Whittington Health NHS

Thromboprophylaxis: adult MEDICAL inpatients:

Guideline for reducing the risk of venous thromboembolism in non-pregnant adult medical inpatients

Subject:	Thromboprophylaxis (VTE risk reduction)
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Policy Executive Owner:	Clinical Director, MFNS ICSU
Designation of Author:	Dr Farrukh Shah, Ian Man, Alison Thomas and Kevin Gilbride
Name of Assurance Committee:	Clinical Guidelines Committee
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Target Audience:	All clinical staff
Key Words:	Thromboprophylaxis, venous thromboembolism, tinzaparin

Version Control Sheet

Version	Date	Author	Status	Comment
3	July 2015	Dr Farrukh Shah Dr Alison Thomas Ian Man Kevin Gilbride	Live	Removal of TED stocking in medical inpatients receiving pharmacological thromboprophylaxis. Increased emphasis on re-assessment of patients, particularly those in whom heparin is initially withheld due to bleeding concerns.

➢ Criteria for use

These guidelines are for use by all medical, nursing and pharmacy staff caring for adult (age ≥18 years) inpatients in **medical** specialities.

➢ Background/ introduction

This guideline takes into account NICE clinical guideline 92, 2010 (1) and the review of the guideline from July 2014 (2). This lays out a number of steps in the pathway for "Reducing the Risk of Venous Thromboembolism in Hospital Inpatients:

1. Provision of patient information on prevention of VTE
2. VTE risk reduction – general measures for all patients
3. Assessment of VTE and bleeding risks – to assess if patients are at increased risk of VTE to decide if mechanical and/or pharmacological thromboprophylaxis is indicated
4. Choice of VTE prophylaxis
5. Re-assessment of risks: 24 hours post admission and whenever the patient's clinical condition changes
6. Discharge planning

THE KEY ELEMENTS ARE SUMMARISED IN APPENDIX 1.

Ultimately the responsibility for the decision to administer thromboprophylaxis or not to an individual patient rests with that patient's consultant. **In difficult cases, advice should be sought from haematology and, if relevant, other specialists.**

➢ Inclusion/ exclusion criteria

These guidelines apply to the following patient groups:

Patients admitted to adult wards as inpatients or formally admitted for day-case procedures including:

- Medical inpatients
- Patients admitted to a hospital bed for day-case medical procedures
- Patients undergoing long term rehabilitation in hospital
- Medical patients, who have planned surgery within 24 hours, should have a **surgical VTE risk assessment** completed on Sunquest ICE.

The guideline does not apply to:

- Surgical patients (see **Thromboprophylaxis: SURGICAL patients**)
- Patients admitted with a diagnosis of, or suspected diagnosis of deep vein thrombosis or pulmonary embolus
- People under the age of 18 years
- Patients attending hospital as outpatients
- Patients attending the emergency department who are not admitted

➢ Step 1: Provision of patient information

- All patients should be provided with written and verbal information regarding the risks of VTE and how to reduce these.
- Copies of the patient information leaflet are available on the Trust intranet.

➢ Step 2: All patients admitted to hospital – general risk reduction measures

- Encourage mobilisation as soon as and as much as possible
- Adequate hydration and prevention of dehydration
- Aspirin and other anti-platelet drugs are not considered adequate thromboprophylaxis

➢ Step 3a: Identification of patients at increased risk of VTE

- **Risk assessment for all patients must be completed electronically on Sunquest ICE**

Table 1: Risk factors for VTE:

• Age >60 years
• Obesity (Body mass index >30kg/m^2)
• Personal history or 1st degree relative with history of VTE
• Known thrombophilia
• Use of hormone replacement therapy or oestrogen containing contraceptive
• Critical care admission
• Dehydration
• Varicose veins with phlebitis
	• Active cancer or receiving cancer treatment
	• Medical co-morbidities including:
	  • Heart disease
	  • Lung disease
	  • Inflammatory disorders
	  • Metabolic/endocrine disorders e.g. diabetes
	  • Sickle cell disease or thalassaemia
	  • Nephrotic syndrome
	• Recent surgery (within past 12 weeks)

<u>Patients are considered at increased risk of VTE if they have *ONE* of the following:</u>

- Have had or are expected to have significantly reduced mobility (bedbound, unable to walk unaided or spending a substantial proportion of the day in bed/chair) for 3 or more days (including prior to hospital admission) **OR**
- Have reduced mobility relative to their baseline
- **One or more** risk factors (Table 1)

➢ Step 3b: Identification of patients at increased risk of bleeding

All patients must be assessed for bleeding risk prior to prescription of pharmacological VTE thromboprophylaxis (e.g. tinzaparin).

