

Reducing the Risk of Injury from Bed Falls with FloorBed®

A prospective cohort evaluation in a nursing facility

Introduction.

Falls are the leading cause of fatal and non-fatal injuries in the older USA population^{1,2} with personal and economic costs predicted to rise to \$100 billion by 2030.^{1,3} Countries with an ageing population are likely to witness similar trends.

One environmental risk factor is the bed. When raised beyond 24" from the ground, the risk of a serious fall-related head injury increases by 50%.⁴ A possible mitigation is to deploy a bed capable of lowering to the floor.

Objective & Methodology

To evaluate the effect of adding a floor level bed to a package of measures intended to reduce the number and severity of falls occurring within residents' bedrooms and, in particular, falls from the bed. Twelve residents, known to have a recent history of falls and/or considered at high risk, were allocated a **FloorBed®**. The bed was positioned at its lowest height when in use (2.7"), the handset 'locked' to prevent accidental height adjustment and protective floor mats were retained if previously allocated. Using a pre-post intervention design, fall outcomes were monitored prospectively (mean 11 weeks, range 4-17 weeks) and data compared to a three-month pre-evaluation period.

Results

	Baseline	Post FloorBed	Trend
Residents who fell	9 (of 12)	5 (of 12)	↓ 44%
Falls in bedroom space (exc. Bath)	15	3	↓ 80%
Falls in bathroom	3	2	↓ 33%
Notable Injury and/or required diagnostic/medical intervention	2	0	↓ 100%
Falls from the bed	7	0	↓ 100%

The number and frequency of resident falls almost halved and no serious injuries occurred.

Falls within the bedroom were reduced by 80% and all falls from the bed were eliminated.

Summary

While falls reduction is a credible aspiration, it is not possible to completely eradicate the risk and to attempt to do so may limit a resident's independence and quality of life. Falls management will always be a compromise but the strategic use of equipment, such as the **FloorBed®**, may be a clinically efficient and cost-effective intervention; the possible benefits of such a device have been illustrated in this pilot evaluation.



Evaluation Facility

The evaluation site is a non-profit Senior Living Community in Illinois, which includes short-term rehabilitation, assisted living, memory care and residential healthcare options. Senior staff chose to evaluate the **FloorBed®** as it offered floor level height and additional safety features the team felt were essential: handset 'lock' and auto safety stop.

References

- 1: Houry D, Florence C, Baldwin G et al. The CDC Injury Center's response to the growing public health problem of falls among older adults. Am J Lifestyle Med. 2016; 10(1): Am J Lifestyle Med. 2016 Jan-Feb;10(1) doi: 10.1177/1559827615600137
- 2: National Council on Ageing: Falls Prevention Facts. NCOA.org accessed February 2019
- 3: Florence CS, Bergen G, Atherly A et al. Medical costs of fatal and nonfatal falls in older adults. J Am Geriatr Soc. 2018; 66(4): 693-698
- 4: Raymond DE, Catena RD, Vaughan TR. Biomechanics and injury risk assessment of falls onto a protective floor mat. Rehabil Nurs. 2011; 36(6): 248-254