

THROMBOPROPHYLAXIS FOR ORTHOPAEDIC INPATIENTS

Type of admission: Elective / Emergency

Date of surgery: _____

Risk assessment by: _____

Signature: _____

Date: ____ / ____ / _____

Name:

Date of Birth:

Hospital No:

*Patient details
or sticker*

NHS No:

Consultant:

MUST BE ASSESSED AT PRE-OP OR WITHIN 24 HOURS OF ADMISSION

Enoxaparin indicated? Yes No If yes and not given, please state reason _____

ALL PATIENTS

- Encourage early mobilisation and leg exercises
- Ensure adequate hydration
- Assess patient's risk factors for VTE on admission/ at pre-assessment clinic and prescribe thromboprophylaxis as below unless contraindicated (listed overleaf)
- **Patients should have their VTE risk reassessed should there be a change in their clinical condition**

RISK FACTORS FOR VENOUS THROMBOEMBOLISM (VTE)

- | | |
|--|--|
| <input type="checkbox"/> Personal or family history VTE | <input type="checkbox"/> Obesity (BMI greater than 30) |
| <input type="checkbox"/> Acquired or inherited thrombophilia (incl. antiphospholipid syndrome) | <input type="checkbox"/> Active inflammatory bowel disease (crohn's/ ulcerative colitis) |
| <input type="checkbox"/> Acute medical illness/ recent MI | <input type="checkbox"/> Nephrotic syndrome |
| <input type="checkbox"/> Severe infection | <input type="checkbox"/> Immobility (eg. paralysis/ paresis/traction/ lower limb in plaster) |
| <input type="checkbox"/> Heart or respiratory failure | <input type="checkbox"/> Varicose veins with a history of phlebitis |
| <input type="checkbox"/> Active cancer/ cancer therapy | <input type="checkbox"/> Hormone therapy (antiandrogen or oestrogen including combined oral contraceptive pill or hormone replacement therapy) |
| <input type="checkbox"/> Pregnancy or puerperium (within 6 wks of delivery) | <input type="checkbox"/> Central venous catheter in place |
| <input type="checkbox"/> Myeloproliferative disease/ paroxysmal nocturnal haemoglobinuria | <input type="checkbox"/> Age greater than 60 |
| <input type="checkbox"/> Paraproteinaemia | |

RECOMMENDED THROMBOPROPHYLAXIS

- **Intermittent pneumatic compression should be used for all patients unless contraindicated**
- **Elective hip and knee arthroplasty patients**
 - 40mg of enoxaparin daily
 - 20mg of enoxaparin daily if creatinine clearance less than 30 mL/min*
- **Fractured hip patients**
 - **Without risk factors other than age:** aspirin 150mg and lansoprazole 15mg once daily.
 - **With risk factors in addition to age and expected immobility:** as for elective hip and knee arthroplasty patients above
- **Ankle replacement surgery**
 - **Without risk factors:** aspirin 150mg and lansoprazole 15mg once daily whilst in cast (usually 3 weeks)
 - **With risk factors in addition to age:** as for elective hip and knee arthroplasty patients above
- **Spinal surgery:**
 - **Elective:** consider as high risk and give enoxaparin (as for elective hip and knee arthroplasty patients above but give first dose postoperatively)
 - **Trauma:** discuss with consultant orthopaedic surgeon
- **Pelvic surgery and trauma:** as for elective hip and knee arthroplasty patients above unless contraindicated due to active bleeding or high risk of haemorrhage.
- **External frames:** have foot pumps **ONLY**.
- **All other orthopaedic patients with additional risk factors to be considered on a case-by-case basis**
- **Hip arthroplasty and fractured hip patients should be considered for extended thromboprophylaxis (35 days) if additional risk factors present. See table above.**
- ***Men with creatinine greater than 180micromol/L and women greater than 150micromol/L should have creatinine clearance calculated using Cockcroft-Gault equation (see over)**

THROMBOPROPHYLAXIS FOR ORTHOPAEDIC INPATIENTS UNDERGOING SURGERY

Additional Information

Contraindications to chemical thromboprophylaxis:

- **If spinal/epidural anaesthesia anticipated in next 12 hours please discuss with SpR or consultant surgeon or anaesthetist**
- Known bleeding disorder/thrombocytopenia (platelet count less than $50 \times 10^9/L$)
- On therapeutic anticoagulation (oral anticoagulants/un-fractionated heparin/enoxaparin/fondaparinux)
- Recent haemorrhagic stroke or risk of central nervous system bleed e.g. head injury (caution in recent ischaemic stroke, see separate guidance)
- Active gastrointestinal bleeding
- Bacterial endocarditis, pericarditis or thoracic aortic aneurysm
- Heparin induced thrombocytopenia or hypersensitivity to enoxaparin
- Severe hepatic failure
- Other conditions with high risk of serious bleed
- **Discuss with consultant if risk/benefit balance not clear**

Enoxaparin prescription

- Enoxaparin should be given once a day at 18:00 hrs and prescribed on the drug chart. The first dose should be given at 18:00 hrs the evening before surgery, or **6 hrs post-op** and at 18:00 hrs on subsequent days.
- Spinal/epidural anaesthesia, enoxaparin 20mg should be given 6 hours postoperatively, then 20mg (moderate risk) or 40mg (high risk) at 18.00 hours on subsequent days.
- Spinal/epidural anaesthesia should **NOT** be performed nor epidural removed until 12 hours have elapsed since the last prophylactic dose of enoxaparin.
- If epidural catheters are to be left in situ, postoperative thromboprophylaxis should still continue.
- If heparin exposure within 3 months check full blood count (FBC) next day.
- All patients receiving enoxaparin for thromboprophylaxis should have FBC checked after 5-7 days then again after 12-14 days (if still receiving enoxaparin) to exclude heparin induced thrombocytopenia (HIT) (contact haematology if platelet count falls by 30-50% or less than $150 \times 10^9 /L$).
- Enoxaparin to be given until the patient is discharged or is fully mobile.

Calculation for creatinine clearance (Cockcroft-Gault Equation)

$$\left(\frac{(140 - \text{age}) \times \text{weight (kg)}}{\text{Serum Creatinine (micromol/L)}} \right) \times \begin{matrix} 1.04 \text{ (female)} \\ \text{or} \\ 1.23 \text{ (male)} \end{matrix} = \text{CrCl (ml/min)}$$