Guidelines for VTE prophylaxis – Department of Orthopaedic & Trauma Surgery
Doncaster and Bassetlaw Hospitals NHS Foundation Trust

RULE OF THUMB:
Any of the patient related risk factors *in combination with* admission related risk factors (as included in the risk assessment tool), increases the risk of VTE and therefore must be considered for prophylaxis

- Assess all patients on admission to identify those who are at increased risk of VTE. Assess bleeding risk. Balance risks of VTE and bleeding.
- Offer VTE prophylaxis if appropriate. Do not offer pharmacological VTE prophylaxis if the patient has any risk factor for bleeding and risk of bleeding outweighs risk of VTE.
- Reassess risks of VTE and bleeding within 24 hours of admission and whenever clinical situation changes.
- If the patient is pregnant discuss with Haematologist before starting treatment.

RECOMMENDATIONS TO BE CONSIDERED FOR SPECIFIC INDICATIONS:

**ELECTIVE:**

**High Risk Hip & Knee Replacement (previous PE/DVT, inherited or acquired thrombophilia, active cancer or treatment for cancer)**
- Use regional anaesthesia when possible, consider calf pumps/anti-thromboembolism (TED) stockings
- Dalteparin 5000units* s/c in the EVENING to start 6 hours post-op and continued whilst patient in hospital (for those patients prescribed rivaroxaban).
- Then Rivaroxaban 10mg once DAILY for 6 weeks started at discharge. If unable to have Rivaroxaban, Warfarin (target INR 2 to 2.5) for 6 weeks started the day following surgery (continue dalteparin until INR therapeutic for two consecutive days). In active cancer or treatment for cancer, continue with Dalteparin 5000units* s/c in the EVENING for 6 weeks following surgery.

**Standard Risk Hip & Knee Replacement**
- Use regional anaesthesia when possible, consider calf pumps/anti-thromboembolism (TED) stockings
- Dalteparin 5000units* s/c in the EVENING to start 6 hours post-op and continued whilst patient in hospital.
- Then Aspirin 150mg once DAILY for 6 weeks to commence on discharge (where aspirin intolerant, consider substituting with dalteparin or rivaroxaban instead: for 10 days for knee replacement and 30 days for hip replacement)

**Hip Arthroscopy**
- Dalteparin 5000units* s/c in the EVENING to start 6 hours post-op, continued whilst patient in hospital.

**Peri-acetabular Osteotomies**
- Dalteparin 5000units* s/c in the EVENING to start 6 hours post-op and continued for 6 weeks post-op.

**Spinal Surgery/Fractures**
- All patients to receive anti-thromboembolism (TED) stockings before going to theatre and continue with these until fully mobile.
- If high risk (previous PE/DVT, inherited or acquired thrombophilia, active cancer or treatment for cancer), consider Dalteparin 5000units* s/c in the EVENING to start 48 hours after surgery and continued whilst patient in hospital.

**Shoulder and Upper Limb Surgery**
- No specific prophylaxis required unless high risk co-morbidities exist (previous PE/DVT, inherited or acquired thrombophilia, active cancer or treatment for cancer). Consider using Rivaroxaban 10mg once DAILY or Dalteparin 5000units s/c in the EVENING for two weeks post operatively, where prophylaxis indicated.
Foot and Ankle Surgery
- Use regional anaesthesia when possible.
- HINDFOOT: Dalteparin 5000units* s/c in the EVENING to start 6 hours post-op and until discharge. Then Aspirin 150mg once DAILY for 6 weeks to commence on discharge (where aspirin intolerant, consider substituting with Rivaroxaban 10mg once DAILY or Dalteparin 5000units s/c in the EVENING instead for two weeks).
- FOREFOOT: Dalteparin 5000units* as a single dose post-op.

TRAUMA:

Fractured Neck of Femur
- Dalteparin 5000units* in the EVENING to start 6 hours post-op, continued whilst patient in hospital.
- Then Aspirin 150mg once DAILY for 6 weeks to commence on discharge.
- If aspirin inappropriate, Dalteparin 5000units* in the EVENING for 6 weeks following surgery.

Pelvic Fracture
- Dalteparin 5000units* in the EVENING to start 6 hours post-op, continued whilst patient in hospital.

Lower Limb Fractures:

High Risk Lower Limb Plaster Casts (previous PE/DVT, inherited or acquired thrombophilia, active cancer or treatment for cancer)
- Dalteparin 5000units* in the EVENING to start 6 hours post-op, continued whilst patient in hospital (for those patients prescribed rivaroxaban).
- Then Rivaroxaban 10mg once DAILY for six weeks. If unable to have Rivaroxaban, Warfarin (target INR 2 to 2.5) for 6 weeks started the day following surgery (continue dalteparin until INR therapeutic for two consecutive days).

Standard Risk Lower Limb Plaster Casts
- Dalteparin 5000units* in the EVENING to start 6 hours post-op, continued whilst patient in hospital
- Then Aspirin 150mg once DAILY while patient is in a cast. Once plaster is removed provided patient is full weight bearing and ankle is free to mobilise Aspirin can be discontinued. Aspirin can be considered for a longer period of time if patient continues to struggle with mobilisation and is non-weight bearing.

Upper Limb Fractures/Surgery:
- No specific prophylaxis required unless high risk co-morbidities exist (previous PE/DVT, inherited or acquired thrombophilia, active cancer or treatment for cancer). Consider using Rivaroxaban 10mg once DAILY or Dalteparin 5000units s/c for two weeks post operatively, where prophylaxis indicated.

Dalteparin Dosing Recommendations:
5000 units in the EVENING
If eGFR < 20ml/min*, use 2500 units in the EVENING
(* this lower dose should also be used in all those with evidence of acute kidney injury (oliguria over 12 hours or doubling of serum creatinine) – including obese patients

Prophylaxis in Extremes of Body Weight (unlicensed):

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>Dose</th>
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<tbody>
<tr>
<td>&lt;46</td>
<td>2500units in the EVENING</td>
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<tr>
<td>&gt;120 to &lt;150</td>
<td>7500units in the EVENING</td>
</tr>
<tr>
<td>&gt;150</td>
<td>5000units TWICE DAILY</td>
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The Consultants of the Trauma and Orthopaedic Directorate have unanimously agreed the above guideline. Discussions have taken place with the PSRG, Consultant Haematologists and the Trust DVT lead Dr Ben Kumar.

It has been agreed that individual providers should be given the option to include aspirin as part of an agreed multimodal DVT prevention strategy following appropriate individual risk assessment and patient consultation. Where the decision is taken not to align policy with NICE recommended options, Trusts must ensure that their VTE prophylaxis policy is ratified through the appropriate Clinical Risk Committee. Providers must ensure that patients can make an informed choice to elect to receive NICE recommended options if they would prefer.

Author: Mr Vivek Panikkar, Consultant Orthopaedic Surgeon & VTE Lead
Approved by Drug and Therapeutics Committee/Patient Safety Review Group/Orthopaedic Clinical Governance Group: Feb 2016
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