

Air-Assisted Transfer Device (AATD) Use for Pediatric Spinal Fusion Patients: Improving Care

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Purpose

Utilize Safe Patient Handling techniques to decrease post-surgical pain during imaging in PACU and reduce staff exposure to potential lifting injury.

Background

- Spinal fusion patients require 6 hours of flat time immediately following their procedure, as well as imaging upon their arrival to PACU.
- AATDs had not been previously utilized in the surgical pediatric population at University of Iowa Hospitals. No known literature supporting the practice.
- Prior to implementing AATDs, imaging would require 5 or more staff members to safely lift the spinal fusion patient using a draw sheet which was painful for the patient and exposed staff to potential lifting injury.
- Even with multiple staff members, it was often difficult to adequately lift the patient high enough to prevent potential shearing near the incision from the imaging board.

Objectives

- Educate staff on proper AATD use
- Develop workflow and process for AATD use
- Employ proper ergonomics during postoperative imaging to enhance staff and patient safety
- Reduce postoperative pain related to imaging lift
- Reduce number of staff exposed to potential injury
- Improve staff efficiencies

Implementation

- Formed an interdisciplinary group of surgeons, radiology and orthopaedic staff, Safe Patient Handling shared governance committee members, and perioperative nurse leaders to discuss risks and benefits.
- Requested and received approval for trial utilization.
- Completed education, demonstration, and simulation for all perioperative staff prior to implementation and evaluation.
- Finalized start date - July 12, 2018.



"It's amazing for patients to go from screaming and crying through x-ray to sleeping through x-ray."
– PACU RN

"Most patients are more surprised / confused by the movement and noise, but not many report pain with the inflation / deflation of the mattress."
– PACU RN