Table 2: Contraindications to pharmacological thromboprophylaxis

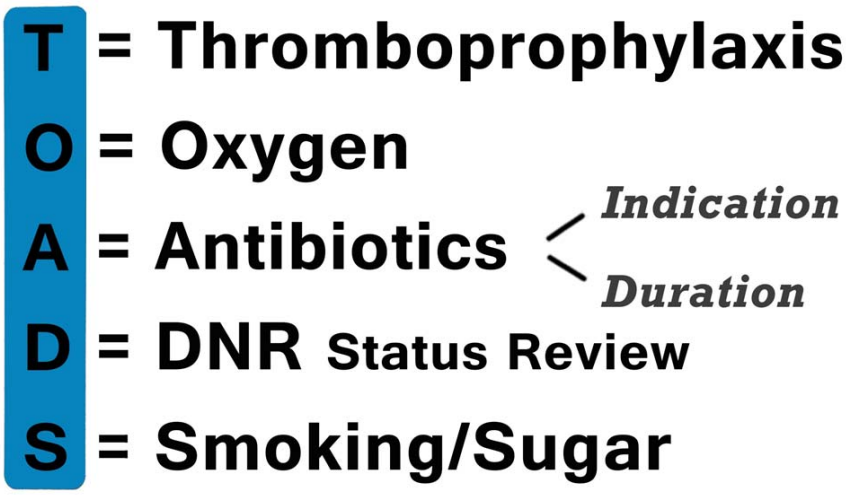
- Active bleeding
- Thrombocytopenia (platelets <50 $x10^9$/L)
- Concurrent use of therapeutic anticoagulants (e.g. warfarin with INR>2)
- Lumbar puncture/spinal/epidural anaesthesia within previous 4 hours
- Lumbar puncture/spinal/epidural anaesthesia expected within 12 hours
- Uncontrolled systolic hypertension (230/120mmHg or higher)
- New stroke
- Known bleeding disorder (*discuss with haematology*)
- Previous heparin induced thrombocytopenia (HIT) or allergy to tinzaparin/ heparin ***(must be discuss with haematology for alternatives***)

Where the overall risks of bleeding and VTE are difficult to discern, a senior member of the admitting team and haematology should be involved.

In patients in whom pharmacological thromboprophylaxis is contra-indicated, mechanical thromboprophylaxis should be offered

Temporary inferior vena caval filters should be considered in patients who are at very high risk of VTE and in whom pharmacological and mechanical thromboprophylaxis are contraindicated. These patients should be initially be discussed with haematology by a senior member of the patient's team and, if an IVC filter is recommended, discussed with Dr Kumarajeevan (Consultant Radiologist). Where patients have an IVC filter inserted an appointment to remove the filter when no longer required (usually within 6 weeks) MUST be booked at the time of filter insertion

All patients should be reviewed every 3 to 4 days or if the clinical condition changes. To assist the review process the trust has introduced a TOADS sticker to be used in the case notes twice weekly at senior clinician ward rounds to review and document clinical care outlined below



➢ Step 4: Prescription of appropriate thromboprophylaxis

Patient at increased risk of VTE AND NO contraindications to pharmacological thromboprophylaxis

- Tinzaparin is the low molecular weight heparin of choice in Whittington Health.

Tinzaparin dosing

  - *Weight ≤50kg:* 2500 units OD SC
  - *Weight 50kg to 110kg:* 4500 units OD SC
  - *Weight >110kg:* 50 units/kg OD SC

- Thromboprophylaxis should be commenced as soon as possible after risk assessment has been completed. *This requires selection of the appropriate timing for the initial dose of thromboprophylaxis on JAC.* Patients admitted after 6pm should be prescribed a STAT dose, with a regular prescription to start at 6pm the next day.
- Thromboprophylaxis should be continued until the patient is no longer at increased risk of VTE.
- Patients who have been prescribed pharmacological thromboprophylaxis, **do not require TEDs** (Antiembolic support stockings) prescribed in addition

Allergies to tinzaparin: There is some cross-reactivity between tinzaparin, enoxaparin and daltaparin. The agent of choice for patients with an allergy to LMWH is fondaparinux 2.5mg od

Renal failure: If creatinine clearance or eGFR<20ml/min: use 5000 units unfractionated heparin SC **BD**

Patients at increased risk of VTE with contraindications to antiembolic support stockings (TEDs) and low molecular weight heparin should have Flowtrons (Intermittent pneumatic compression device) prescribed.

