



CLINICAL PRACTICE GUIDELINE

Bladder management

This document should be read in conjunction with the [Disclaimer](#)

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Mid-stream urine (MSU) specimen

Equipment

- MSU collection kit: Sterile: yellow container, gallipot & water wipe
- Gloves

Procedure

1. Provide the woman with a MSU collection kit.
2. Instruct the woman on the procedure / how to use the kit. Clean from front to back, discard, begin urinating into the toilet, then collect a mid- stream urine sample into the gallipot/ sterile container and then finish urination into the toilet.
3. Transfer the specimen from the gallipot to the sterile container. Ensure the lid is on tightly. Label the container with an identification sticker.
4. Confirm the container is labelled correctly with:
 - Woman's name
 - Woman's date of birth
 - Date and time of specimen.
 - Signature of collector.
5. Place the container into a specimen bag.
6. Place the completed request form in the side pocket of specimen bag so it does not come into contact with the specimen.
7. Send the specimen and request form to the laboratory as soon as possible. Attend hand hygiene.
8. Document the specimen collection in the woman's medical notes.

Use of a non-real-time bladder scanner

Key points

1. Non-real time bladder scanner is a battery operated ultrasound device which gives a digital reading of bladder volume.
2. Clinicians need to have training in the technique of bladder scanning in order to obtain an accurate result during examination of the urinary bladder.
3. The bladder scanner should be cleaned after each use and maintained according to the recommendations of the manufacturer. This includes periodic calibration and assessment on the consistency of the scanner measurement which should be similar to the amount of urine drained from the bladder on catheterisation.
4. The bladder scanner should only be used when clinically indicated, using the lowest exposure times. The use of the bladder scanner should not replace clinical judgement based on the clinical status of the patient.
5. Altered anatomy may interfere with the ultrasound waves.

6. Use with care in suprapubic / pelvic surgery patients, and those with scar tissue, surgical incisions, staples and sutures as ultrasound transmission and reflection may occur.
7. Do not use on women with open skin or wounds in the suprapubic region due to the risk of cross infection.
8. The non-real time bladder scanner is not intended for use in pregnant women or for fetal use.
9. The woman should not have a catheter in their bladder as this could affect the accuracy of the instrument.
10. Accuracy may be affected in women with ascites or free floating fluid in the peritoneum.
11. The bladder that has been resected or has trabeculae or a cystocele will not conform to the ellipsoidal algorithm and may not be a good candidate for use of the scanner.

Procedure

1. Conduct a risk assessment.
2. Assess the woman's clinical history, symptoms and reason for the bladder scan.
3. Explain the procedure and obtain verbal consent from the woman prior to commencement.
4. Press the on / off button.
5. Press the 'scan' button.
6. Press the gender button. The LCD screen will show a male or a female icon to indicate the gender that is selected. Use the female option only for women who have not undergone a hysterectomy.
7. Apply a generous amount of water soluble transmission gel to the women's abdomen, 2cm above the symphysis pubis to facilitate contact between the skin and scanner.
8. Clean the rounded end of the scan head by gently wiping with a 70% isopropyl alcohol impregnated wipe.
9. Place the probe on the transmission gel.
10. Aim the scan head so the ultrasound is projected toward the expected location of the bladder. For most patients this means aiming the tip of the scan head towards the patient's coccyx.
11. Press and release the scan button, located on the scan head.
12. Hold the scan head steady throughout the scan. The scan head clicks once at each scan plane. When you hear a beep, the scan is complete. The urine volume is then displayed on the screen.
13. It is recommended to take several measurements to ensure maximum accuracy. Ensure that the bladder image is in all 4 quadrants.
14. Press 'done' for the scan results screen.

15. Press the 'print' button twice to print the results.
16. Clean the scan head using a 70% isopropyl alcohol impregnated wipe and remove any excess gel from the patient's abdomen.
17. The outcome of the scan and any printed results must be recorded in the patient's notes. Document the result on the fluid balance chart. Inform the medical officer if there are any concerns about the result.

Urinary catheterisation: Intermittent

Key points

1. Intermittent catheterisation shall be performed if a woman is unable to void 6 hours post operatively / relieve acute urine retention or to determine bladder residuals.²
2. Catheterisation shall be performed using an [aseptic technique](#).^{2, 3}
3. Registered Nurses / Midwives shall follow standard precautions for all catheter insertions.
4. Medical team should be notified if catheterisation is required
5. Rapid drainage of large volumes of urine from the bladder may result in hypotension and / or haemorrhage. Volumes greater than 600mL shall be reported to the Medical Officer.

Equipment

- Sterile catheter pack
- Sterile sodium chloride
- 12Fg Nelaton disposable catheter
- PPE – plastic apron and protective eye wear
- Bag for refuse
- Gloves-sterile& non-sterile
- Waterproof sheet
- Extra sterile cotton wool swabs (if required)
- Clean kidney dish

Procedure

1. Perform hand hygiene
2. Wipe trolley with detergent wipe
3. Gather equipment onto bottom shelf
4. Discuss the procedure with the woman, obtain verbal consent and ensure the woman's privacy. Ensure a good light source is available. Put on PPE.
5. Set up the trolley. Open the catheterisation pack and using an aseptic non touch technique, add the catheter and other sterile equipment and pour the sterile sodium chloride/ cleansing solution.
6. Place a waterproof sheet under the woman's buttocks⁴ (aim for minimum exposure) and assist the woman into a supine position.

7. Perform an aseptic hand wash and apply sterile gloves **NB:** If soiling is evident, apply non-sterile gloves and clean the genital area with soap and water prior to the procedure. Dispose of gloves.
8. Prepare equipment using a non-touch technique.^{4, 5}
9. The woman shall be supine, with knees bent, hips flexed.²
10. Apply the aseptic drapes. The paper one is placed on the bed between the thighs and apply the fenestrated drape...
11. With your non dominant hand, separate the labia minora and expose the urethral meatus (this hand is now considered contaminated and should remain in this position until the procedure is completed). Using gauze swabs and sterile saline, clean both the labia folds and the urethral meatus.^{5, 6} Move swabs from above the meatus down towards the rectum. Discard each swab after each downward stroke. Insert lubrication into urethra.
12. With the dominant hand insert the catheter into the meatus, upward toward the belly button,⁵ at approximately 30 degree angle until urine begins to flow.
13. Advance the catheter approximately 6-8 cm. Once the urine flows, advance the catheter another 2cm and wait until the urine ceases.⁵
14. When the urine flow has stopped, gently remove the catheter in small steps to ensure that there is no urine left in the bladder.⁵
15. Discard the catheter / waste,⁵ perform hand hygiene and reposition the woman for comfort.
16. Clean trolley.
17. Perform hand hygiene.
18. Document the procedure and amount of urine obtained in the woman's notes.

