



Identifying a Return on Investment (ROI) by Introducing the LiftSeat® Toilet Transfer Solution into a Falls Prevention and/or Safe Patient Handling Program

As hospitals, long term care homes, and home health agencies struggle to meet the ever-increasing demands of modern health care, the importance of maximizing any return on investment, both financially and in terms of patient outcomes, becomes all the more important. New initiatives need to not only meet the mission, vision, and values of the organization but also their short and long term goals, the requirements of accreditation bodies such as Joint Commission and OSHA, and the constantly changing requirements of Medicare, Medicaid, and private insurance company reimbursement. Above all, patient and staff safety must remain at the forefront of all change.

Falls are one of the most challenging and expensive events for any healthcare facility and account for 70% of inpatient related incidents.¹ Up to 50% of hospitalized patients are at risk of falls with almost half of those that do fall suffering an injury. This can lead to a 61% increase in the organization's costs for the care of that individual including a length of stay averaging an extra 12.3 days.² In fact, the \$1.08 billion annual cost of patient falls in the acute care sector is dwarfed only by the \$4.9 billion reported in long term care with 20% of the residents in that area falling.³ Of those fallers sustaining hip fractures, nearly 50% never regain previous levels of functioning, and 24% die within 12 months.⁴ The indirect costs associated with the psychological impact of having fallen are significant and can result in a loss of confidence, a reduction in mobility, and a subsequent increased risk of further incidents.⁵

Since 2010, Joint Commission has made the prevention of falls a standard of care, requiring healthcare facilities to assess the risk for, manage, and provide interventions to reduce patient falls. Participation in benchmarking falls as a quality marker, such as that required through the National Database of Nursing Quality Indicators (NDNQI) for Magnet-designated healthcare facilities, has served to drive changes in the management and prevention of inpatient falls.⁶ However, the motivation for the reduction of falls has taken on a more covertly financial focus since the Center for Medicaid and Medicare Services (CMS) decided in October 2008 to withdraw reimbursement for selected secondary diagnosis that have been acquired during hospitalization. These so-called "Never Events," include a fracture that occurred following a fall.⁷ Some leading private health insurance companies, such as Aetna, have adopted similar approaches to withholding reimbursement.

While the causes of falls are well documented with muscle weakness, impaired gait, and lower limb weakness being some of the most common,^{1,8} the need for assisted toileting is also a determining risk factor.⁸ While many falls occur in patients' rooms, numerous studies demonstrate activities associated with toileting are a major cause of falls and injuries, ranging from 33%-45.2% of all falls in medical-surgical units^{9,10} to between 37% and 50% of falls throughout in-patient care.^{1,11-15}

As far back as 1985, Morgan et al found that of the 250 patient-related falls that occurred in their facility, 72 occurred in the private bathroom attached to the patient's room, with two thirds of them near the toilet.¹³ A further

study of 106 falls in a hospital environment found that 46 were toilet-related, 12 of which were caused by either standing up, sitting down, or using the toilet. Thirty-one of the 46 occurred at night, a time when staffing levels tend to be at their lowest while the demand for toileting assistance remains high, with patients who fall in the bathroom being more likely to suffer an injury than those who fall in their room.¹ In fact, it was determined in a major cancer center that 67% of the falls occurring between the hours of 8 PM and 8 AM were related to toileting, by patients either ambulating to and from the bathroom or transferring to the bedside commode, with the neurology and orthopedic units recording the highest number.¹⁶ The increased risk of elimination-related falls at night has been well researched, including findings by Tzeng that the greatest time of risk for falls occurred between the hours of 11 PM and 3 AM.¹⁰

While Figure 1 shows the average direct costs to a healthcare facility of a patient or resident fall, the patient is not the only person that can be injured during toileting-related activities. The last few years have seen an increasing trend within health care in the United States to implement safer ways of moving and handling patients. These

| Figure 1: Average Healthcare-Related Costs of a Patient Fall |
|----------------------------------------------------------------------------------------------------------|
| \$19,440 (includes ER, nursing home, hospital, and home health care but not the physician) ¹⁷ |
| \$17,483 hospital cost only ¹⁸ |
| \$30,750 (12.3 days of hospitalization) ^{2,19} |
| \$35,000 average cost of hip replacement surgery ²⁰ |
| Cost of the LiftSeat - \$3,600-\$5,900 |

| Figure 2: Direct Costs Related to a Staff Patient Handling Injury |
|----------------------------------------------------------------------------------------|
| \$11,055 average patient handling injury for medical and indemnity costs ²¹ |
| \$16,090 average claim cost for Registered Nurse injuries ²¹ |
| \$9,062 nursing aid injuries ²¹ |
| \$92,442 training and hiring costs for replacing a Registered Nurse ²² |
| Cost of the LiftSeat - \$3,600-\$5,900 |

strategies include the identification and use of lifting and transferring equipment for patients at risk for falls (in order that caregivers are not put in a situation where they need to catch a falling patient) or in need of assistance with daily living activities, such as toilet or bedside transfers. Although published literature provides little documentation as to the number of nursing injuries related to toilet transfer assistance, the majority of healthcare facilities can cite numerous recorded incidents of such clinical staff injuries through their injury reporting systems. In addition, the fact exists that many injuries go unreported, often perceived as “just part of the job.” When the potential medical costs to an injured caregiver are considered, including those associated with treatment of an injury, lost time from work, potential light duty, and subsequent staff replacement costs,

an injury could cost upwards of \$16,000 just for the medical costs alone (Figure 2). In some instances, the cost of the injury could be career ending, resulting in high staff replacement costs for the employer.

