



ACI NSW Agency
for Clinical
Innovation

ACI Urology Network – Nursing

Bladder Irrigation – Management of haematuria

Clinical Guideline

Street address:
Level 4, Sage Building
67 Albert Avenue
Chatswood NSW 2067

Postal address:
Agency for Clinical
Innovation
PO Box 699
Chatswood NSW 2057

T +61 2 9464 4666
F +61 2 9464 4728
info@aci.health.nsw.gov.au
www.aci.health.nsw.gov.au

Acknowledgements

Colleen McDonald (CNC Urology: Westmead Hospital), Karina So (CNC Urology: Concord Repatriation General Hospital), Virginia Ip (CNC Urology: Royal Prince Alfred Hospital), Michelle Paul (Nurse Practitioner: Community Health, Greater Newcastle Cluster), Wendy Watts (CNC Urology: John Hunter Hospital) and Suzanne Cruickshanks (CNC Continence: The Continence Service of the University Medical Clinics of Camden & Campbelltown Hospitals). With thanks to Paula McLeod NSLHD, Colleen McDonald WSLDH and the former GMCT Urology Nursing Education Working Party Members for originally compiling this information, Sep 2008.

The following pages provide a clinical guideline template to enable clinicians to develop their own resource material relevant to their hospital and Area Health Service. They have been compiled by clinicians for clinicians. If you wish to use this material please acknowledge those that have kindly provided their work to enable use by others. Revise all material with colleagues before using to ensure it is current and reflects best practice.

Disclaimer: The information contained herein is provided in good faith as a public service. The accuracy of any statements made is not guaranteed and it is the responsibility of readers to make their own enquiries as to the accuracy, currency and appropriateness of any information or advice provided. Liability for any act or omission occurring in reliance on this document or for any loss, damage or injury occurring as a consequence of such act or omission is expressly disclaimed.

AGENCY FOR CLINICAL INNOVATION
Level 4, Sage Building
67 Albert Avenue
Chatswood NSW 2067

Agency for Clinical Innovation
PO Box 699 Chatswood NSW 2057
T +61 2 9464 4666 | F +61 2 9464 4728
E info@aci.nsw.gov.au | www.aci.health.nsw.gov.au

Produced by: ACI Urology Network Nurses Working Group

Ph. +61 2 9464 4666
Email. infor@aci.health.nsw.gov.au

Further copies of this publication can be obtained from:
Agency for Clinical Innovation website at: www.aci.health.nsw.gov.au

Disclaimer: Content within this publication was accurate at the time of publication. This work is copyright. It may be reproduced in whole or part for study or training purposes subject to the inclusion of an acknowledgment of the source.

It may not be reproduced for commercial usage or sale. Reproduction for purposes other than those indicated above requires written permission from the Agency for Clinical Innovation.

© Agency for Clinical Innovation 2014

TABLE OF CONTENTS

CONTINUOUS BLADDER IRRIGATION (CBI)	4
Expected Outcomes	4
Assessment and problem solving	5
Equipment for Ward based CBI	6
Procedure	6
MANUAL BLADDER IRRIGATION FOR MANAGING CLOT RETENTION	7
Signs and Symptoms of a blocked catheter	8
Optimal outcome	8
Sub-optimal outcomes	8
Equipment	8
Procedure	8
REFERENCES	10
APPENDIX 1.	11
Clinical Skill Assessment Form: Continuous Bladder Irrigation for Clearing clot retention	11
APPENDIX 2.	14
Clinical Skill Assessment Form: Manual Bladder Irrigation for Clearing clot retention	14

Continuous Bladder Irrigation (CBI)

CBI is used to reduce the risk of clot formation and maintain indwelling urinary catheter (IUC) patency by continuously irrigating the bladder via a 3 way catheter, 0.9% Sodium Chloride (Normal Saline) is recommended.

The 3 way catheter allows fluid to flow into and out of the bladder simultaneously. A large gauge IUC is used to allow for drainage of clots and debris. Use sterile equipment and aseptic technique.

NOTE: A 3 way normal tip catheter has 3 ports, a large internal lumen that is reinforced to avoid collapse when the pressure of manual irrigation is applied and large eyes which facilitate easier evacuation of clots; the third port allows for continuous irrigation.

