

**Raising Awareness: Venous  
Thromboembolism Prevention and  
Reduction in the Orthopedic Patient  
Population**

**Unified Quality Improvement Symposium  
March 31, 2017**



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# Background



- Venous thromboembolism (VTE) is a serious, and potentially life-threatening complication following orthopedic surgery (Falck-Ytter et al., 2012).
- The Joint Commission (TJC) and The Centers for Medicare & Medicaid Services (CMS) identify VTE as a core measure set, specifically tracking the incidence of potentially preventable VTE (The Joint Commission, 2016).
- Clinical nursing staff is in a unique position in the prevention of VTE and play a vital role in ensuring mechanical VTE prophylaxis is implemented.

# Profile of an Orthopedic Patient



- Typically 50 years or older
- Has been living with chronic pain in joints related to arthritis
- Mobility challenged
- Often overweight
- May present with multiple comorbidities (hypertension, diabetes, dementia, etc.)
- High risk for falls
- High risk for deep vein thrombosis (DVT) and venous thromboembolism (VTE)

# Collaborative Team Members

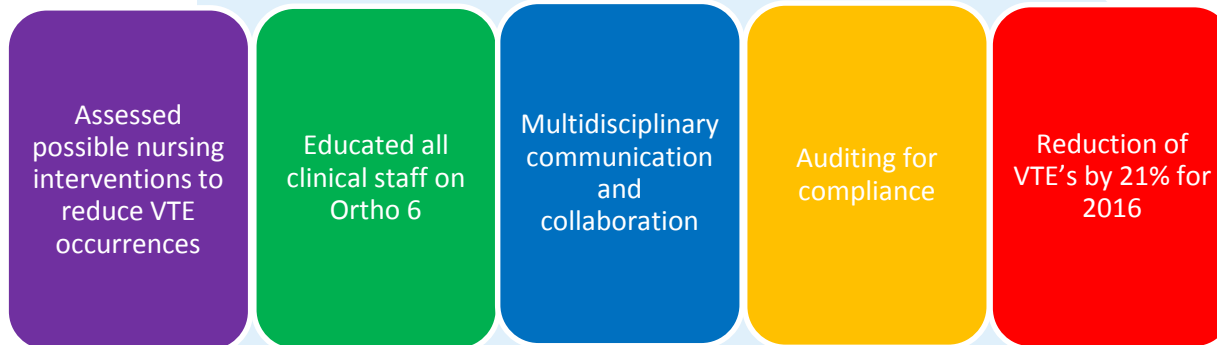
- Stephanie Ellis, BSN, RN-BC
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- Ortho 6 Staff
  - Nursing
  - Nursing assistants
  - Physical therapists
  - Occupational therapists



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# AIM Statement

The aim/goal for this improvement project was to increase staff awareness of the need for mechanical VTE prophylaxis on bilateral lower extremities and reduce the occurrence of VTE's by 15% on the Orthopedic Unit.



# Measures



## Process Measure(s):

1. Compliance with nursing assistant documentation of SCD/Foot pumps every four hours
2. Staff compliance with one form of mechanical prophylaxis on orthopedic patient's

## Outcome Measure(s):

1. 100% Ortho clinical staff educated on importance of mechanical prophylaxis (sequential compression devices)
2. Reduction in occurrence of venous thrombus embolisms (VTE's) by 15%

