

Long Term Indwelling Urinary Catheters (Urethral and Suprapubic) – Care and Management Guideline

Long term indwelling urinary catheter applies to any suprapubic or urethral catheter that has been in place for 28 days or more

Quick Links:

- [Indications for use](#)
- [Complications](#)
- [General Care Considerations](#)
 - Selecting appropriate products and change frequency
 - Change frequency
 - Catheter types
 - Catheter securement devices
 - Drainage system
- [Assessment](#)
- Procedures:
 - [General Hygiene](#)
 - [Emptying and Changing bags and Connecting to Overnight bags](#)
 - [Obtaining Urine Samples for C&S](#)
 - [Flushing Catheter](#)
- [Troubleshooting](#)

Site Applicability

VCH and PHC Community and Residential Care sites

Practice Level

Basic Skills for the following professions (within their respective scope of practice):

- NP, RN, LPN, RPN

Unregulated health care providers within the competencies of their employer training and job descriptions and under the supervision of the above regulated health care professional e.g.:

- Residential Care Aide
- Home Support Worker

Policy Statement

- Long-term indwelling urinary catheters are only to be used for urinary incontinence as a last resort.
- Long term indwelling catheter are used for clients/residents with neurogenic bladder and urinary retention associated with spinal cord injury with a physician/NP order^{5,13}.
- The clinical appropriateness for the use of long-term indwelling urinary catheters should be assessed at each catheter change.
- Catheter care can be assigned to an Unregulated Care Provider provided local job description and training supports practice e.g. residential care aides.
- For initiating long-term catheterization an initial physician/NP order is required. This order will also cover subsequent changes.

Need to Know

- Long-term indwelling urinary catheters are associated with bacterial colonization. Good management practices are essential to reduce the risk of Catheter Associated Urinary Tract Infections (CAUTI).
VCH: See [Indwelling Urinary Catheter: guideline to prevent associated urinary tract infections \(CAUTI\)](#)
PHC: See [Urinary Catheters: Management of the Prevention of UTI](#)
- Urine should only be sent for C&S when there is clear indication for suspected urinary tract infection. A physician/NP order is required to send a specimen.
VCH: See [Indwelling Urinary Catheter: guideline to prevent associated urinary tract infections \(CAUTI\)](#)
PHC: See [Urinary Catheters: Management of the Prevention of UTI](#)
- Long-term catheters should be replaced every **3 months** unless otherwise stated in the manufacturers guide. Long-term catheters are prone to encrustation. Catheters may need to be replaced earlier than the three month time period. See [Table 1](#). For clients / residents who require more frequent changes a customized individual plan is developed based on catheter diaries ([Appendix C](#)) or following assessment of catheters for encrustation ([Appendix D](#)).
- Urinary catheters are always changed with episodes of urinary tract infection.
VCH: See [Indwelling Urinary Catheter: guideline to prevent associated urinary tract infections \(CAUTI\)](#)
PHC: See [Urinary Catheters: Management of the Prevention of UTI](#)
- Hand washing and strict adherence to infection control principles are required when disconnecting, reconnecting tubing and emptying catheter bags.
- Minimizing the frequency of disconnections reduces the risk of urinary tract infection.
- Catheters designed for women should never be used in men.
- Catheter hygiene must be performed at least daily and following bowel movements to reduce the risk of urinary tract infection and other catheter associated complications e.g. skin irritation and breakdown.

Indications for Use:

- Urethral Obstruction
- Urinary retention with or without incontinence that cannot be managed by intermittent catheterization
 - D-00-12-30009: [Clean Intermittent Catheter \(CIC\) Insertion Procedure \(in Community\)](#)
 - D-00-12-30111: [Intermittent Urinary Catheter, Procedure for Insertion \(aseptic technique\)](#)
- Incontinence in the context of stage 3 or 4 pressure ulcers where contamination is impeding healing when all other options, as determined by health care team, have been exhausted
- Comfort measure at end of life or in cases of severe physical impairment where positioning for continence management would causes distress or discomfort

Complications of Long-Term Indwelling Urinary Catheters:

- Catheter Associated Urinary Tract Infections
- Encrustation
- Blockage
- Leaking or bypassing
- Urethral erosions
- Bladder trauma and haematuria
- Fistula formation
- Bladder stones
- Bacteriurea – bacteria present when catheters have been in situ for more than 30 days
- Bladder spasms and pain
- Bladder cancer

If long-term complications arise consider discussion with physician/NP regarding referral to urology for further assessment.

For catheter insertion procedure:

- See [Related Documents](#) section

General Care Considerations

Ensure that:

- there is a regular review of the need for the indwelling urinary catheter; remove if possible
- hand hygiene is performed and gloves donned immediately before access or manipulation of the indwelling urinary catheter¹.
- the connection between the indwelling urinary catheter and the drainage system is not broken except to meet clinical requirements.
- routine daily hygiene is followed⁸.
 - in men the foreskin should be retracted to ensure thorough cleansing and repositioned over the glans following hygiene to prevent paraphimosis ([Appendix B](#)).
- the drainage bag is emptied when 2/3 full; care must be taken to avoid contact of the drainage tap with any environmental surface.

Selecting Appropriate Products and Change Frequency

There are multiple products in different sizes available. Some are designed specifically for male or female use. Selection of the right product to suit individual needs is very important and can reduce the risk of catheter associated complications e.g. trauma caused by balloon inflation in the urethra when accidentally using short female specific catheters in men².

