

Adult Urethral Catheterisation for Acute Care Settings

Summary This Guideline describes the best practice principles that should be employed when inserting and managing urethral catheters in adult acute care settings in NSW Public Health Organisations (PHOs).

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Branch contact 02 9269 5500

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Audience Hospital administration;nursing;medical;surgical;clinical governance;clinical staff

ADULT URETHRAL CATHETERISATION FOR ACUTE CARE SETTINGS

PURPOSE

The purpose of this guideline is to describe the best practice principles that should be employed when inserting and managing urethral catheters in adult acute care settings in NSW Public Health Organisations (PHOs).

KEY PRINCIPLES

Indwelling urinary catheters are a potential reservoir of infection. To minimise the risk of a patient acquiring a catheter associated urinary tract infection (CAUTI), clinicians should ensure that indwelling urethral catheters are:

- Inserted only if clinically indicated
- Inserted and maintained using aseptic technique
- Removed as soon as the clinical need has been resolved.

Catheter insertion, routine care and catheter removal should be documented in the patient's healthcare record.

USE OF THE GUIDELINE

The Chief Executives of NSW PHOs are responsible for the implementation of this Guideline within their services / facilities to ensure that local protocols or operating procedures are in place, aligned and consistent with the Guideline.

All clinicians working in adult acute care settings and who are involved in the care of patients with catheters should be aware of the Guideline and actively participate in its implementation.

The Clinical Excellence Commission will take responsibility for producing resources for PHOs to support the implementation of this guideline.

REVISION HISTORY

Version	Approved by	Amendment notes
December 2015 (GL2015_016)	Deputy Secretary, System Purchasing and Performance	New guideline

ATTACHMENTS

1. Adult urethral catheterisation for acute care settings: guideline

Adult Urethral Catheterisation for Acute Care Settings



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1 BACKGROUND

1.1 Purpose

The purpose of this guideline is to provide the best practice principles to be applied when inserting and managing urethral catheters for adult patients in NSW Public Health Organisations (PHOs), to reduce unnecessary catheterisation and the risk of the catheter associated urinary tract infection.

This document is intended to support all trained and credentialed healthcare clinicians who are competent in urinary catheter practice for acute care settings. It is the responsibility of the PHO to ensure clinicians whose role involves the insertion, maintenance or removal of urethral catheters are trained and credentialed.

1.2 About this document

This guideline addresses the insertion, care and removal of urethral catheters in adults during acute care.

This guideline does not address suprapubic catheterisation, acute paediatric catheterisation or care and use of chronic or long term catheters for adult patients. This document provides limited advice

for maternity and birth settings however these units should refer to local procedures for further clarification.

NSQHS Standard 3.9

Implementing protocols for invasive device procedures regularly performed within the organisation

 Tips for improving current practice are signified by this symbol.

 Critical clinical practice issues are signified by this symbol.

1.3 Abbreviations and key definitions

ACORN	Australian College of Operating Room Nurses
Autonomic dysreflexia	Autonomic dysreflexia is a sudden and severe rise in blood pressure resulting from overactivity of an isolated sympathetic nervous system below the lesion, triggered by a nociceptive stimulus that can result in intracranial haemorrhage, fits, arrhythmias, hypertensive encephalopathy and even death [1].
CAUTI	Catheter-associated urinary tract infections
Clinical indication	Rationale to justify a clinical procedure or treatment
Closed system	A closed urinary drainage system consists of a catheter inserted into the urinary bladder and connected via tubing to a drainage bag. The catheter is retained in the bladder by an inflated balloon [2].
Credentialing	A process used to verify the qualifications and experience of primarily medical practitioners to determine their ability to provide safe, high quality health care services within a specific health care setting [3].
CSU	Catheter specimen of urine
Fr	French gauge

IDC	Indwelling catheter. Also known as indwelling urinary catheter or IUC.
In / out catheterisation	Also known as intermittent. Involves brief insertion of a non-balloon urethral catheter into the bladder through the urethra to drain urine [4]. May be on once- off or at intervals.
MSU	Mid stream urine
NSQHS Standards	National Safety and Quality Health Service Standards
PHO	Public Health Organisation(s). This term refers to Local Health Districts, statutory health corporations or an affiliated health organisation in response of its recognised establishments and recognised services, as defined in the <i>Health Services Act 1997</i> .
PPE	Personal protective equipment
Short term indwelling catheterisation	For the purposes of this guideline, short term indwelling catheterisation is considered to be ≤ 14 days [5].
SPC	Suprapubic catheter
UTI	Urinary tract infection

