HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND
CHILDREN HOSPITAL

Department:	Neonatal Intensive Care Unit (NICU)		
Document:	Departmental Policy and Procedure		
Title:	Urinary Catheterization in Neonates		
Applies To:	All NICU Staff		
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1. PURPOSE:

1.1 Proper insertion of urinary catheter in neonates.
1.2 Prevent Catheter Associated Urinary Tract Infection (CAUTI) in neonates.

2. DEFINITONS:

2.1 Urine collection via introducing a catheter in the urinary bladder for certain indications. Urinary bladder catheterization has a higher success rate compared to suprapubic aspiration; however, urine samples collected by catheterization have a higher false-positive culture rate than suprapubic aspiration.
2.2 Catheter Associated Urinary Tract Infection (CAUTI): Patient had an indwelling urinary catheter in place for >2 days, and catheter was in place on the date of the infection:
  2.2.1 Has at least 1 of the following signs or symptoms: fever (>38°C core), hypothermia (<36°C core), apnea with no other recognized cause, bradycardia, lethargy, vomiting, and
  2.2.2 Has a positive urine culture

3. POLICY:

3.1 For neonates, catheterizations procedure should be done by the physician and to be assisted by the nurses. There must be clear written order in the patient's file.
3.2 Insert urinary catheters only for appropriate indications.
3.3 Insert catheter under complete aseptic technique.
3.4 Minimize duration of use of indwelling catheters in all patients. The most important risk factor for developing a catheter-associated UTI (CAUTI) is prolonged use of the urinary catheter. Check the need for the catheter every 8 hours shift and remove it as soon as it is no longer needed.
3.5 Use proper size urinary catheter:
  3.4.1 Urinary catheter size 3.5-Fr for babies less than 1 kg, if not available, use umbilical arterial catheter size 3.5 Fr.
  3.4.2 Urinary catheter size 5-Fr for babies more than 1 kg. If not available, use a 5 Fr umbilical Catheter or 5 Fr feeding tube.
  3.4.3 Foleys catheter size 6 can be used for babies > 3.5 kg.
3.6 Connect catheter to a closed drainage system and maintain unobstructed urine flow.
3.7 Properly secure indwelling catheters after insertion to prevent movement and urethral traction and damage.
Physicians are the responsible

4. PROCEDURE:

4.1 **Indications include**:
  4.1.1 Collect urine specimen that san reliably indicate or rule out urinary tract infection. Suprapubic bladder aspiration is considered the most reliable method of obtaining urine for

culture in infants. Urinary bladder catheterization is an acceptable alternative method particularly if suprapubic collection is contraindicated.

4.1.2 To monitor precisely the urinary output of critically ill neonates.

4.1.3 To quantify bladder residual.

4.1.4 To relieve urinary retention e.g. neurogenic bladder or obstruction e.g. posterior urethral valve.

4.1.5 To instil contrast agent to perform cystourethrography.

4.2 **Steps:**

4.2.1 If soiling evident, clean genital area with soap and water first.

4.2.2 Complete aseptic technique is used to assemble equipment and throughout the procedure.

4.2.3 Wash hands thoroughly for two minutes and put on sterile gloves.

4.2.4 Wash the area with povidone in an anterior to posterior direction to avoid fecal material into field and let it dry.

4.2.5 **For the female**: separate the labia minora with the fingertips of the non-dominant hand (now considered non-sterile). Using sterile cotton ball/gauze and povidone, swab the area three times from front to back and center to outward, using new sterile gauze every time.

4.2.6 **For the male**: with the non-dominant hand (now considered contaminated), gently retract the foreskin just enough to expose the meatus. Clean the glans 3 times with povidone, using new sterile cotton/gauze each time. Begin at the meatus and work outward and down the shaft. The prepuce is normally not completely retractable at birth. The inner surface is fused to the glans. Forceful retraction of the foreskin can cause small lacerations.