Urethral Catheter Selection

- the bigger the catheter lumen the more the urethra is dilated and the greater the risk of trauma, pain, bladder spasms and bypassing
- the smallest gauge possible should be selected. In general, for community clients or those living in residential care size 12 French to 16 French is the most suitable for both men and women³
- larger gauge catheters are reserved for managing clots or debris in the urine
- for men the urethra is around 18 to 20 cm long so standard length, i.e. male catheters (43 cm long) must be used
- for women the urethra is around 3 to 4 cm long so shorter catheters at 23 to 26 cm are available and may be preferred
- a coudé catheter may be considered if a male client / resident is known to have a history of difficult catheterizations, (for example, benign prostatic hyperplasia). If catheterization with a regular (straight or Foley) catheter has failed due to resistance a coudé catheter may be used in the Ambulatory/Home Care settings. Coudé catheters should not be the first choice. RNs inserting coudé catheters must ensure they are competent to do so (see [Appendix F](#) and [PHC NCS5648 Coudé Insertion](#)).

Suprapubic Catheter Selection

- maintenance of the tract is very important
 - the catheter gauge should be no smaller than 16 French. Most clients / residents will have 18 to 20 French catheters in place. This reduces the risk of catheter obstruction and maintains the tract^{4,5}
 - always have a spare catheter on hand in case of accidental dislodgement as the tract will close within minutes

Balloon Size

- balloon size should generally not exceed 10 mL. Larger balloon sizes may be indicated following bladder surgery or when there is repeated expulsion with balloon intact.
- larger balloons stimulate the trigone ([Appendix B](#)) and can cause bladder spasm/ pain and induce [autonomic dysreflexia](#)³ in spinal cord injury patients/clients/residents
- only use sterile water to inflate the balloon. Other products will leak from the balloon and result in balloon deflation and catheter expulsion

Change Frequency

Long term indwelling catheters should be changed at least **every 3 months** unless otherwise recommended by the manufacturer (see [Table 1](#)). Where catheters are prone to blocking prior to the recommended manufacturer's maximum life span an individualized change frequency schedule needs to be developed. Use a diary [Appendix C](#) – or assess for encrustation ([Appendix D](#)) to map out the maximum length of time between catheter changes and incorporate this into the care plan.

Catheters left in place for longer than three months can be more difficult to remove. Although rare, catheters can become embedded into the bladder wall and require surgical removal, therefore clients/residents **must** be advised to routinely change in accordance with the manufacturers guidance. Document clearly if clients/residents choose to exceed the recommended lifespan.

Catheters are also changed for episodes of urinary tract infection ideally prior to taking a urine sample and initiation of antimicrobial therapy or as soon as possible after initiation⁵. Replacing with a new catheter reduces the biofilm (bacterial) burden thereby reducing the risk of urinary tract infection recurrence.

Table 1: Catheter Types^{5,7}

Types of catheter and recommended usage			
Catheter material	Description	Recommended lifespan i.e. maximum change frequency	Important points
Teflon Coated	Teflon-bonded latex	Short-to-medium term use but no more than 28 days	Should not be used as long-term catheters
Hydrogel-coated latex	Pre-lubricated catheter	Long-term use but no longer than 12 weeks	
Silicone elastomer	Silicone bonding to outer and inner surfaces	Long-term use but no longer than 12 weeks	May reduce encrustation and block less frequently. It has a larger and smoother lumen.
Polymer hydromer	Similar composition as the hydrogel-coated latex	Long-term use but no longer than 12 weeks	
Silicone non-latex	100% silicone	Long-term use but no longer than 12 weeks	Suitable for those with a latex allergy. May reduce encrustation and block less frequently. It has a larger and smoother lumen.
Hydrogel-coated silicone	Silicone bonding to surfaces	Long-term use but no longer than 12 weeks	Suitable for those with a latex allergy
Silver Coated	Silver alloy coated silicone	Short-term use up to 28 days	Reduces the risk of CAUTI, therefore may be useful in patients / clients / residents with recurrent CAUTI

Note: This is a **controlled** document for VCH & PHC internal use. Any documents appearing in paper form should always be checked against the electronic version prior to use. The electronic version is always the current version.

Catheter Tube Securement Devices

Securement devices are recommended to reduce the incidence of urethral trauma, bladder irritability and accidental dislodgement.

There are many different types of catheter securement devices - see Figure 1 for example. Always read manufacturer's instructions when applying securement devices.



Figure 1: Catheter Securement Device
Securement of urethral catheters^{3,8}

- **Female:** Secure to inner thigh.
- **Male:** Secure to lower, anterior abdominal wall or high on inner thigh.

Securement of Suprapubic catheters

- Secure to lateral abdominal wall.

Drainage System



The optimal drainage system is one that is closed with a one way anti-reflux valve between the bag and tubing reducing backflow of urine from the bag into the bladder and decreasing the risk of developing a urinary tract infection. For ambulatory clients and residents leg bags are more practical. Where overnight connection to a larger bag performed the night bag should be secured on a stand and not touch the floor.

Table 2: Catheter bags⁹

Types of Bag	Securement	Recommended Lifespan
Leg Bag	Can be secured to thigh or calf with straps or net sleeve or stocking or hung from a waist belt.	Up to one month, but should be changed if visibly dirty, malodorous or leaking. See Appendix A for cleaning and storage instructions
Overnight bag	Must be held on a stand and not be allowed to come into contact with floor. This reduces risk of CAUTI	Some bags are single use and others up to one month. See Appendix A for cleaning and storage instructions.

Catheter bags have a variety emptying ports available. Catheter bag selection is based on client/resident preference and manual dexterity.

Table 3: Catheter Bag Drainage Taps

Flip flow Drainage port/Tap	
Slip Flow Drainage port/Tap	

Catheter Valves

Always refer to manufacturer's instructions for use.

