



# What the Experts Say Risk Factors, Prevalence, and Financial Impact of Heel Ulcers

“Pressure ulcers develop most frequently on bony prominences such as the sacrum, the heels, the trochanters, and the ischium because these areas have little subcutaneous tissue.”

*De Keyser G, et al., “Pressure-Reducing Effects of Heel Protectors,” Adv Wound Care. 1994 Jul;7(4):30-34.*

Of all pressure ulcers, 30.3% develop on the heel and 6.1% on the malleolus (ankle bone). These are the second and fifth most common sites.

*Amlung SR, Miller WL, Bosley LM, “The 1999 National Pressure Ulcer Prevalence Survey: A Benchmarking Approach,” Adv Skin & Wound Care. Nov/Dec 2001;14(6):297-301.*

“All patients with limited mobility may be at risk for developing heel pressure ulcers. Early intervention and proper treatment are central to managing these wounds.”

“The following patients are at greatest risk for developing heel pressure ulcers:

- patients with leg immobility as a result of hip fracture, joint-replacement surgery, spinal cord injury, Guillain Barré syndrome, and stroke.
- patients with diabetes who have peripheral neuropathy where their ability to feel pressure is altered.
- patients with leg spasms, inadequately controlled pain, and mental confusion.”

*“Preventing heel pressure ulcers in immobilized patients,” Adv Skin Wound Care. 2005 Jan/Feb;18(1):22.*

“The prevalence of heel ulcers across settings is high and is increasing...In hospitalized patients, it ranges between 10% and 18%...Heel ulcers continue to be prevalent after patients are discharged home.”

*Wong VK, Stotts NA, “Physiology and Prevention of Heel Ulcers: The State of the Science,” JWOCN. 2003 Jul;30(4):191-8.*

Of risk factors that occur in patients who develop pressure ulcers, impaired mobility is the most frequent at 87%.

*Maklebust J, Magnan MA, “Risk Factors Associated with Having a Pressure Ulcer: A Secondary Data Analysis,” Advances in Wound Care. 1994 Nov; 7(6):25, 27-8, 31-4 passim.*

“Heel ulcers result in a break in the dermal barrier with subsequent erosion of the underlying subcutaneous tissue. As severity increases, the defect extends to muscle and bone, representing one of the most costly, in terms of dollars as well as disability, complications in the elderly. This complication escalates the length of hospital stay and cost of care.”

“During the last five years, the incidence of hospital-

acquired heel ulcers has increased from 19 percent to 30 percent.”

*Kerstein MD, “Heel Ulcerations in the Diabetic Patient,” Wounds. 2002;14(6):212-16.*

“In spite of the increased availability of educational courses...the incidence of pressure ulcers on the heels has increased steadily over the past few decades.”

“In 1977, the incidence of heel pressure ulcers among hospital inpatients and all patients visited by a district nurse in the Greater Glasgow Health Board area accounted for 9.5% of all recorded pressure ulcers (Barbenel et al, 1977). By 1982 this proportion had risen to 20-30% of the patient population (Hibbs, 1982), and in 1993 heel pressure ulcers accounted for 40% of all pressure ulcers (Department of Health, 1993). In 1994, the incidence of pressure ulcers on the heel was 90% in one acute care centre (Guin et al, 1991).”

*Collier M, “Preventing and Managing Pressure Ulcers on Heels,” NT Plus. July 20 2000;96(29):7-8.*

“Although heel ulcers are less frequent than forefoot ulcers, higher expenses and higher morbidity rates are associated with heel ulcers. It has been estimated that heel ulcers are one and one-half times more expensive to treat and two to three times less likely of successful healing compared to metatarsal ulcers.”

“More than half of diabetic patients who develop a foot lesion subsequently develop a contralateral lesion within two years, and about half of those require amputation.”

“Diabetic patients with foot ulcers have a higher rate of surgical intervention (97% vs. 85%) and amputation (71% vs. 63%) than non-diabetic patients with heel ulcers.” They also have a higher mortality rate.

*Jacobs TS, Kerstein MD, “Is There a Difference in Outcome of Heel Ulcers in Diabetic and Non-Diabetic Patients?” Wounds. 2000;12(4):96-101.*

“Approximately 1 million people in the United States are affected by pressure ulcers, costing close to \$1.6 billion annually. The estimated cost per hospital stay associated with each pressure ulcer increases with the stage of the pressure ulcer. This ranges from \$2,000 to \$30,000 for stage 1, 2, or 3 ulcers to \$70,000 for a complex full-thickness stage 4 ulcer.”

*Young ZF, Evans A, Davis J, “Nosocomial Pressure Ulcer Prevention: A Successful Project,” J Nursing Administration (JONA). 2003 Jul/Aug;33(7/8):380-83.*

“Pressure ulcers (PrUs) remain a critical health care issue, with patients hospitalized in the acute care setting receiving treatment for approximately 2.5 million PrUs each year. The annual cost of treating nosocomial PrUs is estimated at \$2.2 to \$3.6 billion.”

*Whittington KT, Briones R, “National Prevalence and Incidence Study: 6-Year Sequential Acute Care Data,” Adv Skin Wound Care. 2004 Nov/Dec;17(9):490-4.*