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CICC = centrally inserted central catheter CVAD = central vascular access device PICC = peripherally inserted central catheter

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CONSIDERATIONS FOR CVAD SELECTION AND PLACEMENT

- Choosing the correct venous access device and location for patients requires a prior thorough assessment and evaluation. Considerations include anticipated dwell time, associated risks, relevant vascular history including catheter to vein ratio assessment, history of surgical or anatomical variant(s) affecting, arms, neck, and/or chest, venous thromboembolism, history of multiple or failed device insertion attempts, pacemaker with leads, history of radiation, trauma or lesion/mass/wound to neck, chest or access site, superior vena cava (SVC) syndrome, and urgency of procedure. Interprofessional collaboration is recommended in the decision process.
- Priority is given to vessel health preservation and minimizing the risk of infection by avoiding sites like the femoral vein. In some cases, consideration may include availability of assistance from caregiver for dressing changes and prior surgical history (*i.e.*, mastectomy). The patient's activity level and lifestyle should also be considered. Femoral catheters should be removed or alternate site considered within 72 hours of placement.
- Providers should be aware that the higher the number of catheter lumens, the higher the risk of a catheter related infection and thrombotic complications for the patient. Selecting catheters with the least number of lumens may minimize infectious and thrombotic complications. • Separating infusions over time and working with pharmacists may help reduce the need for multi-lumen devices, reducing cost and complications
- Patients with preexisting VAD that require alternate/different vascular access should be assessed for removal of preexisting devices once new VAD is placed and confirmed
- VADs should be removed once no longer indicated or functional
- For patients with chronic kidney disease requiring central venous access (not for the purpose of hemodialysis), avoid placement of peripherally inserted central catheters (PICCs) and subclavian approach centrally inserted central catheters (CICCs). Based on observational studies demonstrating high rates of new central vein lesions after PICC placement, PICCs and subclavian CICCs are **not** recommended in patients with low glomerular filtration rates (< 30 mL/minute/1.73 m²) or stage IIIb or higher kidney disease to avoid complications (*i.e.*, deep vein thrombosis, venous stenosis) that may interfere with future hemodialysis arteriovenous access placement.

CVAD = central vascular access device

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⁵ Consider if duration of treatment is > 3 months

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⁶ Irritant is defined as any agent (*i.e.*, chemotherapy, electrolytes) that causes inflammation or irritation characterized by aching, tightness, and phlebitis but without necrosis. Vesicant is defined as any agent (*i.e.*, chemotherapy) that has the potential to cause tissue destruction, blistering, severe tissue injury, or tissue necrosis when extravasated. Refer to Vascular Vesicant/Irritant Administration and Extravasation Policy (#CLN0986) and Extravasation Management (Vesicant and Contrast Agents) algorithm.

⁷Non-tunneled CICC may be used for > 6 months in service specific patients such as leukemia due to neutropenia that require expedited line removal in cases of sepsis and/or suspected line infections without delay. Only FDA designated long-term catheters are used for this purpose.

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CVAD = central vascular access device

PICC = peripherally inserted central catheter

¹Indications for removal may include treatment completed, infection [see Infection Control Associated with Vascular Access Devices (VADs) Policy (#CLN0441)], malposition or malfunction, and/or thrombosis. If indication for removal is thrombosis, and catheter is still needed and functioning, consider line preservation, deep vein thrombosis treatment (refer to Adult Venous Thromboembolism (VTE) Treatment for Cancer Patients algorithm), and symptom management.

Adult Venous Access Procedures

³ Proceduralist to assess and determine most appropriate catheter type and insertion site

⁴Refer to Criteria for Transporting a Patient within MD Anderson (#ATT1849)

⁵ Tip of the CVAD is in satisfactory position when the tip resides in the superior vena cava or upper right atrium. See Central Vascular Access Device (CVAD) Assessment and Tip Position Verification Policy (#CLN1036).

⁶Document in EHR procedure note

⁷ Removal assessment includes reviewing the ordering indication, patient labs, and medications

⁸Use single-dose petrolatum-based ointment packet

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⁵ Ambulatory patients requiring blood product administration will need to be scheduled for Ambulatory Treatment Center (ATC) appointment by ordering provider

⁶For patients on warfarin: higher doses of vitamin K result in extended duration of subtherapeutic INR. Consider limiting dose of vitamin K for patients with a thrombotic risk who will need to be restarted on warfarin.

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Vascular Access Devices (VADs) Policy (#CLN0441)], malposition or malfunction, and/or thrombosis. For non-⁴ Ambulatory patients requiring blood product administration will need to be scheduled for Ambulatory tunneled CICC, if indication for removal is thrombosis, and catheter is still needed and functioning, consider line Treatment Center (ATC) appointment by ordering provider preservation, deep vein thrombosis treatment (refer to Adult Venous Thromboembolism (VTE) Treatment for ⁵ For patients on warfarin: higher doses of vitamin K result in extended duration of subtherapeutic INR. Consider Cancer Patients algorithm), and symptom management. For implanted venous port or tunneled CICC, VA&P limiting dose of vitamin K for patients with a thrombotic risk who will need to be restarted on warfarin. provider to assess and removal to be considered if severe pain and/or swelling. ⁶ Removal assessment includes reviewing the ordering indication, patient labs, and medications ²Adult Venous Access Procedures ⁷Use single-dose petrolatum-based ointment packet Department of Clinical Effectiveness V6 Copyright 2024 The University of Texas MD Anderson Cancer Center Approved by The Executive Committee of the Medical Staff on 09/17/2024

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- CVAD = central vascular access device
- NPO = nothing by mouth
- ¹IR Procedure Order

² Tip of the CVAD is in satisfactory position when the tip resides in the superior vena cava or upper right atrium. See Central Vascular Access Device (CVAD) Assessment and Tip Position Verification Policy (#CLN1036). ³ Document in EHR procedure note

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⁵ For patients on warfarin: higher doses of vitamin K result in extended duration of subtherapeutic INR. Consider limiting dose of vitamin K for patients with a thrombotic risk who will need to be restarted on warfarin.

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- MD Anderson Institutional Policy #CLN0986 Vascular Vesicant/Irritant Administration and Extravasation Policy
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DEVELOPMENT CREDITS

This practice consensus statement is based on majority opinion of the Vascular Access Devices Management experts at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

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