# VENOUS THROMBOEMBOLISM (VTE) PREVENTION POLICY

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<th>3</th>
<th>Version Date</th>
<th>October 2015</th>
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<tr>
<td>Policy Owner</td>
<td>Consultant Lead for Patient Safety</td>
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<td>Author(s)</td>
<td>Consultant Lead for Patient Safety</td>
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VEINOUS THROMBOEMBOLISM PREVENTION POLICY

1. RATIONALE
   The purpose of this policy is to ensure that all in-patients are appropriately assessed for risk of venous thromboembolism (VTE) and treated according to that risk throughout their stay at Yeovil District Hospital NHS Foundation Trust (YDH).

2. AIMS
   The aim of this policy is to ensure that all adult patients admitted to YDH are formally risk assessed and, where appropriate, measures are taken to reduce their likelihood of developing a VTE.

   NICE guidance (CG92, 2010) and the Chief Medical Officer's letter (CEM/CMO/2007/10) underpin this policy.

   This policy supersedes all prior relevant clinical and non-clinical policies, protocols and guidelines within the Trust.

3. DEFINITIONS
   - Venous thromboembolism: Venous thrombosis is a condition in which a blood clot (thrombus) forms in a vein. Blood flow through the affected vein can be limited by the clot, causing swelling and pain. Venous thrombosis most commonly occurs in the 'deep veins' in the legs, thighs, or pelvis. This is known as a deep vein thrombosis. An embolism is created if a part or all of the blood clot in the deep vein breaks off from the site where it is created and travels through the venous system. If the clot lodges in the lung a very serious condition, pulmonary embolism (PE), arises. Venous thrombosis can form in any part of the venous system. However, deep vein thrombosis (DVT) and PE are the most common manifestations of venous thrombosis. DVT and PE are known as venous thromboembolism (VTE). (DH, 2009)

   - Thromboprophylaxis: Thrombo-prophylaxis is the treatment to prevent blood clots forming in veins.
     - Mechanical thrombo-prophylaxis devices include graduated compression (TED) stockings, intermittent pneumatic compression and venous foot pumps. All increase venous outflow or reduce stasis within the leg veins.
     - Chemical thrombo-prophylaxis is pharmaceutical intervention to decrease the clotting ability of the blood

4. VTE COMMITTEE
   The VTE Committee was established under the auspices of the Medical Director with the purpose to ensure that the Trust is compliant with the standards set out by advisory papers from the National Institute of Clinical Excellence (NICE), the National Patient Safety Agency (NPSA) and the All Party Parliamentary Thrombosis Group (APPTG) on the prevention and treatment of VTE.

   There is representation from each speciality on the Committee, which reports the Hospital Management Team as required.
5. **RESPONSIBILITIES**

5.1 **Medical Director**
The Medical Director has overall clinical responsibility and will report to the Board of Directors and Clinical Governance Committees.

5.2 **The VTE Committee**
The VTE Committee is responsible for coordinating the implementation of the policy, education and audit.

5.3 **Clinical Directors**
All clinical directors are responsible for the implementation within their directorates.

5.4 **Admitting Consultant**
The admitting consultant is responsible for ensuring compliance with this policy for their patients and reviewing appropriate prophylaxis as part of the ward round.

5.5 **Doctors**
Doctors are responsible for risk assessing all patients under their care and undertaking reviews as the clinical condition changes and/or the prescription chart is re-written.

5.6 **Nurses**
The pre-assessment nurses are responsible for risk assessing all elective surgical patients attending the pre-assessment clinic, and obtaining a doctor’s prescription where applicable.

Ward nurses are responsible for ensuring that patients receive all prophylaxis prescribed, unless otherwise instructed by a member of the medical team. They must also ensure that all patients have been assessed and have an obligation to highlight patients requiring assessment to the medical team.

5.7 **Pharmacists**
Pharmacists are responsible for highlighting patients that have not been assessed and/or incorrectly prescribed prophylaxis to the medical team.

5.8 **Ward Clerks and Receptionists**
Ward Clerks are responsible for ensuring that patients’ VTE risk assessment status is accurately recorded on the Patient Administration System on discharge by reviewing the relevant risk assessment form.

