BioFlo Midline Catheter
with Endexo Technology

94%

LESS THROMBUS ACCUMULATION

Compared to Bard Powerglide
(based on platelet count)†

BioFlo Midline Catheter
with Endexo Technology

Bard PowerGlide

†The reduction in thrombus accumulation (based on platelet count) is supported by acute in-vitro testing. Pre-clinical in-vitro evaluations do not necessarily predict clinical performance with respect to thrombus formation. Based on benchtop testing performed up to two hours using bovine blood which may not be indicative of clinical results.

Infusate Risks Associated with Intervenous Therapy[3]

HIGH RISK Well recognized vesicants with multiple reports of tissue damage with extravasation	INTERMEDIATE RISK Fewer published reports of extravasation; published drug information recommends caution for potential tissue damage with extravasation
Calcium chloride	Acyclovir
Calcium gluconate	Amiodarone
Contrast Media (nonionic)	Arginine
Dextrose concentration > 12.5%	Dextrose concentration > 10% to 12.5%
Dobutamine	Mannitol > 20%
Dopamine	Nafcillin
Epinepherine	Pentamidine
Norepinepherine	Pentobarbital sodium
Parenteral nutrition >900 mOsm/L	Phenobarbital sodium
Phenylephrine	Potassium > 60 mEq/L
Phenytoin	Vancomycin hydrochloride
Promethazine	
Sodium bicarbonate	
Sodium chloride > 3%	
Vasopressin	

1. Alexandrou, E. et al. (2011). The Use of Midline Catheters in the Adult Acute Care Setting—Clinical Implications and Recommendations for Practice. JAVA, Vol 16 (No1), 8-13.
2. Infusion Nurses Society (2016). Infusion therapy standards of practice. Journal of Infusion Nursing. 39(1S)
3. Infusion Nurses Society Vesicant Task Force (2016). Noncytotoxic vesicant medications and solutions. https://www.learningcenter.ins1.org/products/noncytotoxic-vesicant-medications-and-solutions
4. Chopra et al. (2015). The Michigan appropriateness guide for intravenous catheters (MAGIC): Results from a multidisciplinary panel using the RAND/UCLA appropriateness method. Annals of Internal Medicine. 163(6). S1-S16

Consult your AngioDynamics representative for country specific product availability.

IMPORTANT RISK INFORMATION

INTENDED USE/ INDICATIONS FOR USE: The BioFlo Midline is indicated for short term access (< 30 days) to the peripheral venous system for intravenous therapy, including but not limited to, the administration of fluids, medications and the sampling of blood and blood products.

Maximum Power Injection Flow Rate
- 3F Single Lumen/20 cm—2 mL/sec
- 4F Single Lumen/20 cm—6 mL/sec
- 5F Single Lumen/20 cm—6 mL/sec
- 5F Dual Lumen/20 cm—6 mL/sec

CONTRAINDICATIONS: Venous thrombosis in any portion of the vein to be catheterized; Conditions that impede venous return from the extremity such as paralysis or lymphedema after mastectomy; Orthopedic or neurological conditions affecting the extremity; Anticipation or presence of dialysis grafts or other intraluminal devices, including pacemakers; Hypercoagulopathy unless considerations are made to place the patient on anticoagulation therapy; Pre-existing skin surface or subsurface infection at or near the proposed catheter insertion site; Anatomical distortion of the veins from surgery, injury or trauma; Inadequate antecubital veins; Anatomical irregularities (structural or vascular) which may compromise catheter insertion or catheter care procedures.

Refer to package insert provided with the product for complete Instructions for Use, Contraindications, Possible Complications, Warnings and Precautions prior to using this product.

CAUTION: Federal law (USA) restricts this device to sale by or on the order of a physician.

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BioFlo

RIGHT PATIENT | RIGHT TIME | RIGHT LINE

BioFlo Midlines with Endexo Technology

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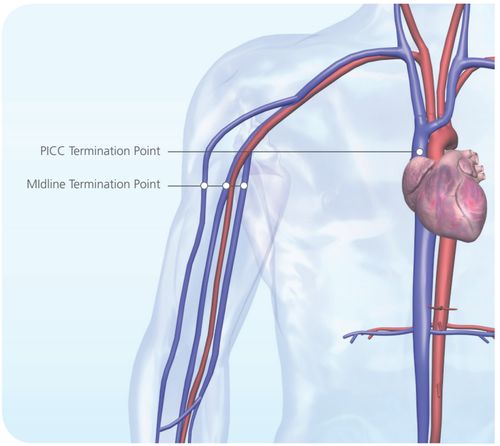
BioFlo Midlines with Endexo Technology

Vascular Access requires timely assessment, planning, insertion and follow-up. Appropriate device selection can impact patient complications and length of hospital stay. BioFlo Midline Catheters provide clinicians with a cost-effective solution for short-term vascular access.

