



Policy TITLE / DESCRIPTION : <b>VENOUS THROMBOEMBOLISM (VTE) SCREENING AND PROPHYLAXIS</b>			INDEX No: APP-QMD-249-05 REPLACES: APP- QMD-249-04	
EFFECTIVE ON: <b>14/12/2023</b>	REVIEW DUE: <b>14/12/2026</b>	APPLIES TO: All Hospital Divisions, Centers, Departments, Units and Services	NUMBER OF PAGES: <b>18</b>	CERTIFIED TRUE COPY

## **1. PURPOSE:**

This policy aims to ensure that all patients admitted to hospital receive the best evidence based care consistent with international VTE Guidelines and CBAHI Standards. This policy will enable healthcare practitioners to identify patients at risk of developing VTE and select the appropriate therapy, thus reducing the incidence of VTE and the associated morbidity and mortality.

## **2. AUDIENCE (SCOPE):**

### **2.1 STAFF**

This policy applies to all relevant healthcare professionals at KFSH-B and Centers (PSCCQ and PFCCQ) who are involved in VTE risk assessment, and the prescription and administration of pharmacological and mechanical thromboprophylaxis.

**2.2 PATIENTS:** This policy covers all adult patients (18 years and older) admitted to hospital as in-patients or formally admitted to a bed for a day case procedures.

#### **2.2.1 Groups that will be covered:**

##### **2.2.1.1 Surgical inpatients (excluding Day Surgery)**

2.2.1.1.1 Day Surgery patients shall be exempted from VTE assessment as they are considered as an Outpatient basis (length of stay less than 24 hours).

2.2.1.1.2 If in case they were not discharged on the same day due to unfitness and shall be transferred to Inpatient Units, VTE assessment and management shall commence in the admitting inpatient Unit/Ward.

##### **2.2.1.2 Medical inpatients**

2.2.1.2.1 Trauma inpatients

2.2.1.2.2 Cancer inpatients

2.2.1.2.3 Patients undergoing long term rehabilitation in hospital.



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2.2.1.2.4 Any patients presented to A & E department and the decision for admission is still unknown, the A & E physician is responsible to implement VTE prophylaxis protocol within 24 hours.

2.2.2 Groups that will not be covered:

2.2.2.1 Patients under the age of 18 years

2.2.2.2 Patients attending the hospital as outpatients

2.2.2.3 Patients presenting to emergency departments without admission

2.2.2.4 Elderly or immobile people cared for at home, or in a residential care or rest home, unless admitted to hospital.

### **3. ABBREVIATIONS :**

3.1 **ACCP** –American College of Chest Physicians

3.2 **AES** = Antiembolic Stockings

3.3 **APP** = Administrative policies& procedures.

3.4 **BMI**= Body Mass Index

3.5 **CBC**- Complete Blood Count

3.6 **CHF** = Congestive Heart Failure

3.7 **CVA** = Cerebral Vascular Accident

3.8 **DVT** = Deep Vein Thrombosis

3.9 **ESR** = Essential Safety Requirement

3.10 **GCS** – Graduated Compression Stocking

3.11 **HA-VTE** = Hospital acquired venous thrombo-embolism

3.12 **INR** – International Normalized Ratio

3.13 **IPC** = Intermittent Pneumatic Compression

3.14 **KFSH-B** = King Fahd Specialist Hospital-Buraidah

3.15 **LMWH** =Low molecular Weight Heparin

3.16 **MOH** = Ministry of Health

3.17 **MRP** = Most Responsible Physician

3.18 **OVR**- Occurrence Variance Report

3.19 **PE** = Pulmonary Embolism

3.20 **PFCCQ** – Prince Faisal Cancer Center Qassim



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3.21 **PSCCQ** – Prince Sultan Cardiac Center Qassim

3.22 **PT** – Prothrombin time

3.23 **PTT**- Partial thromboplastin time

3.24 **SCD**- Sequential Compression Device

3.25 **RCA** = Root Cause Analysis

#### 4. **DEFINITIONS :**

4.1 **Antiembolism stockings (AES):** stockings providing graduated circumferential compression from the distal to the proximal regions of the leg, they are specifically designed to reduce the risk of DVT.

4.2 **Deep vein thrombosis (DVT):** a thrombus or blood clot partially blocking the deep veins (usually in the lower limb or pelvis).