6. **VTE RISK ASSESSMENT AND PREVENTION**
Please refer to the VTE Risk Assessment form for inpatients at Annex A, and day surgery patients at Annex B.

6.1 **Patient information and consent**
All patients admitted to hospital should receive a patient information document relating to the prevention of thromboembolism (Reducing the Risk of a Blood Clot). This information will be used to obtain verbal consent from the patient allowing healthcare staff to assess and where necessary provide prophylactic treatment to the patient to reduce the risk of VTE.
Ward medical and nursing staff will be completely familiar with the patient information provided, enabling them to answer general questions that may arise while obtaining verbal consent.

6.2 **Patient risk assessment**
All admitted patients must be assessed using an approved VTE risk assessment tool which has been incorporated into the Trust’s inpatient prescription chart (see Annex A). This assessment may be revised during the in-patient stay as the patient’s condition changes.

6.3 **Prophylactic measures against VTE**
These measures include the use of graduated compression (TED) stocking, intermittent pneumatic compression pumps and Low Molecular Weight Heparins (LMWH) prescribed in licensed prophylactic doses.

6.3.1 **Oral thromboprophylaxis for orthopaedic patients**
Refer to guidelines on the use of Dabigatran oral thrombo-prophylaxis for adults after elective hip and knee replacement (Annex D). Other orthopaedic patients should be given prophylaxis as described in the Risk Assessment form (Annex A).

6.3.2 **Graduated compression/intermittent pneumatic compression devices**
These will be considered for all surgical patients having a procedure. All non-surgical ‘high risk’ patients should be considered for graduated compression stockings. Where TEDs are considered, patients should be measured for their application as soon as possible (e.g. POAC/on admission to the ward for surgical patients, or in EAU for medical emergency patients). TEDs should be worn from the day of admission until the day of discharge. Patients admitted on the day of surgery should have their TEDs fitted before proceeding to theatre. Contraindications to TEDs are contained in Annex A. Patients undergoing surgery should also be considered for calf compression boots intra-operatively and post-operatively for major orthopaedic interventions.

6.3.3 **Low molecular weight Heparins (LMWH)**
Enoxaparin is the LMWH used at YDH. The indications, cautions and contraindications for the use of Enoxaparin are contained in the eBNF and summary of product characteristics (see reference at end of document). Bleeding history or a pathology increasing the risk of bleeding are the principal areas for caution.

- LMWHs should be considered for all medical or surgical patients
- Where prescribed for surgical patients, LMWHs should be administrated at 6pm on the day of surgery and at least until the day of discharge, or for 5 days if undergoing major surgery.
- For all surgical patients, including orthopaedic and gynaecology, earlier introduction of LMWHs, based on an assessment outcome of ‘very high risk’ is at the discretion of the admitting consultant because this practice may carry a greater risk of operative and post-operative bleeding. If agreed, these patients receive LMWH at 6pm on the day before surgery (i.e. no less than 12 hours before commencement of surgery). An alternative approach for very high risk patients is to administer LMWH in the anaesthetic room immediately prior to surgery. Where 12 hours pre-op dose is chosen, special admission arrangements are necessary and should be set up when the decision to operate is made in outpatients.
- Withholding LMWH may be appropriate where the risks of bleeding outweigh the potential benefit from reduction of VTE risk. For example, patients undergoing forefoot surgery have a poor risk-benefit relationship for LMWH prophylaxis as is
the case in most patients with acute stroke.

- Extended courses of LMWHs (after discharge in patients deemed to have continuing significant risk of VTE) are at the discretion of the Admitting Consultant. Such extended courses must be agreed with the patients’ GP to ensure funding and logistics are addressed.

6.4 VTE prophylaxis in patients undergoing spinal or epidural/regional anaesthesia (including removal of catheters)
If spinal or epidural anaesthesia is used additional care MUST be exercised when planning or removing the catheters. Placement should be delayed until at least 12 hours after the last LMWH dose to avoid bleeding complications at the catheter site. Presence of a spinal or epidural catheter is not a contraindication to LMWH use. At the discretion of the anaesthetist, LMWH should not be started until 12 hours after the catheter is removed, or immediately after a peripheral nerve block (reference: ‘SIGN’ guideline – see references at end of document).