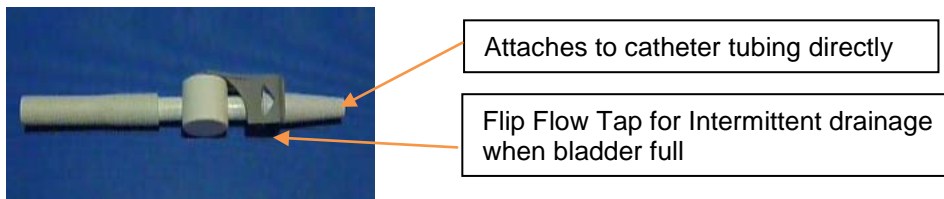


Figure 2: Catheter Valve

Catheter valves are not commonly used but are becoming more popular in clients/residents who wish to have more freedom and prefer not to use a leg bag. These valves allow for intermittent drainage of the bladder which mimics natural voiding, helps to maintain bladder tone and capacity and creates a 'flushing' effect. There is some evidence to support their use in frequent catheter blockers⁸. The valve is attached to the end of the indwelling catheter instead of a drainage bag.

Catheter valves are more discreet than catheter bags but do require clients/residents/caregivers to manually release the valve every 3 to 4 hours to avoid over distention of the bladder and to prevent kidney injury. Therefore, they may not be suitable for clients/residents who do not have the manual dexterity or cognitive ability to manage independently. Catheter valves can be attached to drainage bags overnight.

NOTE: The use of catheter valves is contraindicated with detrusor instability, ureteric reflux and renal impairment. It must be used with caution in spinal cord injury clients/residents as bladder distention can precipitate [autonomic dysreflexia](#).

Practice Guideline and Procedures

All professionals providing hands-on care/interventions related to catheter care must adhere to hand hygiene practices before and after each episode of care¹. Gloves must be worn when handling catheters or catheter bags.

Assessment and Interventions	Rationale / Evidence
UTI Detection Prevention and Treatment ^{8,11,12}	
Detection	
<p>Observe and report signs/symptoms of infection:</p> <ul style="list-style-type: none"> • Fever (greater than 37.8°C) • Chills (rigors) • General malaise/decrease in physical function • Acute confusion/delirium • Acute costovertebral angle pain (flank pain) • Suprapubic pain • Swelling or tenderness of the testes • Purulent urine • Gross haematuria • Acute dysuria/sensation of burning • Urgency/need to void despite patent catheter <p>If TWO or more present request order from physician/NP to obtain urine sample and send for C&S.</p> <p>Note: in spinal cord injury population clients/residents may also show signs of increased spasticity, autonomic dysreflexia and increase body temperature of 1 Celsius above baseline).</p>	<p>Long-term catheters are known to develop a biofilm of debris and bacteria and routine C&S is not cost-effective. C&S should only be sent when there are clear signs and symptoms that the client/resident may have a urinary tract infection.</p> <p>Ideally the catheter should be changed prior to sending urine for C&S as samples taken from existing catheter can lead to false positive results.</p> <p>Acute confusion/delirium alone may not be indicative of UTI. PHC: Suspected Urinary Tract Infection</p>
Prevention	
Follow strict hand hygiene practice.	Key to reducing urinary tract infection risk.
Oral intake: aim for at least 30 mL per kg per day ³ or up to 2 to 3 litres per day unless contraindicated due to client's medical status. e.g. Heart or Renal Failure	Reduces risk of urinary tract infection and blockage. Limited evidence to support drinking cranberry juice. Cranberry must be avoided with certain medications. Always consult pharmacy to ensure no contraindications.
Minimize frequency of disconnecting/reconnecting catheter to bag.	
Secure catheter bag and tubing with appropriate device (see Catheter Tube Securement Devices).	Reduces risk of pulling and trauma. Trauma increases risk of translocation of bacteria and septicemia.
Secure bag below the level of the bladder but no more than 30 cm below.	Reduces risk of reflux of old urine into bladder. Bags more than 30 cm below the level of the bladder can cause a suction effect on the catheter and mimic blockage if the catheter eyes become obstructed by the bladder wall.
Ensure there are no dependent loops of tubing, the tubing is free of kinks and the bag is not touching or resting on the floor.	Prevents urinary tract infection from bacteria translocating into bladder.
Use/recommend using bags with antireflux valves.	Prevents backflow of urine into bladder.

Note: This is a **controlled** document for VCH & PHC internal use. Any documents appearing in paper form should always be checked against the electronic version prior to use. The electronic version is always the current version.

Treatment	
Ensure antimicrobial therapy commenced at earliest opportunity.	
Increase oral intake to at least 3 litres per day (as client's medical condition permits).	
Change urinary catheter with initiation of antimicrobial therapy or as soon as possible after initiation and before completion.	Reduces biofilm burden and risk of recurrent urinary tract infection ⁶ .
<p>Observe/teach client/resident/caregiver to observe for and report signs of worsening/un-resolving infection as above (Detection section) and:</p> <ul style="list-style-type: none"> Increasing confusion Worsening malaise/changes in consciousness Un-resolving fever, chills Signs of sepsis: tachycardia, hypotension, dyspnea, febrile. <p>Report to physician/NP use clinical judgment to determine if condition warrants urgent medical attention.</p>	
If recurrent UTI i.e. more than 2 in 6 months despite above interventions discuss with Physician/NP regarding possible/appropriateness of referral to urology to rule out anatomical/structural abnormalities e.g. enlarged prostate, strictures, abscess, polyps, tumor.	