Indwelling catheter (IDC): Insertion

Key points

1. This procedure requires an aseptic non-touch technique.⁶
2. Only persons familiar with the technique of insertion and maintenance of the catheter shall perform this procedure.⁶
3. An assistant may be required to maintain a sterile technique – especially with elderly or combative patients.
4. Before indwelling catheters (IDC) are used, involve the woman in discussion, and consider all other alternatives (i.e. intermittent catheter and continence aids).⁶ Patients should never be catheterised for reasons of convenience or incontinence.⁶ Unless incontinence associated dermatitis is evident.
5. Catheterisation should not be attempted more than twice by an individual. If unable to catheterise contact senior staff, urology nurse or medical team.

Equipment

- Appropriate size catheter (12-14 FG)⁴
- Waterproof sheet⁴ (e.g. bluey)
- Drainage bag
- Securement device
- Personal protective equipment⁴(non - sterile apron and personal protective eyewear
- Sterile urine specimen pot- if required⁴
- Syringe 10mL⁴
- Sterile water 10mL⁴
- Lignocaine lubricant
- Sterile normal saline solution⁶
- Jug (to empty drainage bag)⁴
- Waste bag
- Sterile catheter pack⁴
- Angle poise lamp
- Sterile gloves⁴

Procedure

Procedure	Additional information
Prepare equipment	
<p>1. Explain the procedure (insertion, need for catheterisation, catheter maintenance / hygiene and plan for removal) to the woman⁶ and obtain verbal consent.</p> <p>Check for latex and tape allergies.⁶</p> <p>2. Determine the size and type of catheter most appropriate for the woman.⁶</p> <p>Choose the smallest catheter that will drain adequately, and avoid urethral trauma.⁶ Normally size 12-14fg.</p> <p>Keep the outer packaging to enable documentation of the lot number.</p> <p>3. Perform an antiseptic hand wash,² clean the trolley & gather equipment.⁷</p>	<p>The woman will feel reassured if the procedure is explained and she is handled gently and considerately.</p> <p>Use latex-free products as required (consider gloves and catheter).^{2, 6}</p> <p>The purpose of the catheter is not to occlude the urethra completely. The folds of the urethra normally close upon themselves and the smaller the catheter the more easily the urethral folds can close around it.</p> <p>If there is a problem with the catheter this detail can be provided to the manufacturer.</p> <p>Clean hands again if contaminated after gathering equipment.⁷</p>
Bedside preparation	
<p>4. Put on the apron and eyewear</p> <p>Open the catheter tray and open the equipment onto the critical aseptic field using a non-touch technique.⁷</p> <p>5. Direct the angle poised lamp so as to enable visualisation of genital area.</p>	<p>Use a strict aseptic technique.</p> <p>Good light is essential to facilitate the introduction of the catheter.</p>

Procedure	Additional information
<p>6. Place the woman in a supine position with her knees bent, hips flexed and feet resting on bed about 0.6m apart.</p> <p>7. Position the waterproof sheet (e.g. bluey) under the woman's buttocks.⁴</p> <p>8. Repeat the antiseptic hand wash.⁷</p> <p>Put on sterile gloves.⁷</p> <p>9. Prepare the equipment using a no touch technique. Draw up the 10mL of sterile water.</p> <p>10 Using lignocaine gel to lubricate meatus and instil into urethra. Give adequate time for lignocaine to numb area.</p> <p>11 Apply the drape.</p>	<p>Contamination by faecal bacteria may occur during insertion of the catheter. This risk is increased in the side lying position, which should be reserved for patients with restricted hip abduction.</p> <p>Hand washing is considered to be the most important action to prevent infection.</p> <p>Use the assistant to assist with the drawing up.</p> <p>A well-lubricated area reduces friction and trauma to the meatus.⁶ Lubricating the end of the catheter can block the eyelet of the catheter.</p>
Preparation	
<p>12 Separate the labia minora so that urethral meatus is visualised.</p> <p>13 Using gauze swabs with forceps, swab the urethral meatus and inside the labia minora with sterile normal saline⁶.</p> <p>Use downward strokes and work from anterior to posterior. Dispose of the swabs after each use⁴</p> <p>14 Insert lignocaine lubricating gel^{6, 7} gently into the urethra.</p>	<p>In older women the urethra may prolapse back into the upper vaginal wall and make identification difficult.</p> <p>Micro-organisms inhabiting the distal urethra may be introduced into the bladder during or immediately after insertion. There is no advantage using antiseptic solutions to clean the area.⁶</p> <p>Minimises the risk of contamination of the meatus with bowel flora.</p> <p>Minimises urethral trauma.⁶</p>
Insertion of catheter	
<p>16 Maintain separation of the labia until catheterisation is finished.</p> <p>17 Using a strict aseptic technique, introduce well-lubricated catheter 6 - 8cm into the urethral meatus.</p>	<p>This helps prevent labial contamination of the catheter during insertion.</p> <p>Urethral trauma, discomfort and risk of infection will be minimised with lubrication.⁶ Insert the catheter using the forceps included in the catheter pack. Infection prevention practices during</p>

Procedure	Additional information
<p>If the catheter is contaminated during the insertion begin again with a new catheter.</p>	<p>insertion reduce the risk of health care associated infection from invasive devices.⁸</p> <p>If the catheter is inadvertently placed in the vagina, leave it as a landmark (remove after a new catheter has been successfully inserted).⁹</p>
<p>18 Following insertion, check that the catheter is not too large or too tight at the urethral meatus.</p>	<p>Too large a catheter may cause painful distension of the meatus.</p>
<p>19 Once urine begins to flow, attach the syringe direct to the port and inflate the catheter balloon using sterile water.</p> <p>Use only the volume of water recommended by the manufacturer to inflate the balloon.</p>	<p>A needle is not required.</p> <p>A large balloon is not necessary to hold the catheter in place. The balloon is not designed to occlude the internal urethral meatus to prevent leakage. This is prevented by the bladder neck and sphincter's gripping the catheter lumen.</p>
<p>20 Collect a urine specimen if requested⁴</p>	<p>Use of normal saline may result in the formation of crystals, which may result in difficulties deflating the balloon.</p>
<p>21 Attach the drainage bag using a non-touch technique.⁷</p>	<p>Document in the notes if a catheter specimen of urine (CSU) is collected.⁴</p>
<p>22 Remove the drape & waterproof sheet.</p> <p>Ensure the woman is comfortable, clean and dry.</p>	<p>The connection should then not be broken unless clinically indicated.⁶</p>
<p>23 Secure catheter comfortably⁶ to anterior mid-thigh with securement device¹⁰.</p>	<p>This prevents traction and tension on the bladder and may result in bleeding, trauma and/or meatal pressure sores.</p>
<p>24 Measure the urine⁴, dispose of the equipment & attend hand hygiene⁶.</p>	
<p>Documentation⁶</p>	
<p>25 Record the procedure, date / time of insertion,⁶ reason for catheterisation and the amount / appearance of urine drained on all appropriate documentation. Include the catheter</p>	

