



Improving Safety and Reducing Costs: LiftSeat Cost Avoidance in Fall Prevention and Safe Patient Handling

 **LiftSeat**[®]

Sit-to-Stand Powered Toileting Technology

Executive Summary

Falls and caregiver injuries are persistent, high-cost problems in healthcare settings. Facilities today are looking for solutions that not only mitigate these risks but also enhance patient independence and operational efficiency. The LiftSeat Sit-to-Stand Toileting Technology offers measurable cost avoidance by addressing the

toileting process—a critical, yet often overlooked area of vulnerability for both patients and staff. This white paper presents clinical, financial, and design-informed justifications for adopting LiftSeat® into hospitals, long-term care, and home health environments.

The Ongoing Burden of Falls and Manual Transfers

Hospital falls remain a top safety concern, with over 700,000 inpatient falls annually in the U.S., about 30% to 50% of which are related to toileting. (Bernet, et al, 2022) Further, serial falls in the bathroom can become serial events (Zou, 2023). For older adults (65+), fall-related deaths increased over 70% between 2003-2023, with more than 40,000 fatalities recorded in 2023. A recent meta-review (2014-2024) reported an average 5.9 day increase in length of stay per fall, which is increased from 1.0 day prior to 2013 (Hasan, et al, 2025). Costs of fall-related injuries are projected to rise from approximately \$35 billion costs in 2012 to over \$101 billion by 2030 (Hall, 2025). A

large JAMA Health Forum economic evaluation studying over 900,000 patients indicated that the mean cost per inpatient fall was \$62,521, of which approximately \$35,365 was direct cost and the remainder indirect (Dykes, et al, 2023). Meanwhile, toileting-related injuries among nursing staff contribute to one of the highest occupational injury rates in healthcare (Nelson, 2020).

The Centers for Medicare & Medicaid Services (CMS) and private insurers have stopped reimbursing hospitals for many of these “Never Events,” leaving healthcare organizations financially accountable for preventable injuries.

The Role of Environment and Design

Toileting environments are especially challenging due to their constrained layout, limited equipment, and the physical demands placed on both patients and staff. Recent work by O’Neill et al. (2024) underscores how poorly designed toileting spaces contribute directly to fall risk and caregiver strain. Their study, using human-centered design methods, found that traditional bathroom layouts often fail to accommodate the functional limitations of patients or the ergonomic needs of clinicians, leading to preventable adverse events.



The LiftSeat® system answers these shortcomings by integrating a design that reduces strain and supports natural, assisted movement. By focusing on usability and contextual fit—core tenets of human-centered design—it helps mitigate risk and supports workflows that are both safer and more efficient. Providers agree. Reed Harris explains, “I have worked with two key people at LiftSeat®. In both cases, I found everyone’s primary interest was in listening to my needs and providing the right solution - which they have flawlessly accomplished.” This attention to clinical needs is key to addressing environmental and ergonomic design considerations.

Empowering Independence Through Sit-to-Stand Toileting Technology

Functional toileting is closely tied to autonomy, privacy, and dignity. De-Rosende-Celeiro et al. (2019) found that assistive bathroom products significantly increase independence in self-care and reduce caregiver workload. The LiftSeat® system builds upon these findings by offering powered sit-to-stand support that patients can use independently or with minimal assistance.

Its compact design enables installation in even the most spatially constrained environments, including ICU rooms and home settings. For patients with stroke, Parkinson's, or frailty-related muscle loss, LiftSeat® supports consistent and confident transfers—day or night.



Addressing Special Patient Populations

The LiftSeat® is able to meet the needs of all client groups and provides an excellent return on investment within any safe patient handling and falls prevention program. Staff can use the LiftSeat® in the smallest of bathrooms or at the patient's bedside including areas such as ICU where the challenge of transferring a patient from bed to chair along with the associated equipment places the caregiver at high risk for injury.

Building on the success of the standard LiftSeat® system, the LiftSeat® 750 is purpose-built to

meet the needs of patients who require higher-capacity support. With a 750-lb weight rating, this model extends LiftSeat® benefits to bariatric populations and high-acuity units where standard equipment may not suffice. The LiftSeat® 750 features a reinforced frame and dual-motor lift mechanism that delivers smooth, reliable transfers even under demanding conditions. It maintains ergonomic alignment and safe motion for both patients and caregivers—helping reduce manual handling and the risk of musculoskeletal injuries.

Clinical and Financial Cost Avoidance

The average cost of a fall exceeds \$62,000 (Dykes, et al, 2023), while a staff musculoskeletal injury costs between \$16,000 and \$90,000 depending on severity and staff turnover (Nelson et al., 2020).

Facilities using LiftSeat® report:

- A 45% reduction in toileting-related falls in target units
- Fewer reported staff injuries from toilet transfers

- Improved patient satisfaction and engagement
- Decreased call light usage related to toileting assistance

These outcomes align with both financial objectives and safety goals—especially in units with high fall risk (e.g., neurology, geriatrics, oncology).

Alignment with Regulatory and Accreditation Goals

When integrated into safe patient handling and falls prevention programs, LiftSeat® provides defensible cost avoidance, risk reduction, and a boost in patient-centered care quality metrics.

LiftSeat® use supports fall reduction benchmarks from:

- The Joint Commission
- Magnet® designation requirements
- OSHA Safe Patient Handling guidelines

Future-Ready, Design-Driven Safety Strategy

With patient acuity rising and staff shortages continuing, future-forward safety strategies must blend clinical insight with human-centered design. As O'Neill et al. (2024) demonstrate, reducing toileting risk requires not only new

tools but also design-informed workflows and environmental adaptations. LiftSeat® achieves both—meeting ergonomic needs while preserving independence and dignity.



LiftSeat®

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