

Tied Once or Tied Twice: Let's Test This Device!

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Background

The Joint Commission and the Centers for Medicare and Medicaid Services require 100% compliance with standards related to the use of non-violent, non-self destructive (medical/surgical) restraints. Patient care standards require meticulous assessment, monitoring, and reassessment with appropriate documentation related to safe restraint utilization. Application of medical/surgical restraints in the acute care setting should be utilized only when other measures are not effective. Use of restraints requires vigilant nursing care to assure patient safety.

The Denver Health Restraint Task Force was formed in 2007, consisting of bedside care champions in the Surgical Intensive Care Unit (SICU), the Medical Intensive Care Unit (MICU), and the Step Down Unit (SDU) who focused on advocating for safe restraint care and compliant documentation. The Critical Care Restraint Champions and staff nurses identified the need to establish evidence based practices related to the use of various restraint devices, yet found scant literature addressing the effectiveness of the devices, nor did they find a sound scientific comparison. An evidence based practice project was developed for the MICU and SDU, with the intent to search for best product and best practice, compare the effectiveness of the current limb restraint product with other limb restraining products, and to explore the various methods for securing limb restraints.

Purpose & Setting

Purpose

- Evaluation of limb restraint devices and best practices for restraint application to determine the efficacy of the following:
 - Prevention of therapy disruption
 - Effectiveness of device and securing practice
 - Maintenance of skin integrity at site of device placement

In addition, we compared our current product to alternative limb restraint products available, and evaluated best practice for tying limb restraints to achieve optimum safety for the patients. Regulatory bodies maintain strict standards and guidelines for the care of the restrained patient, leading the staff to explore best practice for this patient population while utilizing a high quality product.

Setting

- Denver Health Medical Center.
- 477 - bed urban public safety net hospital.
- Areas of Focus. Medical Intensive Care Unit (MICU) & Step Down Unit (SDU)



Results

Phase I Total N = 271

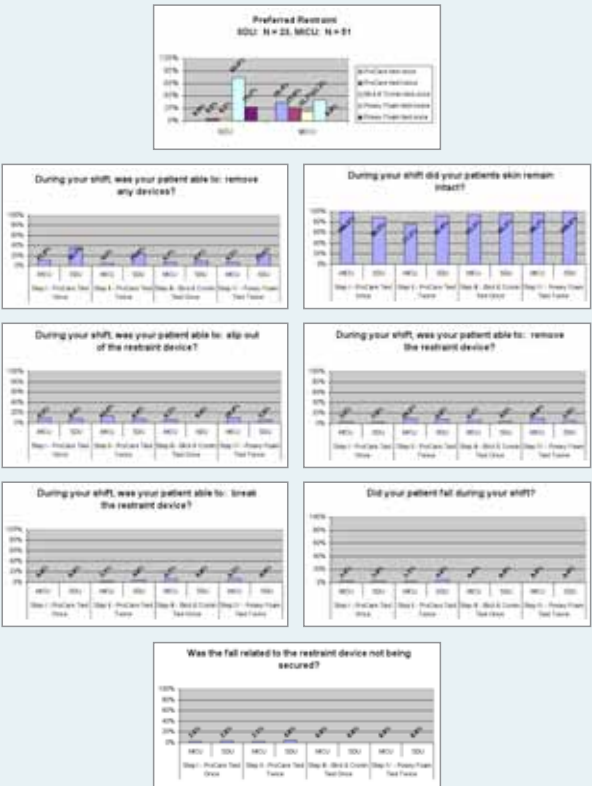
Consisted of 4 steps

- Step 1:** ProCare - tied once (MICU: N = 76, SDU: N = 36)
- Step 2:** ProCare - tied twice (MICU: N = 50, SDU: N = 25)
- Step 3:** Bird & Cronin - tied once (MICU: N = 15, SDU: N = 22)
- Step 4:** Posey Foam - tied twice (MICU: N = 30, SDU: N = 17)

Outcomes of Phase I:

*ProCare tied once resulted in the highest rate of removal of therapeutic devices.