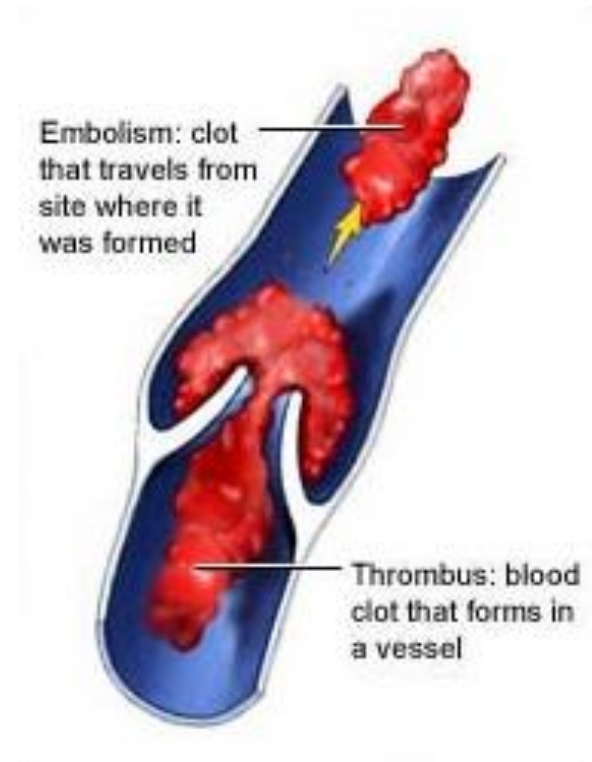
# Pilot Baseline Data

## Audits

Type of audit	%
Patient wearing at least one form of mechanical prophylaxis.	68%
Nursing assistant documentation every four hours.	68%

## VTE's

Year	Number of VTE's
2014	18
2015	19



# Improvement Strategies



1. Brainstorming sessions on how nursing staff could impact prevalence of VTE's
2. Developed a standard of utilizing foot pumps or sequential compression devices on bilateral lower extremities
3. Developed unit standard for nursing assistants to document SCD/Foot Pump use every four hours
4. Educated clinical staff, including physical therapy and occupational therapy, on new unit standards for mechanical VTE prophylaxis
5. Developed audit tool to track compliance with documentation and patient use of mechanical prophylaxis
6. Reviewed case by case VTE occurrence drill downs for improvement opportunities
7. Created bulletin board for staff awareness of occurrences of VTE's



# Summary of Outcomes



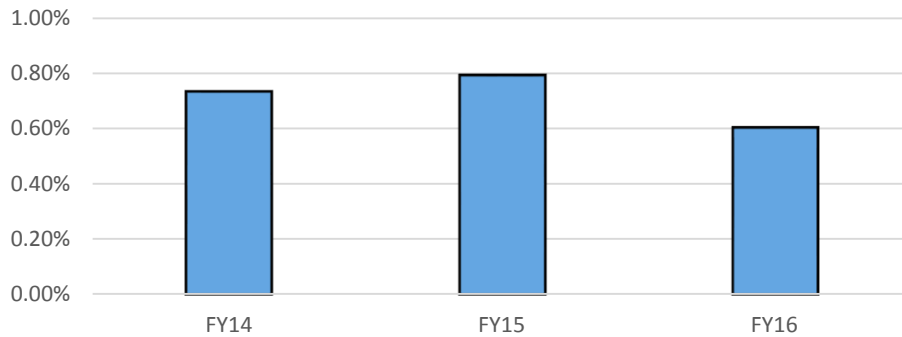
For 2015-2016

- 100% staff educated, including physical and occupational therapy
- 41% increase in compliance with applying mechanical prophylaxis to bilateral lower extremities
- 30% increase in compliance with documentation every four hours by nursing assistants.
- 21% decrease in occurrences of VTE's on the unit

# Outcomes: Percentage of DVT/PE's for Ortho 6 Patients



% of DVT's out of Total Discharges on ORTHO



- Discharged patients include:

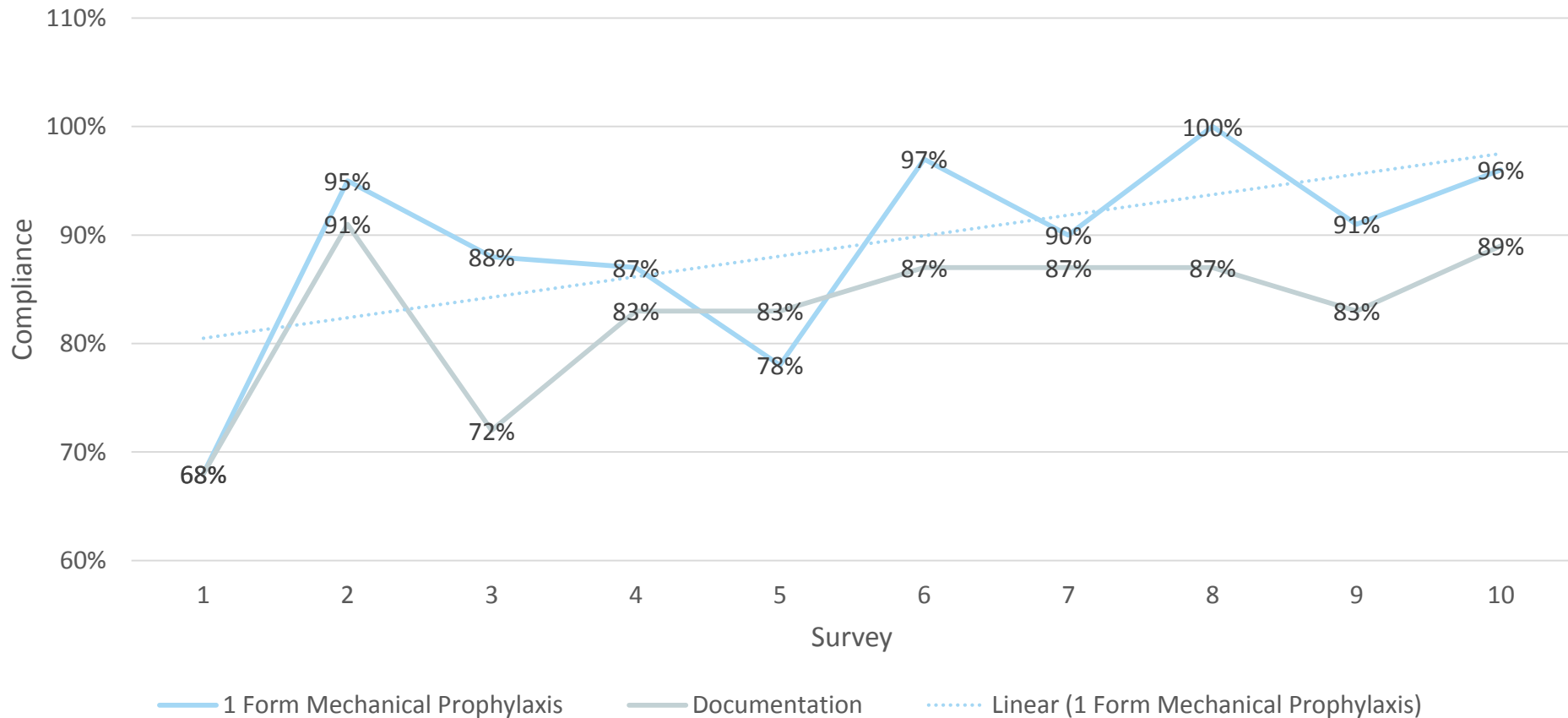
- Total knee replacements
- Total hip replacements
- Total shoulder replacements
- Joint revisions
- Hip fractures
- Tibia/Fibula fractures
- Compression fractures
- Spinal fusions
- Infections
- Orthopedic trauma
- Medicine patients

	Inpatient discharges	Outpatient discharges	Total	DVT's
FY14	2318	133	2451	18
FY15	2248	149	2397	19
FY16	2324	158	2482	15

# Outcomes: Audits



## Compliance Audits



# Challenges Encountered in QI Process



- Need for revised audit tool to include more information and improve reliability
- Education and compliance of new and temporary staff (ie. travel and central staffing nurses and nursing assistants)
- Machine malfunctions and troubleshooting

# Lessons Learned



- It's not easy to change a culture.
- Compliance requires constant surveillance and education.
- PDSA cycles help to maintain focus.
- Engagement from nursing staff improved our quality of care!

# Next Steps for Sustainability



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- Visual reminders for all staff.
- Welcome kit for all new hires to include our Quality standards.
- Explore use of foot pumps in the OR.
- Continue auditing for compliance.

# References



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