6.5 Invasive procedures
Invasive procedures (e.g. liver biopsy, endoscopy with biopsy) with a risk of bleeding should, where possible, be delayed until at least 12 hours after the last dose of LMWH has been administered.

6.6 Training and competency assessment
VTE assessment and prevention is included within the Trust induction programme, the Foundation Doctors education programme and the extended mandatory training programmes for clinical staff.

6.7 Discharging patients to community hospitals
Upon discharging patients to community health hospital medical staff must ensure:

- they include the necessary information in their verbal transfer/handover information prior to transfer to community hospitals.
- they clearly document the duration of treatment and the next proposed date for reassessment of risk within medical notes.
- they clearly state the duration of treatment on drug charts

7. IMPLEMENTATION, MONITORING AND EVALUATION
This policy will be implemented, monitored and evaluated in line with the Policy on Procedural Documents.

The Trust’s VTE Committee will lead monthly audits of compliance, the key performance indicators for which are:

- Percentage of patients receiving patient information (target 100%)
- Percentage of patients risk assessed (target 90%)
- Percentage of patients receiving appropriate prophylaxis (target 100%)
- Number of VTE events during or within 28 days of hospital admission (target less than national average)

The results of compliance audits will be reviewed by the VTE Committee and disseminated to Clinical Leads for discussion within an appropriate forum.
8. **APPLICABILITY**
This policy applies to all staff with managerial or clinical responsibility for VTE risk assessment, prevention and treatment.

9. **REFERENCES**
- BNF 55 Mar 2008 (or later editions)
- Horlocker TT et al. Regional Anaesthesia in the Anticoagulated Patient (The second ASRA consensus conference on neuraxial anaesthesia and antiocoagulation) Regional Anaesthesia and Pain Medicine 2003; 28 (3): 172-197

10. **DATE OF REVIEW**
June 2013.

11. **EQUALITY IMPACT ASSESSMENT**
This policy has been assessed and implemented in line with the policy on procedural documents and an equality impact has been carried out to ensure the policy is fair and does not discriminate any staff groups. See Annex E.
## ANNEX A – VTE INPATIENT RISK ASSESSMENT TOOL

### Completion of this Risk Assessment is Mandatory for all Inpatients

It is the responsibility of the admitting/consulting clinician to ensure that this section is complete.

- This patient does not require VTE prophylaxis - specify reason in the space below.
- Risk assessment now complete.

### Risk Assessment for Venous Thromboembolism (VTE)

<table>
<thead>
<tr>
<th>Mobility</th>
<th>Risk</th>
<th>Risk Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>All patients (see below)</td>
<td>Moderate</td>
<td>Risk assessment now complete</td>
</tr>
</tbody>
</table>

#### Surgical Patient
- Medical patient expected to have ongoing reduced mobility relative to normal state.
- Medical patient NICE expected to have significantly reduced mobility relative to NICE/LSA.
- Prophylactic measures likely/aims for assessment term complete.

Assess for thrombosis and bleeding risk below.

### Thromboprophylaxis Guidelines

#### Pharmacological Prophylaxis - if no bleeding risk identified on risk assessment:

<table>
<thead>
<tr>
<th>Medical</th>
<th>General Surgery &amp; Gynaecology</th>
<th>Orthopaedic (except THR, see below)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start prophylaxis on day of admission</td>
<td>Start prophylaxis on day of surgery</td>
<td>Start prophylaxis on day of surgery or discharge of patient</td>
</tr>
</tbody>
</table>

#### Total Hip Replacement (THR) or Total Knee Replacement (TKR)

<table>
<thead>
<tr>
<th>Indications</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>hip fracture</td>
<td>total anesthetic + surgical time &gt; 60 minutes</td>
</tr>
<tr>
<td>Total anesthetic + surgical time &gt; 60 minutes</td>
<td>total anesthetic + surgical time &gt; 60 minutes</td>
</tr>
</tbody>
</table>

