Venous thromboembolism (VTE) prophylaxis audit

Please check with your local ethics service or governing body as to the process requirements for conducting an audit of your own practise.

| Background | Although effective pharmacological and mechanical preventive options have existed for decades, venous thromboembolism (VTE) remains a major cause of morbidity and a significant cause of mortality in hospitalised patients.¹

Pulmonary embolism remains the commonest cause of preventable death; about one percent of all hospital admissions will die from this.

It is important that an accurate risk assessment is done on hospital admission before surgery occurs. Suggested templates are available in Australia² and New Zealand³ to risk assess and treat appropriately patients having surgery.

It is critical also that patients should not receive prophylaxis when the risk of bleeding outweigh the benefits. For the anaesthetist this includes perioperative management of invasive lines and regional anaesthesia techniques. |

| Aim and objectives | The aim of this audit protocol is to assess compliance with local or national VTE guidelines in relation to stratifying patient risk for VTE and provision for appropriate prophylaxis for each risk group. Also, to ensure deviations from standard prophylaxis are documented, and where contraindicated (for example with neuraxial catheter placement) the drug is omitted. |

| Research evidence/ best practice | VTE leads to more than 30,000 hospitalisations and an estimated 5000 patients deaths each year.⁴

The risk of VTE increases tenfold in patients admitted to hospital, with contributing factors including general ill health or comorbidities, reduced mobility, smoking, and poor fluid intake. Major surgical procedures (particularly orthopaedic and other high-risk operations) are further risk factors, but patients who had short or minor procedures have also developed fatal PE. The incidence of PE is related to age – Australian data show peak incidence of DVT and PE in the 75–79 year old age group – but those aged 55–59 still contributed more than half the numbers of the older group. New Zealand estimates are lacking, but total hospital inpatient expenditure on VTE in Australia in 2008 was estimated at $A81.2 million, with each case of VTE costing in excess of $10,000.³

The choice of thromboprophylaxis is less important than the need to consider it in every patient and implement some reasonable strategy in those who are at risk. |

| Suggested indicators | • The proportion of patients having a risk assessment for VTE and bleeding based on an agreed local template before anaesthesia is commenced.

• Consideration of all available methods of prophylaxis.

• The proportion of patients treated with appropriate prophylaxis according to agreed local guidelines.

• The proportion of patients treated with a neuraxial block who have pharmacological prophylaxis in a time period that follows agreed international guidelines.⁵

• Patients provided with information on understanding and minimizing VTE. |
### Standards and criteria for best practice

- 100% of patients have a risk assessment for VTE and bleeding based on an agreed local template before anaesthesia is commenced.
- All patients are provided with information on understanding and minimising VTE.
- All available methods of prophylaxis are considered – general measures (mobilization, hydration), mechanical techniques and pharmacological agents.
- 100% of patients are treated with appropriate prophylaxis according to agreed local guidelines.
- 100% of patients treated with a neuraxial block receive pharmacological prophylaxis in a time period that follows agreed international guidelines.

### Method

Data forms for 50 patients.

Data to be collected includes:

- Risk classification for VTE before surgery commences.
- If patients were informed of their risks for VTE, and the plan to reduce this.
- Prophylaxis provided.
- The reasons documented for departures from agreed guidelines.
- If patients received a neuraxial block and provision of prophylaxis according to international guidelines.

### References


### Resource


### Acknowledgement

Authors: Dr Kerry Gunn. January 2017.

Associated documents:

- VTE prophylaxis audit data collection form
- VTE prophylaxis audit summary of results and conclusions form