Procedures:

General Hygiene Equipment and Supplies <ul style="list-style-type: none"> Wash cloth, mild soap (pH neutral and non scented) Non-sterile gloves and other PPE as indicated Securement device 	
Intervention	Rationale / Evidence
<ul style="list-style-type: none"> Daily gentle cleansing of the meatus and perineum using a wash cloth and mild soap (pH neutral non-scented) and water as part of personal hygiene regime¹¹. Always wash from front to back i.e. meatus to anus. Rinse well. Clean the catheter tubing twice a day and following bowel movements if contaminated. Wipe away from body for at least 5 cm (2 inches) with wash cloth and rinse well. 	<p>Vigorous washing and the use of antiseptic solutions increase the risk of infection.</p> <p>Reduces risk of catheter associated urinary tract infections.</p>
<ul style="list-style-type: none"> Observe for signs of meatal irritation, skin breakdown and crusting at catheter site. 	Early detection and intervention for catheter associated complications.

Note: This is a **controlled** document for VCH & PHC internal use. Any documents appearing in paper form should always be checked against the electronic version prior to use. The electronic version is always the current version.

Emptying and Changing bags and Connecting to Overnight bags

Equipment and Supplies

- Non-sterile gloves and PPE (eye and clothing protection)
- Clean container for emptying urine bag
- New/Clean bag
- Alcohol swabs

Key Points

- Maintaining a closed drainage system reduces the risk of urinary tract infection. Therefore, minimize the frequency of disconnecting and reconnecting the catheter tubing.
- Strict hand hygiene and donning single use non-sterile gloves when manipulating or handling the catheter system. Use eye protection and clothing protection (PPE) when disconnecting and reconnecting the system.
- In residential care, change leg bag weekly on bath days.
- In home health, determine clients preference for leg bag change frequency (recommend weekly) - see [Appendix A](#) for Cleaning and Decontamination.
- Containers for emptying bags can be re-used for the **same** client/resident. The container must be washed with warm soapy water e.g. dish soap, rinsed and air dried.

Emptying Drainage Bag

1. Wash hands
2. Don non-sterile gloves and other PPE.
3. Empty drainage bag when 2/3 full into a clean container avoiding contact between the drainage port and the container. Do not use the same container for other clients/residents
4. Clean drainage port with alcohol swab and allow to dry
5. Discard urine into toilet, wash container in warm soapy water (e.g. dish soap), rinse and leave to air dry

Changing Drainage Bags

1. Wash hands
2. Don non-sterile gloves and other PPE.
3. Empty bag as needed (see above)
4. Place non-sterile blue pad or absorbent towel underneath connection
5. Pinch catheter tubing to prevent spill of urine during disconnection
6. Disconnect and ensure catheter end does not touch any surfaces
7. Clean catheter end with alcohol swab and dry
8. Connect new bag. Keep cap for future changes if bag is to be washed and stored see [Appendix A](#)
9. Secure bag (see above)
10. Remove PPE and wash hands

Connecting an overnight bag to a leg bag

1. Wash hands
2. Don non-sterile gloves and other PPE.
3. Clean catheter bag connection with alcohol swab and allow to dry
4. Connect overnight bag
5. Secure bag (see above)
6. Open leg bag valve and ensure free flowing drainage
7. Remove PPE and wash hands

Obtaining Urine Samples for C&S

Equipment and Supplies

- Non-sterile gloves and PPE (eye and clothing protection)
- Alcohol swabs
- Syringe to access needless port
- Sterile Specimen container
- Blue pad or absorbent towel

1. Wash hands
2. Don non-sterile gloves and other PPE.

If there is a Sampling Port:

- a) Clean catheter bag sampling port with alcohol swab and allow to dry
- b) Obtain sample using syringe and specimen container
- c) Clean port with alcohol swab post procedure
- d) Remove PPE and wash hands

If there is No Sampling Port:

- a) Place non-sterile blue pad or absorbent towel underneath connection between catheter and catheter bag
- b) Empty bag as needed
- c) Pinch catheter tubing to prevent spill of urine during disconnection
- d) Disconnect and ensure catheter end does not touch any surfaces
- e) Clean catheter end with alcohol swab and dry
- f) Allow urine to drain from catheter directly into specimen container and seal
- g) Clean catheter and tubing ends with alcohol and reconnect.
- h) Remove PPE and wash hands

Note: Do not take samples from catheter bags and do not pierce catheter or tubing with needles.
Catheters should be changed prior to obtaining urine samples where UTI is strongly suspected

Flushing Catheter:

Equipment and Supplies

- Non-sterile gloves and PPE (eye and clothing protection)
- 30 to 50 mLs of flush solution or sterile normal saline
- Alcohol swabs
- Sterile tray or basin
- Waterproof towel
- Catheter tip syringe

1. Wash hands
2. Don non-sterile gloves and other PPE.
3. Draw up flush solution / sterile normal saline into catheter tip syringe and set aside (maintain sterility of syringe tip).
4. Empty catheter bag as needed – see above.
5. Disconnect catheter tubing, drain any residual urine that remains in the tubing into a sterile tray / basin.
6. Clean open catheter end with alcohol swab and allow to dry.
7. Attach catheter tip syringe containing flush solution or sterile normal saline and instill into catheter only.
8. Gently instill solution. Withdraw instilled solution and drain into sterile basin.
9. Disconnect syringe.
10. Clean catheter open end and catheter bag tubing end with alcohol, allow to dry.
11. Reconnect catheter to bag tubing.
12. Remove PPE and wash hands.
13. Observe urine drainage
14. If no drainage, change catheter – see Insertion CPDs [D-00-12-30009/D-00-12-30111](#) or PHC: [NCS5648](#) / [NCS5544](#): Urinary Catheterization Procedure

Flushing should **ONLY** be considered when all other management options have been exhausted. There is limited evidence to support routine flushing of catheters to prevent blockage. Flushing may be indicated when there is debris in the tubing or catheter bag e.g. blood clots or mucus/lubricant following insertion and when the catheter eyelets have adhered to the bladder wall. Normal saline can be used to flush.