#### Mechanical Prophylaxis

- Antiembolic stockings or lower limb devices are to be used for all Surgical and Orthopaedic patients, and for Medical patients for whom Enoxaparin is contra-indicated unless any of the following exclusion criteria apply:

#### Mechanical Prophylaxis Exclusion Criteria

- **Acute abdomen or acute liver failure**
- **Acute cardiac decompensation**
- **Lumbar puncture or spinal anesthetic**
- **Lumbar puncture or epidural anesthetic** within the previous 48 hours

#### General Measures:

Ensure adequate hydration and appropriate mobilisation for all patients.

<table>
<thead>
<tr>
<th>Assessment completed by</th>
<th>Designation</th>
<th>Sign and date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior team review (Q4 hrs)</td>
<td>Designation</td>
<td>Sign and date</td>
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</table>

### Comments

- Reassessed by (e.g. review sheet) | Designation | Sign and date |
ANNEX B – RISK ASSESSMENT FORM FOR DAY SURGERY PATIENTS

DAY SURGERY VENOUS THROMBOEMBOLISM ASSESSMENT
ALL INPATIENTS TO BE DVT ASSESSED ON THE INPATIENT DRUG CHART
To be completed on day of surgery

### Thrombosis risk

<table>
<thead>
<tr>
<th>Patient related</th>
<th>Admission related</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active cancer or cancer treatment</td>
<td>Significantly reduced mobility for 3 days or more</td>
</tr>
<tr>
<td>Age &gt;60</td>
<td>Hip or knee replacement</td>
</tr>
<tr>
<td>Dehydration</td>
<td>Hip fracture</td>
</tr>
<tr>
<td>Known thrombophilies</td>
<td>Total anaesthetic + surgical time &gt; 90 minutes</td>
</tr>
<tr>
<td>Obesity (BMI &gt;30 kg/m²)</td>
<td>Surgery involving pelvis or lower limb with a total anaesthetic + surgical time &gt;60 minutes</td>
</tr>
<tr>
<td>One or more significant medical comorbidities (eg heart disease; metabolic; endocrine or respiratory pathologies; acute infectious diseases; inflammatory conditions)</td>
<td>Acute surgical admission with inflammatory or intra-abdominal condition</td>
</tr>
<tr>
<td>Personal history or first-degree relative with a history of VTE</td>
<td>Critical care admission</td>
</tr>
<tr>
<td>Use of hormone replacement therapy</td>
<td>Surgical with significant reduction in mobility</td>
</tr>
<tr>
<td>Use of oestrogen-containing contraceptive therapy</td>
<td></td>
</tr>
<tr>
<td>Varicose veins with phlebitis</td>
<td></td>
</tr>
<tr>
<td>Pregnancy or &lt; 6 weeks post partum (see NICE guidance for specific risk factors or maternity thromboprophylaxis guidelines on intranet)</td>
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</table>

### Bleeding risk

<table>
<thead>
<tr>
<th>Patient related</th>
<th>Admission related</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active bleeding</td>
<td>Neurosurgery, spinal surgery or eye surgery</td>
</tr>
<tr>
<td>Acquired bleeding disorders (such as acute liver failure)</td>
<td>Other procedure with high bleeding risk</td>
</tr>
<tr>
<td>Concurrent use of anticoagulants known to increase the risk of bleeding (such as warfarin with INR &gt;2)</td>
<td>Lumbar puncture/epidural/spinal anaesthesia expected within the next 12 hours</td>
</tr>
<tr>
<td>Acute stroke</td>
<td>Lumbar puncture/epidural/spinal anaesthesia within the previous 4 hours</td>
</tr>
<tr>
<td>Thrombocytopaenia (platelets &lt;75x10⁹/l)</td>
<td></td>
</tr>
<tr>
<td>Uncontrolled systolic hypertension (230/120 mmHg or higher)</td>
<td></td>
</tr>
<tr>
<td>Untreated inherited bleeding disorders (such as haemophilia and von Willebrand's disease)</td>
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</tr>
</tbody>
</table>

