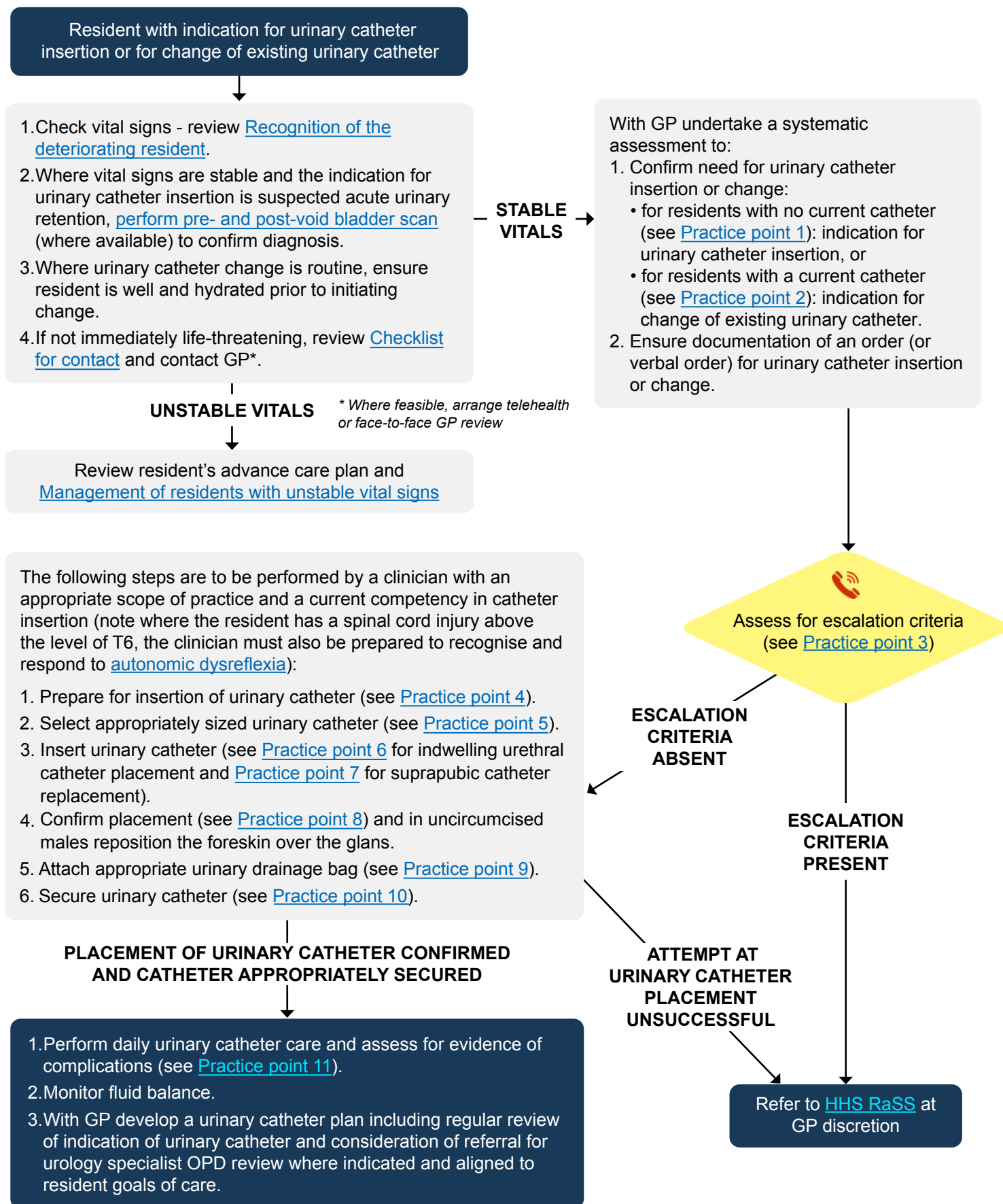


Urinary catheter insertion or change



Urinary catheter insertion practice points

1) Indications for urinary catheter insertion

Indications for urinary catheter insertion include:

1. To relieve acute urinary retention or bladder outlet obstruction.
2. Chronic urinary retention in the resident with symptoms such as worsening renal impairment or recurrent urinary tract infection, and retention cannot be corrected without a catheter - for example, through ceasing medications that are causing retention or through surgery to address prostatic hypertrophy.
3. To assist healing of open sacral or perineal wounds in the incontinent resident.
4. In select cases, to improve resident comfort for end of life care.
5. In hospital, the following additional indications may be considered:
 - i. Close monitoring of urine output in acute renal failure or critically ill residents with active goals of care who are being managed in hospital
 - ii. To facilitate some surgeries
 - iii. Management of haematuria / clot retention, usually requiring a 3-way irrigating catheter in hospital

** Catheters should not be used as a substitute for good nursing care in residents experiencing incontinence where there is no evidence of urinary obstruction.

2) Indications for change of an existing urinary catheter

The clinical indication for ongoing IDC placement should be reviewed at regular intervals to ensure IDC is still required

Frequency of routine changes of indwelling catheters is controversial and should be individualised; in general, interval to IDC change should not exceed manufacturers' recommendations for the catheter type inserted. Consider the following in determining frequency of changes:

1. Likely duration of catheterisation and type of catheter (review manufacturer recommendations of frequency of changes).
2. Catheter function.
3. Encrustation.
4. Frequency of blockages.
5. Comfort.
6. Local policy.

***A long-term urinary catheter should always be changed in residents with symptoms and/or signs of urinary tract infection.

3) Escalation criteria

A. Prior to change of catheter:

1. History of failed catheterisation requiring specialist input on prior change or insertion.
2. History of urethral trauma or urethral inflation of balloon on the prior catheter change or insertion.
3. For a suprapubic catheter (SPC), less than 6 weeks since initial insertion (suprapubic catheters are initially inserted via a surgical procedure and the SPC tract must be healed prior to initial change - this initial change must be performed by a specialist urology clinician).
4. Resident has a spinal cord injury above T6 vertebral level and the clinician does not have scope of practice to recognise and respond to autonomic dysreflexia (a potentially life-threatening condition that results in sudden rise in blood pressure that may occur during a catheter change) and / or there is no existing treatment algorithm for autonomic dysreflexia for the resident.

B. Unsuccessful attempt at change of catheter:

1. Inability to remove the existing catheter.
2. Inability to insert and/or confirm position of the new catheter.

C. Post-catheter change, escalate if there is:

1. Significant urethral or perineal pain or haematuria.
2. Lack of urine output after catheter change or insertion.

Urinary catheter insertion practice points

4) Preparation for urinary catheter insertion or change

A. GATHER REQUIRED EQUIPMENT

1. Clean and prepare dressing trolley.
2. Ensure good light source available and working.
3. Sterile equipment:
 - Catheter pack
 - Sterile gloves of size appropriate for the clinician
 - Indwelling catheter x 2 (see [Practice point 5](#) for selection of catheter)
 - Syringe of size appropriate to IDC balloon size
 - For suprapubic catheter change where the clinician has experience with the instillation method, equipment to gently instil 50mLs sterile saline 0.9% (e.g. UroTainer NaCl) Lidocaine (lignocaine) gel (or if allergy to lidocaine, use sterile KY jelly)
 - Urinary drainage bag (if required) - establish if hourly measures or free drainage required ([see Practice point 10](#))
 - Water ampoules (number required as per balloon size of IDC)
 - Cleansing solution (Aqueous 0.1 percent chlorhexidine or if allergy to chlorhexidine use 0.9 percent saline)
4. Clean equipment:
 - Disposable waterproof sheet / under-pad
 - Mask
 - Plastic apron
 - Protective eye-wear
 - A catheter securement device such as Stat-Lock
 - A plastic bag for rubbish
5. Engage an assistant - it is advised that there are two staff available - one that will perform the procedure using aseptic technique and one that will assist the first staff member to open any additional equipment or reposition the resident.