Troubleshooting

Troubleshooting

NOTE: While discomfort, pressure, burning sensation on catheter insertion is common. Acute Pain on insertion or persistent catheter related pain is an abnormal finding and requires further assessment, intervention AND referral to physician/NP.

Assessment/Causes	Interventions	Rationale / Evidence
Bladder Spasms / Pain: Assess onset, quality, location, duration, intensity and triggers and methods used to relieving spasms/pain		
Balloon over inflation or under inflation / Balloon bigger than 10 mL	<ul style="list-style-type: none"> Check balloon size/volume of fluid used to inflate and inflate with recommended volume Change to product with 10 mL or smaller balloon size Always check the VOLUME of fluid to be instilled and ONLY use STERILE WATER 	<ul style="list-style-type: none"> Balloons greater than 10 mL put pressure on the delicate bladder wall Under filled balloons are unevenly inflated and irritate the delicate bladder wall
Irritation of urethra / urethral sphincter when catheter is too big	Change to product with a smaller gauge	
Detrusor instability.	<ul style="list-style-type: none"> Discuss with physician/NP regarding use of medications to treat spasms Develop client/resident pain management plan Consider smaller gauge catheter 	
Bladder irritants: assess for caffeine/alcohol intake, UTI, fecal impaction, poor catheter stabilization causing traction on catheter and bladder neck	<ul style="list-style-type: none"> Minimize caffeine and alcohol intake Manage constipation refer to D-00-07-30003 Ensure catheter is stabilized as recommended, see Catheter Securement Devices 	<ul style="list-style-type: none"> Known bladder irritants
Catheter Bypassing: Assess for urine leakage around catheter, decrease in urine volumes in the bag, increased pain / discomfort, presence of debris in tubing/bag and UTI		
Catheter Size		
Urinary catheters – catheter gauge too big	<ul style="list-style-type: none"> Change to smaller gauge e.g. 14 French to 12 French 	<ul style="list-style-type: none"> Causes irritation and inflammation of the urethral lining
Latex sensitivity	<ul style="list-style-type: none"> Change to latex free product. 	<ul style="list-style-type: none"> Causes irritation and inflammation of the urethral lining
Suprapubic Catheters: catheter gauge too small for stoma tract ⁵ .	<ul style="list-style-type: none"> Size should be increased to a maximum of 18 to 20 French. 	
Detrusor Instability	<ul style="list-style-type: none"> As above 	

Assessment/Causes	Interventions	Rationale / Evidence
Encrustation		
Buildup of bacterial biofilm on catheter or buildup of precipitation from sediment in urine (calcium, magnesium and phosphorus)	<ul style="list-style-type: none"> Change to silicone catheters Monitor encrustation and schedule catheter changes as indicated – see Appendix D Maintain adequate fluid intake 30mLs per kg per day if not contraindicated Consider catheter valves – see Catheter Valves 	<ul style="list-style-type: none"> Larger lumen reduces risk of blockage Valves may reduce build up as bladder and voiding function is mimicked; increasing turbulence and flow pressure of urine during release of valve
Catheter Blockage		
Blood clots, mucus, pus, other debris or catheter eyelets adhering to bladder wall	<ul style="list-style-type: none"> Ensure catheter bag is secured less than 30 cm below the level of the bladder Consider flushing gently with 30 mL saline If client/resident has had recent surgery/trauma/bladder cancer/ blood clots/possible UTI consult physician/NP 	<ul style="list-style-type: none"> Prevents eyelets becoming adherent to bladder wall The volume needed to flush only needs to flush the length of the catheter³.
Kinked tubing, tight clothing	<ul style="list-style-type: none"> Ensure catheter secured using appropriate securement device (see above) (link to Figure 1) Client/resident/caregiver education 	
Constipation/fecal impaction	<ul style="list-style-type: none"> Manage constipation refer to D-00-07-30003 	
Enlarged prostate	<ul style="list-style-type: none"> Consult physician/NP 	
Catheter Dislodgement: Assess for urethral / bladder trauma e.g. frank blood or blood clots in urine, bleeding from urethral, urethral / bladder pain		
Client self-removal due to confusion / delirium Accidental dislodgement through excessive tension on catheter	<ul style="list-style-type: none"> Ensure catheter secured using appropriate securement device (see above) (Figure 1). Ensure there is no tension on catheter tubing after securement Use leg bag If trauma present, consult with physician/NP 	
Bladder spasms – see above		
Straining at stool resulting in catheter expulsion	Manage constipation refer to D-00-07-30003	
Under filled balloon Balloon too small to maintain retention of catheter	Check and fill as recommended Consider changing catheter type to one with a large balloon	Occasionally, catheter expulsion requires catheters with larger balloons to prevent spontaneous expulsion, however larger

Note: This is a **controlled** document for VCH & PHC internal use. Any documents appearing in paper form should always be checked against the electronic version prior to use. The electronic version is always the current version.

		balloons can also result in bladder spasms and cause irritation of the bladder and expulsion
Non-healing Irritation and discharge around catheter insertion site: <i>Assess type of discharge, odor, skin integrity, extent of skin irritation, presence of rash / blisters / infection / swelling / pain</i>		
Consider latex sensitivity	<ul style="list-style-type: none"> Switch to non-latex product. See Table 1 and discuss with physician/NP 	

Sexuality: Questions related to Intimacy and intercourse

Living with and indwelling catheter can impact intimate relations; <http://www.healthtalk.org/urinary-catheters> is a helpful source of information for clients and residents.