Day case groups not requiring further assessment

### VENOUS THROMBOEMBOLISM PROPHYLAXIS

Balance risks of VTE and bleeding and only prescribe VTE prophylaxis if appropriate

Is Enoxaparin contraindicated? No Is patient <50kg or renally impaired*? No

- Enoxaparin 40mg once daily s/c
- Enoxaparin 20mg once daily s/c

Single dose
- High risk patients may require longer (discuss with consultant)

Prescribe stat dose on the anaesthetic chart. If further doses are required, these must be prescribed using an appropriate prescription chart.

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<tr>
<th>Assessment completed by</th>
<th>Designation</th>
<th>Sign and date</th>
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</tbody>
</table>

**Plan**
DAY CASE GROUPS TO BE EXCLUDED FROM FURTHER VTE RISK ASSESSMENT

The following procedures/treatments are exempt from further VTE risk assessment.

1. Transfusions of blood or blood products
2. Chemotherapy
3. Infusions (e.g. Biphosphonates, Iloprost)
4. Endoscopy (+/-) biopsy procedures (gastroscopies, flexible sigmoidoscopies and colonoscopies)
5. Cardiac procedures (e.g. pacemakers, cardioversions)
6. Radiology-guided and all other biopsies (lumps, bumps, small cancers)
7. All local anaesthetic excisions of both benign and malignant lesions
8. Dermatological procedures, removal of skin lesions, enucleation of cysts
9. All orthopaedic procedures under local anaesthetic
10. All general surgery procedures under local anaesthetic
11. Simple urological procedures (e.g. cystoscopy, circumcision, prostate biopsy, scrotal surgery)
12. Ophthalmological procedures
13. All oral maxillofacial procedures carried out under local anaesthetic
14. Gynaecological surgery procedures lasting less than 30 minutes with no other medical history

---

Surgical Site Marking

I confirm that I have marked the surgical site on this patient for the operation below with an indelible pen and have checked and confirmed this with:

- Patient
- Consent
- Notes
- Imaging

Operation site and side:

Name | Signature | Date
--- | --- | ---
ANNEX C – ORAL THROMBOPROPHYLAXIS FOR ORTHOPAEDIC PATIENTS

Guidelines on the use of Dabigatran Oral Thromboprophylaxis for adults after elective hip and knee replacement

1. Therapeutic indication

Dabigatran etexilate (or Pradaxa, Boehringer-Ingelheim), an anti-thrombin has been licensed in the UK for the primary prevention of venous thromboembolism in adult patients after elective total hip replacement or total knee replacement surgery. It should not be used in other patients until the licence is extended.

2. Pharmaceutical preparation

<table>
<thead>
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<th>Description</th>
<th>Label</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light blue and cream, hard opaque capsules</td>
<td>R110</td>
<td>110mg</td>
</tr>
<tr>
<td></td>
<td>R75</td>
<td>75mg</td>
</tr>
</tbody>
</table>

3. Dose

The recommended oral doses of dabigatran are as follows:

- Initial dose 110mg po as a single dose (one capsule of 110mg) 1 - 4 hours after surgery
- Subsequent doses 220 mg po once daily (two capsules of 110mg)

Reduced doses are given in some patients see below

4. Reduced dose of dabigatran

Dabigatran 75mg 1 - 4 hours after surgery followed by 150mg daily is recommended for:

- Moderate renal impairment: (creatinine clearance 30-50ml/min.)
- Elderly patients >75 years
- Patients on amiodarone
- Mild thrombocytopenia: platelet count 50-100x10^9/l.

Careful clinical monitoring is recommended as there is limited experience of the use of dabigatran in these patients.