2 DOES THE PATIENT NEED A CATHETER?

2.1 Indications for catheter insertion

Clinicians **should only** consider catheterisation if one or more of the following indications are present:

- Management of urinary retention or obstruction
- Clot retention associated with gross haematuria
- Monitoring for sepsis, trauma, renal function, electrolyte or fluid balance
- Injury or surgery affecting urinary function and / or involving immobility (including injury, surgery or disease affecting the spinal cord)
- Investigation, diagnostic or treatment (including bladder irrigation or instillation)
- Urinary incontinence management associated with wound care, end-of-life care or chemotherapy, if other options available adversely affect patient’s comfort
- Urogenital or bladder management (e.g. management of fistula or haematuria)
- Labour and birth management.

See [Section 8.1](#) for additional precautions required for high risk patients.

With the exception of an existing clinical pathway, local protocols or crisis settings, the decision to insert a catheter should be made in consultation with a medical officer.

2.1.1 Inappropriate reasons for catheter insertion



It is **not** appropriate for urinary catheterisation to be undertaken:

- As a substitute for the nursing care of a patient with urinary incontinence, obesity, confusion, dementia or other reasons

- For a patient requiring bed rest or with decreased mobility that has no other clinical need for catheterisation
- For monitoring urinary output when the patient is able to void voluntarily or once the clinical need is no longer warranted
- For prolonged post-operative duration in the absence of an appropriate clinical indication for ongoing catheterisation.

2.1.2 Confirming urinary retention

Catheterisation should not be performed if retention is not confirmed. Retention can be confirmed by using a bladder scanner or if not available, through palpation and percussion of the bladder. Clinicians should refer to manufacturer’s instructions on how to use

ACI Urology Network guidelines

[Non-real time bladder scanning - Adult](#)

a bladder scanner, how to interpret the scan and the contraindications associated with specific models. Where the results of a non real-time bladder scan are inconsistent with the patient’s clinical picture, further consultation with a senior nurse or medical officer is required.

- ⚠ The use of real time bladder scanners is recommended for bariatric patients, patients with ascites and post-partum women as these scanners provide higher accuracy readings.

3 WHICH CATHETER SHOULD BE USED?

3.1 Intermittent ‘in / out’ catheterisation

Intermittent ‘in / out’ catheterisation should be considered when a urinary catheter is required to be inserted and removed immediately after the completion of drainage.

Intermittent ‘in / out’ catheterisation is appropriate for the alleviation of urinary retention or obstruction (e.g. neurogenic bladder) or for certain investigations (e.g. collection of a catheter urine specimen). Clinical contraindications for intermittent ‘in / out’ catheterisation are:

- Urethral stricture
- Urethral reconstruction
- Clot retention
- Known or suspected urethral trauma
- Thrombolytic therapy for stroke
- Conditions where continuous drainage is required
- Urethral orifice cannot be identified or accessed due to injury, obstruction or urogenital atrophy.

- ⚠ Repeated intermittent catheterisation may be undertaken, however repeated insertions may increase the risk of trauma to the insertion site and urethra [6] and may increase the risk of introducing microorganisms into the bladder. Ensure that the catheter is well lubricated to minimise insertion trauma.

- ⚠ Intermittent catheterisation an aseptic procedure and is different to clean intermittent ‘in / out’ self-catheterisation, which is normally done by the patient or

their carer and is not an aseptic procedure.

3.2 Short term indwelling catheterisation

Short term indwelling catheterisation should be used when bladder drainage is required for up to 14 days [5].

Clinical contraindications for short term catheterisation are:

- Urethral stricture
- Urethral orifice cannot be identified or accessed due to injury, obstruction or urogenital atrophy
- Urethral reconstruction
- Known or suspected urethral trauma
- Trauma and / or fractured pelvis with bleeding from the urethral meatus



The duration of catheterisation is patient and procedure dependent. Refer to the treating clinician for further advice.