Why Choose a Midline Catheter?

Midline catheters can deliver the same medications as a peripheral intravenous catheter (PIV) including a variety of antibiotics. However, PIVs typically need to be replaced every couple days, usually due to performance failure, while midline catheters can provide access for several weeks (<30 days). Midline catheters are also ideal for patients that may require more than five days of intravenous therapy. A midline catheter's extended period of functionality provides many benefits, such as:

- Staff efficiency by eliminating the need for frequent PIV replacement
- Material savings from reduced use of supplies
- Improved patient satisfaction from fewer needle sticks (PIV restarts) and interruptions to treatment
- A potential option for patients with compromised vasculature
- Reliable venous access when a central venous catheter is no longer indicated for treatment



The length of a typical midline catheter ranges between 3 in. (7.5 cm) to 8 in. (20 cm), longer than a peripheral catheter but shorter than the peripherally-inserted central catheter (PICC). Since midlines terminate at or below the axillary vein, versus the central venous circulation, confirmatory chest radiographs are not required allowing for immediate initiation of therapy as well as cost savings.[1]

It is not recommended to use peripheral or midline catheters for continuous vesicant therapy, parenteral nutrition or infusates with an osmolarity >900 mOsm/L.[2] The Infusion Nurses Society special task force on noncytotoxic vesicants has created a list of medications to help identify high and intermediate risk vesicants. High risk vesicants include well-recognized vesicants with multiple citations and reports of tissue damage when extravasation occurs. The intermediate risk group reported fewer reports for extravasation and potential for tissue damage upon extravasation.[3] Appropriate device selection is often not based on a single factor alone (like a medication) rather the critical analysis of the patient's condition, vascular access integrity, and anticipated duration of infusates.[3]

Are All Midlines Alike?

With many options available on the market today, it can be difficult to determine which vascular access device is best for your practice and patient. When assessing for device selection keep in mind the following:

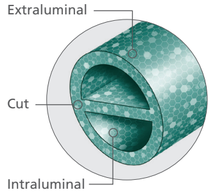
Catheter material—Novel catheter material v. standard silicone or polyurethane catheter

Insertion Method—Modified Seldinger technique (MST) v. Accelerated Seldinger technique (AST)

Power Injection Capabilities—Not all midlines are power injectable or clearly labeled

Disruptive Technology

The BioFlo Midline Catheter is the only midline catheter with Endexo Technology, providing a catheter material more resistant to accumulation of blood components compared to commonly used catheters (based on platelet count).[1] This novel, disruptive technology is present throughout the catheter shaft including the intraluminal, extraluminal and cut surface of the catheter, and is present for the life of the catheter.



The BioFlo Midline Catheter is an effective solution to preserving a patient's peripheral access. It provides a cost-effective alternative to multiple IV site rotations for patients who need short-term venous access. This improves the likelihood that the patient will receive his or her ordered therapy, which may lead to a shorter hospital stay, and improved patient satisfaction.

The BioFlo Midline Catheter is the first, and only, midline catheter with Endexo Technology, providing a catheter material more resistant to in-vitro thrombus accumulation, compared to commonly used catheters (based on platelet count).[1]

Right Patient. Right Time. Right Line.

With the rapid changes in health care today, meeting the vascular access needs of patients is a vital component to providing high quality care. Identifying the right device is crucial, and as a result midline catheters have emerged as a viable option for today's unique vacular access care. AngioDynamics offers various training programs to support your understanding of early assement and appropriate vascular access device selection.

The Michigan Appropriateness Guide for Intravenous Catheters (MAGIC) provides the following recommendations related to midline catheters[4]:

- Midline catheters are preferred to PICCs for the administration of peripherally compatible infusates, difficult venous access and for patients requiring frequent phlebotomy if the duration is < 14 days
- Midline catheters were rated as inappropriate for non-peripherally compatible infusions

Recommendations for Placing Midline Catheters in the Adult Acute Care Setting

RECOMMENDATIONS FOR INSERTION[2]
Use strict aseptic technique and maximal barrier precautions
Insert under ultrasound guidance above the antecubital crease
Basilic vein preferable
Catheter distal tip should be at or below the axillary vein

RECOMMENDATIONS WITH THERAPY
Ideal for IV therapy lasting <30 days
Use with near isotonic solutions (250-350 mEq/L)[3]
Good consideration for patients that are difficult IV access (DIVA)[4]
Fluids with osmolality <900mOsm/L[2]

SPECIAL CONSIDERATIONS FOR MIDLINE USE
Patients at risk of thrombosis
Patients with compromised circulation
Patients at risk of lymph edema
Patients with end stage renal disease requiring vein preservation