5. Duration of treatment

- After hip replacement: continue for 28 days from date of surgery
- After knee replacement: continue for 10 days from date of surgery

Extended duration of treatment: dabigatran is currently licensed for 35 days after hip replacement and 10 days after knee replacement. If extended off licence use is considered it should be for a specific patient who remains at high risk of venous thrombosis at the end of the licensed duration listed above, with consultant authorization for a clearly specified period of days, eg patients who are slow to regain mobility or have previous post-thrombotic venous damage and would otherwise continue on extended duration LMW heparin.
6. Preoperative assessment

At preoperative assessment clinic the following should be included:

- Routine recording of any history or family history of excess bleeding or thrombosis.
- Blood tests for **FBC, group & save, LFTs, U&E & creatinine**. The results must be examined & signed by a doctor when the patient is admitted, before dabigatran is prescribed, and the results filed in the notes.
- Routine recording of drugs being taken, with particular note of any which might affect use of dabigatran (see below).

7. Contraindications.

Dabigatran is contraindicated in patients with:

- **Active clinically significant bleeding** - Delay initial dose until haemostasis is secured
- **Organic lesion at risk of bleeding** eg active ulcerative gastrointestinal disease, recent biopsy or major trauma, stroke, brain, spinal or ophthalmic surgery, bacterial endocarditis
- **Bleeding tendency** (eg INR >1.4 due to liver disease, thrombocytopenia - platelet count <50x10^9/l, congenital or acquired coagulation defect)
- **Severe renal impairment** (CrCl <30ml/min)
- **Hepatic impairment** with elevated liver enzymes (ALT >2x upper limit of normal)
- (Patients with mildly elevated liver enzymes (ALT<2x upper limit of normal) can take full doses of dabigatran)
- **Known hypersensitivity** to one of the active substances or components in the preparation
- **Concomitant drug treatment** with quinidine, anticoagulants or most anti-thrombotics (see below)
- **Indwelling epidural catheter** or within 2 hours of removal of epidural catheter
- **Children & adolescents** < 18 years should not take dabigatran due to lack of data on safety & efficacy
- **Pregnant or breast feeding mothers** should not take dabigatran due to lack of data on safety & efficacy

8. Indwelling epidural catheters/neuro axial blocks

Dabigatran is contraindicated in patients who need to have neuroaxial blocks (epidural / spinal) and should not be given within 2 hours of removal of epidural catheters.

**Close clinical surveillance** (looking for signs of thrombosis, bleeding or anaemia) is recommended throughout the treatment period, particularly if dabigatran is given to a patient whose clinical condition is not in the list of contraindications above, but who has a potentially increased risk of thrombosis or haemorrhage.
9. Delayed first dose

**Active bleeding or high risk of bleeding:** Delay initial dose until haemostasis is secured.

If treatment is not started on the day of surgery then start treatment with 150mg/220mg daily (see dose section above)

10. Limited clinical experience

No dosage adjustments are recommended but there is limited experience in use of dabigatran in

- patients **under 50kg** or **over 110kg** body weight.
- patients on verapamil, clarithromycin or other P-glycoprotein inhibitors.

**Close clinical surveillance** (looking for signs of thrombosis, bleeding or anaemia) is recommended throughout the treatment period, especially in the following situations that may increase the haemorrhagic risk: diseases associated with an increased risk of bleeding such as congenital or acquired coagulation disorders, active ulcerative gastrointestinal disease, recent biopsy or major trauma, recent intracranial or brain, spinal or ophthalmic surgery, bacterial endocarditis.

11. Drug interactions

- **Amiodarone:** reduce dose of dabigatran to 150 mg daily if patient is taking amiodarone.

- **Anticoagulants:** do not give dabigatran with warfarin or other vitamin K antagonists, heparin*, low molecular weight heparin (LMWH), heparin derivatives, danaparoid or thrombolytics.

  * Unfractionated heparin in the low doses needed to maintain a central venous or arterial catheter is acceptable.

- **Other antithrombotics:** do not give dabigatran to patients on clopidogrel, ticlopidine or GPIIb/IIIa receptor antagonists such as abciximab. LMWH should be used if additional anti-thrombotic prophylaxis is required.

- **Aspirin & COX-2 inhibitors:** concomitant administration of low dose aspirin (less than 160mg daily) with dabigatran and of COX-2 inhibitors such as celecoxib and meloxicam was allowed in the research trials and can therefore be co-prescribed if clinically indicated, with careful clinical monitoring. Bleeding risk may be increased.