Procedure	Additional information
	<p>type⁶ / gauge size , lot number & the amount of water inserted into the balloon.^{4, 9}</p> <p>Ensure that the clinical indication, expected duration, and planned date of removal have been documented in the patient's notes.⁶</p>
26	<p>Specimen Collection - if requested by Medical Officer, collect specimen directly from the sampling port on the catheter bag tubing or preferably from a new catheter insertion if urosepsis is suspected. Refer to page 12 of this guideline.</p>
27	<p>Commence a fluid balance chart if required.</p>

IDC: Management

Key points

1. Nurses / midwives shall follow standard precautions for all catheter care.
2. Maintaining a sterile, continuously closed urinary drainage system is central to the prevention of catheter associated infection.⁶ Nurses / midwives shall ensure that the connection between the catheter and the urinary drainage system is not broken except for good clinical reasons.^{3, 6}
3. Catheters shall be secured to avoid trauma.⁶
4. Urinary drainage bags shall be positioned below the level of the bladder.⁶
5. Drainage bags shall be supported in a way that prevents contact with the floor.⁶
6. Urine samples shall be obtained from a sampling port³ using an aseptic technique.⁶
7. Unnecessary changing of the urinary drainage bag, or taking a urine sample increases the risk of catheter related infection and shall be avoided.⁶ The drainage bag should not be more than $\frac{3}{4}$ full.⁶
8. The drainage bag shall be emptied frequently enough to maintain urine flow and prevent reflux, and shall be changed only when clinically indicated¹² or as per the manufacturer's instructions.⁶
9. Educate the woman to clean the meatal area daily during routine daily showering^{3, 6, 12}
10. Bladder instillations or washouts shall not be used to prevent catheter associated infections.⁶

11. Antibiotic prophylaxis when changing catheters shall only be used for patients with a history of catheter associated urinary tract infection following catheter change.
12. Assess and document the need for IDC daily and remove when not clinically indicated.^{3, 6, 12}
13. Patient transfer from ASCU to the ward [New June 2019]:
 - Once the woman is cleared from ASCU by the team, the usual urine output and colour observations must continue until the woman leaves for the ward.
 - Once the woman arrives on the ward from ASCU, the urine output and colour needs immediate documenting along with other observations or **check when last documented in ASCU fluid balance chart, progress notes or ASCU observation chart and perform observations if nil recent.**
14. After all transfer situations (most commonly when patient requiring external CT or internal or external outpatient department (OPD) appointments): once the woman returns to the ward, the urine output and colour needs immediate documenting along with other observations.

Management of IDC catheter obstruction [New June 2019]

1. If IDC blockage is not easily unblocked with syringe flush or if dark haematuria or significant clots found after unblocking then needs 18G 3 way (in case washout required) and leave until at least 24hrs after urine clear.
2. If a second episode of catheter obstruction, needs Senior Registrar review, discussion with team consultant, a 22G 3 way flush and involvement of Urology team.

Note- If catheter obstruction during bladder irrigation, refer to section in this document: Bladder Irrigation- [Catheter Obstruction](#).

IDC: Urine specimen

Equipment

- Gloves
- Alcohol swab
- 22 or 23 gauge needle
- 10mL syringe
- Kidney dish
- Specimen container labelled
- Gate clip
- Goggles/PPE¹³

Procedure

PROCEDURE	RATIONALE
1. Perform hand hygiene. ⁶	Hand washing helps to prevent cross infection. ⁶
2. Clamp the catheter tubing 4-5cm below the sampling port until sufficient urine collects	
3. Perform hand hygiene ^{2, 6} & put on gloves & eye protection/goggles/PPE.	
4. Clean the sampling port with alcohol swabs ³ for 30 seconds contact time. ¹³	
5. Insert the needle into the port at an angle of 45 ⁰ using aseptic non touch technique. Using the sterile syringe and needle, aspirate the required amount of urine from the access port. ^{3, 13} Discard the needle appropriately into a sharps container.	To avoid going straight through the tubing. Using the port & an aseptic technique reduces infection risk, as breaches of the closed system increase the risk of catheter related urinary tract infection ⁶
6. Place the specimen in the labeled specimen container.	The urine should never be squirted into the specimen pot via the needle since this can destroy any cells or casts present. The needle should always be removed first.
7. Wipe the sampling port with an alcohol swab for 30 seconds. ¹³	
8. Remove the clamp.	
9. Perform hand hygiene. ²	
10. Record the time of collection on the request form and send to the laboratory within 30 minutes of collection.	
11. After hours the PCA will deliver it to appropriate area for incubation. Place urine specimens in the fridge ¹³ on the ward for PCA collection.	

IDC: Removal

Key points

1. Remove the IDC as soon as medically possible,⁴ thereby reducing the infection risk.^{12, 14}
2. Clamping is not recommended prior to routine removal.⁴
3. Antispasmodic medications should ideally be discontinued 24 hours prior to catheter removal. The trial of void (TOV) should not be delayed by failure to do this unless there are significant risks that catheter re-insertion will require Urological intervention¹.
4. If balloon does not deflate do not attempt to remove the catheter. Contact the medical team and report as an incident.

Equipment

- Disposable gloves, personal protective equipment (PPE)
- Luer Lock Syringe
- Waterproof sheet +/- Kidney dish / receiving container

Procedure

1. Explain the procedure to the woman and obtain verbal consent.
2. Check the woman's notes to see how much water was inflated into the balloon¹⁶ and check the scheduled removal date.
3. Gather the equipment required for the removal.
4. Ensure privacy. Position the woman supine, while preserving her dignity.
5. Perform hand hygiene and put PPE and gloves on.¹⁷
6. Place a waterproof sheet and / or kidney dish / receiving container between the woman's legs to receive the used catheter¹⁶ and to catch any urine spillage.¹⁷
7. Attach the Luer Lock syringe to the catheter valve to deflate the balloon.¹⁶ Do not pull on the syringe, but allow the water from the balloon to fill the syringe^{4, 17}
8. Release any straps and tapes before deflating the balloon.^{16, 17}
9. Ask the woman to relax. As the woman exhales, gently remove the catheter.¹⁷
10. Make the woman comfortable, and provide hygiene as required.^{9, 17}
11. Check that the catheter is intact and note the amount of urine in the drainage bag^{9, 17}.
12. Dispose of the equipment appropriately, remove gloves and perform hand hygiene^{9, 17}
13. Document the following:
 - a. Date and time of catheter removal^{16, 17} and whether the catheter was intact.
 - b. Volume of water removed from the balloon should equal the volume inserted in balloon during insertion.
14. Record urine output^{9, 17} until frequency and voided volumes are satisfactory.
15. Inform the woman, and / or observe, for any signs of Urinary Tract Infection / voiding difficulties.⁹