➢ Step 5: Risk re-assessment

- The risks of VTE and bleeding should be re-assessed **24 hours** post admission and the risk assessment documented in the patient's notes.
- Risks of VTE and bleeding should be re-assessed regularly throughout a patient's admission and whenever their clinical condition changes
- At a minimum, re-assessment should be performed **twice weekly**. Patients on critical care should be re-assessed on a daily basis.
- Re-assessments must be documented in the patient's clinical notes.
- **It is particularly important that re-assessment if carried out in patients admitted with acute bleeding episodes as once the bleed has settled these patients are often at increased risk of VTE.**

➢ Step 6: Discharge planning

- All patients should be provided with written and verbal information on discharge including the signs and symptoms of VTE and how to seek help if VTE is suspected. The following text can be selected on the electronic discharge summary:

  Patients who have been admitted to hospital can be at increased risk of blood clots in the veins of the leg or the lung. You can reduce your risk of this as you recover from your admission by ensuring that you keep yourself mobile – being up and about as much as possible and keeping yourself well hydrated. Blood clots can manifest as pain or swelling in a leg; chest pain, dizziness or shortness of breath. Should you develop any of these symptoms please contact your GP. Please contact your GP if you have difficulty re-gaining your normal mobility after discharge.

Extended thromboprophylaxis:

- Some patients may remain at significantly increased risk of VTE post discharge and should be considered for extended duration of thromboprophylaixs (which continues following discharge from hospital). Please discuss with haematology for advice regarding extended thromboprophylaxis in high risk medical patients.

- Patients discharged on extended thromboprophylaixs must be provided with the following information on the discharge letter. When completing the discharge letter on ICE click on the section **"Actions for GP"** and select one of the four pre-worded VTE options

  - Correct use and duration of thromboprophylaxis and importance of continuing
  - How to contact the discharging ward if any problems with thromboprophylaixs
  - In patients requiring subcutaneous injections who are unable to self-administer, district nursing or GP practice administration must be organised by the ward/clinical area prior to discharge
  - Please ensure patients going home on subcutaneous injections are provided with a sharps ben and verbal information on the safe management and return of sharps
  - The GP must be notified in the discharge summary

➢ NICE VTE prevention quality standard

The following are NICE VTE prevention quality standard (NICE quality standard 3, 2010):

1. VTE and bleeding risk assessment: all patients on admission receive an assessment of VTE and bleeding risk.
2. Patients/carers are offered verbal and written information on VTE prevention as part of the admission process
3. Patients provided with anti-embolism stockings have them fitted and monitored in accordance with NICE guidelines
4. Patients are re-assessed within 24 hours of admission for risk of VTE and bleeding

5. Patients assessed to be at risk of VTE are offered VTE prophylaxis in accordance with NICE guidance.
6. Patients/carers are offered verbal and written information on VTE prevention as part of the discharge process
7. Patients are offered extended (post hospital) VTE prophylaxis in accordance with NICE guidance.

- **References (evidence upon which the guideline is based)**

(1) NICE. Venous thromboembolism: reducing the risk: Reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to hospital. Clinical Guideline 92. National Institute for Clinical Excellence; 2010.

(2) NICE. Surveillance Review Decision: Cllinical Guideline 92: Venous Thromboembolism: reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to hospital. National Institute for Clinical Excellence; 2014.

- **Compliance with this guideline (how and when the guideline will be monitored e.g. audit and which committee the results will be reported to) Please use the tool provided at the end of this template**

