



Susan M. Scott, MSN, RN, WOC Nurse  
 University of Tennessee Health Science Center Office of Graduate Medical Education, Memphis, TN  
 Linda Minnich BSN, RN, CPAN, Jason Bennett MSN, MBA, RN, and Jennifer Mercer, RN  
 John Muir HealthCare, Concord, CA

## BACKGROUND

- Surgery is one time when a healthy individual is placed at risk for pressure injury.
- Hospital Acquired Pressure Injury (HAPI) affects 2.5 million individuals in US acute care facilities each year, resulting in 60,000 deaths.
- Costs for treatment are estimated at \$26.8 billion dollars.
- AHRQ reports HAPIs increased 6% from 2014-2017.

- The surgical population is aging and becoming more obese increasing risk.
- Shafipour et al. reported incidence rate of 18.96% in a meta-analysis of 9,527 surgical patients.
- The Association of Perioperative Registered nurses (AORN) recommended practice for positioning as the standard of care.

## DESIRED STATE:

### AORN GUIDELINE GAP ANALYSIS TOOL: POSITIONING THE PATIENT

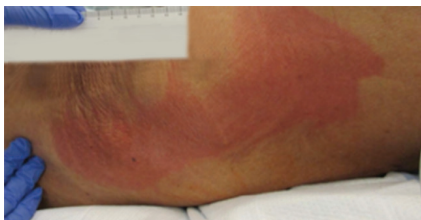
- Recommendation 2: The perioperative RN should conduct a preoperative patient assessment to identify patients at risk for positioning injury, develop a plan of care, and implement interventions to prevent injury.
- Recommendation 6: Perioperative personnel should identify potential hazards associated with positioning activities and should establish safe practices.
- Recommendation 18: The perioperative RN should collaborate with the perianesthesia RN to identify patient injury caused by intraoperative positioning.
- Recommendation 22: The health care organization's quality management program should evaluate patient positioning.

**2.5 M**  
**HAPI developed in the US Acute Care**  
**60,000**  
**Deaths**  
**\$26.8 B**  
**US Cost of HAPI**

## METHODS

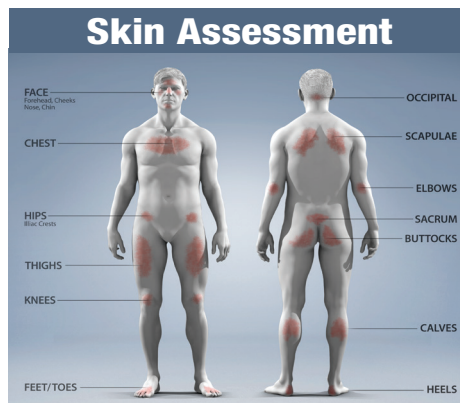
- Surgical cases lasting > 2 hours received head to toe skin assessment at the time of the OR and PACU handoff.
- Tracking tools were created and followed the patient to each department to ensure compliance with monitoring the patient skin across the health care system.
- Upon discovery of a pressure injury the OR and PACU staff would:

- Measure the length, width and depth.
- Take pictures for documentation and comparison during the healing process.
- OR staff reviewed table and equipment involved with the case to determine the root cause of the injury.



### ROOT CAUSE ANALYSIS #1

- 84 y.o. arrives to PACU skin assessment: possible deep tissue injury.
- Recent weight loss – BMI 22
- ASA 3
- A-Flutter Cardiomegaly
- Lateral position on a bean bag
- Intraoperative temperature 35.9°C
- Mean Arterial B/P 45-60 for 10 minutes



### ACTION: VIDEO-ASSISTED THORACOTOMY (VATS)

- Implementation of pre-op skin assessment and risk assessment using Scott Triggers
- Pre-warming all patients prior to surgery
- OR room temperatures to remain at 68°F Prophylactic foam dressing placed on the lateral chest wall
- Monitor urinary output and report to anesthesia if low
- Maintain warming measures post-op until the patient is normo-thermic ( $\geq 36.1^{\circ}\text{C}$ )
- Maintain open loop communication from pre-op to PACU

