Advancing vascular access

Collaborative approach to improving clinical outcomes

A center of excellence

The University of Kansas Hospital has a sterling reputation as a leader among U.S. hospitals. In 2015, it was one of only 16 hospitals nationwide to be named among the “Best Hospitals” in all 12 of the data-driven specialties examined by U.S. News and World Report, was named the “Best Hospital in Kansas” for the fifth consecutive year, the “Best Hospital in Kansas City” for the seventh consecutive year, and has held Magnet® designation since 2006. In keeping with this tradition of excellence, Kim Dixon, RN, MS, Director of Nursing with responsibility for IV therapy, wanted to ensure that the hospital’s 2,500 nurses were exceeding the standards for vascular access set by the Infusion Nurses Society (INS).

The challenge

“The hospital has a highly skilled IV team in place,” Ms. Dixon observed, “but we wanted all nurses to be highly proficient, so that patients’ IVs were placed promptly and treatment started efficiently. Any delays in IV catheter placement are not optimal for patient care and can impact patients throughout the hospital. With more than 6,000 vascular access interventions each month, we want every nurse to perform expertly according to INS standards.”

A collaborative solution

“When the BD team presented a comprehensive program focused on improving peripheral vascular access management, I was willing to trial it because it would give us data on our current performance and identify potential improvements,” Ms. Dixon said. “BD offered a programmatic approach integrating policy, practice and products into a robust best practices-based program. BD was willing to commit resources every day to meet our goal: to ensure optimal patient outcomes through optimal vascular care.”
Baseline data
As part of a Quality Assurance Initiative, clinical experts from BD collected and analyzed baseline data from the medical charts of 30 inpatients, assessments of 120 current vascular access sites and observations of 41 insertions of peripheral IVs. “The baseline data showed that we had the potential to optimize catheter dwell times, reduce the average number of catheters per patient, and seek to eliminate complications. “We wanted every nurse to achieve excellence,” Ms. Dixon said. “We needed a comprehensive approach that would help us ensure that our nurses consistently followed our policies and were experts in best IV practices as outlined in the INS standards.”

Trialing the vascular access management program from BD
The integrated solution from BD incorporates policy and practice changes, extensive training on best practices for catheter insertion and product recommendations on the basis of the BD family of vascular access products, including skin antisepsis, the BD Nexiva™ closed IV catheter system, BD MaxPlus™ connectors and BD PosiFlush™ pre-filled flush syringes.

Stakeholder engagement
Given such compelling data, Kim Dixon and Chris Ruder, Vice President of Patient Care Services, convened a Vascular Access Task Force with representatives from across the hospital, led by Chris Pittenger, RN, Clinical Nurse Educator, a critical care nurse, and Angie Edstrom, RN, Clinical Nurse Specialist, an acute care nurse. “When the task force reviewed the baseline data, we recognized the opportunity to excel in this important area, and we anticipated downstream effects on patient satisfaction and cost. For these reasons, the task force decided to move forward with the implementation of policy changes, training in best practices, and adoption of the BD vascular access products,” Ms Pittenger observed.

Policy updates
The task force updated the hospital’s existing evidence-based vascular access policy to incorporate new 2016 INS standards. They also ensured that the necessary changes to the electronic medical record (EMR) and documentation systems were made to capture adherence to the INS standards.

Practice standardization
The Hospital nursing leadership committed to this major undertaking and provided training to help nurses perfect the use of new PIVC tools. The BD clinical team supported the task force goal: to ensure that every nurse performs vascular access with expert knowledge and focused awareness that vascular access is critically important to patient outcomes.

Quality assurance initiative results
The hospital tested BD’s integrated vascular access management solution in a Quality Assurance Initiative in critical care and acute care areas. The pilot data demonstrated that implementation of the program at the University of Kansas Hospital:

- Reduced PIVC failure in the first 24 hours to 5% (3 failures/60) down from 40% (53 failures /134)
- Reduced the complication rate to 30% (18/60) down from 62% (83/134)
- Increased the number of patients completing therapy with the initial IV placed to 61% (37/60) up from 38% (51/134)
- Increased average dwell times to 87 hours (n=60 IVs), up from 59 hours (n=134 IVs)
- Products featured a closed system that reduced the risk of blood exposure

New technologies
“BD offered a robust education and training program to ensure that nurses acquired skill and comfort with the advanced BD vascular access products. The BD clinical team provided hands-on training on all units for two weeks. They also worked with Materials and Value Analysis to ensure products were available in all hospital departments,” Ms. Edstrom said.

Monitoring outcomes
“BD continues to collect and analyze data to assess progress toward our goals. Among our staff, there is a greater sense of urgency and more conversation about the importance of peripheral vascular access than I’ve ever seen before,” Ms. Dixon continued. “The dedicated work of our staff combined with BD’s daily participation and support helped make this major undertaking successful,” Ms. Edstrom and Ms. Pittenger agreed. “The BD team fulfilled every promise they made and then gave more. Their efforts made this optimal vascular access program successful. It was the perfect partnership,” Ms. Dixon, Ms. Pittenger and Ms. Edstrom said.

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