Bladder Care Post Gynaecology and Urogynaecology Surgery

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1. Purpose of guideline

The purpose of this guideline is to facilitate safe and effective bladder care following gynaecology or urogynaecology surgery within Auckland District Health Board (Auckland DHB).

Bladder care management includes:

- Prevention of urinary retention and its long-term consequences
- Catheter placement and removal
- Management of postoperative urinary retention with use of intermittent catheterisation and use of bladder scanners.

2. Guideline management principles and goals

Vigilant surveillance of bladder function and early intervention where problems exist will prevent permanent bladder damage and long-term voiding problems (Rizvi, 2005).

Aims of care:

- To assess bladder function
- To detect any deviations from normal
- To carry out timely preventative measures to avoid complications of urinary dysfunction following surgery.

3. Risk factors

While a patient in the immediate postoperative period has the potential to experience urinary problems, several factors may increase the risk:

- Age – postoperative urinary retention can affect up to 20% of individuals but the incidence increases in a patient over the age of 50
- Anaesthetics
- Radical hysterectomy (Wertheim surgery)
- Bladder incontinence procedures
- Communication issues (e.g. English second language)
- Comorbidities (neurologic diseases, diabetes, chronic urinary tract infections (UTIs), cystocele, rectocele)
- Constipation
- Epidural analgesia, particularly with local anaesthetic
- Length of surgery
- Medication (antispasmodics, antidepressants, antihistamines, antipsychotic including Lithium)
- Opiates or narcotics
- Over-distension of the bladder
- Pain
- Reduced mobility
- Pelvic organ prolapse.

4. Catheter-associated urinary tract infection

Catheter-associated urinary tract infection (CAUTI) comprises 30-40% of all hospital-acquired infections, and 70-80% of these infections are related with the use of indwelling urinary catheters (Bagshaw and Laupland 2006).

Duration of urinary catheterisation is the predominant risk factor for CAUTI. Hence, preventive measures directed at limiting placement, along with early removal of urinary catheters, have the greatest impact on decreasing CAUTI rates (Chenoweth et al. 2014).

Our nursing and medical team are encouraged to limit insertion of catheters, and the aim is to remove the catheter as soon as clinically safe.

5. Postoperative assessment on admission to the ward

The initial bladder assessment should include:

- A review of surgical and anaesthetic method used
- Pain relief used
- Bladder palpation
- Check to see if the patient has voided in Post Anaesthesia Care Unit (PACU)
- Indwelling catheter (IDC) in situ – check that is draining and positioned lower than patient's bladder.

An initial assessment should provide information on:

- The presence of any urinary problems
- Risk factors that may contribute to urinary problems.

6. Subsequent assessment during the first four hours postoperatively or after removal of IDC

Careful monitoring of intake and output is imperative to assess fluid balance concerns.

Note:

- The onset and progression of urinary retention may be gradual and asymptomatic.
- It can take eight hours for the bladder to regain sensation following epidural or spinal analgesia.

The adult urinary bladder has capacity of 400-600 mL. In a normally functioning adult bladder, the first urge to void is felt at 150 mL and the sense of fullness is achieved at 300 mL by the activation of the bladder wall receptors.

When the bladder contains an excess of 500 mL in a non-obese patient, a large bulge can be seen in the suprapubic area.

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6.1 Assessment

- Establish by questioning void or no void
- If yes to void, ask the patient if she is experiencing any discomfort or difficulty when voiding. (Did it feel like a normal void?)
- Check the frequency with which urine is passed
- Ask volume and quality of flow with each void
- Examine the patient's abdomen for swelling of the lower abdomen
- Palpate the patient's bladder
- Assess if the patient is receiving adequate pain relief (this is a common cause for retention)
- Manage constipation (this is a common cause for retention).

6.2 Supportive measures

If no void occurs at four hours post-surgery or removal of IDC, use non-invasive measures such as ambulation, privacy, shower, hands under cold running water, warm flannel over bladder, or if necessary, appropriate analgesia to enhance the likelihood of micturition. Ensure adequate amount of fluid intake and commence Fluid Balance Record.

