Trial of Heel Pressure Relieving Device Proves Efficacious in Long Term Care Facility: Leads to Process Improvement Across Continuum of Care

Harriett B. Loehe, PT, DPT, CVS, FCCWS, Clinical Educator, Archbold Center for Wound Management, Archbold Medical Center, Thomasville, Georgia

Background & Overview

Heel ulcers account for 30.3% of total pressure ulcers and are the second most common site for skin breakdown. Increased lengths of stay, incontinence, and higher medical costs make complex heel pressure ulcers one of the most costly health complications in the elderly. Costs to treat pressure ulcers that range from $2,000 to $30,000 and can be as high as $70,000 for a complex full-thickness pressure ulcer.1

Most heel pressure ulcers can be prevented and are often viewed as quality-of-care issues. Risk identification and assessment of comorbidities combined with an effective heel pressure ulcer prevention protocol and early, aggressive implementation of pressure-relieving devices can reduce the incidence of heel pressure ulcers.2 The results are decreased care costs and f tag fines, and improved relieving pressure on the heels.1,7,9

Purpose

In a recent study3 to compare and evaluate products for the prevention of heel pressure ulcers, a new pressure-relieving heel protector boot received significantly higher scores from clinical care nurses on the evaluation criteria:

- comfort of the patient
- no hard, sharp, or rough edges
- protects heels from pressure, friction, and shear

Archbold Medical Center is a 346-bed system that includes 5 acute care hospitals, an inpatient rehabilitation unit, a psychiatric hospital, 4 swing bed facilities, 4 nursing homes, 2 hospice groups, 2 home health agencies, and an urgent care facility. To prevent and treat heel pressure ulcers, multiple pressure-relieving devices have been used with little success. We sought to evaluate the effectiveness of this new pressure-relieving heel protector in preventing and treating heel pressure ulcers in the IMCU (Intermediate Care Unit) of our flagship hospital and in our nursing home. Our goal was to implement one device that was efficacious, durable, and could be used across the continuum of care.

Methods

All patients were assessed on admission for risk of pressure ulcers. Patients scoring 29 or below on the Braden scale were automatically placed on the intervention protocol which called for patients to be fitted with the heel pressure-relieving heel protector boot to suspend heels. Two patients of any IMCU and six from the nursing home were included in the study—the boots were treated in all cases, for a total of 16 devices.

Inclusion criteria:

- patient/resident 18 or below on the Braden scale
- inability to move legs
- hip fracture
- hip surgery
- decreased sensation or numbness in the legs

Outcome criteria:

- suspension of the heel off bed
- prevention of pressure ulcers on the Achilles, malleoli, heel, and foot
- device durability at least 2 months with constant use
- comfort of the patient

Results

Complete prevention of heel pressure ulcers

- No new pressure ulcers developed during the 10-week intervention period.

Effective healing of existing heel pressure ulcers

- One patient with multiple pressure ulcers at initiation of the trial (from friction and shear due to thrashing in bed) had complete closure of wounds.
- One patient with Stage IV heel ulcers demonstrated progress toward healing, with ultimate complete closure of wounds.

Device efficacy and durability

- The pressure-relieving heel protector device was found to be efficacious in the sitting position (important for residents in nursing homes) and in bed.
- Although the device was marketed for critical care and short term use, we liked the design and hoped to find that it would be durable enough for long term care.
- The manufacturer recommends wiping clean with a disinfectant cloth.

Conclusions

A pressure ulcer prevention protocol that incorporates cost-related risk factors and early implementation of effective pressure-relieving devices with frequent assessment of heel skin integrity is effective in reducing the incidence of heel pressure ulcers.

The positive outcomes of this study are attributable to the use of the new pressure-relieving heel protector boot, which is also featured in a positive outcome experience recently published by Walsh and Plorenzynski in the March-April JWOCN.4

The findings of this study demonstrate that the new pressure-relieving heel protector boot:

- is effective in the prevention and treatment of heel pressure ulcers
- was well-received by staff and patients
- Staff readily accepted the use of the pressure-relieving heel protector because of its ease of use, ability to fit most patients, durability and patient comfort. Patients were able to wear the boot in a sitting position.

- is now being used in all of our facilities

Based on the success of this 2-month trial, all of the Archbold Medical Center facilities have converted to using the pressure-relieving heel protector boot.

References


9. Walsh JS, Plonczynski DJ. Evaluation of a Protocol for heel pressure ulcer prevention and control in long-term care facilities. Archbold Medical Center facilities have converted to using the pressure-relieving heel protector boot.