B. PREPARE RESIDENT

1. Confirm resident identity and informed consent (by resident or substitute health decision maker, as required). Clinicians should ensure that the resident (or where indicated, their substitute health decision maker) understand the reason or indication for the insertion or change of catheter and what this procedure involves, understand available options, understand risks and benefits of these options, come to a considered decision and communicate their decision. Consent should be documented.
2. Where a catheter change is routine, ensure that the resident is well, has undertaken routine hygiene and adequately hydrated (within limits of any existing fluid restriction).
3. Prior to undertaking this aseptic procedure, the clinician must ensure that the environment will not contribute to contamination.
4. Ensure that the resident's privacy is able to be maintained - close curtains or doors to the room.
5. Assist resident to remove clothing and position the resident comfortably - generally the optimal position is for the resident to lie supine on their back with the bed flattened if this is able to be tolerated; whilst equipment and clinician are prepared, ensure resident is appropriately covered with a sheet.

C. PREPARE EQUIPMENT AND STAFF

1. Perform hand hygiene in accordance with 5 moments in hand hygiene.
2. Don mask, plastic apron and protective eye-wear.
3. Use aseptic technique.
4. Open out wrapping of the catheter pack with an aseptic technique and place on dressing trolley.
5. Perform a two minute hand wash and then unwrap catheter pack. With exposed forceps prepare equipment and add extra items.
6. Open unsterile outer wrapping of catheter and place sterile wrapped catheter onto sterile field.
7. Squeeze sterile water into bowl ready for balloon inflation.
8. Pour cleaning solution (aqueous chlorhexidine 0.1 per cent or, where resident has allergy to chlorhexidine, sterile saline) over sterile swabs.
9. Open sterile glove packet and open packet containing urinary drainage bag.
10. Wash hands for 30 seconds, dry with sterile towel and don sterile gloves.
11. Draw up sterile water into syringe for the catheter balloon - use only the amount of water labelled on the catheter (omit if in-out catheter).
12. Apply 2mL of lidocaine (lignocaine) gel to the catheter tip.

Urinary catheter insertion practice points

5) Selection of urinary catheter

Considerations when selecting a catheter include:

1. Ease of use.
2. Tissue compatibility.
3. Allergy to latex.
4. Tendency for encrustation.
5. Formation of biofilm.
6. Resident comfort.

A. Type of catheter material

If latex allergy: use 100 per cent silicone catheter (latex-free).

If no latex allergy: a hydrogel catheter or 100 per cent silicone catheter may be used. Hydrogel catheters may be better tolerated than silicone catheters, whilst 100% silicone catheters have a larger lumen for the same gauge and therefore may offer an advantage in a resident with recurrent catheter blockages.

****** The routine use of antibiotic or silver impregnated catheters for long-term IDC placement is not supported.

B. Lumen type

Urinary catheters inserted in the RACF setting should be **double lumen** (a lumen for draining of urine and a lumen for balloon inflation) or a single lumen with no balloon for intermittent (in-out) catheterisation.

Triple lumen or three-way catheters (with an additional lumen for irrigating) are not appropriate for long-term use or use in the RACF setting - if a resident has a triple lumen catheter in situ please contact [HHS RaSS](#).

C. Catheter size

Choose the smallest catheter size that allows appropriate drainage as this may reduce risk of catheter associated UTI or CAUTI.

****** IDCs 18Fr size or over may increase risk of erosion of bladder neck and urethral mucosa with associated risk of stricture formation - any catheter of size greater than 16 Fr should only be inserted after appropriate consultation with a specialist urology clinician.

Selection of appropriate IDC size requires consideration of:

1. Gender: influenced also by an individual's physical characteristics but in general IDC size in females with clear urine or mild debris is 12 Fr and in males with clear urine or mild debris is 14 Fr.
2. Urine consistency: presence of moderate to heavy debris, mucous or clots may require females to have a 16 Fr and males to have a 18 Fr IDC.

Nb. For SPC change, it is recommended to have a spare catheter on hand that is a smaller gauge than the one to be changed in case re-insertion is difficult due to tract narrowing or closure.

D. Catheter length

For males, use a 41 to 45 cm catheter.