IDC: Trial of void (gynaecology)

For removal of IDC in obstetric women, refer to sections:

- [Bladder management: During labour and the postnatal period](#)
- [Postnatal Trial of Void \(TOV\)](#) and [Flow charts](#)

Key points

1. Fluid balance, charting fluid intake and output shall be accurately recorded.¹⁸
2. Encourage the woman to maintain or increase fluid intake (unless contraindicated)⁹ to approximately 2L per day.¹⁹
3. Advise the woman not to void too frequently i.e. aim for > 2 hour intervals.
4. If the woman has not voided after 4 hours or she is uncomfortable at any time, she must attempt to void and the voided volume and residual volume recorded.
5. If the woman is unable to void, insert an IDC to straight drainage, record the amount drained after 10 minutes and inform the medical team.
6. If the woman is voiding frequent or small amounts or is uncomfortable, despite the bladder scan residuals being < 150mL, perform intermittent catheterisation and inform the medical team. Also inform medical staff if the residual is greater than the void, >600mL residual, or no void in >5-6 hours & the woman is uncomfortable.²⁰
7. Women may need several trials before achieving a positive outcome, particularly after urological surgery.
8. Factors associated with failure of a TOV include: the woman being older than 75 years; a volume greater than 1000mL drained when the woman was first catheterised; and / or constipation.¹⁸
9. Once passed TOV, if patient has any of these: feeling uncomfortable, that her void is slow, that she has poor bladder sensation or voiding frequent small amounts, then suspect retention and/or UTI – do a bladder scan, urinalysis and MSU.
10. Voids <150mL or >600mL: If the exact volume is considered critical for management then it can be weighed.

Procedure

PROCEDURE	ADDITIONAL INFORMATION
1. Measuring voids Remove IDC at 6am on day of TOV (gynae women only).	Day of removal depends on nature of surgery and patient factors.
2. After first void, check residual with bladder scanner ⁴ within 10 minutes. ⁹ Note: Post void non real time bladder scans are not used on antenatal, ⁴ and not	A delay in checking residual urine may result in falsely high residual reading as urine will still be produced and enter the bladder during lag time.

PROCEDURE	ADDITIONAL INFORMATION
<p>routinely used on postnatal women¹⁹. Take care if suprapubic wounds.⁴</p> <p>3. Continue recording voids and residuals until two consecutive voids⁴ >150mL with residuals <150mL. Cease measurements & attend a check urinalysis within 36 hours of IDC removal⁴.</p> <p>4. If void <150mL and residual <150mL Repeat bladder scan after next void and follow above instructions.</p>	<p>Postpartum fluid in/ around uterus can give a false positive result.¹⁹ This indicates successful TOV. Note: Residuals >100mL may require monitoring & repeat scan.²⁰</p> <p>The void may be too small to provide meaningful information and should not be counted as a successful void.</p>
<h2>5 Bladder Scanner Residuals</h2>	
<p>5.1 150-300mL</p> <ul style="list-style-type: none"> • Double void & rescan.⁴ <p>5.2 > 300mL</p> <ul style="list-style-type: none"> • If 250-450mL: Double void & rescan,⁴ if unable to void or high residual: • Insert IDC. • Inform Medical Officer. 	<p>At lower bladder volumes, unlikely to need further straight drainage, so “in/out” catheter suffices.</p> <p>At higher bladder volumes, likely to need straight drainage. Immediate insertion of an IDC is less invasive. To double void: Void, change position (e.g. walk 1-2min) & return to void again.⁴</p>
<h2>6 Catheter Residuals</h2>	
<p>6.1 < 300mL: Repeat bladder scan after next void and follow above regimen.</p> <p>6.2 300-600mL: Insert IDC for 24 hrs on straight drainage Inform medical team. Remove catheter for next TOV the following day at 6am or on medical team recommendation.</p> <p>6.3 > 600mL: IDC to straight drainage for approx. 48 hrs. Inform the medical team. Remove the catheter for next TOV 2 days later at 6am or on the medical team’s recommendation.</p>	<p>Large residual volumes risk over-distention injury. The higher the bladder distention, the longer the time required to rest the bladder muscle until adequate contractility is regained.</p>

PROCEDURE	ADDITIONAL INFORMATION
7. Unsuccessful TOV	
<p>If after initial success, the woman starts to fail TOV, suspect:</p>	
7.1 Urinary Tract Infection	
<p>Perform a check urinalysis & take a mid-stream urine (MSU) / catheter specimen of urine (CSU) and inform medical team. If the urinalysis is +ve for nitrites and/or white cells inform the medical team.</p>	
7.2 Woman's fluid intake is too high	
<p>Reassess her fluid input.</p>	<p>If residual volumes are >400mL, total fluids should be restricted to 2L/day.</p>
8. Unsuccessful TOV on 2 days	
8.1	
<ul style="list-style-type: none"> • Perform urinalysis • Take MSU/CSU for MC&S 	<p>A urinary tract infection may be the underlying cause of small frequent voids - rather than a loss of bladder tone.</p>
8.2	
<p>If ward urinalysis is positive for nitrites and/or white cells inform medical team.</p>	<p>Nitrites or white cells in the urine are strongly indicative of an infection which requires antibiotic therapy</p>
8.3	
<p>Team Registrar or above shall review and discuss with team Consultant</p>	
8.4	
<p>Review by the Urology Nurse</p>	
9. If the IDC is in for >48 hours:	
<ul style="list-style-type: none"> • Consider a silicone IDC. 	
<ul style="list-style-type: none"> • Perform daily urinalysis: 	
<ul style="list-style-type: none"> ➤ If nitrites and/or white cells are positive take CSU and inform medical team. 	

Management of bladder stretch > 1 litre (whether Gynae or Obstetric)

[New recommendation- June 2019]

1. If fails first TOV with bladder stretch > 1 litre need at least 48 hrs IDC. If then passes TOV does not need Urology follow-up.
2. **If fails next TOV urology follow-up required**
 - IDC for one week or clean intermittent self-catheterisation (CISC) and immediately contact Urology Nurse to follow-up; preferably before discharge.
 - If discharged out of hours with no chance to contact Urology Nurse the Urology Nurse must be contacted next working day.
 - Urology nurses will follow-up until voiding and sensation return. If not normal by three months Urology Nurse will discuss at team meeting. Urology Nurse will organise medical consultation at Urology clinic at 6 months.
 - Additional information: Detrusor contractility may never quite return to normal; these women are at increased risk of gradually declining detrusor contractility and bladder sensation in the future **and need to be counselled**. They may require CISC in the future and/or may go into retention when the bladder is challenged. E.g. urinary tract infection, further delivery or abdominal surgery. Patients should be informed of this possibility.

