

## Buttonhole Cannulation Technique with Dull (Blunt) Bevel

(Arteriovenous Fistula Only)

### Procedure

1. Wash hands and the arteriovenous fistula (AVF) with soap and warm running water for at least 20 seconds.
2. Dry hands and the AVF with clean towel.
3. Remove dull/blunt fistula needles from package.
4. Attach 10-mL syringe prepared with normal saline to each needle.
5. Prime the fistula needles.
6. Leave needle line clamps open. Set needles aside.
7. Clean the buttonholes (BHs) with a cleansing agent. (Note: Some patients find it easier to remove the scab if BH sites are soaked with cleansing agent or saline-saturated gauze. If this is the case, soak for 2 to 5 minutes.)
8. Completely remove scab on arterial BH site with 18-gauge blunt needle or BH pick.
9. Discard 18-gauge needle or discard pick. **Do not reuse needle or pick.**
10. Completely remove scab on venous BH site with 18-gauge blunt needle or BH pick.
11. Discard 18-gauge needle or discard pick. **Do not reuse needle or pick.**
12. Clean AVF with cleansing agent again.
13. Apply tourniquet above the AVF.
14. Tighten the tourniquet.
15. Pinch wings of dull/blunt buttonhole needle carefully, remove tip protector.
16. Align BH needle cannula at the same angle as previous cannulations, with bevel facing up, over buttonhole site.
17. Insert needle into established BH site at the same angle as previous cannulations.

### Supplies

- 1 Clean towel
- 2 Dull bevel buttonhole needles
- 3 18-gauge blunt needles
- 1 Package 4 × 4 gauze
- 4 Cleansing swabsticks, chlorhexidine 2%/alcohol 70%
- 2 Normal saline (0.9%) saturated gauze
- 2 Dressings to secure needles
- 2 10 mL-syringes prepared with 6 mL normal saline (0.9%)
- 1 Tourniquet
- 1 Personal protective equipment (eg, mask)

## Buttonhole Cannulation Technique with Dull (Blunt) Bevel (cont'd)

18. Advance BH needle along the developed tunnel tract. If mild-to-moderate resistance is met, using gentle pressure, rotate dull/blunt needle back and forth.
19. Allow the dull/blunt needle to seek the vessel entrance, advance dull/blunt needle into the AVF.
20. Release the tourniquet.
21. Check the position of the needle. First, pull back blood into 10-mL syringe, then flush and check the return flow.
22. Clamp needle.
23. Secure the needle with dressing.
24. Repeat steps 14 to 23 to cannulate the second needle.

Protocol adapted with permission from University Health Network, Toronto, Ontario, Canada, cannulation protocol.