

Statements: AV Access Cannulation

Please review [Guideline Statement 11.1](#).

- 11.2 KDOQI recommends rope ladder cannulation as the preferred cannulation technique for AVFs. (Conditional Recommendation, Moderate Quality of Evidence)**
- 11.3 KDOQI considers it reasonable to limit AV access buttonhole cannulation only to special circumstances given the associated increased risks of infection and related adverse consequences. (Expert Opinion)**
- 11.4 KDOQI considers it reasonable to avoid buttonhole cannulation in synthetic PTFE grafts due to potential serious consequences. (Expert Opinion)**
- 11.5 KDOQI suggests that when select buttonhole cannulation is performed, the use of buttonhole cannulation devices to facilitate cannulation should be at the discretion and expertise of the cannulator. (Conditional Recommendation, Low Quality of Evidence)**
- 11.6 KDOQI considers it reasonable to use skilled cannulators with established high rates of cannulation success to perform initial AV access cannulations on patients to help avoid primary infiltration injury of the AV access. (Expert Opinion)**
- 11.7 KDOQI considers it reasonable to have structured training and supervision of dialysis technicians and nurses before and during their initial cannulation attempts, and regular training updates to maintain cannulation competency. (Expert Opinion)**
- 11.8 KDOQI considers it reasonable to support and educate eligible patients on self-cannulation of their AV access (AVF or AVG). (Expert Opinion)**

Note: To be clear, any consideration of buttonhole cannulation refers only to AVF and certain AVG materials. AVG made of PTFE should not be accessed by buttonhole cannulation, due to risks of "one-siteitis" and its serious consequences.

Note: See [Guideline Statement 12.2](#) for use of ultrasound for AV access cannulation.

Statements: CVC System Connect and Disconnect Procedure Considerations

Please review [Guideline Statement 11.1](#).

- 11.9 KDOQI suggests the use of a catheter care protocol for exit site and hub care to reduce catheter-related bloodstream infections and treatment of catheter dysfunction. (Strong Recommendation, Moderate Quality of Evidence)**
- 11.10 KDOQI considers it reasonable, in addition to correct hand hygiene/washing, to use aseptic technique and masks for patients and staff performing catheter connection and disconnection procedures. (Expert Opinion)**
- 11.11 KDOQI considers it reasonable to cleanse the catheter hub when connecting and disconnecting the catheter with a chlorhexidine based solution. If chlorhexidine is contraindicated (eg, sensitivity, allergy), povidone-iodine solution (preferably with alcohol) is a reasonable substitute and should be used. (Expert Opinion)**
- 11.12 KDOQI considers it reasonable at the time of catheter dressing change to cleanse the skin surrounding the catheter exit site with a chlorhexidine based solution. If chlorhexidine is contraindicated (eg, sensitivity, allergy), povidone-iodine solution (preferably with alcohol) is a reasonable substitute and should be used. (Expert Opinion)**
- 11.13 There is inadequate evidence for KDOQI to make a recommendation on the specific chlorhexidine formulation to use for infection prophylaxis, and this should be based on the clinician's best clinical judgment and local practical considerations.**
- 11.14 There is inadequate evidence to demonstrate a difference in catheter-related infections with the use of transparent film dressing compared with nontransparent dressing; thus, the choice of catheter dressing material should be based on the clinician's discretion that considers the patient's circumstances and uses best clinical judgment.**
- 11.15 KDOQI considers it reasonable to use a topical antiseptic or antibiotic barrier at the catheter exit site in addition to cleansing until the exit site is healed to reduce the risk of catheter-related infection. (Expert Opinion)**
- 11.16 There is inadequate evidence to demonstrate a difference in catheter-related infections between the use of various antiseptic or antibiotic topical exit site barriers; thus, the choice of topical exit site barrier should be based on the clinician's discretion and best clinical judgment.**
- 11.17 KDOQI considers it reasonable to follow these catheter care practices (Expert Opinion):**
 - The frequency of catheter dressing change should be based on the clinician's discretion and best clinical judgment, with a minimum of once weekly
 - Catheter dressings should be protected against wet and dirty environments, particularly when the exit site is not yet fully healed (eg, avoid swimming and showering)

Note: See [Guideline Statements 21.2](#) and [21.3](#) for statements on CVC connectors to prevent CVC dysfunction or bacteremia and [Guideline Statements 24.3-24.5](#) for statements on intraluminal strategies for the prophylaxis of CVC-related infections.

Guideline 12. AV Access Cannulation Complications**Statements: AV Access Cannulation Complications**

- 12.1 KDOQI considers the following therapeutic interventions for cannulation injury reasonable to follow:**
 - Any size infiltration: apply ice for a minimum of 10 minutes and refrain from maximizing the blood pump speed. (Expert Opinion)
 - If the infiltration is moderate, the needle should be withdrawn and manual pressure held over the infiltration site. (Expert Opinion)
 - If the infiltration is significantly large, in addition to the above, a decision on the necessity for dialysis that day is required—if dialysis is required, a site proximal to the infiltration injury should be cannulated; if this is not possible, reattempt at the area of injury should not proceed until manual pressure and ice is applied for 30 minutes. (Expert Opinion)