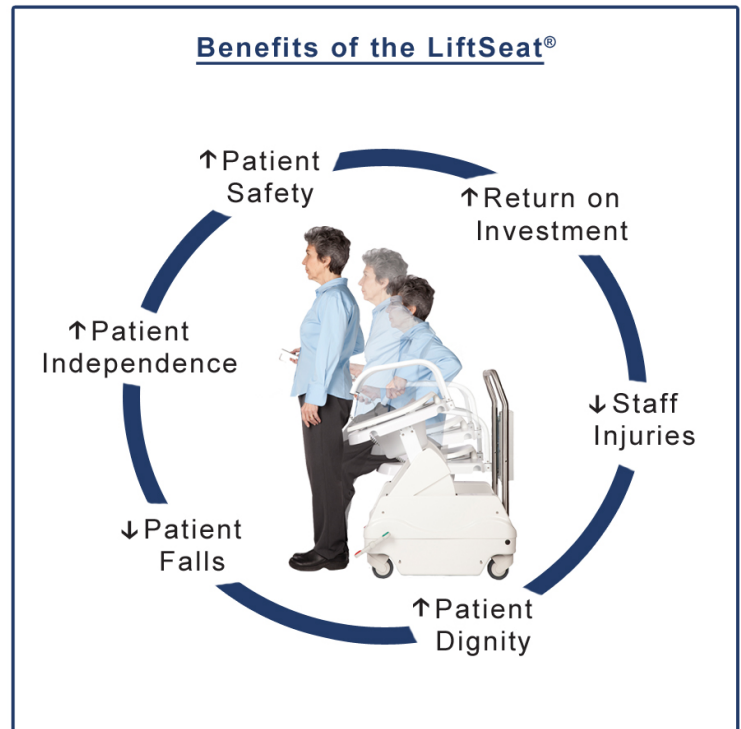
Many factors affect the patient’s ability to transfer on and off a toilet in a bathroom or commode at the bedside, including the patient’s physical and cognitive ability. However, it is the environmental challenges that can create the most risk for caregivers. As the smallest room, bathrooms provide little workspace for healthcare staff. This lack of space, combined with the use of low toilets in most clinical areas, places caregivers in ergonomically compromising positions that often require twisting and lifting at the same time. Often the bathroom’s floor plan and the door’s threshold will prevent or inhibit the use of patient handling equipment even when it is available, making manual toilet transfer a necessity.

While most bathrooms have handrails attached to the wall, few have them available on both sides of the toilet. This can present problems for patients who are unable to pull themselves up due to the muscle weakness that causes them difficulty in standing from a low position and could cause them to fall back or even to the floor.²³ This situation also applies to patients who have suffered a stroke and have a weakness on the side where the handrail is fitted to the wall. Along with the associated need for privacy, elimination activities frequently result in patients trying

to get up from the toilet themselves and falling. Unfortunately, when a fall does occur in the small space of the bathroom, with the patient often on the floor behind the door, clinical staff have great difficulty in transferring the patient to a bed or wheelchair, increasing their risk of a back or other musculoskeletal injury in the process.

With falls having a financial impact to the healthcare facility for both staff and patients, adopting a solution that addresses the safety of both of these groups while maintaining a level of quality and dignity for the patient is both cost effective and outcomes focused. One of the interventions that has been implemented by many facilities to help reduce the risk of falls related to toileting activities is regular rounding by clinical staff.²⁴ However, this solution still leaves staff exposed to the risks associated with assisting patients on and off the toilet whether in the bathroom or at the bedside. The LiftSeat toilet transfer system provides an excellent solution to many of the issues highlighted in this paper (Figure 3) including the promotion of patient independence, the reduced level of staff at night, and an acknowledgement of the need for patient privacy and dignity. Furthermore, the system helps remove risks associated with staff manually lifting patients to a standing position while assisting them with their hygiene needs and is ideal for the patient who has some ability to assist with their transfer.

Figure 3: Benefits of the LiftSeat



Available in a 400 lb and 650 lb capacity, 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 (Figures 1 and 2). 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. The LiftSeat is also less expensive than many alternative solutions.

A healthcare facility's business case should consider the purchase of a toilet transfer solution from the perspective of its benefits to the falls program, significance in a safe patient handling program, impact on injury prevention and clinical outcomes, and, ultimately, financial cost to the facility. A strong business case should include an assessment of associated risks to the patient and staff when getting on and off the toilet or assisting with such, the number of falls in the facility attributed to toileting activities, and an economic analysis of the direct and indirect costs of patient and staff injuries.

The principles underpinning the provision of an environment that is safe to both patients and staff while maintaining a high quality of dignified care remains the driving force behind today's healthcare initiatives, including safe patient handling and falls prevention. Purchasing equipment that supports the success of these initiatives, such as the LiftSeat toilet transfer solution, can provide a return on investment related to staff and patient injuries and enables healthcare facilities to direct their financial resources where most needed.

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