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The Use of Turn Assistance Features on Hospital Beds for Prevention of Caregiver Injury

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PICOT Statement

Population – Caregivers such as Nurses and CNAs

Intervention – Use of turn assistance features in hospital beds

Comparison – Standard care with non-assisting beds

Outcome – Less chance of injury to caregiver

Time Frame – During routine care practices such as every two hour position changes or for peri care

Abstract

In the world of nursing, caregiver injury is still a major problem. It has been reported that 44% of healthcare workers have lower back musculoskeletal pain. The purpose of this study was to examine ways to decrease injury to care providers. The methodology was a literature review focusing on turn assist technology. Education alone cannot always prevent a musculoskeletal injury, and thus the use of turn assistance features on beds is implemented. These turning functions have shown great success in helping prevent caregiver muscle strain, and in helping decrease caregiver injury. As general technology has increased, so has medical technology including hospital beds. There are many different hospital beds in use, and many have several functions. The evidence from the literature found the turn-assist function provided positive results in decreasing overall force needed to turn a patient and therefore helping prevent caregiver injury.

Interventions

- Where available, utilize beds with turn assistance functions
- When turning/repositioning a patient, turn on the function to tilt and initiate turning the patient to the side.
- It may take a few seconds for the bed to inflate and deflate on the correct sides, but in the long run this will help save the caregivers' bodies from injury.

Background Information

- -Caregivers are at high risk for injury. These include Nurses, assistive personnel, physical therapy, etc. Patients vary in size, weight, and ability to reposition themselves. Some patients need repositioned more than others. This puts the caregivers at risk for injuries to their backs, shoulders, or knees.
- - A recent systematic review showed that patient handling is the top risk for lower back injury (Jakobsen, 2016, p. 2).
- - "44% of American healthcare workers working in hospital settings are suffering from chronic musculoskeletal pain (at least 3–6 months) in the lower back" (Jakobsen, 2016, p.2).
- -Q2 turning/repositioning is used to help prevent pressure ulcers on the patients, but studies have shown that q2 turns, alone, have failed to prevent pressure ulcers (Peterson, 2013, p.478). This means that the caregivers are putting themselves at a huge risk for something that may fail in the end.



Standard Practice

- Education on proper lifting and handling of patients per hospital policy
- Braden scale assessment once admitted and updated every shift to determine need for prophylactic repositioning interventions
- Place pillows or wedges under sides of patient to redistribute weight
- Turn patients frequently, every 2 hours
- Incontinence care after every episode
- Ideally with 2 caregivers, one pulls patient toward and the other helps push that same way.
- The pulling caregiver holds the patient while the pushing caregiver cleans or changes linen or places pillows etc.
- The roles then switch and the patient is turned the other way to finish the care

Outcomes

- Studies have shown that use of the turn assist functions help decrease the physical demand of turning or repositioning a patient.
- "When manually turning the patient, peak spinal compression consistently occurred very near the moment of the peak hand force. In contrast, when using Turn Assist, peak spinal compression often occurred when the hand force was zero or nearly zero, when the nurse reached over the patient with the torso flexed" (Wiggermann, 2016, p.755).
- Caregivers should consider incorporating Turn Assist into their normal repositioning routines to help prevent strain and injury.
- Facilities should look to upgrade their equipment to include the turn assist features.

Gaps in the Literature

Most of the literature only addresses lifting and transferring patients and how to prevent injury during those interventions. There are not many easily accessible studies over this exact topic.

Study is done with very small nonclinical sample
Different facilities have different beds with different capabilities and degrees of turn assist so studies should include beds from different manufacturers
Caregiver input would increase knowledge of the turn assist's usefulness and practicality in the field
Results could vary based off of different caregiver mechanics

References

- Fragala, G., & Fragala, M. (2014). Improving the patients. *Journal of Rehabilitation Research and Development*, 50(4), 477-88. Retrieved from <http://library.pittstate.edu:2048/login?url=http://library.pittstate.edu:2254/docview/143264627>
- Jakobsen, M. D., Aust, B., Kines, P., Madeleine, P., & Andersen, L. L. (2018). Participatory organizational intervention for improved use of assistive devices in patient transfer: A single-blinded cluster randomized controlled trial. *Scandinavian Journal of Work, Environment & Health*, doi:10.5271/sjweh.3769
- Peterson, M. J., PhD., Gravenstein, N., M.D., Schwab, W. K., PhD., van Oostrom, Johannes H, PhD, & Caruso, L. J., M.D. (2013). Patient repositioning and pressure ulcer risk-monitoring interface pressures of at-risk
- Vendittelli, D., Penprase, B., & Pittiglio, L. (2016). Musculoskeletal Injury Prevention for New Nurses. *Workplace Health & Safety*, 64(12), 573-585. <https://doi.org/10.1177/2165079916654928>
- Wiggermann, N. (2016). Biomechanical evaluation of a bed feature to assist in turning and laterally repositioning patients. *Human Factors: The Journal of Human Factors and Ergonomics Society*, 58(5), 748-757. doi:10.1177/0018720815612625