4.3 **Intermittent pneumatic compression devices (IPC):** inflatable garments applied to the foot or the leg which intermittently inflate and deflate enhancing venous return and reducing the risk of DVT.

4.4 **Low molecular weight heparin (LMWH):** a class of anticoagulation medication used in the prevention and VTE prophylaxis.

4.5 **Major bleeding:** A bleeding event that leads to one or more of the following:

4.5.1 Death

4.5.2 A decrease concentration of  $\geq 2$  g/dl

4.5.3 Transfusion of  $\geq 2$  units of blood

4.5.4 Bleeding into a retroperitoneal, intracranial or intraocular site

4.5.5 A serious or life threatening clinical event

4.5.6 A surgical or medical intervention

4.6 **Mechanical prophylaxis:** Anti-embolism stockings or IPC intermittent pneumatic compression.

4.7 **Pulmonary embolism (PE):** a blood clot blocking the pulmonary arteries.

4.8 **Pulmonary hypertension (PHT):** abnormally elevated blood pressure within the pulmonary circuit, a severe consequence of PE associated with significantly morbidity and mortality.

4.9 **Renal Failure:** an estimated glomerular filtration rate (eGFR) of  $< 30$  ml/min/1.73 m<sup>2</sup>



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4.10 **Significantly reduced mobility:** bedbound, unable to walk unaided or likely to spend a substantial proportion of the day in a bed or chair (NICE, 2010).

4.11 **Unfractionated heparin (UFH):** the drug of choice for thromboprophylaxis in patients where rapid reversal of indication may be indicated.

4.12 **Venous thrombo-embolism (VTE):** the blocking of a blood vessel by a blood clot. It includes both DVT and PE

4.13 **Sequential Compression Device (SCD)** –are inflatable sleeves that fit around the legs. The sleeves are attached to a pump that inflates and deflates the sleeves. The pumping action acts like your muscles to help blood flow and prevent clots. SCDs are often used after surgery until you can get up and walk.

4.14 **Inferior Vena Cava Filter (IVC)** -is a type of vascular filter, a medical device that is implanted by vascular surgeons or interventional radiologists into the inferior vena cava to presumably prevent life-threatening pulmonary emboli.

## **5. COMMENTS:**

5.1 Hospital associated VTE has been identified as a major patient safety issue and essential safety requirement (ESR) by the CBAHI.

5.2 Considerable scientific evidence has shown that the introduction of a mandatory VTE program can significantly reduce the incidence of hospital associated VTE.

5.3 Ensuring that best clinical practice with regards to VTE is followed will potentially reduce both the number and severity of identified mortality, morbidity and the associated financial cost to the MOH.

5.4 Full implementation of International VTE Guidance and CBAHI Standards and ensuring that every patient undergoes a VTE risk assessment on admission to hospital will improve patient care and outcomes.

5.5 Reporting all identified cases of VTE and carrying out root cause analysis on every hospital associated VTE event will ensure that care and service delivery problems are highlighted, education and action points are identified and International- wide learning ensues.



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**6. EQUIPMENT / MATERIALS:**

- 6.1 SCD/IPC
- 6.2. GCS
- 6.3. Electronic Module

**7. FORMS/ATTACHMENTS/CROSS REFERENCES:**

- 7.1 VTE Electronic Form (in case of downtime)
- 7.2. Anti – coagulant therapeutic alert card
- 7.3. HA-VTE report form
- 7.4. Audit VTE data form
- 7.5. OVR form
- 7.6. Interdisciplinary Patient/ Family Education Record Form
- 7.8 VTE Brochure

**8. IDENTIFICATION OF CHANGES:**

- 8.1 Revised statement on 9.1.1/9.1.2/9.1.7/9.2.1/9.2.13/9.2.14/9.3.4.1/10.3
- 8.2 Added 9.3.4.4/9.3.4.5/9.3.4.6/9.3.4.7
- 8.3 Hospital logo changed

**9. POLICY****9.1 DUTIES AND RESPONSIBILITY****9.1.1 The VTE Committee:**

The VTE Committee will provide quarterly reports to the Quality & Patient Safety Committee and Regional VTE committee to ensure that International VTE Guidelines is fully implemented, up to date and consistent with international and MOH guidelines.

