Preventing un-HAPI Patient's in the Perioperative Setting

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BACKGROUND

- Approximately 1 to 3 million people in the United States are affected by pressure injuries (PIs) and 5% to 15% of hospitalized patients are affected by Hospital-acquired pressure injuries (HAPIs) (Mondragon & Zito, 2021).
- HAPIs are pressure injuries that appear during hospitalization and were not present at the time of admission.
- Approximately 23% of patients in the US who develop HAPIs are acquired during surgical procedures that last more than 3 hours (Geller & Sirivan, 2020).
- HAPIs that are staged 3 and 4 are considered "never events" by The Centers for Medicare and Medicaid Services (CMS). (See Figure 2).
- Perioperative PIs can develop over 48 hours after a procedure and can often be confused with electrical or chemical burns (Geller & Sirivan, 2020).
- National efforts have been made in reducing HAPIs between 2014-2017, pressure ulcers and surgical site infections have been the only conditions to have increased between 6%-8% *(Declines in Hospital-Acquired Conditions, 2020).*

INTRODUCTION

- The occurrence of pressure injuries are 2 to 3 times higher in surgical patients (both intraoperatively and postoperatively).
  - This is due to prolonged times of immobility, inability to reposition, and having to be positioned on firm surfaces (Pittman et al., 2021).
- HAPIs are preventable injuries that is localized on or underneath the skin, resulting from pressure and/or shear during a patient's hospital stay (Rondinelli et al., 2018). (See Figure 1).
- **Other risk factors include sensory deficits, increased arteriole pressure, shear and friction forces, moisture, nutritional status, immobility, reduced perfusion cardiac diseases, diabetes, recent fractures, incontinence, and the elderly population.**
- When HAPIs are reported to Centers for Medicare & Medicaid Services and depending on the stage of the injury, hospitals often receive limited reimbursement.
- Financial cost of HAPIs can range from $500 to $70,000 (with an average cost of $10,708) (Coleman, 2022).
- Pressure injuries are 95% preventable with early risk assessments and efficient interventions.

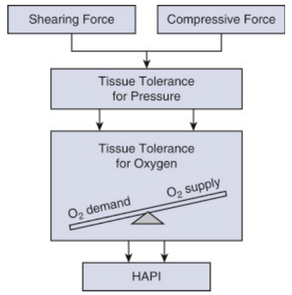
OBJECTIVES

- This creative project focuses on the review of recent scholarly research and evidence and how current clinical practices prevent HAPIs.
- Obtaining relevant information relating to the prevention of HAPIs is important to review to ensure current practices are updated and the interprofessional team works together to prevent such injuries.
- This project allows for the identification of gaps and to allow for quality improvement opportunities for improved clinical practices.
- Although there have been a decrease in HAPI rates, they have not been eliminated which indicates a further need to educate and implement ongoing measures.
- Increasing awareness will impact the perioperative field, which may lead to changes that improve patient outcomes.

METHODS

- A widely used integrative review design developed by Whittemore & Knafl (2005) will allow for a variety of research methods to become part of evidence-based nursing practice initiatives.
- The integrative review has five stages: problem identification, literature search, data evaluation, data analysis, and presentation (Whittemore & Knafl, 2005).
- An in-depth literature search was done using the online databases including National Center for Biotechnology Information (NCBI), PubMed, CINAHL, via EBSCOhost, Ovid Medline, and Clinical Key, via Elsevier.
- Articles selected were published online within the last five years (2017-2022) using the key words: Hospital-Acquired Pressure Injuries in the perioperative setting, pressure injuries in hospitals, perioperative pressure injuries, HAPIs and the operating room, preventing HAPIs in surgical services, and perioperative factors and HAPIs.
- A total of 13 scholarly articles were selected and the results were analyzed.

