

# How Real-Time Pressure Mapping Decreased Morbidity and Costs Associated with HAPIs in the Burn Center

### **STUDY SUMMARY**

Johns Hopkins Bayview Medical Center (JHBMC) is a renowned teaching hospital located in Baltimore and home to the Johns Hopkins Burn Center, Maryland's only adult burn center verified by the American Burn Association. In the fall of 2019, JHBMC's leaders sought a full-body, continuous pressure mapping device to improve the hospital-acquired pressure injury (HAPI) prevention efforts in their burn intensive care unit (BICU), where **HAPIs persisted at a rate of ~15% among their patients** despite the use of standard clinical prevention methods.

## PURPOSE

- To understand the utility of real-time, full-body pressure monitoring in preventing HAPIs in the BICU patient population.
- To use pressure monitoring data to better understand the development of pressure injuries in this vulnerable patient population.

### METHOD

- All adults 18 years or older who were admitted to the BICU for burn injuries between May 2019 and May 2020 were considered for study inclusion
- 2 Of 122 patients, 57 (47%) were studied prior to implementation of pressure mapping and 65 (53%) were studied after implementation

How HAPIs Affect BICU Patients







## PROBLEM

# Burn Injuries Increase Vulnerability to HAPIs

Burn patients with substantial partial- or full-thickness burns often present BICU nurses with complex clinical challenges due to coexisting conditions and a number of risk factors for HAPIs. In addition, common burn injury treatments increase the rate of HAPIs—these hospital-acquired complications impact longitudinal health outcomes and contribute to greater costs of care among BICU patients.

### APPROACH

# Improving Outcomes with the Wellsense V $\bar{\rm U}$ System

The Johns Hopkins Bayview BICU opted to implement Wellsense VŪ. The system's real-time pressure monitoring capabilities complete with a **full-body pressure sensing overlay and a modern, bed-side monitor** displaying a color-coded pressure map—proved uniquely helpful with their high-risk burn patients.

BICU nurses used the pressure map data to pinpoint specific focal areas for targeted pressure redistribution when completing routine clinical repositioning protocols and to determine whether the clinical position change was effective. They were also instructed to reposition or offload the patient to minimize pressure readings in high-risk zones (bony prominences, areas with substantial soft tissue loss, etc.) as much as possible without compromising areas of burn injury.



### RESULTS

BICU Patients Benefit from Real-time Pressure Mapping



The rate of **HAPIs decreased 55%** from 18% to 8%



The mean cost of HAPIrelated care **fell 43%** 

#### CONCLUSION

Wellsense VŪ Provides a Path Forward

In burn patients, devices that allow for full-body, real-time pressure monitoring enable effective HAPI prevention by pinpointing high-pressure areas, guiding repositioning efforts for maximum effort, and preventing further damage to areas compromised by burn injury. Wellsense VŪ significantly reduces the risk of long-term health complications, morbidity, and associated costs in burn patients, making a difference where traditional prevention methods fall short.

Compared to other pressure mapping systems, Wellsense V $\overline{U}$  was the most widely used and studied device at the time of this study.<sup>1</sup> A full-body system that provides real-time, continuous data, V $\overline{U}$  empowers nurses with the insights they need to reduce HAPIs amongst high-risk patients.

Learn how the Wellsense VŪ System can optimize HAPI prevention at wellsensevu.com

1. Yesantharao, Pooja S. Using Pressure Mapping to Optimize Hospital-Acquired Pressure Injury Prevention Strategies in the Burn Intensive Care Unit. 2021. Oxford University Press and American Burn Association.