If the patient is still unable to void, then verify bladder volume using a bladder scanner. If volume is 400 -500 mL or more, intervention is necessary:

- In and out catheter is advised initially.

7. In and out catheterisation for trial of voiding

7.1 Purpose

- To retain and restore bladder capacity after surgery or removal of catheter
- To prevent over-distension of bladder (if the bladder becomes over-distended, it is more likely that the patient will fail trial removal of catheter (TROC).
- To prevent reflux or hydronephrosis leading to kidney damage.

7.2 Goal

- To maintain total bladder volume (void plus residual) less than 500 mL
- To keep the patient informed of all the actions and goal at all times.

7.3 Documentation

- Use form CR5797: Trial Removal of Catheter
- Document accurately times of voids, residuals and volumes
- Document exact times of in and out catheterisation or IDC insertion.
- Monitor a further two hours (i.e. until six hours postoperatively or removal of IDC, or sooner if discomfort):
    - If void volume is good (approximately 200 mL or more) continue with non-invasive measures (in Section 6.2) and encourage two to three hourly voiding.
    - If no void or voids minimal amounts, verify bladder volume using a bladder scanner.

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- If volumes up to 400 mL offer supportive measures and encourage drinking up to 200 mL per hour.
- If volume is 400-500 mL, then intervention is necessary.

- When bladder volume exceeds a critical limit of 500 mL, actions to empty the bladder should be initiated, and in and out catheterisation is required.
- A patient may have no symptoms despite high post-void residuals, identified by:
  - Ability to void
  - But no urge to void
  - No obvious symptoms of retention.

7.4 Actions

- Commence on two-hourly timed voiding, and double voiding
- Ensure adequate fluid intake
- Start the Fluid Balance Record
- Obtain urine sample for dipstick analysis and send mid stream urine (MSU) as required.
- Assess for constipation and prescribe laxatives as necessary.

8. Urinary retention

- Alert the Gynaecology team. Diagnosed by symptoms and bladder scanner:
  - In and out catheter initially (see Section 7).

- If unable to pass urine after further four to six hours and supportive measures have been exhausted (see Section 6.2):
  - Residual urinary volume 400-700 mL with inability to void will require IDC for 24 hours
  - Residual urinary volume > 700 mL with inability to void will require IDC for 48 hours.

- Catheterisation rests the over distended bladder allowing it to gain its elastic recoil. It is advisable to remove urinary catheters early in the day, to allow time for careful and regular post-catheterisation bladder assessment.
- After a failed trial of removal of catheter consider discussion with the Urogynaecology team for further management and consideration of suprapubic catheter (SPC), and refer to the ward physiotherapist.
- Exclude constipation as a reason for urinary retention

9. Trial removal of catheter (TROC) following reinsertion of catheter

- Reassure the patient.
- Encourage two to three hourly voiding and document voids, until normal voiding patterns are established.
- Document all findings on form CR5797: Trial Removal of Catheter and document actions in the patient's clinical record.

- Persistent urinary retention will require long-term resting of the bladder and management by the Gynaecology team in conjunction with Urogynaecology.
- If TROC failed twice, then consider IDC for duration of one week. Discuss with operating surgeon if IDC or SPC is more appropriate.

Post-void residual results:
- < 50 mL normal at most ages
- < 150 mL normal for elderly
- 50-199 mL use clinical judgement to determine impact on each individual patient
- > 200 mL inadequate voiding, refer back to supportive measures (see Section 6.2)
- 500 mL requires an in and out catheter.

10. Bladder care following a urogynaecology procedure

Anti-incontinence surgical procedures are effective for the treatment of urethral hypermobility and bladder descent, eliminating urinary leakage associated with stress urinary incontinence. Preoperative and postoperative nursing care is critical for identification of potential risks, preparation for surgery and interventions to prevent or diminish possible complications.

