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1. Rationale

The purpose of this Clinical Protocol is to provide a guiding framework for medical and clinical professionals in managing clients being referred for a trial of void (TOV). The process of a TOV is to assess the ability of the bladder to empty and to determine whether normal bladder function can be resumed following removal of an indwelling ureteral catheter (IDC).

2. Scope

This Clinical Protocol applies nationally for all clients referred for catheter care and trial of void.

3. Acceptance criteria for trial of void.

The patient's condition must have been assessed as stable by the referrer.

RED Unacceptable for community admission for in home care.	• Neurological cause for urinary retention (neuropathic bladder, neuromuscular dysfunction). • Spinal cord injury. • Pelvic/genital injury. • ≥ Two failed Trial of Voids (TOV). • Chronic urinary retention. • Trauma/injury to the renal tract. • Recent urology procedure/surgery (e.g prostatectomy, bladder surgery, urethral surgery). • Inoperable/metastatic urological cancer. • Bladder neck/urethral strictures. • Long-term indwelling catheter (greater than 28 days). • Fibrotic and atonic bladders. • Acute kidney injury/abnormal renal function secondary to retention. • Signs or symptoms of acute illness or clinical deterioration (e.g abnormal vital signs using the age-appropriate Standard Observation and Response Chart).
ORANGE Requires discussion with referring medical governor prior to acceptance.	• Known/likely urinary retention caused by Benign Prostatic Hyperplasia (BPH) whilst on treatment. • Known to a Urologist/Urogynaecologist. • Recurrent urinary retention. • Hydronephrosis. • Failed first TOV. • Haematuria.

	• On anticoagulation (e.g Warfarin, Rivaroxaban, Apixaban). • Difficult catheterisations. • Prolapse of bladder, uterus, rectum or pelvic floor. • Unknown cause of urinary retention. • Bladder volume ≥ 1L. • Large uterine fibroids causing outlet obstruction. • Uro-gynaecological procedures such as pelvic organ prolapse repair. • Recent urinary tract catheterisation such as cystoscopy, TURP.
GREEN Accepted for HATH.	• Patient condition is stable. • Known cause of urinary retention that is manageable/reversible (e.g constipation, UTI, BPH, medication side effects)

4. Pathology work up

The following information can be useful in assessing and planning trial of voids and may be available with the referral depending on the service:

- Urine dipstick analysis +/- urine Microscopy, Culture and Sensitivity (MCS) that may have been done at the time of initial catheterisation.
- Bloods: Urea & Electrolyte (UE); Full Blood Count (FBC) and coagulation screen if haematuria/infection
- C-Reactive Protein (CRP) if infection suspected.
- Recent INR readings if relevant (i.e. clients on warfarin).

5. Other information and investigation

- Bladder scan volume prior to catheterisation.
- Volume of urine drained at the time of catheterisation.
- Renal ultrasound (US) report if available.

6. Initial assessment

Nursing Staff

- Document the patient's medical and urological history, current health status and correct pathology and imaging results if available.
- Knowledge of client's medical history including renal function, lower urinary tract symptoms and impact of symptoms on quality of life is mandatory.

- Document the cause(s) of urinary retention/ reason for IDC insertion and the management plan in place for the cause of urinary retention.
- A request for a TOV usually comes from a medical/surgical practitioner or Continence Nurse Advisor/Consultant. If no documented request has been received, then the nurse should discuss the need for catheter removal with the client's medical practitioner or specialist prior to proceeding.
- Is this the first TOV or has a TOV been attempted previously and failed?
- Assess potential risks and confirm suitability for conducting TOV in the community.
- Document details about the current catheter i.e size, type, date inserted, date due to be changed if to be kept in situ/ date of TOV.
- At first few visits, nursing staff to assess the client's and/or carer's ability to care for the catheter (self-caring, mobility, cognitive function) to help formulate a safe patient centred plan.
- Be aware of cultural differences and incorporate this into the management plan e.g. nurse gender preferences, Aboriginal health worker or liaison officer involvement.
- Knowledge of the client's baseline micturition habits will facilitate correct timing of the TOV as some elderly clients will have low urine volume through the day and a large diuresis overnight.
- Individual care planning is necessary to enable client's understanding of procedure and ongoing care if required.
- A client's anticoagulation status should be considered, as removal of a ureteral catheter may cause haemorrhage in clients who are anticoagulated. If INR is above target range, discuss with medical governance prior to proceeding with trial of void.
- Educate the client about the TOV process and provide documented instructions to the client.
- Complete baseline vital sign observations at admission and action abnormalities as per the Standard observation chart instructions.
- Check the catheter insertion site for pressure areas; foreskin in males for swelling/ retraction; catheter tubing and bag placement; characteristics of urine in the catheter bag.
- Provide education and support around catheter care, hygiene, symptoms of concern to flag to the team.
- Address any concerns or questions from the client/carer.
- Ensure enough supplies in the home for catheter care.
- Flag any concerns with any of the above to Medical Governance.