A 3 way haematuria (whistle tip) catheter has the same features as above, except the tip is blunt and requires the use of an introducer for insertion; therefore this catheter can only be inserted by urologists or urology registrars.

The order and clinical indication for CBI needs to be documented in the Clinical progress notes, by the relevant medical officer and be reviewed at least daily. Irrigation can usually be discontinued when the urine is slightly blood stained.

The infusion rate needs to be adjusted according to the degree of haematuria (ensure adequate supply of irrigant is nearby).

After each flask is complete or the drainage bag is $\frac{3}{4}$ full empty urine drainage bag and record output on the fluid balance chart.

NOTE: Prior to performing CBI the Nurse/Medical Officer/ Student should be able to demonstrate prior knowledge, understand the risks and perform CBI safely and to the standard set by the Local Health District or Health Care Provider.

Expected Outcomes

1. The patients comfort is maintained.
2. Fluid balance is monitored closely and accurately recorded to prevent or minimise complications. *It is the nurses' responsibility to ensure the accuracy of fluid balance and IUC patency.*
3. The IUC remains patent and urine drains freely: Record the colour in the drainage bag tubing as it may appear darker in the drainage bag.
4. Aseptic technique is maintained to reduce the risk of a catheter associated urinary tract infection (CAUTI) secondary to contamination during the procedure and break in the closed urinary drainage system.
5. Bladder spasms are avoided by infusing fluids stored at room temperature and securing the IUC appropriately to minimise IUC movement.
6. Catheter care provided is documented in the clinical progress notes as well as patient comfort, urine colour/degree of haematuria, urine output and presence of clots if any and if manual bladder irrigation was required.

Assessment and problem solving

1. If the amount of drainage is less than the irrigant infused:

- Turn off the irrigation and check for kinks, loops or clots in the catheter or drainage bag tubing. Palpate the bladder and note any patient pain or discomfort. Performing a bladder scan *may* be useful to determine bladder volume. Try “milking” the IUC to dislodge clots.
- Check the height of the IV pole and for overflowing of the drip chamber (can affect patency).
- Recalculate input and output i.e. Calculating urine volume:

$$\text{Volume in} - \text{Volume out} = \text{Urine volume}$$

- Use of a closed intermittent irrigation system (preferred) or manual irrigation may be required if obstruction is the cause (Refer to facility guidelines). Notify relevant medical officer if unsuccessful.

2. If there is an increase in haematuria or clots present:

- Increase the infusion rate and observe the drainage and patient comfort.
- Use of a closed intermittent irrigation system (preferred) or manual irrigation may be indicated if obstruction is suspected to aid in clot evacuation (Refer to Facility guidelines). Notify relevant medical officer if unsuccessful.

3. Patient experiencing pain:

- Turn off the irrigation and check for kinks, loops or clots in the catheter or drainage bag tubing.
- Palpate the bladder to determine distention.
- Check drainage to determine if output is adequate.

4. Leakage around the catheter (bypassing):

- Refer to point 1 – assess for obstruction.
- Assess for bladder spasm:
 - Avoid cold irrigation fluid.
 - Ensure the IUC is secured to the patient’s thigh to minimise catheter movement.

5. If the patient becomes confused or agitated post TURP:

TURP syndrome (uncommon) occurs when there is an overload of irrigation fluid through the prostatic sinuses during the operative procedure that can lead to confusion, hypertension and hyponatremia.

- Assess patient for orientation to time, person and place and notify relevant medical officer of patient’s changed status.
- Ensure relevant information is available for the medical officer to review including time of change in orientation, administration of any pain relief, amount of irrigant infused and true output i.e. Subtract the volume in out from the volume in = true urine output.

