Handrails at the Bedside: Evidence Inconclusive

POSITION STATEMENT

The use of handrails has become more prevalent in the last few years- with the growing focus on patient safety and patient centered care.

Yet, the evidence to support the efficacy of a handrail from the headwall to the toilet is yet to be investigated.

A fundamental question raised is whether handrails, even when available, are indeed accessible to the patient from the bed. There is compelling evidence to support use of handrails at the toilet- but bedside handrails are a separate issue: 1) Equipment frequently blocks patient access to the handrail on the headwall. 2) Patient typically moves from the center of the bed and thus the wall is too far away, and 3) Having a supported pathway via handrail also precludes the toilet from being on the footwall, or other locations where patient can have line of sight to the bathroom door and toilet.

A quick summary of the evidence shows us that there are no “measurable” benefits to having bedside handrails for patient falls. However, it is likely that there are some “perceived” benefits by virtue of having access to support which warrants further investigation. In any case visibility, and ease of access, seems to trump the need for a metal rail that is out of reach for the patient. But the jury is still out given the lack of concrete evidence!

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EVIDENCE OVERVIEW

As concerns with patient safety grow, falls have become a priority in many hospitals. Traditionally the use of bed rails was considered a fall prevention strategy but recent research tells us that this argument is flawed, and in fact elevated bed rails can increase likelihood of falls by being a trip hazard (van Leeuwen, Bennett, West, Wiles, & Grasso, 2001). "The Joint Commission has categorized individual risk factors for falls as either intrinsic or extrinsic to each individual patient. *Intrinsic risk factors* are integral to each individual patient and may be associated with age-related changes, including previous falls, reduced vision, unsteady gait, musculoskeletal system deficits, mental status deficits, acute illness, and chronic illness. *Extrinsic risk factors* are external to each individual patient and related to the physical environment, including medication, lack of support equipment by bathtubs and toilets, design of furnishings (e.g, heights of beds and chairs), the condition of floors, poor illumination, inappropriate footwear, improper use of devices (eg, bedside rails), and inadequate assistive devices (eg, lifting devices, walkers, and wheelchairs" (Tzeng & Yin, 2008). A 2004 study showed that 19.1% of falls occurred during ambulation, 10.9% when getting out of bed, 9.3% while sitting down or standing up, and 4.4% while using the bedside commode or toilet (Hitcho et al., 2004). A subsequent 2007 study found that 79.5% of falls occurred in patient rooms, 11% in bathrooms, and 9.5% in hallways, examination or treatment rooms, or by the nurses' stations (Krauss et al., 2007).

In a 2012 study funded by the Center for Health Design (Calkins, Biddle, & Biesan, 2012), significant relationships between falls and physical environment characteristics were found for the following:

1. Ability to have Toilet Door open and have direct line of sight to toilet
2. Presence of a family zone
3. At least 18 inches of opening on each side of the bathroom
4. Toilet on the side wall (next to bathroom door) with continuous handrail from door to toilet
5. Two grab bars on both sides of toilet

Interestingly, in this study it was found that there was a larger incidence of falls when toilet was on the headwall compared to footwall. Author argued about the critical need for visibility to the toilet door and the toilet itself. There was no data in the study on use of hand rails.

Based on the evidence till date, there is little to support the use of handrails at the headwall. The issue must be investigated further. In the meanwhile the following considerations take precedence:

1. Clear line of sight to toilet
2. Uncluttered/ unobstructed access
3. Minimal walking
4. Support from bathroom door to toilet
5. Space to accommodate family

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