3-27-2019

VTE Risk Factors: SCD Education and Compliance

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VTE Risk Factors: SCD Education and Compliance

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Acknowledgements

- 6 Hall Directors & Educator: Priscilla Bell, MSN, RN, CPN, Bobbie Carter, MSN, RN, CPN, and Amanda Woldruff, BSN, RN, CPN
- KT Scholars: Kristen Seuferling, BSN, RN, CPN and Hannah Boehner, BSN, RN, CPN
- QIC: Kate Gibbs, MHA, CCLS, Kaitlyn Hoch MBA, BHS, RT
- 6 Hall Nursing Staff
A3 Overview

A3 for Problem Solving

Problem: Risk Factors for VTE

A3 Team: Moejig, Eagle, Mayse, Zoe, Worthing, Donal, Maker

Owner: Nurse Education Program

Date: Date

Department Director Signature: 

K Beitrag, Kristen Beilfuss, Jennifer Gaither

QIC: None

Identify the Problem

1. Increased risk of VTE is poor by path
2. Non-compliance of patients wearing SCD’s
3. Lack of education on the requirement of who needs to wear SCD’s
4. Misalignment on proper bandage of SCD’s

Break down the Problem

1. Non-compliance of patients is caused by:
   - More non-compliance to policy on SCD’s
   - Non-compliance to policy of who to wear SCD’s
   - Non-compliance to policy of proper bandage of SCD’s

2. Non-compliance to policy of who to wear SCD’s
   - Non-compliance to policy of proper bandage of SCD’s
   - Non-compliance to policy of who to wear SCD’s

3. Non-compliance to policy of proper bandage of SCD’s
   - Non-compliance to policy of who to wear SCD’s

Data Targets

1. 80% of nurses properly educated on SCD criteria by January 15, 2019

Identify Root Cause

1. Education
2. Knowledge deficit
3. Knowledge deficit in the primary care nurse for the assessment of SCD’s on back valve
4. With multiple factors that impact the use of SCD’s such as the patient, hospital staff, and others

Root Cause

1. Knowledge deficit
2. Knowledge deficit in the primary care nurse for the assessment of SCD’s on back valve

Clariﬁcation

1. Education on all the risk factors for VTE should be enforced to nursing staff
2. Nurses should communicate with medical team if a patient should have an order for SCD’s but does not.
3. Nursing staff should be educated on how to start SCD placement in Cerner and how to listen to them (at least once a shift and with any changes such as off with skin assessment, ambulating, etc.).
4. Possible future Cerner task for SCD placement to populate more than once a shift to remind nurses to chart off.
6 Hall Overview

- On 6 Hall our population consist of orthopedic patients and overflow medical/surgical patients.
- In pediatric patients undergoing orthopedic surgical procedures the incidence of VTE was 0.0515% of 143,808 procedures (Georgopoulus et al., 2016)
Acronym Breakdown

- **VTE**: Venous Thromboembolism - the blocking of a blood vessel by a clot that has broken off from the place where it formed and traveled to another location.

- **SCD**: Sequential Compression Device - an inflatable sleeve to improve blood flow.
Children’s Mercy SCD Policy

POLICY:
I.   Patients undergoing surgical and/or interventional radiology procedures
    A.   Patients who meet the following criteria will have SCD sleeves applied and
         functional prior to anesthesia induction:
         1.   All patients twelve (12) years of age or older and having a procedure
              scheduled for greater than 60 minutes.
         2.   Patients 10 years of age or older having a spinal procedure.
    B.   SCD use for patients under the age of 12 will be at the discretion of the
         physician/advanced practice provider (APP).
    C.   Should the physician desire NOT to have SCDs, an order is placed by the
         physician/APP stating such.
II.  Patients experiencing altered mobility during hospitalization
    A.   SCDs are ordered by the provider to prevent deep vein thrombosis and venous
         thromboembolism.
    B.   Refer to VTE Risk Assessment Care Process Model
III. Discontinuing external compression therapy
    A.   Discontinuation of the SCD can be done with a physician/APP order or when the
         patient becomes fully ambulatory (performing activities of daily living, child life
         activities, walking in hallways and/or visiting playroom).
VTE Risk Assessment Algorithm

**Acute Conditions**
- Fever or chills
- Acute infection
- Recent surgery
- Venous inflow obstruction
- Vasculitis
- Active cancer
- Sepsis
- Septicemia
- Acute respiratory distress syndrome
- Cardiac failure
- Shock

**Chronic Medical Conditions**
- Congenital heart disease
- Recent major surgery
- Obesity
- Chronic obstructive pulmonary disease
- Chronic kidney disease
- Chronic liver disease
- Recent use of stress ulcer prophylaxis
- Recent use of heparin

**History**
- Recent travel
- Family history of VTE

**Contraindications to VTE Prophylaxis**
- Active bleeding or severe coagulopathy
- Active intracranial hematoma
- Active peptic ulcer disease
- Active macrohematuria
- Recent transjugular liver biopsy
- Recent placement of a pacemaker or defibrillator
- Recent intracranial surgery
- Recent intraocular surgery
- Recent fracture
- Recent orthopedic surgery
- Recent total joint replacement
- Recent dental surgery

**Definitions**
- Alteration Mobility: refers to any significant or temporary loss of body weight or inability to achieve or maintain adequate physical activity of the body or of one or more extremities
- VTE Risk Score: a tool to assess VTE risk factors and to estimate risk. A score of 0 to 5 indicates low risk; 6 to 9 indicates moderate risk; and 10 or higher indicates high risk.
- Sequential compression device: device used to decrease the risk of VTE by applying intermittent compression to the legs.

