



**Unlocking
Common ED
Procedures**

Micropuncture Kits for Difficult Vascular Access

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✓ Rapid Procedure Review

1. Position the patient appropriately for vascular access site
2. Assess the anatomy under ultrasound bilaterally to assure the safest site is utilized.
3. Sterile preparation of the procedure site and the proceduralist.
4. Drape patient.
5. Prepare sterile ultrasound probe cover.
6. Prepare vascular access catheter kit
7. Anesthetize insertion site by first making a wheel of lidocaine at the site and then injecting lidocaine throughout the subcutaneous and deep tissues under ultrasound guidance.
8. Under ultrasound guidance, insert micropuncture needle through the skin and advance towards the internal jugular vein via the tract of lidocaine previously made.
9. Always keep the needle tip in view under ultrasound.
10. Once flow is obtained within the syringe, drop the angle of the needle and reconfirm blood flow.
11. Remove syringe from micropuncture needle and advance the microwire.
12. Once the wire is within the vessel, remove the needle over the wire and confirm placement of the wire under ultrasound.
13. Railroad the microcatheter dilator/introducer sheath over the micropuncture wire, typically to the hub.
14. Unlock the central stiffening dilator, and removed it simultaneously with the microwire, leaving the introducer sheath in the vessel.
15. Confirm correct vessel placement using fluid manometry.
16. Advance the central line kit wire (generally 0.035") through the introducer sheath and remove the sheath.

17. Make a small nick of a #11 scalpel with the blade facing away from the midline.
18. Advance dilator over the wire with the intention of dilating the soft tissue but not the vessel. This depth of dilation will be dependent on body habitus and anatomy which should be taken into account when assessing the anatomy under ultrasound.
19. Advance the catheter over the wire and carefully feed the wire back through the catheter once at the skin to assure control of the wire before catheter advancement into the vessel.
20. Once the catheter is within the vessel, remove the wire completely.
21. Cap the third port from which the wire was removed.
22. Flush all 3 ports.
23. Secure line with suture.
24. Apply antibiotic patch and sterile dressing.



Looking for more detailed information on procedural steps, indications, contraindications, pearls, and pitfalls?

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