

CANNULATION FOR THE ADVANCED CANNULATOR

Vascular Access Educator Group of BC

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Match Cannulators & Accesses



Skill Level of Cannulator	Access Rating Approved to Cannulate
Novice	<ul style="list-style-type: none"> • Easy accesses: <ul style="list-style-type: none"> – <u>Established</u> accesses with no complications – AVFs in which buttonhole tracks are well established
Skilled	<ul style="list-style-type: none"> • Moderately complicated accesses: <ul style="list-style-type: none"> • <u>New</u> accesses with no complications • <u>Established</u> accesses with one complication • AVFs in which buttonhole tracks are well established
Advanced	<ul style="list-style-type: none"> • Complicated accesses: <ul style="list-style-type: none"> • <u>All</u> accesses (new & established; with or without complications) • <u>Established</u> and <u>new</u> AVFs in which buttonhole tracks are already established or are being established

Advanced Cannulators may....

- Cannulate all new accesses
- Cannulate complicated accesses
 - Accesses with more than one cannulation complication (e.g. difficult to palpate, deep, signs of edema, bruising or local infection)
- Establish initial buttonhole tracks
- Observe cannulation skills of others & offer feedback



CANNULATING NEW & COMPLICATED ACCESSSES



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Procedure for Cannulating New & Complicated Accesses

- Procedure is the same as for other accesses but cannulation can be “trickier”
- Consult MD or VA Coordinator if:
 - Difficult to cannulate
 - Unable to achieve a BPS of >300 mL/min by week 3 or <350 mL/min in established HD in 2 consecutive runs
 - Low arterial or high venous pressure on 3 consecutive runs
 - Unexplained, prolonged bleeding (>10 – 15 min) from cannulation site on 3 consecutive runs
 - Signs of access complications

Tips for Success with New & Complicated Accesses

- Wrap patient limb in warm blanket prior to cannulating (to achieve vasodilation)
- For AVFs, if access is hard to feel, apply a tourniquet (for vasodilation)
- If access is hard to feel, use a stethoscope or doppler to listen for bruit & to ensure you are above the vessel. Needle where the sound is loudest
- Use a wet needle. Attach syringe with 5cc NS to the needle and flush saline through to the end of the needle prior to inserting (to prevent clotting)
- If cannulation problems occur, go back to small needle size. Increase needle size slowly

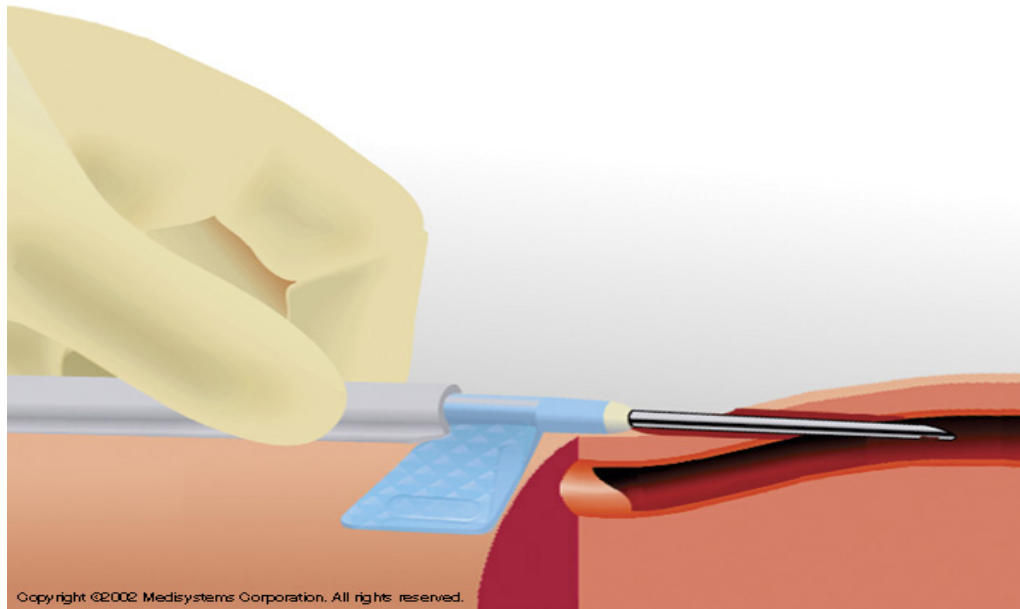


FORMING INITIAL BUTTONHOLE SITES/TRACKS FOR CANNULATION



What is a Buttonhole?

