Reducing Catheter-Related Complications With New Anti-Thrombogenic PICC\textsuperscript{1, 2}

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ABSTRACT

Peripherally Inserted Central Catheters (PICCs) are commonly used as vascular access in patients. Catheter-related complications, including Upper Extremity Deep Vein Thrombosis (UEDVT) and occlusions can lead to increased costs and compromise patient safety\textsuperscript{3, 4, 5}. New technologies are needed to reduce these complications, reduce costs and improve patient safety.

OBJECTIVE and METHODS

- To compare the complication rates and costs associated with two types of PICCs: standard polyurethane and an anti-thrombogenic PICC\textsuperscript{1, 2}.
- A single center study was completed over a 12 month period. Clinical outcomes were tracked for a total of 1096 PICC lines: 252 anti-thrombogenic BioFlo PASV™ PICCs (4FSL, 5FDL, 6FTL) and 844 Bard Solo® PICCs (4FSL, 5FDL, 5FTL).
- All PICCs were monitored by the Vascular Access Team. Outcomes were tracked and entered into a data collection tool for analysis. Data points included tPA usage, catheter occlusions and UEDVT. Catheter occlusion was defined as the use of a thrombolytic (tPA) to restore catheter patency. UEDVT was confirmed by diagnostic ultrasound.
## RESULTS and IMPLICATIONS

The complication rates were tracked and calculated for the following metrics:

- **Oclusions**: Standard polyurethane PICC 10.2%, anti-thrombogenic PICC 2.8% (73% reduction).
- **UEDVTs**: Standard polyurethane PICC 1.4%, anti-thrombogenic PICC 0.3% (80% reduction).
- **Average Monthly tPA Expense**: Standard polyurethane PICC $1,638.89, anti-thrombogenic PICC $583.33 (64% reduction).

A significant reduction in catheter-related complications and cost were observed.

## CONCLUSIONS

These improvements have decreased cost, decreased nursing interventions and increased patient satisfaction.

Based on this data we continue to utilize the anti-thrombogenic BioFlo PASV™ PICC by AngioDynamics, Inc. and will continue to monitor catheter related complications.

## REFERENCES