

## **Buttonhole Technique for AV Fistulae only**

### **“Establish the Track”**

- Same cannulator for approximately 8-10 cannulations for good wound healers and 12 for poor wound healers (e.g., diabetics).
- Same angle, depth, and insertion site every treatment.
- When the track is established, change to blunt needles - then other staff can cannulate.

### **Procedure**

- Assess the access completely – inspect, palpate and auscultate.
- Soak scabs prior to removal.
- Remove the scabs from previous needle insertions.
- Prepare sites with betadine or per unit protocol.
- Apply tourniquet (lightly), or have the patient compress vessel in the axilla area.
- Using the 3-point technique, stabilize the access; pull the skin taut while compressing the dermis and epidermis. This allows for easier cannulation and temporary pain interruption.
- Insert the needles at the exact angle and depth for every cannulation.
- When flashback is observed, lower angle of insertion.
- Advance needle down the center of the vessel.
- Place tape (securely, but not tightly) over the wings and the insertion site.
- Confirm good flow using a syringe.
- Place chevrons, made from ½” plastic tape, under the needle, then cross over each wing in an “X” pattern to secure needles.
- Continue “On” procedure per unit protocol.

### **Scab Removal**

- Moistening scabs allow for easier removal. Scabs can be moistened using a 2x2 with normal saline or alcohol-based gel; scrubbing arm with soap and water; or having patients tape an alcohol pad to their scabs before coming to dialysis.
- Once scabs are moistened, use your thumb and forefinger on top of the 2x2; pinch the scabs off; turn the 2x2 over to make sure you got the entire scab; prep the sites according to policy.

### **Troubleshooting**

- If the sites you chose are not working, abandon the site and chose a new site.
- If, after the weekend, you have trouble with blunt needles, the flap may have shifted out of position so the tunnel and flap don’t line up. Insert blunt needle to the vessel and lift up carefully.
- If you have to use a different site (other than the buttonhole), stay at least 3/4” away from in front of the buttonhole site to prevent damage to the buttonhole track, using sharp needles.
- Bleeding around the needles during dialysis could be caused by stretching the track or by cutting the track with sharp needles during cannulation.

### **Challenges to Success**

- Heavily scarred accesses from: multiple needle sticks, long-lived accesses or lidocaine use
- Large amounts of subcutaneous tissue – usually upper arm
- Stenosis present – buttonhole won’t improve clearances on a stenotic access, repair required
- Not having the same cannulator during track formation

### **Benefits**

- Patient can learn to self-cannulate.
- Less painful for the patient.
- Fewer infections, missed sticks, and infiltrations, which could extend the life of the AVF.
- Blunt needles meet OSHA Bloodborne Pathogen requirements – safer for the staff and the patient.

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