Catheterisation should be avoided, if possible, if the patient has acute prostatitis. If catheterisation cannot be avoided, seek a urology / medical consult to confirm the need for catheter insertion and to review antibiotic therapy (See [Section 8](#)).

3.3 Suprapubic catheterisation

The first insertion of a suprapubic catheter (SPC) is an invasive procedure where the catheter accesses the bladder directly through the abdomen. Consult with a senior medical officer when deciding whether a SPC is necessary. Suprapubic catheterisation is outside the scope of this document; refer to the [ACI Urology Network guidelines: Supra Public Catheter \(SPC\) - Adult](#) for further advice.

3.4 Catheter material

Use of latex free catheters is recommended. Latex materials may elicit a significant allergic or sensitisation reaction. In addition, a larger latex catheter is usually needed to achieve the same drainage rate as a smaller latex-free catheter. Using a larger size catheter may unnecessarily increase the risk of trauma, haematuria and infection. Urinary catheters impregnated with antimicrobial agents are not routinely used but may be available in certain NSW PHOs.

There is equivocal evidence to support the use of these catheters as a means to minimise catheter-associated urinary tract infections (CAUTIs) [7]. Clinicians should consult with infectious diseases and urology teams prior to ordering antimicrobial impregnated catheters.

3.5 Catheter size

The patient's anatomy and clinical presentation will influence the size of the catheter and the catheter tip (round, curved, open-ended) required. The most appropriate size for the individual patient should be based on clinical assessment however clinicians should select the smallest sized catheter that will enable adequate access and drainage. Refer to Table 1 for further guidance.

Table 1. Catheter size guide (selection may vary depending on patient’s condition and availability of local resources)

Patient presentation*	Gender	Minimum catheter size (Fr)	Urology advice required before insertion
Clear urine with no sediment, encrustation, debris or haematuria	Female	12**	No
	Male	16	No
Clear or slightly cloudy urine with none or mild sediment. Light haematuria with none or small clots	Female	14***	No
	Male	16	No
Moderate to heavy sediment or haematuria with moderate clots	Female	16	Yes
	Male	18	Yes
Very cloudy urine with heavy sediment or haematuria with moderate to heavy clots. Usually used post-operatively following bladder / prostatic surgery or trauma	Both	20	Yes
Severe haematuria containing large blood clots. Usually used post-operatively following bladder / prostatic surgery or trauma	Both	22-24	Yes

* Where possible, spinal cord injury clients should be managed with an open tip catheter. This will assist with the drainage of sediment and reduce the risk of blocking.

** 14 Fr may be required in obstetric settings

*** Use of an open tip catheter may enable use of a smaller sized catheter.

 Use of a Coude tip (curved tip) catheter may enable easier catheter insertion if attending to a male patient with an enlarged prostate.

 The use of three way catheters is beyond the scope of this guideline. The decision to use a three way catheter should be made in consultation with urologist and / or treating medical officer.

3.6 Clinical procedure safety

Urethral catheter insertion is a Level 1 procedure. Prior to catheter insertion, clinician(s) performing the insertion should:

- Confirm patient identification
- Confirm that the patient requires catheterisation
- Check for any allergy / adverse reactions and other relevant medical or surgical history (e.g. latex or lignocaine allergy, previous urology history, autonomic dysreflexia risk)
- Consider the planned procedure, critical steps and risk factors (e.g. enlarged prostate), anticipated events and equipment requirements. In rare circumstances, consider whether medication (e.g. light sedation or pain relief) is required prior to catheter insertion.

NSW Health Policy

[NSW Health Clinical Procedure Safety](#)

4 HOW TO INSERT A URETHRAL CATHETER

4.1 Personal protective equipment

Inserting a urethral catheter requires a standard aseptic technique or in surgical settings, surgical aseptic technique [8]. Clinicians should wear gloves, eye protection and apron / gowns commensurate with the level of protection required to maintain asepsis and to protect themselves from blood and body fluid exposure during catheter insertion [8].

