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Pressure Ulcer Prevention Protocols and Evidence-Based Interventions Reduce Pressure Ulcers at Sacrum and Heel

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INTRODUCTION

The incidence of hospital-acquired pressure ulcers (HAPUs) is significantly higher for patients who experience prolonged immobility, impaired physiologic status, and increased risks for integumentary damage.[1] Development of HAPUs are associated with increased morbidity, and increased costs associated with prolonged hospitalization and costs associated with treatment.[2] The most prevalent anatomic location for pressure-related breakdown is the sacral region, followed by the heel as the second most likely anatomic location for HAPU development.[3]

Evidence-based guidelines for HAPU prevention have been published by Accreditation Canada.[4] The primary goal of these evidence-based recommendations are to enable organizations ". . . to develop a plan to support comprehensive education on pressure ulcer prevention . . ."[4] A recent addition to accreditation requirements is HAPU prevention as a Required Organizational Practice (ROP).[4] Accreditation Canada encourages the use of a validated pressure ulcer risk assessment scale in order to identify patients at the highest risk for HAPU development. Furthermore, HAPU prevention programs should "include interventions to:[4]

- prevent skin breakdown;
- minimize pressure, shear, and friction;
- reposition;
- manage moisture;
- optimize nutrition and hydration; and
- enhance mobility and activity."

The objective of our quality improvement (QI) initiative was validation of the Accreditation Canada recommendations for HAPU prevention.

METHODS

CLINICAL SETTING: The QI initiative was implemented in the medical/surgical and geriatric rehabilitation clinical settings: two medical/surgical units (13-beds and 24-beds) and a 18-bed inpatient geriatric rehabilitation unit.

STANDARD OF CARE: Prior to the QI intervention, standard of care for patient management was to consult Occupational Therapy whether a mattress or off-loading device was indicated.

QI INTERVENTIONS: Risk-stratified interventions were developed based on patient risk according to the Braden subscale scores. The Director of Rehabilitation and Unit Managers developed protocols for risk-stratified QI interventions. The objective of the QI initiative was to ensure a standardized approach to HAPU prevention.

- Intervention for hospital-acquired sacral pressure ulcer (HAsPU) prevention was a turn and position system* designed to assist in frequent patient repositioning without excess sheer and friction.
- Intervention for hospital-acquired heel pressure ulcer (HAhPU) prevention was a heel off-loading device** designed to maintain a neutral position of the foot and leg, and reducing risk of plantar flexion contracture and external rotation.

POINT PREVALENCE SURVEYS: Prior to the QI intervention, point prevalence surveys were conducted on the two medical/surgical units and inpatient geriatric rehabilitation unit to capture baselines for comparison and assessment. Thirty-days after launching the QI intervention, point prevalence surveys were conducted to assess the impact and/or effectiveness of the risk-stratified interventions on HAPU prevalence.

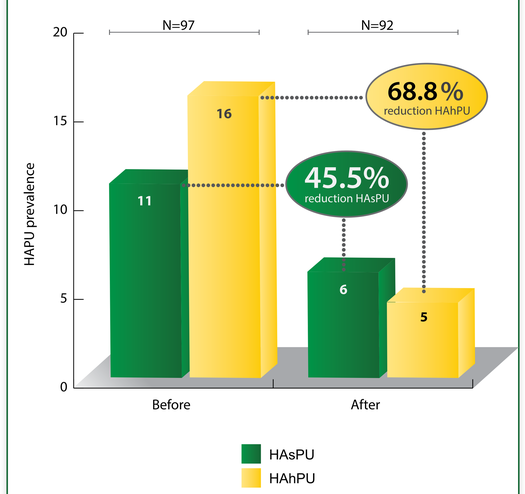
EDUCATION: Staff was educated by both the product representative and Occupational Therapy on use of the Braden subscale for risk assessment and the protocols developed for the QI intervention and risk-stratified interventions. In addition, in-service education was provided on appropriate application and utilization of turn and position and heel off-loading devices.

*Prevalon® Turn and Position System 2.0 (Sage Products, LLC; Cary, IL)
**Prevalon® Heel Protector III (Sage Products, LLC; Cary, IL)

RESULTS

Comparison of the before and after point prevalence surveys revealed a 45.5% reduction in HAsPUs and 68.8% reduction in HAhPUs (Figure 1).

Figure 1. Point Prevalence Surveys Before and After QI Intervention



CONCLUSION

The QI intervention was successful in implementing a standardized, evidence-based approach to HAPU prevention in the medical/surgical and geriatric rehabilitation patient population. The risk-stratified protocols using the validated Braden subscale for risk identification were useful for ensuring high-risk patients received interventions for HAPU prevention. Implementation of the Accreditation Canada ROP for HAPU prevention requires interprofessional collaboration to ensure validated risk assessment tools are utilized in conjunction with risk-stratified, evidence-based interventions.

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