

# Decreasing Heel Pressure Injuries in the Intensive Care Unit

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## Significance for Practice

Heels are extremely vulnerable and frequently the site of pressure injuries.

- Estimated incidence and prevalence rates remain high (least 17% and 11% respectively).<sup>1</sup>
- In supine position the heels absorb the weight of the leg increasing the risk of pressure injury.<sup>2</sup>
- Intensive Care Unit (ICU) patients are particularly vulnerable to heel injury from pressure due to physiologic status and use of vasopressors which restrict blood flow to the peripheral limbs.
- General practice is to off-load heels with pillows.<sup>3</sup>

## Materials & Methods

The 2022 Action Research Study was conducted to determine the efficacy of specific pressure injury prevention measures for heels on ICU patients.

- The following measures were applied in an effort to decrease pressure injury prevalence:
  - Ishikawa/fish-bone assessment & literature review
  - Evidence-based practice (EBP) per Wound, Ostomy, Continence Nurses Society guidelines<sup>4</sup>
- Specific interventions involved:
  - Staff education
  - Product access
  - Protocol development
  - Electronic medical record prompts
  - Application of heel foam border
  - Heel off-loading



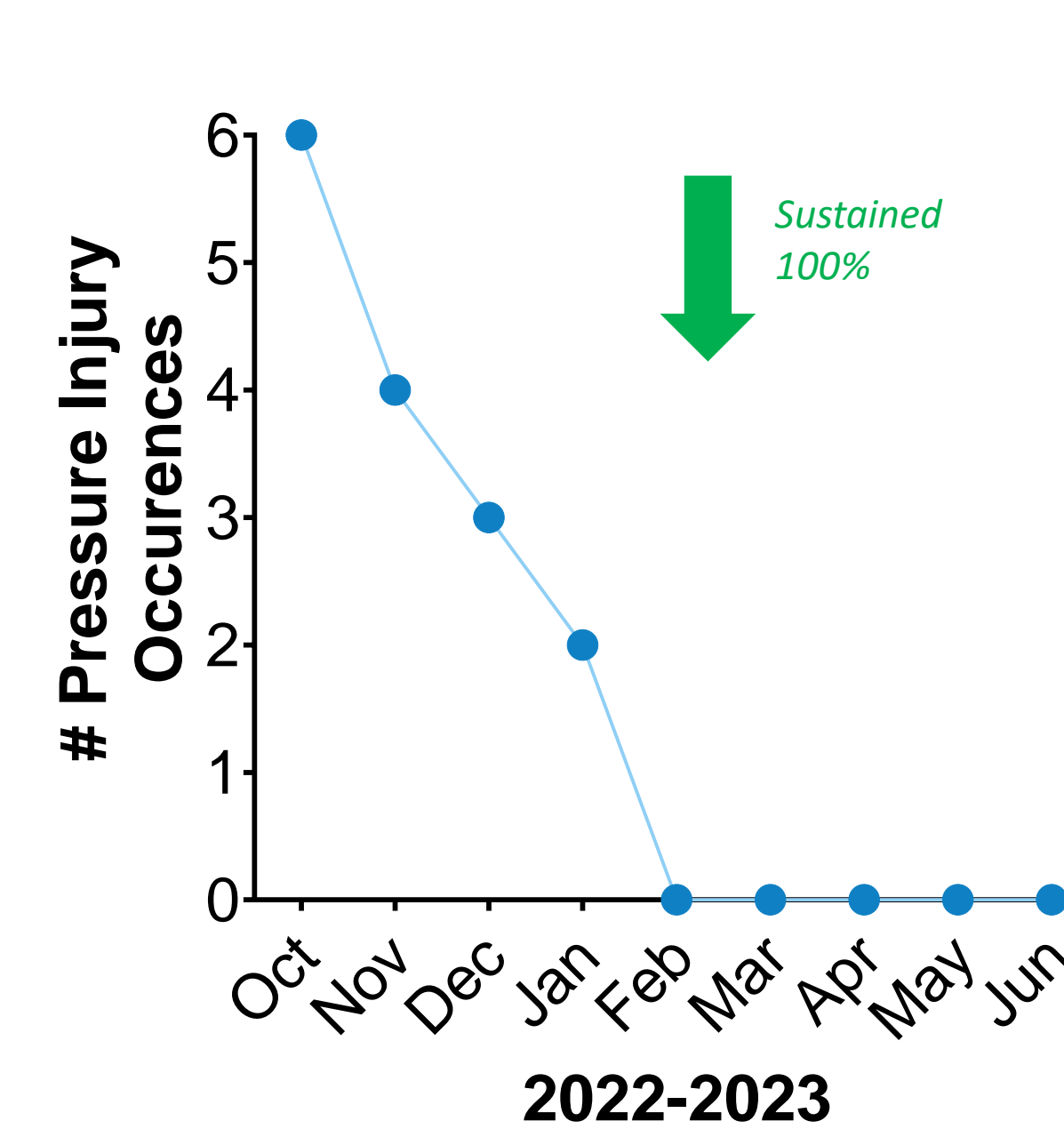
Heel Decision Tree PDF

## Study Results

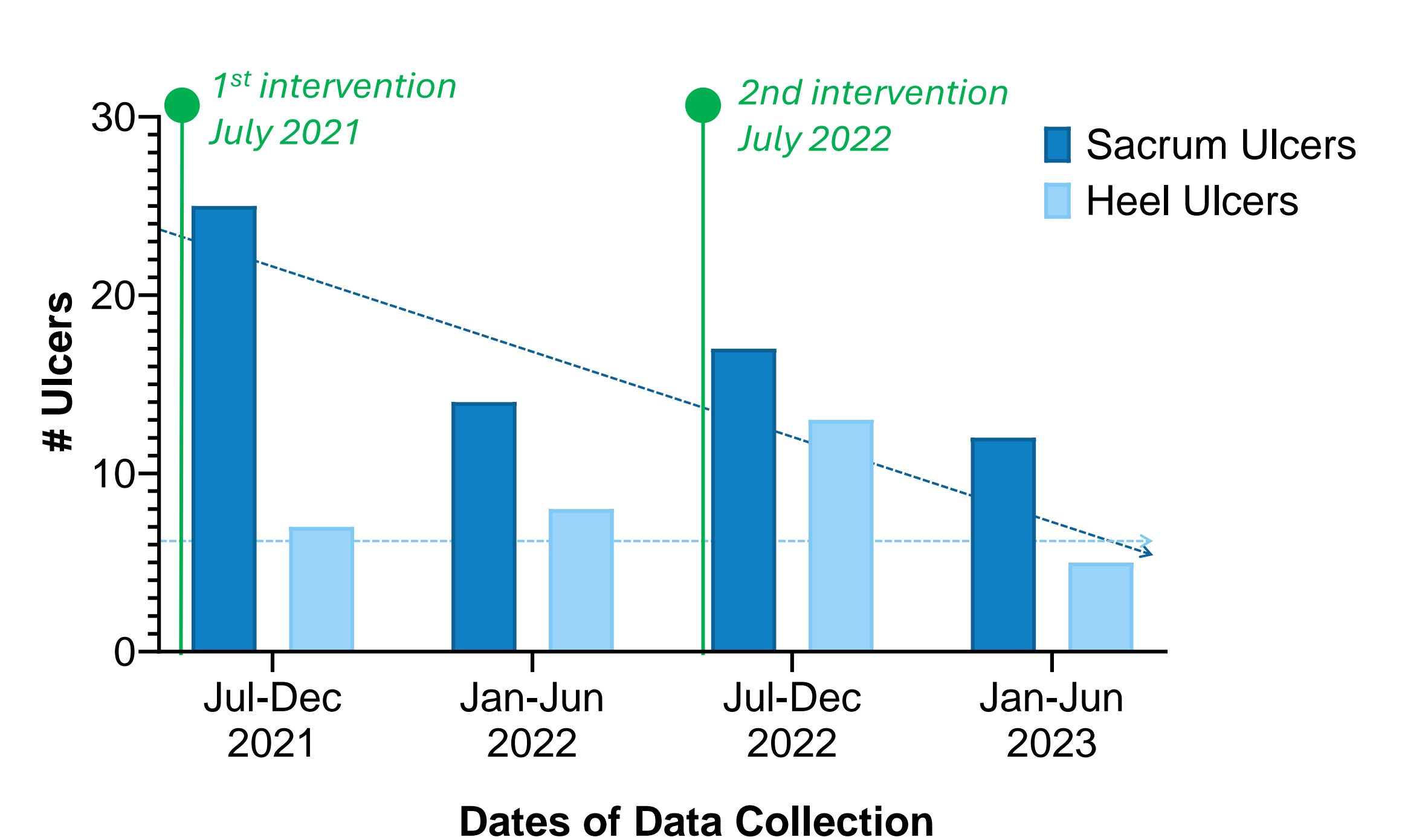
