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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

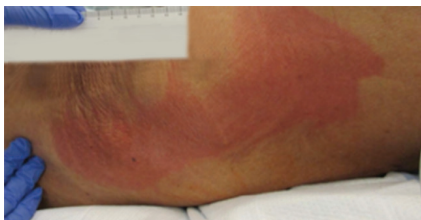
- Recommendation 2: The perioperative RN should conduct a preoperative patient assessment to identify patients at risk for positioning injury, develop a plan of care, and implement interventions to prevent injury.
- Recommendation 6: Perioperative personnel should identify potential hazards associated 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

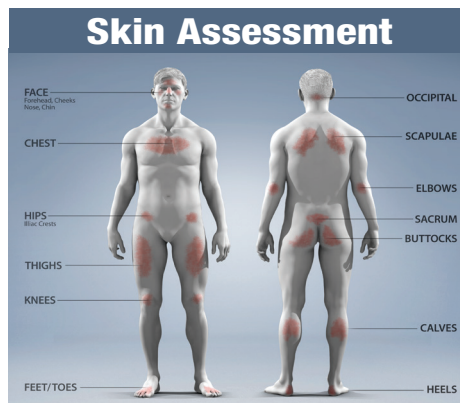
- Surgical cases lasting > 2 hours received head to toe skin assessment at the time of the OR and PACU handoff.
- Tracking tools were created and followed the patient to each department to ensure compliance with monitoring the patient skin across the health care system.
- Upon discovery of a pressure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

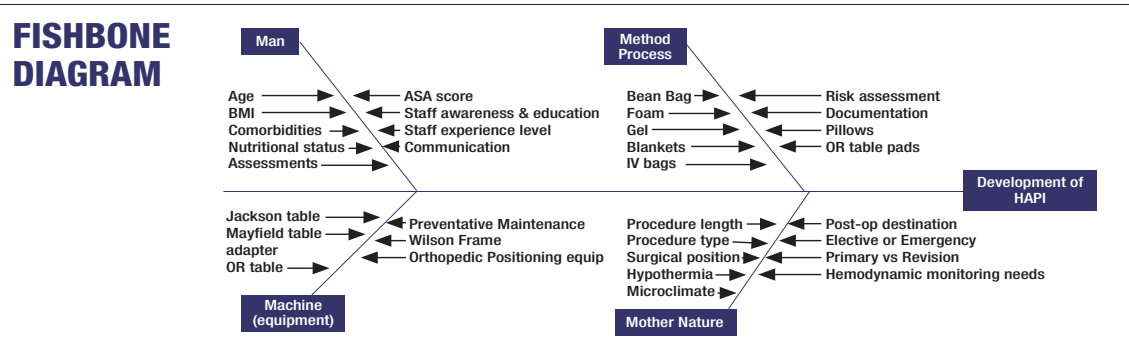
- Perioperative patients are at risk for pressure injury due to intense and prolonged pressure during lengthy surgical procedures, exposure to friction and shear, and co-morbid conditions.
- Absence of HAPIs is an indicator of quality nursing care.
- Aims: Perform skin audits for 100% of surgical patients 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

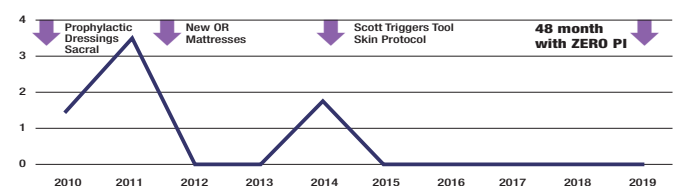
- PIs reported real-time. Quarterly QI reports posted HAPI reports are reviewed at the nursing practice and quality councils. All new HAPIs are presented at the daily senior safety meeting.



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 (RCA²) 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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