4.2.7 Place sterile eye hole drape on the patient lower abdomen and thigh so that the meatus region is visible.

4.2.8 If dominant hand glove is contaminated, change to new sterile gloves.

4.2.9 Place the wide end of the catheter into the specimen container and lubricate its tip with single use lubricant jelly or sterile saline.

4.2.10 Gently insert the catheter into the meatus just until urine is seen in the tube. If it does not pass easily, do not use force. Suspect obstruction and abandon the procedure.

4.2.11 If sample is to be collected, collect in a sterile specimen container.

4.2.12 If indwelling catheter, connect it to a sterile drainage collecting system. Place the system below the level of the patient's bladder.

4.2.13 Secure the catheter to inner thigh/tip of penis with tape.

4.2.14 After the procedure, the assisting nurse will:

4.2.14.1 Wash off any povidone with sterile water/saline, dries area well.

4.2.14.2 Discard supplies and washes hands.

4.2.14.3 Label and send specimen for culture as ordered.

4.2.14.4 Document the procedure on the nurses progress notes including date, time, tolerance of the baby to the procedure, volume and color of urine obtained.

4.3 **Precautions**:

4.3.1 During insertion in the male, apply gentle upward traction on the penile shaft to prevent kinking of the urethra.

4.3.2 If resistance is met at the external sphincter, hold the catheter in place, applying minimal pressure.

4.3.2.1 Generally, spasm will relax after a brief period, allowing easy passage of catheter.

4.3.2.2 If not, suspect obstruction and abandon the procedure.

4.3.3 Do not move the catheter in and out. This will increase the risk of urethral trauma.

4.3.4 Do not insert extra tubing length in an attempt to stabilize a catheter to be left indwelling. This will increase the risk of trauma and knotting.

4.4 **Complications**:

4.4.1 Infection; urethritis, epididymitis, cystitis, pyelonephritis, sepsis.
Reduce risk of infection by:

4.4.1.1 Insert catheters only for proper indications.

4.4.1.2 Adhere to strict aseptic technique during catheterization and maintenance.
4.4.1.3 Maintain a closed sterile collection system.
4.4.1.4 Remove the catheter as soon as possible when no longer needed.
4.4.1.5 Hand hygiene must be done before and after handling the catheter. Wear gloves when in contact with body fluids including urine.

4.4.2 Trauma; hematuria, urethral erosion or tear, urethral false passage, perforation of the urethra or bladder, tear of the fourchette, meatal stenosis, urethral stricture, urinary retention secondary to urethral edema. Reduce the risk of trauma by:
4.4.2.1 Using the smallest-diameter catheter with lubrication.
4.4.2.2 Advancing the catheter only as far as necessary to obtain urine, and never forcing a catheter through an obstruction.
4.4.2.3 Erosion and perforation are associated with long time indwelling catheters. This risk is reduced by removing the catheter as soon as possible.

4.4.3 Mechanical; catheter malposition, catheter knot. Reduce this risk by using the minimal length of catheter insertion (insert catheter only as far as needed to obtain urine).

5. MATERIALS AND EQUIPMENT:

5.1 Sterile gloves,
5.2 Clean sterile gown,
5.3 Cup with povidone antiseptic solution.
5.4 Sterile water or normal saline.
5.5 Gauze or cotton ball swabs.
5.6 Sterile open hole drape.
5.7 Sterile specimen container with cover
5.8 Adhesive bandage.
5.9 Single use sterile lubricant.
5.10 Proper size urinary catheter.
5.11 Closed urine drainage system.

6. RESPONSIBILITIES:

6.1 Physician
6.2 Nurse

7. APPENDICES:

N/A

8. REFERENCES:

8.1 Woods SL. Bladder catheterization. Atlas of procedures in neonatology. MacDonald MG. 2007. 112-117
8.2 Ministry of health, Saudi Arabia. Guidelines for neonatal care. Reference No: NICU 12.71
8.3 Center of Disease Control and Prevention CDC/NHSN Surveillance Definitions for Specific Types of Infections. January 2014

9. APPROVALS:

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