Innovative Seated Positioning Device: Improves Safe Patient Handling While Reducing Risk Factors for Pressure Ulcers and Falls

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BACKGROUND

Prolonged bed rest and immobility are associated with complications such as pressure-related injury, increased morbidity, and prolonged neuromuscular impairment after discharge.¹⁻⁵

One of the evidence-based interventions for preventing complications associated with prolonged immobility is early mobility. Balas et al (2012) published a bundle of care for everyday practice, called The Awakening and Breathing Coordination, Delirium Monitoring and Management, and Early Mobility (ABCDE) bundle, and identified 3 stages of early mobility: 1) "Sitting on edge of bed; 2) standing at bedside and sitting in chair; and 3) walking a short distance." 6

Additional research has been conducted by Pashikanti and Von,⁷ who focused on the benefits of early mobility efforts in the medical/surgical patient population. Early mobility efforts were found to be associated with improved outcomes in medical/surgical patients, including improved outcomes associated with deep venous thrombosis, length of hospital stay, and functional status after discharge.⁷

Although early mobility has been documented to be feasible and effective, many patients do not receive early mobility because of perceived barriers by nursing staff and healthcare workers (HCW).⁸ Assistive devices and tools to help overcome barriers to early mobility are important for enhancing patient and HCW safety and improving patient outcomes.

METHODS

MATERIALS

A single patient-use seated positioning device* was designed to assist HCWs during early mobility efforts by reducing required effort for safe and effective seated patient repositioning in the neutral position. The goals of the device are:

- Reduction of HCW effort required to move patients to back of chair in a neutral seated position
- Maintaining patients in the neutral seated position to help facilitate easier breathing and digestion, prevent skin shear and friction, excess sacral and spinal pressure, and reduce potential for accidental fall
- Pressure relief and redistribution

INTERVENTION

HCWs were instructed to utilize the single-use seated positioning device in patients with any of the following independent criteria:

- Braden friction/shear subscale score of 1
- Incontinent of urine or stool (and/or Braden moisture subscale score <2)
- Braden mobility subscale score of 1 (combined with low moisture or friction/shear subscale scores)
- Braden sensory/perceptual subscale score of <2
- Pre-existing sacral pressure ulcers
- Inability to achieve a sustained chair position related to comfort or lack of postural control
- Chair use after bed immobilization >3 days

PATIENT SAFETY PRECAUTIONS

HCWs were instructed that the device was only to be used with standard hospital chairs or rolling chairs with brakes and not to be utilized for lifting patients. Standard of care safe patient handling policies and procedures did not change during the 3-month intervention. Additional guidance was provided as part of in-service training, including contraindication in patients with ischial pressure ulcers or inability/medical restriction to sitting up in a chair 90 degrees.

