



Royal Cornwall Hospitals
NHS Trust

Thrombosis Prevention and Anticoagulation Policy

V10.0

December 2024

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**Data Protection Act 2018 (UK General Data Protection Regulation – GDPR)
Legislation**

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Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 is applicable to all staff; this includes those working as contractors and providers of services.

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1. Introduction

- 1.1. Venous thrombo-embolism (VTE) is common in hospitalised medical patients, with a clinical incidence in high-risk groups of 5% and an associated risk of fatal pulmonary embolism of 1-10%. Thrombo-embolism prophylaxis is proven in similar risk groups in surgical cases, but audit shows this to be poorly implemented. It has previously been estimated that 25,000 patients die due to hospital acquired thrombosis per annum, half of which are avoidable.
- 1.2. The National Institute of Clinical Excellence (NICE) highlights practice that can help reduce or prevent VTE incidents. Recommendations include systematic patient assessment at the time of patient admission, and accurate documentation of the assessment and appropriate action, including provision of prophylaxis. This standard of practice is an essential element to delivering safe and effective patient care.
- 1.3. This version supersedes any previous versions of this document.

2. Purpose of this Policy

The policy aims to:

- 2.1. Provide clinical staff with clear set of standards of practice to deliver safe, effective patient care for the prevention and management of venous thrombo-embolism.
- 2.2. Incorporate a systematic process and VTE risk assessment to identify adult patients at risk of VTE and documentation of rationale for decision-making.
- 2.3. Provide staff with clinical guidance relating to prophylaxis, procedure to be followed if VTE is suspected and the management of the patient once a positive diagnosis has been made.
- 2.4. Create a safer hospital environment.

3. Scope

This policy applies to all permanent, locum, agency, and bank clinical staff regardless of grade or profession involved in patient assessment, treatment, and care in all patient areas. This includes emergency, elective and day-case areas. All professional groups remain accountable to their professional bodies at all times.

4. Definitions / Glossary

Adult - from aged 16 years.

AES - Anti-Embolism Stockings.

APTT - Activated Partial Thromboplastin Time.

BNF - British National Formulary- publication of the BMA and the Royal Pharmaceutical Society of Great Britain. (cross-references given in italics).

CrCL – Creatinine Clearance.

DVT - Deep Venous Thrombosis.

EPMA – Electronic Prescribing and Medicines Administration (e-prescribing).

INR - International Normalised Ratio (based on the pro-thrombin time).

IPC – Intermittent Pneumatic compression.

IU – International units.

IV – Intravenous.

NOAC – Non-Vitamin K Oral Anticoagulant (also known as DOAC).

LMWH - Low Molecular Weight Heparin.

PE - Pulmonary Embolus.

TIA - Transient Ischaemic Attack.

UFH - Unfractionated heparin.

VTE - Venous Thrombo-embolic Disease.

5. Ownership and Responsibilities

5.1. Role of Nominated Director

The Nominated Director is responsible for authorising final approval of the policy.

5.2. Role of the Senior Line Managers

Senior Line Managers are responsible for:

- Supporting professional and non-professional groups involved in VTE pathways with resources that enable all aspects of Thrombosis and Anticoagulation – including VTE and bleeding risk assessment and data capture - to be performed to the standards as set in this policy.
- Monitoring performance of VTE and bleeding risk assessment and taking action to address low performance.

5.3. Role of the Matrons, Ward Sisters and Charge Nurses

Matrons, Ward Sisters and Charge Nurses are responsible for:

- Ensuring members of their teams are competent to ensure effective VTE assessment and care planning is undertaken where appropriate.
- Ensuring members of their teams are knowledgeable and competent in the management of VTE prophylaxis or treatment if positive diagnosis is present.

5.4. Role of the Senior Clinicians / Consultants

Senior Clinicians / Consultants are responsible for:

- Ensuring junior colleagues are knowledgeable and competent in VTE assessment, prophylaxis prescribing and VTE management.
- Monitoring performance of VTE and bleeding risk assessment and taking action where required.

5.5. Role of Medical Staff

Medical staff are responsible for:

- Taking a comprehensive patient medical history and completing VTE and bleeding risk assessment and arranging appropriate prophylaxis and/or treatment as per policy content.
- Ensure patients understand the rationale for having a risk assessment for VTE and bleeding at admission.
- Completing the appropriate VTE risk assessment tool within the electronic prescription chart (EPMA).
- Reviewing the patient and / or prescribed medication within/or at 24 hours and when changes occur in clinical condition.
- Considering further investigation and treatment for suspected VTE where appropriate.
- Have a working knowledge of the management of VTE when a positive diagnosis has been made.

5.6. Role of Individual Staff Members

All Staff are responsible for:

- Taking positive steps to ensure the appropriate patient VTE assessment is completed accurately.
- Ensuring any required actions identified through care planning and evaluations are undertaken.
- Ensuring that any incidents linked with VTE assessment, prophylaxis or management are reported using the Trust's incident reporting procedure.
- Encouraging patients to mobilise where appropriate to avoid venous stasis.
- Ensuring patients do not become dehydrated unless this is clinically indicated.

5.7. Role of the Thrombosis Prevention and Anticoagulation Steering Group (TPAS)

The Thrombosis Prevention and Anticoagulation Steering Group is responsible for:

- Reporting progress on the management of Thrombosis and Anticoagulation to the Trust Board.
- Overseeing clinical governance frameworks, for example: reviewing national guidance and ensuring it is reflected in appropriate RCHT Policies relating to thrombosis and anticoagulation.
- Reviewing audit data and identifying actions for improvement where applicable.
- Reporting to the Trust board matters relating to thrombosis prevention and anticoagulation in the Trust.

5.8. Role of the RCHT Thrombosis Practitioner:

The RCHT Thrombosis Practitioner is responsible for:

- Supporting professional and non-professional groups involved in VTE pathways with resources that enable all aspects of Thrombosis and Anticoagulation – including VTE and bleeding risk assessment and data capture to be performed to the standards as set in this policy.
- Supporting the Trust Thrombosis director in implementation of clinical governance frameworks, for example: reviewing national guidance and ensuring it is reflected in appropriate RCHT Policies and guidance relating to thrombosis and anticoagulation.
- Undertaking systematic review/investigation of all cases of suspected Hospital Associated Thrombosis (HA-VTE) ensuring possible preventable cases are managed according to relevant Trust incident management policy.
- Reporting to the appropriate trust committees (Governance) matters relating to thrombosis prevention and anticoagulation in the Trust including outcomes related to confirmed Hospital Associated Thrombosis.

6. Standards and Practice

6.1. Patient thrombosis and haemorrhagic risk assessment (Adults)

- 6.1.1. All medical, surgical and trauma patients aged >16 admitted to RCHT inpatient areas will receive a VTE and bleeding risk assessment at admission excluding those patients identified as belonging to low-risk cohorts (see Appendix 4).
- 6.1.2. The VTE and bleeding risk assessment schema is incorporated into the RCHT Electronic Prescribing and Medicines Administration system (EPMA) and identifies adult patients with VTE and/or bleeding risks

(Appendix 3). Patient VTE risk assessment must be incorporated in the clinical assessment and medical clerking as part of the patient admission process. Clinicians must assess the patient's risk of VTE against the risk of bleeding before prescribing appropriate VTE prophylaxis.

- 6.1.3. The schema acts as a guide for clinicians and documents the assessment in four steps, which must be completed appropriately.
 1. Mobility assessment of general patient groups.
 2. Identifying VTE risks.
 3. Identifying bleeding risks.
 4. Chemical and / or mechanical prophylaxis prescribed if indicated.
- 6.1.4. All patients must be re-assessed and their prescription for thrombo-prophylaxis reviewed as part of the post-take ward round to ensure they are concordant with the patient's diagnosis and on-going plan of care.
- 6.1.5. If using pharmacological VTE prophylaxis for patients, it should be started as soon as possible and within 14 hours of admission, unless otherwise stated in the population-specific recommendations (see appendix 4).
- 6.1.6. All VTE risk assessments and prescriptions for thrombo-prophylaxis must be reviewed whenever there is a change in the patient's clinical condition.
- 6.1.7. All VTE risk assessments and prescriptions for thrombo-prophylaxis must be reviewed whenever a patient is transferred to a new clinical area to ensure they remain clinically appropriate to patient's ongoing plan of care.
- 6.1.8. Patients whose VTE risk assessments are completed by non-medical staff, i.e. in pre-operative settings, **MUST** have a senior medical review **ON THE DAY** of admission. The VTE assessment must then be completed within EPMA.
- 6.1.9. Some Day case patients are exempt based on an agreed "cohort" of low risk for thrombosis. The medical director approves the agreed cohort. Appendix 4 summarises the cohort groups agreed as low risk.
- 6.1.10. Additional low risk cohort groups may be added following decision by the RCHT lead clinician for anticoagulation and agreement and authorisation by the medical director.
- 6.1.11. For VTE and bleeding risk assessments in pregnancy and up to 6 weeks post-partum please refer to the following documents:
 - Venous thrombo-embolism (VTE) during pregnancy, labour and the post- partum period, clinical guideline for the risk assessment.
 - Venous thrombo-embolism (VTE) in pregnancy, labour, and post-

natal period - clinical guideline for the diagnosis, referral, treatment and ongoing management.

- 6.1.12. Appendix 3 to this document provides simple guidance through the VTE assessment process.

6.2. Prophylactic treatment for patients with increased risk of VTE

- 6.2.1. Clinicians prescribing VTE prophylaxis must be aware of additional factors associated in specific patient groups. Key groups include:

- 6.2.1.1. **Stroke:** Patients admitted with stroke must not be offered anti-embolism stockings. Intermittent pneumatic compression (IPC) devices should be used in this patient group.
- 6.2.1.2. **Oncology:** Ambulatory patients with cancer receiving oncological treatment should not routinely be offered pharmacological or mechanical VTE prophylaxis unless they are at increased risk of VTE because of something other than the cancer.
- 6.2.1.3. **Palliative Care:** Patients in palliative care and on an end-of-life pathway should not routinely be offered pharmacological or mechanical VTE prophylaxis. This should be recorded within the Bleed Risk section of the Standard VTE risk assessment tool within EPMA.
- 6.2.1.4. **Existing antiplatelet or anticoagulant therapy:** Patients already **having** antiplatelet or anticoagulant therapy to treat other conditions should be considered for additional mechanical or chemical VTE prophylaxis if they are at risk of VTE or in cases where anticoagulant therapy is interrupted. If the risk of VTE outweighs the risk of bleeding, then pharmacological VTE prophylaxis may be considered according to the reason for admission. If the risk of bleeding outweighs the risk of VTE, mechanical VTE prophylaxis should be considered.
- 6.2.1.5. **Liver Disease:** Patients with Liver Disease whose coagulation tests are abnormal should not be regarded as 'auto anticoagulated' and should be prescribed appropriate chemical or mechanical prophylaxis as indicated.
- 6.2.1.6. **Patients requiring extended prophylaxis:** Some patients may be indicated for extended chemical prophylaxis based on their underlying diagnosis or surgical intervention. A full list of current recommendations for extended prophylaxis can be found in Appendix 9.
- 6.2.1.7. **Patients with Lower Limb Immobilisation:** All adult patients who have ongoing lower leg immobilisation (ie in plaster cast, brace, airboot) should be risk assessed using the RCHT VTE risk assessment tool (see appendix 10). All patients identified as at risk by assessment should be provided LMWH where risk of VTE is greater than risk of bleeding. This includes patients

discharged from hospital with ongoing lower limb immobilisation.