Medical Officers

- History taking and examination to assess the reason for the urinary retention (refer to Appendix A for list of causes) and determine suitability for community TOV.
- Silverchain doctor/GP/specialist to manage medical conditions that might contribute to urinary retention (e.g constipation with faecal loading, anticholinergic medications) before attempting a trial of void.
- If BPH is known to be the cause of urinary retention and the patient is not on any treatment, consider starting (or recommending the commencement of) an alpha blocker if appropriate, at the time of catheterisation or at least three days prior to removal as this improves the success of a TOV. Refer to reference list for further information.
- If constipated, direct client to the pharmacist for over-the-counter aperients or discuss with medical governance/GP to get a plan in place for the bowels.

7. Monitoring and ongoing care

- Continue to provide education to client and/or the carer around catheter care, ensure correct supplies in the home, make an assessment around the ability to care for the catheter.
- Patients should be educated about symptoms and signs of infection and to seek medical advice if they occur.
- Prolonged catheterisation increases the risk of UTIs, urethral trauma, haematuria, patient discomfort, and catheter related bacteraemia that may lead to urosepsis.
- Symptoms and signs of **catheter-associated urinary tract infections (CA-UTI)** include fever, rigors, flank pain, acute haematuria, pelvic discomfort, acute changes in mental state.
- Malodourous and/or cloudy urine on their own are not reliable signs of infection.
- Vital sign observations should be checked and documented at every face-to-face visit and additionally if the patient reports any concerns.
- Urine analysis, via dipstick for patients with long-term catheters, can show positive leucocytes and/or nitrates from bacteriuria which becomes more common the longer the catheter is in place. This can still be the case even if a new catheter is inserted and a sample obtained via the new catheter. Therefore, **urine dipsticks should not be used to assess if a patient has a CA-UTI.**
- If infection is suspected, urine samples must be collected for culture prior to initiating antibiotics where possible to help with detecting the causative organism and antibiotic susceptibility. Catheters must also be replaced, ideally before obtaining the urine sample and before initiating antibiotics as antibiotics are unable to clear the bacteria colonising the catheter and hence will be likely to lead to ineffective treatment and re-infection.
- Continue to assess the management and status of the underlying cause of the urinary retention.
- At all face-to-face visits **and/or** if concerns raised by the client/carer, nursing staff must check catheter insertion site for pressure areas; foreskin in males for swelling/ retraction; catheter tubing and bag placement; characteristics of urine in the catheter bag
- Address concerns or questions raised by client or carer.
- Bowel status – constipation may hinder bladder function and reduces the success of TOV. Therefore it is recommended that the client's bowel status is monitored regularly leading up to the TOV including the day before and the day of the trial of void.
- Consider and monitor for the complications of urinary catheterisation include prostatitis, urethral trauma, urinary tract infection, epididymitis, bladder spasms and bladder pain in ongoing management.

8. Trial of void process

- Medical/surgical practitioner or Continence Nurse Advisor/Consultant authorisation is required prior to any TOV.
- The recommendation for timing of TOV varies based on multiple factors including underlying cause of urinary retention and treatment of underlying cause.
- Generally, TOV in the community is not recommended before day three after insertion. First attempt at trial of void should be done within 1-2 weeks of catheter insertion.
- Fluid input and output is recorded for 24 hours pre procedure.