Australian College of Operating Room Nurses

[Standards for Perioperative Nursing](#)

Royal Australasian College of Surgeons Position Paper

[Prevention of Healthcare Associated Infection in Surgery](#)

4.2 Equipment for catheter insertion

Clinicians should consider using the following equipment when inserting a urethral catheter:

- 1 aseptic field
- 5 gauze squares (In theatre settings only raytec gauze should be used)
- 1 syringe, 10mL Luer Slip concentric
- 1 sterile paper towel
- 1 large (fenestrated) drape
- 1 sachet water soluble lubricant
- 2 sterile trays
- 1 x 10mL sterile water for injection
- 1 x 30mL sterile 0.9% sodium chloride squeeze pack
- 1 batch tracking patient label
- 1 catheter securement device
- 3 plastic disposable forceps.

The choice to add or remove items to this list is at the discretion of the PHO.

4.3 Catheter insertion procedure

Where possible, use a two clinician buddy system to carry out the procedure. The patient's ethical, religious and cultural beliefs and personal history should be considered when appointing clinicians to perform a catheterisation. A chaperone may also be required to observe the procedure.

It is recommended that the patient's genital area should be washed with soap and water prior to catheterisation. If unable to insert a catheter after two attempts (includes changing to different catheter size), seek further assistance from a senior clinician. A new catheter should be used for each attempt.



Testing of the catheter balloon prior to insertion may compromise the integrity of some catheters. Refer to manufacturer's instructions to see if pre-insertion testing is required.

NSQHS Standard 3.9

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NSW Health Policies

[Your Health Rights and Responsibilities](#)

[Consent to medical treatment - Patient information](#)

ACI Urology Network guidelines

[Female insertion](#)

[Male insertion](#)

The following procedure for insertion is suggested:

1. Perform hand hygiene on entry into the patient zone.
 2. Explain the procedure to the patient and gain verbal consent from patient or person responsible (consider using interpreter service and communication aids if necessary). If patient or environment was touched, perform hand hygiene.
 - **Male catheterisation:** Some clinicians may prefer to insert lignocaine (**Step 14**) before **Step 3**. Before inserting lignocaine, clean the urethral meatus and ensure that hand hygiene is performed before and after this step.
 3. Clean the trolley. Perform hand hygiene. Gather equipment and PPE required for the procedure. Ensure that a suitable receptacle for rubbish is available nearby. Perform hand hygiene.
 4. Apply manual handling principles and set the bed at a suitable height for the procedure. Position patient in supine position.
 - **Female catheterisation:** Ensure supine position with the knees flexed and separated and feet flat on the bed, about 60 cm apart. If uncomfortable, instruct the patient either to flex only one knee and keep the other leg flat on the bed, or to spread legs as far apart as possible. The left lateral position may need to be considered.
- Ensure adequate privacy is maintained (e.g. draw screens, cover patient) and, if available, adequate light is focussed on the perineal area. Place protective sheet under the patient.
5. Perform hand hygiene.
 - If an existing catheter is being replaced, do the following before [Step 6](#):*
 - i. Don non-sterile gloves, eye protection and gown/apron
 - ii. Deflate balloon passively with a 10mL syringe
 - iii. With the dominant hand remove catheter
 - iv. Discard used catheter
 - v. Remove non-sterile gloves and perform hand hygiene
 - vi. Remove PPE and perform hand hygiene.
 6. Assemble the aseptic field (see [Section 4.2](#) for equipment). Add any additional sterile equipment required to the aseptic field (e.g. catheter, drainage device, sterile water and syringe if not included in catheter pack).
 7. Open sterile gloves onto the sterile surface, maintaining the sterility of the gloves.
 8. Don eye protection and apron / gown.
 9. Perform hand hygiene for aseptic procedures (30-60 seconds) and don sterile gloves.
 10. Fill syringe with 5-10mL of sterile water.
 11. Remove catheter from plastic sleeve, ensuring to maintain sterility of the catheter at all times.
 - **Male:** If lignocaine was not inserted at step 2 - Attach nozzle to lignocaine syringe.

12. Lubricate catheter tip and place into an empty tray. This is the drainage tray.
13. *Cleaning method 1:* Using non touch technique, pour 0.9% sodium chloride into an empty tray. This is the cleaning tray. Add gauze squares to 0.9% sodium chloride and discard forceps if used. Place the cleaning tray between patient's legs.