Bladder management: During labour and the postnatal period (including TOV)

While all women in the immediate postnatal period have the potential to experience urinary problems several factors increase the risk, i.e.:

- Duration of labour prolonged first and second stages of labour^{5,6}
- Caesarean section for delay in the first stage of labour
- Duration of labour¹
- Assisted birth^{1,2}
- Episiotomy^{1,2}
- Epidural analgesia ^{1,2} particularly with local anesthetic. (e.g. bupivacaine)
- Post Caesarean Epidural Morphine¹
- Perineal/vulval trauma
- Over distension of the bladder during/immediately following birth
- Larger infant than normal term baby
- Non English speaking mother
- Obesity²¹
- Nulliparity^{21, 22}

Procedure

In Labour

- Encourage the woman to void every 2 hours. If unable to void there should be a low threshold for catheterisation.
- Insert an Indwelling catheter (IDC) size 12fg for all women who have a palpable bladder, have a sensation of incomplete emptying or have an epidural / spinal for labour and birth.
- The catheter balloon should be fully deflated or removed prior to pushing to reduce the risk of urethral damage. **The catheter balloon must not be partially deflated; this practice is dangerous as it risks significant urethral trauma from small balloon being pulled into urethra.**

Immediate postpartum

- The IDC must be reinserted after birth for women who have neuraxial analgesia. The IDC should remain in situ for at least 6 hours after the birth or until full sensation has returned. Once mobile, remove the catheter and monitor the first and second void.
- In women who have had spinal anaesthesia or epidural analgesia that has been topped up for a trial of instrument or CS the IDC should remain in situ for a minimum of 12 hours after birth.

Indwelling catheter is also indicated for a minimum of 12 hours for

- PPH with Oxytocin infusion (for the duration of the infusion).
- 3rd or 4th degree tear

Consider an IDC to remain in situ for 24 hours if there is other significant genital trauma.

Postnatal TOV: Following birth or following initial removal of an IDC**Key points**

- The timing, volume, flow and sensation of the first two voids must be monitored.
- Screen all women within 2 hours of birth / removal of IDC for risk factors and symptoms of urinary retention.
- The woman must try to void within 4 hours of birth or removal of an IDC.
- If the woman is unable to void, commence active management:
 - Good pain relief
 - Adequate fluid intake
 - Manage constipation
 - If the woman is unable to void within 30 mins of above measures, insert an indwelling catheter for 24 hours
 - Inform the Obstetric team
 - Remove catheter after 24 hours and encourage voiding within 4 hours. If the residual volume <150 mL for discharge with no follow up
 - If post void residual >150 mL the catheter is to stay in for 7 days. Follow up at the urology clinic.
- For accuracy, voids are to be weighed if volume <150mL or >600mL.
- If the weighed volumes voided are less than 150mL or greater than 600mL, measure the residual volume by real time scan or intermittent catheterisation. The real time scanner is to be used only by midwives who have received appropriate training. The catheterisation must occur immediately after the void using an aseptic technique.
- If the woman is voiding frequent or small amounts or is uncomfortable, despite the bladder scan residuals being < 150mL, perform intermittent catheterisation and inform the medical team.
- Once passed TOV if patient has any of: feeling uncomfortable, that her void is slow, that she has poor bladder sensation or voiding frequent small amounts then suspect retention and/or UTI – do bladder scan, urinalysis and MSU.
- Refer to ward physiotherapist for altered sensation or flow in absence of retention or overstretch

Residual volumes management

(For women whom have voided <150mL OR >600mL weighed)

Insert in/out catheter and measure and document volume drained or measure residual volume with a real time scanner (RTS)

If < 500mL drained:

- Encourage voiding within next 2 hours, measure volume voided and post void residual with either an in out catheter or RTS
- If post void residual <150ml then no further management unless symptomatic

If >500mL drained:

- Insert indwelling catheter for 24 hours
- Inform Obstetric team
- Remove the catheter after 24 hours and encourage voiding within 4 hours. If residual volumes <150 mL for discharge with no follow up
- If post void residuals >150 mL catheter is to be reinserted and remain in for 7 days. Follow up at the urology clinic.

TOV Regime following removal of an IDC that has been inserted for an unsuccessful TOV

- Encourage voiding within 2 hours of IDC removal.
- Measure the volume voided and the post void residuals with RTS or intermittent catheterisation.
- If the post-void residual volumes (x 2) are less than 150mL – no further action.
- If the post void residuals are >150mL reinsert the catheter. This should remain in situ for 7 days. Follow up at the urology clinic.