Although nonsurgical intervention is recommended as a first-line therapy, a patient may require surgery for successful elimination of leakage such as:
- Tension-free vaginal tape (TVT)
- Anterior and posterior repair of vagina (colporrhaphy)
- Burch colposuspension
- Sacrospinous fixation
- Fascial sling.

Monitoring of bladder function in postoperative period is paramount and nursing role is crucial.

The guideline on bladder care for urogynaecology patients should be read in conjunction with sections 5-9 above. Most rules about bladder care for a urogynaecology patient apply as for general gynaecology, with some vital exceptions.

It is important to remember that the urogynaecology patient might not feel urge to void due to swelling related to the surgical procedure.

There are two techniques used to ensure adequate voiding is achieved after a urogynaecological procedure. The surgeon will stipulate which technique they wish to be followed in their operating note. If not stipulated the default technique will be the post-void residual measuring:

10.1 Post-void residual measuring

- Refer to the above sections for immediate assessment on admission to the ward, removal IDC and in and out catheterisation for trial of voiding (see sections 5-7).
- Recommendation is for post-void residuals (unless otherwise specified by a surgeon):

- Residual <150 mL – normal. Aim for three consecutive residuals of <150 mL and the patient can be discharged home.
- Residual 150-350 mL – continue monitoring and apply supportive measures (see above) as necessary.
- If ongoing residuals of >350 mL – continue into early evening, place IDC overnight to allow the patient a good rest.
- Repeat TROC next morning. Allow four hours to assess residuals, as above. If residuals remain high, then operating surgeon is to be contacted and an IDC or SPC to be placed, and followed up in one week's time. A patient can be discharged, with written information on catheter care.
- DO NOT TROC A PATIENT MORE THAN TWICE.

- Referral to a district nurse with recommendation to remove IDC in one week. If TROC fails, district nurse to phone directly to the operating surgeon for further instructions.
- SPC – to be removed once residuals are <150 mL on three consecutive voids.
- It is recommended for a patient following urogynaecology surgery to receive regular laxatives starting on the night of the surgery.
  - Lactulose 20 mL once a day and a Psyllium husk preparation 2tsp BD prescribed as regular medication – lactulose should be stopped once bowel opened or if bloating occurs.
  - If a patient has history of constipation, Macrogol laxatives or similar three times a day to be added.
  - It is useful to advise a urogynaecology patient to consume kiwifruit, Kiwi Crush, or substitute for a duration of one week prior to surgery, to enhance bowel function in preparation for surgery. This advice is given in preadmission clinic by a preadmission nurse.

10.2 Backfill voiding technique

- Prior to removing the indwelling catheter postoperatively, backfill the bladder with 300 mL of saline, then remove the catheter.
- If a vaginal pack has been in place, ensure that this is also removed.
- Ask the patient to void immediately after the backfill.
- Measure the voided volume. If >150 mL then no further intervention is required.
- If the void is <150 mL or the patient feels she has not completely emptied her bladder, have her void again (double void).
- If the total void volume is still <150 mL then run the bladder scanner to confirm residual volume. If > 150 mL repeat voiding trials until residual <150 mL.
- If unable to void after three trials replace IDC. Aim to re-TROC next day using post-void residual measuring technique.

11. Bladder care following Radical hysterectomy

Bladder care following Radical hysterectomy varies slightly from that of Urogynaecology due to the differences in the operations performed, amount of swelling that occurs around the nerves due to the dissection involved, and the age of the patients. The main difference in protocol is that the catheter stays in until day four. The following flow chart below explains the steps that should be taken with this group of patients.