- See Appendix B for information regarding equipment needed, and the procedure for urethral and suprapubic catheter trial of voids.
- The client's level of mobility may impact on their ability to access the toilet once the catheter has been removed. If mobility is compromised, then a urinal or commode may be required.
- When performing a TOV in the community setting, it is advisable to commence as early as possible in the day to allow the client to be safely assessed and monitored within the service delivery capacity.
- Clients should be advised to drink normal volumes of fluid as some studies suggest increased oral intake of fluids may suddenly decompensate the bladder and result in high residual volumes which do not represent normal voiding practice.
- Educate clients about the double voiding technique. Ensure the client understands that a position change is often required for the bladder to be stimulated to contract a second or third time to empty. Female clients are to stand (if able), then sit down and attempt to void again, to assist with bladder emptying. Male clients should walk away from the toilet after completion of the first void, then walk back to the toilet and attempt a second void.
- Advise the client with respect to need to keep a written record of fluid in and urine volumes out on a Fluid Balance Chart.
- BC-FRMC-0376 Trial of void form to be used for documentation of progress through the trial of void.
- Perform the bladder scan within 10 minutes of the last void. Encourage a further void if post void residuals volumes (PVR) are high and re-scan to ensure the most accurate reading.
- Record the voided and PVR volumes within the TOV visits chart. A maximum total bladder volume should not generally exceed 600mL (voided volume plus residual).
- Bladder scanning should be used with caution in the post-partum period as results could show a false positive reading related to increased fluid in and around the uterus.
- The accuracy of bladder scanners can be reduced in clients with morbid obesity and in the presence of abdominal fluid (e.g ascites).
- Patient must ideally have three consecutive visits over a 48-hour period after removal of catheter to assess post void bladder volume, known as post void residual (PVR). Further visits, up to a maximum of four, will depend on post void bladder volumes, patient symptoms and medical governance advice.
- Successful TOV is achieved with complete bladder emptying, and with no or minimal post void residual (usually <150mL is acceptable) over three consecutive voids, and the client's symptoms, such as frequency, nocturia, and their functional bladder capacity, have improved from baseline.
- Medical governance must be informed of the procedure outcome and the voided and PVR volumes through handover processes.
- An unsuccessful TOV is where a client is unable to initiate any urethral void or has small volume voids with high PVRs and/or troublesome symptoms like excess frequency, urgency.
- Incomplete bladder emptying, and high PVRs may require reinsertion of an IDC.
- In the event of incomplete bladder emptying, the significance of a PVR (post void residual) is variable and requires individual client assessment. As a guide, a PVR of one-third to half of the voided volume (up to approximately 200mL) may be acceptable if client is asymptomatic as per table below. A post void residual of 200mls-300mls should be discussed with a urologist/ continence nurse specialist as per the table below even if the client is asymptomatic unless we have been given prior specific instructions around this. Volumes above 300mls must have a catheter reinserted.
- Below is a rough guide around trial of voids to be used in conjunction with medical governance advice, clinical judgement and input from specialists where needed.

Successful TOV	≤200mL residual. **Leave the catheter out** if other criteria above considered. If the patient's residual is >200mL, educate the patient in double voiding and explain the risks of having a high residual volume in the bladder.[12] A repeat bladder scan within 24 hours should also be performed.
Inconclusive TOV	200-300mL PVR, with a patient voiding comfortably with volumes of 200-300mL. Request the patient continue measuring their voided volumes and repeat the PVR bladder scan in 12-48 hours. Consider teaching double voiding and/or CISC. Discuss the result with the continence or urology nurse practitioner, clinical nurse consultant or clinical nurse specialist, senior community nurse and/or referring medical officer to confirm the management plan.
Failed TOV	300-500mL residual. Reinsert the catheter and repeat the TOV in 1-2 weeks or teach CISC and monitor residual volumes.
Failed TOV	500-800mL residual. Reinsert the catheter and repeat the TOV in 2-4 weeks. In older male with an enlarged prostate, general medical practitioner may consider medication therapy and referral to urologist for assessment and management.