In females, either a 25cm or a 41-45 cm catheter may be used depending on personal preference. However, in bedridden or morbidly obese females a 41-45 cm catheter is preferred.

Urinary catheter insertion practice points

6) Indwelling urethral catheter (IDC) insertion

IN ALL RESIDENTS:

1. Ensure procedure undertaken only if within scope of practice of clinician.
2. [See practice point 5: preparation for insertion of urinary catheter](#).
3. Open fenestrated drape and place over resident's genitals.
4. Place cleaning tray just below resident's genitals on fenestrated drape.

IN FEMALE RESIDENTS:

1. Ensure urethral meatus sighted.
2. Swab labia majora centre, far side, near side, centre and repeat for labia minora - use a fresh swab for each stroke.
3. Gently insert the syringe tip of the lidocaine (lignocaine) gel into the meatus, and insert remaining lubricant and anaesthetic.
4. Wait 3 minutes before insertion of catheter.
5. Using forceps insert tip of catheter into urethral orifice until urine flows freely.
6. Insert further 3 cm and then inflate the balloon using sterile water injected into the balloon inlet of the catheter.
7. Gently withdraw catheter until balloon sitting in position at the bladder base.
8. If accidentally inserted into vagina - leave in situ until another catheter is positioned in bladder.

IN MALE RESIDENTS:

1. Using folded gauze squares, with non-dominant hand hold resident's penis; retract foreskin if uncircumcised.
2. Using dominant hand pick up forceps and clean penis with saline swabs from penis tip downwards, one stroke per swab; discard cleaning tray.
3. Place catheter tray on fenestrated sheet; holding penis at right angles to the resident's body gently insert lidocaine (lignocaine) gel syringe tip into urethral meatus and instil lidocaine (lignocaine) gel into urethra.
4. Wait 3 minutes before insertion of catheter.
5. Using forceps pick up catheter, ensuring drainage end is in tray and gently insert tip of catheter into urethral orifice - when resistance is felt, lower penis and gently continue insertion until Y-junction of catheter reaches the urethral meatus; NB. if unable to advance catheter with gentle pressure, stop the procedure and contact [HHS RaSS](#). If urine flow occurs prior to reaching the Y-junction of the catheter continue to insert catheter to the Y-junction THEN inflate the catheter balloon via the inflation port with the syringe filled with sterile water. Observe the resident for any signs of discomfort during balloon inflation - if inflating the balloon causes discomfort, stop and ensure that catheter continues to be inserted to Y-junction. If this is confirmed, gently inflate balloon - if this again causes discomfort, stop the procedure and contact the [HHS RaSS](#).

****NEVER INFLATE THE BALLOON UNTIL URINE FLOWS FREELY AND STOP
IF RESIDENT EXPERIENCES PAIN****

6. After the balloon has been inflated and syringe used for inflation removed, gently withdraw catheter until resistance felt (balloon will be at the base of the bladder at this time).
7. After confirmation of placement (see [Practice point 8](#)), attach to the urinary drainage bag (see [Practice point 9](#)) and secure the catheter (see [Practice point 10](#)), **ensure that the retracted foreskin, if present, is repositioned into its usual position to cover the glans penis** - failure to reposition the retracted foreskin may result in significant harm.