Some practical tips include:

- Men:** run the catheter along the shaft of the penis and cover with a condom. Make sure a large loop of catheter is at the end of the penis so that an erection has room
- Women:** tape the tubing to the abdomen out of the way
- if client/resident is able to perform self-catheterization, remove the catheter and replace after intercourse
- wash the genital area before and after intercourse to minimize risk of urinary tract infection
- empty bladder prior to intercourse

Patient/Client/Resident Education

Client/resident education includes prevention of CAUTI and other complications associated with long term catheterization, [Appendix E](#) provides a checklist of recommended topics to be covered.

Useful Education Links: (order from Patient Health Education Materials [VCH](#) or [PHC](#))

- [Living with a urinary catheter](#)
- [Care for an Indwelling Urinary Catheter](#)
- [How to Care for a Urinary Catheter](#) (FP.157.C38)
- [Going Home with a Urinary Catheter](#) (FP.157.P273)
- [Going Home with a Urinary Catheter and an All in One Day/Night Drainage bag](#) (FP.157.P2731)

Expected Client/Resident Outcomes

- Free from catheter associated urinary tract infections
- Urinary catheter remains patent without catheter associated complications
- Client/Resident maintains quality of life, dignity and is free of discomfort associated with urinary catheter
- Client/Resident/Caregiver is knowledgeable about catheter care and knows how and when to report concerns

Documentation

Documentation according to VCH documentation standards and includes information on the following

- Client/Resident /Caregiver education
- Skin integrity
- Complications experienced associated with urinary catheter
- Client/Resident preferences regarding product care and management if this differs from recommended best practice (e.g. re-using bags for longer than recommended, lengthening life of urinary catheter beyond recommended 3 months / manufacturer's guidance)
- Products and securement device information
- Change frequency plan and date for next planned change

Note: This is a **controlled** document for VCH & PHC internal use. Any documents appearing in paper form should always be checked against the electronic version prior to use. The electronic version is always the current version.

- History of difficulty inserting the catheter
- Volume and type of fluid in the balloon
- The size and type of urinary catheter for supra pubic catheters including length of tube inserted

Related Documents

VCH:

- D-00-07-30110: [Indwelling Urinary catheter: Guideline to prevent catheter associated urinary tract infections \(CAUTI\) – Adult](#)
- D-00-12-30109: [Indwelling Urinary catheter, Procedure for Insertion and Removal \(Adult\)](#)
- BD-00-12-40063: [Suprapubic Catheter: Replacement of an Established Suprapubic Catheter in Adults](#)
- D-00-12-30009: [Clean Intermittent catheterization \(CIC\), Insertion Procedure \(in Community\)](#)
- D-00-12-30111: [Intermittent Urinary Catheterization, Procedure for Insertion \(aseptic technique\)](#) - Acute
- D-00-12-30013: [External Condom Catheter, Care and Application Procedure](#)
- D-00-07-30108: [Indwelling Urinary Catheter: Care and Management \(Short term\) - Adult](#)
- D-00-07-30014: [Continence: Promotion and Maintenance in Residential Care](#)

PHC:

- NCS6405: [Urinary Catheters: Management of the Prevention of UTI](#)
- NCS5544: [Urinary Catheterization Procedure](#)
- [Suspected Urinary Tract Infection and Specimen Collection](#)
- NCS5648: [Coudé Tip Catheter Insertion](#)

References and Bibliography

1. WHO (2006). 5 Moments for hand Hygiene. [5 Moments For Hand Hygiene](#) (Accessed on line 9th Jan 2015).
2. National Patient Safety Agency (2009). Catheter mix-ups in NHS prompts new guidance <http://www.npsa.nhs.uk/corporate/news/catheter-mix-ups-in-nhs-prompt-new-guidance/> Accessed 30th Oct 2014.
3. Wound Ostomy and Continence Nurses Society sub Committee (2009). Indwelling Urinary Catheters: Best Practice Considerations. Wound Ostomy and Continence Nurses Society (Available at <https://wocn.site-ym.com/store/ListProducts.aspx?catid=112777> Accessed 9th Jan 2015).
4. Mitchell, N. (2008). Long term urinary catheter problems: a flow chart to aid management. British Journal of Community Nursing. Vol 13, 1, pp 6-12.
5. Schafer, A. J. (2015). Complications of urinary bladder catheters and prevention strategies. In Richie, J.P. (Ed), Up to Date. Retrieved from: <http://www.uptodate.com/contents/complications-of-urinary-bladder-catheters-and-preventive-strategies?source=machineLearning&search=urinary+catheter+care&selectedTitle=2~150§ionRank=2&anchor=H2#H2> accessed 17 Jan 2016.
6. Trautner, B 2010. Management of Catheter-Associated Urinary Tract Infection (CAUTI) Current Opinion Infectious Disease.; 23(1): 76–82. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2865895/>. Accessed online Jan 2015.
7. Dingwall, L (2008) Promoting social continence using incontinence management products. British Journal of Nursing 17: 9; s12-19.
8. Geng, V. Cobussen-Boekhorst, H., Farrell, J., Gea-Sanchez, M., Schwennsen, T., Vahr, S., and Vandewinkel, C. (2012). Evidence based guidelines for best practice in urological health care. Catheterisation. Indwelling catheters in adults: Urethral and Suprapubic. European Association of Urology Nurses. Accessed online Jan 2015 http://www.uroweb.org/fileadmin/EAUN/guidelines/EAUN_Paris_Guideline_2012_LR_online_file.pdf
9. Wilde, M.H., Fader, M., Ostaszewicz, J., Prieto, J. and Moore, K. (2013). Urinary Bag decontamination for long-term use. Journal of Wound Ostomy Continence Nursing: 40; 3; 209-308.