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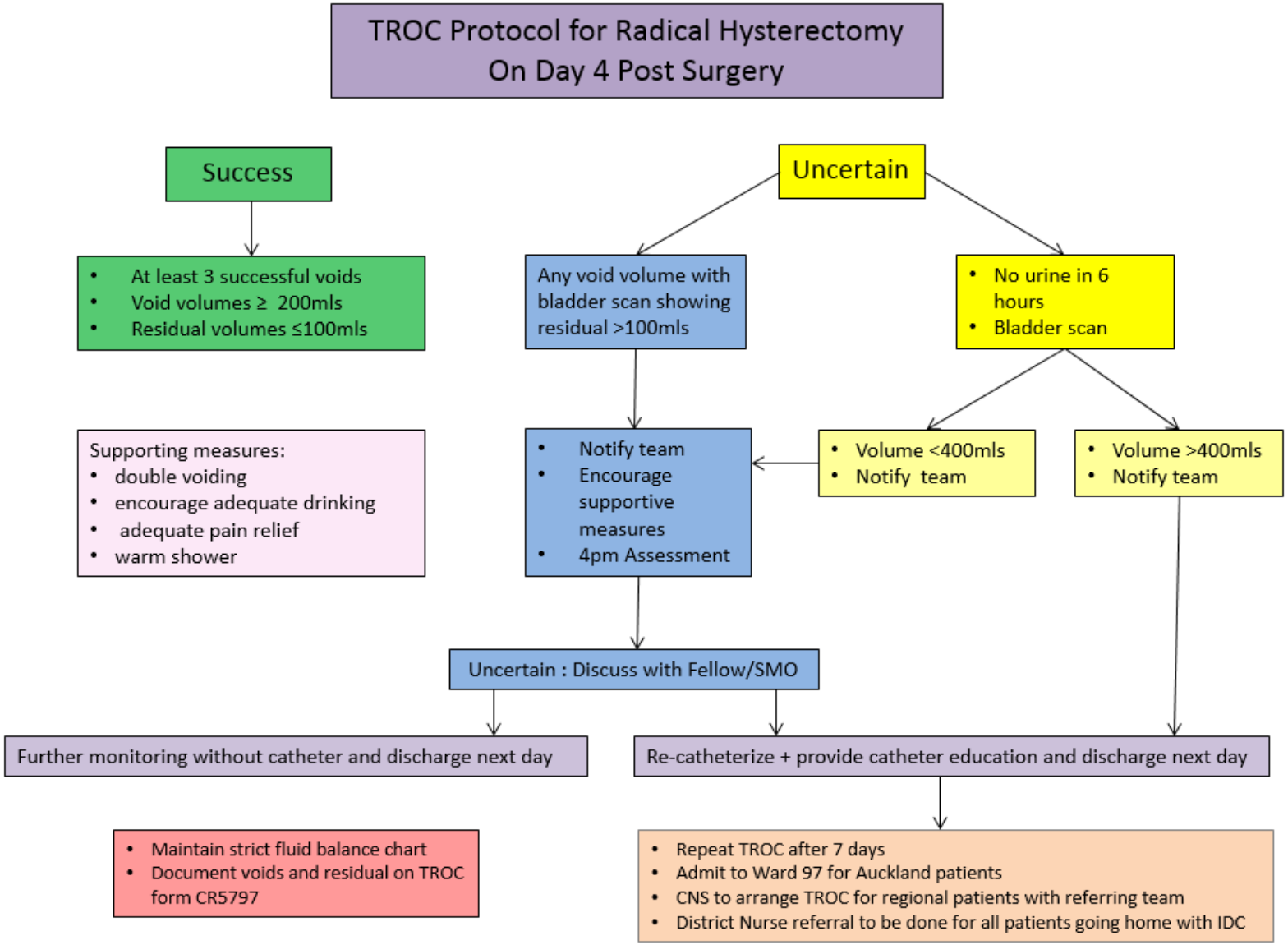

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12. Suprapubic catheter (SPC) management

Suprapubic catheterisation may be required postoperatively following surgery to the genitourinary system.

The nurse is responsible for the patient's education, dressings and discharge planning, documentation on DD3089: Suprapubic Catheter Clamp and Void, and ensuring that SPC care is performed safely.

12.1 Contradictions

- Known bladder tumour
- Empty or indefinable bladder.

12.2 Precaution

- Lower abdominal wound or scarring.

