

# An Innovative Multidisciplinary Approach to PE/DVT Reduction in High-Risk Trauma Patients



Tabitha Phalen ADN, RN, Teresa Lipscomb BSN RN, TCRN, Valerie Flowers BSN, RN, TCRN, Tammie Mitchell BSN, RN

**Background:** Pulmonary embolism has been reported by the Center for Medicare and Medicaid Services as the most common preventable cause of death among hospitalized patients.<sup>1</sup> Our hospital system had not shown improvement in the National Patient Safety Indicator (PSI) of hospital acquired, peri-operative DVT/PE rate.<sup>2</sup> This PSI has a highly negative hospital financial impact, increases the patient's risk of mortality/morbidity and length of stay. In 2021, the Charleston Area Medical Center PE/DVT rate was 6.23 per 1000 while our designated trauma hospital had a PE/DVT rate of 10.60 per 1000, far above national benchmarks.

GENERAL HOSPITAL Pt Safety Indicators: Focus Measures (↓)		2021 numerator	2021 denominator	2020	Jan-Dec 2021	Target
Periop PE/DVT	rate/1000	24	2265	5.65	10.95	4.04

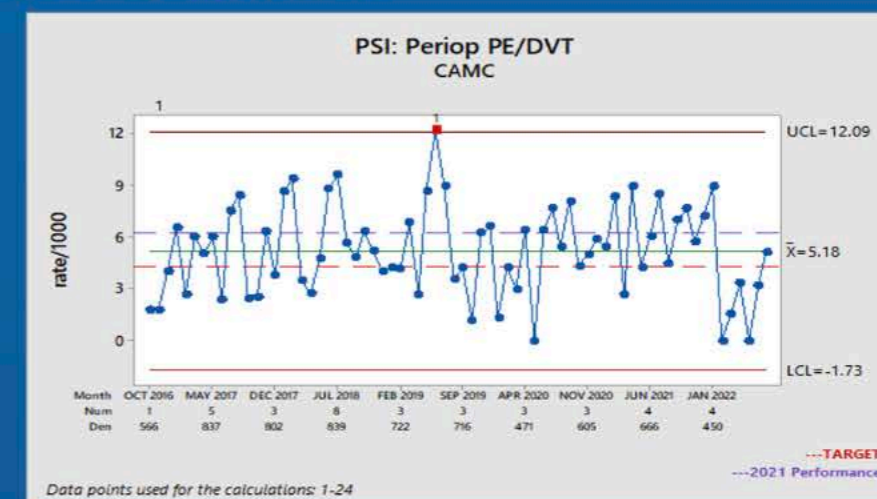
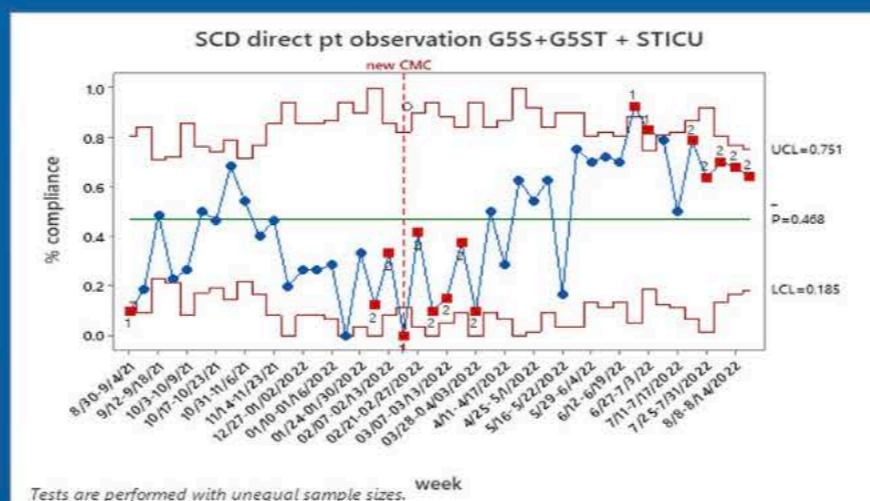
**Methodology:** Three nursing units serving trauma patients were selected for the test of change based on their high frequency of PE/DVT. A multidisciplinary, nurse-lead team implemented a strategy including more frequent verification that SCDs are on the patient. Data were collected weekly through direct observation by the Clinical Quality Specialist and frequencies of PE/DVT were tracked monthly and compared to baseline.

## TEAM/ROLES

Nurse Leaders, RN's, LPN's, NA's, Nurse Externs	Huddles, Rounding, Staff Education, Patient Education
Clinical Engineering	Re-designed SCD controller unit assignments to ensure every room had at least one available
Physical Therapy, Mobility Techs, Transport Staff	Re-application of SCD's after therapy, mobilization or radiologic testing

**RESULTS:** The trauma units collectively had 16 PE/DVT's during 2021, one in January just prior to the project implementation and NONE in the subsequent six months. Utilization of SCD's improved dramatically. This impacted the CAMC PSI rate.

GENERAL HOSPITAL Pt Safety Indicators: Focus Measures (↓)		2021 numerator	2021 denominator	2021	Jan-Jul 2022	Target
Periop PE/DVT	rate/1000	6	2564	10.95	2.34	4.04



**Conclusion:** The comprehensive process change achieved marked, sustained reduction in harm in high-risk patients. Monitoring is ongoing and spread to the second highest risk patient population in our system is underway.