Urinary catheter insertion practice points

7) Change of a suprapubic catheter

1. Ensure procedure undertaken only if within scope of practice of clinician and that there is a medical order for change of the suprapubic catheter (SPC) - confirm date of creation of the SPC tract - if less than six weeks since initial insertion of SPC change by a urology specialist clinician is indicated - contact [HHS RaSS](#).
2. See and perform steps outlined in [practice point 5: preparation for insertion of urinary catheter](#).
3. Open fenestrated drape and place over resident's lower abdomen leaving the SPC site and the catheter / bag join exposed.
4. Clean the suprapubic catheter site and the catheter connection with urinary drainage bag with aqueous chlorhexidine 0.1%.
5. Using sterile gauze squares to maintain sterility of hands, disconnect the urinary drainage bag from the suprapubic catheter.
6. Where the clinician has the required experience in instillation method, attach the instillation device (e.g. UroTainer NaCl) to the catheter and gently instil 50mL normal saline by gravity (do not squeeze the bag).
7. Deflate the catheter balloon using an appropriately sized syringe attached to the balloon inflation port - allow the syringe to fill passively - do not pull back actively on the syringe plunger to deflate the balloon as this risks ridging of the balloon which may cause pain on catheter removal.
8. Bring kidney dish containing new catheter over to the resident and place on sterile fenestrated drape.
9. Have new catheter ready to go, holding it above the site.
10. Grasp the existing catheter at the point of entry to the body before removing and note the depth and angle at which it is inserted. Remove the suprapubic catheter by gently twisting it as it is withdrawn.
11. Immediately insert the new suprapubic catheter using dominant hand to the depth and at the angle of the previously inserted catheter.
12. Confirm placement by visualising the free flow of urine from the catheter end - advance the catheter a further 2 cm and then gently inflate the catheter balloon via the balloon inflation port with the volume of sterile water indicated on the balloon inflation port.

8) Confirm placement of urinary catheter

Confirm placement of a urinary catheter in the bladder by:

1. Free passage of urine from the catheter and ongoing free drainage after the balloon is inflated.
2. Ability to insert IDC to the Y-junction.
3. Absence of pain on gentle inflation of the balloon with sterile water.
4. Ensuring that the resident remains comfortable post-procedure.

****NEVER INFLATE THE BALLOON UNTIL URINE FLOWS FREELY AND STOP
IF RESIDENT EXPERIENCES PAIN****

Urinary catheter insertion practice points

9) Attach appropriate urinary drainage bag

A urinary drainage bag attaches to the catheter and creates a closed drainage system. A closed drainage system prevents bacteria from the external environment migrating to the bladder, therefore maintaining the closed drainage system is vital to preventing Catheter Associated Urinary Tract Infection (CAUTI). The following principles should be followed to reduce risk of CAUTI:

1. When handling the catheter / drainage system use standard precautions and, where indicated, aseptic technique.
2. The closed drainage system should not be broken unless there is a good clinical reason (e.g. changing the bag in accordance with manufacturer recommendations).
3. Urinary drainage bags should be positioned below the level of the bladder and should not be in contact with the floor.
4. The drainage bag should be emptied regularly to maintain free flow of urine and prevent back-flow - this should occur at least once per shift and more frequently where indicated - drainage should occur when bag is half full.
5. A separate clean container should be used to empty the drainage bag into - contact between the drainage tap and the container should be avoided and a separate clean container should be used for each resident.

Choice of type and size of drainage bag should include consideration of:

1. Mobility of the resident:
An appropriately sized leg bag is recommended for mobile residents. The length of tubing should meet individual requirements of residents to maximise comfort and dignity.
2. Fluid intake / urine output:
Residents with high fluid intake / urine output may require a larger urine bag - however, larger bags should not be used unless absolutely indicated as they are heavier and may be associated with increased risk of pressure-related injury.
3. Resident dexterity:
Where a resident will be self-managing the drainage bag, the drainage tap design and ease of use should be matched to resident dexterity.
4. Securement of drainage bag:
This may be achieved via straps or sleeves - it is important to ensure correct securing of the bag in order to avoid pulling or tension on the catheter which can lead to urethral meatal pressure injury.

A. Leg bag

A leg bag is recommended for ambulant residents.

It uses leg straps or a fit for purpose leg bag sleeve to hold the bag in place against the thigh or calf, concealed under clothing.

Short-tube leg bags must have the bottom strap secured above the knee to prevent pulling - securing these leg bags below the knee can lead to pulling or tension on the catheter which may lead to urethral pressure injuries.

Long-tube leg bags should be secured on the calf but the tube needs to be secured on the thigh to prevent the tube getting tangled or pulled when pants are removed for dressing or toileting.

The leg bag needs to be emptied at regular intervals and at night the bottom of the leg bag is attached to a larger capacity overnight drainage bag, whilst maintaining a closed drainage system.

Leg bags should be changed every 5 to 7 days or as indicated and always in keeping with manufacturer guidance.

