



PERIOPERATIVE MANAGEMENT OF CO--MORBIDITIES

ANTI-EMBOLIC THERAPY

VENOUS THROMBOEMBOLIC PROPHYLAXIS: RISK ASSESSMENT IN PATIENTS ADMITTED FOR GYNAECOLOGICAL CONDITIONS

Key Words: VTE, Venous Thromboembolism, risk factors for VTE, Low Molecular Weight Heparin, LMWH, Unfractionated Heparin, UFH, Deep Vein Thrombosis, DVT, Thromboprophylaxis, Graduated Compression Stockings, TEDS, intermittent pneumatic compression, Heparin.

AIM

To minimise the incidence of venous thromboembolism (VTE) by ensuring every woman hospitalised for a gynaecological condition receives appropriate prophylaxis.

SCOPE

This guideline is **not** intended for women admitted as day surgery cases.

The risk of developing VTE when undergoing day surgery or minor surgery is considered to be generally low. However if the operative procedure is prolonged (> 60 minutes)¹ or the woman is at significant risk, then VTE prophylaxis is recommended.²

BACKGROUND INFORMATION

Venous thromboembolism due to deep vein thrombosis (DVT) and/or pulmonary embolism (PE) is a major health problem associated with significant mortality and morbidity. This ranges from a fatal pulmonary embolism to the sequelae of post-thrombotic chronic venous insufficiency.

“Pulmonary embolism remains the commonest cause of preventable death in hospitalised patients.”^{2, 3}

The incidence of DVT (symptomatic and sub-clinical) in women having gynaecological surgery without prophylaxis is 14% to 22%.⁴

In 1999 to 2001 the population incidence rate of venous thromboembolism (VTE) in Western Australia (WA), as ascertained from hospital morbidity data, was approximately 100 cases per 100,000 persons. This finding is consistent with results from other population-based studies. Surgical VTE accounted for approximately 40% of this total.⁴

Risk factors for VTE demonstrated in the study included increasing age, length of hospital stay and a current or previous history of cancer. WA women appeared to have a higher risk of VTE than men in contrast to findings from other population and clinical studies. The prevalence of VTE in all hospital admissions in Western Australia was estimated to be 2-3/1000 with the highest prevalence found in cancer patients (9/1000 admissions).⁴

The rationale for thromboprophylaxis is based on the high prevalence of VTE in hospitalised patients, the serious adverse consequences of VTE and the proven efficacy and cost-effectiveness of prophylaxis.⁵

KEY POINTS

1. Graduated compression stockings are recommended for **all** women who are admitted to hospital (including non-surgical patients) unless contraindicated, and are to be signed for on the medication chart by a Medical Officer.
2. The principles of adequate hydration and encouragement of early ambulation and leg exercises apply to **all** women regardless of risk status.^{2, 3, 5, 6}
3. Compliance with VTE prophylaxis is the combined responsibility of the health care team in partnership with the woman.
4. Every woman must receive information regarding risks of VTE and the effectiveness of prophylaxis to gain her full cooperation.
5. The woman's risk status is to be assessed by a Medical Officer and documented on the National Inpatient Medication Chart (MR 810.05) at the preadmission clinic or on admission to the Hospital.
6. The recommended prophylaxis is according to the woman's risk status and is documented by the Medical Officer on the MR810.05.
7. A review of risk status and prophylaxis is required if there is a change in the condition of the woman or a new medication chart is commenced.
8. All oncology patients are automatically considered high risk and completion of the MR 810.05 is still required. These patients should have pharmacological prophylaxis commenced post-operatively and continued until at least discharge.
9. The decision whether to prescribe prophylactic Low Molecular Weight Heparin (LMWH) **OR** Unfractionated Heparin (UFH) will depend on the surgeon's assessment of the woman's individual risk for post-operative haemorrhage.
10. Thromboprophylaxis following gynaecology / oncology surgery should be maintained for 7-10 days or until fully mobile.¹
11. Consider using extended prophylaxis with LMWH for up to 28 days after major abdominal or pelvic surgery for cancer, especially in patients who are obese, slow to mobilise, have a known thrombophilia (e.g. Protein S Deficiency, Factor V Leiden) or have a past history of VTE.¹

RISK FACTORS

- Major surgery (> 60 minutes).
- Age over 40 years.
- Active cancer or treatment.
- Personal or family history of venous thromboembolism.
- Personal or family history or thrombophilia.
- Obesity (BMI >30).
- Oral contraceptive or hormone replacement therapy.

