

Venous Thromboembolism Prevention Clinical Care Standard – Clinician Fact Sheet

The goal of the *Venous Thromboembolism Prevention Clinical Care Standard* is to ensure that all adults presenting to hospital (as defined in the scope of the clinical care standard) have an assessment of VTE risk and bleeding risk that is formally documented. It also aims to ensure that VTE prevention is appropriately prescribed and used to reduce avoidable death or disability from hospital-acquired VTE. Patients should also receive information about VTE and the risks and benefits of prevention so that they can share in decisions with their clinicians both in and out of hospital about their care and ways to prevent VTE. Clinicians and health service organisations can use this clinical care standard to support the delivery of high-quality care to help prevent hospital-acquired VTE.

This Clinician Fact Sheet, the *Venous Thromboembolism Prevention Clinical Care Standard*, and a Consumer Fact Sheet to provide to patients can be downloaded from www.safetyandquality.gov.au/ccs.

Under this clinical care standard

1 Assess and document VTE risk

A patient potentially at risk of venous thromboembolism (VTE) (as determined by local hospital/unit policy) receives a timely assessment of VTE risk using a locally endorsed evidence-based tool to determine their need for VTE prevention. The result is documented at the time of the assessment, in a place that is easily accessible to all clinicians involved in the patient's care.



Key facts about VTE risk assessment:

- The risk of developing VTE during or following hospitalisation depends on a combination of risk factors related to the patient and their reason for hospitalisation.
- Several tools and approaches to assessing VTE risk in medical and surgical patients have been published and implemented. These tools are generally based on:
 - risk assessment scoring which stratifies a patient's level of VTE risk (high, medium or low risk)
 - or
 - risk factor recognition which identifies whether a patient has risk factors for VTE without assigning a score or level of risk.

Considerations to guide assessment and documentation of VTE risk:

- Assess each patient for VTE risk to determine their need for VTE prophylaxis
- Used a standardised, locally endorsed evidence-based tool or checklist to aid the assessment (for example, the [NSW Clinical Excellence Commission \(CEC\): Adult VTE Risk Assessment Tool](#))
- Ensure the tool includes an assessment of the patient and admission-related factors that are known to increase VTE risk
- Use the best possible medication history (BPMH) obtained as part of the admission process to identify medicines the patient might be taking that increase the risk of clotting
- Document the findings of the risk assessment in the appropriate place in the medical record, according to local hospital/unit policy.

2 Develop a VTE prevention plan, balancing the risk of VTE against bleeding



A patient assessed to be at risk of VTE has a prevention plan developed that balances the risk of thrombosis against the risk and consequences of bleeding (as an adverse effect of VTE prevention medicines). Other contraindications to VTE prevention methods are also considered before offering any to the patient.

Key considerations for assessing bleeding risk:

Medicines used to prevent VTE are associated with an increased risk of bleeding. When prescribing medicines to prevent VTE, it is important to assess bleeding risk taking into consideration:

- The patient's likelihood of bleeding (for example, the likelihood of an intracranial bleed, a gastrointestinal bleed, or a surgical site bleed)
- The consequences of bleeding if it occurs (for example, whether it would be a moderate or critical consequence).

Examples of procedures where bleeding could have major or critical consequences:

- Neurosurgery, spinal surgery or eye surgery
- A surgical procedure with high bleeding risk, such as intracranial surgery, head and neck surgery, or orthopaedic surgery.

Examples of individual patient-related factors that increase a patient's risk of bleeding:

- Procedures with potentially critical consequences of bleeding (such as a lumbar puncture, epidural or spinal anaesthesia)
- Abnormal renal function or liver disease
- Uncontrolled hypertension
- Active peptic ulcer or ulcerative gastrointestinal disease
- Thrombocytopenia (platelet count less than 50 000 μ /L)
- Acute haemorrhagic stroke
- Bleeding history
 - family history of bleeding or personal history of bleeding disorders
 - recent bleeding (within the week) or active bleeding
- Medication history
 - use of other medicines known to increase bleeding risk, or alter the metabolism of medicines used to prevent VTE (See Appendix 1 of the clinical care standard)
 - other medicine that may interact with medicines used to prevent VTE.

3 Inform and partner with patients



A patient at risk of VTE receives information and education about VTE and ways to prevent it tailored to their risks and needs, and shares in decisions regarding their VTE prevention plan.

Key areas for discussion:

- What is VTE?
- Who is at risk of VTE?
- How can the risk of VTE be addressed?
- Where to go for further information.

Useful sources of information to inform discussion about VTE and ways to prevent it:

- [NSW Clinical Excellence Commission](#)
- [NPS MedicineWise](#)
- [Stop the Clot: Reducing the risk of blood clots in your legs and lungs](#)
- [The Joint Commission](#)

4 Document and communicate the VTE prevention plan



A patient's VTE prevention plan is documented and communicated to all clinicians involved in their care.

Places where you can document the VTE prevention plan:

- A national standard medication chart (paper or electronic)
- The patient's medical record
- Approved risk assessment form.

