local VTE audits	Divisional Directors 3 to 6 monthly	95%	Data will be reviewed at a divisional level, by Thrombosis working Group and at Clinical Improvement Committee
Information provided to patients	Local audits	Yearly	60%	Data will be reviewed at a divisional level, by Thrombosis working Group and at Clinical Improvement Committee
Percentage of patients who are discharged with lower limb immobilisation are assessed to identify their risk of VTE	Local audits	6 monthly	95%	Data will be reviewed at a divisional level, by Thrombosis working Group and at Clinical Improvement Committee
Root cause analysis of all hospital associated thromboses (see HAT process)	VTE Prevention Team	Continuous Appropriate Potentially preventable HATs are escalated to SIRI forum.	Moderate Harm & above-0	SIRI forum, Thrombosis Working Group, Divisional Quality reports to Clinical Governance Committee
Medical Practitioners, Registered Nurses, Pharmacists, Clinical Support Workers & Assistant Nurse Practitioners maintain knowledge and skills in preventing VTE, management and safe anticoagulation	Reports /My Learning Hub	My Learning Hub Subject Matter Expert for VTE prevention and anticoagulation	85%	Data will be reviewed at Thrombosis Working Group and divisional level.
What is being monitored:	How is it monitored:	By who, and when:	Minimum standard	Reporting to:

People aged 18 and over with a DVT, Wells score of 2 points or more have a proximal leg vein ultrasound scan within 4 hours of it being requested	Local Audit	Yearly	75%	Data will be reviewed at Thrombosis Working Group and Divisional level
People aged 18 and over taking anticoagulation treatment after a VTE have a review at 3 months	Local Audit	Yearly	75%	Data will be reviewed at Thrombosis Working Group and Divisional level
People aged 18 and over having outpatient treatment for suspected or confirmed low-risk pulmonary embolism (PE) have an agreed plan for monitoring and follow-up.	Local Audit	Yearly	75%	Data will be reviewed at Thrombosis Working Group and Divisional level
People with suspected pulmonary embolism are offered an interim therapeutic dose of anticoagulation therapy if diagnostic investigations are expected to take longer than 1 hour from the time of first clinical suspicion.	Local Audit	Yearly	75%	Data will be reviewed at Thrombosis Working Group and Divisional level.
People with active cancer and confirmed proximal deep vein thrombosis or pulmonary embolism are offered anticoagulation therapy.	Local Audit	Yearly	75%	Data will be reviewed at Thrombosis Working Group and Divisional level.

People without cancer who receive anticoagulation therapy have a review within 3 months of diagnosis of confirmed proximal deep vein thrombosis or pulmonary embolism to discuss the risks and benefits of continuing anticoagulation therapy.	Local Audit	Yearly	75%	Data will be reviewed at Thrombosis Working Group and Divisional level.
People with active cancer who receive anticoagulation therapy have a review within 6 months of confirmed proximal deep vein thrombosis or pulmonary embolism to discuss the risks and benefits of continuing anticoagulation therapy.	Local Audit	Yearly	75%	Data will be reviewed at Thrombosis Working Group and Divisional level.

Appendix 5: Equality Impact Assessment (This is a mandatory heading)

Equality Impact Assessment Template

1. Information about the policy, service, or function

What is being assessed	Existing Policy / Procedure
Job title of staff member completing assessment	Penney Clarke, Senior VTE Prevention Nurse
Name of policy / service / function:	Venous Thromboembolism (VTE) Prevention and Management Policy
Details about the policy / service / function	This document outlines the Trust policy for inpatient thromboprophylaxis (aged 16 years or over) including risk assessment, and the diagnosis and treatment of deep vein thrombosis and pulmonary embolism in patients aged 18 years or over (excluding pregnancy and the puerperium).
Is this document compliant with the Web Content Accessibility Guidelines?	Yes
Review Date	February 2026
Date assessment completed	February 2023
Signature of staff member completing assessment	
Signature of staff member approving assessment	

2. Screening Stage

Who benefits from this policy, service, or function? Who is the target audience?