- **Male:** With non-dominant hand and using a gauze square, hold the patient's penis. Retract foreskin if uncircumcised. Using the dominant hand, clean urethral meatus and glans penis, using one downward stroke (e.g. towards tip of the penis) per gauze square.
- **Female:** With non-dominant hand, use the gauze squares to separate the labia minora exposing the urethral meatus. Using dominant hand, clean the labia minora and urethral orifice with gauze soaked with 0.9% sodium chloride, performing one downward stroke per square.

If gloves are contaminated during cleaning, remove sterile gloves and discard. Perform hand hygiene for aseptic procedures (30-60 seconds) and don new sterile gloves. Then progress to **Step 14**.

Discard gauze squares after each stroke - do not re-use. When cleaning is completed, discard cleaning tray.

OR

Cleaning method 2: Irrigate the insertion site with 30 mL of 0.9% sodium chloride [9].

14. Open fenestrated drape and place it over patient's genitals.
- **Male:** *If lignocaine was not inserted at step 2* - Hold the penis at right angle to the body and insert the lignocaine nozzle into urethral meatus. Inject the lignocaine gel into the urethra ensuring firm seal around the meatus. Compress the penis and hold for 3-5 minutes.

15. Pick up catheter with the dominant hand and ensure that the drainage end of the catheter is in the tray. Place drainage tray on the fenestrated drape between patient's legs.

- **Male:** Hold penis at a 90° angle then gently insert catheter into urethral meatus. When resistance is felt, lower penis and continue inserting until the start of the Y junction of catheter. When urine flows, inflate balloon with sterile water in accordance with manufacturer's recommendations and with clinical discretion (e.g. consider spinal cord injury).
- **Female:** Use non-dominant hand and gauze square to separate the labia minor and expose urethral meatus. Use the dominant hand to gently insert catheter 5-7 cm of the catheter into the urethral meatus. When urine flows into the tray, advance the catheter 2-3cm then inflate balloon with sterile water in accordance with manufacturer's recommendations and with clinical discretion (e.g. consider spinal cord injury).

If there is no urine flow following insertion, **do not inflate balloon**. Examine patient to ensure catheter is in the urethra. If unable to advance the catheter with firm pressure, abort the procedure and notify team leader, specialist nurse and/or medical officer.

Always use a new catheter and reset the aseptic field if a subsequent insertion attempt is required



If catheter has been incorrectly inserted into the vagina, keep initial catheter *in situ* until the second catheter is correctly in place in the urethra.

Observe patient for any signs of discomfort. Gently withdraw catheter until resistance is felt.

16. Securely connect catheter to drainage device (e.g. catheter bag or drainage valve) on the aseptic field. Patient should relax their legs. Remove drainage tray, drape and protective sheet and discard.

- **Male:** Reposition foreskin, if required.

17. Secure catheter and drainage device appropriately (e.g. H strap, adhesive tape). Position drainage bags securely, ensuring that it is below the level of the bladder and is not touching the floor. Ensure that the patient is dry, covered and in a comfortable position.

Where practical, patients and/or person responsible should be provided with appropriate information on why a catheter has been inserted, how long it is expected to be in for and how to care for the catheter while it is *in situ*.

18. Dispose of waste in accordance with local waste policy.

19. Remove gloves and perform hand hygiene.

20. Remove eye protection and then apron/gown. Perform hand hygiene.

21. Document catheter insertion in the patient's healthcare record (See Section 4.4).

4.4 Documenting catheter insertion

The insertion of a urinary catheter must be documented in the patient's health care record. At a minimum, the following information should be included:

- How consent was obtained and whom it was obtained from
- Indication for catheterisation
- Catheter option used (in/out, IDC, SPC)
- Size and type of catheter
- Time and date of insertion
- Balloon volume in
- Total urine volume drained on insertion (refer to the fluid balance chart);
- Any abnormalities observed during or after catheter insertion (e.g. pain, bleeding);
- Any clinical misadventures during insertion (e.g. false passage, haematuria, blockage)
- Presence of UTI signs and symptoms
- Colour of urine, sediment or abnormality
- Whether a urine specimen for culture was collected;
- Post procedure tests that are clinically relevant (See [Section 3.6](#)); and
- Follow up actions (e.g. review of catheter, catheter removal).



Considering using the 'Indwelling Urinary Catheter Insertion Record - Acute Care' label (Order# NH601074_140715) to record catheter insertion.

