

# Trial of void – community

Nursing toolkit

September 2021

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## Working with Aboriginal people

The Agency for Clinical Innovation (ACI) is committed to improving the health of all patients across NSW, particularly those who have significantly higher rates of health problems and less access to appropriate health services. This nursing toolkit is designed to lead clinicians to better practice and should not be considered an exhaustive text.

Available data indicates that there are few studies that report on the prevalence of urological conditions in the Aboriginal and Torres Strait Islander population. However, cultural sensitivities may mean that complications surrounding urological conditions are less likely to be recognised and discussed openly.

The ACI undertook an Aboriginal Health Impact Statement prior to commencement of this project and consulted with senior Aboriginal health workers, focus groups and representative organisations. We would like to thank the key stakeholders whose contribution has informed the recommendations arising from this project. These stakeholders, including those who work closely with Aboriginal people, will continue to be involved in the implementation of the recommendations.

It is important that the appropriate steps are taken to ensure that services are delivered in culturally safe and competent ways.

Strategies to achieve this could include:

- flexible service delivery
- the presence of Aboriginal staff, such as an Aboriginal health worker or Aboriginal liaison officer
- consideration of nurse gender preferences
- flexible options for holistic community follow up.

To achieve optimal health outcomes for Aboriginal people with urological conditions, a cultural audit should be undertaken to identify and address the barriers to accessing care and ongoing management. The audit, along with the development of culturally competent and safe services, is described in detail in the *Chronic care for Aboriginal people model of care*.<sup>1</sup>

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## Introduction

This guide has information to direct medical and nursing staff on how to conduct a trial of void (TOV) after insertion of an indwelling urinary catheter post-surgery or following an episode of urinary retention.

A TOV assessment will confirm if the bladder has returned to satisfactory normal function and the urinary catheter can be removed. This assessment may also be conducted to monitor the degree of improvement in bladder function when a medium-term urinary catheter is due for periodic replacement.

There are two methods of TOV:

1. TOV after removal of an indwelling urethral catheter.
2. TOV with a suprapubic catheter.

The first section of this guide on planning for a TOV is relevant for both methods of TOV, and subsequent sections refer to specific requirements for indwelling urethral catheter and suprapubic catheter.

See appendices for patient information on trial of void with a urethral catheter and suprapubic catheter, as well as a post void residual chart.

## Planning for trial of void (urethral and suprapubic catheter)

### Health professionals

The following health professionals can perform a TOV:

- Medical officers: general and specialist medical practitioners
- Registered nurses (RN); nurse practitioners or continence or urology clinical nurse consultants; clinical nurse specialists; accredited endorsed enrolled nurses or other qualified specialist nurses as appropriate within their scope of practice
- Undergraduate student nurses under the supervision of a registered nurse; undergraduate medical students under the supervision of a medical officer.

### Prior to performing a trial of void

- Medical authorisation is required prior to a TOV, with a knowledge of the patient's medical history.
- Patient verbal consent must be obtained and carer's support secured, if required.
- Constipation must be resolved prior to a TOV.
- Knowledge of the patient's usual urine production is recommended to facilitate correct timing of the TOV. For instance daytime urine production may be significantly reduced in the elderly, those on renal dialysis, with ileostomies, with congestive cardiac failure, on fluid restrictions and with nocturnal polyuria.<sup>2</sup>

### Required documentation

Prior to attempting a TOV, the following documentation is required for each patient:

- Medical authority
- 24-hour input and output measurement to determine the pattern of urine production prior to the TOV.

### Compliance with relevant guidelines

The health professional should follow their local health district or healthcare provider guidelines on urinary catheterisation and bladder scanning (e.g. *Adult Urethral Catheterisation for Acute Care Settings*).<sup>4</sup>

The following guidelines should also be followed.