12.3 Complications

- Accidental trauma on SPC piercing the peritoneum or bowel
- Urinary tract infection
- Haemorrhage
- Swelling, infection, encrustation or granulation at the insertion site.

12.4 Types of Suprapubic catheter (SPC)

In the Gynaecology service, a 12-14 g Foley catheter or a SPC with fixation plate such as Cystofix is used.

12.5 Insertion of Suprapubic catheter (SPC)

Suprapubic catheterisation is an aseptic procedure carried out by a doctor. A nurse may be required to assemble equipment, assist with the procedure and dress the site. The nurse should also ensure the patient's comfort and education. The patient should have full bladder prior to the insertion of a SPC.

Ways to achieve this in elective procedures include:

- Spigot the urethral catheter if already in situ and encourage oral fluids (where not contraindicated).
- Instil normal saline into the bladder via urethral catheter until the bladder is full. Spigot urethral catheter.
- Encourage oral fluids or administer prescribed intravenous fluids to fill bladder. Instruct the patient not to pass urine.

12.6 Equipment required

- Catheterisation pack
- Extra gauge swabs x 2
- Povidone- iodine2 large sterile guards

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- Needle 22 g x 2
- 10 mL syringe x 1
- 20 mL syringe x 1
- Xylocaine 2% Scalpel blade and needle holder
- Razor
- Disposable incontinence sheets
- Sterile gloves (2 pairs)
- Catheter 12-14 g Foley, 2-way
- Introducer (e.g. Cook Peel-Away) set must be 4 g higher in size (i.e. 16-18 g)
- Urinary drainage bag
- Sterile water for balloon (10 mL)
- Opsite visible drain dressing or Hypafix
- Secutape (NG small).

12.7 Procedure

- Inform the patient of the procedure. Ensure the patient has a full bladder.
- Assemble equipment and trolley.
- Position the patient supine.
- Assist with procedure as necessary.
- Secure catheter and tubing to the patient. Dress insertion site with Opsite visible dressing or Hypafix.
- Document date, type and size of catheter inserted in the patient's clinical record.
- Secure the tubing laterally to the abdomen with Secutape.

12.8 SPC dressing of insertion site

Monitor for infection, bleeding or discharge on insertion, then as required.

12.9 Removal of SPC for an inpatient

Prior to the removal, it is a usual practice to spigot the SPC to ensure the patient is able to void urethrally with acceptable residual urine volume. Recommended <150 mL residual urine. When suprapubic drainage of the bladder is no longer required, the catheter can be removed by nursing staff members.

12.10 Equipment

- Small dressing pack
- Sterile gloves
- Sodium chloride 0.9%
- Gauze squares
- Combine dressing
- Transparent dressing (e.g. Tegaderm)
- 20 mL syringe
- Suture cutter (if suture present).

Note:

- Ensure the patient's bladder is empty prior to the SPC removal.

- If the catheter has been spigoted for assessment of voiding, unspigot it to drain the residual urine.

Persistent leakage from the insertion site may require frequent dressing changes or the application of a urostomy bag for one to two days or until leakage settles down.

12.11 Discharging a patient with a Suprapubic catheter (SPC)

Key points:

- Explain and educate SPC management and care to the patient and caregiver. Ensure that they are aware that:
  - The SPC should be reinserted promptly if it falls out. Urgent medical attention should be sought.
  - If the SPC blocks they should contact their district nurse or hospital.
- Provide the patient with leaflet 'Managing your Suprapubic Catheter at Home' (see Associated documents)
- Refer the patient to the District Nursing service.
- Provide initial supplies such as leg bag and night bag.
- Instruct the patient on how to connect leg bag to night bag for overnight drainage.

A District Nurse is able to manage suprapubic catheters and remove them once three voids or residuals are <150 mL.

Send Referral Adult Community Services CR2144 form with clear instruction and a contact number at the hospital for further support or queries.

12.12 Follow-up

Arrange outpatient appointment as advised by the team.