**9.1.2 Committee Chairman:** The VTE Committee Chairman is responsible for:

- 9.1.2.1 Providing professional expertise and ensuring that the VTE policy and guidelines is consistent with international and MOH guidelines and based on best practice.
- 9.1.2.2 Providing leadership for VTE prophylaxis and the management of venous thrombo-embolic disorder.
- 9.1.2.3 Being a point of contact for and updating the VTE regional/central



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committee on all VTE issues.

9.1.2.4 Providing supervision for VTE audit.

9.1.2.5 To ensure that monitoring data is presented to the Quality & Patient Safety Committee.

9.1.2.6 To be responsible for the policy and for allocating responsibility for writing the appropriate procedures etc.

9.1.2.7 To ensure that this policy is reviewed within its appropriate time frame is then taken to the Quality & Patient Safety Committee for approval.

9.1.2.8 To ensure that the current version of this policy is accessible to all staff.

### **9.1.3 Quality Management & Patient Safety Director**

9.1.3.1 Review and approve updated Policies and procedures on VTE.

9.1.3.2 Ensure monitoring and adherence to educational program for VTE

### **9.1.4 Chiefs of departments/Director of Nursing**

9.1.4.1 To ensure that all staff are fully aware of this policy and the accompanying procedure(s).

9.1.4.2 To ensure that all relevant clinical staff receive adequate training/education to implement VTE management.

9.1.4.3 To ensure that all clinical staff work within the local Policy. To take local decisions within the defined parameters of MOH Policies.

9.1.4.4 To ensure that compliance to this policy is monitored using the audit tool provided.

### **9.1.5 Medical Staff : Physicians are responsible for:**

9.1.5.2 Ensuring that they are up to date with VTE training/education.

9.1.5.3 Ensuring the risk assessment completed by a doctor or nurse and filed in the medical record.

9.1.5.4 Ensuring that patients are assessed for the risk of VTE and bleeding using the risk assessment tool on admission to hospital.

9.1.5.5 Ensuring that patients have their initial risk assessment decision reviewed by a senior clinician (consultant or registrar) within 24 hours if the patient is still in hospital.

9.1.5.6 Ensuring that patients are re-assessed for their risk of VTE and



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bleeding if their clinical situation changes.

- 9.1.5.7 Ensuring that all risk assessments are clearly documented on a hard copy of the risk of assessment form and inserted into the patient's medical file.
- 9.1.5.8 Ensuring that patients are prescribed VTE prophylaxis consistent with national guidelines
- 9.1.5.9 Deviated cases should comply with international guidelines as per American College of Chest and Physicians/American College of Clinical Pharmacist.
- 9.1.5.10 Clearly documenting in the patient's notes any deviations from National guidelines on VTE and the rationale for this deviation.
- 9.1.5.11 Ensuring that patients understand their personal risk of VTE and the reasons for their particular management.
- 9.1.5.12 Taking an active role in the HA-VTE RCA process, as appropriate.

#### **9.1.6 Pharmacist**

- 9.1.6.1 Ensure risk assessment form documented in the file.
- 9.1.6.2 The Pharmacist will review and advise on prescribed VTE prophylaxis.
- 9.1.6.3 Pharmacist will participate VTE training.

#### **9.1.7 Hospital Clinical Audit Coordinator**

- 9.1.7.1 Coordinate between MOH and Hospital VTE Committees.
- 9.1.7.2 To monitor the implementation of MOH and Hospital VTE guidelines in collaboration with Hospital wide VTE coordinator.
- 9.1.7.3 Make recommendations for issue area for further improvement plans.
- 9.1.7.4 Monthly report for HA-VTE to submit to QMPS Director
- 9.1.7.5 **Keep continuous link and feedback with MOH leading team aiming at continuous refinement of VTE practices.**
- 9.1.7.6 **Giving continuous update to Regional Directorate.**

#### **9.1.8 Hospital Wide VTE Coordinator**

- 9.1.8.1 Responsible for hospital VTE education program in collaboration with the concerned Department.
- 9.1.8.2 Monitoring the implementation of the hospital VTE policy.



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- 9.1.8.3 Coordinates with all the members of the Hospital VTE Committee.
- 9.1.8.4 To schedule for regular meetings every three (3) months and as needed with the Committee to update the ongoing VTE processes.
- 9.1.8.5 Reports to the Committee for the HA-VTE and cases concerning the deviation from the standards.