Note: This is a **controlled** document for VCH & PHC internal use. Any documents appearing in paper form should always be checked against the electronic version prior to use. The electronic version is always the current version.

10. Willson M, Wilde M, Webb ML, Thompson D, Parker D, Harwood J, Callan L, and Gray M. (2009). Nursing interventions to reduce the risk of catheter-associated urinary tract infection: part 2: staff education, monitoring, and care techniques. *Journal Wound Ostomy Continence Nurses*. 36(2):137-54
11. Slater, R. (2011). Preventing Infection with long-term indwelling urinary catheters. *British Journal of Community Nursing*. 14:4; 168-172.
12. Health Protection Scotland (2012) Targeted Literature Review: What are the key infection prevention and control recommendations to inform a urinary catheter insertion quality improvement tool? NHS Services Scotland.
13. Consortium for Spinal Cord Medicine (2006). Bladder management for adults with spinal cord injury: a clinical practice guideline for health-care providers. *Journal of Spinal Cord Medicine*. 29(5):527-73.

Developed by

CPD Developer Lead(s):

MN RN, Clinical Nurse Educator, Vancouver Home Health, Vancouver Community
RN, Clinical Practice Lead Vancouver, Residential Practice Team, Vancouver Community
RN, Clinical Coordinator Vancouver, Home Health, Vancouver Community

Other members:

Clinical Nurse Specialist, Elder Care, Providence Health Care
Clinical Resource Nurse, Nurse Continence Advisor, Urological Care Centre, Richmond
MN RN, Acting Director Professional Practice, Vancouver Community
RN BSN, CWOON, Wound Ostomy and Continence Clinician, Vancouver Community
RN, Clinical Nurse Educator Vancouver Community
RN, Clinical Nurse Educator, North Shore Home Health, Coastal
RN, Clinical Nurse Educator, Vancouver Home Health, Vancouver Community
RN, Clinical Practice Lead, Residential Practice Team, Vancouver Community
RN, IV Educator, Richmond
RN, Nurse Continence Advisor, Residential Practice, Vancouver Community
RN, Residential Care Coordinator, Purdy Pavilion, Vancouver Community

Expert Reviewer:

Nurse Continence Advisor, Providence Health Care

Endorsed by

VCH: (*Regional SharePoint 2nd Reading*)

Health Authority Profession Specific Advisory Council Chairs (HAPSAC)
Health Authority & Area Specific Interprofessional Advisory Council Chairs (HAIAC)
Operations Directors
Professional Practice Directors

PHC: Clinical Nurse Specialist, Residential Care

Final Sign-off & Approval for Posting by

Vice President Professional Practice & Chief Clinical Information Officer, VCH
Professional Practice Standards Committee, PHC

Date of Approval/Review/Revision

Approved: March 31, 2016

Posted: April 12, 2016

Appendix A: Decontamination and Cleaning Drainage Bags Guide for Home Care Clients

Based on Wilde et al 2013 Systematic Literature Review and WOCN 2009

For residential care and acute care, use disposable overnight and change leg bags every 4 weeks. If leg bags are dirty, malodorous or leaking change more frequently.

Recommended Cleaning Frequency:

1. Re-useable overnight bags and caps: Perform Basic Clean (see A below) daily, Perform decontamination (see B below) at least weekly.
2. Re-usable leg bags: perform weekly clean and decontamination.

Note: If bags are damaged, showing signs of wear or leaking, discard and replace with new.

Hand Hygiene:

Always wash hands, don PPE (gloves, eye protection and clothing protection as needed). Wash hands following removal of PPE at end of procedure.

A. Basic Cleaning:

1. Follow procedures outlined in section [Emptying Bags and Maintenance](#) to empty and replace catheter bag.
2. Prepare bowl of warm soapy water using liquid dish soap. Immerse bag and fill with washing solution and agitate. (Using a soft plastic squirt bottle to distribute solution through-out bag and tubing works well).
3. Rinse thoroughly with clean tap water.
4. Place clean cap over the tubing end and hang to dry.
5. Once dry place in a clean plastic container on top of a clean cloth. Cover and store for future use.

B. Decontamination:

Bleach or vinegar can be used for decontamination. **NEVER** use both together and always make sure bag has been rinsed thoroughly with clean tap water prior to decontamination. Vinegar is more effective at clearing purple discoloration of bags.

Bleach Method:

1. Perform basic bag cleaning or rinse well with clean tap water.
2. Prepare 0.525% solution of non-scented household bleach (NaClO). (Mix 1 part bleach to 10 parts tap water e.g. 100 mL of bleach to 1000 mL water (4 ounces bleach to 1 gallon of water).
3. Pour solution into tubing and bag and agitate the bag for 30 seconds.
4. Drain solution out of the bag and cap tube end with clean cap. Do not rinse with water.
5. Allow to air dry. Air drying ensures decontamination is effective.
6. Once dry place in a clean plastic container on top of a clean cloth. Cover and store for future use.

Vinegar Method:

1. Perform basic bag cleaning or rinse well with clean tap water.
2. Prepare solution of 1 part 5% vinegar to 3 parts water e.g. 250 mL (1 cup) vinegar to 750 mL (3 cups) tap water.
3. Pour solution into tubing and bag and agitate the bag for 30 seconds.
4. Drain solution out of the bag and cap tube end with clean cap. Do not rinse with water.
5. Allow to air dry. Air drying ensures decontamination is effective.
6. Once dry place in a clean plastic container on top of a clean cloth. Cover and store for future use.

Note: do not store or re-use soapy water, bleach or vinegar solution.

