Once Upon A Mattress:
Balancing Patient Care with Staff Safety

The Problem
An increased number of injuries were reported by Radiology Technologists while performing portable x-rays. A root-cause analysis uncovered that portable exams had become more difficult due to a new mattress/cover on patient beds. Newly purchased mattress/cover combinations were rolled out in the medical center to improve patients' skin integrity. Skin friction and shear are both risk factors for pressure ulcer development and the new mattress material is less slippery and therefore less likely to cause skin shearing. However this “tacky” material works against the mechanics for taking an x-ray because the detector can’t be easily maneuvered under the patient. Shoulder and back injuries were reported after technologists attempted to adjust the detector on “tacky” mattress surfaces.

Aim/Goal
Reduce staff injuries without compromising patient skin integrity.

The Team
- Diagnostic Radiology
- PT - Safe Patient Handling
- Kim Sulmonte, RN, MHA, CSHA, CPHQ – Assoc Chief Nurse, Quality & Safety
- Lisa Foster, MS, ANP-BC – Director EOH
- Janice Cunnane BSN, RN, CWOCN – Nursing
- Andrew Newman – Sizewise Bed Sales
- Paul Anderson - BSET,BSBA – Technology Coordinator

The Interventions
- A multidisciplinary group met to better understand current state and options to reduce staff injuries.
- First we learned about how skin shearing injuries occur and how the choice of mattress/COVERS impacts patient skin care.
- Then, the technologists evaluated three mattress/cover combination options. These combinations received a score on ease of use along with a patient safety score. The technologist’s preferred option indicated it would compromise patient skin care. Nursing’s option ranked the lowest technologist’s score; nursing’s preferred “tacky” surface was determined to provide the best protection from skin shearing.
- Multiple interventions to assist the technologists with positioning on the “tacky” surface were evaluated using various bags and boards without success. Using the safe patient handling equipment was determined to be the best option.

The Results/Progress to Date
No injuries have been reported since October 2015, since instituting the use of lift equipment.

Lessons Learned
Patient and staff safety is a balance, with both being equally important. By working together we were able to solve the injury problem without sacrificing patient care.

Next Steps/What Should Happen Next
- Encourage Safe Patient Handling and advocate for patients to be placed on repositioning sheets for safety of all staff.
- Review quarterly with the technologist on sustainability of equipment use and whether there are concerns.
- Continue tracking technologist injuries.

For more information, contact:
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