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VTE Risk Factors: SCD Education and Compliance

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VTE Risk Factors: SCD Education and Compliance

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- 6 Hall Nursing Staff
A3 for Problem Solving

A3 Overview

**A3 Team:**
- [Name1]
- [Name2]

**Owner:** [Name3]

**Date:** [Date]

**Step 1: Clarify the Problem**
- Increased risk of VTE in pediatric patient.
- Non-compliance of patients wearing SCDs.
- Lack of education on the requirement of who needs to wear SCDs.
- Non-compliance on proper clamping of SCDs.

**Breakdown the Problem**
- Lack of education on why SCDs should be worn.
- Nurse is unaware of the policy on SCDs.
- Lack of education on who needs to wear SCDs.
- Non-compliance on clamping SCDs.
- Patients are not educated on all risk factors for VTE.

**Data Target**
- Increase the percentage of nurse properly educated on SCD from 75% to 90% by January 15th, 2019.

**Identify Root Cause**
- Patient non-compliance.
- Hospital staff non-compliance.
- Knowledge deficit.

**Countermeasures**
- Develop a policy on SCDs.
- Educate nurses on SCDs policy.
- Educate patients on SCDs.

**Check Results and Process**
- [Graph or chart showing progress]

**Standardize and Follow-Up**
- Education on all risk factors for VTE should be enforced.
- Nurses should communicate with medical team if a patient should have an SCD.
- Nurses should be educated on how often to clamp SCDs.
- Possible future QI project to improve compliance.
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 (Georgopoulous 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

**Other VTE Risk Factors**
- Acute conditions
  - Recent surgery
  - Major trauma
  - Acute/chronic infection
  - Recent myocardial infarction
  - Recent orthopedic surgery
  - Major surgery
  - Recent hemorrhage
  - Active cancer
  - Liver disease
  - Renal disease
  - Severe dehydration

**Chronic medical conditions**
- Congenital heart disease
  - Recent infection
  - Weight > 90 kg
  - Age < 15 years
  - Active infection
  - Hematologic disorder
  - Venous disease
  - Known ascites
  - Elevated blood pressure

**Historical factors**
- Family history of VTE
- Age > 60 years

**Contraindications to prophylaxis**
- Interevental or self-administered bleeding
- Recent non-orthopedic surgery
- Active or chronic peptic ulcer disease
- Severe gastrointestinal disease
- Acute allergic reactions to heparin
- Severe renal insufficiency
- Active arterial disease
- Recent stroke
- Severe liver disease
- Recent orthopedic surgery
- Recent major surgery
- Recent hemorrhage
- Recent thrombosis
- Recent myocardial infarction
- Known coagulation disorder

** Definitions**
- High risk: VTE within 1 week of surgery or within 6 months of prior VTE
- Moderate risk: VTE within 1 month of surgery or within 6 months of prior VTE
- Low risk: VTE within 3 months of surgery
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

Are You Aware there is a Policy for SCDs?

79%

21%

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 15\textsuperscript{th}, 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.

Venous thromboembolism
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
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
    - Cardiovascular interventions
    - SCDs on/off

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

Patients at Risk for VTE

- Order for SCDs
- No Order

44% 56%

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

Total of 263 Patients
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

Charted x1  Charted >1
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: 78.55%
- No: 21.05%
Check Results and Process

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?