Equipment for Ward based CBI

- Alcohol based hand rub
- Personal Protective Equipment (PPE): protective eyewear, plastic apron and gloves
- Dressing trolley
- Dressing pack
- 2x Sodium chloride 0.9% (Normal Saline) irrigation bags, (volume as per facility procedure)
- 70% isopropyl alcohol wipes
- Continuous bladder irrigation (CBI) set
- IV pole
- 6x 70% alcohol swabs
- Sterile gloves
- Waste bag
- Disposable underpad

Procedure

1. Perform hand hygiene in accordance with the 5 moments in hand hygiene.
2. Verify patient's identity and confirm correct patient and procedure and check for allergies.
3. **Note:** a 3 way Foley catheter must be insitu if not one must be inserted (refer to facility procedure for insertion of an indwelling urinary catheter).
4. Clean dressing trolley with 70% isopropyl alcohol wipes, allow drying, gather equipment, check sterility and integrity of sterile items and take to the bedside.
5. Ensure patient privacy.
6. Position patient in supine position, allow for easy access to the IUC to minimise the need for staff to twist, bend or maintain awkward static postures. Obtain assistance if required.
7. Place a disposable sheet under the patient's buttocks.
8. Empty urine drainage bag (refer to facility procedure) record measurement on the fluid balance chart.
9. Perform hand hygiene.
10. Put on protective eyewear, plastic apron and non-sterile gloves.
11. Ensure the IV pole is at a safe accessible height before hanging the Sodium Chloride flasks.
12. Insert the prongs from the irrigation set into the flasks and prime irrigation tubing expel air and close the clamp. *Do not* remove the silicone protective tube from the connector at this time; hang tubing from the IV pole. Maintain asepsis.
13. Raise and secure the IV pole to the appropriate height.
14. **Note:** When priming, open *ONE* irrigation flask only as the fluid can run from one flask to the other.
15. Place a disposable underpad underneath the irrigation port to contain any spillage and discard gloves.
16. Perform hand hygiene.

17. Open the dressing pack and add the 70% alcohol wipes and put on sterile gloves.
18. Using sterile gauze grasp the irrigation port with the non-dominant hand.
19. Using the dominant hand place the sterile paper towel over the disposable sheet to create your sterile field.
20. Using the dominant hand and sterile gauze, remove the spigot from the irrigation port and discard if not attached.
21. Clean IUC irrigation arm and port well with 70% alcohol swabs, allow to dry.
22. Remove the silicone tube from the connector of irrigation tubing and connect securely to the irrigation port, whilst maintaining aseptic technique.
23. Unclamp the irrigation tubing and set the rate of infusion by adjusting the roller clamp.
24. Remove the disposable sheet and ensure patient is comfortable.
25. Dispose of waste according to facility protocol.
26. Remove PPE.
27. Clean trolley.
28. Perform hand hygiene.
29. Document procedure performed and outcome in patient clinical progress notes.

Manual Bladder Irrigation for managing clot retention

Manual bladder irrigation is used to clear the bladder and catheter of blood clots and restore catheter patency.

Manual bladder irrigation involves flushing a 3 way urinary catheter manually with a catheter tipped syringe and sterile sodium chloride 0.9% (normal saline) to evacuate ALL clots followed by continuous bladder irrigation to minimise the risk of further clot formation and over distention of the bladder. Use sterile equipment and aseptic technique.

Manual irrigation whilst not contraindicated in patients who have had deep resection of bladder tumours, open bladder or renal transplant surgery it *must* be ordered and documented by urology registrar or urologist and be performed by an experienced clinician. Manual irrigation must be gentle as the increased pressure in the bladder can result in suture disruption or bladder perforation with resultant extravasation of urine.

If in the first 24 hours post-urethral resection of prostate (TURP) the catheter cannot be unblocked the urology registrar or CMO must be notified. Nursing staff (unless an experienced urology nurse) and RMO's must not attempt recatheterisation unless authorised by urology registrar, CMO or urologist due to the risk of prostatic capsular perforation or sub-trigonal catheter placement on reinsertion.

All care should be taken to avoid splashing that could lead to exposure to body fluid during the procedure.

NOTE: Prior to undertaking the procedure the Nurse/Medical Officer/ Student should be able to demonstrate prior knowledge and perform manual irrigation safely and to the standard set by the Local Health District or Health Care Provider.

