

Key Words:

VTE, compression stockings, intermittent pneumatic compression devices (ICD)

Policy Applies To:

All Mercy Hospital Nursing Staff and Credentialed Specialists via their Surgical Preferences

Related Standards:

EQIP standard 2.1.2 risk assessment and 1.1.2 care planning and delivery

Rationale:

This policy outlines the VTE risk assessment screening and prevention for surgical patients at Mercy Hospital. Where necessary, prophylactic management strategies will be employed, in keeping with International Best Practice guidelines.

Strategies may include pharmacological or mechanical thromboprophylaxis.

Definitions:

Venous thromboembolism – the blocking of a blood vessel by a blood clot dislodged from its site of origin. It includes both DVT (deep vein thrombosis) and PE (pulmonary embolus) (NICE, 2010).

Pharmacological thromboprophylaxis – the use of anticoagulation. Anticoagulants most frequently prescribed at Mercy Hospital include Enoxaparin, Aspirin, Warfarin or Rivaroxaban (outlined in Surgeons Preferences).

Mechanical thromboprophylaxis – the use of compression stockings or intermittent pneumatic compression devices (ICD) – calf or foot pumps

Implementation:***Pre-operative***

Patients are screened for VTE *Medical risk factors* via the Health Questionnaire. This includes questions relating to bleeding or clotting disorders, pregnancy, obesity (BMI>30) anticoagulation use, age, length of surgery, airways disease, previous clots in legs or lungs and impaired mobility. Other risk factors to consider include – varicose veins, heart disease, active malignancy, and oral contraceptive or hormone replacement therapy

The following ‘VTE Risk Assessment Tool’ is the screening tool that guides the assessment of a patient’s VTE risk. All patients should be assessed for risk on admission (as per care plan) and reassessed whenever the clinical situation changes significantly e.g. dehydration, return to Theatre. This screen includes screening for contraindications to the use of mechanical or pharmacological thromboprophylaxis.

VTE RISK ASSESSMENT SCREENING TOOL

| Surgical VTE Risk | Tick Below | Contraindication to Chemical or Mechanical Prophylaxis | Tick Below | Pharmacological & Mechanical Prophylaxis Guide |
|---|------------|--|------------|---|
| High | | Chemical Contraindications | | Pharmacological Prophylaxis |
| Hip & Knee replacement | | High risk of bleeding | | Consider Enoxaparin or other anticoagulant as per surgeons preferences |
| Intra-abdominal surgery | | Adverse reaction to Heparin | | |
| Surgery > 45 minutes duration and age > 40 yrs. | | Severe hepatic disease (INR> 1.3) | | |
| Lower limb cast/immobilisation | | On current anticoagulation | | |
| Other Surgery with prior VTE and/or active cancer | | Date stopped: _____ | | |
| Severe respiratory disease, CHF. smoker | | Procedure with high risk of bleeding – spinal, eye, neurosurgery & urology | | |
| | | Mechanical Contraindications | | Mechanical Prophylaxis |
| Pregnancy up to 6 weeks post-partum | | Severe peripheral arterial disease | | Consider applying intermittent pneumatic compression device or TED stocking as per surgeons preferences |
| Known Thrombophilia, increased blood clotting, acute inflammatory bowel disease | | Severe lower limb oedema | | |
| Obesity BMI≥ 30 | | Recent skin graft | | |
| Lower | | Dermatitis/cellulitis/fragile skin | | Education Discuss VTE risk - Signs and symptoms - Importance of compression - How to apply TEDs - Length of interventions - Importance of mobilising & maintaining hydration |
| All other surgery | | | | |
| Family history of VTE | | | | |

If any of the Medical or Surgical risk factors outlined above are present and there are **no contraindications to VTE Prophylaxis**

1. Implement Mechanical Prophylaxis as per Surgical Preferences (Appendix I)
2. In the absence of written Surgical Preferences, ALL patients with >45 minutes surgery will have compression stockings applied
3. Where risk of VTE is identified using the VTE Risk Assessment Screening Tool, escalate the factors to the credentialed specialist/ Anesthetist. Pharmacological VTE prophylaxis may be indicated.