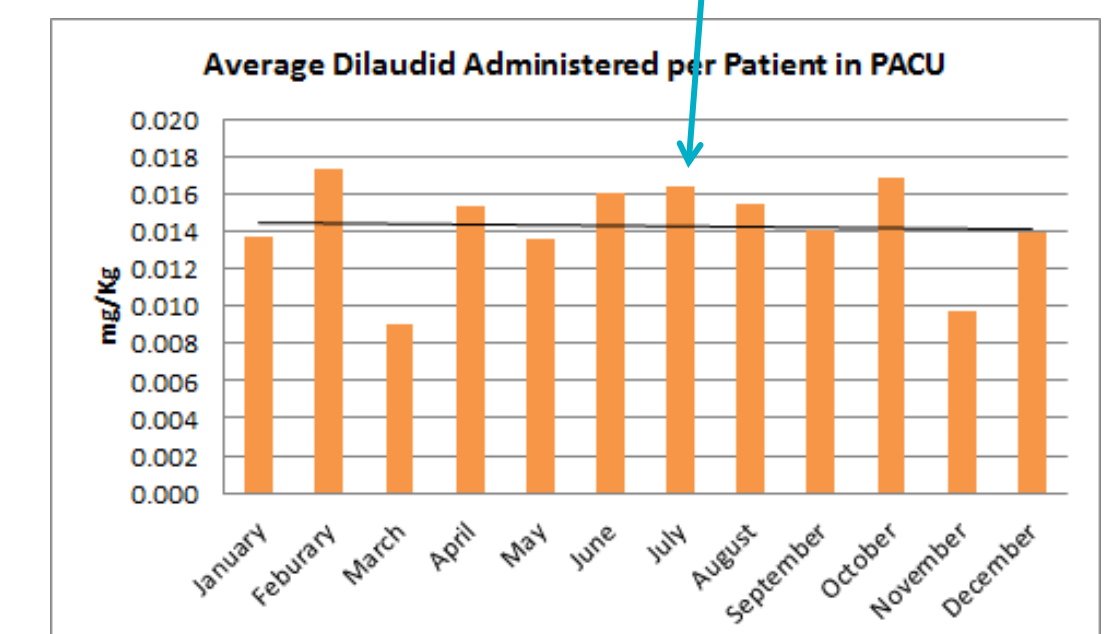
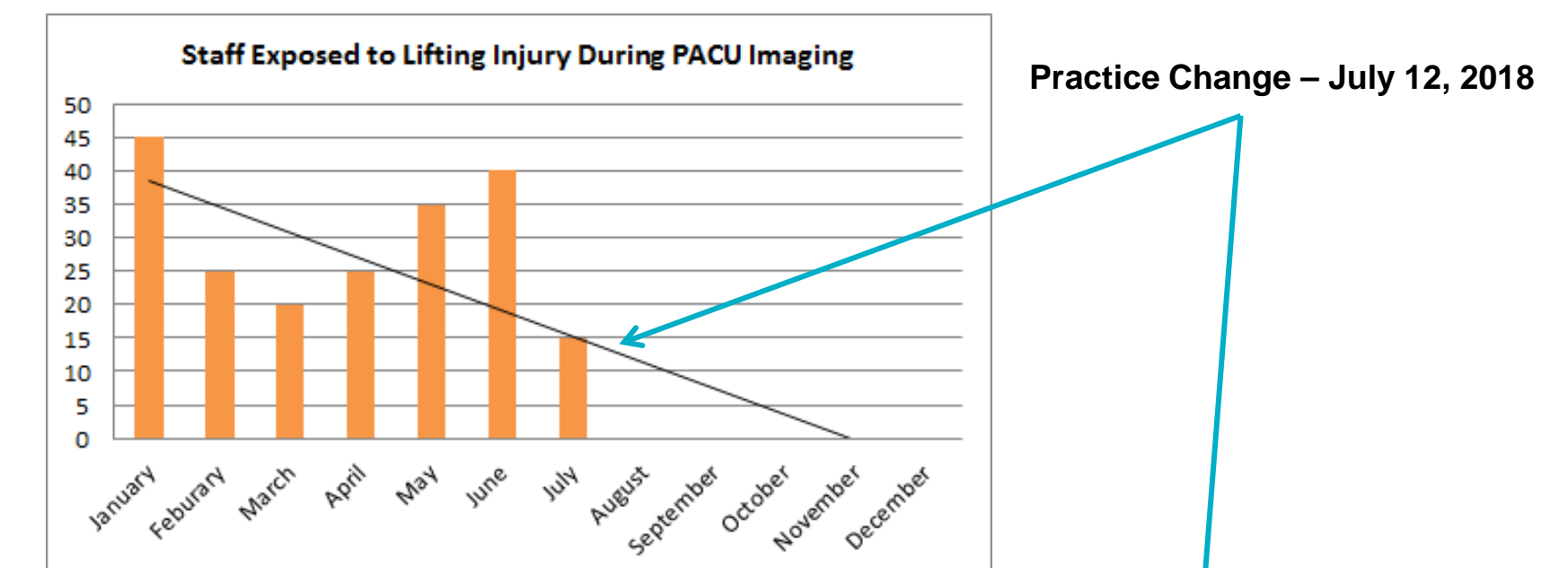
"The patient tolerates the entire process better! YAY!"
– Radiology Tech

"The 'AATD' speeds up the x-ray process because it is easy to use, fills with air quickly, and requires less people." -- PACU RN

"The 'AATD' gently lifts the patient, making the process significantly more comfortable and less painful for the patient." -- PACU RN



Results



Conclusions

- Nursing and radiology report:
 - Patients appear more comfortable through postoperative imaging
 - Patients are not requiring narcotic pain medication administration immediately before and after imaging.
 - Increased staff satisfaction.
- Increased staff efficiencies:
 - The new process now only requires 2 staff members for imaging, one on each side of the bed to ensure the patient stays properly centered on the AIRPAL mattress, creating better utilization of staff on the unit.
- Using Safe Patient Handling strategies protects the nurses from continuous unnecessary lifting and potential injury.