5 HOW TO CARE FOR THE CATHETER

5.1 Shift tasks

- Check if the drainage device requires emptying
- Check there are no loops or kinks in the drainage bag tubing and that urine is draining continuously
- Check that the catheter and drainage device are securely connected
- Check that the urine drainage bag is supported on a stand or hook that avoids loops in the tubing and keeps the outlet and tubing off the floor
- Check the drainage bag is always below the level of the bladder, including when the patient is being transported or ambulating
- Check the catheter remains secured to the patient with a securing device
- Check the drainage device is kept closed unless it is being emptied.

5.1.1 Drainage

- If the patient has a drainage bag, the bag should be emptied when $\frac{3}{4}$ full and prior to any patient transport
- If the patient has a catheter valve, clinically assess whether drainage is required prior to opening the valve
- A clean receptacle to drain urine should be used for each patient - a used receptacle must not be shared between consecutive patients. When draining into the receptacle, avoid contact between the device's outlet and the receptacle. Clean the device outlet with an alcohol wipe after closing.

5.2 Daily tasks

- Review the need for the catheter
- Perform insertion site and periurethral care (see [Section 5.2.1](#))
- Ensure other members of the patient's multidisciplinary team (e.g. physiotherapist, occupational therapist) are kept aware of the need for catheterisation and the requirements for catheter care
- Ensure ongoing education and support to patient and/or their carer with regards to catheter care and infection prevention.

5.2.1 Insertion site and periurethral care

Nursing staff should promote insertion site and periurethral care to patients and where possible enable self-care (i.e. patient is not unconscious, not intubated, not cognitively impaired). As part of the patient's normal daily hygiene routine, the insertion site should be washed using soap and warm water and checking for discharge, inflammation and erosion.

- **Males:** Retract the foreskin, if not circumcised, and gently wash the genital area including meatus, glans penis, catheter and perineum. Reposition the foreskin to minimise risk of paraphimosis.
- **Females:** Separate the labia minora in women and gently wash the area including the urethral meatus, labia minora, catheter and perineum.

Antiseptic solutions or ointments are not recommended. Dressings are not required unless discharge is present. After washing, ensure the catheter is secured to the patient for patient comfort and to minimise the risk of catheter-associated complications such as dislodgement, insertion site pressure injury and urinary tract infection. Urethral catheters are normally secured to the thigh.

5.3 Other tasks

5.3.1 Changing drainage devices

The drainage device should only be changed in accordance with manufacturer's recommendations, if the device becomes disconnected from the catheter, or if the device fails. Always use aseptic technique when changing the drainage device.

The following procedure for changing drainage devices is suggested:

1. Explain the procedure to the patient and gain verbal consent from patient / person responsible
2. Ensure patient privacy
3. Perform hand hygiene
4. Select and assemble the appropriate drainage device and alcohol wipes
5. Put on apron / gown and eye protection
6. Perform hand hygiene
7. Don non-sterile gloves
8. Place a protective sheet under the connecting point of the catheter and device
9. Compress the opening of the catheter to avoid urine leakage
10. Remove catheter from the securing device
11. Disconnect the used device and place into a clean receptacle e.g. bedpan for drainage bags
12. Clean the catheter lumen thoroughly with an alcohol wipe and allow to dry
13. Attach the replacement device using non touch technique to avoid contamination of the catheter lumen and drainage device
14. Secure the catheter with the securing device
15. Attach the urine drainage bag to urine bag stand or hook.
16. Dispose of waste in accordance with local policy
17. Remove non-sterile gloves and perform hand hygiene
18. Remove other PPE and perform hand hygiene

19. Document device change and volume in drainage bag in the patient's healthcare record (see [Section 5.4](#)).

At night, an additional single-use drainage bag (also referred to as a 'night bag') can be attached to the open outlet tap of an existing drainage bag or catheter valve to increase drainage capacity. The closed system should not be broken when attaching a 'night bag'.

5.3.2 Changing catheters

Aseptic technique must always be used when changing catheters. Changing catheters at routine intervals is not recommended and should be avoided unless [4]:

- The closed system has been breached
- Drainage is obstructed (e.g. tubing is kinked or blocked, catheter is encrusted) or
- A urinary tract infection has been detected.