- The Theatre Coordinator will asterisk on the theatre list all patients (young children generally excluded) who are expected to be in Theatre for longer than 45 minutes. These patients must, as a minimum, have TEDs put on in DSU (The exception being orthopedic patients who receive mechanical VTE prophylaxis per surgical preferences).
- Where appropriate DSU ward nurses measure and fit compression stockings - documented in the care pathway – ‘antiembolism stockings applied’ section.
- Patient education will include emphasis on early mobilization (as appropriate), good hydration, and frequent position change. Posters and patient information brochures on VTE prophylaxis are located in preadmission, inpatient waiting areas and patient bathrooms.

Intra-operative

- The Mercy Hospital Surgical Safety Checklist includes verification of VTE prophylaxis.
- The peri-operative record and the Anesthetic record document the use of ICD's.

Post-operative Pharmacological thromboprophylaxis

- VTE Surgical Preferences outline the regime to be followed for VTE prophylaxis.
- Where prescribed, enoxaparin is administered daily in the postoperative period (usually 20-40mg). Patient resources include instruction sheet and Clextane 'discharge kit' for self-administration (if patient going home on this). Discharge kit contains information sheet, DVD and sharps bin.
- Where warfarin is prescribed, the 'Anticoagulation – warfarin' protocol should be activated. This includes information on INR testing intervals and dosing ranges.
- If a heparin infusion is prescribed, the 'Heparin IV Infusion Chart – adult for treatment of venous thromboembolism (DVT or PE) shall be activated. This would REPLACE enoxaparin administration.

Postoperative mechanical thromboprophylaxis

- Calf or foot pumps are located in the Theatre / PACU corridor and applied in Theatre.
- If compression stockings are used, the nurse provides patient education including the correct application of stockings, avoiding the garter effect, awareness of signs and symptoms of DVT or PE (e.g. heat, pain, shortness of breath) and the actions to take, should any of these occur.

Discharge

- 'Anti-embolism stockings' summary located in the front of the Surgeons preference folder, outlines the duration of time for anti-embolism stockings to be worn post discharge. This may vary according to the procedure the patient has undergone.
- Discharge summary conveys information on discharge medications, antiembolism stocking usage and duration and mobility instructions.
- When a patient is going home on enoxaparin, an 'Application for subsidy by special authority' (Form SA0975) is required to be faxed to the MOH.
- A phone call will be made to the Practice Nurse of every patient's GP, where the patient is being discharged home on anticoagulants to advise them when the patient needs to be followed up.

Evaluation

- Annual 'clinical records' audit shows completion of VTE history / preoperative assessment questions pertaining to VTE risk.
- Number of attendees at the annual update on the WHO Surgical Safety Checklist or the VTE education session
- Recorded incidents of PE/DVT where notified

Associated Documents

External

- National policy framework : VTE prevention in adult hospitalized in NZ June 2012
- SDHB – Venous thromboembolism (VTE) prophylaxis assessment for surgery (District)
- SDHB - Guidelines for prescribing venous thromboembolism prophylaxis in surgery patients (District)

Internal

- Appendix 1 - VTE Surgical Preferences for Mechanical Prophylaxis
- Appendix 2 – Venous Thromboembolism Process
- Appendix 3 – VTE Discharge Checklist
- Plastic Surgeons - VTE Surgical Preferences
- Orthopedic Surgeons – VTE Surgical preferences
- Compression stockings – Sharepoint- Clinical Services Work Manual
- Anticoagulant – warfarin – Sharepoint-Clinical Services Work Manual
- Patient Brochure – 'Clexane injection administration' – McAuley Ward
- Patient Brochure – 'GCS Stockings – Patient information', 'Starting on warfarin'
- Patient Handbook – 'Your anticoagulant treatment'
- Mercy Hospital Admission Form and Health Questionnaire
- Mercy Hospital Nursing Assessment form
- Poster – 'Stop the clot'
- Patient Brochure – 'Stop the clot'