Appendix B: Glossary

Autonomic Dysreflexia - is a syndrome in which there is a sudden onset of excessively high blood pressure as a result of overstimulation of the autonomic nervous system. It is more common in people with spinal cord injuries that involve T6 or above. It can be precipitated by a number of factors including pain and over distension of the bladder. For more information, see:

- **VA:** [Care and Management of the patient with Autonomic Dysreflexia](#) (A-290)
- **VC:** [Management of Autonomic Dysreflexia](#)
- [Chronic Complications of Spinal Cord Injury](#): Up-to-Date accessed 16 Jan 2016

Paraphimosis - occurs when the foreskin of an uncircumcised male cannot be pulled back over the head of the penis, resulting in severe swelling of the glans and pain. If untreated this can result in constriction of blood flow to the tip of the penis. One cause of paraphimosis is health care providers not replacing the foreskin back over the glans following procedures.

Trigone - a smooth triangular region on the interior of the bladder wall. The area is very sensitive to expansion and once stretched to a certain degree, signals the brain to indicate that the bladder needs emptying.

Appendix C: Catheter Diaries

Indwelling Catheter Management Chart

Name G.P.

Catheter type Primary Nurse

Catheter size

Evaluate the current pattern of 'catheter life' after every three catheters and revise care plan if necessary.

Date of catheter change	Previous catheter's 'life' (in days)	Reason for change P – planned B – blocked O – other	Visible Encrustation	Next catheter change due	Signature

Evaluate

Evaluate

Appendix D: Checking for Encrustations

ONLY Check for Encrustations if there is a history of catheter blockage

The degree of encrustations in the old catheter can be used to determine frequency of catheter changes. This is assessed by cutting open the old catheter and observing for presence of encrustations.

To do this safely:

1. Wear personal protective equipment (PPE): gloves, goggles or visor, apron.
2. Practice safe sharps technique using blunt ended scissors.
3. Sharps to be transported in hard container (e.g. plastic Tupperware container with lid).
4. Cut catheter on a firm surface.
5. Dispose of catheter with normal garbage.
6. Return scissors for autoclaving where appropriate or discard in sharps container if disposable.



Figure 1: Example of presence of encrustations

If catheter is free of encrustations for 3 consecutive catheter changes, extend life of catheter by 1 week increments thereby reducing frequency of changes.

If any encrustations noted for 3 subsequent changes increase frequency of changes to prevent blockage.

If catheter blocks before scheduled change, increase frequency of future catheter changes. (Getliffe et al 2007).

Appendix E: Client Education Checklist

Prevention of CAUTI

- Hygiene
 - principles of good hand washing techniques and the 5 moments of hand washing.
 - daily catheter hygiene.
 - catheter hygiene following bowel movements.
 - catheter bag hygiene:
 - change frequency
 - storage
 - cleaning
- Catheter change frequency planning

Recognizing CAUTI

- General signs and symptoms of CAUTI
- Client/resident specific early warning signs and symptoms of CAUTI
- When and who to report symptoms
- Development of self-management plan e.g. obtaining urine specimen, initiating antimicrobial therapy, on-going self-monitoring and arranging catheter change.

Other complications

- Signs and symptoms of complications
 - blockage
 - bypassing
 - bladder spasms
 - development of a self-management plan including how to problem solve, treat and when to report complications

Management strategies to minimize risk of complications

- Fluid intake 30 mL per kg per day if no clinical contraindications e.g. heart failure, renal failure
- Cranberry juice/pills although evidence only supports use in non-catheterized women and need to be used with caution as cranberry does interact with a number of medication e.g. warfarin
- Avoidance/minimize caffeine and alcohol intake
- How and when to use securement devices (check manufacturer's guidance)
- Overnight Drainage
- Monitoring skin integrity and when and who to refer to if there is skin breakdown/irritation

Appendix F: Coudé Addendum

(Also refer to Coudé Insertion Guideline: [PHC NCS5648](#))

Addendum: Insertion of Coudé Catheter in Community Settings

A coudé catheter may be considered if a male client is known to have a history of difficult catheterizations (for example due to benign prostatic hyperplasia). If catheterization with a regular (straight or Foley) catheter has failed due to resistance a coudé catheter may be used in the Ambulatory/Home Care settings. Coudé catheters should not be the first choice.

The RN inserting the coudé catheter must be competent in the skill, having reviewed the indications and contraindications for use of a coudé catheter and be aware of possible unintended client outcomes. For clinicians new to the skill, competency in regular male urinary catheters is a pre-requisite as well as a review of coudé catheter insertion with the Clinical Nurse Educator.

Coudé catheters are inserted with curved tip facing upwards towards the belly button. Do not force. Do not rotate the catheter during insertion. Ensure the catheter is adequately lubricated. The catheter may be gently moved back and forth allowing the external sphincter muscle to relax and to assist in passing around the prostate. If the catheter will not advance into the bladder do not continue the procedure. Notify the physician. Forcing a catheter may cause trauma.

Potential Catheterization Problems related to Anatomy

- Damage from previous surgeries or radiation
- Post TURP – obstruction from residual prostate tissue
- False Passage
- Phimosis
- Bladder neck contracture
- Urethral strictures

Resources:

Fraser Health Clinical Practice Guideline: Urinary Retention (Adult) – Registered Nurse Initiated Management. 2011

Ghaffary, C., Leslie, S.W., Villanueva, C., & Vohannes, A., (2013). A practical approach to difficult urinary catheterizations. *Current Urology Reports* 14 (6), 565-579.

Perry, A.G., Potter, P.A., & Ostendorf, W.R. (2014). *Clinical Nursing Skills & Techniques*. (8th Ed.). St. Louis. MI: Elsevier Mosby.

Addendum: Coudé Catheter Insertion June 2014