- Staff

Does the policy, service or function involve direct engagement with the target audience?

- Yes

3. Research Stage

Notes:

- If there is a neutral impact for a particular group or characteristic, mention this in the 'Reasoning' column and refer to evidence where applicable.
- Where there may be more than one impact for a characteristic (e.g., both positive and negative impact), identify this in the relevant columns and explain why in the 'Reasoning' column.
- The Characteristics include a wide range of groupings and the breakdown within characteristics is not exhaustive, but is used to give an indication of groups that should be considered. Where applicable please detail in the 'Reasoning' column where specific groups within categories are affected, for example, under Race the impact may only be upon certain ethnic groups.

Impact Assessment

Characteristic	Positive Impact	Negative Impact	Neutral Impact	Not enough information	Reasoning
Sex and Gender Re-assignment – men (including trans men), women (including trans women) and non-binary people.			x		This policy is not expected to impact negatively or positively on these patient groups.
Race - Asian or Asian British; Black or Black British; Mixed Race; White British; White Other; and Other			x		
Disability - disabled people and carers			x		
Age- those under the age of 16		x			This policy does not cover patients aged under 16 years, but does signpost to the relevant standard operational procedure covering this group
Sexual Orientation			x		This policy is not expected to impact negatively or positively on these patient groups.
Religion or Belief	x				This policy will have a positive impact on patients with religious or ethical beliefs that prevent them from receiving products containing animal-derived ingredients by ensuring they are provided with a suitable alternative anticoagulant.
Pregnancy and Maternity		x			This policy does not cover patients who are pregnant or who are in the puerperium period, but it does signpost to the relevant guidelines covering this patient group.

Characteristic	Positive Impact	Negative Impact	Neutral Impact	Not enough information	Reasoning
Marriage or Civil Partnership			x		This policy is not expected to impact negatively or positively on these patient groups.
Other Groups / Characteristics - for example, homeless people, sex workers, rural isolation.			x		This policy is not expected to impact negatively or positively on these patient groups.

Sources of information

- *List any sources of information used*

Consultation with protected groups

List any protected groups you will target during the consultation process, and give a summary of those consultations

Group	Summary of consultation

Consultation with others

- Medicines Administration, Prescribing and Supply Standards (MAPSS) Group
- Clinical Policy Group

4. Summary stage

Outcome Measures List the key benefits that are intended to be achieved through implementation of this policy, service or function and state whether or not you are assured that these will be equitably and fairly achieved for all protected groups. If not, state actions that will be taken to ensure this.
Ensure appropriate and effective prevention and management of VTE for all patient groups, regardless of protected characteristics, with the exception of women who are pregnant or in the puerperium period, or patients who are under 16 years of age. Guidelines for management of these patients are signposted from this policy.
Positive Impact List any positive impacts that this policy, service or function may have on protected groups as well as any actions to be taken that would increase positive impact.
This policy ensures that all patients receive equal treatment by not discriminating based on the majority of protected characteristics. This excludes patients who are pregnant, during the puerperium period, or who are under 16 years of age. Guidelines for management of these patients are signposted from this policy.
Unjustifiable Adverse Effects List any identified unjustifiable adverse effects on protected groups along with actions that will be taken to rectify or mitigate them.
None known.
Justifiable Adverse Effects List any identified unjustifiable adverse effects on protected groups along with justifications and any actions that will be taken to mitigate them.
This policy does not cover management of patients who are pregnant, in the puerperium or who are under 16 years of age. To minimise the potential for adverse effect on these patient groups, readers are signposted to the relevant guidelines on management of these patients in prevention and treatment of VTE.

Equality Impact Assessment Action Plan

Complete this action plan template with actions identified during the Research and Summary Stages

Identified risk	Recommended actions	Lead	Resource implications	Review date	Completion date