I. Purpose or Intent
This policy represents the standard of care for all adult patients to reduce the risk of infection or non-infectious complications with vascular access device insertion.

II. Policy or General Principles
A. These standards apply to all adult patients with the following vascular access devices (central line catheters, totally implanted or external)
   1. The nurse, in collaboration with the care team, should select the appropriate type of catheter to accommodate the vascular access needs of the patient based on prescribed therapy or tx regimen, length of tx, duration of dwell, vascular integrity, patient preference and ability and resources available to care for the device
   2. Single lumen, multi-lumen catheters, tunneled and non-tunneled
      a. Implantable port
      b. Peripherally inserted central catheter (PICC)
      c. Arterial catheter
      d. Dialysis or hemapheresis catheter
B. A physician’s order is required to insert or routinely remove a VAD, if a VAD is not being discontinued by a physician or physician assistant
C. Removal of a VAD should be performed IMMEDIATELY upon suspected contamination or complication
D. All VADs placed under non-sterile conditions in emergent situations shall be removed as soon as it is feasible depending on patient’s clinical condition
E. Arterial or venous cut-down procedures should not be used if at all avoidable to insert VADs
F. Hand hygiene with hospital approved soap and water or waterless alcohol-based cleaner is required before VAD insertions
G. Chlorhexidine gluconate should be used to prep the skin for VAD placement
   1. If the patient is intolerant to chlorhexidine, 1-2% tincture of iodine, iodophor (povidone-iodine) and 70% alcohol may be used
   2. Infants under the age of 2 months of age: use of chlorhexadine is not recommended
   3. The skin prep should be allowed to fully dry before insertion techniques are attempted
H. To minimize the risk of contamination, any manipulation of the central line
system or blood draws should be kept to a minimum. Injection ports, hubs, needleless adaptors should be cleansed with a 70% alcohol swab before accessing any point in the system

I. Unused ports should be flushed according to hospital policy and capped at all times with a needleless connection or sterile cap and clamped (if there is a clamp present on the VAD)

J. A syringe of 10cc or greater shall be used to troubleshoot or flush any VAD to avoid excessive pressure and potential rupture of the catheter. Forced flushing with smaller sized syringes should never be instituted to clear a VAD.

III. Definition(s)

Vascular access device (VAD): an indwelling catheter, cannula or other instrument used to obtain venous or arterial access

Defined clinical duties: those clinical staff by their delineated clinical privileges or job description, are allowed to insert and manage central lines

IV. Applies to medical and nursing staff who will collaborate on VAD placement either at the bedside for PICC placement or Interventional Radiology as needed

A. For subclavian, femoral, or internal jugular placement the assistant can be a physician assistant, RN or LPN trained in aseptic technique

B. A dedicated assistant during PICC line placement is recommended, the assistant can be an RN or clinician trained in aseptic technique

V. This policy and procedure is to be used in conjunction with

Universal Protocol
Vascular Access Devices Port Implanted
PICC Line Insertion
Care and Maintenance of Vascular Access Devices

VI. Procedure

A. For non-emergent line placements, a second clinician should be called after there are three unsuccessful sticks (complication rates increase by 50% after this number of attempts)

B. Sterile technique is required for VAD insertions
   1. Good hand hygiene with hospital approved soap and water
   2. Surgical hand scrub is required before insertion of tunneled catheters, implanted ports and permanent dialysis or hemapheresis catheters

C. Full barriers are required during VAD insertion, regardless of where in the hospital the procedure is performed. Full barrier includes
   1. Cap (scalp, beard, mustaches must be covered)
   2. Mask
   3. Sterile gown
   4. Large sterile patient drape to cover patient head to toe
   5. Eye protection (face shield)
D. Any assistant in the room during the insertion procedure will wear cap, mask, gloves, isolation gown and eye protection
E. If equipment is available, and the provider is trained to use ultrasound guidance during line placement, ultrasound should be used
F. Confirmation of proper placement (catheter tip within distal portion of the superior vena cava or the SVC/atrial junction; if placed in femoral vein, preferred in IVC) by chest x-ray, fluoroscopy or CT is required for all central VADs before using the line
   1. The VAD should be flushed and capped until placement is confirmed
   2. "Do Not Use" label will be placed on any central VAD requiring tip placement verification or line patency
G. Implanted and tunneled VADs should have patency verified prior to each use. (see VAD Care and Maintenance Policy for details)
   1. MD should be notified for occluded or sluggish line to obtain orders for declotting agent (“CathFlo”) and possible radiology studies
H. All non-tunneled central VAD (exception PICC lines) shall be sutured securely in place
I. PICCs can be secured with steri-strips or other securement devices
J. For any CVC, change the transparent (Tegaderm) dressing every 7 days. Any dressing with gauze beneath the transparent dressing should be changed q48h and prn if wet, soiled or nonocclusive.

VII. Documentation
   A. Documentation of insertion of vascular access device insertion should be in the physician progress notes or appropriate flow sheet required for documentation
   B. Vascular insertion checklist should be used in all situations where a VAD is inserted
   C. This checklist will become part of the patient’s permanent record
   D. Documentation will also be completed on line screens related to PICC line placement from a nursing care perspective. (See Appendix A for Vascular Access Device Insertion Checklist)

VIII. Orientation / Training
   A. Medical and nursing staff that insert vascular access devices have defined clinical duties and have completed credentialing or training and demonstrated competency prior to inserting a VAD (vascular access device)
      1. Annual competency completed as part of annual evaluation process for nursing staff related to insertion techniques for PICC lines
      2. IV Therapists will be evaluated on an annual basis related to competency of insertion of PICC lines
      3. All employees hired into the IV Therapy department will have this policy and addition PICC related policies reviewed as part of their annual evaluation
      4. Appropriate Medical Staff Office credentialing is required related to VAD
insertion.

B. Aseptic technique competency is also required annually for any practitioner involved in VAD insertion processes

IX. Monitoring
Compliance to this policy is monitored by the Performance Improvement data collection and unit based quality improvement initiatives

X. References

XI. Storage, Retention and Destruction
A. All policies are able to be retrieved upon request. Policies are stored in MCN Policy Manager and in paper format.
B. This policy will be reviewed at least every three years
C. Previous versions of this policy are archived in MCN Policy Manager. Policies in paper format are retained for 7 years, or 9 years if related to obstetric and newborn care.