- Immobility (including long distance travel).
- Gross varicose veins.
- Concurrent illness (severe infection, Nephrotic Syndrome, Ovarian Hyperstimulation Syndrome, hyperemesis, inflammatory bowel etc).
- Acute illness (heart failure, respiratory failure, CVA etc).

PROCEDURE

1. Every woman must have her VTE risk status determined by a Medical Officer at the Pre-admission Clinic or on admission.
2. The woman's risk status is determined by completion of the pre – printed VTE risk assessment on the medication chart (MR 810.05).
3. The Medical Officer must review the contra-indications to both pharmacological and mechanical prophylaxis prior to prescribing prophylaxis.
4. Therapeutic anticoagulation is prescribed on the Anticoagulation Medication Chart (MR 810.11)
5. Prophylactic anticoagulation is prescribed on the MR 810.05.
6. Graduated compression stockings are recommended for **all** women until fully mobile, unless contraindicated.
7. Graduated compression stockings must be prescribed TDS on the Medication Chart (MR810.05). This will ensure nursing staff will check for compliance, correct size and fit of stockings three times daily.
8. If **one or more risk factors apply** then LMWH or unfractionated heparin is recommended, commencing post-operatively for women requiring surgery as per anaesthetic orders.
9. Heparin 5000 units is recommended three times daily (unless there is a clinical indication to prescribe it same twice daily. e.g. weight 50Kg). The rationale for the decision to prescribe BD Heparin must be documented in the medical record.
10. If clinically appropriate, pharmacological prophylaxis may be changed to Clexane 40mg daily from day 2 post-operatively.
11. Intermittent pneumatic calf compression (IPCC) should be considered in women who would normally be indicated for LMWH or unfractionated heparin but who unable to receive it (e.g. bleeding risk), in women who will be immobile for extended periods post operatively and in women who are unable to wear graduated compression stockings and have additional risk factors (e.g. obesity, immobility). IPCC devices should be administered instead of graduated stockings and not in addition to them.
12. Post-operative thromboprophylaxis management should be outlined in the post-operative instructions on the Operation Record (MR315) by the woman's surgeon.

13. If the VTE prophylaxis differs from the recommendations, then the reason must be documented in the patient's medical record (MR 250).
14. Patients considered to be at significant high risk are discharged home on Clexane 40 mg daily for at least 28 days. Such patients are taught to self-administer their Clexane prior to discharge.

REFERENCES / STANDARDS

1. National Health and Medical Research Council. Clinical practice guideline for the prevention of venous thromboembolism in patients admitted to Australian hospitals. Melbourne: **NHMRC**; 2009. Available from: https://www.nhmrc.gov.au/files_nhmrc/file/nics/programs/vtp/guideline_prevention_venous_thromboembolism.pdf.
2. Scottish Intercollegiate Guidelines Network. Prophylaxis of Venous Thromboembolism. A National Clinical Guideline. 2002:1-47.
3. The Australian and New Zealand Working Party on the Management and Prevention of Venous Thromboembolism. Prevention of Venous Thromboembolism: Best Practice Guidelines for Australia and New Zealand. **Health Education and Management Innovations**. 3rd ed 2005.
4. National Institute of Clinical Studies. The Incidence and Risk Factors for Venous Thromboembolism in Hospitals in Western Australia 1999-2001. NICS Melbourne: **Prepared by the School of Population Health- University of Western Australia** 2005.
5. Nicolaidis AN - Chairman. International consensus statement: Prevention of venous thromboembolism. **International Angiology**. 2001;20(1):1-37.
6. National Institute for Health and Clinical Excellence. Venous Thromboembolism - Quick Reference Guide. 2007(Nice Clinical Guideline 46):1-5.

National Standards – 1- Care Provided by the Clinical Workforce is Guided by Current Best Practice

Legislation - Nil

Related Policies – Nil

Other related documents –

- KEMH Clinical Guideline [Pre and post operative management of Patients on Therapeutic Warfarin Anticoagulation](#)
- NHMRC: Prevention of Venous Thromboembolism (VTE) in Patients Admitted to Australian Hospitals: Guideline Summary (2010)
http://www.nhmrc.gov.au/files_nhmrc/publications/attachments/cp115a_vte_clinician_summ.pdf

RESPONSIBILITY

Policy Sponsor	Medical Director Gynaecology
Initial Endorsement	December 1990
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