## A3 PROBLEM SOLVING



### WHAT IS THE PROBLEM OR ISSUE?

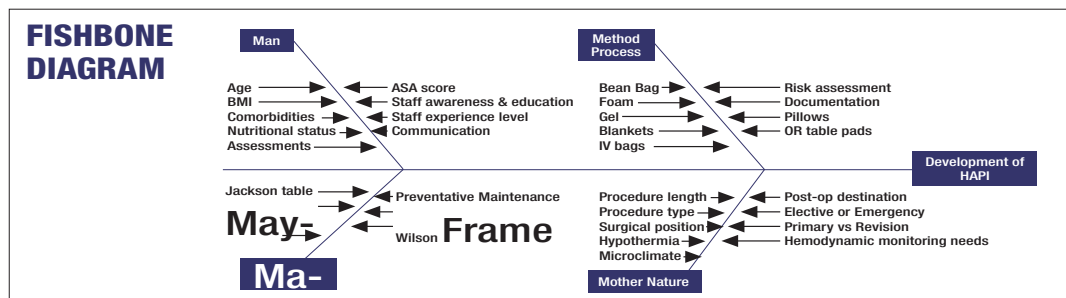
- Perioperative patients are at risk for pressure injury due to intense and prolonged pressure during lengthy surgical procedures, exposure to friction and shear, and co-morbid conditions.
- Absence of HAPIs is an indicator of quality nursing care.
- Aims: Perform skin audits for 100% of surgical patients with cases over 2 hours. Implement real-time root cause analysis and action.
- Key metric: Skin integrity concerns captured in audit reports/number of surgical procedures.
- Hospital metric: Number of patients with pressure injury/total number of patients surveyed.

### COUNTER MEASURES

- Scott Triggers risk assessment, Pre-op skin assessments
- Lateral air transfer for safe patient handling
- High Specification OR table pads
- Prophylactic dressings silicone to sacral, and lateral chest with bean bag use. Air cushion to sacral area.
- Offload heels with positioning device
- Do not use towel rolls, blanket rolls or IV bags for positioning.
- Pre-warming for high-risk patients and new hypothermia protocol. Moisture wicking drapes to control microclimate.
- Simultaneous 4-eyes skin assessment and verbal handoff from the OR to the PACU. Nursing unit handoff uses the SBAR report.
- ERAS Protocol, Daily Skin Assessment

### ACT

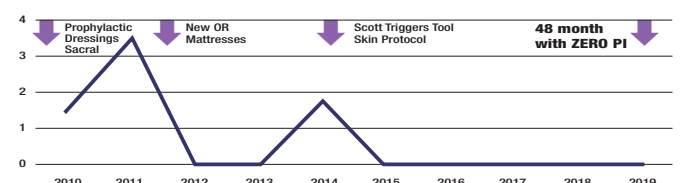
- PIs reported real-time. Quarterly QI reports posted HAPI reports are reviewed at the nursing practice and quality councils. All new HAPIs are presented at the daily senior safety meeting.



## OUTCOMES

- Over 19,000 patients were screened since 2010
- Rate of Surgical HAPIs dropped from a high of 2.6% to zero by 2015
- Currently 48 months with zero HAPIs
- Creating an improved safety culture and implementing evidence based counter measures helped to eliminate patient harm and create high-reliability process improvement

**ZERO HAPI**



## CONCLUSION

- Using the Root Cause Analysis and Action (RCA<sup>2</sup>) model we advance lessons learned by investigating system failures. The goal of a successful process improvement is to:
- Identify all the stakeholders - Patients, Perioperative RN, PeriAnesthesia staff, Anesthesia, Surgeon and Wound, Ostomy and Continence nurses.
- Collaborate to identify gaps in knowledge, skills and attitudes.
- Integrate innovative practices and empower staff to make recommendations and implement ideas for the prevention of a PPI.
- Incorporate a team approach to real-time problem solving by using the Root Cause Analysis Tool.

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Acknowledgments  
 Terry Emerson, MSN, RN, CNOR, NIA-BC, Nurse Manager, Neurosurgery/Orthopedics/Otolary and Trauma/Transplant Services, Zayed/Bloomberg Operating Rooms. The Johns Hopkins Hospital.  
 Blaine Miller Graphic Artist