



Quality Improvement Initiative to Improve Dressing Adherence Reveals Improved Dressing Adherence Observations on a Before-After Analysis

Diane Pullen, RN, BSN, NE-BC, HACP, MBA

BACKGROUND

In 2011, the Centers for Disease Control and Prevention (CDC) published a category 1B recommendation regarding the frequency of catheter replacement as follows: "Do not routinely replace CVCs, PICCs, hemodialysis catheters, or pulmonary artery catheters to prevent catheter-related [blood stream] infections (CRBSIs)." This recommendation was based on evidence that revealed no difference in the rate of CRBSIs for patients with catheters left in place up to 7 days compared to those who received catheter replacement on an as needed basis. This change in clinical practice led to a focus on improving catheter adherence.

Purpose: A quality improvement initiative was implemented to assess the effectiveness of a product to increase catheter adherence.

Project description: A before-after survey was conducted by licensed nursing personnel to assess catheter adherence. The following observations regarding dressings were made: dry/intact; edges lifted; partially lifted; and total detachment.

Results: The comparison of before-after surveys revealed there were fewer impaired edges and total detachments of dressings in the after group compared with the before group, with the most notable improvements in dressing adherence of internal jugular (IJ) catheter dressings in the after group. The comparison of IJ dressing observations revealed in the before group (n=30 observations), there were 5 edges lifted, 3 partially detached, and 5 total detachments. In the after group (n=36 observations), there was 1 edge lifted, 0 partially detached, and 0 total detachments.

Implications: Use of a product designed to help ensure dressing integrity may lead to improved adherence to evidence-based best practices.

Conclusions: This before-after survey demonstrated improved dressing adherence observations in the after group compared with the before group, with the most notable benefits in the IJ dressing observations.

OBJECTIVES

Since the 2011 evidence-based recommendation of the Centers for Disease Control and Prevention (CDC) to avoid routine replacement of CVCs, PICCs, hemodialysis catheters, or pulmonary artery catheters, a shift in clinical paradigm has taken place to maintain catheter adherence for up to 7 days if the site remains uncompromised.¹ This category 1B evidence-based recommendation was made due to rigorous evidence demonstrating no difference in CRBSI rates for patients with catheters left in place up to 7 days compared to those replaced on an as needed basis.^{2,3} The objective of this quality improvement (QI) initiative was to assess the effectiveness of a product applied to enhance catheter dressing adherence.

METHOD

Clinical Setting: This was a house-wide QI initiative.

Education: The nursing staff were educated on use of a product to help maintain adherence of the catheter dressing, and how to fill out before and after surveys.

Interventions: Standard of care for catheter insertion and removal was maintained throughout the QI initiative; however, the product* was utilized as indicated on the manufacturing package instructions to catheter site dressings.

Surveys: Baseline surveys of catheter observations were recorded before the QI intervention, and follow up surveys were recorded after the QI initiative was implemented.