12.13 Recognising infection

A patient should seek help promptly from her General Practitioner (GP) if she has any of the following signs or symptoms as they may indicate a urinary tract infection:

- Fever, shivering, chills
- Blood in the urine
- Urine has an offensive odour
- Urine is cloudy
- Pain or aching in the back
- Pain over the bladder
- Offensive discharge, redness or pain from insertion site.

Note: Bacteriuria is only treated when the patient is symptomatic of a urinary tract infection or compromised.

12.14 Residual urine measurement

Following some urological and gynaecological procedures, the patient may be discharged with a SPC that is spigoted whilst a normal voiding pattern is re-established. The residual urine should be measured immediately after voiding by releasing the spigot at regular intervals (e.g. BD, TDS or QID), draining the catheter into a plastic container and then recording the volume. There is no need to attach a catheter bag.

When voiding pattern and control returns to normal and the residual urine is minimal (as determined by the medical team according to the patient's history), it is likely that the doctor will request the removal of the SPC.

13. Self-catheterisation

For patients with persistent retention a self-catheterisation to be considered as an option.

Use the Auckland DHB Urology Department guideline Urinary Drainage – Intermittent Catheterisation on Hippo: Pages 9-13 are relevant for FEMALE intermittent self-catheterisation.

14. Supporting evidence

- Baldini, G., Bagry, H., Apirikian, A., & Carli, F. (2009). Postoperative urinary retention: Anaesthetic and periopreative considerations. *Anesthesiology, 11*(5), 1139-1157.
- Johnson, V. Y. (2002). Bladder neck suspension nursing care: preop, postop, and beyond. *Perspectives in Nursing Strategies, 8*, 53-57.
- Pavlin, D. J., Pavlin, E. G., Gunn, H. C., Taraday, J. K., & Koerschgen, M. E. (1999). Voiding in patients managed with or without ultrasound monitoring of bladder volume after outpatient surgery. *Anaesthesia Analgesia, 89*, 90-97.
- Rizvi, R. M., Khan, Z. S., & Khan, Z. (2005). Diagnosis and management of postpartum urinary retention. *International Journal of Gynecology and Obstetrics, 91*, 71-72.
- Striker, K. & Steiner, W. (1991). Postoperative urinary retention. *Anaesthetist, 40*(5), 287-290.
- Wynd, C.A., Wallace, M., & Smith, K.M. (1996). Factors influencing postoperative urinary retention following orthopaedic surgical procedures. *Orthopaedic nursing, 15*(43), 43-50.
- Foster Sr, R. T., Borawski, K. M., South, M. M., Weidner, A. C., Webster, G. D., & Amundsen, C. L. (2007). A randomized, controlled trial evaluating 2 techniques of postoperative bladder testing after transvaginal surgery. *American journal of obstetrics and gynecology, 197*(6), 627-e1.
- Bagshaw, S. M., & Laupland, K. B. (2006). Epidemiology of intensive care unit-acquired urinary tract infections. *Current opinion in infectious diseases, 19*(1), 67-71.
- Chenoweth, C. E., Gould, C. V., & Saint, S. (2014). Diagnosis, management, and prevention of catheter-associated urinary tract infections. *Infectious Disease Clinics, 28*(1), 105-119.

15. Associated documents

- Bladder Care Postpartum and Management of Urinary Retention

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- Infection Prevention and Control
- Latex Safety
- Urinary Drainage Suprapubic Catheter Management
- Urinary Drainage Intermittent Catheterisation

Clinical forms

- CR0023: Trial of Removal of Catheter (TROC) Referral Form
- CR2144: Referral Adult Community Services
- CR5797: Trial Removal of Catheter
- DD3089: Suprapubic Catheter Clamp & Void
- CR0452: Fluid Balance Record

Patient information

- Managing Your Suprapubic Catheter at Home

16. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this Auckland DHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

17. Corrections and amendments

The next scheduled review of this document is as per the document classification table (page 1). However, if the reader notices any errors or believes that the document should be reviewed ***before*** the scheduled date, they should contact the owner or Document Control without delay.