- 6.2.1.8. Patients who are receiving full anticoagulant therapy **should not be offered** additional pharmacological or mechanical VTE prophylaxis.
- 6.2.1.9. Patients taking Vitamin K antagonists and who are within their therapeutic range, providing anticoagulant therapy continues **should not be offered** additional pharmacological or mechanical VTE prophylaxis.
- 6.2.1.10. Patients Provided with Anti-embolic stockings should have them fitted and monitored in accordance with NICE guidance.
- 6.2.1.11. Patients who are contra-indicated to both LMWH prophylaxis and Anti-embolism Stockings should be offered prophylaxis with intermittent pneumatic compression (IPC).
- 6.2.1.12. Appendix 6 to this document summarises key considerations for all patient groups.

6.3. Patient information and discharge

- 6.3.1. All staff should ensure that the patient and/or their families or carers understand the rationale for having a VTE and bleeding risk at admission.
- 6.3.2. All staff should ensure patients are offered verbal and written information before starting VTE prophylaxis on:
 - The risks and possible consequences of VTE.
 - The importance of VTE prophylaxis and its possible side effects.
 - The correct use of VTE prophylaxis including anti-embolism stockings, or intermittent pneumatic compression devices.
 - How patients can help to reduce their risk of VTE by keeping well hydrated and, where possible, exercising and becoming more mobile.
- 6.3.3. Patients should be made aware that heparins are of animal origin which may be of concern to some people. Consider alternatives for people who have concerns about using animal products, after discussing their suitability, advantages, and disadvantages with the person.
- 6.3.4. All staff should ensure that patients and/or their families or carers are offered verbal and written information on VTE prevention as part of the discharge process including:
 - The signs and symptoms of deep vein thrombosis (DVT) and pulmonary embolism.

- How people can reduce their risk of VTE (such as keeping well hydrated and, if possible, exercising and becoming more mobile).
 - The importance of seeking help if DVT, pulmonary embolism or other adverse events are suspected.
- 6.3.5. Where appropriate patients should be offered extended VTE prophylaxis post discharge in accordance with NICE guidance (see appendix 9).
- 6.3.6. Patients discharged with VTE prophylaxis, and their family members or carers, should be given (as appropriate) verbal and written information on:
- The importance of using VTE prophylaxis correctly (including the correct administration and disposal of pharmacological prophylaxis).
 - The importance of continuing treatment for the recommended duration.
 - The signs and symptoms of adverse events related to VTE prophylaxis.
 - The importance of seeking help and who to contact if people have problems using VTE prophylaxis.
- 6.3.7. For more information on discharge of patients with Anti-Embolism Stockings please see the RCHT clinical protocol for the use of Anti-Embolism Stockings at:
- [Anti-Embolism Stockings Clinical Guideline](#)
- 6.3.8. Actions should be taken to ensure people who are discharged with pharmacological and/or mechanical VTE prophylaxis are able to use them correctly, or have arrangements made for someone to be available who will be able to help them.
- 6.3.9. If patients are discharged with pharmacological and/or mechanical VTE prophylaxis to be used at home, then this information must be included on the patient's hospital discharge summary.

6.4. Management for Suspected VTE

- 6.4.1. Objective diagnosis is mandatory. In cases where VTE is suspected, clinical evaluation must be supported by confirmatory imaging. This may include:
- Doppler Compression Ultrasound (CUS) (current diagnostic investigation of choice, being sensitive to ileo-femoral thrombosis for diagnosis of DVT).
 - Venography (more sensitive to calf thrombosis, alternatively CUS with repeat at one week interval to exclude proximal extension in cases of negative above knee ultrasound scans).

- Multi detector row CT pulmonary angiography (current investigation of choice for pulmonary embolus, although isotopic perfusion scintigraphy can be used to reduce radiation dose in patients with low pre-test probability and a normal chest X-ray).
- 6.4.2. Baseline blood tests should include full blood count, coagulation screen (APTT/INR), Urea and electrolytes and liver function tests.
- 6.4.3. In the out-patient, emergency department and medical admissions unit, initial investigations could include DVT screening using the pre-test probability (PTP) and / or D-dimer blood tests. D-dimer should not be used to exclude VTE in inpatients with stay >24 hours, in pregnancy patients or patients with suspected upper limb DVT.
- 6.4.4. Pending confirmation of the diagnosis LMWH heparin should be commenced following individual assessment including evaluation of the thrombo-embolic risk and risk of bleeding as follows:

DVT and PE treatment dosage with enoxaparin pre-filled syringes		
Body weight to nearest kg	GFR \geq 30 mL/min/1.73m ² = 1.5mg/kg	GFR <30 mL/min/1.73m ² = 1.0mg/kg
40-47	60mg od	40mg od
48-59	80mg od	60mg od
60-73	100mg od	
74-88	120mg od	80mg od
89-109	150mg od	100mg od
110-125	180mg od	120mg od
>125	1.5mg/kg split dose bd rounded to nearest pre-filled syringe	1.0mg/kg od rounded to nearest pre-filled syringe

- 6.4.5. Patients with suspected deep vein thrombosis should be offered an interim therapeutic dose of anticoagulation if diagnostic investigations are expected to occur >4hours from the time of first clinical suspicion.
- 6.4.6. Patients with suspected pulmonary embolism should be offered an interim therapeutic dose of anticoagulation therapy if diagnostic investigations are expected to occur >1hour from the time of first clinical suspicion.
- 6.4.7. Diagnostic investigations for DVT and PE should, wherever practical, be completed within 24 hours of first clinical suspicion.
- 6.4.8. The clinical pathway for excluding / confirming VTE conditions e.g. deep vein thrombosis and pulmonary embolism is summarised in Appendix 7.

- 6.4.9. If all screening proves negative then re-introduce prophylactic Low Molecular Weight Heparin 24 hours after administering the last therapeutic heparin.

6.5. Management for Confirmed VTE

Massive Pulmonary Embolism

- 6.5.1. Massive pulmonary embolus (PE) with haemodynamic instability is likely in the presence of:

- Collapse/hypotension, and
- Unexplained hypoxia, and
- Engorged neck veins, and right ventricular gallop (often).

- 6.5.2. Emergency echocardiography may support the diagnosis by the demonstration of right ventricular strain.

- 6.5.3. Thrombolysis is the first line of treatment for massive PE and may be initiated on clinical grounds alone.

- 6.5.4. A total dose of 100 mg of alteplase should be administered in 2 hours as per the following dose regimen:

Treatment for Pulmonary Embolism	Concentration of alteplase	
	1mg/ml	2mg/ml
10 mg as an intravenous bolus over 1 – 2 minutes	10ml	5ml
Followed by an intravenous infusion of 90 mg over 2 hours	90ml	45ml

The total dose should not exceed 1.5 mg/kg in patients with a body weight below 65 kg.

- 6.5.5. Streptokinase may be administered as 250,000 units by IV infusion, over 20-30 minutes, followed by an infusion at a rate of 100,000 per hour for 24-72 hours, without laboratory monitoring (BNF section 2.10.2). It is then followed by anticoagulation with heparin/warfarin as per table below.

NB Following the initial use up to a maximum of 4 days Streptokinase should not be administered again within 12 months.

- 6.5.6. LMWH and Anti-Xa inhibitors have short half-lives, therefore patients on prophylactic anticoagulant therapy should receive a full dose of therapeutic Low Molecular Weight Heparin.

Confirmed VTE

- 6.5.7. Adult patients with confirmed VTE (DVT/PE) should be offered the choice of anticoagulation with a Non-Vitamin K Oral Anticoagulant (NOAC). Vitamin K antagonist ie Warfarin may be indicated where NOAC treatment is unsuitable eg where CrCL <15ml/min.
- 6.5.8. Adult patients with confirmed VTE (DVT/PE) who require or prefer anticoagulation with Warfarin should receive therapeutic doses of LWMH as indicated in the table below until Warfarin has reached therapeutic levels.

DVT and PE treatment dosage with enoxaparin pre-filled syringes		
Body weight to nearest kg	GFR ≥30 mL/min/1.73m ² = 1.5mg/kg	GFR <30 mL/min/1.73m ² = 1.0mg/kg
40-47	60mg od	40mg od
48-59	80mg od	60mg od
60-73	100mg od	
74-88	120mg od	80mg od
89-109	150mg od	100mg od
110-125	180mg od	120mg od
>125	1.5mg/kg split dose bd rounded to nearest pre-filled syringe	1.0mg/kg od rounded to nearest pre-filled syringe

- 6.5.9. Therapeutic heparin and warfarin to be used concurrently until patient has attained a therapeutic INR. The patient must have a baseline INR and then commencing on Day 1, in conjunction with Heparin, the following loading dose for acute therapy followed as per the table below.

Standard patient			Age >60, wt <50kg, or CCF		
Day	INR	Dose	Day	INR	Dose mg
1	<1.4	9.0	1	<1.4	6.0
2	-	9.0	2	-	6.0
3	<2	9.0	3	<2	9.0
	2.0-2.5	4.5		2.0-2.5	4.5
	2.6-3.0	3.0		2.6-3.0	3.0
	3.1-4.0	1.5		3.1-4.0	1.5
	>4.1	Nil		>4.1	Nil
Day 4 continue on day 3 dose rechecking on day 5, or discharge on this dose for early review. (Modified from Fennerty et al 1988).					

- 6.5.10. Adult patients with confirmed VTE (DVT/PE) who choose anticoagulation with a NOAC should receive treatment with one of the medications outlined below.

Rivaroxaban (Xarelto®)

Dosing schedule	Maximum daily dose
15mg twice daily for the first 21 days	30mg
followed by 20mg once daily (15mg for patients with higher risk of bleeding)	20mg
For prevention of recurrent DVT and/or PE following completion of at least 6 months therapy for DVT or PE	10-20mg

Apixaban (Eliquis®)

Dosing schedule	Maximum daily dose
10mg twice daily for the first 7 days	20mg
followed by 5mg twice daily for up to 6 months	10mg
For prevention of recurrent DVT and/or PE following completion of 6 months of treatment dose is 2.5mg twice daily	5mg

6.5.11. NOTE: there is **NO** requirement for concurrent use of LMWH when patients with confirmed VTE are treated with either Rivaroxaban or Apixaban.

Dabigatran (Pradaxa®).

Following treatment with a parenteral anticoagulant for at least 5 days dosing is as follows (for VTE patients only).

Dosing schedule (standard patient)	Maximum daily dose
150mg twice daily	300mg
Patients age >80 and/or taking verapamil	
110mg twice daily	220mg

For the following groups the total daily dose of Pradaxa of 300 mg or 220 mg should be selected based on an individual assessment of the thromboembolic risk and the risk of bleeding:

- Patients between 75-80 years.
- Patients with moderate renal impairment.
- Patients with gastritis, esophagitis or gastro-eosophageal reflux.
- Other patients at increased risk of bleeding.

Edoxaban (Lixiana®)

Following treatment with a parenteral anticoagulant for at least 5 days dosing is as follows.

