Can Heal Protectors Prevent Pressure Ulcers in the OR?

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Introduction

Surgical patients are at an increased risk of developing pressure ulcers (PUs). Rates of pressure ulceration range from 3% in a cross-sectional study (N = 3803) to 14.2% in a prospective companion study (N = 3801). A smaller study in 50 elderly patients showed that 13% of patients undergoing elective surgery and 14.2% of patients undergoing surgery for hip fracture developed PUs. By some estimates, about one in four patients can expect to develop a PU in the hospital if they are at risk. 

Furthermore, as part of the Medicare Inpatient Value-Based Purchasing Program, the Centers for Medicare and Medicaid Services (CMS) will deny payment for any PU that is considered a patient safety indicator (PSI). PSI-01 is the PSI that applies to hospital inpatients. The CMS rules that took effect in October 2011 apply to discharges on or after October 1, 2012. The CMS rules require that hospitalizations be managed in a manner consistent with evidence-based practice guidelines for the prevention of PUs. Failure to follow these guidelines carries the possibility of financial penalties for noncompliance.

Methods

This poster presents the findings of a retrospective, controlled, single-blind study conducted at St. Vincent’s Medical Center—St. Vincent’s Hospital, in Bridgeport, CT. The hospital is a level 1 trauma center with 564 beds. There were a total of 375 patients in the study, 197 in the control group and 178 in the intervention group. The study began in December 2010 and ended in November 2011. The study was reviewed and approved by the institutional review board. Both groups were matched for age, sex, and surgical procedure. All patients were monitored from the time of admission until discharge. The patient information was collected at baseline (T1) and 2 days after surgery (T2).

RESULTS

A total of 127 patients (73 women, 54 men; mean age 63.7 years; 50.4% were white) were studied. None of the patients developed PU. There was a 3.7% median reduction in Braden scores from baseline to Day 1, and a 15.5 median reduction from baseline to Day 2.

Conclusions

The results of this single institution’s pilot study showed that the heel-protector boot prevented heel PUs both during and after extended surgical procedures. Several challenges were encountered during this study; therefore, the following recommendations are suggested for researchers who choose to replicate this study:

1. Complete and concise education and collaboration are necessary. To ensure that patients receive appropriate and sustained heel offloading, because substantial difficulties concerning compliance with the research protocol and with heel offloading were encountered by the OR nurses, Change management strategies, team meetings, and the identification of an OR nurse champion may be useful for achieving this goal.

2. The inclusion and exclusion criteria may need to be refined. The criteria for patient inclusion and exclusion may have been too restrictive, because study enrollment and completion tasks took much longer than expected.

3. The types and durations of pressure ulcers should be reviewed before the inclusion/exclusion criteria are determined.

Clinical Implications

Acquiring an intraoperative PU may result in increased pain for the patient, increased hospital stays for the patient, disfigurement, and increased costs. Choosing to use an offloading device can prevent the occurrence of PUs in surgical patients. Preventing an intraoperative PU will decrease the cost of the patient and allow the focus to be on healing rather than on the pain of a PU after surgery. In addition, the prevention of PUs will decrease the risk for repeat trips to the OR for possible skin grafts. Use of an offloading device is one example that highlights the need for perioperative nurses to prevent adverse events if possible. Prevention of PUs reduces the risk of postoperative infections and thus decreases the costs associated with hospital stays.

References


118 PUs (52%) recorded were located on the heel. Scott-Williams S, Lummus AC. Perioperative pressure ulcer assessment and prevention: efficacy study of a multi-layer pressure relieving solution. Ostomy Wound Management. 2001;14:297-301.

5 Any patient less than 18 years of age