5 Use appropriate VTE prevention methods



A patient requiring a VTE prevention plan is offered medicines and/or mechanical methods of VTE prevention according to a current, locally endorsed, evidence-based guideline taking into consideration the patient's clinical condition and their preferences.

When selecting an anti-clotting medicine to prevent VTE consider:

The characteristics of the medicine (see Appendix 2 of the clinical care standard)

- How it is eliminated
- Frequency and duration of dosing
- The potential for their interaction with other medicines or food
- Whether an antidote is available to reverse unexpected bleeding
- Any other monitoring.

The characteristics of the patient

- Kidney and liver function
- Other medical conditions
- Extremes of body weights
- Potential issues with adherence and whether the patient requires a dose administration aid
- Other medicines the patient might be taking that may exacerbate bleeding (see Appendix 1 of the clinical care standard)
- Whether the patient is likely to need an antidote to reverse any unexpected bleeding, given their clinical condition
- Any personal beliefs of the patient that could preclude them from receiving blood products in the event of a bleed (for example, beliefs held by Jehovah's Witnesses), or other factors such as needle phobia, that may influence choice.

Key facts about mechanical methods:

- Mechanical methods of VTE prevention are considered relatively safe because they do not increase bleeding risk. However, the efficacy of mechanical methods is reportedly less than anticoagulant medicines in many patient groups. Consistent use is also required for maximum effect.
- Mechanical methods may be more appropriate for patients who are unable to mobilise, or are at high-risk of bleeding
- Mechanical methods might also need to be combined with anticoagulant medicines to enhance their effect.

Options for mechanical methods of VTE prophylaxis include:

- Pneumatic venous pumping devices (for example mechanical sequential compression devices), commonly referred to as intermittent pneumatic compression (IPC)
- Venous foot pumps (VFP)
- Thigh or knee-length graduated compression stockings (GCS).

6 Reassess risk and monitor for VTE-related complications



During hospitalisation, a patient's thrombosis and bleeding risk is reassessed and documented at intervals no longer than every seven days, whenever the patient's clinical condition or goals of care change, and on discharge from hospital. The patient is also monitored for VTE-related complications each time risk is reassessed.

Examples of relevant complications include:

- Bleeding
- Thrombosis
- Medicine-related problems (such as changes in renal function, potassium levels, platelet count, or erroneous concomitant prescribing of anticoagulants).

7 Transition from hospital and ongoing care



A patient at risk of VTE following hospitalisation receives a written discharge plan or care plan before they leave hospital, which describes their ongoing, individualised care to prevent VTE following discharge. The plan is discussed with the patient before they leave hospital to ensure they understand the recommended care and follow-up that may be required. The plan is also communicated to the patient's general practitioner or ongoing clinical provider within 48 hours of discharge so that ongoing care to prevent VTE can be completed in accordance with the plan.

Considerations for the hospital clinician

What's in the care plan:

- A summary of the reason for admission and the patient's VTE risk
- Details about VTE prophylaxis used while in hospital and whether it is required on discharge
- Monitoring requirements
- Instructions about any precautions to be taken
- The need for follow-up tests or appointments
- A current medicines list.

Considerations for the patient

If a patient needs to continue VTE prevention following hospital discharge, ensure they understand:

- Their VTE risk and possible consequences of VTE
- The importance of VTE prevention and its possible side effects
- How to correctly use prevention, including appropriate disposal, any precautions that need to be taken while using prevention, and the consequences if it is not used correctly
- The symptoms of VTE-related complications, and what to do if they occur
- Any monitoring requirements and whether they require follow-up tests or appointments after hospital discharge
- Where to seek help if there are problems with using prevention.

If medicines are required, ensure the patient also understands:

- The name of the medicine (including the generic name and brand name), how much to take, when to take it, and how long for
- The influence of diet and alcohol on some medicines to prevent VTE
- The importance of advising all clinicians involved in their care, including their dentist, that they are taking medicine to prevent VTE.

Considerations for the GP

The GP's role is to:

- Continue to prescribe VTE prevention for the duration specified in the care plan
- Monitor the patient for:
 - adherence and the response to VTE prevention
 - any adverse events including signs and symptoms of VTE or bleeding
 - their overall clinical condition including kidney and liver function
 - anticoagulant effect (where appropriate) and full blood count if anaemia is suspected
- Review all prescribed, over-the-counter, and complementary medicines the patient may be taking and their potential for interactions, particularly with any anticoagulant medicines the patient might be taking
- Reassess VTE risk, if the patient's clinical condition changes
- Take appropriate action to address adverse events and adjust medicine doses where required.

The Australian Commission on Safety and Quality in Health Care has produced this clinical care standard to support the delivery of appropriate care for a defined condition. The clinical care standard is based on the best evidence available at the time of development. Healthcare professionals are advised to use clinical discretion and consideration of the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian, when applying information contained within the clinical care standard. Consumers should use the information in the clinical care standard as a guide to inform discussions with their healthcare professional about the applicability of the clinical care standard to their individual condition.