5.4 Documenting routine catheter care and maintenance

Information about routine catheter care and maintenance must be documented in the patient's health care record. Clinicians should also continue to maintain an accurate fluid balance chart. At a minimum, the following information should be documented:

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[Standard Calling
Criteria](#)

- Whether the indication for catheterisation has resolved or is still present
- Presence of UTI signs and symptoms
- Whether a urine specimen has been collected for culture
- Confirmation that the catheter is secured and is patent (i.e. no visible blockages or obstructions)
- Any abnormalities that have been observed during care
- Follow up actions (e.g. review of catheter, catheter removal)
- Whether patient education was provided.

6 WHEN AND HOW TO REMOVE A CATHETER

The risk of urinary tract infection will increase with increased duration of catheterisation [10]. Therefore, it is critical that indwelling catheters are removed as soon as the clinical need for catheterisation has abated.



When planning catheter removals consider whether access to senior clinicians may be required.



After catheter removal, encourage patient to shower and remove any remaining discharge or debris from the orifice.

6.1 Criteria-led catheter removal

Clinicians should follow any standing medical order for catheter removal. If no such medical order exists, a clinician should consider the following criteria to determine whether it is suitable to remove the catheter:

- Is there is a documented reason for the catheter to remain *in situ*?
- Is there is any clinical indication for catheterisation still present?

6.2 Key principles for trial of void

Before catheter removal

- Assess patient's clinical history for:
 - Constipation in past 24 hours. Severe constipation should be corrected before catheter removal
 - Medications that affect the ability to void (e.g. anticholinergics, Beta3-adrenergic agonist, alpha-blocker, opioid agent)
 - Any clinical conditions that may affect catheter removal (e.g. immunological disease with low white cell count, bleeding tendency, UTI, congestive cardiac failure, sacral or perineal wound, falls risk etc). Discuss with senior clinicians on required precautions.
- Explain the trial of void care plan to patient
- Ensure adequate privacy for the patient
- Provide patient with pain relief if required.

During the catheter removal

- Establish the amount of fluid in the balloon
- Perform hand hygiene before the procedure
- Don apron / gown and protective eyewear. Perform hand hygiene then don non-sterile gloves
- Attach syringe onto catheter balloon valve and observe drainage of water by passive deflation. When water stops draining, withdraw plunger to ensure balloon is complete deflated
- Remove the catheter slowly and steadily
- Discard waste
- Remove gloves and perform hand hygiene
- Remove other PPE and perform hand hygiene
- Document the procedure (see [Section 6.3](#)).

NSW Health Policy
[Waste management guidelines for health care facilities](#)

After catheter removal

- Clean and dry the genital area and ensure patient is comfortable.

- Provide patient with urine receptacle.
- Educate patient on:
 - How to collect urine
 - Fluid intake requirements
 - Use of continence pads, if urinary incontinence is anticipated
 - Need for mobilisation, if appropriate
 - What to do if any abnormal or suprapubic pain arises.

6.3 Documenting catheter removal

Information about the catheter removal must be documented in the patient’s health care record. Clinicians should also continue to maintain an accurate fluid balance chart. At a minimum, the following information should be included:

- Date and time of removal
- Amount voided after removal
- Presence of pain during voiding
- Any bladder scan results from the trial of void
- Clinical misadventures during removal (e.g. incomplete balloon deflation, catheter broken)
- Abnormalities observed during removal (e.g. patient bleeding or in pain)
- Trial of void outcome and clinical care plan

7 SPECIMEN COLLECTION

7.1 Rationale for urine specimen collection for culture

 All indwelling urinary catheters will be colonised by a bacterial biofilm of over time [11]. Any urine collected from an indwelling urinary catheter is likely to contain bacteria from the biofilm as well as an elevated leucocyte count, regardless of whether an active urinary tract infection is present [12, 13].

Routine urine culture screening should not be done for any patient with a catheter. A urine specimen for culture **should only be** collected if the patient has signs and symptoms of a urinary tract infection (UTI) or requires a septic work-up.

-  The exceptions to this are:
- ⇒ immunocompromised patients
 - ⇒ pregnant women
 - ⇒ pre-operatively where there is a likely risk of trauma or infection

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Urinary tract infections or asymptomatic bacteriuria in these patients may pose a significant clinical risk and must always be investigated [12, 14].