Dosing schedule (standard patient)	Maximum daily dose
60mg once daily	60mg
Patients with moderate to severe renal failure (CrCl 15-50ml/min) or low body weight (<60kg) 30mg once daily	30mg

6.6. Heparin Induced Thrombocytopenia (HIT) and Platelet Monitoring

- 6.6.1. This may occur after 5-7 days in previously unexposed patients, or earlier with previous drug exposure with both unfractionated and Low Molecular Weight heparins and even in patients on low-dose prophylactic therapy. However, patients receiving treatment with NOAC's will not require routine monitoring for HIT.
- 6.6.2. Patients receiving either heparin must have their platelet count checked on the day of starting treatment.
- 6.6.3. Patients exposed to heparin in the last 100 days should have a baseline platelet count and a platelet count 24 hours after starting heparin.
- 6.6.4. Patients receiving unfractionated heparin should have alternate day platelet counts performed from days 4 to 14.
- 6.6.5. Post cardio-pulmonary bypass patients receiving LMWH, should have platelet counts performed every 2 to 4 days from days 4-14 or until heparin is stopped.
- 6.6.6. For obstetric patients receiving prophylactic treatment doses of LMWH please refer to RCHT maternity guidelines.
- 6.6.7. Any significant fall (>50%) in the platelet count, even if this is still within normal limits, is highly suspicious of "HIT". Advice must be sought from the on-call consultant haematologist or registrar for immediate and future patient management following a clinical assessment.

If the pre-test probability of HIT is high, heparin should be stopped, and an alternative anticoagulant started in full dosage whilst laboratory tests are performed unless there are significant contraindications.

7. Dissemination

- 7.1. This document will be implemented and disseminated through the organisation immediately following ratification and will be published on the organisations intranet site (document library).
- 7.2. Clinicians and specialty governance leads will be responsible for notifying their clinical teams of the policy.
- 7.3. The Learning and Development Department will deliver implementation of policy contents as identified on the Trust Training Needs Analysis.
- 7.4. Junior medical (Foundation) staff are required to demonstrate proficiency

through their clinical portfolio. Medical e-learning modules (registration required) with certification are available through the British Medical Journal website.

8. Monitoring compliance and effectiveness

Information Category	Detail of process and methodology for monitoring compliance
Element to be monitored	<ol style="list-style-type: none"> 1. All adult patients admitted to RCHT will have a completed VTE and bleeding risk assessment on admission (excluding low risk cohorts). 2. All patients admitted to RCHT and assessed as high risk of VTE will receive correct prophylaxis. 3. All patients with positive diagnosis will receive correct therapeutic management.
Lead	Dr Adam Forbes, Consultant Haematologist.
Tool	<ul style="list-style-type: none"> • UNIFY national data tool. • Audit.
Frequency	<ol style="list-style-type: none"> 1. Monthly. 2. Monthly. 3. Annual.
Reporting arrangements	<ul style="list-style-type: none"> • Completed Assessment. • Results uploaded to the Department of Health UNIFY. • Results sent to Divisional Managers, Senior Matrons, Matrons, ward sisters and charge nurses. • Results reported in Board Integrated Performance Review Report and discussed at Board level. • Correct Prophylaxis. • Results sent to all divisional general managers, clinicians, divisional governance leads, matrons for action where identified. • Correct therapeutic management. • Reported to Thrombosis Prevention and Anticoagulation Steering Group which reports to Clinical Effectiveness Group.
Acting on recommendations and Lead(s)	<ul style="list-style-type: none"> • The DQG is responsible for interrogating required actions and to designate a named lead where appropriate. This is documented in meeting minutes.
Change in practice and lessons to be shared	<ul style="list-style-type: none"> • Designated Leads will forward where appropriate the lessons to be shared with all the relevant stakeholders.

9. Updating and Review

- 9.1. The document review process is managed via the document library. Document review will be every three years unless best practice dictates otherwise. The author remains responsible for policy document review. Should they no longer work in the organization or in the relevant practice area then an appropriate practitioner will be nominated to undertake the document review by the designated Director.
- 9.2. Revision activity will be recorded in the Versions Control Table to ensure robust document control measures are maintained.

10. Equality and Diversity

- 10.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the [Equality Diversity And Inclusion Policy](#) or the [Equality and Diversity website](#).
- 10.2. Equality Impact Assessment

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1. Governance Information

Information Category	Detailed Information
Document Title:	Thrombosis Prevention and Anticoagulation Policy V10.0
This document replaces (exact title of previous version):	Thrombosis Prevention and Anticoagulation Policy V9.0
Date Issued/Approved:	July 2024
Date Valid From:	December 2024
Date Valid To:	December 2027
Directorate / Department responsible (author/owner):	Dr Adam Forbes, Consultant Haematologist.
Contact details:	01872 253597
Brief summary of contents:	This policy provides clinical staff with guidance in managing the risks associated with the prevention and management of venous thromboembolism of adult patients when in hospital.
Suggested Keywords:	VTE; anticoagulation; venous thromboembolism.
Target Audience:	RCHT: Yes CFT: No CIOS ICB: No
Executive Director responsible for Policy:	Chief Medical Officer
Approval route for consultation and ratification:	Thrombosis Prevention and Anticoagulation Steering Group.
General Manager confirming approval processes:	Ian McGowan.
Name of Governance Lead confirming approval by specialty and care group management meetings:	Suzanne Atkinson.
Links to key external standards:	CQC – Outcome 4. NHSLA – Risk Management Standard 4.8.

Information Category	Detailed Information
<p>Related Documents:</p>	<ul style="list-style-type: none"> • RCHT Risk assessment for thromboprophylaxis during pregnancy, labour and after vaginal delivery. • RCHT Thromboprophylaxis in pregnancy. • RCHT thromboembolic disease in pregnancy, labour and the puerperium: diagnosis and treatment. • RCHT Guidance on travel-related venous thrombo-embolism. • RCHT protocol for the use of anti-embolism stockings. • RCHT guidelines – secondary prevention after stroke or TIA. • RCHT guideline – Acute Stroke Management. • RCHT guidelines – Cornwall stroke care pathway. • National Patient Safety Agency (NPSA) Safety alert 18 (March 2007): <i>Actions that can make anticoagulant therapy safer.</i> • National Institute Clinical Excellence (NICE) 2010 clinical guideline: <i>Venous Thromboembolism: reducing the risk (92).</i> • The Management of Heparin Induced Thrombocytopenia. British Journal of Haematology 2006; 133(3): 259-69. • Addendum to clinical guideline CG 92 venous thrombo-embolism in adults admitted to hospital :reducing the risk (chapter 24 – stroke patients). • National Institute Clinical Excellence (NICE) 2018 clinical guideline 89: <i>Venous thromboembolism in over 16s: reducing the risk of hospital-acquired deep vein thrombosis or pulmonary embolism.</i>
<p>Training Need Identified?</p>	<p>Yes.</p>
<p>Publication Location (refer to Policy on Policies – Approvals and Ratification):</p>	<p>Internet and Intranet.</p>
<p>Document Library Folder/Sub Folder:</p>	<p>Clinical / Anticoagulation and Thrombosis.</p>

Version Control Table

Date	Version No	Summary of Changes	Changes Made by (Name and Job Title)
		Previous version history not known.	
July 2010	V4.0	Reformat per NICE.	Desmond Creagh, Chair of Thrombosis Prevention and Anticoagulation Steering Group.
May 2011	V5.0	New document specific to VTE assessment and prophylaxis (adult patients) when in hospital. This document supports the clinical guidance of the larger and broader anticoagulation document.	S Arnold, Matron for Practice Development.
June 2013	V5.1	Reformat. Minor amendment to paras 6.1.3 to 6.1.5 to reflect current practice.	Andrew McSorley, Lead Anticoagulation/Thrombosis Nurse.
August 2013	V5.2	Added: Para 5.8. Role of the RCHT Thrombosis Practitioner and Paras 6.3.4 – 6.3.6 Inclusion of guidance for management of suspected VTE as per NICE QS29.	Andrew McSorley, Lead Anticoagulation/Thrombosis Nurse.
September 2013	V5.3	Added: section 6.24-6.26 and Appendix 7 extended prophylaxis post discharge as per NICE QS3 on VTE prevention.	Andrew McSorley, Lead Anticoagulation/Thrombosis Nurse.
April 2014	V5.4	Amendments to reflect introduction of E-VTE risk assessment within EPMA system. Revision to section 6.5 guidance on Heparin induced thrombocytopaenia.	Andrew McSorley, Lead Anticoagulation/Thrombosis Nurse.
March 2015	V5.5	4 – Inclusion of the term DOAC (Direct Oral Anticoagulant) to replace NOAC throughout the document. 6.1.5 added inclusion of review of thromboprophylaxis status at post take ward round. 6.2.1 – amended to reflect use of IPC only in patients with confirmed stroke. 6.3.4 – amendments to table including removal of reference to 25000units/ml Dalteparin ampoules as no longer used. 6.4.7 – amended to reflect the use of Direct oral anticoagulants in confirmed VTE. 6.4.8 – amendments to table including removal of reference to 25000units/ml	Andrew McSorley, Lead Anticoagulation/Thrombosis Nurse.

Date	Version No	Summary of Changes	Changes Made by (Name and Job Title)
		<p>Dalteparin ampoules as no longer used.</p> <p>6.4.10 inclusion of tables outlining treatment with direct oral anticoagulants for confirmed VTE.</p> <p>6.5.1 – amended to reflect inclusion of DOACS.</p> <p>Appendix 4 – Section on Cardiology amended to reflect use of Fondaparinux in ACS, LMWH for prophylaxis.</p> <p>Appendix 6 – Title amended to reflect algorithm for treatment of VTE with LMWH and vitamin K antagonist; Chart table amended to remove references to Dalteparin 25000 units/ml ampoules as no longer used.</p>	
December 2015	V5.6	<p>6.2.1 Insertion of link to IPC protocol and removal of reference to foot impulse devices.</p> <p>6.2.1 Addendum to section on cancer patients to include recommendations for prophylaxis in Myeloma patients receiving lenalidomide or thalidomide.</p> <p>6.4.10 Addendum to include recommendations for option of treatment of VTE with DOACs.</p> <p>6.4.11 Inclusion of Edoxaban as an option for treatment of confirmed VTE.</p> <p>Appendix 4 – Alteration to stroke guidance – removal of references to foot impulse devices.</p>	Andrew McSorley, Lead Anticoagulation/Thrombosis Nurse
June 16	V6.0	<p>5.8 Alteration of the term ‘Hospital Acquired Thrombosis’ to ‘Hospital Associated Thrombosis’.</p> <p>6.1.9 Changes to titles of current RCHT pregnancy and post-partum thrombosis guidance.</p> <p>6.2.1 Addendum to Patient at risk section to include patients with Liver disease and use of IPC in patients contra-indicated to AES.</p> <p>6.3.3 addendum to indicate D-dimer should not be used in inpatients with >24 hour stay.</p>	Andrew McSorley, Lead Anticoagulation/Thrombosis Nurse.