#### **9.1.9 Hospital Clinical Risk & Patient Safety Manager**

- 9.1.9.1 To manage the risk faced by the medical facility and its staff.
- 9.1.9.2 Help the medical facility prevent or mitigate any developed VTE through root cause analysis (RCA) and Task force activities.
- 9.1.9.3 Designing patient safety programs and encouraging doctors and nurses to adhere to safe VTE prevention practices.
- 9.1.9.4 Responsible for reporting HA-VTE cases to MOH.

#### **9.1.10 Radiology Department**

- 9.1.10.1 Monthly report for diagnosed HA- VTE to QMPS Director.
- 9.1.10.2 Medical imaging plays a crucial role in proper diagnosis and avoidance from over/under diagnosis, which exposes the patient to risk.
- 9.1.10.3 Diagnostic modalities for suspected cases of VTE/PE particularly for invasive cases should be an integrated decision between the clinician and radiologist.
- 9.1.10.4 Documentation of all HA-VTE confirmed radiologically must be reported in the HIS.

#### **9.1.11 Registered Nursing Staff:** Registered nursing staff are responsible for:

- 9.1.11.1 Ensuring that they are up to date with VTE Training.
- 9.1.11.2 Ensuring that all patients in their care have been assessed by physician for their risk of VTE and bleeding and that this risk assessment is up to date .
- 9.1.11.3 Ensuring that VTE documentation is accurate and up to date.
- 9.1.11.4 Administering both mechanical and pharmacological VTE prophylaxis as prescribed and ensuring that this is carried out in accordance with national guidelines.
- 9.1.11.5 Ensuring that all patients receive verbal and written information on their risks of VTE, methods of prevention and signs and symptoms of DVT and PE on admission and as part of the discharge plan
- 9.1.11.6 Teaching patients to self- administered VTE prophylaxis where appropriate





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9.1.11.7 Ensure escalation to the medical lead responsible for the patient any omissions in VTE risk assessment and VTE prophylaxis.

9.1.11.8 Ensure appropriate mechanical device fitting.

### **9.1.12 Physiotherapy**

9.1.12.1 Physiotherapist will be integrated and consulted concerning the modalities of mechanical prophylaxis chosen by the MRP according to the patient risk assessment (mobilization, stocking, IPC/SCD).

9.1.12.2 Ensure compression therapy is achieved through the use of compression stockings that encourage circulation in veins.

9.1.12.3 Ensure the fitting of the stocking should feel snug, but not painfully tight.

9.1.12.4 Ensuring patients to engage in ambulation combined with compression therapy (if not contraindicated) to have greater outcomes of preventing DVT.

### **9.1.13 Information Technology**

9.1.13.1 Develops and maintains the hospital VTE prophylaxis electronic module.

9.1.13.2 Keep on updating and providing statistics concerning VTE performance and implementation.

### **9.1.14 Health education Department**

9.1.14.1 Health education on the prevention of VTE shall be mandatory to provide to all moderate and high risk patients upon admission.

9.1.14.2 VTE brochure will be used as a guide to educate.

9.1.14.3 Responsible for interview and communicate with the patient/patient family member to verify that they received adequate information about his/her risk with the prophylactic strategy plan by the treating team.

9.1.14.4 Contact treating team member if the patient need further information.

9.1.14.5 Upon discharge, Health education confirms that patient receives the required information and relevant plan for VTE prophylaxis as indicated.



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## 9.2 ON PATIENT ADMISSION:

9.2.1 All adult patients admitted to the hospital will be assessed for their risk of VTE and bleeding using the VTE Electronic Module **by the Primary Team/Designee**. The risk assessment and **management** will **take place within 24 hours upon admission**.