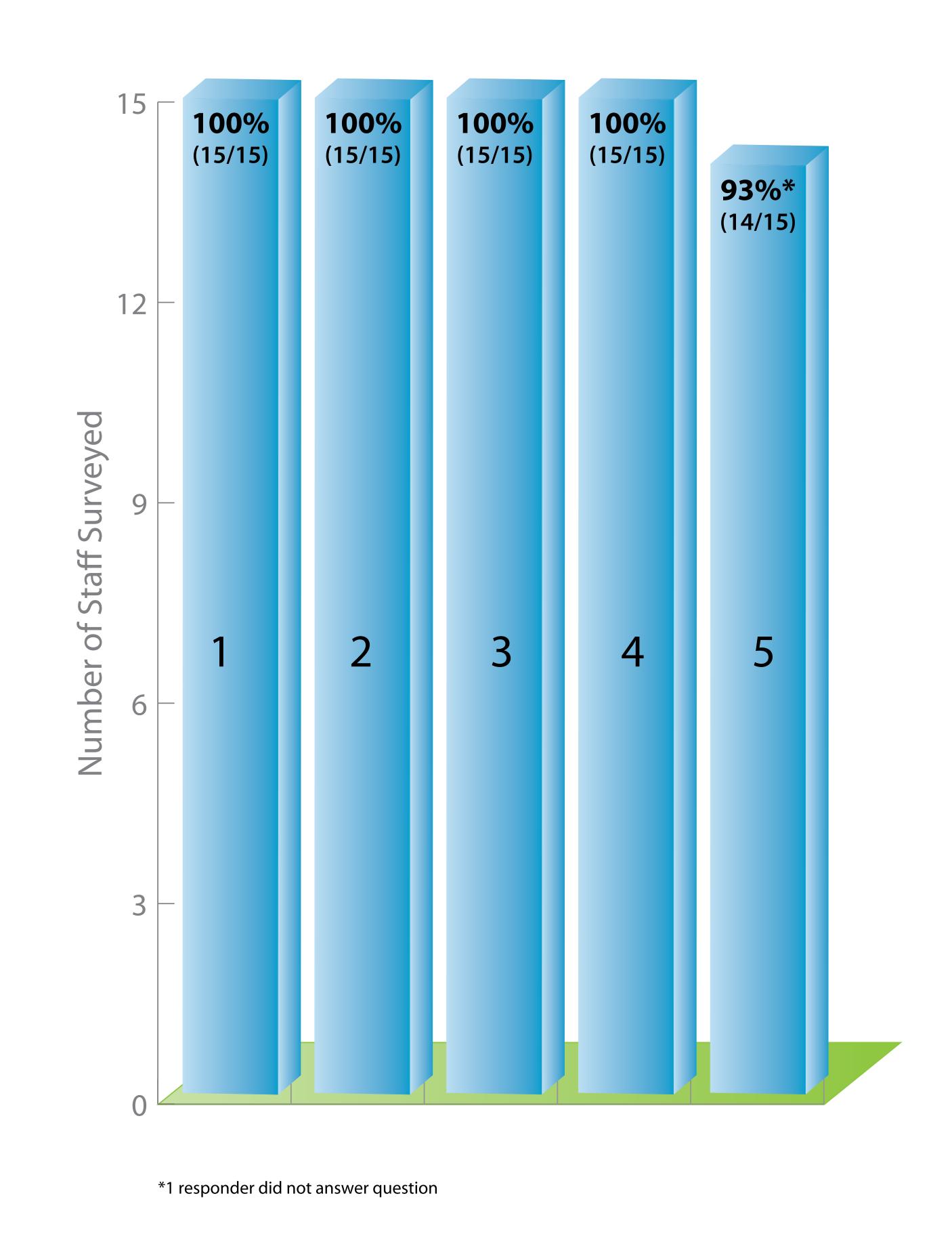
SURVEY

A 3-month trial (April 2012-June 2012) was conducted in a suburban hospital, and survey administered to understand HCW perceptions on the seated positioning device for patient positioning compared with standard of care.

*Prevalon® Seated Positioning System (Sage Products, Cary IL)

RESULTS

STAFF SATISFACTION SURVEY RESULTS (N=15)



- 1. 100% felt positioning process was easier than standard of care
- 2. 100% felt patients migrated down (in chair) less often compared with standard of care
- 100% felt patients were at less risk of falling compared with standard of care
- 4. 100% felt patients were more comfortable compared with standard of care
- 5. 93% Caregivers would use if available

CLINICAL IMPLICATIONS

HCWs using the seated positioning system felt the product was better than current standard of care for helping to reduce risk factors for pressure ulcers, patient falls, and injury, mitigating several issues associated with patients in bedside chairs.

- Specifically, HCWs felt the product helped minimize downward migration, thus reducing the potential for friction and shear forces on the skin – two key risk factors for pressure ulcers.
- In addition, HCWs felt the product helped reduce patient fall risk as the patient was less likely to slide down the chair and onto the floor.
- Finally, HCWs felt the device made it easier to move and position patients with less physical effort, thus reducing the risk of musculoskeletal injury.

Clinical Implications: Additional research is needed to demonstrate how reduction in these risk factors affect pressure ulcer incidence, patient falls, and HCW injury related to immobile patients in bedside chairs.

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