Date	Version No	Summary of Changes	Changes Made by (Name and Job Title)
		Appendix 4 : amendments to include the need for consideration of IPC in patients contra-indicated to standard mechanical prophylaxis.	
November 2017	V7.0	<p>6.1.6 Addendum recommending repeat VTE risk assessment of patients on clinical transfer.</p> <p>6.2.1 Addendum indicating required completion of VTE risk assessment in EPMA for patients on end of life pathway.</p> <p>6.2.1 Addendum indicating reference to appendix 7 for patient who require extended prophylaxis.</p> <p>6.2.6 Addendum for consideration of use of LMWH in patients with dietary restrictions.</p> <p>6.4.10 Additional guidance indicating use of Edoxaban on specialist initiated basis only.</p> <p>Appendix 2 – revision of all low cohort areas for VTE prophylaxis prescribing.</p> <p>Appendix 4 - alteration of wording to clarify restart of LMWH prophylaxis post-operatively.</p> <p>Appendix 4 – Addendum to include prophylaxis and risk assessment advice for patients with lower leg immobility who are non-weight bearing.</p>	Andrew McSorley, Lead Anticoagulation/Thrombosis Nurse.
August 2018	V8.0	<p>Amendments to definitions/glossary reflected in policy.</p> <p>Changes/Addendum to body text to ensure compliance with NICE 89 guideline for the following sections:</p> <p>5 Role and responsibilities.</p> <p>6 Standards and practice.</p> <p>6.1 Patient Thrombosis and Haemorrhagic risk assessment.</p> <p>6.2 Prophylaxis prescribing including patient information and discharge (new section expanded as per NICE 89).</p> <p>Appendix 4 Special considerations.</p> <p>Appendix 7 Continued VTE prophylaxis post discharge.</p>	Andrew McSorley, Lead Anticoagulation/Thrombosis Nurse.

Date	Version No	Summary of Changes	Changes Made by (Name and Job Title)
		<p>Further corrections to document to correct numbering errors.</p> <p>Amendments to remove wording 'Clexane' from document in line with use of generic enoxaparin.</p> <p>6.5.8 Amendment to doing table for Dalteparin for patient weight 83-120kgs.</p> <p>6.5.10 Amendments to dosing schedule for Rivaroxaban to reflect dosing spc for patients after 6 months treatment.</p>	
June 2019	V8.1	<p>Minor wording format/amendments as follows.</p> <p>6.1.1 – Amendment to include indication of 'all inpatient areas'.</p> <p>6.1.2 – Amendment to Appendix 3 for VTE risk assessment tools.</p> <p>6.1.9 – Amendment to indicate low risk cohort in appendix 4 not appendix 1.</p> <p>6.2.1.6 – Amendment from appendix 7 to appendix 9 for extended prophylaxis groups.</p> <p>6.3.7 – insertion of hyperlink to Anti-Embolism Stockings Protocol.</p> <p>6.5.12 – Amendment Appendix 6 to 8 for patients managed with Warfarin.</p> <p>App.3 - Replacement of VTE Risk assessment screenshots with those form new EPMA upgrade.</p> <p>App. 4 – Update to wording to clarify need for risk assessment in low risk patients admitted following day-case procedures.</p>	Andrew McSorley, Lead Anticoagulation/ Thrombosis Nurse.
July 2019	V8.2	<p>Appendix 3 – (p28) and Appendix 4 (p35) – Amendment to prophylaxis prescribing in patients undergoing elective THR to be NICE compliant – LMWH for 10days followed by aspirin for 28 days.</p>	Andrew McSorley, Lead Anticoagulation/ Thrombosis Nurse.

Date	Version No	Summary of Changes	Changes Made by (Name and Job Title)
November 2019	V8.3	6.5.10 – removal of section indicating Rivaroxaban or Apixaban should be used as first line drug in VTE. Appendix 3 – minor changes to prophylaxis table to include use of IPC when AES contra-indicated.	Andrew McSorley, Lead Anticoagulation/ Thrombosis Nurse.
May 2020	V8.4	Addendum to section 6.2.17 and appendix 6 and 9 including new appendix 10 to include VTE assessment tool for patients discharged with ongoing lower limb immobilisation.	Andrew McSorley, Lead Anticoagulation/ Thrombosis Nurse.
January 2021	V8.5	Addendum to section 6.5.10 (Rivaroxaban (Xarelto®) Table) to advise ‘followed by 20mg once daily’.	Andrew McSorley, Lead Anticoagulation/ Thrombosis Nurse.
Jan 2022	V9.0	6.2.1.8 addendum highlighting theoretical risk of latex exposure from rubber bung on Dalteparin. 6.4.3 – Addendum to section indicating patients not suitable for D-dimer testing. 6.5.12 and Appendix 8 – referring to treatment with Vitamin K antagonist both removed. Appendix 3 – screenshots from EPMA updated to reflect current versions. Appendix 8 – new section - prophylaxis pathway for patients undergoing elective or emergency general surgery. Appendix 9 – addendum advising of timing of first dose LMWH post discharge for district nurses. Appendix 10 – VTE risk assessment form for lower leg immobilisation updated with latest version (V5).	Andrew McSorley, Lead Anticoagulation/ Thrombosis Nurse.
July 2024	V10.0	6.4.4: Dosing table changed from dalteparin to enoxaparin. 6.5.8: Dosing table changed from dalteparin to enoxaparin. Appendix 8: Dalteparin changed to enoxaparin when mentioned in elective and emergency surgery pathways.	Dr Adam Forbes, Consultant Haematologist.

All or part of this document can be released under the Freedom of Information Act 2000.

All Policies, Strategies and Operating Procedures, including Business Plans, are to be kept for the lifetime of the organisation plus 6 years.

This document is only valid on the day of printing.

Controlled Document.

This document has been created following the Royal Cornwall Hospitals NHS Trust [The Policy on Policies \(Development and Management of Knowledge Procedural and Web Documents Policy\)](#). It should not be altered in any way without the express permission of the author or their Line Manager.

Appendix 2. Equality Impact Assessment

Section 1: Equality Impact Assessment (EIA) Form

The EIA process allows the Trust to identify where a policy or service may have a negative impact on an individual or particular group of people.

For guidance please refer to the Equality Impact Assessment Policy (available from the document library) or contact the Equality, Diversity and Inclusion Team
rcht.inclusion@nhs.net

Information Category	Detailed Information
Name of the strategy / policy / proposal / service function to be assessed:	Thrombosis Prevention and Anticoagulation Policy V10.0
Directorate and service area:	Anticoagulation and Thrombosis/ General surgery and Cancer Services.
Is this a new or existing Policy?	Existing.
Name of individual completing EIA (Should be completed by an individual with a good understanding of the Service/Policy):	Dr Adam Forbes, Consultant Haematologist.
Contact details:	01872 253597

Information Category	Detailed Information
1. Policy Aim - Who is the Policy aimed at? (The Policy is the Strategy, Policy, Proposal or Service Change to be assessed)	To provide clear framework for all clinical staff in the correct assessment, management and prevention of venous thrombo-embolism for patients.
2. Policy Objectives	<p>The purpose of this document is to provide all staff regardless of grade or profession with clear practice guidelines when assessing, planning and managing patient care. The aim of the document is to guide clinical practice, including prescribing chemical and mechanical thrombosis prevention, and to highlight the benefits and risks of anticoagulation care.</p> <p>The policy meets the requirements of NICE CG 89 (2018) and the Department of Health initiative (2010) to further VTE risk assessment and prophylaxis. Also meets requirements of NICE 144 (2012) regarding treatment of suspected and confirmed VTE.</p>

Information Category	Detailed Information										
3. Policy Intended Outcomes	<ul style="list-style-type: none"> Promote multi-disciplinary working in reducing the incidences of VTE through effective patient assessment. Develop a culture where VTE assessment, prevention and management is embedded in acute clinical inpatient areas. <p>To raise staff awareness, identify lessons learned and recommend action through policy audit.</p>										
4. How will you measure each outcome?	The Trust will monitor VTE assessment practice via the national Unify data collection system and via monthly local audit monitoring. Poor practice in VTE assessment and prophylaxis prescribing will be identified via the systematic investigation of all incidences of hospital associated thrombosis. Additional monitoring sources include incidents and complaints.										
5. Who is intended to benefit from the policy?	Inpatients, their families and / or carers. Clinical staff.										
6a. Who did you consult with? (Please select Yes or No for each category)	<table> <tr> <td>Workforce:</td> <td>Yes</td> </tr> <tr> <td>Patients/ visitors:</td> <td>No</td> </tr> <tr> <td>Local groups/ system partners:</td> <td>No</td> </tr> <tr> <td>External organisations:</td> <td>No</td> </tr> <tr> <td>Other:</td> <td>No</td> </tr> </table>	Workforce:	Yes	Patients/ visitors:	No	Local groups/ system partners:	No	External organisations:	No	Other:	No
Workforce:	Yes										
Patients/ visitors:	No										
Local groups/ system partners:	No										
External organisations:	No										
Other:	No										
6b. Please list the individuals/groups who have been consulted about this policy.	Please record specific names of individuals/ groups: Thrombosis, prophylaxis and anticoagulation steering group (TPAS).										
6c. What was the outcome of the consultation?	Agreement from TPAS group on latest updated changes to policy to achieve concordance with latest NICE 89 guideline.										
6d. Have you used any of the following to assist your assessment?	National or local statistics, audits, activity reports, process maps, complaints, staff or patient surveys: No.										

7. The Impact

Following consultation with key groups, has a negative impact been identified for any protected characteristic? Please note that a rationale is required for each one.

Where a negative impact is identified without rationale, the key groups will need to be consulted again.

Protected Characteristic	(Yes or No)	Rationale
Age	No	Policy is aimed at all patients aged >16 years.
Sex (male or female)	No	No negative impact regardless of identified gender.
Gender reassignment (Transgender, non-binary, gender fluid etc.)	No	
Race	No	
Disability (e.g. physical or cognitive impairment, mental health, long term conditions etc.)	No	
Religion or belief	No	
Marriage and civil partnership	No	
Pregnancy and maternity	No	
Sexual orientation (e.g. gay, straight, bisexual, lesbian etc.)	No	

A robust rationale must be in place for all protected characteristics. If a negative impact has been identified, please complete section 2. If no negative impact has been identified and if this is not a major service change, you can end the assessment here.

I am confident that section 2 of this EIA does not need completing as there are no highlighted risks of negative impact occurring because of this policy.

Name of person confirming result of initial impact assessment:
Dr Adam Forbes, Consultant Haematologist.

If a negative impact has been identified above OR this is a major service change, you will need to complete section 2 of the EIA form available here:
[Section 2. Full Equality Analysis](#)

Appendix 3. VTE and Bleeding Risk Assessment within EPMA and prescribing of Thrombo-Prophylaxis

Mobility Section (Step 1)

The assessor can only tick one of the three options in the mobility section of the form.

Risk Assessment for Venous Thromboembolism (VTE)

Assessment Rationale

Initial Assessment Re-assessment Within 24 hours of admission Within 72 hours of admission Due to a change in clinical condition

Step One - Mobility Assessment

Instructions - assess all patients admitted to hospital for level of mobility. All surgical patients, and all medical patients with significantly reduced mobility should be considered for a further risk assessment. Select ONE option.

Surgical Patient

Medical Patient expected to have ongoing reduced mobility relative to normal state

Medical Patient NOT expected to have ongoing reduced mobility relative to normal state

Once a tick box is selected the other two tick columns will be disabled (greyed out). For example, if the assessor selects ‘**Surgical patient**’ by clicking in the ‘Tick’ checkbox the second and third options will be inactive and will be greyed out.

Thrombosis Risk Section (Step 2)

The assessor should tick all appropriate boxes in this section if active/enabled.

Step Two - Thrombosis-related Risk Factors

Instructions - review the patient-related thrombosis risk factors in accordance with the local VTE policy. Available risk factors are not exhaustive. Clinicians should consider additional patient-factors where appropriate, and mitigate accordingly. Select ALL that apply.

