A Collaborative Approach for the Prevention of Perioperative Pressure Injuries in the Cardiac ORs
Mary Beth Riegel, MSN, RN, CNOR; Tim Madeira, DNP, CRNP, APRN-CNS
The Johns Hopkins Hospital – Cardiovascular Thoracic Operating Room

Background

• HAPI prevention is an important patient quality measure and is considered a never event.
• With more complex patient populations that are older with more comorbidities and longer surgeries, there is a greater risk of hospital-acquired pressure injuries (HAPI).
• The contributing factors can be intrinsic, extrinsic, or related to medical devices.
• ICU patients are especially susceptible to PIIs because of critical care drugs, decreased consciousness, lack of mobility, hemodynamic instability, poor nutritional status, and the use of multiple medical devices.
• Any PI discovered within 72 hours of surgery is classified as an intraoperatively acquired PI or a complication of the surgery.

Aim of the Project

In the Cardiovascular Surgical Intensive Care Unit (CVSICU) at The Johns Hopkins Hospital (JHH), the incidence of HAPIs was higher than any other ICU in the hospital. Nurses from the CVSICU and the Cardiac OR met in March 2020 to look at the current data and plan for improvements that would result in fewer pressure injuries.

Description of the Intervention

A review of the literature highlightd the following best practices for the prevention of HAPI in the OR:
• Complete a preoperative assessment for PI risk using the Scott Triggers Risk Assessment in EPIC
• Perform a skin assessment when a patient arrives in the OR
• Multidisciplinary collaboration in the OR while positioning the patient and during surgery
• Follow AORN positioning guidelines
• Perform a post-operative skin assessment and communication with the nurse receiving the patient

A unit-based skin champion was appointed to help with education, implement changes, and help the staff take ownership of this patient safety issue. Since the greatest incidence of these injuries occurred on the sacrum, it was decided to use a larger sacral foam dressing than what was currently being used. Education was provided using diagrams and videos since there were variations in placement. These dressings were dated and timed so they could be replaced according to the manufacturer’s recommendations. A sterile Bair Hugger was used on all CABG patients to maintain their body temperature. Gel pads were used instead of foam to protect the elbows when securing the patient’s arms by their side and under the head. Education was provided to anesthesia and nurses about medical device-related PIIs, and there was a review of any injuries caused by devices.

The CVSICU Bundle of Interventions:
• Pre-op screening before surgery or admission to CVSICU
• Use of air-fluidized specialty rental beds for “highest risk” patients
• Pressure-point wound prevention using a standardized tool
• Weekly wound rounds by wound champions with direct feedback given to staff
• Education for CVSICU and CVOR nursing staff

Description of Data Collection and Analysis

The CVSICU collects quarterly data related to HAPIs, which is reported at the Cardiovascular Thoracic (CVT) OR’s monthly CUSP meeting. The Clinical Nurse Specialist also communicates about any HAPIs within 72 hours of surgery through emails and HEROs (Hospital Event Reporting Online).

Outcomes Measures or Results

As a result of this collaboration, the incidence of sacral pressure injuries has decreased in the CVSICU. There was also evidence that 95.6% of patients had a sacral dressing in place when admitted from the OR. In the last one and a half years, there has been an increase in the acuity of the CVSICU patients, with many on prolonged ECMO support due to COVID. There are also more PIIs related to long-term medical devices that require innovation and monitoring. During this Quality Improvement, there was only one lip pressure injury from an ET tube that occurred within 72 hours of the OR. Consistent best practices continue being implemented in the Cardiac OR, with nursing and anesthesia taking ownership of the process. Greater communication has also been observed involving all disciplines within the Cardiac OR and CVSICU.

Implications for Practice

• AORN Guidelines for Perioperative Practice provides the best evidence-based practices for positioning patients during surgery.
• Research has shown that the application of prophylactic dressings to pressure areas has decreased the incidence of pressure injuries.
• The first step toward implementing a preventative care bundle to decrease the incidence of HAPIs is the early identification of risk factors.
• Ongoing education and an improved communication system during handoff are critical components for pressure ulcer prevention.
• Upgrading the OR support surfaces to pressure-reducing surfaces is an important step in prevention.
• Patient positioning prior to surgery is the responsibility of the entire OR team.

Lessons Learned

• The Scott Triggers Risk Assessment Tool showed that most cardiac surgery patients were at high risk for PIIs and was not helpful in identifying the highest risk among these patients. There needs to be a risk assessment tool specific for the cardiac surgery patient.
• Greater communication and collaboration between nurses and anesthesiologists across different areas can improve patient outcomes by decreasing the incidence of HAPIs.
• This process involves many people, and there are multiple variables with each patient with no quick fix.
• Improvement interventions need continual input from all caregivers to see results.

References