Table extracted from Agency for Clinical Innovation – Urology Network 2021, Trial of void – community nursing toolkit.

- Failed TOV must be documented and escalated to medical governance for a discussion about plan of action. In some cases, GP initiated CMAS referral may be part of the plan of action to assist with ongoing management of indwelling catheter.
- Higher post void bladder volumes are associated with hydronephrosis, bladder calculi, nocturia, urinary tract infections and acute urinary retention.
- Potentially harmful urinary retention should be suspected in the presence of severe lower abdominal pain, bradycardia, hypotension or hypertension, heart dysrhythmias or vomiting.
- Two failed TOV's must trigger a urology/urogynaecology consult. Earlier urology review might be needed based on underlying cause/clinical situation. If medical governance is outside of Silverchain, this information must be relayed to medical governance through formal handover processes.

9. Medical governance responsibilities

Medical governance must have:

- assessed clients for the likely cause of the urinary retention and be comfortable that this is being addressed/managed appropriately by the referring team
- reviewed all relevant pathology/investigations and have liaised with appropriate specialist teams around these where necessary
- assessed whether community TOV is appropriate for the client
- decided on most appropriate timeframe for TOV and the plan for the TOV and
- reviewed the outcome, the client's care plan and follow-up arrangements.
- The usual GP is to be advised of the outcome of the TOV together with any specialists involved in client's care.

10. Discharge planning

- Discharge summary to the GP and/or urologist informing them of the outcome of the TOV.
- Copy of the TOV clinical form to be sent with the discharge summary.
- Post void residuals of greater than 150mL should be flagged in discharge summary/TOV clinical form for GP/Medical Governance for further follow-up/action.

11. Supporting documents

Silverchain policy and related documents that directly relate to and inform this procedure are available with this document in the Policy Document Management System (PDMS).

- BC-FRMC-0376, Trial of Void, 2024, Clinical Form
- BC-INFC-0034, Care of indwelling Urinary Catheters-Information for Clients and Carers.

Other documents that directly relate to and inform this procedure are as follows:

- Agency For Clinical Innovation – Urology Network 2021, Trial of void – community nursing toolkit, viewed online 11 January 2023, from https://aci.health.nsw.gov.au/__data/assets/pdf_file/0006/191067/ACI-Trial-of-void-Community-Nursing-toolkit.pdf
- Australian Prescriber 2018, Drugs for benign prostatic hypertrophy, viewed online 11, from https://www.nps.org.au/australian-prescriber/articles/drugs-for-benign-prostatic-hypertrophy
- European Association of Urology Nursing – Evidence -based Guidelines for Best Practice in Urological Health Care; 2012; Catheterisation Indwelling catheters In adults. Urethral and Suprapubic.
- American Academy of Family Physicians 2018, Urinary retention in Adults: Evaluation and Initial Management www.aafp.org/pubs/afp/issues/2018/1015South Eastern Melbourne Catheter Removal (Trial of Void) or change pathway; November 2022 review; Continence Clinical Practice Standard.
- AJCC American Journal of Critical Care; November 2020, Volume 29, No 6; Accuracy of Measuring Bladder Volumes with Ultrasound and Bladder Scanning.

12. Document details

Document owner	CNCM, Clinical Ops, Home Hospital, East WA
Consumer participation	☒ Yes ☒ Not applicable
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Risk rating	High
Periodic review	24 months

Silverchain's policies align with relevant legislation and standards and are based on providing a fair, inclusive, and safe working environment free from bullying and discrimination and one that enables equal opportunity for all Silverchain staff.

Our policies embody our values of integrity, respect, trust, and compassion.