<p>Patient-related</p> <ul style="list-style-type: none"><input type="checkbox"/> Active cancer or cancer treatment<input type="checkbox"/> Age > 60 years<input type="checkbox"/> Dehydration<input type="checkbox"/> Known thrombophilias<input type="checkbox"/> Obesity with BMI > 30 kg/m²<input type="checkbox"/> One or more significant medical comorbidities<input type="checkbox"/> Personal history or first-degree relative with a history of VTE<input type="checkbox"/> Use of hormone replacement therapy<input type="checkbox"/> Use of oestrogen-containing contraceptive therapy<input type="checkbox"/> Varicose veins with phlebitis<input type="checkbox"/> Pregnancy or < 6 weeks post partum (see NICE guidance)	<p>Admission-related</p> <ul style="list-style-type: none"><input type="checkbox"/> Significantly reduced mobility for 3 days or more<input type="checkbox"/> Hip or knee replacement<input type="checkbox"/> Hip fracture<input type="checkbox"/> Anaesthetic AND surgical total > 90 minutes<input type="checkbox"/> Surgery involving pelvis or lower limb with a total anaesthetic + surgery time > 60 minutes<input type="checkbox"/> Acute surgical admission with inflammatory or intra-abdominal condition<input type="checkbox"/> Critical care admission<input type="checkbox"/> Surgery with significant reduction in mobility<input type="checkbox"/> End of life pathway - VTE prophylaxis not required<input type="checkbox"/> Covid-19 Risk<input type="checkbox"/> Use of antipsychotics
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Bleeding Risk Section (Step 3)

The assessor can tick any appropriate box in this section if active/enabled.

Step Three - Bleeding Risk Factors

Instructions - review the patient-related bleeding risk factors in accordance with the local VTE policy. Available risk factors are not exhaustive. Clinicians should consider additional patient-factors where appropriate, and mitigate accordingly. Select ALL that apply.

Patient-related

- Active bleeding
- Acquired bleeding disorders (e.g. liver failure)
- Concurrent use of anticoagulants (with INR > 2)
- Acute stroke
- Thrombocytopenia (platelets <75x10⁹/l)
- Uncontrolled systolic hypertension (>230/120 mmHg)
- Untreated inherited bleeding disorder (e.g. von Willebrand's disease)

Admission-related

- Neuro, spinal or eye surgery
- Other procedure with high bleeding risk
- Lumbar puncture / epidural / spinal anaesthesia within next 12h
- Lumbar puncture / epidural / spinal anaesthesia in previous 4h
- Paediatric patient (<16 years) - VTE assessment not indicated
- Mechanical VTE prophylaxis (AES/IPS) is contraindicated in this patient
- Anticoagulation indicated despite bleeding risks

Please note. Extra boxes have been added to Step 3 for patients <16 years who do not require routine VTE RA, for the recording of contra-indications to AES/IPC, and for patients who may be indicated for pharmacological prophylaxis despite bleed risks (i.e. post stroke).

Actions required based on EPMA VTE risk assessment – Prophylaxis prescribing (Step 4)

Following completion of the VTE risk assessment within EPMA a prescription for thromboprophylaxis should be provided as follows:

VTE Assessment Outcome	Action you should take
Patient has no VTE risk factors.	None – VTE prophylaxis not required.
Patient has VTE risk factors AND bleeding risks.	Consider prescribing anti-embolism stockings only or Intermittent Pneumatic Compression if AES contra-indicated and for acute stroke.
Patient has VTE risk factors and NO bleeding risks.	Prescribe pharmacological prophylaxis and adjunct Anti-embolism stockings if indicated (ie in surgery).
Drug Prophylaxis	
LMWH for eGFR >30ml/min.	Dalteparin 5,000 units S/C daily until discharge.
LMWH for eGFR <30ml/min.	Enoxaparin 20mg S/C daily until discharge.
Elective Hip replacement.	Low Risk - Dalteparin or Enoxaparin S/C daily for 10 days then Aspirin 75mg daily for 28 days. High Risk - Rivaroxaban 10mg PO daily for 35 days or Dalteparin or Enoxaparin for 28 days combined with Anti-Embolism stockings (until discharge).
Elective Knee replacement.	Low Risk - Aspirin 75mg daily for 14 days. High Risk - Rivaroxaban 10mg PO daily for 14 days or Dalteparin or Enoxaparin for 28 days combined with Anti-Embolism stockings (until discharge).

Fractured neck of femur.	Dalteparin or Enoxaparin S/C daily for 28-35 days.
Major abdominal surgery for cancer indications including nephrectomy. See Appendix 9 of Thrombosis Prevention and Anticoagulation Policy for more information regarding extended prophylaxis.	Dalteparin or Enoxaparin S/C daily for 28 days.

Prophylaxis options for low-risk elective orthopaedic patients:

Elective Hip replacement: Prophylaxis LMWH for 10 days followed by 28 days of aspirin 75mg once daily, no Anti-Embolism Stockings required.

Elective Knee replacement: 75mg aspirin for 14 days, no Anti-Embolism Stockings required.

Standard VTE prophylaxis with either LMWH daily or Rivaroxaban 10mg once daily and Anti-embolism stockings should be offered where there is expected to be prolonged immobility or in the following specific instances:

- History of previous VTE.
- Current active cancer.
- Upper GI bleed in the last 3 months.
- Aspirin allergy or intolerance.

Anti-embolism Stockings

If there are no contra-indications Anti-Embolism Stockings (AES) should be routinely provided to all inpatients or day-case patients with limited mobility in the following indicated groups:

- General surgery.
- Urological surgery.
- Gynaecological surgery (excluding caesarian section).
- Orthopaedic lower limb surgery (except low-risk elective TKR and THR).
- Situations where drug prophylaxis is required but contra-indicated.

Anti-Embolism stockings should be discontinued once the patient returns to their normal level of mobility.

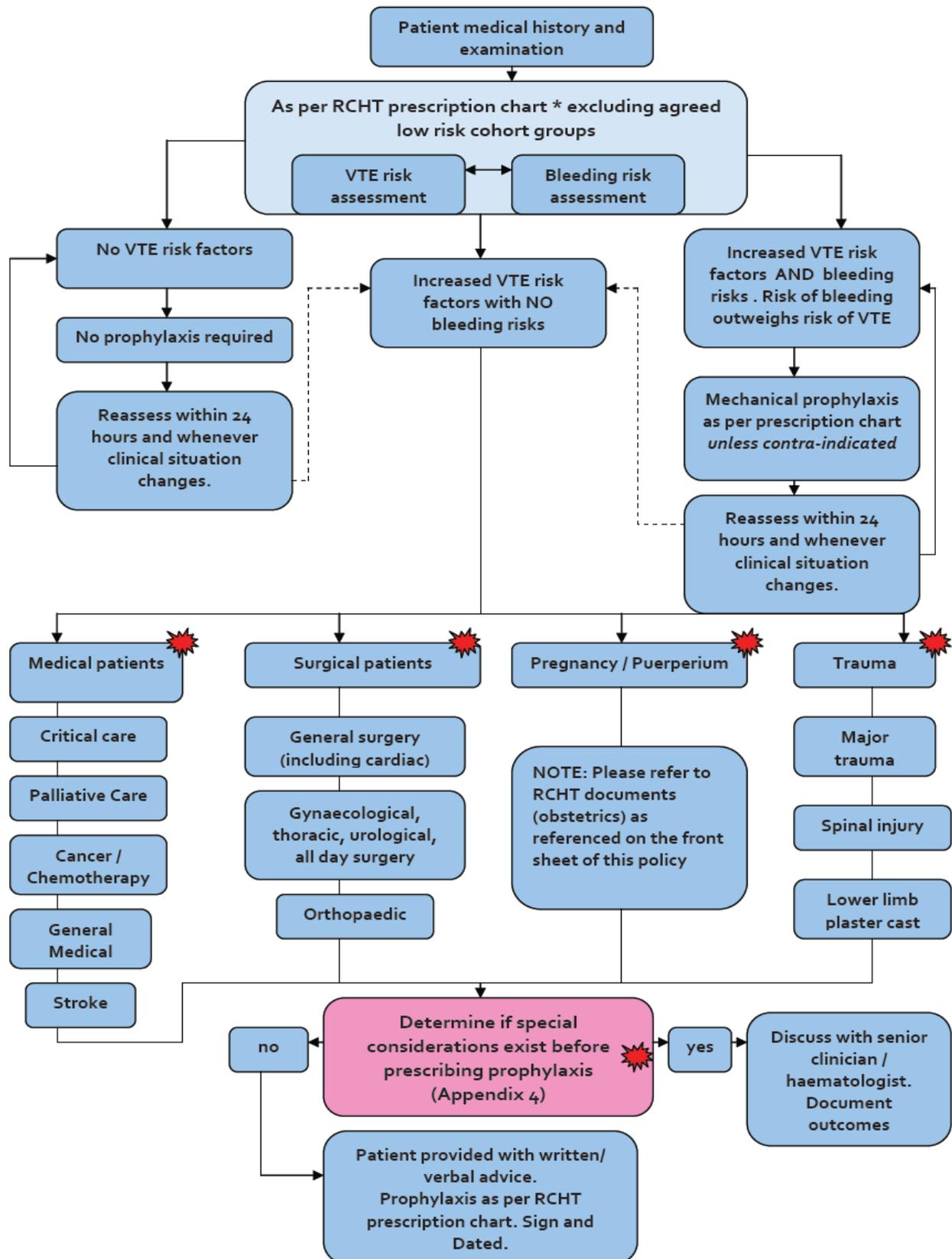
Appendix 4. Cohort groups considered low risk

Cohort group by location or intervention	Rationale for Low Risk assessment	Exemption Conditions: When VTE RA is indicated
Haemodialysis undertaken at either RCH or WCH Renal Unit.	Patients attend unit for ≤4 hours. No reduction in normal level of mobility as result of attendance.	Patients who attend or are transferred to Renal Unit as part of an inpatient episode. Patients attending who require direct inpatient admission.
Day-case chemotherapy via Headland Unit.	Medical patients attend as day-case for treatment. No reduction in normal level of mobility as result of attendance.	Patients who attend or are transferred to Headland Unit as part of an inpatient episode. Patients attending who require direct inpatient admission.
Endoscopy or colonoscopy procedures via Endoscopy unit RCH.	Medical patients attend for day case procedures. No reduction in mobility from normal state.	Patients who attend endoscopy as part of an inpatient episode or who require direct inpatient admission following attendance.
Medical Day Unit - Medical day case patients having interventions or procedures.	Patients attend as Day case. No reduction of mobility because of attendance.	Patients who require inpatient admission following an episode of day case care.
Ophthalmological patients with local anaesthetic, regional sedation and not full general anaesthetic.	Short duration surgery no ongoing post-operative risk. Patient should be considered for mechanical prophylaxis for surgery unless contra-indicated.	Patient attending as part of a current inpatient stay or patients requiring inpatient (overnight) admission following attendance as day-case.
Non-Cancer ENT surgery lasting less than 90 minutes with local anaesthetic or regional sedation and not full general anaesthetic.	Short duration surgery no ongoing post-operative risk. Patient should have mechanical prophylaxis during surgery unless otherwise contra-indicated.	Patient attending as part of a current inpatient stay or requiring inpatient (overnight) admission following attendance as a day-case.
Non-Cancer plastic surgery lasting less than 90 minutes with local anaesthetic or regional sedation and not full general anaesthetic.	Short duration surgery no ongoing post-operative risk. Patient should have mechanical prophylaxis during surgery unless otherwise contra-indicated.	Patient attending as part of a current inpatient stay or requiring inpatient (overnight) admission following attendance as a day-case.