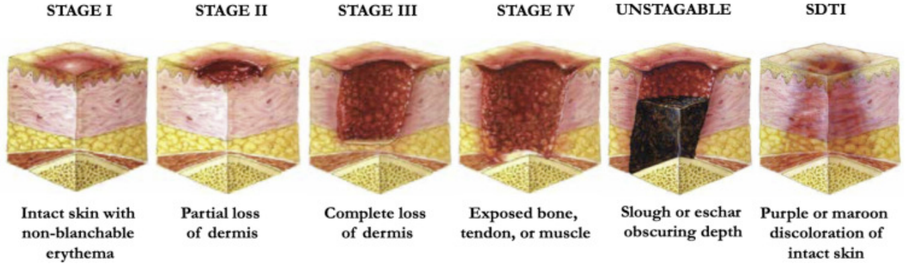
FIGURE 1



LITERATURE REVIEW

- Two descriptive studies were reviewed, one aimed to identify the rate of intraoperative PIs and assesses adult surgical patient risk factors. The other study aimed to evaluate hospital-wide efforts in understanding causes of HAPIs and how to implement interventional plans to prevent future occurrences.
- Three retrospective studies were reviewed, a case-control study aimed to identify perioperative risk factors in postoperative PIs, a cohort study aimed to evaluate data retrieved from regular nursing skin assessments in conjunction with potential risk factors identified in literature, and a chart review and root cause analysis of HAPIs that aimed to empower nurses with the responsibility for the prevention of HAPIs with an introduction in developing a Turn Team Program.
- There was a continued education course aimed to inform and educate learners on pressure ulcers in the perioperative setting.
- A prospective case study was reviewed that evaluated how a low-profile alternating pressure overlay system affects HAPIs.
- A review article was analyzed that discusses how to avoid perioperative pressure ulcers.
- Another article was evaluated that identified commonalities in guidelines and collaboration among nurses to implement and build PI prevention practices associated with the operating room (OR).
- A literature review study was analyzed that aimed to identify significant risk factors among surgical patients and create a prediction tool that identifies pressure ulcers before surgical procedures.
- An article discussing how to prevent HAPIs in patient's undergoing cardiac surgery and sacral Pis was reviewed.
- Two Association of periOperative Registered Nurses (AORN) articles were reviewed, one discussed new practices in protecting patients from PIs and the other is the position statement in the prevention of perioperative PIs.

FIGURE 2



HAPIs often develop in these areas on the body: sacrum, greater trochanter, ischial tuberosity, lateral malleolus, and the heel of the foot (Mondragon & Zito, 2021). PIs are staged to assess the severity of the injury, the National Pressure Ulcer Advisory Panel (NPUAP) staging system is most commonly used (Geller & Sirivan, 2020).

RESULTS

- It is evident that patients in the perioperative setting are at risk for developing pressure injuries related to intraoperative risk factors.
- An interprofessional and multidisciplinary approach has been identified as a key measurements in reducing HAPIs, nurses have a primary responsibility in preventing and treating HAPIs (Yilmaz & Basli, 2021).
- Evidence-based literature suggests collaborating and standardizing risk assessments as well as preventative management interventions in the prevention of pressure injuries.
- Preventative management interventions include: repositioning, including support equipment and surfaces, identifying nutritional deficiencies, applying prophylactic dressings, engaging staff at all levels of care in the prevention of pressure injuries, educating staff and patients on evidence-based practices relating to pressure injuries, appropriate documentation, utilizing positioning wedges, collaborating among the preoperative, operative, and postoperative nurses in the assessment findings, risk factors, and preventative practices.

CONCLUSIONS

HAPIs should start with prevention. It takes a multidisciplinary and interprofessional team approach to prevent HAPIs. Early Identification of HAPI risk factors and implementing appropriate preventative measures will be required in preventing HAPIs from developing. Collaborative relationships within a healthcare system and conscientious efforts are crucial factors in risk identification, utilizing risk assessment tools, implementing evidence-based practice risk reduction recommendations, identifying system-wide gaps, and ensuring efficient preventative measures are in place.

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