

# WAHT Venous thromboembolism (VTE) risk assessment and thromboprophylaxis in adults

## Care Pathway

1. Assess the level of mobility, VTE risk and bleeding risk for all patients admitted to WAHT by completing the Trust Risk Assessment Tool.
2. Balance the risk of VTE with bleeding, then decide on whether the patient should have mechanical and/or pharmacological prophylaxis which should be prescribed on the drugs chart.
3. Provide the patient with verbal and written information on VTE prophylaxis
4. Re-assess the patient after 24 hours, if there is any significant change in the clinical situation and every 7 days, where applicable. For 7 days VTE risk assessment use a new form by writing Day 7 in the box saying 'initial'
5. Assess the patient for on-going VTE risk at discharge and whether extended prophylaxis is required.

## Risk Assessment

### If the patient has one of these factors then they are at risk of VTE:

- Active cancer or cancer treatment
  - Age>60
  - Dehydration
  - Known thrombophilia
  - Obesity (BMI >30kg/m<sup>2</sup>)
  - One or more significant medical comorbidities (eg heart disease; metabolic, endocrine or respiratory pathologies; acute infectious disease; inflammatory conditions)
  - Personal history or first-degree relative with a history of VTE
  - Use of hormone replacement or oestrogen-containing contraceptive therapy (consider stopping until fully mobile).
  - Varicose veins with phlebitis
  - Pregnancy or <6 weeks post partum
  - Significant or likely reduced mobility for >3 days
  - Hip or knee replacement\*
  - Hip fracture \*
  - Total anaesthetic + surgical time >90 minutes \*
  - Surgery involving the pelvis or lower limb with total anaesthetic + surgical time >60 minutes\*
  - Acute surgical admission with inflammatory or intra-abdominal condition
  - Surgery with significant reduction in mobility
  - Critical care admission
- \*Recent (within last 3 months) or planned for this admission*

### If patient has one of these factors then they are at risk of bleeding:

- Active bleeding
- Acquired bleeding disorders
- Inherited bleeding disorders (eg haemophilia or von Willebrands disease)
- Acute stroke
- Thrombocytopenia (platelets <50x10<sup>9</sup>/L)
- Neurosurgery, spinal or eye surgery
- Other procedures with high bleeding risk
- Lumbar puncture/epidural/spinal anaesthesia expected in the next 12 hours or performed in the previous 4 hours
- Concurrent use of anticoagulants
- Uncontrolled systolic hypertension (>230mmHg)

It is the responsibility of the doctor admitting the patient to perform the assessment and make sure it is correctly documented. Where it is not clear about the balance of risk to bleeding then it should be discussed with a senior.

## Elective surgery

- Advise women to stop HRT or oestrogen containing contraceptive 4 weeks before surgery and for 6 weeks after.
- Consider regional anaesthesia which comes with a lower risk of VTE
- If regional anaesthesia consider the timing of prophylaxis and normal antiplatelets/coagulants to reduce the risk of haematoma
- Do not offer VTE prophylaxis to patients receiving local anaesthesia alone with no reduction in mobility

## VTE prophylaxis

### For all patients:

Provide the patient with verbal and written information, WHAT-HAE-028.  
Do not allow patients to become dehydrated unless clinically indicated  
Encourage patients to mobilise as soon as possible  
Consider temporary vena cava filter if high risk of VTE and pharmacological and mechanical prophylaxis is contra-indicated

## Mechanical prophylaxis

All patients who are risk assessed as requiring mechanical prophylaxis should be offered anti-embolism stockings (AES) as first line unless contra-indicated.  
All patients should be offered intermittent compression during the intra-operative period and for as long afterwards unless contra-indicated.

## Anti-embolism stockings

- Staff who fit AES should be trained in their use
- Measure legs and use correct stocking size. Document stocking size.
- If oedema or post-operative swelling develops ensure legs are remeasured and stockings refitted
- If arterial disease suspected seek expert advice before fitting stockings
- Encourage patients to wear stockings day and night until they no longer have significantly reduced mobility
- Remove stockings daily for hygiene purposes and to inspect skin
- If patient has significantly reduced mobility, poor skin integrity or sensory loss, inspect skin 2-3 times day especially over heels and bony prominences
- Discontinue the use of stockings if there is marking, blistering or discolouration of the skin or if the patient has pain or discomfort. If suitable offer intermittent pneumatic compression or foot impulse devices as an alternative
- Show patients how to use AES correctly and ensure they understand this will reduce their risk of VTE, monitor their use and give assistance as necessary.
- In cases of amputation consider fitting AES to unaffected limb

## Contraindications:

- Uncontrolled heart failure
- Stroke patients
- Peripheral vascular disease
- Infection in the limb
- Peripheral sensory neuropathy
- Leg ulcers
- Known allergy to the material of manufacture
- Local condition where the stockings may cause damage, such as paper thin skin, dermatitis, gangrene or recent skin graft
- Severe limb oedema
- Unusual shape/size or deformity

## Foot impulse and intermittent pneumatic compression devices

Encourage patients on the ward who have these devices to use them as much of the time as possible and practical, both when in bed and sitting in a chair.  
Contraindications as AES

## Pharmacological VTE prophylaxis

Antiplatelet drugs are not suitable for VTE prophylaxis

## Enoxaparin

The standard VTE pharmacological prophylaxis is Enoxaparin (Clexane) at a dose of 40mg subcutaneously OD except:

- Creatinine clearance 15-30ml/minute then enoxaparin 20mg subcutaneously OD
- Creatinine clearance <15ml/minute then Unfractionated Heparin 5000units BD subcutaneously while inpatient. *(If require to be discharged on VTE prophylaxis discuss with a consultant haematologist).*
- Weight <50kg then enoxaparin 20mg subcutaneously OD
- Weight 100-150kg then enoxaparin 40mg BD subcutaneously if renal function normal
- Weight >150kg then enoxaparin 60mg BD subcutaneously if renal function normal
- Contraindication to heparin because of religious reasons then fondaparinux 2.5mg subcutaneously OD
- Contraindication to heparin because of allergic reasons or needle phobia then rivaroxaban 10mg OD

*If a patient is already on, or are started on an alternative anticoagulant\*, then they do not require pharmacological prophylaxis. \*apixaban, edoxaban, rivaroxaban, dabigatran, fondaparinux, danaparoid or therapeutic warfarin.*

## Procedures

- Lumbar puncture/epidural anaesthesia (insertion and removal) – delay procedure until >12 hours since last dose and delay next dose until 4 hours after the procedure.
- Procedure with high bleeding risk – delay procedure until >12 hours since last dose and delay next dose until haemostasis is secure (at least 4 hours post-operatively).
- Procedure with normal/low bleeding risk - delay procedure until >6 hours since last dose (ideally 12 hours) and delay next dose until haemostasis is secure (at least 4 hours post-operatively).

## Discharge planning

### For all patients:

- Offer information on signs and symptoms of DVT and PE, and the importance of seeking medical advice.
- Complete a formal review at discharge and document any need for extended prophylaxis and ensure it is prescribed.

### For patients discharged on VTE prophylaxis:

- Offer information on the correct use and duration of VTE prophylaxis at home. Also provide information on the signs and symptoms of adverse events related to VTE prophylaxis and who to contact for help.
- Ensure patients, or carers, are able to use VTE prophylaxis appropriately
- Inform the GP if patient is discharged on VTE prophylaxis and any monitoring required
- Patients discharged with injections should be provided with an appropriate sharps box.
- If Creatinine Clearance<15ml/minute discuss with a consultant haematologist regarding the type and dosage of thromboprophylaxis.