If the woman is not able to void after the initial 4 hours insert an IDC

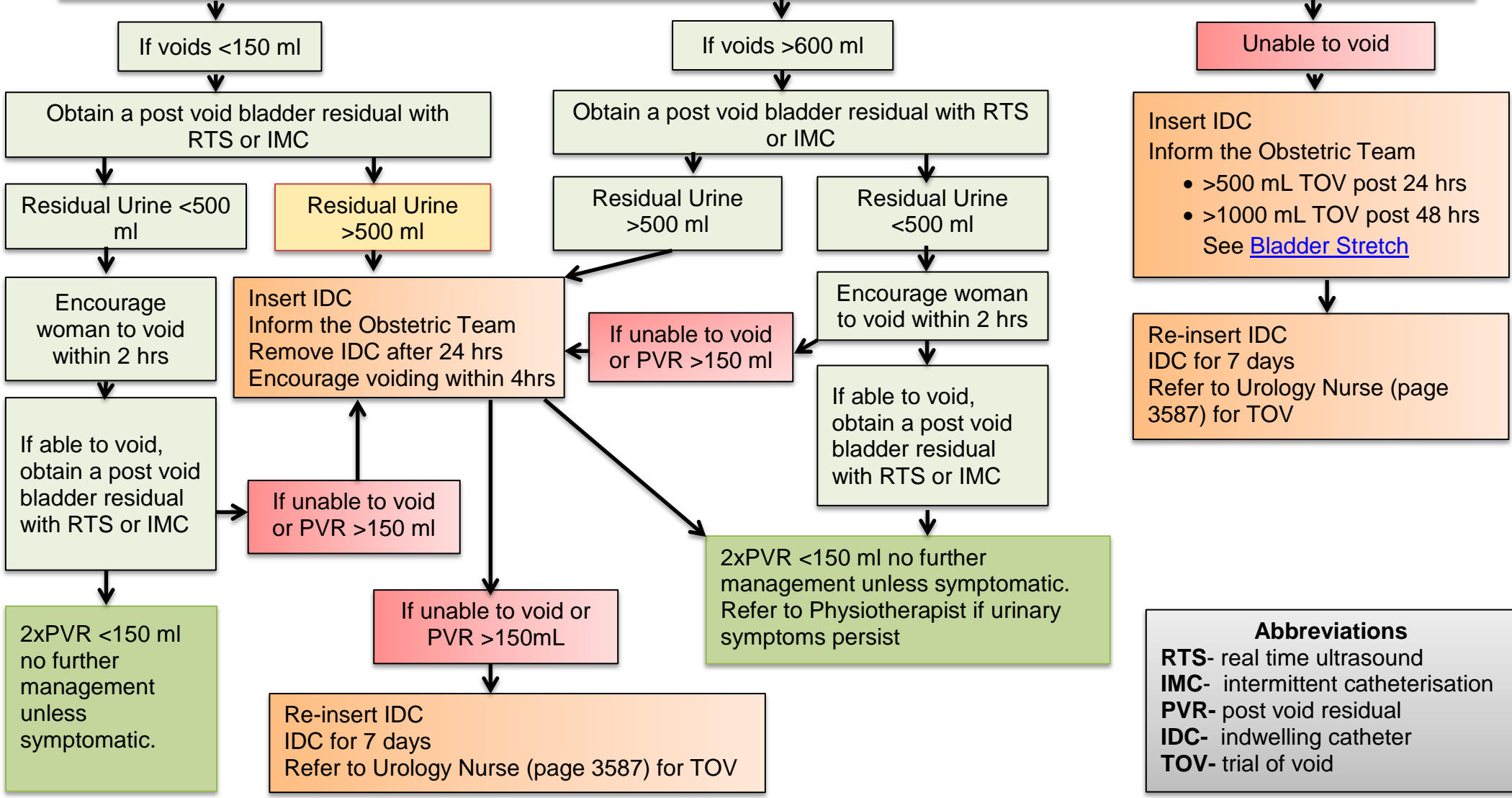
- If drainage is more than **500mL in one hour**, leave catheter insitu for **24 hours**. Repeat the TOV as outlined above.
- If drainage is more than **1000mL**– see 'Bladder stretch' below
- If no intrapartum antibiotics prophylaxis has been given commence prophylactic antibiotics after 6 hours and discontinue when the catheter is removed.

Bladder stretch > 1 litre (whether Gynae or Obstetric)

- See [Management of Bladder Stretch \(whether Gynae or Obstetric\)](#) in previous section.

Flowchart: Intrapartum and postpartum bladder management

Voiding difficulty, unable to void or no sensation of bladder filling
within 4 hours of birth OR removal of IDC
Encourage to void within 30 minutes
 Instigate non-invasive measures: analgesia, privacy, relaxed environment, mobilise, running water- void in shower, Ural



Abbreviations
RTS- real time ultrasound
IMC- intermittent catheterisation
PVR- post void residual
IDC- indwelling catheter
TOV- trial of void

Bladder management: Intrapartum and postpartum

Following Vaginal Birth with Epidural/ CSE in labour	Following: <ul style="list-style-type: none"> Instrumental/ Vacuum Birth PPH 3rd or 4th Degree Tear with epidural/ CSE 	Following Caesarean Birth	Following Epidural MORPHINE Top Up
<ul style="list-style-type: none"> An IDC must be inserted during labour. An IDC must be reinserted after delivery. It should remain in situ for at least 6 hours after the birth or until full sensation has returned Assess motor function to ensure sensation has returned to normal. Check dermatomes if the epidural contained local anaesthetic 	<ul style="list-style-type: none"> IDC must be reinserted after delivery. It should remain in situ for at least 12 hours after the birth or until full sensation has returned. If there is other significant genital trauma, consideration should be given to an indwelling catheter for 24 hours following birth 	<ul style="list-style-type: none"> IDC should remain in situ for a minimum of 12 hours after birth. 	<ul style="list-style-type: none"> IDC to remain insitu for a minimum of 24 hours post Morphine administration
<p>Note:</p> <ul style="list-style-type: none"> Always check Bromage score prior to removal of IDC Remove IDC or ambulate only if Bromage Score ≤ 2 The first void should always be within 4 hours of IDC removal. Encourage the woman to void every 2-3 hours 			

Self-catheterisation (intermittent)

Background

Intermittent self-catheterisation (ISC) is the passing of a catheter into the bladder to remove urine, with the catheter then being immediately removed.² Patients who need to undertake intermittent self-catheterisation have voiding or storage problems, resulting in retention of urine. For bladder emptying dysfunction, ISC is considered gold standard². It is important that catheterisation is carried out regularly to prevent bladder distension and the frequency will depend on the individual woman's bladder assessment.

Key points

1. It is vital that the woman is able to store urine in her bladder.
2. The woman must be able to understand the technique, have reasonable dexterity and mobility and be motivated to commit to the procedure.
3. In the hospital setting, an aseptic technique shall be used.^{2,3}
4. Assess the patient and ensure she understands why she has to undertake the procedure and what is involved.
5. Encourage the woman to identify a position that is comfortable to them to perform the procedure e.g. standing with one leg resting on the toilet, sitting on the toilet² or a chair, or lying down.
6. Instruct the woman on hand hygiene and the importance of not touching anything other than the items needed until the procedure is complete.²
7. Instruct the woman to prepare the catheter according to the manufacturer's instructions.
8. The woman should try to pass urine prior to catheterisation.

Equipment

- Soap & water or disposable cleansing wipe
- Lubricating jelly
- Sterile gloves (to assist)
- Nelaton catheter 12FG
- Collection receptacle

Procedure

1. Explain the procedure to the woman, and supervise her ability for the following
2. Attend hand hygiene³, then wash the genital area- from the urethra towards the anus.² Repeat hand hygiene and place catheter / lubricant within reach.²
3. Part the labia with the index and middle finger of the non-dominant hand and identify the urethra. A mirror may be useful when initially teaching the woman.²
4. The staff member can attend hand hygiene and put on sterile gloves to assist if required.²

5. Instruct the woman how to remove the catheter from the packaging, and lubricate, without touching/contaminating the tip.² Gently insert the lubricated catheter into the bladder, pointing the funnel end into the toilet or collection receptacle.²
6. If the woman has difficulty inserting the catheter, advise her to relax², cough or to try and pass urine. Continue to insert the catheter until urine starts to flow.
7. When the urine flow stops, slowly remove the catheter. If the urine starts to flow again, wait and then gently begin to withdraw the catheter.²
8. To avoid spillage, place a finger over the funnel before finally removing from the urethra.
9. Dispose of waste, and the catheter² according to the manufacturer's instructions. Single use catheters should be placed back in their sleeve and discarded in the general waste. Attend hand hygiene².
10. Provide the woman with information on signs of infection³, hygiene & fluid advice.
11. Document the procedure and urine amount.