- The tied twice method is safe and more effective for the patient.
- Staff prefers tied twice
- The Posey foam restraint that was tested in Phase I was the preferred restraint, but there was staff concern regarding the stability of the straps with this restraint. We then conducted a Phase II with a different Posey quilt restraint to complete the project.



Phase II Total N = 110

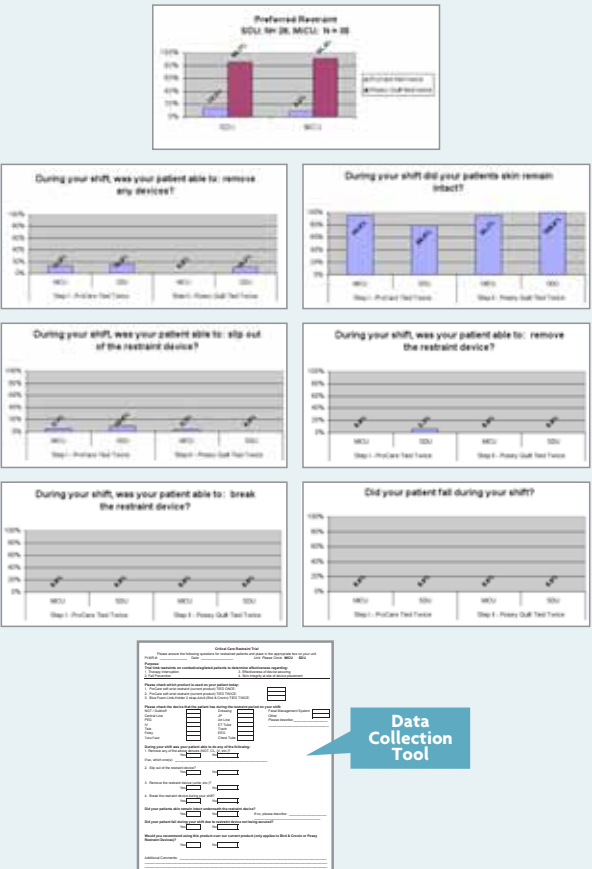
Consisted of 2 steps

- Step 1:** ProCare - tied twice (MICU: N = 39, SDU: N = 20)
- Step 2:** Posey Quilted Limb Holders - tied twice (MICU: N = 23, SDU: N = 28)

Outcomes of Phase II:

*Posey Quilted Limb Holders had the lowest rate of therapeutic devices removed and was the safest.

- Posey Quilted Limb Holders are widely preferred by the nurses in the two critical care areas.
- Patients were more easily able to remove therapy devices with the ProCare restraint.
- Patients are more easily able to slip out of the ProCare restraint device.
- Patient skin breaks down more often with the ProCare restraint device.



Methods

The project was implemented in the MICU and SCU in two phases:

- Phase I:
 - Step I - ProCare Tied Once
 - Step II - Procure Tied Twice
 - Step III - Bird & Cronin Tied Once
 - Step IV - Posey Foam Limb Holders Tied Twice
- Phase I:
 - Step I - Procure Tied Twice
 - Step II - Posey Quick-Release Quilted Limb Holders Tied Twice

Implications for Practice

- The Posey Quilted Limb Holder costs about 12% more per pair than the ProCare Limb Holder, a mere \$0.56 more per pair than our current limb holders.
- In addition to the cost-effectiveness of this product, it proved to be safer for the patient with a significantly lower therapy disruption, and less patients were able to slip out, break, or remove the restraint device.
- Using high quality products coupled with best practice for securing limb restraints will be vastly beneficial to the restrained patient population.

This project will assist the bedside staff in providing first-rate care to combative/agitated patients requiring limb restraints.

Future Directions

- Implement utilization of the new restraint product and evidence-based application tying technique.
- Explore restraint reduction through the use of alternative therapy using multidisciplinary perspective including Physical Therapy and Occupational Therapy.
- Examine the occurrence of therapy disruption related to restraint use in this high risk patient population.
- Continue to utilize creative ways to engage staff in providing patient safety regarding use of medical/surgical restraints.



Special thanks to the Restraint Task Force champions and the units that made this evidence based practice project possible.

