



Penny Wise and Pound Foolish: Controlling the Cost of Heel Pressure Ulcers

The title phrase, by Edward Topsisell (1), has become a cliché over the 400 years since it was written. This is no doubt because of the human tendency to spend little for prevention and a great amount on subsequent problems foreseen and unforeseen. The cliché fits no situation better than the medical world's current approach to the management of heel pressure ulcers.

In the United States, numerous studies indicate an overall pressure ulcer prevalence of 15% and a hospital-acquired prevalence of 7.5% (2, 3, and 4). The 2005 prevalence, excluding Stage I ulcers, was 10% (2), and the facility-acquired prevalence averaged 4.2%. Whittington et al. (3) also assessed the KCI population by site of ulcer in their incidence series and found that 28% of pressure ulcers were on the heel over a six-year period, second only to the sacrum at 31%.

Cost of Heel Pressure Ulcers

The cost of heel pressure ulcers affects acute care facilities differently depending on their business model. Stand-alone acute care hospitals, with no financially associated long-term care facilities to which they would send their hospital-acquired heel pressure ulcer patients, will bear only the acute stay hospital costs. These may include medications, dressings, nursing time, extended length of stay, and liability to discharge, but not the costs through to healing. The estimated Stage II-IV costs would be in the range of \$3000 (5).

Hospital systems and governments face a different dilemma. The significant heel pressure ulcer patient stays within the system, and costs to the system accumulate through to healing or amputation. In addition to the aforementioned costs, those of liability (6), repeat hospitalizations, and surgery, including amputations, must be included.

The medical system costs through to healing may range from \$2000 to \$70,000 (4, 7, 8, 9). The higher costs relate to severity and complications raise the average cost significantly. An estimated average heel ulcer cost of \$20,000 would be conservative (5, 8, 9).

When compared to pressure/shear/friction forces affecting the pelvis and spine, the forces affecting the heel present unique opportunities for prevention. Many commercial devices are available that eliminate pressure, shear, and friction by transferring all pressure to the calf and taking shear and friction on the low-friction back of the device. These devices cost a medical facility about \$30, often less, and use minimal nursing time.

Identify Your Facility's Heel Pressure Ulcer Costs

A simple heel ulcer (Stage II-IV) treatment cost formula for stand-alone hospitals: hospital discharges (excluding behavioral, obstetric, and pediatric services) X percent pressure ulcer acquired prevalence X percent heel ulcers X cost per ulcer. Example: 10,000 annual discharges X 4.2% (420 patients) X 28% (117 heel ulcer patients) X \$3000 or an annual cost of \$351,000.

The same hospital as part of a system including long-term care (LTC), home care, and pressure ulcer rehospitalizations would have 117 patients with an average cost of \$20,000 (7, 8, 9), or an estimated system cost of \$2,340,000 per year.

From Penny Wise to a Pound of Cure

A formula for prevention using pressure-relieving low-friction boots on high-risk patients bilaterally might be: 10,000 discharges X 15% (overall prevalence including Stage I), or 1500, X 28% heel ulcers, or 420 patients, X 2 (bilateral), or 840 boots, at \$30, or \$25,200. Thus prevention on those patients would cost one-fourteenth the amount spent by the stand-alone acute care facility, and one-ninety-third the amount spent by the hospital system.

Another formula: If one uses discharges X all pressure ulcers (such patients are high risk): 10,000 X 15% is 1500, X 2 (bilateral), or 3000 X \$30. The heel pressure ulcer prevention cost would then be \$90,000, still considerably less than the stand-alone hospital's heel ulcer treatment cost, and one-twenty-sixth the cost incurred by the hospital-LTC system above.

Wound care specialists can easily insert their own facility (hospital and/or LTC facility) numbers into this formula, and perhaps aid their administrators to avoid being "pound foolish"!

References

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