See end table

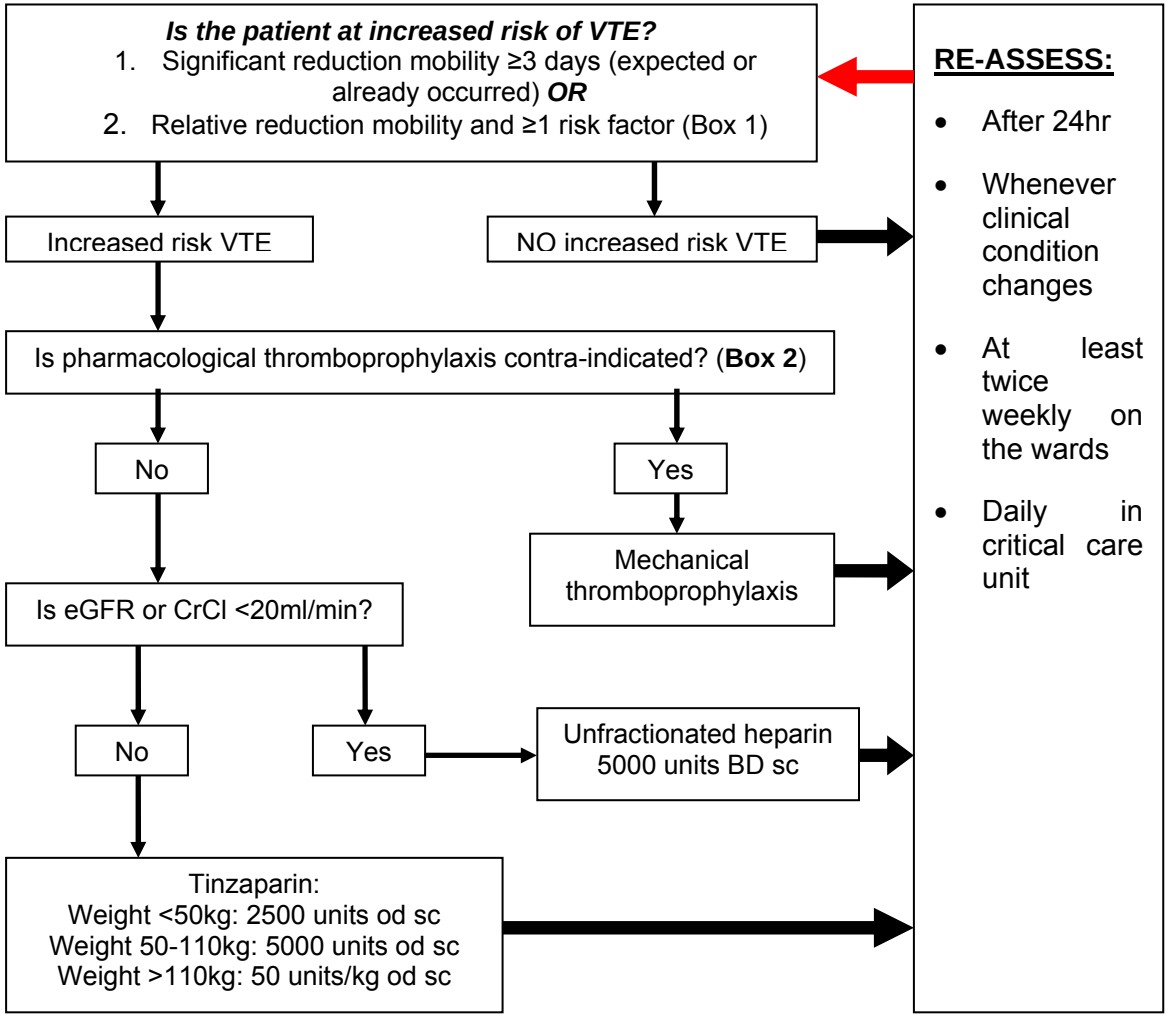
APPENDIX 1: THROMBOPROPHYLAXIS IN MEDICAL PATIENTS

BOX1: RISK FACTORS FOR THROMBOSIS

- Age >60 years
- Obesity (BMI >30kg/m^2)
- Personal history or 1st degree relative with history of VTE
- Known thrombophilia
- Hormone replacement therapy or combined oral contraceptive pill
- Critical care admission
- Dehydration
- Varicose veins with phlebitis
- Active cancer or receiving cancer treatment
- Recent surgery (within 12 weeks)
- Medical comorbidities e.g.: cardio-respiratory disease, inflammatory disorders, diabetes, sickle cell anaemia, thalassaemia, nephrotic syndrome

BOX 2: CONTRAINDICATIONS TO PHARMACOLOGICAL THROMBOPROPHYLAXIS

- Active bleeding
- Thrombocytopenia (platelets <50 x10^9/L)
- Concurrent use of therapeutic anticoagulants (e.g. warfarin with INR>2)
- Lumbar puncture/spinal/epidural anaesthesia within previous 4 hours
- Lumbar puncture/spinal/epidural anaesthesia expected within 12 hours
- Uncontrolled systolic hypertension (230/120mmHg or higher)
- New stroke
- Known bleeding disorder (*discuss with haematology*)
- Previous heparin induced thrombocytopenia (HIT) or allergy to tinzaparin/ heparin ***(must discuss with haematology re alternatives***)



APPENDIX 2: NICE Quality Standards

The following are NICE VTE prevention quality standard (NICE quality standard 3, 2010):

1. VTE and bleeding risk assessment: all patients on admission receive an assessment of VTE and bleeding risk.
2. Patients/carers are offered verbal and written information on VTE prevention as part of the admission process
3. Patients provided with anti-embolism stockings have them fitted and monitored in accordance with NICE guidelines
4. Patients are re-assessed within 24 hours of admission for risk of VTE and bleeding
5. Patients assessed to be at risk of VTE are offered VTE prophylaxis in accordance with NICE guidance.
6. Patients/carers are offered verbal and written information on VTE prevention as part of the discharge process
7. Patients are offered extended (post hospital) VTE prophylaxis in accordance with NICE guidance.

