

## A COMPARISON BETWEEN THE USE OF INTRAVENOUS BAGS AND THE HEELIFT SUSPENSION BOOT TO PREVENT PRESSURE ULCERS

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*Problem:* The heel is the second most common area where patients develop pressure ulcers. Some of the interventions that are commonly used today to prevent pressure ulcers have not been empirically tested, such as intravenous (i.v.) bags. Other interventions, such as the Heelift Suspension Boot have been studied and shown to prevent heel pressure ulcers. There are no specific studies comparing the Heelift Suspension Boot and the use of i.v. bags.

*Purpose:* The use of i.v. bags and the Heelift Suspension Boots was compared in this quasi-experimental study. The objective of this study was to investigate if one of the interventions provided better heel pressure relief than the other.

*Methods:* The conceptual framework stated that the increased use of i. v. bags would increase heel/Achilles pressure signs and symptoms and/or pressure ulcers, while the increased use of the Heelift Suspension Boot would decrease heel/Achilles pressure signs and symptoms and/or development of pressure ulcers. The target population consisted of a convenience sample of 30 patients admitted to the hospital for hip or knee surgery. Subjects were randomized to i. v. bags or Heelift Suspension Boots. Daily assessment of heels and Achilles area were completed to assess pressure problems using validated pressure scales. Data was also collected on staff satisfaction with the Heelift Boots.

*Results:* Data was analyzed using the SPSS statistical program and included descriptive statistics, Pearson's correlations, and Chi-Square Tests to assess differences between the groups. A  $\chi^2$  Test of Independence was calculated to determine whether signs and symptoms of pressure were associated with the intervention. No patients with the boot showed signs or symptoms of pressure, while six patients with the i.v. bag intervention did. A significant difference was determined,  $\chi^2(1, N=30) = 7.50, p = .006$ .

Pearson's r indicated significant correlations between design and ease, ( $r = .569, p = .043$ ), design and texture ( $r = .786, p = .001$ ), and design and prevention ( $r = .788, p = .001$ ) for staff's satisfaction statistics.

*Conclusion:* The results demonstrated a significant difference between the Heelift Suspension Boot and the i.v. bag as heel pressure relief methods. Based on the statistical results of this study, the Heelift suspension boot was statistically and clinically the best intervention for patients with decreased mobility when compared to the i. v. bags. The nursing staff was satisfied with the design and ease, design and texture, ability of the boot to prevent pressure ulcers.

*Implications:* Based on the results of this study, practice needs to change. The use of the i.v. bags should be eliminated and the Heelift Suspension Boots should be used on patients who have hip or knee surgery.

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