Technique which uses the same needle site, depth, & angle **each** time forming a “track”



What are the Benefits & Drawbacks?

- Benefits:
 - Fewer infections, infiltrations, hematomas, & missed sticks.
 - Once established, can use blunt needles to access the fistula
- Drawbacks:
 - Requires a consistent cannulator(s) until the track has formed (8 – 12 cannulations)



Candidates for Buttonholes

- Any patient with a fistula
- Any potential self or home dialysis patient
- Patient that complains of pain or is frightened of needles
- Patient with limited areas available for cannulation or if last viable access

Selecting Buttonhole Sites

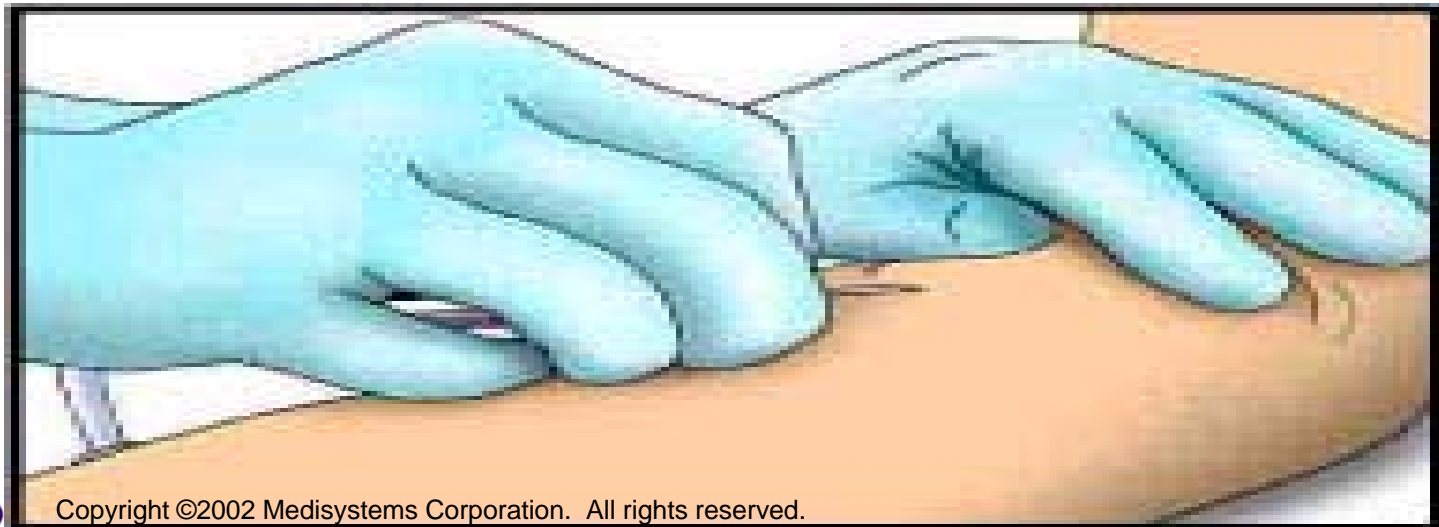
- Perform a complete physical exam of the fistula
- Select sites for the buttonhole (one for arterial & one for venous):
 - Look for a straight section of the fistula
 - Stay away from aneurysm areas
 - Ensure at least 7 cm (2 – 3 in) between needle tips (buttonhole sites)
 - If patient plans to self-cannulate, consider ease of access & needle orientation for patient

Forming Buttonhole Tracks

- Try and have the same person do the buttonhole cannulation until scar tissue tunnel tracks are well established (usually takes 8 – 12 cannulations)
- Cannulate into the exact same sites each time, using a sharp needle & the same angle & depth. Once track is established, use a blunt needle.
- Track is likely ready when there is slight bleeding around the needle insertion site and the needle almost seems like it will fall out of the insertion hole
- Once initial tracks are well established, develop a second set as back up