**Algorithm Diagram**

1. **The provider must document if the patient does not receive the therapies indicated by this algorithm.**
2. **VTE Risk Assessment:** Use the VTE Risk Assessment Tool to determine the patient's risk of VTE.
3. **If the patient is at low risk, VTE Risk Assessment Tool is not used.**
4. **If the patient is at moderate risk, VTE Risk Assessment Tool is used.**
5. **If the patient is at high risk, VTE Risk Assessment Tool is not used.**
6. **Sequential compression device:** Initiate sequential compression device if indicated.

**Low Risk:**
- Early ambulation
- Mechanical prophylaxis

**Moderate Risk:**
- Early ambulation
- Mechanical prophylaxis
- Sequential compression device

**High Risk:**
- Early ambulation
- Mechanical prophylaxis
- Sequential compression device

**Intervention**
- Mobility as tolerated (Active or Passive)
- Mechanical prophylaxis
- Sequential compression device

**References:**
Clarify the Problem

- Increased risk of VTE in post op patients
- Non-compliance of patients wearing SCDs
- Lack of education on why they should be worn
- Lack of education for the requirements of patients who needs to wear SCDs
- Noncompliance with proper charting on SCDs
Clarify the Problem

Do You Believe that there is a Noncompliance Issue With SCDs?

- No: 14%
- Yes: 86%

NURSES ON 6 HALL
Breakdown the Problem

Lack of education on why SCDs should be worn:

- Nurses unaware that there is a policy on SCDs
- Nurses unaware of where to find the policy on SCDs

Lack of education on who needs to wear SCDs:

- Confusion on amount of ambulation that would excuse a patient from needing SCDs
- Nurses are not educated on ALL the risk factors for VTEs
- Noncompliance of proper charting on SCDs
Breakdown the Problem

Survey Taken October-November 2018
Set a Target

- We will increase the percentage of nurses on 6 Hall properly educated on SCDs from 79% to 90% by January 15th, 2019.
Identify Root Cause

- Knowledge deficit is the primary root cause for the concern of improper use of SCD’s or lack of use.
- With many factors that impact the use of SCD’s such as the patient, hospital staff, equipment, and documentation.
Develop and Implement Countermeasures

Develop and Implement Countermeasures: Driver Diagram

**AIM STATEMENT**

We will increase the percentage of nurses properly educated on SCDs from 79% to 90% by January 15, 2019

**PRIMARY DRIVERS**

- Education
- Charting

**SECONDARY DRIVERS**

- PowerPoint education about qualifications for SCDs specific to 6 Hall in breakroom
- Education at Huddle Board related to charting and qualifications
- Reminder on computers to chart SCDs at least once a shift and with any changes
- Where to chart SCDs in Cerner

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Develop and Implement Countermeasures

Remember to chart SCDs Please!
At least once a shift & with any changes!

LET’S TALK ABOUT SCDS

By: Kaly Hayden, Baleigh Haag, Shari Gardner and Alex Wofford
Let's Talk About SCDs

- Identified Risk Factors for VTE
  - Spinal cord injury
  - Trauma
  - Severe dehydration
  - Surgery within the last 30 days
  - Lower extremity orthopedic surgery
  - Patient is not completing their ADLs
  - Obesity
    - 12-16 years >80kg
    - Over 16 years >85kg

Where?
- I-VIEW
- Respiratory/Cardiovascular interventions
  - SCDs on/off

Why?
- To decrease the risk of VTEs
- Help improve circulation
Check Results and Process

Patients at Risk for VTE

Data collected from 11/18/2019-01/15/2019

Total of 263 Patients

44%
56%
Check Results and Process

Nurse Charting on SCD Placement

- PDSA Cycle #1 and #2 launched 12/10/18
- PDSA Cycle #3 launched 1/2/2019

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Check Results and Process

Do you feel that our education pieces (Huddle board, Break room PP, and SCD reminder cards increased your knowledge about SCDs and will help improve your charting on them?)

- Yes: 78.95%
- No: 21.05%
Check Results and Process

Are You Aware there is a Policy for SCDs?

Survey Taken January-February 2019
Standardize and Follow Up

- Education on all the risk factors for VTE should be enforced to nursing staff.
- Information on SCDs in admission packets for patients and families
- Nurses should communicate with medical team if a patient should have an order for SCDs but does not.
- Nursing staff should be educated on where to chart SCD placement in Cerner and how often to chart them (At least once a shift and with any changes such as off with skin assessment, ambulating, etc.)
- Possible future Cerner task for SCD placement to populate more than once a shift to remind nurses to chart on/off
References


Questions?