Signs and Symptoms of a blocked catheter

- No urine flow from the catheter.
- Suprapubic distention and lower abdominal pain becoming more pronounced as the bladder fills.
- Urine leaking around the catheter (bypassing).
- Vaso-vagal symptoms may develop i.e. sweating, tachycardia and hypotension if the blockage is unrelieved.
- Autonomic dysreflexia in Spinal Cord Injured (SCI) patients.

Optimal outcome

The clots are removed from bladder and the urine is draining freely.

Sub-optimal outcomes

- Over distention of the bladder.
- Inability to unblock the IUC and requiring catheter replacement.
- Development of a catheter associated urinary tract infection (CAUTI) secondary to contamination during the procedure and break in the closed urinary drainage system.

Equipment

- Alcohol based hand rub
- 1 catheter pack
- 1 catheter tip 50ml syringe 70% alcohol swabs
- 1 bottle 500mL sterile sodium chloride 0.9% (Normal Saline)
- Sterile kidney dish
- 1 sterile urinary drainage bag
- Disposable underpad
- Non-sterile jug/ receptacle on bottom of trolley
- 1 pair of sterile gloves
- Personal Protective Equipment (PPE) protective eyewear, plastic apron/disposable gown and gloves

Procedure

1. Perform hand hygiene in accordance with the 5 moments in hand hygiene.
2. Explain procedure to patient, obtain consent and identify allergies.
3. Clean dressing trolley with 70% isopropyl alcohol wipes, allow drying, gather equipment, check sterility and integrity of sterile items and take to the bedside.
4. Ensure patient privacy.
5. Position patient in supine position, allow for easy access to the IUC to minimise the need for staff to twist, bend or maintain awkward static postures. Obtain assistance if required.

6. Place a disposable sheet under the patient's buttocks.
7. Place blue disposable sheet under the catheter and drainage bag connection.
8. Place non-sterile jug/receptacle on bottom of designated procedure trolley.
9. Perform hand hygiene.
10. Open the catheter pack and add 50mL syringe, alcohol swabs, sterile drainage bag.
11. Pour sterile chloride 0.9% into kidney dish.
12. Perform hand hygiene.
13. Put on eye protection, disposable gown/plastic apron and sterile gloves.
14. Draw up 50mL of sodium chloride 0.9%.
15. Using both hands place the gauge squares around the catheter drainage port and drainage bag connection.
16. Disconnect the catheter from the drainage bag and discard the drainage bag and gauze under the catheter port to create your sterile field.
17. Using the dominant hand place the sterile paper towel over the disposable sheet and under the catheter port to create your sterile field.
18. Clean the catheter drainage port well with the 70% alcohol swabs and discard.
19. Using 50mL volumes of sodium chloride 0.9%, irrigate the catheter by flushing in and drawing back on the plunger to evacuate any clot or debris. *Warn the patient that this will be painful/uncomfortable.* If resistance is encountered reasonable pressure can be used (except following renal transplant or bladder surgery). Empty each syringe directly into the non-sterile jug/receptacle on the bottom of the trolley.
20. Continue to irrigate with 50mL volumes until you achieve a clear or clot free return.
21. Connect a new drainage bag and secure the catheter.
22. Recommence continuous bladder irrigation.
23. Remove disposable sheets and ensure that the patient is comfortable.
24. Remove PPE.
25. Dispose waste according to local policy.
26. Perform hand hygiene.
27. Calculate the difference between volume in and volume returned.
28. Document outcome in patient clinical progress notes including:
 - i) Date and time of procedure,
 - ii) Indication for the procedure including the patients clinical signs and symptoms
 - iii) Outcome i.e. colour and type of drainage, presence of clots and patients tolerance of the procedure.
29. Record on the fluid balance chart volume in the volume return.

