A Successful Long-Term Care Quality Improvement Intervention to Prevent Facility-Acquired Heel Pressure Ulcers

INTRODUCTION

Pressure ulcers (PU) are an important public health problem, with long-term healthcare facilities reporting incidence rates ranging from 11% to 23.9%. Research has demonstrated a PU can increase patient mortality by 7.23%, prolong length of stay by 3.98 days, and can add $10,845 to the cost of care per patient. The patient’s heel is the second most common anatomical area for pressure-related skin breakdown. Amlung et al. reported heel pressure ulcers (hPU) account for 30.3% of all PU. The heel’s susceptibility to PU breakdown is attributed to tissue ischemia and thrombotic occlusion of capillary vessels as a result of shear forces, sustained direct and repetitive moderate pressure, and reperfusion injury.

Loretto System noted a high incidence of hPU in 2005, with rates between 2.1% to 5%, and in 10 months a total of 87 facility-acquired hPU were documented. A quality improvement (QI) intervention was initiated to effectively prevent hPU, and modify the facility-wide hPU prevention protocol in accordance with best practices.

METHODS

The following QI intervention was instituted in January 2006:

- An in-house assessment tool was utilized to identify patients at high risk for hPU. Patients with a Braden Scale score 18 and with 1 of 7 high-risk comorbidities (diabetes; peripheral vascular disease; stroke; hemiparesis; low albumin; hip fracture; total knee replacement; and hypertension) were treated according to the protocol.

- A soft heel protector boot was adopted as standard-of-care for hPU prevention, with prevention guidance written into the hPU prevention protocol.

- A comprehensive educational program was developed and administered to enhance nursing staff knowledge of best practices for hPU prevention and facility protocols.

DISCUSSION

The successful implementation of this QI intervention resulted in a significant reduction in facility-acquired hPU. The Loretto System experience with improved hPU patient outcomes was similar to that of Walsh and Plonczynski who reported the combination of frequent heel skin assessment by nursing staff and use of a soft heel protector boot prevented hPU, as compared with a control group. Future clinical research is necessary in order to make additional definitive conclusions.

There are numerous clinical implications as a result of this successful QI intervention:

- Long-term healthcare facilities should review PU prevention protocols on a regular and ongoing basis to ensure protocols are updated according to best practices.

- Concise and comprehensive nursing education is critical to affecting change on a facility-wide basis.

- hPU can be successfully prevented by identifying at-risk patients, and ensuring they are cared for in accordance with facility-approved protocols.

- Heel offloading can be successfully accomplished with a well-designed heel protector (Figure 2).

Although this QI intervention was not designed to analyze economic outcomes, it is estimated based on costs reported in the literature that the pre-intervention facility-acquired hPUs may have cost an additional $943,515; therefore, it is hypothesized that the prevention of hPUs in the post-intervention time period resulted in an estimated savings of $921,825.

REFERENCES