Bladder irrigation

Key points

1. A Medical Officer's order is required to initiate bladder irrigation.
2. Maintaining a sterile closed urinary drainage system minimises the risk of catheter associated infection.
3. Initial urethral catheterisation with a 3 way catheter shall be undertaken by a medical officer if there is a risk of rupturing the surgical anastomosis.
4. Hand hygiene shall be performed prior to and after contact with the woman and /or the equipment.
5. Use of PPE shall be in accordance with standard precautions.

Equipment

- Y type irrigation set
- 2 x 2000mL "Uromatic" sodium chloride 0.9% solution for irrigation – room temperature.
- Non sterile gloves
- 2L urinary drainage bag
- IV pole
- Bladder washout chart

Procedure

1. If a 3 way indwelling catheter is not already insitu, insert the appropriate sized 3 way Foley catheter. Size 22f catheters are recommended for bladder washouts.
2. Perform hand hygiene.
 - a) Prepare irrigation line
 - a. Remove protective covering from irrigation set.
 - b. Ensure the clamps in line are closed.
 - c. Insert the spike into the insertion port of the irrigation solution container using a non-touch technique. Repeat with the second bag.
 - d. Place both bags of irrigation solution on the IV pole at the end of the bed.
 - e. Open one clamp and prime the tubing, then re clamp.
 - f. Repeat the priming with the second bag.
3. Assess the woman's knowledge and provide education as required.
4. Position the woman supine on the bed with the catheter exposed.
5. Hang both bags above the level of the woman's head for gravitational flow, with one bag higher than the other (Use a J hook).
6. Label the bags with consecutive numbers for monitoring the amount of fluid irrigated into the bladder.
7. Perform hygiene.
8. Put on non-sterile gloves.
9. Swab the irrigation lumen of the catheter with an alcohol swab and allow to air dry.
10. Prime the line.
11. Connect the irrigation tubing to the irrigation lumen of the catheter using a non-touch technique.
12. Ensure the catheter is secured to the woman's leg with a securement device.
13. The irrigation / drainage tubing shall be positioned over the anterior aspect of the woman's leg.
14. Connect the 4 litre catheter bag to the outlet lumen using a non-touch technique.
15. Open both clamps and run both bags simultaneously. Only change the top bag.
16. Observe the washout a minimum of every 15 minutes to ensure the irrigation solution bag is not empty and the catheter is not occluded.
17. Titrate the flow of the irrigation fluid according to the colour of the output, presence of clots or as per medical officer's instructions.
18. Empty the 4L catheter bag into a measuring jug.
19. Replace the empty bag of irrigation fluid with a new bag ensuring it is labelled with the next consecutive number.

20. Record on the bladder irrigation chart

- a) Date and time
- b) Bag number, amount irrigated in
- c) Amount drained out
- d) Balance
- e) Colour

21. Enter the urine output onto the fluid balance chart.

Management of catheter obstruction

1. Clamp irrigation bags and turn off the roller clamp.
2. Check the fluid balance / bladder irrigation charts for signs of urine / irrigation retention.
3. Assess the catheter and tubing for patency, kinking, traction and leakage – correct as required.
4. Ensure the catheter tubing is adequately secured.
5. Check the irrigation solution for:
 - Remaining volume
 - Height of the stand
 - Level of the fluid in the drip chamber
6. Check the drainage bag for:
 - Amount
 - Colour
 - Consistency
 - Position – reposition if required.
7. Attempt using the “ball pump” on the drainage bag:
 - Inform the woman of the potential discomfort.
 - Close the distal clamp
 - Ensure the proximal clamp remains open and squeeze the “pump ball” in an attempt to expel any clots on the end of the catheter
 - Once the “pump ball” has been squeezed twice, release the distal slide clamp and assess if there is any flow of urine
 - If urine drains, assess the colour and volume.
 - Recommence bladder irrigation.
 - Inform the medical officer and shift coordinator
 - Document in the progress notes, the colour of the output and the woman’s tolerance of the washout.
 - If there is nil drainage – inform the Medical Officer immediately.

Suprapubic catheter

Indications for suprapubic catheterisation

- To relieve acute urinary obstruction where a urethral catheter cannot be inserted into the bladder e.g. urethral stricture.²
- To relieve chronic urinary retention.²
- To relieve chronic retention of the neurogenic bladder
- For women who require long-term catheterisation, who are sexually active, in a wheelchair or, have persistent problems with urethral catheters.²
- During and following pelvic or urological surgery.²

Key points

1. Although the principles of care and management of the suprapubic catheter are similar to those of a urethral catheter, there are differences.
2. The suprapubic catheter emerges at right angles to the abdomen and needs to be supported in this position.
3. Dressings and tapes should only be used when absolutely necessary. If a dressing is required to secure the catheter it must be sterile and applied using an aseptic technique.
4. Once the site has healed it should be washed daily with warm soapy water, preferably twice daily.¹⁶ Cleaning should be directed away from the insertion site. Petroleum based ointments should be avoided,²⁴ as well as powders, creams and strongly perfumed soaps.
5. All persons having contact with the catheter and the drainage system should observe strict hand hygiene before and after handling the system.

Management

1. Educate the women that they should drink around 2L/day to keep the urine clear and free flowing.²⁴
2. The site should be kept clean and dry, and any abnormalities at the site should be reported to the medical team.⁴
3. If the urine is milky or malodorous, inform the medical team, as infection may be present.²⁴

Changing a suprapubic catheter

The catheter should not be changed for 4-6 weeks after initial insertion.^{4, 24}

Medical staff are to change SPC after the initial insertion.

Only staff who have received training and are competent should carry out this procedure,

If unable to insert catheter inform medical team immediately, in case the SPC needs to be re-sited if the abdominal and bladder openings are misaligned.