Through product access, staff education, and protocol implementation this intervention resulted in a **significant decrease in heel pressure injuries**.

- The number of monthly heel pressure injuries decreased from 8 to 0 during the study interval (October 2022–February 2023).
- Concomitant use of the bordered foam dressing and heel off-loading improved compliance from 14.2% (September 2022) to 84% (January 2023).

## CMHC Heel Pressure Injuries Over Time



## Sacrum vs Heel Pressure Ulcer Performance for FY 22/23



## Conclusion

This intervention resulted in a **100% decrease in heel pressure injuries** with the introduction and use of a heel dressing, staff education, and implementation of a decision tree to bring awareness to at risk populations.

**References:** 1. Dube, et al., Risk factors associated with heel pressure ulcer development in adult population: A systematic literature review, *Journal of Tissue Viability*, Volume 31, Issue 1, 2022, Pages 84-103, ISSN 0965-206X; 2. Greenwood, C. Heel pressure ulcers: understanding why they develop and how to prevent them. *Nursing Standard*; 3. European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers/injuries: Quick Reference Guide. Emily Haesler, ed. *EPUAP/NPIAP/PPPIA*; 2019; 4. Wound, Ostomy and Continence Nurses Society-Wound Guidelines Task Force. WOCN 2016 Guideline for Prevention and Management of Pressure Injuries (Ulcers): An Executive Summary. *J Wound Ostomy Continence Nurse*. 2017;44(3):241-246.