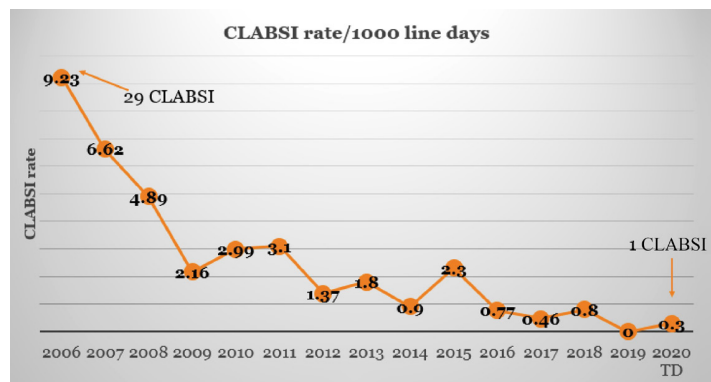


Silver-plated Discs at PICC Insertion Sites in the Neonatal ICU

Gloribel Medina, MHA, MPH, BSN, RNC-NIC | Karen Fugate, MSN, RNC-NIC, CPHQ | Kimberly Atrubin, MPH, CIC, CPHQ, FAPIC

Background

- CLABSIs (central line associated bloodstream infections) increase morbidity and mortality rates, length of stay, healthcare costs, and have negative effects on an infant's neuro development.
- Hesitation to utilize silver in neonates exists due to the risk of absorption and toxicity.
- Silver is bactericidal and bacteriostatic.
- Silver-plated discs decrease CLABSI rates in adult ICUs.



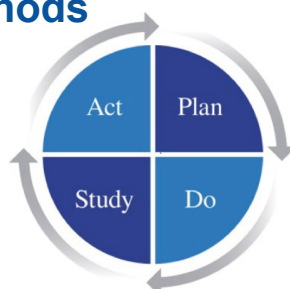
Purpose

- Implementation of silver-plated discs on peripherally inserted central catheters (PICCs) sites to reduce CLABSI rates in a large Level IV NICU



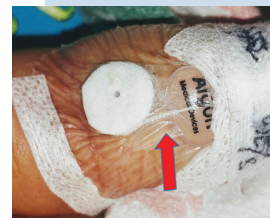
Practice Change Methods and Opportunities

- Three-month period
- Implemented multiple PDSA cycles aimed at optimizing use of silver plated disks at PICC sites



Changed Practices

- Dressing securement
- Catheter visualization
- Disc positioning



Note: picture shows transparent dressing not adhering due to excess moisture

How much is too much saline?
Did we activate the silver on the dressing?

Saturate disc with sterile saline then squeeze like a sponge to remove excess.



How do we position the silver-plated discs?

Position with hole at insertion site, opening along catheter towards hub, do not bring catheter up through the hole. Align slit with the catheter.



How do we visualize catheter to know if it has been dislodged?

Document centimeters from insertion site to mark, and centimeters visualized from disc to mark.



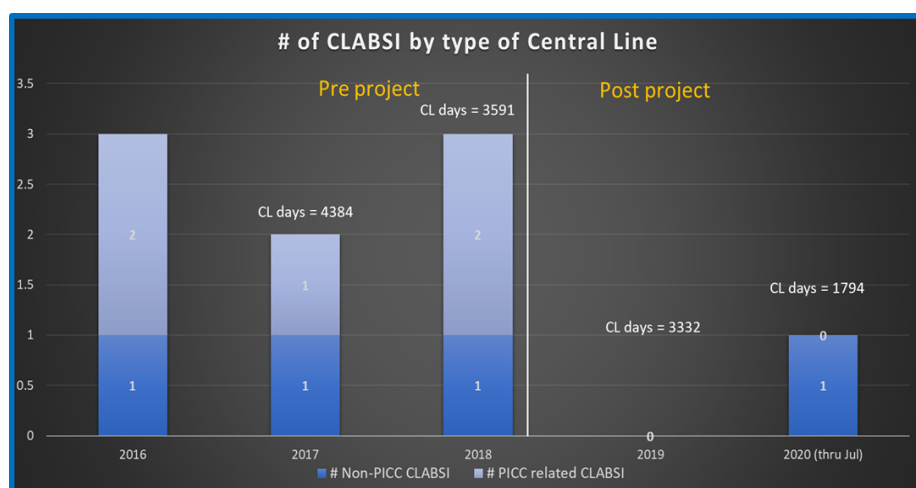
What do we do with the excess catheter outside of insertion site?

Maximize contact between silver and skin. Excess catheter align around dressing.

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Results



There were no PICC CLABSI, nor skin complications since project start.

Comparison to Research/ Implications for Practice and Research

- Betadine and alcohol have been used as antimicrobial agents.
- Neonatal chlorhexidine gluconate usage is controversial.
- Minimal literature exists on the use of silver in the neonatal population.
- Exploration of alternative antimicrobial agents is warranted.



Recommendations

- Use of silver-plated discs is safe and effective.
- Use of silver-plated discs should be added to central line care bundles in the Neonatal ICU.



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References

- August, D.L., Ireland, S., & Benton, J. (2015). Silver-based dressing in an extremely low-birth Weight infant. *Journal of Wound Ostomy Continence Nursing*. 42 (3), 290-293. DOI:10.1097/WON.000000000000138.
- Centers for Disease Control and Prevention. 2017. *Updated recommendations on the use of chlorhexidine-impregnated dressings for the prevention of intravascular catheter-related infections*. Retrieved from <https://www.cdc.gov/infectioncontrol/guidelines/pdf/bsi/cidressings-H.pdf>.
- Hawes, J.A. & Lee, K.S. (2018). Reduction in central line-associated bloodstream infections in a NICU: Practical Lessons for Its Achievement and Sustainability, 37(2), 105-114. <http://dx.doi.org/10.1891/0730-0832.37.2.105>
- Karnoski, R., Abboud, C., Thompson, P., Oxner, A.Z., Sinnott, J.T., & Marcet, J.E. (2017). Reduction in central line-associated bloodstream infections correlated with the introduction of a novel silver-plated dressing for central venous catheters and maintained for 6 years. *Journal of Intensive Care Medicine*. DOI: 10.1177/0885066617745034