Implementing a Pressure Injury Prevention Bundle to Decrease Hospital-Acquired Pressure Injuries in Critical Care

Julie A. Rivera, MSN, RN-BC, CWOCN, Mary J. Deady-Rooney, Mary J. MSN, RN, CCRN, NEA-BC, Erin Donohoe BSN, RN-BC, CWOCN, Maxine Douglas, MSN, RN, Nyishah Samaniego, MSN, CEN, TCRN, NE-BC
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Objectives

• Identify patients at risk for developing hospital-acquired pressure injuries (HAPIs)
• Describe a Pressure Injury Prevention Bundle (PIP Bundle) developed to decrease HAPIs in a Critical Care Unit (CCU)
• Describe implementation of the PIP Bundle
• Discuss results of PIP Bundle initiative
Background

- Patients in CCUs are at higher risk for developing hospital-acquired pressure injuries (HAPIs).
- Risk factors for developing HAPIs include immobility, sedation, vasopressors, mechanical ventilation and hemodynamic instability.
- HAPIs negatively impact patient outcomes, patient/family experience, nurse satisfaction and financially.
- An increase in HAPIs in the adult CCU prompted the Wound Ostomy Continence nurse and the unit to reduce HAPIs.
- Root cause analysis identified inconsistencies in pressure injury prevention strategies.
The Institute for Healthcare Improvement (IHI) (2019) defines a bundle as standardizing processes of care in order to improve patient outcomes.

Anderson M., Guthrie P. F., Kraft W., Reicks P., Skay C, Beal A. L. (2015) conducted a quasi-experimental study on a PIP Bundle, which resulted in a decrease in HAPIs from 15.5% to 2.1%.

Krupp A.E., Monfre J. (2015) reported key components associated with the success of a PIP Bundle include:

- Involvement of all key stakeholders
- Staff education
- Pressure injury prevention teams
- Audits and feedback
Methods and Procedures

- The unit selected to implement the PIP Bundle was based on the high incidence of HAPIs.
- Most common HAPI locations occurred on the sacrum and buttocks.
- An interdisciplinary team was established and consisted of:
  - Two Wound Ostomy Continence nurses (WOCNs)
  - A nurse manager and two assistant nurse managers
  - Registered nurses and patient care associates/nurse’s aides
  - Respiratory therapists
Pre-Intervention

- During the 13 month pre-intervention period there were nine HAPIs, which represented a HAPI index of 3.4%
- A literature review was conducted to identify best practice regarding pressure injury prevention
- An audit tool was developed to assess adherence to the PIP Bundle and gaps in knowledge
- Meetings were held with key stakeholders to inform and engage them in the process
- A staff nurse was identified as a skin champion
The PIP Bundle

Included:

● A risk and skin assessment completed upon admission and every shift
● The Braden Scale was included to identify patients at risk for developing HAPIs
● Appropriate interventions were implemented to reduce risk and were documented in the electronic medical record
● WOC nurse consults for stage 3 and above pressure injuries present on admission and all HAPIs
● An audit tool was used to assess adherence to bundle and gaps in knowledge
The PIP Bundle

Pressure Injury Prevention Bundle

**Standard Interventions**

**Skin Assessment**
- 2 RN skin and pressure injury assessment on admission and transfer
  - Document in Flowsheet:
    - 1. Skin Assessment
    - 2. Skin Integrity
    - 3. Free Text Box “confirmed, with RN name”

**Prevention**
- Face Mask: Respiratory therapist/RN to apply small foam dressing on bridge of nose every 3 days or prn
- Tracheostomy: Thin silicone dressing beneath trach plate every 3 days or prn
- ET tube and ET holders: Respiratory therapist repositions ET tube twice daily and changes ET holder every 4 days or prn

**Additional Key Interventions**
- Early mobility per unit guidelines
- HOB 30 degrees or less unless contraindicated
- Request WOC nurse consult for all HAPIs

**Braden ≥ 19**

**Standard Interventions**

**Braden ≤ 18**

**Standard Interventions**

AND

**High Risk Interventions**

**Prevention Dressing**
- Sacrum: Apply for prevention. Write letter “P” on dressing and date of application. Change every 3 days or prn. Lift dressing every shift to assess skin

**Turn and Position**
- Every 2 hours
  - Clinically unstable patients:
    - Use bed to micro turn patient 10-20 degrees if feature is available on bed and monitor vital signs

**Positioning System/Offloading**
- Turn and Position System: refer to criteria for use to determine appropriate turn and position
- Positioning pillow: if patient does not meet Turn and Position System criteria but requires assistance to turn and position
- Heel protectors: leave heel protectors open if patient is wearing SCDs
- Seat cushion: when patient is out of bed to chair

**Additional Key Interventions/Documentation**
- Nutrition consult
- Add Risk for Pressure Injury or Pressure Injury CPG and document interventions
- Document in Overall Progress Summary/Progress Summary: Patient was turned and positioned every 2 hours

**High Risk Interventions**

- Prevention Dressing
- Sacrum: Apply for prevention. Write letter “P” on dressing and date of application. Change every 3 days or prn. Lift dressing every shift to assess skin

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Intervention Period

- WOC nurses, the nurse manager and assistant nurse managers:
  - Provided in-services to staff
  - Conducted daily, then weekly pressure injury prevention rounds
  - Incorporated the PIP Bundle into change of shift meetings
- The skin champion conducted chart audits and promoted use of the bundle
- Laminated copies of the PIP Bundle and turn clocks were placed in the patient’s room
Results

- Eight months post implementation, one HAPI occurred, representing an index of .48%
- The PIP Bundle resulted in a decrease from 9 HAPIs during 13 month pre-intervention period, representing a HAPI rate of 3.4% to one post-intervention, representing an index of .48%
- The reduction in HAPIs contributed to improved patient outcomes and nurse satisfaction
Post Intervention

● The PIP Bundle was implemented in all critical care, step-down and medical-surgical units

● Efforts continue to sustain the reduction in HAPIs at a larger scale

● Sustainability of the bundle is dependent on stakeholders remaining vigilant and focused on HAPI prevention
Lessons Learned

● Challenges of sustainability
  ● Maintaining consistent use of the PIP Bundle with competing priorities
  ● Training new staff

● Larger scale implementation of the bundle

● Audits identified knowledge gaps regarding documentation in the electronic medical record

● WOCNs are including the PIP Bundle in nursing orientation

● Created a multidisciplinary pressure injury prevention committee
References


Thank You