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Evaluation of Ceiling Lifts in Healthcare: Patient Transfer Time

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Objectives

Growing evidence suggests that the effectiveness of safe patient-handling equipment reduces the severity and number of musculoskeletal injuries to healthcare workers. There is anecdotal evidence that staff perceive this equipment to require more time. The objective of this research was to compare the time spent to perform various patient-transfer tasks by using ceiling lifts and floor lifts.

Methods

A prospective observational design was adopted to measure and compare three categories of patient-handling methods: ceiling lifts, floor lifts and manual methods. Three long-term care facilities in different stages of ceiling lift implementation were selected: facility 1 - 100% coverage, facility 2 - 33% coverage, and facility 3 - no coverage. Three types of frequent patient-handling tasks were observed at each facility: bed-to-chair transfers, chair-to-bed transfers, and repositioning in bed/boosting patient up in bed. The time (preparation, actual and total time) to complete these tasks was measured by observers.

Results

A total of 119 patient transfers were observed: 59 at facility 1, 16 at facility 2 and 44 at facility 3. Of these 78 were chair-to-bed transfers, 32 were bed-to-chair and 28 were repositioning/boosting. The average preparation, actual transfer, and total time for both bed-to-chair and chair-to-bed transfers were longer for floor lifts compared to ceiling lifts. For repositioning tasks, ceiling lifts took significantly longer (59.5s to 24.9s) to complete the task when compared to manual methods. Using the General Linear Model, the differences continued to exist for all the measures after adjustment for potential confounding factors such as facility, number of staff involved in transferring/repositioning, age, and gender and weight of the residents.

Conclusions

Patient transfers required a shorter amount of time to complete using ceiling lifts. This knowledge should be translated to staff to reduce the barriers to ceiling lift compliance and further research is needed to more thoroughly evaluate repositioning tasks.