



<b>Department:</b>	Pediatrics		
<b>Document:</b>	Multidisciplinary Policy and Procedure		
<b>Title:</b>	Intravenous Cut Down Insertion in Pediatric Patient		
<b>Applies To:</b>	All Pediatric Staffs		
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## 1. PURPOSE:

- 1.1 To provide an intravenous access wherein percutaneous method is not technically possible to administer fluid, blood products, and pharmacologic agents in an emergency situation required for treatment and stabilization of the acutely ill patient.

## 2. DEFINITIONS:

- 2.1 **Venous Cut Down** – refers to the method of placing catheter in a vein through surgical incision to permit intravenous administration of fluids or drugs. It is used in patients with vascular collapse when gaining percutaneous access to the circulation is difficult.

## 3. POLICY:

- 3.1 The procedure is performed by a privileged Physician with a written order assisted by a competent Staff Nurse.
- 3.2 Informed consent is necessary for the procedure and has to be obtained by the Physician and may be witnessed by a nurse prior to the procedure and after details has been explained to the patient or responsible person/ family.
- 3.3 Intravenous cut down access should be secured properly.
- 3.4 Strict aseptic technique is observed throughout the procedure.

## 4. PROCEDURE:

- 4.1 Verify written order from the physician for the procedure.
- 4.2 Identify patient correctly by using two identifiers (4 names for Saudi/ complete name for Non – Saudi and the Medical Record Number).
- 4.3 Staff nurse may act as a witness in securing informed consent for medical, surgical and interventional procedure by the Physician after explanation of the procedure has been provided to and understood.
  - 4.3.1 Under certain circumstance where the consenting guardian is not present, two Physicians must sign for the said consent and must be witnessed properly.
- 4.4 Reinforce explanation to the parents the reason for the procedure. Simple straight forward language is most effective. Psychological preparation of the patient to establish trust, provide support and give explanation in easy to understand terms.
- 4.5 Inquire for allergy to latex and iodine. Inform Physician if patient is sensitive to these products.
- 4.6 Perform hand hygiene and don on gloves (non – sterile, disposable). Observe the five moments of hand hygiene as indicated.
- 4.7 Prepare and organize all the equipment's and supplies needed on the trolley and bring it to the patient's bed side.
- 4.8 Provide privacy throughout the procedure and position patient comfortably.
- 4.9 Apply moisture proof pad under the area of insertion in order to prevent the bed linen from soiling.

- 4.10 Immobilize patient by gentle restraints, exposing the limb of chosen site. To provide easy access for the procedure.
- 4.11 Wash hands thoroughly and don gloves in order to maintain sterility of the procedure.
- 4.12 Assist the Physician on site selection
  - 4.12.1 The saphenous veins are reliable site for venous access, even in small infants and it is sufficiently removed from the region of most activity during CPR.
  - 4.12.2 Distal saphenous vein at the ankle and proximal saphenous vein access. The common and best site for saphenous venous cut down is where the vein courses anterior to the medial malleolus of the tibia. At this point, it is most superficial and exposed, with only minimal blunt dissection.
  - 4.12.3 The basilica vein, a superficial vessel located just proximal of the flexor crease of the elbow. However, the median cutaneous nerve of the forearm is often found adjacent to the Basilic Vein and should be identified properly to avoid injury to this nerve and potential impairment.
  - 4.12.4 Axillary vein is associated with high complication rate as the incision is made in the axillary sheath, which encloses the axillary artery as well as the roots of brachial plexus that are contagious neurovascular structure
- 4.13 Prepare and drape the area using sterile technique. Scrub the insertion site with a sterile pad soaked in 10% Povidone-Iodine or Chlorhexidine Gluconate solution for 30 seconds, working from the centre of the area to the periphery and allowing the area to air dry. Alcohol pledges are used for 30 seconds instead, only if patient is allergic to iodine.
- 4.14 Apply tourniquet proximal to the proposed incision site. Tourniquet is applied to arrest arterial hemorrhage.
- 4.15 Assist the Physician during the procedure:
  - 4.15.1 Clean the medial aspect of the ankle with antiseptic solution.
  - 4.15.2 Infiltrate skin with 1% Lidocaine to lessen pain experienced during the procedure.
  - 4.15.3 Make a transverse incision just lateral and above the medial malleolus.
  - 4.15.4 Dissect the fascia and great saphenous vein should be viewed.
  - 4.15.5 Pass an artery forceps under the vein and gently free the vein from underlying tissue.
  - 4.15.6 Pass two silk threads and ask assistance to hold them tight.
  - 4.15.7 Make a small prick in the vein and thread the saline filled catheter into the vein. Do not use undue pressure.
  - 4.15.8 Tie and fix catheter in place with silk thread.
- 4.16 Remove the tourniquets, evacuate any air remaining in the connecting tubing, attach an infusion set and apply dressing aseptically on the puncture site. Air from connecting tubing may cause embolism.
- 4.17 Attach three way stop cock to intravenous catheter and apply dressing aseptically on the puncture site. Air from connecting tube may cause embolism.
- 4.18 Remove and dispose all used materials in a biohazard bag to prevent spread of infection.
- 4.19 Secure properly and anchor in place with splint and apply adhesive tape to avoid accidental removal during limb movement.
- 4.20 Perform hand hygiene
- 4.21 Check frequently the insertion site for any complications and signs of infection and inform immediately the Physician.
- 4.22 Document the procedure in nurse's note, the date and time of the procedure, the site of incision, the size of catheter used, patient's response to procedure and name of the Physician who performed the procedure.

## 5. MATERIAL AND EQUIPMENT:

- 5.1 Blade and Blade Holder
- 5.2 Sterile Cut Down Set
- 5.3 Tooth and Non – Toothed Forceps
- 5.4 Scissors
- 5.5 Artery Forceps
- 5.6 Needle Holder

- 5.7 Skin Retractor
- 5.8 Betadine Solution
- 5.9 Sterile 4x4 Gauze
- 5.10 Splint
- 5.11 2 – 0 Suture Material
- 5.12 1% Lidocaine Injection
- 5.13 Normal Saline Solution
- 5.14 Tourniquet
- 5.15 Sterile Gloves
- 5.16 IV Catheter
- 5.17 3cc Syringes
- 5.18 Three – Way Stopcock

**6. RESPONSIBILITIES:**

- 6.1 Physician
- 6.2 Nurses

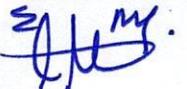
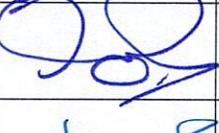
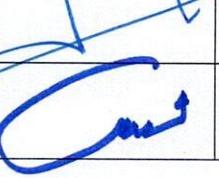
**7. APPENDICES:**

N/A

**8. REFERENCES:**

- 8.1 Ministry of Health, General Directorate of Nursing, Manual of Nursing Policy and Procedure, 2013.
- 8.2 Janice L Hinkle, Kerry Cheever, Brunner and Siddhartha's Textbook of Medical Surgical Nursing, Lippincott Williams and Wilkins, Philadelphia, 13th edition, 2014.
- 8.3 Audrey Berman, Shirlee Snyder, Kozier and Erb's Fundamentals of Nursing Concept, Process and Practice, Pearson Education, 10th edition, 2015.

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