9.2.1.1 Each risk factors have their corresponding scoring.

RISK FACTORS			
<b>1X</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Age 41-60 years</li> <li><input type="checkbox"/> BMI <math>\geq 25</math> Kg/m<sup>2</sup></li> <li><input type="checkbox"/> Minor surgery/Medical patient at bed rest</li> <li><input type="checkbox"/> Swollen legs (current)</li> <li><input type="checkbox"/> Varicose veins</li> <li><input type="checkbox"/> Major Surgery (last 30 days)</li> <li><input type="checkbox"/> Lung disease (e.g. emphysema or COPD)</li> <li><input type="checkbox"/> Currently on bed rest or restricted mobility</li> <li><input type="checkbox"/> History of Inflammatory bowel disease</li> <li><input type="checkbox"/> Acute myocardial infarction</li> <li><input type="checkbox"/> Congestive heart failure (&lt;1 month)</li> <li><input type="checkbox"/> Sepsis/Pneumonia (&lt;1 month)</li> <li><input type="checkbox"/> History of unexplained or recurrent spontaneous abortion (&gt;3)</li> <li><input type="checkbox"/> Pregnant or post partum (&lt;1 month)</li> <li><input type="checkbox"/> Oral contraceptives or hormone replacement</li> </ul>	<b>2X</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Age 61-74 years</li> <li><input type="checkbox"/> Arthroscopic Surgery</li> <li><input type="checkbox"/> Laparoscopic Surgery (&gt;45 min)</li> <li><input type="checkbox"/> Major open Surgery (&gt;45 min)</li> <li><input type="checkbox"/> Cancer (current or previous)</li> <li><input type="checkbox"/> Immobilizing Plaster cast</li> <li><input type="checkbox"/> Bed bound for more than 72hrs</li> <li><input type="checkbox"/> Central venous access</li> </ul>	<b>3X</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Age <math>\geq 75</math> years</li> <li><input type="checkbox"/> History of DVT/PE</li> <li><input type="checkbox"/> <b>Family history of VTE*</b></li> <li><input type="checkbox"/> Factor V Leiden</li> <li><input type="checkbox"/> Prothrombin 20210A</li> <li><input type="checkbox"/> Lupus anticoagulant</li> <li><input type="checkbox"/> Anticardiolipin antibodies</li> <li><input type="checkbox"/> Elevated serum homocysteine</li> <li><input type="checkbox"/> Heparin-induced thrombocytopenia</li> <li><input type="checkbox"/> Other congenital or acquired thrombophilia</li> </ul> <p><b>* Most common missing risk</b></p>	<b>5X</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Hip, pelvis or leg fracture (last 30 days)</li> <li><input type="checkbox"/> Stroke (last 30 days)</li> <li><input type="checkbox"/> Multiple trauma (last 30 days)</li> <li><input type="checkbox"/> Elective major lower extremity arthroplasty</li> <li><input type="checkbox"/> Acute Spinal cord injury (last 30 days)</li> </ul>

9.2.2 The initial risk assessment should be reviewed by a senior clinician (registrar or consultant) **within 24 hours** of admission and whenever the clinical situation changes.

9.2.3 Patients assessed to **be at risk of VTE** should be offered thromboprophylaxis that is consistent with approved national guidelines:

**9.2.3.1 Risk Score  $\leq 1$  (Low risks) – early ambulation**

**9.2.3.2 Risk Score = 2 (Moderate risk): Early ambulation and the following:**

9.2.3.2.1 Heparin 5000 units subcutaneously every 12 hours **OR**

9.2.3.2.2 Enoxaparin 40mg subcutaneously once daily

9.2.3.2.3 Enoxaparin 30 mg subcutaneously once daily (CrCl<30ml/min) **OR**

9.2.3.2.4 Sequential Compression Device (SCD) or GCS

**9.2.3.3 Risk Score 3-4 (High risk): Early ambulation and the following:**

9.2.3.3.1 Heparin 5000 units subcutaneously every 8 hours **OR**



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9.2.3.3.2 Enoxaparin 40 mg subcutaneously daily

9.2.3.3.3 Enoxaparin 30 mg subcutaneously daily (CrCl=30ml/min)

9.2.3.3.4 +/- Sequential Compression Device (SCD)

**9.2.3.4 Risk Score  $\geq 5$  (highest risk): Early ambulation and the following:**

9.2.3.4.1 Heparin 5000 units subcutaneously every 8 hours **OR**

9.2.3.4.2 Enoxaparin (Preferred) 40 mg subcutaneously once daily

9.2.3.4.3 Enoxaparin 30 mg subcutaneously once daily (CrCl<30ml/min)

9.2.3.4.4 **PLUS** Sequential Compression Device (SCD)

**9.2.4.5** If no order for prophylaxis, state the reason in the electronic form.

9.2.4 Ensuring that all patients receive verbal and written information on their risks of VTE, methods of prevention and signs and symptoms of DVT and PE on admission and as part of the discharge plan.