Equipment⁴

- Catheter preparation solution
- 16FG catheter or larger -as ordered
- Personal protective equipment-PPE
- Sterile & non-sterile gloves²
- Catheter pack
- 2x 10ml syringes
- 1x 10ml sterile water
- Wet strength bag
- Urine drainage bag
- Lubricant-optional

Procedure⁴

1. Explain the procedure to the woman, gain consent,² attend hand hygiene, put on non-sterile gloves and rotate the catheter in the cystostomy site. Spigot the catheter drainage bag below the “Y” connection for 20-60 minutes prior to change to prefill the bladder.²
2. Attend hand hygiene, prepare equipment and put on sterile gloves.² Lubricate the lower third of the catheter.² Clean around the insertion site.² Deflate the balloon and remove the catheter with the non-dominant hand.²
3. Immediately and gently, insert the catheter into the stoma. Once urine is flowing, advance the catheter approximately 5cm.² The catheter will be inserted approximately 15cm.
 - If the catheter has gone too far, the urethra may have been stimulated and the woman may complain of an urge to void. Withdraw the catheter 2cm.
 - If firm resistance or pain is felt, leave the catheter insitu and contact the Medical Officer.
4. If urine is draining, inflate the balloon with 10ml of sterile water, (confirm with the patient that they do not feel uncomfortable after inserting the few 2mls to ensure balloon is not in the urethra) and then connect the drainage bag, securing the tubing so that it is not kinked.
5. Dry the area and apply a dressing (if required). Change dressings daily.²
6. Dispose of waste, attend hand hygiene and document the catheter change.²
7. Document the following after removal:
 - Date and time of catheter removal and whether the catheter was intact.

Removal of a suprapubic catheter

Equipment

- Small sterile combine
- Sterile normal saline solution
- Sterile occlusive dressing
- Disposable gloves/ PPE
- Sterile dressing pack
- Adhesive tape
- Stitch cutter

Procedure

1. Explain the procedure to the woman and obtain verbal consent.²
2. Get the woman to empty her bladder just prior to the procedure.

3. Ensure the catheter drainage line is clamped.² The woman should have successfully completed a suprapubic TOV- see relevant section in guideline.
4. Perform hand hygiene and put on gloves/PPE.^{2, 16}
5. Open the dressing pack and clean the catheter site with the normal saline solution¹⁶ using an aseptic technique.
6. Remove the sutures using the stitch cutter (if applicable).
7. Tilt the catheter base plate gently to expose the catheter, rotate/loosen the catheter¹⁶ and gently withdraw. Advise the woman to turn her head as the catheter tip may flick a small amount of urine as it is removed.
8. Place the combine dressing over the site⁴ and apply moderate pressure to prevent urine backflow (approximately 1-2 minutes).
9. Slowly reduce pressure and remove the combine.
10. If urine begins to flow, replace the combine and apply pressure for a further 5 minutes.
11. When the urine flow has ceased, place a sterile occlusive dressing⁴ over the insertion site. The dressing may need to be reinforced if there is leakage.⁴
12. Remove the dressing the following day (After leaving intact for 24 hours).⁴
13. Instruct the patient to report any voiding difficulties or discomfort. If the woman has not voided in 4 hours, perform a bladder scan and inform the Medical Officer of the results.⁴
14. Document the removal in the woman's notes.

Suprapubic catheter: TOV (if SPC still in situ)

Key points

1. Record the volume and time for all voids, residual urine measures and fluid intake. I.e. maintain a strict fluid balance chart.
2. Restrict fluids to a total of 2 litres/day, unless otherwise specified.
3. Encourage the woman not to void too frequently during the day (i.e. <2hrly).
4. If the woman has not voided by 4 hours or is uncomfortable at any time, she must attempt to void and the voided volume and residual volume recorded.²⁵
5. If she is unable to void, document this, and immediately remove spigot SPC to straight drainage.²⁵ Record the residual²⁵ after 10 minutes (no longer) of straight drainage then contact the medical team.
6. If the woman is voiding frequent or small amounts or is uncomfortable despite residuals of less than 150mL, flush the catheter and recheck the residual or check the residual with intermittent catheterisation.
7. If unsure of what to do, unclamp the catheter to straight drainage until the medical team has reviewed.

Equipment²⁵

- Non-sterile gloves
- Measuring jug
- Fluid Balance Chart
- Bedpan / container in toilet
- Personal protective equipment (PPE)

Procedure

1. Prepare: Check the medical order for commencing the TOV, explain the procedure to the woman and how to record her intake on the fluid balance chart (if appropriate).²⁵ Put on gloves / PPE and empty the drainage bag.
2. Spigot the catheter to allow the bladder to fill¹⁸ at 6 am on the day of trial.
3. Immediately after voiding, measure her void and release spigot the catheter.^{18, 25}
4. Empty and record the volume in the drainage bag^{18, 25} after 10 minutes (residual), and the amount that was voided, on the fluid balance chart²⁵.
5. Continue until there are 2 consecutive voids of >150mL with residuals <150mL.
6. Once this has been achieved leave the SPC spigotted until the next day. Measure all voids but do not measure residuals unless the woman is uncomfortable or has frequent small voids.
7. Repeat the residual measurement with the next first morning void. If the void >150mL with a residual < 150mL, the catheter may be removed.
8. If any residual > 150mL – put the catheter to straight drainage and inform the medical team.
9. A TOV has failed if there is a residual of >300mL.²⁵ Leave the catheter on straight drainage for 24 hours if the residual is >300mL²⁵ but < 600mL.
 - Commence a new TOV as recommended by the medical team.
 - Ensure the woman is not constipated as this can affect urinary retention and result in a failed TOV.²⁵
10. If the residual is >600mL – leave the catheter on straight drainage for 48 hours. Inform the medical team.
11. Document the outcome in the woman's medical record.²⁵
12. If after initial success the woman starts to fail trial without catheter- check urinalysis and take a MSU/CSU and inform the medical team. If the urinalysis is positive for nitrites and or white cells inform the medical team.
13. If the woman fails the trial without catheter regime twice, the team Registrar or above shall review and discuss the situation with the team Consultant.
14. Consider review by the Urology Nurse Practitioner.

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


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Related WNHS policies, procedures and guidelines

Obstetrics & Gynaecology: Labour (First Stage); Labour (Second Stage): Management; Postnatal : Subsequent Care

Infection Prevention and Management Manual: [Aseptic Technique](#); [Hand Hygiene](#); [Standard Precautions](#)

Keywords:	Mid-stream urine, MSU, urine sample, Catheterisation, unable to void, Intermittent Catheter, postnatal bladder management, bladder management during labour, IDC, IDC insertion, Urinary tract infection, catheter associated infection, management of an IDC, indwelling catheter problems, IDC removal, TOV, trial of void, residual volume, trial without catheter, TWOC, bladder scanner, residual urine, Sampling port, CSU, self-catheterisation, bladder, assessment, Suprapubic catheter, changing a suprapubic catheter, non- real time bladder scanner, bladder irrigation, bladder washout, bladder irrigation chart, catheter obstruction, bladder stretch		
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