Royal Hospital for Women (RHW)
NEONATAL BUSINESS RULE
COVER SHEET

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NAME OF DOCUMENT	Urinary Catheterisation Neonatal
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EXECUTIVE SPONSOR	S Bolisetty (Medical Co-Director Newborn Care Centre); S Wise (Nursing Co-Director Newborn Care Centre)
AUTHOR	KB Lindrea (Clinical Nurse Consultant)
SUMMARY	To provide a guide for inserting, caring for and removing a neonatal urinary catheter

Royal Hospital for Women (RHW)
NEONATAL BUSINESS RULE

Urinary Catheterisation — RHW CLIN023

1. BACKGROUND

Inserting a urinary catheter into the bladder is an aseptic procedure. A urinary catheter may be for bladder drainage, strict monitoring of urine output or for urine sample collection.

2. RESPONSIBILITIES

Medical and Nursing Staff

3. PROCEDURE

3.1 Equipment

- Mask and hat
- Protective eye wear
- Sterile gloves
- Sterile paper towels x 2
- Sterile dressing pack
- Large sterile plastic drape
- Small sterile plastic drape
- Chlorhexidine 0.5% swab sticks x 2
- 24% oral sucrose
- Size 6 Fg silicone Foley balloon catheter (2-way paediatric type)
- Sterile water-soluble lubricating jelly
- Comfeel
- 2mL sterile water ampoule
- 2mL syringe
- Leukoplast (1/2 inch)
- Neutral detergent wipes
- Blue inco-sheet

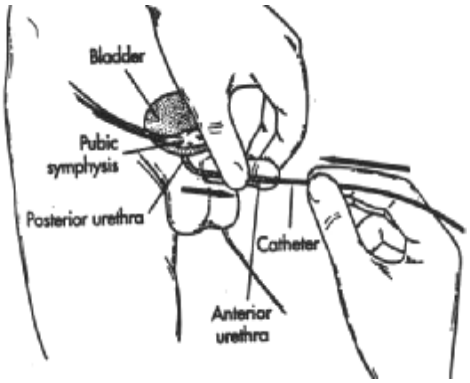
3.2 Clinical Practice

Catheter insertion

1. Identify the correct infant for the correct procedure.
2. Inform parents of the procedure (if present).
3. Position infant supine with a blue inco-sheet under infant's buttocks.
4. Administer oral sucrose prior to procedure or when infant demonstrates signs of discomfort.
5. Clean work surface of procedure trolley.
6. Collect equipment and put on bottom shelf of procedure trolley.
7. Open sterile paper towels and sterile gloves on table next to wash basin.
8. Don hat and mask before performing hand hygiene.
9. Dry hands with sterile paper towels and don sterile gloves.
10. Assistant to:

- Open large sterile plastic drape for proceduralist to drape work surface of procedure trolley
- Open equipment packs and chlorhexidine onto sterile field for proceduralist to prepare equipment:
  - Prime 2mL syringe with sterile water
  - Make a small hole in the sterile paper towel from the dressing pack
  - Remove sterile catheter plastic wrap to expose catheter tip (do not touch catheter tip)
  - Apply lubricant to catheter tip

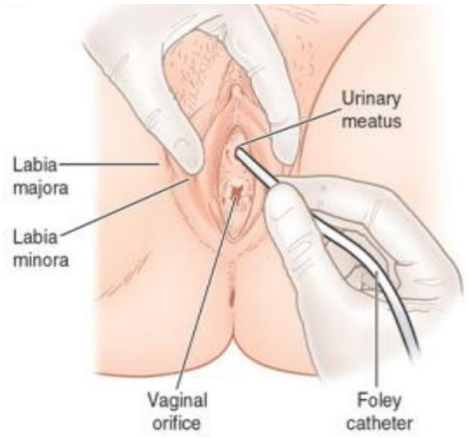
11. Clean the infant's genitalia from front to back with chlorhexidine 0.5% swab stick. Repeat cleaning.
12. Place the sterile plastic drape under the infant's buttocks.
13. Place the opening of the sterile paper drape over the genitalia.
    - Male infant:
      - Use gauze squares to hold phallus at a 90° angle to the infant's abdomen with the non-dominant hand
      - Retract the foreskin slightly without forcing it back to reveal the urethral opening
      - Swab opening with chlorhexidine
      - Hold catheter around the plastic wrap
      - Re-apply lubricant to catheter tip if required
      - Insert the catheter gently into the urethral opening until urine begins to drain (Picture 1)
      - Attach 2mL syringe with sterile water to orange connection of catheter
      - Inflate catheter balloon with 1mL of sterile water and remove syringe
      - Gently withdraw catheter until resistance is felt
      - Re-insert catheter a further 0.5 cm and check catheter continues to drain urine
      - Attach catheter to a closed urinary drainage system
      - Apply Comfeel to skin of lower abdomen or upper inner thigh
      - Apply Leukoplast to secure catheter on top of Comfeel