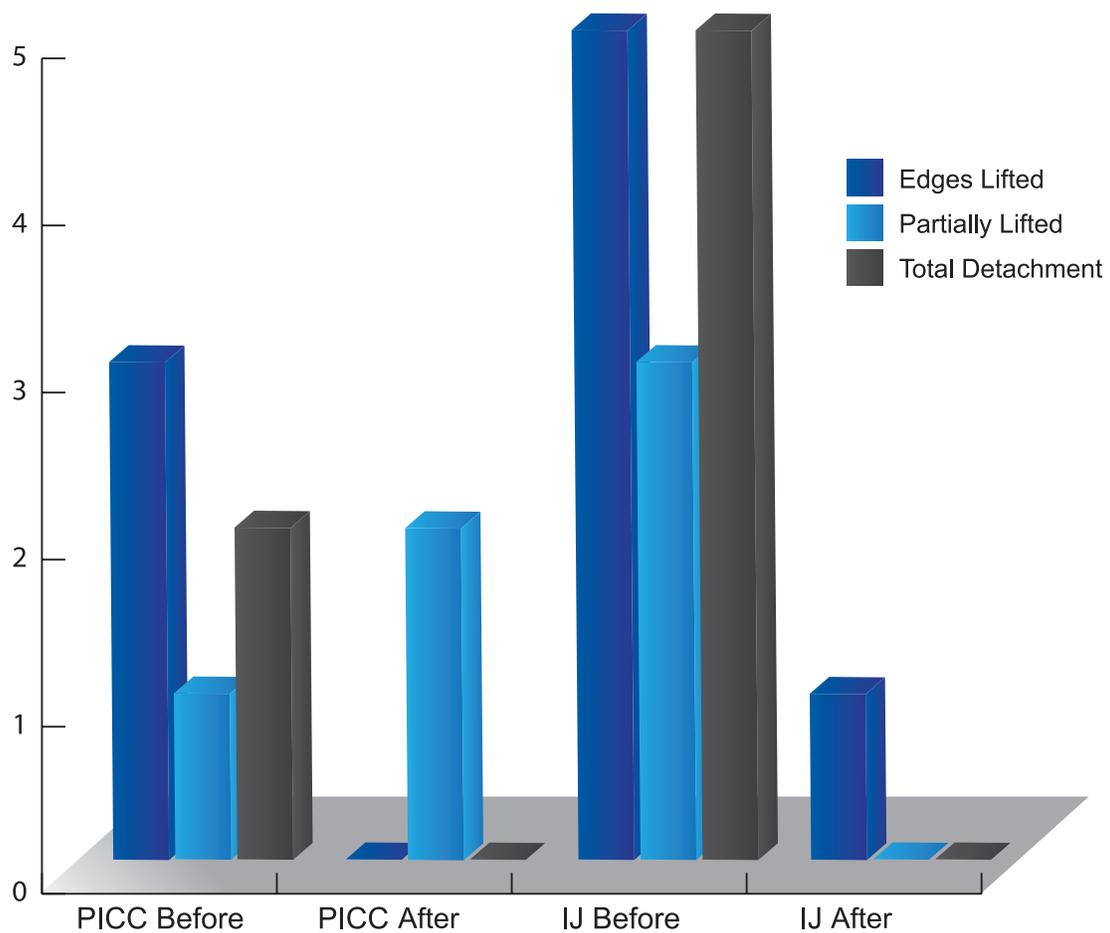
Metrics: Catheter dressing observations were as follows:

- dry/intact
- partially lifted (catheter site exposed)
- edges lifted (catheter site not exposed)
- total detachment

* Mastisol® (Eloquest Healthcare®, Inc., Ferndale, MI)

RESULTS

The comparison of before-after surveys revealed there were fewer impaired edges and total detachments of dressings in the after group compared with the before group. The most notable improvement in dressing adherence was internal jugular (IJ) catheter dressings in the after group. The comparison of IJ dressing observations revealed in the before group (n=30 observations), there were 5 edges lifted, 3 partially detached, and 5 total detachments. In the after group (n=36 observations), there was 1 edge lifted, 0 partially detached, and 0 total detachments.



CONCLUSION

- The surveys revealed improvement in dressing adherence on catheter observations after the implementation of the QI initiative.
- Clinical staff communicated that catheter dressings remained in place longer than they did using standard of care for catheter dressing maintenance.
- A product that enhances catheter dressing adherence may assist staff in adhering to evidence-based recommendations for CRBSI prevention.

REFERENCES

1. Guidelines for the Prevention of Intravascular Catheter--Related Infections, 2011. Available at: <http://www.cdc.gov/hicpac/pdf/guidelines/bsi-guidelines-2011.pdf>
2. Eyer S, Brummitt C, Crossley K, et al. Catheter-related sepsis: prospective, randomized study of three methods of long-term catheter maintenance. *Crit Care Med* 1990; 18:1073-1079.
3. Uldall PR, Merchant N, Woods F, et al. Changing subclavian haemodialysis cannula to reduce infectio. *Lancet* 1981;1:1373

ACKNOWLEDGMENTS

The authors would like to thank all nursing leadership and nursing staff that took part in the QI initiative.