Nursing Implementation of Sequential Compression Devices to Reduce Deep Vein Thrombosis in the Adult Inpatient Population

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Objectives

At the end of this presentation the learner will be able to:

• Identify three strategies used to decrease VTE rates in the adult inpatient population
• Assess an adult inpatient for appropriate SCD application and contraindications
• Implement a nurse driven SCD application protocol

Reason for Action

• Hospital associated venous thromboembolism (VTE), also known as Pulmonary embolism (PE) and deep vein thrombosis (DVT), is the most common yet preventable cause of hospital death (Agency for Healthcare Research and Quality, 2016)
• In FY15 Parker experienced a high incidence of DVT in both post-operative and nonsurgical inpatient populations
• Nurses have a vital role in preventing VTE’s through assessment and application of SCDs
Physiology of VTE

What are the VTE Core Measures?

VTE-1: VTE Prophylaxis
VTE-2: ICU VTE Prophylaxis
VTE-3: VTE patients with anticoagulation overlap therapy
VTE-4: VTE patients receiving unfractionated heparin with dosage/platelet monitoring
VTE-5: VTE Discharge Instructions
VTE-6: Preventable VTE

Gap Analysis

SCDs inconsistently ordered, applied
Lack of nursing assessment, screening for VTE prophylaxis
SCDs supply shortage, not accessible
Deficient complementary VTE prevention interventions
Nursing knowledge deficit
Compliance of pharmacological ordering, administration
**PICOT**

- **P** In adult inpatients
- **I** How does a nurse driven SCD protocol
- **C** Compared to current nursing practices based on physician orders
- **O** Decrease VTE rates
- **T** Within one year of intervention

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**Action Plan**

- Literature Review
- Formed VTE Task Force
- A3 process improvement
- Physician involvement
- Consult with Regulatory Program Manager
- Develop a nursing-driven SCD protocol
- Present protocol and algorithm to Nursing Senate, Patient Safety and Quality, and Medical Executive Committee for feedback and approval

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**Literature Review**

  - Only 49% of patients were receiving appropriate VTE prophylaxis
  - 19% improvement utilizing combination of strategies: audit and feedback, documentation aids, staff education, VTE prevention policy

  - Decreased awareness of importance of mechanical prevention; lack of SCDs supply, inconsistency of SCD use, physician orders, nursing application
  - Intervention: increased SCD supply, physician/nurse education
Literature Review

Elder et al. (2014)
- Nursing administration of pharmacological prophylaxis inconsistent, lack of knowledge
- Reduced frequency of non-administered doses of VTE prophylaxis: reviewed risk factors, educate providers and nurses, interdisciplinary approach

McNamara (2014)
- Multidisciplinary involvement: develop VTE protocols, teamwork and communication
- Patient education/engagement about plan of care
- Documenting VTE nursing interventions
- Maintain monitoring for reliability

Gardiner & Kelly (2013)
- Prevalence audits showed non-compliance: patients were not wearing, lack of equipment, SCD interventions not documented correctly
- Inconsistently ordered by physicians
- Lack of nursing knowledge of patient risk factors
- Intervention: nurse education/patient education,
- Increased awareness improved SCD use

Implementation
DEVELOPED A NURSING-DRIVEN PROTOCOL FOR ALL INPATIENTS TO BE SCREENED FOR SCD'S USING THE SCD ALGORITHM
- Nurse completes assessment for SCD's contraindications
- If no contraindications, apply SCDs and complete appropriate patient education and documentation
- If known contraindications, discuss with physician for further instruction
Implementation

**DOCUMENTATION OF PATIENT EDUCATION WITH KNOWN OR SUSPECTED VTE**

- Nursing documentation must reflect patient received verbal and written education prior to DC. Document Core Measure VTE-5 – Venous Thromboembolism Discharge Instructions
- Emphasized need to follow up with physician if no pharmacologic prophylaxis ordered, interruption in therapy, or patient refusal

**PROVIDE EDUCATION TO NURSING THROUGH AN ELECTRONIC LEARN MODULE**

- Nurse’s role in VTE Care Measures
- Introduced algorithm
- SCD application/assessment
- Patient education/documentation
- Reviewed how to access patient education handouts

**PATIENT EDUCATION**

- Teach patients the importance of ambulation and hydration, inclusive of bed exercises
- Get Well Network video assigned to all post-op patients

**INCREASE SCD SUPPLY**

- Provided a machine for each patient room
- New process for SCDs to remain in patient room, cleaning done by EVS

**INCREASE PHYSICIAN AWARENESS**

- Met with CMO, hospitalists, ortho, spine, and neuro surgeons to address inconsistencies in pharmacological prophylaxis
- Surgical service lines began reporting out data on fall outs
- SCD protocol approved by Medical Executive Committee
Implementation

AUDIT TOOL

- Address inconsistencies in application of SCDs
- Conduct rounding to promote “in the moment” education
- Prevalence study

INCREASE CHARGE NURSE AWARENESS

- SCDs added to the safety checklist for charge nurses
- Movements made to include in MD/RN rounding tool

Evaluation of Process:
Impact on Nursing Practice

Evaluation of Process

VTE 1-VTE Prophylaxis
Evaluation of Process: Implications

• Decrease in patient morbidity, mortality, and financial impacts
• Reduce readmissions
• Increase hospital reimbursement
• Empowers nursing to use critical thinking skills

Evaluation of Process: Insights

• MD orders conflict with protocol
• Education is ongoing: hardwiring with staff turnover
• Lack of literature specifically supporting the implementation of a nurse driven SCD application protocol
• Receiving buy-in from non-surgical nursing floors was difficult
• Physicians were supportive of protocol
References


