

Elevating ICU Care: A Cutting- Edge Lift-Compatible Safe Patient Handling and Mobility Support Surface Device

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BACKGROUND

Immobility is a prevalent, high-risk occurrence in intensive care units (ICUs). Among other negative consequences, **immobility is an independent risk for pressure injury and other hospital-acquired conditions**. Sustaining consistent best practices and safe patient handling is more challenging than ever in the post-COVID healthcare environment. In this resource-strained environment, **cross-functional solutions to enhance ICU patient mobility options** offer promise.

PROBLEM

Early mobilization is an area of concern, especially in ICUs, as immobility has negative consequences following sickness or trauma. They can include weakness, pressure injuries, and worsening of the patient's mental and cognitive status, often termed "post-intensive care syndrome"¹. In the United States alone, pressure injury prevalence amongst critically ill patients in intensive care units ranges from 12% to 45.5%².

METHODS

An 8-site step-wedge, prospective, observational study was completed over three months in six ICUs in acute care facilities in the US. To ensure consistency across multiple sites, a standard data collection form was designed, automated in Qualtrics XM (Provo, UT, USA, 2022), and made available to participants via 3 access modes. Modes of access to the data collection form included hard copy, URL link, or QR code. The former two methods allowed access to both computers and mobile devices.

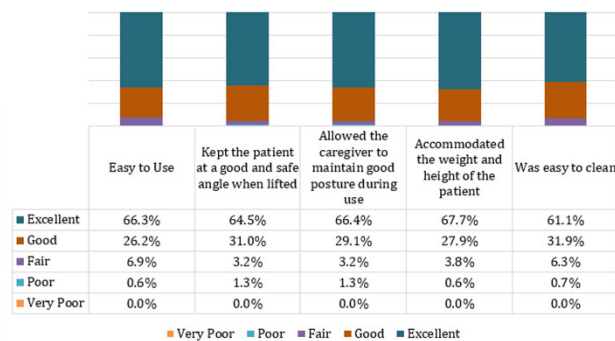
The study aimed to evaluate caregiver exertion, patient- and caregiver-protective capabilities, workflow integration, and financial benefits of a new lift-compatible safe patient handling and mobility support surface (LC-SPHM-SS) during patient handling tasks.

RESULTS

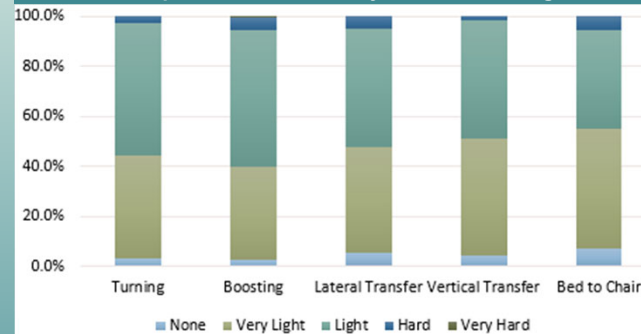
Clinician surveys report ease of use, maintenance, and accommodation of patient sizes



Safe Patient Handling and Mobility Benefits



Clinician Reported Effort Level by Patient Handling Tasks



Clinician surveys report positive impact on workflow



Cost offset



Products replaced by the LC-SPHM-SS

Product	Count	Percentage
Repositioning sling	106	26.04%
Positioning wedge	77	18.92%
Transfer sling	70	17.2%
Glide sheet	52	12.78%
Chair cushion	49	12.04%
Support surface overlay	19	4.67%
Specialty support surface	18	4.42%
Seated positioning system	16	3.93%
Total	407	

INTERVENTIONS

Participants were trained by the product manufacturer's clinical and sales representatives prior to commencing the study. Product training focused on indications for use, the unique features and benefits of the system, and requirements for safe use. No product maintenance, supplementary components, or additional training was required. The LC-SPHM-SS had imprinted infographics, including a QR code linked to training videos, available to study participants. In-service videos and clinical decision support tools were also available on-demand to reinforce the training as needed.

CONCLUSIONS

- **The new LC-SPHM-SS:**
 - The benefits of the device allowed for easier mobilization of the ICU patient and maintained the patient's position.
 - 100% of the patients did **NOT** develop sacral or ischial pressure injuries while on the LC-SPHM-SS
 - Clinicians stated that turning, boosting, lateral and vertical transfers required light effort.
 - Seven products were replaced by the device.
 - **Most importantly**, this study positively impacted patients' well-being and comfort levels.
 - LC-SPHM-SS can significantly improve patient and caregiver outcomes while providing cost savings to the facility, as demonstrated by this study

REFERENCES

1. Harrold ME, Salisbury LG, Webb SA, Allison GT, Australia and Scotland ICU Physiotherapy Collaboration. ("ORCID") Early mobilization in intensive care units in Australia and Scotland: a prospective, observational cohort study examining mobilization practices and barriers. ("Early mobilization in intensive care units in Australia and ... - PubMed") Crit Care. 2015;19(1):336. doi: 10.1186/s13054-015-1033-3
2. National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and Treatment of Pressure Ulcers. Clinical Practice Guideline. Emily Haesler (Ed.) EPUAP/NPIAP/PPPIA. 2019.