- **Diclofenac, ibuprofen and other anti-platelet NSAIDs:** there will be an increased risk of bleeding if these drugs are administered to patients on dabigatran. Diclofenac and ibuprofen were allowed during the research trials, and NSAIDs with a shorter half life (aspirin, diclofenac, ibuprofen, ketoprofen etc) should be used in preference to those with a half life > 12 hours (**therefore avoid naproxen, piroxicam, meloxicam and nabumetone**). Careful clinical monitoring for signs of bleeding is essential.
• **P-glycoprotein inhibitors:**
  - **Quinidine:** Do not give dabigatran. LMWH prophylaxis is recommended.
  - **Verapamil, clarithromycin** and other P-glycoprotein inhibitors: no dosage advice is given but there is very little clinical experience of concomitant use of these drugs with dabigatran and caution is therefore advised.

• **P-glycoprotein inducers:**
  - **Rifampicin:** reduced dabigatran effect possible, but no dosage advice is given. Caution is therefore advised.
  - **St John's Wort:** this may reduce the anti-thrombotic effect of dabigatran so should be stopped peri-operatively.

12. **Adverse effects of dabigatran**

- Bleeding (likely in 14%, with major bleeds in 1.8%, some immediately post-operatively)
- Abnormal LFTs (ALT increased in <1% as with LMWH; no serious abnormalities)
- Hypersensitivity to active substance in the preparation (very rare)

13. **Overdose**

There is no antidote to dabigatran.

Coagulation test results are not known to correlate with clinical effect and are therefore of limited value.

Dabigatran level: maximal 2 - 4 hours after oral dose; mean half-life of drug after surgery is 14-17 hours.

**Management of patients with suspected overdose:**

- Stop dabigatran
- Monitor carefully for evidence of bleeding
- Check FBC, creatinine, LFTs and coag screen to exclude other causes of bleeding
- Maintain diuresis (as predominantly renal excretion)
- Investigate and treat any bleeding promptly
- Ensure surgical haemostasis is adequate
- FFP may be helpful if there is serious bleeding within 12 hours of an overdose
- Dialysis will remove the drug from circulation but no clinical data is available.

14. **References**


4. SPC for dabigatran available at http://emc.medicines.org.uk/
ANNEX D – EQUALITY IMPACT ASSESSMENT TOOL

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

Name of Document: **Venous Thromboembolism Policy**

<table>
<thead>
<tr>
<th></th>
<th>Yes/No</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does the policy/guidance affect one group less or more favourably than another on the basis of:</td>
<td></td>
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<tr>
<td></td>
<td>Race</td>
<td>No</td>
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<td></td>
<td>Ethnic origins (including gypsies and travellers)</td>
<td>No</td>
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<tr>
<td></td>
<td>Nationality</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Gender</td>
<td>No</td>
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<td></td>
<td>Culture</td>
<td>No</td>
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<td></td>
<td>Religion or belief</td>
<td>No</td>
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<tr>
<td></td>
<td>Sexual orientation including lesbian, gay and bisexual people</td>
<td>No</td>
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<tr>
<td></td>
<td>Age</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Disability</td>
<td>No</td>
</tr>
<tr>
<td>2. Is there any evidence that some groups are affected differently?</td>
<td>No</td>
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<tr>
<td>3. If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?</td>
<td>No</td>
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<tr>
<td>4. Is the impact of the policy/guidance likely to be negative?</td>
<td>No</td>
<td></td>
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<tr>
<td>5. If so can the impact be avoided?</td>
<td>-</td>
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<tr>
<td>6. What alternatives are there to achieving the policy/guidance without the impact?</td>
<td>-</td>
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<tr>
<td>7. Can we reduce the impact by taking different action?</td>
<td>-</td>
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</tbody>
</table>

For advice or if you have identified a potential discriminatory impact of this procedural document, please refer it to The Equality & Diversity Lead, Yeovil Academy, together with any suggestions as to the action required to avoid/reduce this impact.

**Mr B Lankester, Orthopaedic Clinical Director – October 2015**