References

- Australian Commission on Safety and Quality in Health Care. Standard 3. Preventing and Controlling Healthcare Associated Infections. Safety and Quality Improvement Guide. October 2012.
- Cutts B. Developing and implementing a new bladder irrigation chart. *Nursing Standard*. 2005;20(8):48-52.
- Newman D K. [Managing Urinary Retention in the Acute Care Setting](#). 2011.
- Ng C. Assessment and intervention knowledge of nurses in managing catheter patency in continuous bladder irrigation following TURP. *Urologic Nursing*. 2001;21(2):97-8, 101-7, 110-1.
- NSW Health (AU). Hand Hygiene Policy – PD2010_058. Accessed December 2013. Available from: www0.health.nsw.gov.au/policies/pd/2010/PD2010_058.htm
- NSW Health (AU). Infection Control Policy – PD2007_036. Accessed December 2013. Available from: www.health.nsw.gov.au/policies/pd/2007/pdf/PD2007_036.pdf
- NSW Health (AU). Medication Handling in NSW Public Health Facilities – PD2013_043. Accessed 2013. Available from: www0.health.nsw.gov.au/policies/pd/2013/PD2013_043.html
- Scholtes S. Management of clot retention following urological surgery. *Nursing Times*. 2002;98(8):48-50.
- The Joanna Briggs Institute (AU) Management of Short Term Indwelling Urethral Catheters to Prevent Urinary Tract Infections, Evidence Based Practice Information Sheet for Health Professionals, 2000. Vol 4 issue 1.

Appendix 1.

Clinical Skill Assessment Form: Continuous Bladder Irrigation for Clearing clot retention

Name of Assessee

Signature of Assessee

Ward/Location

Date of Assessment

Name of Assessor

Signature of Assessor

Performance Criteria		
Professional Attitude and Patient Communication.	Yes	No
Introduced self to patient.		
Explained that the procedure is being observed and assessed.		
Gained verbal or inferred consent from the patient.		
Addressed any patient concerns that may have arisen during the procedure.		
Performance Criteria		
Patient Assessment and Planning.	Yes	No
Explained the procedure to the patient.		
Stated indications and reasons for the bladder irrigation.		
Followed the requirements for patient preparation – as per facility policy.		
Identified and planned for potential difficulties.		
Performance Criteria on Procedure		
Continuous Bladder Irrigation	Yes	No
Performed hand hygiene.		
Verify patient's identity and confirm correct patient and procedure and check for allergies.		
Ensure that a 3 way Foley catheter must be insitu if not one must be inserted (refer to facility procedure for insertion of an indwelling urinary catheter).		

Clean dressing trolley with 70% isopropyl alcohol wipes, allow drying, gather equipment, check sterility and integrity of sterile items and take to the bedside.		
Ensure patient privacy.		
Position patient in supine position, allow for easy access to the IUC to minimise the need for staff to twist, bend or maintain awkward static postures. Obtain assistance if required.		
Place a disposable sheet under the patient's buttocks.		
Empty urine drainage bag (refer to facility procedure) record measurement on the fluid balance chart.		
Perform hand hygiene.		
Put on protective eyewear, plastic apron and non-sterile gloves.		
Ensure the IV pole is at a safe accessible height before hanging the Sodium Chloride flasks.		
Insert the prongs from the irrigation set into the flasks and prime irrigation tubing expel air and close the clamp. Do not remove the silicone protective tube from the connector at this time; hang tubing from the IV pole. Maintain asepsis.		
Raise and secure the IV pole to the appropriate height.		
Ensure that when priming, open ONE irrigation flask only as the fluid can run from one flask to the other.		
Place a disposable underpad underneath the irrigation port to contain any spillage and discard gloves.		
Perform hand hygiene.		
Open the dressing pack and add the 70% alcohol wipes and put on sterile gloves.		
Using sterile gauge grasp the irrigation port with the non-dominant hand maintain grasp.		
Using the dominant hand place the sterile paper towel over the disposable sheet to create your sterile field.		
Using the dominant hand and sterile gauze, remove the spigot from the irrigation port and discard if not attached.		
Clean IUC irrigation arm and port well with 70% alcohol swabs, allow to dry.		

Remove the silicone tube from the connector of irrigation tubing and connect securely to the irrigation port, whilst maintaining aseptic technique.		
Unclamp the irrigation tubing and set the rate of infusion by adjusting the roller clamp.		
Remove the disposable sheet and ensure patient is comfortable.		
Dispose of waste according to facility protocol.		
Remove PPE.		
Clean trolley.		
Perform hand hygiene.		
Document procedure performed and outcome in patient clinical progress notes. Calculated the difference between volume infused and volume returned. Disposed waste according to local policy. Removed PPE and performed hand hygiene.		
Performance Criteria		
WH&S Issues Identified and Applied.	Yes	No
Identified the following aspects of WH&S and performed a risk assessment prior to performing the bladder irrigation.		
Positioned patient to minimise need to twist, bend or maintain awkward position. Obtained assistance if required.		
Maintained aseptic technique.		
Use of personal protective equipment (facial protection, gown/apron, gloves).		
Correctly disposed of waste.		
Performed hand hygiene in accordance with 5 Moments for Hand Hygiene.		

