BD Announces First-Ever Peer-Reviewed Study to Evaluate Specific Outcomes from Using Midline Catheters for Blood Draws

Peer-reviewed clinical study published in the Journal of the Association for Vascular Access supports the use of midline catheters as an effective method for blood collection while reducing number of venipunctures

FRANKLIN LAKES, N.J. (Jan. 11, 2021) – BD (Becton, Dickinson and Company) (NYSE: BDX), a leading global medical technology company, today announced the publication of the first-ever peer-reviewed study to evaluate outcomes from using midline catheters for blood collection in the *Journal of the Association for Vascular Access*.

The primary purpose of this study was to evaluate the processes, uses and outcomes of using the BD PowerGlide Pro™ Midline Catheters for the purpose of blood collection for laboratory analysis. The aims of this study were to:

- Evaluate the rate of hemolysis (the rupture or destruction of red blood cells) when the midline catheter was used for blood collection;
- Evaluate outcomes from using midline catheters for blood collection in the acute care setting (such as catheter performance during blood sampling, dwell time); and
- Evaluate nurse perceptions and practices used for withdrawing blood specimens from the midline catheter.

Findings indicated that blood withdrawal from the BD PowerGlide Pro™ Midline Catheter had low rates of hemolysis, increased dwell time (the length of time the catheter remains in the body) and completion of therapy. This option may reduce need for direct venipuncture in patients who have midline catheters with ongoing or frequent blood collection for testing, which may reduce the number of venipunctures for patients during their hospital stay. Fewer needlesticks can reduce complications and lead to greater patient satisfaction.

The investigator-initiated study titled “Evaluation of Processes, Outcomes and Use of Midline Peripheral Catheters for the Purpose of Blood Collection” was conducted by Daleen Penoyer, PhD, RN, CCRP, FCNS, FCCM and sub-investigators at the Orlando Regional Medical Center, Orlando, Florida.

“In this study, our findings demonstrated that blood samples were successfully withdrawn from this type of midline catheter with very low rates of hemolysis,” commented Daleen Penoyer, principal investigator at Orlando Regional Medical Center. “While recognizing that this was a single site study, this data may further support the use of midlines for the purpose of blood sampling and could potentially reduce unnecessary repeated venipunctures.”

This investigator-initiated study used a prospective, observational and mixed methods design at a single site hospital, Orlando Regional Medical Center, to evaluate the function and outcomes of midline catheters for blood specimen collection in two medical and two surgical units at the study facility. The BD PowerGlide Pro™ Midline Catheter was the midline catheter used in the study.

This was the first known exploratory study to evaluate use and outcomes of midline catheters for blood collection in a single, acute care hospital.

Midline intravenous catheters have been in clinical use since the 1950s and are commonly used as an alternative for intravenous (IV) access to short peripheral IV catheters and central venous access devices. Use of midline catheters are associated with lower phlebitis rates and infections than are central venous catheters (CVCs) and can be inserted without the need for radiologic verification. Indications for using midline catheters are to administer intravenous medications and infusions up to 30 days, recommended when treatment is anticipated for five to six days or for long-term therapy in patients with limited IV access. In addition to midline catheter use for infusions and medication administration, using the midline catheter for blood collection has been included as an indication for all patient types.

“Using the midline catheters for blood draws with sufficient blood quality with less venipunctures required may increase patient satisfaction, which needs more systematic investigations,” said Klaus Hoerauf, MD, PhD, vice president, medical affairs, Medication Delivery Solutions for BD.

While studies have been reported on outcomes of use with midline catheters, such as dwell time, complications, completion of therapy and recommended processes for maintenance and administration of fluids and medications, little was known or reported about procedures for blood collections or outcomes from performance for this function. The Infusion Nursing Society standards includes guidance for blood collection from central venous and short peripheral catheters (SPCs), but no formal guidance regarding midline catheters, as there have previously been no study data upon which to base a recommendation.

About the BD PowerGlide Pro™ Midline Catheter

As a fully integrated placement device, the BD PowerGlide Pro™ Midline Catheter is designed to be a simplified solution for peripheral IV therapy. The PowerGlide Pro™ Midline Catheter is designed to help increase both patient and clinician satisfaction by: (1) Allowing catheter dwell time for up to 29 days, potentially reducing the need for multiple peripheral IVs; (2) supplying a guidewire designed to assist with insertion success; and (3) offering a longer body-softening polyurethane catheter to help minimize vessel wall trauma.

The PowerGlide Pro™ Midline Catheter is inserted into a patient’s vascular system for short-term use (<30 days) to sample blood or administer fluids intravenously. These catheters may be useful for any patient population with consideration given to adequacy of vascular anatomy and appropriateness of the procedure. The PowerGlide Pro™ Midline Catheter is suitable for use with power injectors.

The device is contraindicated whenever the presence of device-related infection, bacteremia, or septicemia is known or suspected; the patient’s body size is insufficient to accommodate the size of the implanted device; the patient is known or suspected to be allergic to materials contained in the device; local tissue factors and/or past treatment will prevent proper device stabilization and/or access.

Please consult product labels and inserts for any indications, contraindications, hazards, warnings, cautions and instructions for use.

More information on the PowerGlide Pro™ Midline Catheter is available at: https://www.bd.com/en-us/offerings/capabilities/vascular-access/vascular-iv-catheters/midline-iv-catheters/powerglide-pro-midline-catheter.

About BD

BD is one of the largest global medical technology companies in the world and is advancing the world of health by improving medical discovery, diagnostics and the delivery of care. The company supports the heroes on the frontlines of health care by developing innovative technology, services and solutions that help advance both clinical therapy for patients and clinical process for health care providers. BD and its 65,000 employees have a passion and commitment to help enhance the safety and efficiency of clinicians' care delivery process, enable laboratory scientists to accurately detect disease and advance researchers' capabilities to develop the next generation of diagnostics and therapeutics. BD has a presence in virtually every country and partners with organizations around the world to address some of the most challenging global health issues. By working in close collaboration with customers, BD can help enhance outcomes, lower costs, increase efficiencies, improve safety and expand access to health care. For more information on BD, please visit bd.com.

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