

# Implementation of Evidence-Based Practice Recommendations to Reduce Hospital-Acquired Pressure Injuries



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## PURPOSE

It is estimated that more than 2.5 million people in the United States develop a pressure injury annually (AHRQ, 2019). Hospital-acquired pressure injuries (HAPIs) result in increased costs, and length of stays due to high prevalence in the acute care hospital setting. Hospital-Acquired Pressure Injury (HAPI) is a serious problem in patient care and has deleterious implications for the patient and the healthcare system. A 285-bed acute care academic hospital in the Midwest identified a similar challenge and implemented a HAPI preventive program.

The purpose of this EBP project was to identify and implement recommendations for best practices for preventing HAPIs following the Melnyk EBP process model.

## PICOT

This evidence-based practice (EBP) project was guided by the following PICOT question:

**In hospitalized patients (P), what are best practices (I) compared to current practice for (C) preventing hospital acquired pressure injuries.**

## SYNTHESIS OF EVIDENCE

Four databases, Elsevier Clinical Key for Nursing, PubMed, CINAHL, and Cochrane, were searched. Search criteria was limited to English language publications, articles equal or less than ten years, and adults greater than 18 years. Critical analysis of studies for quality and level of evidence resulted in 15 articles were retained for final inclusion.

Five interventions were recommended based on outcomes from the literature evidence. The interventions included:

1. Prophylactic use of silicone foam dressing preoperatively to reduce sacral pressure injuries (PIs) including deep tissue injuries in cardiothoracic surgery patients;
2. Analyzing comprehensive electronic health record data to implement HAPI prevention measure to reduce PIs;
3. Communication tool and algorithm for PI prevention strategies using PI prevention tool;
4. Just-in-time (JIT) training in collaboration with Wound Care Nurses and wound champions to improve PI prevention strategies; and
5. Targeted approach to prevent PIs using nutrition supplements for stage 2 or > risk for malnutrition.

A gap analysis of current and future state was completed. Recommendations following the gap analysis consisted of the implementation of a wound care champion program (WCP).

## LEVELS OF EVIDENCE SYNTHESIS TABLE

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Level I: Systematic review or meta-analysis or multiple RCTs	X											X			X		X
Level II: Randomized controlled trial (RCT)/Experimental Research		X	X								X						
Level III: Quasi-Experimental Research or Controlled trial without randomization				X		X											
Level IV: Non-experimental/descriptive Studies/Qualitative Research/Descriptive studies					X			X									
Level V: Non-Research (textbooks, statements, expert opinions, QI/QM)							X		X	X			X	X		X	

EBPDBN: 1) Smith (2019) Level 1A, 2) Ryan et al. (2019) Level 2, 3A, 3) Smith (2019) Level 2, 3A, 4) Komer (2019) Level 3A, 5) Lohndorf (2020) Level 4B, 6) Boleyn (2019) Level 1B, 7) Brown et al. (2019) Level 1B, 8) Alkhalaf (2020) Level 4C, 9) Davis (2019) Level 5A, 10) Manning-Park (2019) Level 1C, 11) Pinnus et al. (2019) Level 2, 12) Cooper et al. (2019) Level 1A, 13) McManus et al. (2020) 5A, 14) Alwan (2019) Level 1C, 15) Taylor (2018) Level 1A, 16) Bane (2019) Level 5C, and 17) Maloney (2019) Level 1A.

## OUTCOMES SYNTHESIS TABLE

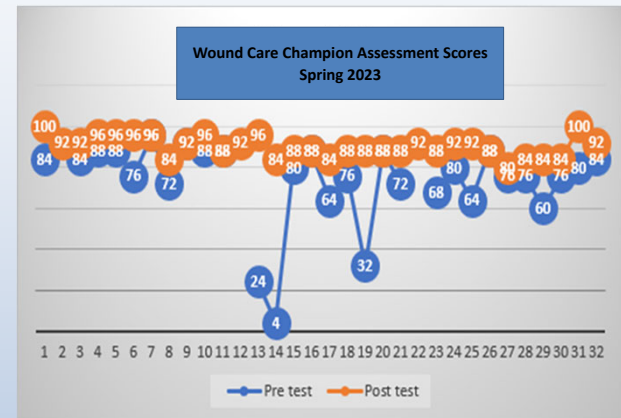
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>Outcome #1 ↓</b> Reduce sacral PIs including deep tissue injuries in cardiothoracic surgical patients <b>Intervention:</b> Prophylactically using silicone foam dressing preoperatively * nasal bridge	↓	NE	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	NE
<b>Outcome #2 ↑</b> Identifying modifiable risk factors and predictor variables for HAPI development in surgical critical care patients <b>Intervention:</b> analyzing comprehensive electronic health record data to implement HAPI prevention measures to reduce PIs.	NE	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
<b>Outcome #3 ↑</b> Pressure injury prevention in long term care <b>Intervention:</b> Communication tool and algorithm for PI prevention strategies	NE	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
<b>Outcome #4 ↑</b> Comprehensive PI prevention strategies <b>Intervention:</b> JIT training in collaboration with wound champions	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
<b>Outcome #5 ↑</b> Provide high-calorie, high-protein nutritional supplements or enteral formula for adults with a stage 2 or greater PI who are malnourished or at risk for malnutrition	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑

## PRACTICE CHANGES AND IMPLEMENTATION STRATEGIES

Based on these recommendations, education for wound care champions and JIT was implemented in April and May 2023. Additionally, a quarterly training plan including targeted educational modules for interdisciplinary staff and wound care rounds with competency validation for wound care champions was rolled out.

## EVALUATION

Evaluation of pre versus post wound care champion program assessment scores showed a median increase from 73% (pre) to 90% (post). Additionally, preliminary HAPI rates per 1000 patient days, showed a 61% reduction from the pre workgroup in Q3 2020 of 0.9 to 0.35 in Q3 2023. We plan further evaluations of HAPI rates at six- and twelve-month post intervention.



## CONCLUSIONS AND IMPLICATIONS FOR PRACTICE

Implementing recommendations from EBP to wound care champions through a comprehensive WCP, requires engaging interdisciplinary care team members including nutrition, coding, educators, clinical nurse leaders, staff nurses, etc. Using EBP to guide practice change can result in improved outcomes through decreased pressure injuries for hospitalized patients.

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