

Venous Cutdown

Introduction:

Venous cutdown is a procedure in which venous access may be rapidly obtained by cutting through skin and soft tissues, exposing a peripheral vein and cannulating it.

Indication:

As an alternative to venipuncture in critically ill patients in need of vascular access and in whom venipuncture may be difficult. Examples: shock, small children, sclerosed veins of intravenous drug abusers.

Contraindications:

Absolute:

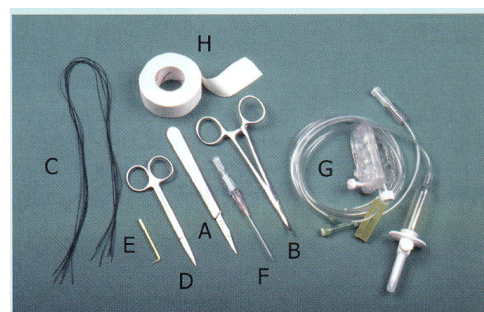
- When less invasive options exist for venous access

Relative:

- Bleeding diathesis
- Overlying skin infection
- Immunocompromised patient
- Extremity injuries proximal to the site

Equipment:

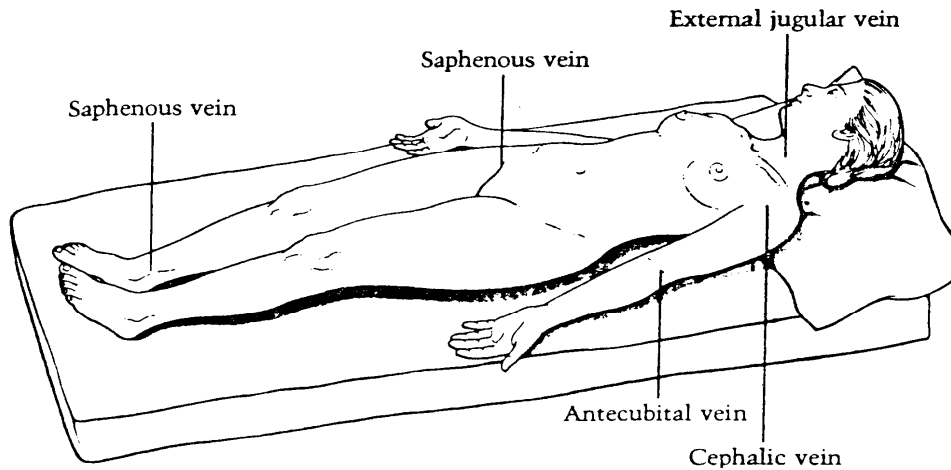
- A. Scalpel-No. 11 blade
- B. Curved hemostat
- C. No. 3-0 silk suture
- D. Iris scissors
- E. Plastic venous dilator
- F. Large-bore intravenous catheter
- G. Intravenous tubing
- H. Tape for securing catheter



Technique:

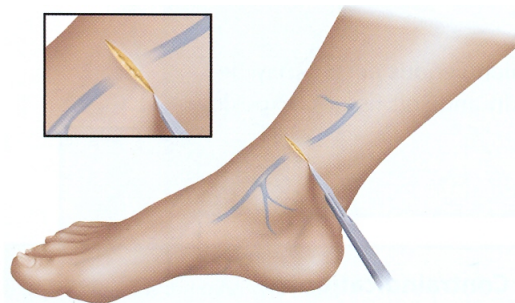
In supine position you can access one of the following veins:

- Saphenous vein at ankle or at groin.
- Antecubital veins, basilic or cephalic vein.
- Cephalic vein in deltopectoral groove.

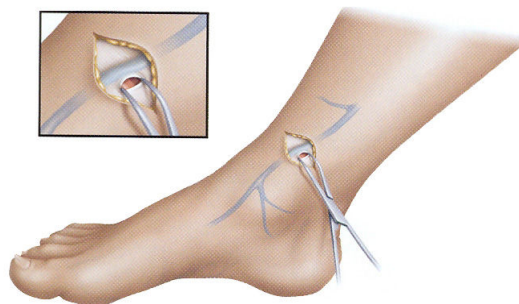


Saphenous Vein Approach:

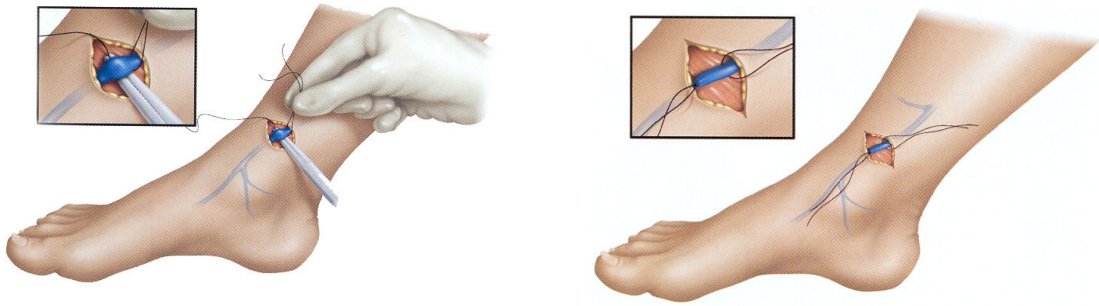
1. The greater saphenous vein is consistently located about 1 cm anterior and superior to the medial malleolus.
2. Prep and drape appropriate area. Infiltrate the skin over the vein with Lidocaine using 20-gauge needle.
3. Make a full-thickness transverse incision through the anesthetized skin to a length of 2.0 cm.



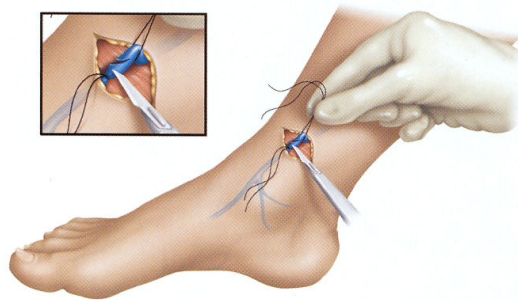
4. Bluntly dissect, isolate, and mobilize the vein.



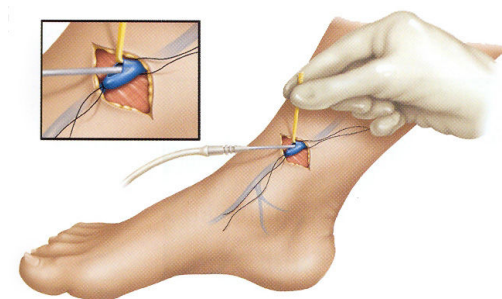
5. Pass two ligatures beneath vein. Tie distal ligature (distal to the limb).



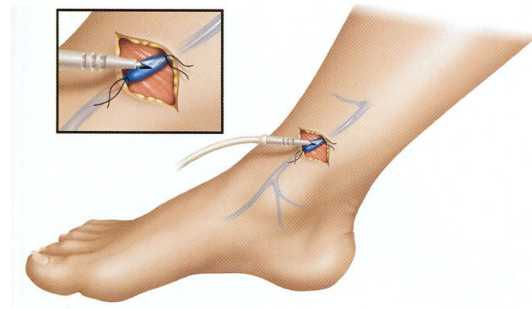
- ϭ. Incise the vein while retracting the proximal ligature.



- Ϯ. Using the plastic venous dilator to lift the flap, advance the catheter into the vein. Attach intravenous tubing to the catheter.



- λ. Tie the proximal silk suture around the vein and catheter.



- ϱ. Close wound: Suture cannula to skin at exit point. Suture skin. Reconfirm cannula patency.
- Ϻ. Apply dressing: Apply polyantibiotic ointment to wound. Apply sterile gauze dressing. Tape cannula and occlusive dressing securely.

Complications and prevention:

- **Infection:** Use strict asepsis. Bring cannula out through stab wound. Avoid long dwell time. Care for catheter as under subclavian vein cannulation.
- **Thrombophlebitis:** See under infection. Use silastic cannula instead of polyethylene cannula. Dilute solution known to cause phlebitis.
- **Arterial cannulation:** A problem only in infants. Ascertain absence of arterial pulsation.
- **Failure to find vein:** Do not attempt cutdown after previous thrombophlebitis or vein stripping. Use gentle technique to avoid spasm.

Checklist for Venous Cutdown

၁. Checks patient's name and hospital number
၂. Assembles correct equipment in the tray
၃. Greets and introduces oneself to the patient
၄. Explains procedure and gets verbal consent
၅. Positions the patient
၆. Washes hands
၇. Uses mask , gown, gloves and goggle
၈. Preps and drapes appropriate area
၉. Numbs the site and gives time to work anesthesia
၁၀. Incises skin and subcutaneous tissue correctly
၁၁. Isolates vein
၁၂. Passes two ligature beneath vein . Ties distal ligature
၁၃. Incise the vein
၁၄. Advances the catheter into the vein
၁၅. Ties the suture around the vein and the catheter
၁၆. Secures cannula in vein
၁၇. Sutures cannula to skin
၁၈. Sutures skin and reconfirms patency
၁၉. Cleans skin and applies tape
၂၀. Thanks and listens to patient's questions
၂၁. Follows through the patient to prevent complications