9.2.5 Rationale for any deviation from international guidelines must be clearly explained to the patient and fully documented in their medical record.

9.2.6 VTE prevention must continue until discharge or until the patient no longer has significantly reduced mobility .

9.2.7 Extend pharmacological thromboprophylaxis (LMWH or Rivaroxaban for example) must be prescribed for the high-risk groups unless there are clearly documented contraindications according to international guideline.

9.2.8 The decision to insert temporary IVC filter will follow the Hospital Guidelines and the indication will be reviewed by the Hematology Consultant. Once agreed upon, it will be inserted either in the Catheterization Laboratory of Prince Sultan or KFSH-B Interventional Radiology Unit.

9.2.9 At risk, medical patients contraindicated for pharmacological prophylaxis must have mechanical prophylaxis on admission to hospital unless contraindicated. Stockings/sleeves must be fitted and monitored.

9.2.10 At-risk surgical patients must have **either** intermittent pneumatic compression devices or anti embolism stockings fitted prior to surgery; these must be worn until mobilized.

9.2.11 All patients should be adequately hydrated according to their clinical condition.

9.2.12 All patients should be mobilized as early as possible within the limitations of their clinical condition.

9.2.13 Health education regarding risks, medications, interventions and management of VTE shall be mandatory to provide to all at risk patients upon admission **and whenever needed.**



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9.2.14 **Periodic retraining and focused training to Medical and Nursing staff shall be conducted quarterly and will be documented in the personnel file.**

9.2.15 VTE prevention shall be mandatory to be given in the Orientation Program for newly hired staff (doctors and nurses).

### 9.3. **DURING HOSPITAL STAY:**

#### 9.3.1. **VTE report**

9.3.1.1 **Any patient develop DVT/PE during hospital stay with confirmed radiological diagnosis** should be reported to the Quality Management & Patient Safety Department within 24 hours of working days using the VTE Report form.

9.3.1.1 VTE Report form should be reviewed and signed by the MRP/Registered Nurse

9.3.1.2 VTE report used for root cause analysis and monitoring outcome.

9.3.1.3 VTE report shall be submitted to the MOH monthly on regular basis.

9.3.2 If the patient condition changed or if there is a procedure with bleeding risk. The risk stratification (correspondence) must be revised by the primary TEAM (**Use a new assessment electronic form**).

9.3.3 No patient should be moved from one clinical area to another unless their VTE risk assessment and documentation is up to date and they have been prescribed appropriate thromboprophylaxis.

9.3.4 **Monitoring and indicators** for implementation of VTE prophylaxis:

9.3.4.1 **A designated hospital wide committee and the heads of department identify and monitor key VTE-related performance indicators (KPIs).**

9.3.4.2 Compliance with VTE and bleeding risk assessment upon admission within 24 hours.

9.3.4.3 Compliance on reassessment of the patient receiving VTE prophylaxis every 72 hours or according to the patient condition.

9.3.4.4 **Percentage of patients receiving appropriate VTE prophylaxis**

9.3.4.5 **Unexpected in-hospital VTE-related cases and VTE-related deaths**

9.3.4.6 **VTE readmissions**

9.3.4.7 **Compliance with patient and family VTE education, including on discharge.**



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### **9.3 UPON PATIENT DISCHARGE:**

9.3.1 Identifying patients appropriate for post-discharge prophylaxis and exploring processes for ensuring continued administration of appropriate prophylaxis.

9.3.1.1 Anti – coagulant alert card: Given to any patient planned for discharge and still in need for VTE prophylaxis at home.

9.3.1.2 The card should be signed and stamped by the physician.

9.3.1.3 All details of the card should have fulfilled (Patient Identification, drug information, and therapeutic range of the selected basic coagulation factors: PT, PTT, INR, Platelets).

9.3.1.4 Should be available in all hospital clinical departments.

### **9.3.2 VTE AUDIT DATA FORM:**

9.4.5.1 VTE audit data form shall be completed by the admitting physician (Resident) within 24 hours upon admission on the electronic website as requested in National MOH VTE prevention program for monitoring and data collection on daily basis.