7.2 Urine specimen collection at catheter insertion

Follow the steps for catheter insertion described in [Section 4.3](#). Once the catheter has been inserted, use aseptic technique to drain urine from the catheter. A minimum specimen of 10mL is required for subsequent culturing. As soon as sufficient specimen has been collected, continue to drain the catheter into a catheter tray or connect the catheter with a drainage device (e.g. leg bag).

[Requirements for the Packaging and Transport of Pathology Specimens and Associated Materials \(4th ed 2013\)](#)

Label the specimen and pack it according to the Australian requirements for packaging and transport of pathology specimens [15]. Perform hand hygiene after packaging the specimen.

7.3 Urine specimen collection via a sampling port

This procedure outlines the steps for collecting a urine specimen from a sampling port using a needleless syringe.

1. Perform hand hygiene and don non-sterile gloves.
2. Clamp or kink the drainage tube below the sampling port (if not contraindicated).
3. Clean the sampling port with an alcohol-impregnated wipe and leave to dry.
4. Once dry, connect a sterile disposable slip tip syringe to the port.
5. Aspirate directly into a urine specimen container.
6. After sufficient specimen has been collected, quickly replace lid of the specimen container and discard used syringe into the appropriate waste stream.
7. Unclamp or unkink the drainage tube. Label the specimen and pack it according to the Australian requirements for packaging and transport of pathology specimens [15].
8. Remove gloves and perform hand hygiene.

[Requirements for the Packaging and Transport of Pathology Specimens and Associated Materials \(4th ed 2013\)](#)

7.4 Urine specimens for culture

If catheterisation is no longer indicated and it is expected that the patient can produce a clean mid stream urine (MSU) specimen, the catheter should be removed and a MSU specimen should be collected [16]. If catheterisation is still indicated, a catheter specimen of urine (CSU) should be collected from the existing catheter via its sampling port.

 A culture of a CSU collected from a catheter that has been *in situ* for ≥ 48 hours may reflect biofilm colonisation. As such, it will be difficult for the laboratory interpret the urine culture result.

7.5 Documenting urine specimen collection

Table 2. Documentation requirements for urine specimen collection

Information	Healthcare record	Laboratory order
Indication for collection	✓	✓
Date and time of collection*	✓	✓
Type of specimen collected (MSU or CSU)	✓	✓
Catheter type and dwell time	Should already be documented	✓
Start date and indication for catheterisation	Should already be documented	✓
Presence of UTI symptoms	✓	✓
Recent antimicrobial use	Should already be documented	✓

* Record on laboratory order whether specimen was collected at time of catheter insertion.

8 APPROPRIATE ANTIMICROBIAL USE

8.1 Antimicrobial prophylaxis for catheterisation

Routine antimicrobial prophylaxis should only be given to high risk patients (e.g. unplanned surgery, elevated risk of endocarditis with recent history of UTI or bacteriuria, immunosuppression) and those who are having urological procedures that require catheter insertion peri or post operatively.

8.2 Antimicrobial therapy for catheterisations

In the event that a catheter-associated urinary tract infection has occurred, antimicrobial therapy for the infection should be guided by the results of urine cultures and antibiotic sensitivity testing. Antimicrobial therapy may be of limited effectiveness against infection if a urinary catheter remains *in situ*.

NSQHS Standard 3.14

Developing, implementing and regularly reviewing the effectiveness of the antimicrobial stewardship system

[Therapeutic Guidelines: Antibiotic: Version 15](#)

Prevention of infection (Surgical prophylaxis, urological surgery)

9 ADDITIONAL RESOURCES

For resources on to assist with implementing this guideline and for patient information materials, see:

- [Clinical Excellence Commissions CAUTIs tools and resources](#)
- [Agency of Clinical Innovation Urology Network clinical practice guidelines](#)
- [Agency of Clinical Innovation \(ACI\) Emergency Care Institute clinical procedure](#)
- [NSW Health Safety Notice SN014/10 – Autonomic Dysreflexia](#)

For patients being discharged with a catheter, additional information is available from:

- [EnableNSW Continence Assistance](#)
- [Continence Aids Payment Scheme](#)

10 REFERENCES

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