B. Overnight drainage bag

At night, a larger capacity overnight bag is connected to the open drainage tap of the leg bag - ensure that the tap is opened after the night bag is "piggy-backed" to the leg bag. Ensure that the night bag rests on a stand for support at a level lower than the bladder and where it does not place undue tension on the catheter. The overnight bag should not be reused if labelled for single use. Where approved by manufacturer, the bag may be reused - follow manufacturer instructions for cleaning and storage.

Urinary catheter insertion practice points

10) Secure urinary catheter

Secure indwelling catheters after insertion to prevent movement and pulling - this may prevent urethral pressure injuries, bladder neck trauma and may reduce risk of catheter-associated urinary tract infection.

Use a made-for-purpose catheter securement device such as Stat-Lock.

After securing the catheter check for traction or pulling in a lying, sitting and, where a resident is ambulant, in a standing position - where traction or pulling is identified, adjust position of securement device and re-check.

11) Daily catheter care and prevention of complications

Routine daily catheter care should include:

1. **Examine catheter and drainage system each shift and document daily catheter cares** in resident chart. Use hand hygiene (5 Moments for Hand Hygiene) and Standard Precautions (including gloves, apron and eye protection) and check for:
 - unplanned disconnection or leakage
 - obstructed urine flow
 - kinking of drainage tube
 - level of the drainage bag - keep below bladder at all times to allow gravity to assist drainage and do not rest on the floor
 - volume of urine in drainage bag
 - evidence of tension on the catheter or urethral pressure injuries or trauma
 - check securement device and change if soiled or not adhering appropriately to skin
2. **Empty the urine drainage bag regularly** using a separate, clean collecting container. Use a different container for each resident. Prevent contact of the drainage tap with the non-sterile collecting container. Remember to close the tap immediately after emptying the bag. Empty bag at a minimum at least once per nursing shift and ensure that urinary drainage bag does not overfill - empty when half full. Document urine output.
3. **Perineal hygiene using pH neutral soap and warm water** (or perineal cleaning cloths) as part of daily and after defecation hygiene cares. This is particularly important after faecal incontinence. Ensure that in uncircumcised males, that routine hygiene includes retracting the foreskin to clean under it daily - the foreskin must be replaced over the glans when hygiene cares are completed. The resident should be encouraged to wear freshly laundered clothes and change clothes and underwear at least daily.
4. **Ensure adequate hydration to maintain urine flow through the catheter and avoid constipation.**

In addition to the above daily cares, ensure that :

1. If there is an unplanned disconnection or leakage in the closed drainage system, the catheter and the collecting system is replaced using an aseptic technique.
2. Urine samples should be obtained from the urine sampling port using an aseptic technique .
3. Indication for catheterisation is reviewed regularly with GP. The IDC should be removed when no longer clinically indicated - use an appropriate trial of void procedure. Risk of catheter-associated urinary tract infection (CAUTI) increases significantly over each day a catheter is in place.

Urinary catheter insertion references

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Urinary catheter insertion version control

Pathway	Insertion of urinary catheter (IDC or SPC)				
Document ID	CEQ-HIU-FRAIL-00021	Version no.	1.0.0	Approval date	19/06/2023
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Author	Improving the quality and choice of care setting for residents of aged care facilities with acute healthcare needs steering committee in collaboration with Queensland Surgical Advisory Committee				
Custodian	Queensland Dementia, Ageing and Frailty Clinical Network (QDAF)				
Supersedes	Indwelling catheter: preparation for insertion v 1.1 Indwelling catheter: insertion v1.1				
Applicable to	Residential aged care facility registered nurses and General Practitioners in Queensland RACFs, serviced by a RACF acute care support service (RaSS)				
Document source	Internal (QHEPS) and external				
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Keywords	Urinary catheter, indwelling catheter insertion, suprapubic catheter insertion, prevention of catheter associated urinary tract infection (CAUTI)				
Relevant standards	Aged Care Quality Standards: Standard 2: ongoing assessments and planning with consumers Standard 3: personal care and clinical care, particularly 3(3) Standard 8: organisational governance				