Cohort group by location or intervention	Rationale for Low Risk assessment	Exemption Conditions: When VTE RA is indicated
Non-Cancer dental or maxilla-facial surgery lasting less than 90 minutes with local anaesthetic or regional sedation and not full GA.	Short duration surgery no ongoing post-operative risk. Patient should have mechanical prophylaxis during surgery unless otherwise contra-indicated.	Patient attending as part of a current inpatient stay or requiring inpatient (overnight) admission following attendance as a day-case.
Other similar minor surgical procedures lasting less than 90 minutes with local anaesthetic or regional sedation and not full GA.	Short duration surgery no ongoing post-operative risk. Patient should have mechanical prophylaxis during surgery unless otherwise contra-indicated.	Patient attending as part of a current inpatient stay or requiring inpatient (overnight) admission following attendance as a day-case.

This is general guidance and, as ever, clinical judgement in individual patient cases should be exercised.

Appendix 5. Venous Thromboembolism (VTE) Risk Assessment (All Patients aged >16)



Appendix 6. Special Considerations

The patient allergy status must be checked for contra-indications, known hyper-sensitivity to thrombo-prophylaxis. Patient medical history should be checked to exclude incident of heparin induced thrombocytopenia.

Patient Group	Assessment	Pharmacological prophylaxis	Mechanical prophylaxis
Stroke	The diagnosis of haemorrhagic stroke MUST be excluded, and the patient re-assessed for VTE and bleeding risk before pharmacological prophylaxis is prescribed.	<p>LWMH only if patient has LOW risk of bleeding i.e. LOW risk of haemorrhagic transformation of stroke or bleeding into another site) and has one or more of the following:</p> <ul style="list-style-type: none"> • Major restriction of mobility • Previous history of VTE • Dehydration or co-morbidities (such as malignant disease). <p>Refer to RCHT Stroke Guidance</p> <p>It should be explained to the person admitted with acute stroke and their family members or carers (as appropriate) that intermittent pneumatic compression:</p> <ul style="list-style-type: none"> • Reduces the risk of DVT and may increase their chances of survival BUT will not help them recover from stroke, and there may be an associated increased risk of surviving with severe disability. 	<p>Anti-embolism stockings are contra-indicated.</p> <p>Offer intermittent pneumatic compression (IPC) device until patient is re-assessed and can have pharmacological VTE prophylaxis.</p> <p>IPC should be commenced with 3 days after acute stroke and continued for 30 or until patient is mobile or discharged, whichever is soonest.</p> <p>Intermittent pneumatic compression.</p> <p>Contra-indicated if:</p> <ul style="list-style-type: none"> • Patient has peripheral arterial disease or arterial ulcers. • Patient is allergic to material of manufacture. • Patient has not received mechanical prophylaxis within 72 hours of admission (due to the theoretical risk of thrombus

Patient Group	Assessment	Pharmacological prophylaxis	Mechanical prophylaxis
			embolisation when pneumatic pressure is applied).
Cardiology	Acute coronary syndromes (including a history of chest pain, raised cardiac enzymes, or altered electrocardiogram): may increase the risk of VTE.	For most patients with acute coronary syndrome, routine treatment is with Fondaparinux, aspirin and ticagrelor and therefore additional LMWH prophylaxis is not required. Thrombo-prophylaxis post PCI should be with Dalteparin as recommended for other high-risk general medical patients (regardless of current antithrombotic medications such as aspirin, clopidogrel).	Consider Anti-embolism stockings or IPC if high risk patient and chemical prophylaxis is contra-indicated. Do not prescribe if any known contra-indications to AES or IPC.
Cancer and Palliative Care	Ambulatory Cancer patients treated as outpatients are included under low-risk cohort (see appendix 4). In-patients with cancer should be risk assessed as per policy within EPMA. Patients receiving palliative care should be reviewed daily or more frequently if their condition is changing rapidly. (NICE, 2010). Prophylaxis should be considered based on temporary increases in thrombotic risk factors, risk of bleeding, likely life expectancy and the views of the person and their family members or carers. Assess if patient is for terminal care or end-of-life care pathway.	Outpatients with active cancer and who are fully ambulant should not routinely be given thrombo-prophylaxis (regardless of chemotherapy or hormone therapy status). Routine thrombo-prophylaxis is recommended for all cancer inpatients as for other high-risk general medical patients. Consider pharmacological VTE prophylaxis for people with myeloma who are receiving chemotherapy with thalidomide, pomalidomide or lenalidomide with steroids. Consider pharmacological VTE prophylaxis for people with pancreatic	Consider Anti-embolism stockings (AES) or IPC for high-risk patients if chemical prophylaxis is contra-indicated. Do not prescribe if known contra-indications to AES or IPC.

Patient Group	Assessment	Pharmacological prophylaxis	Mechanical prophylaxis
		<p>cancer who are receiving chemotherapy on an ambulatory basis.</p> <p>Do not offer prophylaxis to patients in last days of life.</p>	
Critical Care (including major trauma patients)	<p>All adult patients to be assessed for their risk of VTE and bleeding.</p> <p>Patient reviewed daily or more frequently if their condition is changing rapidly.(NICE, 2018).</p>	<p>LMWH as per eGFR (UFH if GFR<15ml/min): according to patient's reason for admission.</p>	<p>Consider Anti-embolism stockings (AES) or IPC if chemical prophylaxis is contra-indicated and/or according to patient's reason for admission.</p> <p>If mechanical prophylaxis is to be used start on admission continue until patient no longer has reduce mobility relative to their normal state.</p>
Anaesthesia	<p>Consider regional anaesthesia for individual patients, in addition to other methods of VTE prophylaxis, as it carries a lower risk of VTE than general anaesthesia. Take into account the person's preferences, their suitability for regional anaesthesia and any other planned method of VTE prophylaxis.</p> <p>VTE prophylaxis should be timed to minimise the risk of epidural haematoma.</p>	<p>LMWH as per eGFR (UFH if GFR<15ml/min) according to patient's reason for admission.</p> <p>Do not routinely offer pharmacological VTE prophylaxis to people undergoing a surgical procedure with local anaesthesia by local infiltration with no limitation of mobility.</p>	<p>Consider Anti-embolism stockings(AES) or IPC if chemical prophylaxis is contra-indicated and/or according to patient's reason for admission.</p> <p>Do not routinely offer mechanical VTE prophylaxis to people undergoing a surgical procedure with local anaesthesia by local infiltration with no limitation of mobility.</p>
Lower Limb immobilisation	<p>Offer pharmacological VTE prophylaxis to non-inpatients with lower limb plaster casts or lower limb immobility whose risk of VTE</p>	<p>LMWH as per eGFR (UFH if GFR<15ml/min) according to patient's</p>	<p>Not applicable.</p>

Patient Group	Assessment	Pharmacological prophylaxis	Mechanical prophylaxis
	<p>outweighs their risk of bleeding using the locally approved risk assessment tool (see appendix 10) and following clinical discussion with the patient.</p> <p>On discharge inpatients with continued lower limb immobilisation should be assessed using the approved RCHT VTE risk assessment tool for lower limb immobilisation (see appendix 10) and offered continued LMWH prophylaxis if at risk.</p>	<p>reason for admission (unlicensed indication).</p> <p>Prophylaxis dose NOAC should be considered in patients who are needle-phobic (unlicensed indication).</p> <p>Consider stopping prophylaxis at 42 days or when the patient returns to full weight bearing status, whichever is soonest.</p>	
<p>Fragility fractures of the pelvis, hip and proximal femur</p>	<p>Offer VTE prophylaxis for a month to people with fragility fractures of the pelvis, hip or proximal femur if the risk of VTE outweighs the risk of bleeding.</p>	<p>LMWH as per eGFR (UFH if GFR<15ml/min).</p> <p>Consider pre-operatively if surgery delayed beyond day of admission with last dose no less than 12 hours before surgery. Continue for up to 28 days post-operatively.</p>	<p>Consider intermittent pneumatic compression for people with fragility fractures of the pelvis, hip or proximal femur at the time of admission if pharmacological prophylaxis is contraindicated.</p> <p>Continue until the person no longer has significantly reduced mobility relative to their normal mobility.</p>
<p>Elective Hip replacement</p>	<p>If the patient has one or more VTE risk factors, then the risk of bleeding must be assessed, and consideration given whether the benefits of reducing the risk of VTE outweigh the bleeding risk.</p>	<p>LMWH as per eGFR (UFH if GFR<15ml/min).</p> <p>For 10 days then aspirin 75mg once daily for 28 days.</p> <p>High-risk patients (ie cancer, previous VTE) or those patients with history of upper GI bleed or intolerance to aspirin should continue LMWH or have</p>	<p>Consider anti-embolism stockings until discharge from hospital if pharmacological interventions are contraindicated in people undergoing elective hip replacement surgery.</p> <p>High risk patients receiving LMWH or Rivaroxaban– AES until discharge.</p>

Patient Group	Assessment	Pharmacological prophylaxis	Mechanical prophylaxis
		Rivaroxaban 10mg once daily for 35 days.	
Elective knee Replacement	If the patient has one or more VTE risk factors, then the risk of bleeding must be assessed, and consideration given to whether the benefits of reducing the risk of VTE outweigh the bleeding risk.	Aspirin 75mgs for 14 days. High risk patients (ie cancer, previous VTE) or those patients with history of upper GI bleed or intolerance to aspirin should continue LMWH or Rivaroxaban 10mg once daily for 14 days.	Consider intermittent pneumatic compression if pharmacological prophylaxis is contraindicated in people undergoing elective knee replacement surgery. Continue until the person is mobile. High risk patients receiving LMWH or Rivaroxaban– AES until discharge.
Non-Arthroplasty Orthopaedic knee surgery	Be aware that VTE prophylaxis is generally not needed for people undergoing arthroscopic knee surgery where total anaesthesia time is less than 90 minutes and the person is at low risk of VTE (see appendix 2).	Consider LMWH as per eGFR (UFH if GFR<15ml/min) where anaesthetic time is >90mins or where risk of VTE outweighs risk of bleeding or in cases of other non-arthroscopic knee surgery.	AES provided for surgery for contra-lateral leg.
Foot and ankle surgery	Consider pharmacological VTE prophylaxis for people undergoing foot or ankle surgery: That requires immobilisation (for example, arthrodesis or arthroplasty) when total anaesthesia time is more than 90 minutes or where the person's risk of VTE outweighs their risk of bleeding.	LMWH as per eGFR (UFH if GFR<15ml/min). Consider stopping prophylaxis if immobilisation continues beyond 42 days.	AES provided for surgery for contra-lateral leg.