Picture 1

- Female Infant:
  - Use sterile gauze in non-dominant hand to open labia to expose urethral opening
  - Clean genitalia with chlorhexidine in a downward direction from inner labia outward
  - Repeat cleaning
  - Hold catheter around the plastic wrap and re-apply lubricant to catheter tip if required
  - Do not touch catheter tip
  - Insert the catheter gently into the urethral opening until urine begins to drain (Picture 2)
  - Attach 2mL syringe with sterile water to orange connection
  - Inflate catheter balloon with 1mL of sterile water and remove syringe

- Gently withdraw catheter until resistance is felt
- Re-insert catheter a further 0.5 cm and check catheter continues to drain urine
- Attach catheter to a closed urinary drainage system
- Apply Comfeel to skin of lower abdomen or upper inner thigh
- Apply Leukoplast to secure catheter on top of Comfeel



Picture 2

NOTE:
- If resistance is felt during insertion, wait a few seconds for the urethral muscle to relax before continuing
- Additional lubricant may be required
- If unable to pass the catheter, notify a senior medical officer to investigate
- DO NOT use force as it can damage the urethra
- DO NOT test the catheter balloon prior to catheterisation
- Leave catheter in situ if urethral injury is suspected with new haematuria after insertion (DO NOT remove catheter and organise an urgent surgical/urologist consult/review)
- Deflate the catheter balloon but DO NOT remove in the case of suspected urethral injury
- DO NOT inflate catheter balloon if there is no urine draining
- DO NOT use feeding tubes to catheterise an infant as there is a high risk of bladder perforation
- Supervision is required for staff not experienced in catheterising an infant or in removing the urinary catheter
- Urine bag must be kept below the level of the infant's bladder to avoid urine from bag flowing back into infant
- Urine bags must be hung on the side of the bed/crib below the infant's bladder
- DO NOT rest a urine bag on the bed or on the floor
- Catheter care is to be attended during infant's nursing care time
- Comply with any specific post-surgery instructions:
  - Cleaning of the perineal area
  - Cleaning solution to be used
  - Method of draining the urine eg. onto a dressing

14. Document procedure in NICUS and in eRIC with the following:
    - Reason for catherisation
    - Date and time of procedure

- Type and size of catheter
- Volume of water used to inflate catheter balloon
- Urine amount and colour during insertion
- Description of ease of catheter insertion

Care of infant with indwelling catheter

15. Replace the catheter if it has been in situ for longer than 4 weeks or there are clinical indicators of infection, contamination or obstruction.
16. Change catheter bag weekly and label bag with the due date to change.
17. Remove the catheter if it is no longer clinically required.
18. Ensure free flow of urine into the urine bag:
    - Check for kinks on tubing, dislodgement or detachment of urine bag from urinary catheter
    - Avoid tension or traction to the catheter
19. Check catheter insertion site during nappy change for:
    - Urine leaking around site
    - Tension, redness or discharge around site
    - Document and report abnormalities to the medical team to follow up
20. Empty the catheter bag once a shift or if it is ¾ full
    - Clean the urine bag tap with alcohol wipe before opening and closing the valve
    - Clean the junction with alcohol wipe where the urine bag connects to the urinary catheter when changing the urine bag
21. Monitor and document hourly:
    - Colour and concentration of urine
    - Urine output in eRIC and maintain fluid balance
    - Report any variations to the medical team
    - Urinalysis once a shift or as required by the medical team
22. Adhere to Universal Precautions:
    - Ensure a sterile closed urine drainage system is in use and minimise disruption of the drainage system
    - Clean the urine bag outlet tap with an alcohol swab before and after emptying the bag
    - Wear clean gloves when emptying the urinary drainage bag
23. Check that the catheter clip is detached from anchoring before moving the infant