Appendix 2.

Clinical Skill Assessment Form: Manual Bladder Irrigation for Clearing clot retention

Name of Assessee

Signature of Assessee

Ward/Location

Date of Assessment

Name of Assessor

Signature of Assessor

Performance Criteria		
Professional Attitude and Patient Communication.	Yes	No
Introduced self to patient.		
Explained that the procedure is being observed and assessed.		
Gained verbal or inferred consent from the patient.		
Addressed any patient concerns that may have arisen during the procedure.		
Performance Criteria		
Patient Assessment and Planning.	Yes	No
Explained the procedure to the patient.		
Stated indications and reasons for the bladder irrigation.		
Followed the requirements for patient preparation – as per facility policy.		
Identified and planned for potential difficulties.		
Performance Criteria on Procedure		
Manual Bladder Irrigation	Yes	No
Performed hand hygiene.		
Explain procedure to patient, obtain consent and identify allergies.		
Clean dressing trolley with 70% isopropyl alcohol wipes, allow drying, gather equipment, check sterility and integrity of sterile items and take to the bedside.		

Ensure patient privacy.		
Position patient in supine position, allow for easy access to the IUC to minimise the need for staff to twist, bend or maintain awkward static postures. Obtain assistance if required.		
Place a disposable sheet under the patient's buttocks.		
Place blue disposable sheet under the catheter and drainage bag connection.		
Place non-sterile jug/receptacle on bottom of designated procedure trolley.		
Performed hand hygiene.		
Open the catheter pack and add 50mL syringe, alcohol swabs, sterile drainage bag.		
Pour sterile chloride 0.9% into kidney dish.		
Perform hand hygiene.		
Put on eye protection, disposable gown/plastic apron and sterile gloves.		
Draw up 50mL of sodium chloride 0.9%.		
Using both hands place the gauze squares around the catheter drainage port and drainage bag connection.		
Disconnect the catheter from the drainage bag and discard the drainage bag and gauze under the catheter port to create your sterile field.		
Using the dominant hand place the sterile paper towel over the disposable sheet and under the catheter port to create your sterile field.		
Clean the catheter drainage port well with the 70% alcohol swabs and discard.		
Using 50mL volumes of sodium chloride 0.9%, irrigate the catheter by flushing in and drawing back on the plunger to evacuate any clot or debris. Warn the patient that this will be painful/uncomfortable. If resistance is encountered reasonable pressure can be used (except following renal transplant or bladder surgery). Empty each syringe directly into the sterile receptacle.		
Continue to irrigate with 50mL volumes until you achieve a clear or clot free return.		
Connect a new drainage bag and secure the catheter.		
Recommence continuous bladder irrigation.		

Remove disposable sheets and ensure that the patient is comfortable.		
Remove PPE.		
Dispose waste according to local policy.		
Perform hand hygiene.		
Calculate the difference between volume in and volume returned.		
Document outcome in patient clinical progress notes including: <ul style="list-style-type: none"> • Date and time of procedure, • Indication for the procedure including the patients clinical signs and symptoms • Outcome i.e. colour and type of drainage, presence of clots and patients tolerance of the procedure. 		
Record on the fluid balance chart volume in the volume return.		
Performance Criteria		
WH&S Issues Identified and Applied.	Yes	No
Identified the following aspects of WH&S and performed a risk assessment prior to performing the bladder irrigation.		
Positioned patient to minimise need to twist, bend or maintain awkward position. Obtained assistance if required.		
Maintained aseptic technique.		
Use of personal protective equipment (facial protection, gown/apron, gloves).		
Correctly disposed of waste.		
Performed hand hygiene in accordance with 5 Moments for Hand Hygiene.		