

Successfully Implementing A New Standard of Care for Peripheral IVs

674 bed hospital reduces bloodstream infections, realizes multiple efficiencies and improved patient outcomes through peripheral IV policy change and peripheral IV bundle creation

This case study is presented by ETHICON® BIOPATCH® in partnership with Michelle DeVries, BS, MPH, CIC and Methodist Hospitals, Gary, Indiana. Michelle DeVries is a paid consultant of Ethicon US, LLC.

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SUMMARY

Methodist Hospitals of Northwest Indiana aligned their Peripheral IV (PIV) policy to INS Standards of Practice, moving from the routine replacement of PIVs to clinically indicated replacement of PIVs. They proactively protected the lines by implementing a PIV bundle (education, BIOPATCH[®] Protective Disk with CHG, securement dressing, alcohol impregnated caps, integrated closed IV catheter system and sterile gloves) and tracked their data for 12 months to understand the impact of these changes. The hospitals realized a 37% reduction in house-wide laboratory confirmed bloodstream infections, a 19% reduction in peripheral IV related BSIs, a 48% reduction in PIV kit usage and have also recognized 68% fewer CLABSIs than predicted via NHSN.¹ The effort has also improved nursing efficiency and patient experience overall.¹ The change helped contribute to enhanced performance in alignment with the Affordable Care Act as well.¹

HEALTHCARE CHALLENGE

Peripheral IVs are the most frequently used invasive device in hospitals.² There is a lack of education and consistency related to the insertion, care and maintenance of this device considering 57% of nurses reported that they were not taught how to insert PIVs during nursing school.³ Addressing protocols associated with PIVs impacts over 70% of patients with the potential to improve outcomes, patient experience and efficiencies across a hospital.² This impacts a hospital's performance within the Affordable Care Act.

In 2011 CDC Guidelines and INS Standards revised their recommendations related to PIVs. They released evidence-based guideline changes indicating that longer dwell times for PIV catheters may be acceptable.^{4,5} INS standards now recommend clinically indicated replacement of PIVs.⁵ While this change has significant benefits across the healthcare continuum there is still an estimated 5 to 25 percent of peripheral catheters colonized with bacteria at the time of removal.⁶

There is no evidence to suggest the patient's own skin flora prefer a specific intravascular device. The 2014 SHEA Compendium update addressed the risk of bloodstream infections with PIVs. This is consistent with literature reporting prevalence studies on PIV-BSIs.^{2,7,8,9,10} The 2014 INS short peripheral catheter checklist also draws attention to the need to include PIV monitoring of infections, phlebitis and infiltration as part of the plan for these often neglected lines.

Methodist Hospitals conducted surveillance on all lab-confirmed bloodstream infections for the past 13 years and were aware of the inherent risks associated with PIVs. Although the infection rates are lower for PIVs vs. CLABSIs, the total number of PIV infections can be significant since utilization associated with this device may be substantially higher than that of CVCs.^{8,11} A cluster of infections in the fall of 2013 served as the impetus for reviewing opportunities to enhance PIV related practices, products used, comprehensive staff training and point prevalence data collection.

SOLUTION

To address and prevent this situation from occurring in the future, swift action was taken. Intense auditing of lines led to improvements in the maintenance of clean, dry and intact dressings. These efforts also bolstered the management of lines and a focus on patient bathing. Infection Control, Nursing Education and Unit staff was assigned each day to review and correct dressings during focused audits. BIOPATCH[®] Protective Disk with CHG was also added for protection of the lines as an evidence based product with a 7-day CHG release profile and 360 degree coverage around the insertion site.¹² Ongoing feedback to the Emergency Room staff and enhancement of their IV start materials also was initiated. Nursing leadership support on units kept communication open, and allowed for continued education as needed.

These efforts collectively contributed to rapid improvements and served as a catalyst for a policy allowing protected clinical indication to begin in February 2014. The launch for that bundle included a policy approved through Shared Governance, the Infection Control Committee and Medical Council. Education sessions were held for Patient Care Leadership. The sessions focused on the rationale for policy change and justification behind each bundle component. The main focus remained on patient safety and good clinical outcomes during each block of training. Clinician assistance and IV Basics classes were offered to ensure appropriate use of each device. This supported successful implementation while follow-up audits were conducted to identify additional opportunities for improvement.

RESULTS

1 year after the initial implementation of these changes the Methodist Hospitals have realized the following results¹:

- **37% reduction in house-wide lab confirmed bloodstream infections**
- **19% reduction in peripheral IV related BSIs**
- **48% reduction in PIV kit usage**
- **68% fewer CLABSIs than predicted via state NHSN**
- **The staff immediately shared their great satisfaction with not needing to re-stick patients with functioning lines**
- **Staff members also shared positive feedback received from patients and their families who benefited from a reduced number of sticks**

Michelle DeVries, Senior Infection Preventionist, has shared the importance of addressing peripheral IVs across the country for several years. In close partnership with Nursing, she was responsible for implementing these changes successfully at Methodist Hospitals. As a result of the significant impact these changes have made on patient safety and clinical outcomes Chellie was awarded Humanitarian of the Year by Methodist Hospitals.

“When we initiated this change in practice I was focused on finding a way to reduce the risk of infection for our patients. What I have learned is it is about so much more than that. Sparing our patients painful procedures, saving our nurses time and reducing material costs are equally important considerations that can help improve overall quality.”

-Michelle DeVries, Senior Infection Preventionist

THE BIOPATCH® ADVANTAGE

The BIOPATCH® Advantage combines knowledge, expertise and resources with evidence based products to support customers in improving patient outcomes and efficiencies aligned with their strategic goals. The BIOPATCH® Advantage Customer Programs supporting the success of this program included Clinical Team Support, Custom Kits and ACA Education. For more information, please see below and contact your local BIOPATCH® representative or visit www.BIOPATCH.com to understand the full portfolio of resources available.



BIOPATCH® Clinical Team Support:

- Point Prevalence
- Clinical Expertise
- Product Education
- Ongoing Education



Custom Kits:

The BIOPATCH® team understood contract compliance requirements and worked to align the existing contract to an updated policy ensuring key decision makers within the hospital had their priorities addressed. The team also leveraged partnerships which supported the development of a solution in a cost effective manner, maximized protocol compliance and improved efficiencies.



ACA Education:

Education was provided related to hospital performance and penalties pertaining to the Patient Protection and Affordable Care Act. By clearly defining how this change in policy would have a direct impact on the performance measures included in the Affordable Care Act, Methodist was able to quantify the impact of improving outcomes, efficiencies and patient experience.

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