Removal of indwelling urinary catheter

24. Remove Leukoplast tapes that secure urinary catheter to the infant's inner thigh or abdomen.
25. Don a clean pair of gloves.
26. Clean the urinary catheter entry site twice with chlorhexidine.
27. Attach a 2mL syringe to orange connector on urine catheter.
28. Withdraw syringe plunger to remove the 1mL water that inflated the balloon.
29. Check the syringe for 1mL water.
30. Use gentle traction to the catheter to remove slowly.
31. Inspect and check that the catheter tip is intact with another clinician.
32. Clean orifice with chlorhexidine.
33. Dispose the catheter and drainage bag in the clinical waste bin.
34. Remove gloves
35. Clean trolley and dispose of equipment used.
36. Observe urine output post catheter removal.
37. Document date and time of removal in NICUS and eRIC (and any adverse event associated with the procedure).

3.3 Educational Notes

- Unless specified by the medical team, normal urine output is 0.5mL-2mL/kg/hour
- The inlet and outlet tap of the urine bag harbours micro-organisms. Contamination and infection can be prevented with strict adherence to universal precautions.
- Urinary tract infection is the most common complication of indwelling catheters and is associated with increased morbidity and mortality.
- Signs of urinary tract infection in an infant:
    - Cloudy offensive urine
    - Fever
    - Looking generally unwell
    - Drowsy
    - Pale
    - Irritability
    - Poor feeding/vomiting
    - Blood in nappy

3.4 References

1. Royal Children's Hospital Melbourne: Indwelling urinary catheter clinical guidelines. https://www.rch.org.au/rchcpg/hospital_clinical_guideline_index/Indwelling_urinary_catheter_insertion_and_ongoing_care/?TB_iframe=true (accessed 7 September 2023)
2. Loveday HP, Wilson JA, Pratt RJ, et al. epic3: national evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England. J Hosp Infect 2014;86(S1):S1-70.
3. Australian Guidelines for the Prevention and Control of Infection in Healthcare, Canberra: National Health and Medical Research Council (2019).
4. Emergency Medicine Procedures, 2e Ed. Eric F. Reichman. McGraw Hill, 2013, https://accessemergencymedicine.mhmedical.com/content.aspx?bookid=683&sectionid=45343633 (accessed 7 September 2023)

4. RELATED BUSINESS RULES AND POLICY DOCUMENTS

- RHW NCC Medical CBR – Antisepsis in the Newborn Care Centre

5. CULTURAL SUPPORT

- When clinical risks are identified for an Aboriginal family, they may require additional supports. This may include Aboriginal health professionals such as Aboriginal liaison officers, health workers or other culturally specific services.
- For a Culturally and Linguistically Diverse CALD family, notify the nominated cross-cultural health worker during Monday to Friday business hours.
- If the family is from a non-English speaking background, call the interpreter service: NSW Ministry of Health Policy Directive PD2017_044-Interpreters Standard Procedures for Working with Health Care Interpreters.

6. IMPLEMENTATION PLAN

This (revised) CBR will be distributed to all medical, nursing and midwifery staff via @health email. The CBR will be discussed at ward meetings, education and patient quality and safety meetings. Education will occur through in-services, open forum and local ward implementation strategies to address changes to practice. The staff are asked to respond to an email or sign an audit sheet in their clinical area to

acknowledge they have read and understood the revised CBR. The CBR will be uploaded to the CBR tab on the intranet and staff are informed how to access.

7. RISK RATING

- Low

8. NATIONAL STANDARDS

- Standard 1 Clinical Governance
- Standard 3 Preventing and Controlling Infections
- Standard 5 Comprehensive Care

9. REVISION AND APPROVAL HISTORY

Date	Revision No.	Author and Approval
Nov 2005	1	KB Lindrea (CNC)
Jan 2010	2	KB Lindrea (CNC)
7 Sep 2023 21 September 2024	3	KB Lindrea (CNC); Approved by NCC CBR Committee Endorsed RHW Safety and Quality Committee