Appendix A Causes of urinary retention

Causes of urinary retention	Men	Women	Both
Obstructive	BPH Prostate cancer Meatal stenosis Phimosis Paraphimosis	Organ prolapse(rectocele, cystocele, uterine prolapse) Pelvic Mass (gynaecological tumour, fibroids, cysts) Retroverted impacted gravid uterus	Constipation/faecal impaction GI or retroperitoneal tumours Urethral strictures Bladder tumours Bladder calculi Haematuria with clot retention
Infectious/ inflammatory	Prostatitis Balanitis Prosthitis	Vulvovaginitis	Cystitis Urethritis/STI VZV HSV Neurological- GBS, MS transverse myelitis
Iatrogenic/other	Penile trauma Laceration Fracture Penile constricting bands	Urethral sphincter dysfunction (Fowler Syndrome) Postpartum complication	Pelvic trauma/fracture Pharmacological (see next table) Post operative Psychogenic
Neurological			Parkinsons disease CVA Tumours/masses of any part of neuro tract Diabetes Autonomic neuropathy Spinal cord trauma/infection/stenosis Multiple Sclerosis Parkinson's disease Normal pressure hydrocephalus

Medications associated with urinary retention

Class	Drugs
Anti arrhythmics	Procainamide, quinidine,
Anticholinergics	Atropine, oxybutynin
Antidepressants	Amitriptyline, doxepin, imipramine, notriptyline
Antihistamines	Brompheniramine, Chlorpheniramine, Diphenhydramine, Hydroxyzine
Antihypertensives	Hydralazine, Nifedipine, beta blockers
Antiparkinsonian drugs	Amantadine, Benztropine, Bromocriptine, Levodopa
Antipsychotics	Chlorpromazine, Haloperidol, Prochloperazine
Hormonal agents	Oestrogen, progesterone, testosterone
Muscle relaxants	Baclofen, diazepam
Alpha- adrenergic drugs	Ephedrine, Phenylephrine, Pseudoephedrine
Beta adrenergic drugs	Terbutaline
Miscellaneous	Amphetamines, Carbamezapine, Dopamine, NSAIDs (indomethacin), Opioid Analgesia (eg morphine), vincristine, epidural

Appendix B Procedural information for TOV.

Procedure for Urethral Catheter Removal and Trial of Void

Equipment

Personal Protective Equipment (PPE)
Non sterile gloves
10mL syringe
Measuring jug
Rubbish container
Bladder scanner
Clinical Fluid Balance Chart BC-FRMC-0351

1 Attend hand hygiene and put on gloves.
2 Attach syringe and allow deflation of fluid from the indwelling catheter (IDC) balloon, under its own pressure. Document volume of aspirated water.
3 Remove IDC from urethra and dispose of catheter and drainage bag into a plastic rubbish bag, seal and place in general rubbish.
4 Remove gloves and attend hand hygiene.
5 Advise client to drink 250mL per hour for the next 4 hours (not to exceed 1200mL) unless contraindicated.
6 Advise client to void when they desire to void, measuring and documenting all output on provided *Clinical Fluid Balance Chart BC-FRMC-0351*.
7 Should discomfort or pain be experienced, advise the client to contact the nurse as they may need assessment and possible re-catheterisation.
8 4-6 hours post removal of catheter, the nurse will revisit and the client will be requested to void and bladder scan will be performed.
9 Document the results, determine the outcome and advise client of next steps.
10 Advise referral source of outcome.

Procedure for Trial of Void for client with suprapubic catheter (SPC)

Equipment

- Protective eye wear and apron
- Non sterile gloves
- 10mL syringe
- SPC valve
- Measuring jug
- Bladder scan device
- New drainage bag (may be required if trial of void fails)
- Rubbish bag
- *Clinical Fluid Balance Chart BC-FRMC-0351*

1 Staff member with appropriate knowledge and experience will check the medical officer/clinical specialist referral/request for the procedure explain the procedure to the client and gain consent for the procedure

2 If the catheter is on free drainage, put on gloves and disconnect the drainage bag and cap the drainage bag and discard and inset the valve into the catheter.

3 Advise client to maintain fluid intake of 250mL an hour for 4 – 6 hours (capped volume to 1200mL unless contraindicated)

4 Advise client to void when they have a desire to void, measure and document all voided volumes using a measuring jug

5 If the client is unable to void, advise the client (if they are able) to remove the catheter valve, reconnect a new drainage bag and drain the bladder.

6 If the client has been able to void post SPC valve insitu being capped, at 4-6 hours post position the client, gain consent and check residual bladder volume with a bladder scan device within 10 minutes of the last void.

7 Document all findings and interpret the results, communicate results to the client and the referring medical officer.