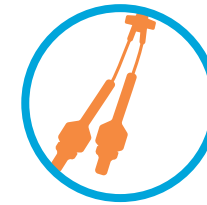


# Parenteral Nutrition and Vascular Access Devices: Reducing Central Line-Associated Blood Stream Infections



## Parenteral Nutrition and VADs:

- Administration of parenteral nutrition (PN) requires reliable vascular access. Some vascular access devices (VAD) are more suited than others, based on patient medical history, length of PN therapy, and need for concurrent intravenous medications.<sup>3</sup>
- Complications from administration of PN, such as thrombosis and central line-associated bloodstream infections (CLABSI), can occur through a VAD<sup>4</sup>.



## Methods to Reduce CLABSI risk with Parenteral Nutrition Administration

- Appropriate choice of insertion site with use of maximal barrier precautions and ultra-sound guided venipuncture<sup>2</sup>
- Use the fewest number of lumens needed to manage the patient<sup>4</sup>
- Limit manipulations of the VAD<sup>3</sup>
- Use antimicrobial coated catheters for PN patients<sup>2</sup>
- Develop VAD dressing care policy and procedure<sup>2</sup>
- Ensure staff education and competency in care and maintenance procedures
- Dedicated line for administration of PN when possible<sup>3</sup>
- Dedicated rounds for assessment of catheter<sup>1</sup>
- Develop and audit policies and procedures on frequency of tubing and filter change and PN hangtime<sup>2</sup>



## Parenteral Nutrition and CLABSI

- VADs such as PICCs are the leading cause of central line-associated bloodstream infection (CLABSI) related to PN therapy.<sup>3</sup>
- Increased attention to the role VADs play in complications related to PN is necessary<sup>3</sup>
- Factors contributing to potential for CLABSI risk include but are not limited to<sup>1,4</sup>:
  - Past/present history of hematological cancer
  - History of CLABSI within 3 months
  - TPN administered through VAD
  - Number of lumens
  - Use of catheter for blood draws

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## Things to consider when administering Parenteral Nutrition through a CVC :

- **Length of anticipated therapy:** When PN is administered for longer than 3 months, consider a long-term device such as a tunneled catheter or implanted device. For shorter length of administration, PICCs and non-tunneled VADs may be suitable<sup>3</sup>.
- **Patient history of thrombosis and central line-associated blood stream infections (CLABSI):** Increased risk of thrombosis is associated with active malignancy, history of thrombosis and use of multiple lumens and catheter size<sup>2</sup>. Increased risk of CLABSI includes prior infection and accessing of catheter site<sup>4</sup>. Reviewing patient history and complication factors is essential in VAD administration of PN.
- **CVC tip termination point:** The ideal termination point of the catheter tip is between the lower third of the superior vena cava and tright atrium<sup>3</sup>. Verification of tip location should be completed during the procedure or post-procedure for correct placement.



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