Forming Buttonhole Tracks cont'd

1. Remove scabs over cannulation sites
2. Disinfect the sites as per facility protocol
3. Using a sharp needle, grasp the needle wings and remove the tip protector. Align the needle cannula bevel up over the site and pull the skin taut

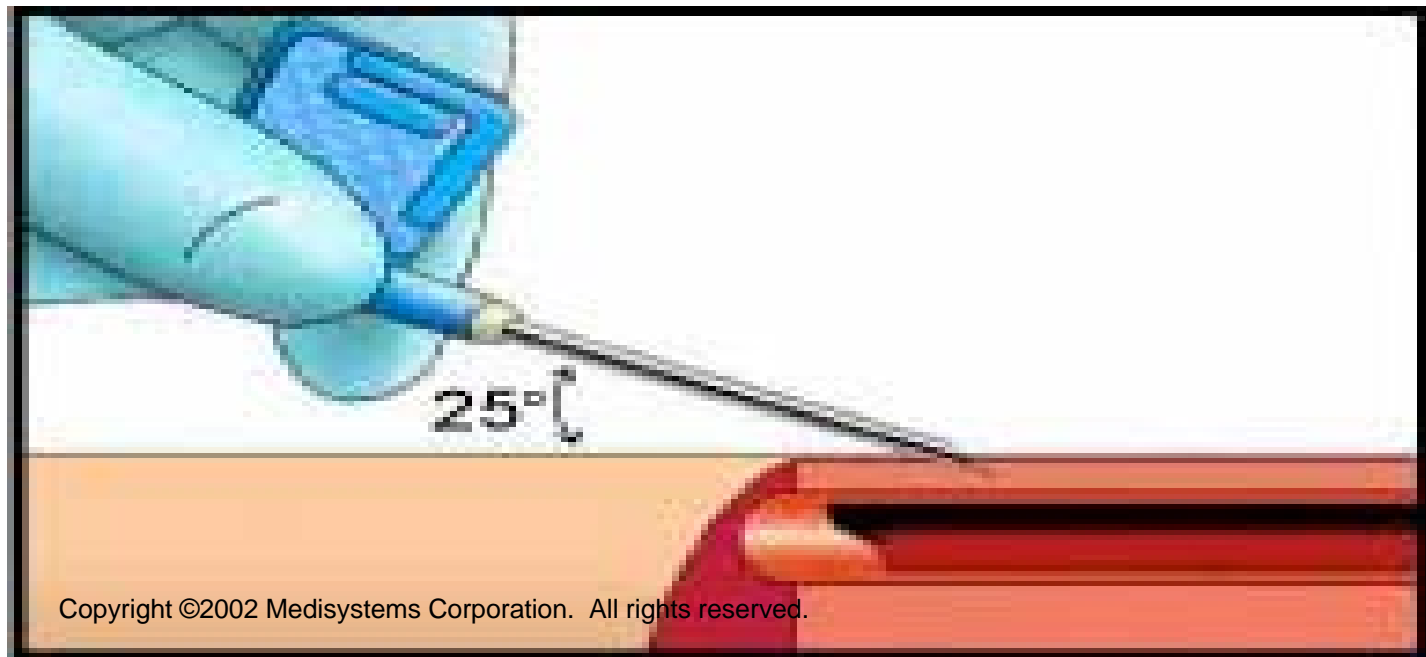


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Forming Buttonhole Tracks cont'd