Patient Group	Assessment	Pharmacological prophylaxis	Mechanical prophylaxis
Upper limb orthopaedic surgery	Be aware that VTE prophylaxis is generally not needed if giving local or regional anaesthetic for upper limb surgery however should be considered for people undergoing upper limb surgery if the person's total time under general anaesthetic is over 90 minutes or where their operation is likely to make it difficult for them to mobilise.	LMWH as per eGFR (UFH if GFR<15ml/min).	AES provided for surgery.
Non-bariatric abdominal surgery, urological and gynaecological surgery (excluding caesarean section)	<p>If the patient has one or more VTE risk factors, then the risk of bleeding must be assessed and consideration given whether the benefits of reducing the risk of VTE outweigh the bleeding risk.</p> <p>NOTE- Spinal / epidural: Prophylaxis is commenced 12 hours prior to surgery/siting of an epidural. If blood is present during needle or catheter placement than prophylaxis should be delayed for 24 hours.</p> <p>Prophylaxis should be prescribed at least 6-8 hrs post-operatively (based on 22.00hr practice).</p> <p>Epidural Catheters should be removed 10-12 hours after the last dose of LMWH.</p>	<p>LMWH (or UFH if eGFR<30ml/min based on assessment / bleeding risk / VTE risk.</p> <p>Consider extending pharmacological VTE prophylaxis to 7 days post-operatively for patients with inflammatory bowel conditions and to 28 days postoperatively for people who have had abdominal cancer surgery.</p> <p>See Appendix 8 for management of elective and emergency surgery patients.</p>	<p>Anti-embolism stockings (AES) on admission until their mobility is no longer significantly reduced.</p> <p>Do not prescribe if known contra-indications to AES.</p> <p>Consider use of IPC in high-risk patients who are contra-indicated to AES.</p>
Bariatric Surgery	Patients should be offered VTE prophylaxis where the risk of VTE outweighs the risk of bleeding.	LMWH (or UFH if eGFR<30ml/min based on assessment / bleeding risk / VTE risk.	Anti-embolism stockings (AES) on admission until mobility is no longer significantly reduced.

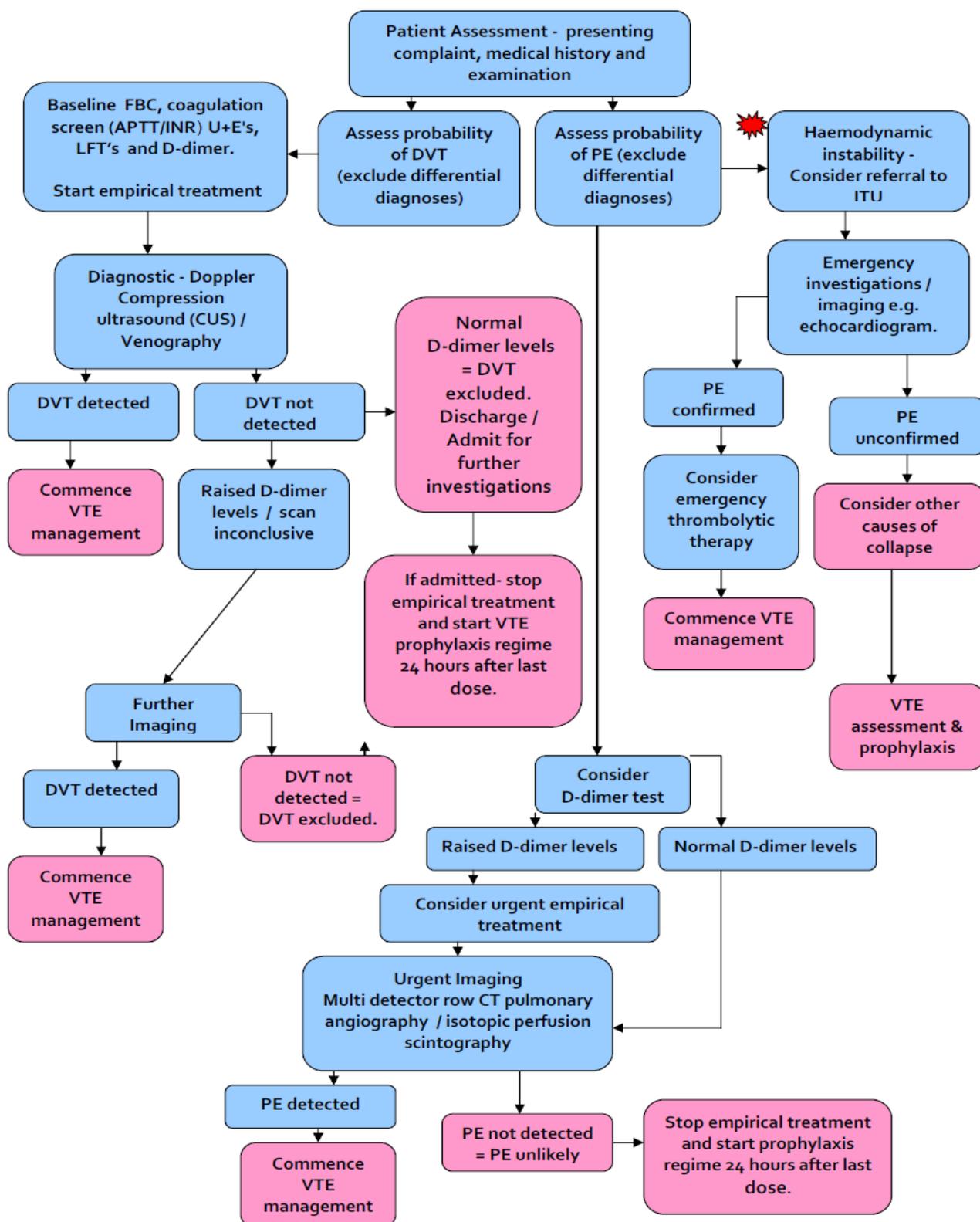
Patient Group	Assessment	Pharmacological prophylaxis	Mechanical prophylaxis
		Continue LMWH for 7 days post-operatively.	Do not prescribe if known contra-indications to AES. Consider use of IPC in high-risk patients contra-indicated to AES.
Open vascular surgery or endovascular aneurysm repair	If the patient has one or more VTE risk factors, then the risk of bleeding must be assessed, and consideration given whether the benefits of reducing the risk of VTE outweigh the bleeding risk.	LMWH (or UFH if eGFR<30ml/min based on assessment / bleeding risk / VTE risk. Consider continuing LMWH for 7 days post-operatively.	Consider anti-embolism stockings (AES) or IPC on admission until mobility is no longer significantly reduced. Do not prescribe if known contra-indications to AES. Consider use of IPC in high-risk patients contra-indicated to AES.
Lower Limb Amputation	If the patient has one or more VTE risk factors, then the risk of bleeding must be assessed, and consideration given whether the benefits of reducing the risk of VTE outweigh the bleeding risk.	LMWH (or UFH if eGFR<30ml/min based on assessment / bleeding risk / VTE risk. Consider continuing LMWH for 7 days post-operatively.	Consider use of IPC on the contra-lateral leg in high-risk patients who are contra-indicated to LMWH. Continue mechanical prophylaxis until the patient no longer has reduced mobility relative to their expected level of mobility.
Varicose vein surgery	Be aware that VTE prophylaxis is generally not needed for people undergoing varicose vein surgery where total anaesthesia time is less than 90 minutes and the person is at low risk of VTE (see appendix 4).	Consider LMWH as per eGFR (UFH if GFR<15ml/min) starting 6-12 hours post-surgery where anaesthetic time is >90mins or where risk of VTE outweighs risk of bleeding .	Consider Anti-embolism stockings (AES) on admission until mobility is no longer significantly reduced. Do not prescribe if known contra-indications to AES. Consider use of IPC in high-risk patients contra-indicated to AES.

Patient Group	Assessment	Pharmacological prophylaxis	Mechanical prophylaxis
ENT, head and neck, and oral/maxillofacial surgery	If the patient has one or more VTE risk factors, then the risk of bleeding must be assessed, and consideration given whether the benefits of reducing the risk of VTE outweigh the bleeding risk.	LMWH (or UFH if eGFR<30ml/min based on assessment / bleeding risk / VTE risk. Consider continuing LMWH for 7 days post-operatively.	Consider Anti-embolism stockings (AES) or IPC on admission until mobility is no longer significantly reduced. Do not prescribe if known contra-indications to AES. Consider use of IPC in high-risk patients contra-indicated to AES.
Pregnancy and women who have given birth or had a miscarriage or termination of pregnancy in the last 6 weeks	Refer to RCHT Risk assessment for thrombo-prophylaxis during pregnancy, labour and after vaginal delivery, and RCHT Thrombo-prophylaxis in pregnancy.	LMWH is drug of choice but patients should be informed that it is not licensed for use in pregnancy. Refer to RCHT Risk assessment for thrombo-prophylaxis during pregnancy, labour and after vaginal delivery. If using LMWH ^[5] in women who gave birth or had a miscarriage or termination of pregnancy, start 4–8 hours after the event unless contraindicated and continue for a minimum of 7 days.	Consider combined prophylaxis with mechanical prophylaxis for women who are likely to be immobilised, or have significantly reduced mobility relative to their normal or anticipated mobility for 3 or more days after surgery, including caesarean section: <ul style="list-style-type: none"> • IPC should be first line option. • Use AES if IPC contra-indicated. • Continue until the woman no longer has significantly reduced mobility relative to her normal or anticipated mobility or until discharge from hospital.
Patients on Vitamin K Antagonists	Vitamin K: Patients taking Vitamin K antagonists who are within their therapeutic range, providing anticoagulant therapy continues, should not be offered	Offer LMWH prophylaxis with LMWH for patients whose Warfarin is held or suspended and when INR below therapeutic levels.	Not applicable.

Patient Group	Assessment	Pharmacological prophylaxis	Mechanical prophylaxis
	additional pharmacological or mechanical prophylaxis.		
Patients on existing antiplatelet or anticoagulant therapy.	May be offered additional mechanical or chemical VTE prophylaxis if patient is at risk of VTE. If the risk of VTE outweighs the risk of bleeding, than pharmacological VTE prophylaxis may be considered according to the reason for admission. If the risk of bleeding outweighs the risk of VTE, mechanical VTE prophylaxis should be offered.		Not applicable.