		Yes/No	Comments
1.	**Does the procedural document affect one group less or more favourably than another on the basis of:**		
	• Race	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender	No	
	• Culture	No	
	• Religion or belief	No	
	• Sexual orientation including lesbian, gay and bisexual people	No	
	• Age	No	
	• Disability - learning disabilities, physical disability, sensory impairment and mental health problems	No	
2.	**Is there any evidence that some groups are affected differently?**	No	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?**	No	
4.	**Is the impact of the procedural document likely to be negative?**	No	
5.	**If so can the impact be avoided?**	N/A	
6.	**What alternatives are there to achieving the procedural document without the impact?**	N/A	
7.	**Can we reduce the impact by taking different action?**	N/A	

If you have identified a potential discriminatory impact of this procedural document, please refer it to the Director of Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact the Director of Human Resources.

Checklist for the Review and Approval of Procedural Document

To be completed and attached to any procedural document when submitted to the relevant committee for consideration and approval.

	Title of document being reviewed:	Yes/No	Comments
1.	**Title**		
	Is the title clear and unambiguous?	Yes	
	Is it clear whether the document is a guideline, policy, protocol or standard?	Yes	
2.	**Rationale**		
	Are reasons for development of the document stated?	Yes	
3.	**Development Process**		
	Is it clear that the relevant people/groups have been involved in the development of the document?	Yes	
	Are people involved in the development?	Yes	
	Is there evidence of consultation with stakeholders and users?	Yes	
4.	**Content**		
	Is the objective of the document clear?	Yes	
	Is the target population clear and unambiguous?	Yes	
	Are the intended outcomes described?	Yes	
5.	**Evidence Base**		
	Are key references cited in full?	N/A	
	Are supporting documents referenced?	N/A	
6.	**Approval**		
	Does the document identify which committee/ group will approve it?	Yes	
7.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	Yes	
8.	**Document Control**		
	Does the document identify where it will be held?	Yes	
9.	**Process to Monitor Compliance and Effectiveness**		
	Are there measurable standards or KPIs to support the monitoring of compliance with and	Yes	

	Title of document being reviewed:	Yes/No	Comments
	effectiveness of the document?		
	Is there a plan to review or audit compliance with the document?	Yes	
10.	**Review Date**		
	Is the review date identified?	Yes	
	Is the frequency of review identified? If so is it acceptable?	Yes	
11.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for co-ordinating the dissemination, implementation and review of the document?	Yes	

Executive Sponsor Approval			
If you approve the document, please sign and date it and forward to the author. Procedural documents will not be forwarded for ratification without Executive Sponsor Approval			
Name		Date	
Signature			
Relevant Committee Approval			
The Director of Nursing and Patient Experience's signature below confirms that this procedural document was ratified by the appropriate Governance Committee.			
Name		Date	
Signature			
Responsible Committee Approval – only applies to reviewed procedural documents with minor changes			
The Committee Chair's signature below confirms that this procedural document was ratified by the responsible Committee			
Name		Date	
Name of Committee		Name & role of Committee Chair	
Signature			

Tool to Develop Monitoring Arrangements for Policies and guidelines

What key element(s) need(s) monitoring as per local approved policy or guidance?	Who will lead on this aspect of monitoring? Name the lead and what is the role of the multidisciplinary team or others if any.	What tool will be used to monitor/check/observe/Assess/inspect/ authenticate that everything is working according to this key element from the approved policy?	How often is the need to monitor each element? How often is the need complete a report ? How often is the need to share the report?	What committee will the completed report go to?
Element to be monitored	**Lead**	**Tool**	**Frequency**	**Reporting arrangements**
% of patients receiving risk assessments on admission	VTE CQUIN lead		Monthly	VTE Working Group
% of patients re-assessed after 24 hours	VTE CQUIN lead		Quarterly	VTE Working Group
Re-assessment in patients in whom pharmacological thromboprophylaxis is withheld due to initial contra-indications	Thrombosis Lead		6 monthly	Thrombosis Committee