4. Cannulate the site at a 25° angle (self-cannulators may require a steeper angle)



Forming Buttonhole Tracks cont'd

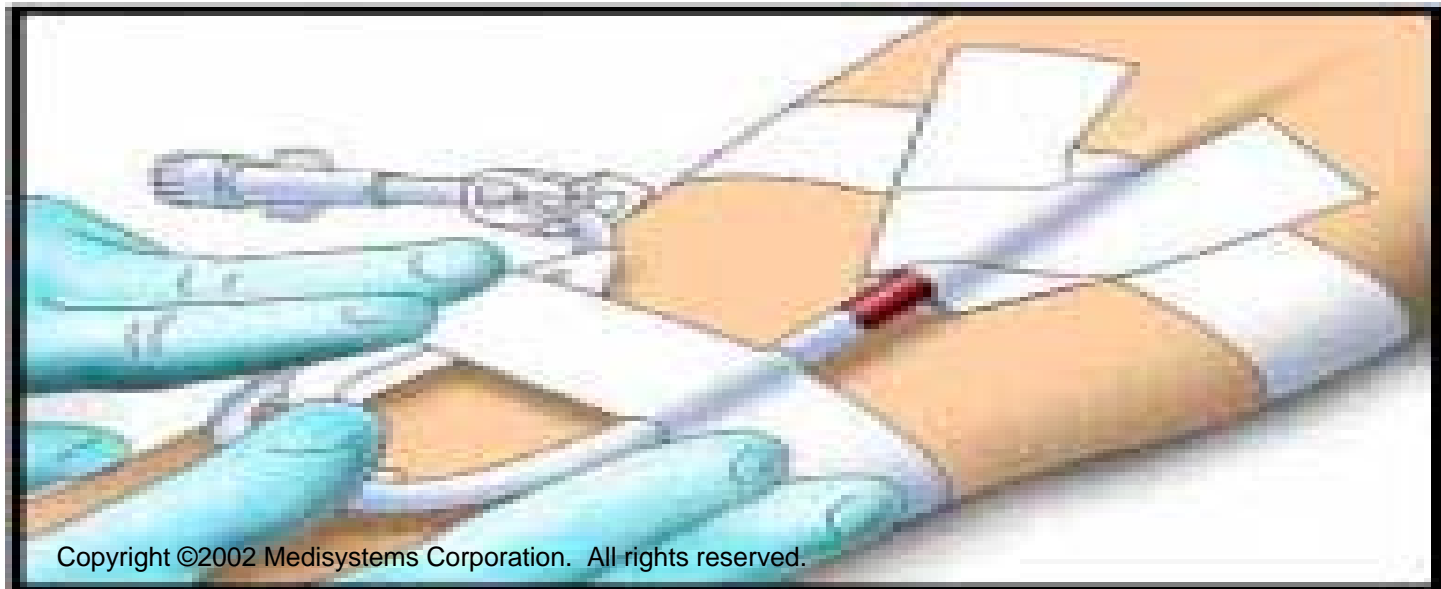
5. Check for flashback of blood to confirm the needle is in the fistula
6. Lower the angle of insertion & continue to advance the needle into the fistula until it is appropriately positioned within the vessel



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Forming Buttonhole Tracks cont'd

7. Securely tape the AV fistula needle & proceed with dialysis treatment



Tips for Success

Forming Buttonhole Tracks

- Stabilize with tourniquet during needle insertion (stabilization & vasodilation)
- Use a sharp needle until the track is well established.

OBSERVING CANNULATION SKILLS OF OTHERS & OFFERING FEEDBACK



Tips for Offering Feedback

Message's meaning is conveyed:

- 55% by facial expression & other non-verbal cues (e.g., posture & body position)
- 38% by how the message is said (e.g. tone of voice & interest level)
- 7% by actual words!

Source: Bishop and Taylor (1991)

Tips for Offering Feedback cont'd

1. Use encouragement and positive reinforcement
 - Begin by inviting your colleague's self-assessment
 - Start with positive observations and then move to what could be done differently
 - Don't over-emphasize errors – focus on what to do to correct them
2. Consider the timing of feedback
 - Impact is greater if delivered immediately (if the timing is appropriate given other factors)
 - To avoid overload, speak to one issue at a time
3. Be specific & focus on a behaviour not the person
 - Specific feedback that focuses on a behaviour that can be changed is the most helpful

Tips for Offering Feedback cont'd

4. Own the feedback

- Begin the feedback with “I” or “In my opinion.” This makes the feedback less judgmental

5. If necessary, redirect & focus the conversation

- Colleagues may react defensively to feedback in an attempt to justify or sidestep the issue
- To focus on the issue, redirect the conversation
e.g., if the recipient says “no one told me,” then say “now that you know, what would you do differently?”

6. Invite reaction to your feedback (2-way)

- Ask for & listen to your colleagues reaction to your feedback
- Allow time to answer questions
- Offer support/assistance in future efforts