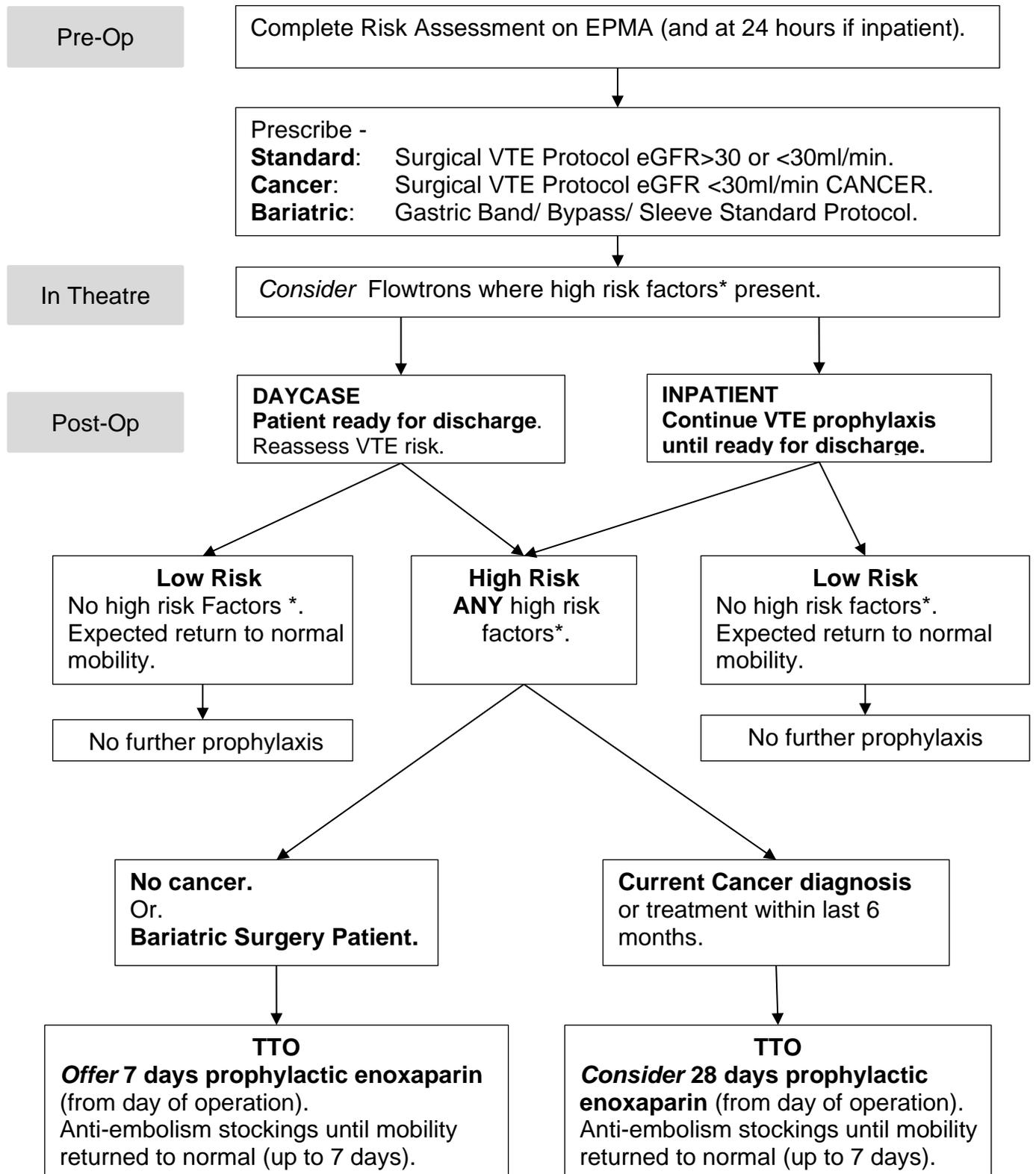
Any patient already receiving full anticoagulant therapy should NOT be offered additional pharmacological or mechanical VTE prophylaxis.

Appendix 7. Suspected VTE (DVT and PE) Management Pathway

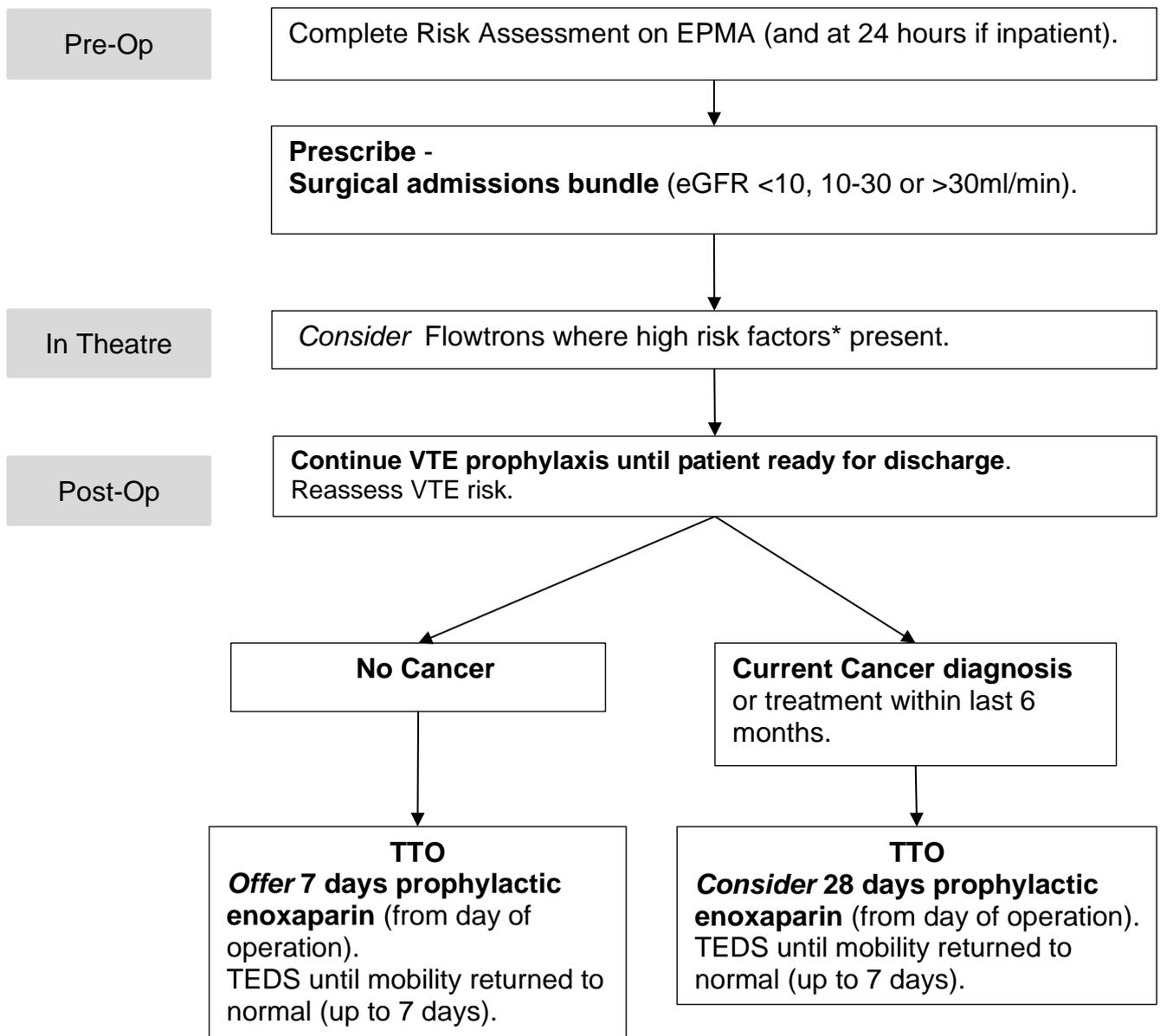


Appendix 8. Venous Thrombo-Embolism prophylaxis pathway for patients undergoing elective or emergency general surgery

ELECTIVE Surgery Pathway



EMERGENCY Surgery Pathway



CONTRAINDICATIONS TO ENOXAPARIN

- Concurrent use of other anticoagulant.
- Active bleeding.
- Acquired or untreated inherited bleeding disorders.
- Thrombocytopaenia.
- Uncontrolled systolic hypertension (BP $\geq 230/120$ mmHg) .

HIGH RISK FACTORS*

ANY of the following:

- Active cancer or cancer treatment.
- Surgery lasting >60 minutes or pelvic surgery.
- Inflammatory conditions (e.g. IBD).
- Previous personal history of DVT/PE.
- Known thrombophilia.
- Obesity BMI >30.
- One or more significant co-morbidities.
- Oestrogen based contraceptive.
- Hormone replacement therapy
- <6 weeks post-partum.

Appendix 9. NICE recommendations for Continued VTE (DVT and PE) prophylaxis post discharge

Operation	Course length	Treatment of choice
Any bowel resection to remove a malignancy.	28 days post surgery.	Appropriate prophylactic LMWH daily.
Abdominal surgery for patients with inflammatory bowel conditions.	7 days post surgery (unless Contra-indicated)	Appropriate prophylactic LMWH daily.
Surgery for obesity (bypass and gastric banding).	7 days post surgery.	Appropriate prophylactic LMWH daily.
Gynaecological surgery that meets the following conditions: <ul style="list-style-type: none"> • Ovarian cancer - advanced ovarian cancer patients undergoing cytoreductive surgery. • Endometrial cancer – patients undergoing open hysterectomy that are grossly obese or with 2 or more risk factors (excluding active cancer) for VTE. • Cervical cancer – undergoing radical hysterectomy and pelvic node dissection with 1 or more risk factors (excluding active cancer) for VTE. • Extensive abdominal or pelvic surgery for gynaecological cancer. • Any cancer patient with a history of VTE. • Any cancer patient with prolonged hospitalisation. 	28 days post surgery.	Appropriate prophylactic LMWH daily.
Nephrectomy for the removal of malignancy.	28 days post surgery.	Consider prophylactic LMWH daily.
Elective hip replacement.	35 days post surgery.	Aspirin 75 mg or LMWH/ Rivaroxaban 10mg daily for high risk patients.
Elective knee replacement.	14 days post surgery.	Aspirin 75 mg or LMWH/ Rivaroxaban 10mg daily for high risk patients.
Hip fracture.	35 days post surgery.	Appropriate prophylactic LMWH daily.
Fragility fractures of the pelvis, hip and proximal femur.	28 days post surgery.	Appropriate prophylactic LMWH daily.
Patient's with lower leg immobility– based on individual risk assessment (see appendix 10).	Until cast removed or 42 days whichever is soonest.	Appropriate prophylactic LMWH daily.

NB. patients receiving continued LMWH post-discharge via the district nursing teams should receive their first dose after 12pm (presuming their last dose in hospital 10pm prior to discharge) then daily thereafter.

Appendix 10. VTE risk assessment tool for patients with Lower limb immobilisation.

[Risk Assessment Tool](#)

Place patient sticker **within** this box



Risk assessment tool for Venous Thrombo-embolism prevention in patients aged 16 or over with lower leg immobilisation following trauma or injury



Date:		Dept / Ward:	
Height:		Weight:	
		BMI:	
Please circle all the risks listed below that apply to you and return the completed form to your nurse or doctor:			Score
Overweight (BMI >29kg/m ²) - please ask nursing staff if you are unsure of your BMI			2
Achilles Tendon rupture or repair			3
Patient advised to be non-weight bearing or touch weight bearing			3
Previous history of leg clots (DVT) or lung clots (PE)			3
Pregnant or within 6 weeks of delivery			3
Complex surgery of the lower leg or fracture of the pelvis within last 6 weeks			3
Active cancer			3
Family history of venous blood clots (mother, father, brother or sister)			2
Unable to walk before the injury			2
Age over 59 years old			1
Abdominal (tummy) surgery within last 6 weeks			1
Gross varicose veins			1
Taking the Oral Contraceptive Pill or Hormone Replacement Therapy			1
Any heart, lung or bowel disease (Crohn's disease or ulcerative colitis) requiring treatment			1
Total Score			<input type="text"/>
Known blood clotting disorder or thrombophilia – discuss with your Doctor for further advice			
Score	Recommendation for all patients unless fully weight bearing		Tick action
0-2	Mobilisation as able - no prophylaxis required		
3 or more	LMWH continued daily until patient is fully weight bearing eGFR >30ml/min - Dalteparin 5,000 units S/C once daily eGFR <30ml/min - Enoxaparin 20mg S/C once daily		



Place patient sticker **within** this box



Contra-indications: To be completed by supervising health care professional			
Do not offer VTE prophylaxis with LMWH if the patient has any of the following			
<input type="checkbox"/> Concurrent use of oral anticoagulation (inc. Warfarin, Rivaroxaban, Apixaban or Dabigatran)			
<input type="checkbox"/> Acquired or inherited bleeding disorder (eg haemophilia)			
<input type="checkbox"/> Thrombocytopenia (platelet count < 75x10 ⁹ /l)			
<input type="checkbox"/> Uncontrolled hypertension (>230/120mm/hg)			
<input type="checkbox"/> Active bleeding from any source			
Care Plan activated by	Sign Print Designation	Care Plan shared with patients	Sign Print Designation