## **10. PROCEDURE:**

### **10.1 On admission screening:**

10.1.1 Upon admission, the Primary Team/Designee will screen the patient and complete VTE screening electronic form within 24hrs.

10.1.2 The assessment process starts where the patient should be scored for the risk of developing VTE. This is done by placing a tick in front of each factor that precipitate VTE. Based on the category of that factor, the scores are then calculated.

10.1.3 Patient considerations for pharmacological therapy must be assessed for the risks versus the benefit of prophylaxis (contraindications/warnings/precautions).



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10.1.4 Based on the risk level, the physician can write his recommendations and order needed for prophylactic regimen. The level of VTE risk (low, moderate, and/or high risk, highest) can be known based on the total risk points calculated from the beginning. The management for VTE shall commence within 24 hour upon admission.

10.1.5 The prescriber should consider the patient's renal function and weight in deciding the doses of the pharmacological prophylaxis.

10.1.6 In spinal/orthopedic surgical cases, follow the approved MOH/Hospital guidelines. If prophylaxis were not given, justification shall be written in the file and in the electronic form.

10.1.7 In antenatal cases (<28 weeks) admitted to the KFSH-B for Medical and Surgical problems should be screened and assessed for VTE risk factors appropriate VTE prophylaxis measures by Obstetrician who is coming for consultation within 24 hrs. (There is specific form for Antenatal Thromboprophylaxis and management available in the Nurses stations).

10.1.8 Post natal cases (from childbirth up to 0 week) should be screened and assessed for VTE by Treating team/designee and received appropriate VTE prophylaxis (there is specific form for post natal thromboprophylaxis and management).

## **10.2 Daily screening**

10.2.1 The primary physician and the primary nurse will assess all patients once daily and be sure for the patient receiving an appropriate VTE prophylaxis.

10.2.2 Labs: Check baseline CBC and at least every 72 hours thereafter. Notify the physician if the platelet count <100,000 or drop by 50% from baseline.

10.2.3 In case of risk score will change, document in the progress note and revise plan of care according to the protocol **in a new DVT SCREENING Form.**

**10.3 When the patient planned for discharge:** VTE reassessment will be done upon



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discharge for possible receiving VTE prophylaxis at home guided by anticoagulant alert card and document in the form. **Discharged patients shall receive information about VTE risks, signs and symptoms and further action if needed. Those on therapy need comprehensive education regarding bleeding risks and effort.**

## **11 REFERENCES:**

### **11.1 CBAHI Standards 4<sup>th</sup> Edition**

11.2 American College of Chest and Physicians Guidelines in prevention of VTE(2016).

11.3 National MOH VTE prevention program.2017 (NICE CLINICAL GUIDELINES JUNE 2010/ACCP GUIDELINES 9<sup>th</sup> ED/ CBAHI 3<sup>rd</sup> ED/SAUDI CENTER FOR EBHC □CLINICAL PRACTICE GUIDELINES).

11.4 American College of Clinical Pharmacists Guidelines in prevention of VTE.

11.5 Joseph A. Caprini MD, MS, FACS, RVT, VTE risk factor assessment tool (2014)

## **QUICK REFERENCE GUIDE:**

For quick reference the guide below is a summary of actions required. This does not negate the need for the document author and others involved in the process to be aware of and follow the detail of this policy:

1. All adult patients above 18 years old admitted to the hospital must be assessed by admitting physician for their risk of VTE and bleeding on admission to hospital.
2. All adult patients admitted to hospital must have their risk assessment decision reviewed by a senior clinician (consultant or registrar) within twenty- four hours if the patient is still in hospital.
3. All patients must their risk of VTE and bleeding reassessed if their clinical situation changes.
4. All patients must be prescribed VTE prophylaxis in accordance with international guidelines as indicated.
5. Any deviations from international guidance must be clearly explained to the patient and fully documented in the patient's medical records.





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6. VTE risk assessment must be clearly and fully on electronic VTE form according to the protocol for each clinical area.
7. Patients must be given written and verbal information on their risk of VTE, methods of prevention and signs and symptoms of DVT and PE on admission, part of the discharge process and documented in discharge plan.
8. No patient should be moved from one clinical area to another unless their VTE risk assessment and documentation is up to date and they have been prescribed appropriate thromboprophylaxis.
9. Patients fitted with anti- embolism stockings must have them fitted and monitored in accordance with best practice guidelines.

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