- Catheter-associated urinary tract infection (CAUTI) prevention: Refer to the Clinical Excellence Commission's *Catheter associated urinary tract infections*.<sup>5</sup> Aseptic technique is required for performing bladder irrigation, catheter care and maintenance to reduce the risk of contamination during the procedure and break in the closed urinary drainage system leading to a CAUTI.
- Infection prevention and control: refer to the NSW Health *Policy directive: Infection prevention and control 2017\_013* for information outlining practice required to minimise the risk of infection, including hand hygiene requirements.<sup>6</sup>
- Medication handling: refer to NSW Health *Policy directive: Medication handling in NSW public health facilities PD2013\_043* for best practice principles on medication procurement, storage, prescribing, supplying, dispensing and administration at NSW public health facilities.<sup>7</sup>
- Management of autonomic dysreflexia: Refer to NSW Health *Safety notice 014/10: Autonomic dysreflexia*. It is not recommended to conduct TOV in the community for people with autonomic dysreflexia.<sup>8</sup>

# Community TOV after removal of indwelling urethral catheter

## Roles and responsibilities

### Medical officer, nurse practitioner, clinical nurse consultant or clinical nurse specialist

- Document the request for the TOV
- Know the patient's medical and urological history, current health status and imaging results, if available
- Assess potential risks and suitability for conducting TOV in the community
- Advise patient and registered nurse on medications with anticholinergic effects and any appropriate adjustment for TOV
- Review the outcome, patient's care plan and follow up arrangements.

### Registered nurse

- Know the patient's medical history, medications and present bowel status
- Assess daily urine production prior to conducting the TOV
- Know when not to proceed, or when to abandon a trial without catheter for an individual and what actions to take. Notify appropriate support clinicians
- Educate the patient on the TOV process (refer to patient instructions at Appendix 1)
- Remove the urinary catheter at the most appropriate time, determined by the patient's urine output and care plan
- Educate the patient on the expected fluid intake over the next six hours
- Educate the patient on measurement and recording of the voided urine volume
- Be available to respond at an appropriate time to attend a post void residual (PVR) bladder scan
- Be prepared to reinsert the urinary catheter if necessary
- Document the voided urine volume and PVR including any abnormalities such as delay initiating a void, burning, dysuria or blood in urine
- Report the outcome of the TOV to the medical officer, nurse practitioner, clinical nurse consultant or clinical nurse specialist
- Plan the procedure according to local resources, availability of a portable bladder scanner and availability of staff accredited to catheterise.

## Management options for minimal diurnal urine output

- Patients with peripheral oedema (unless contraindicated) can try lying down around 11am-2pm with both legs elevated in an attempt to encourage urinary output.<sup>3</sup>
- A catheter valve can be connected between the catheter and drainage bag the day before the TOV. Make a request to either the patient, carer or staff to cease free drainage (turn the valve off) in the early hours of the morning, e.g. 4-6am, to allow the bladder to fill. Attend a bladder scan at a pre-arranged time, ideally between 8-9am, or according to the bladder diary. Remove the catheter and request the patient to attempt to void. Depending on the bladder volume and ability to void, the patient will be followed up by a further bladder scan in the home or clinic on the same day.
- There have been reports in the literature of success in assisting the bladder to fill by installing normal saline instillation prior to the catheter being removed. This is only be recommended for complex clients with poor daytime output, to be attended in an outpatient clinic where strict procedural guidelines are followed.<sup>9</sup>

## Additional documentation

- Patient instructions TOV – urethral catheter (Appendix 1)

## Equipment

- Personal protective equipment (PPE): protective eyewear, plastic apron and gloves
- 10mL sterile syringe
- Waste bag
- Measuring receptacle
- Bladder scanner
- Have catheterisation equipment on stand-by.<sup>10</sup>

## Procedure

All TOV needs to be done on individual assessment.

1. Perform hand hygiene in accordance with the five moments of hand hygiene.
2. Verify patient's identity and confirm the procedure.
3. Explain the procedure to the patient and carer, and obtain consent.
4. Removal of the urinary catheter is normally between 8-9am unless otherwise indicated by the patient's urine production or advised by the continence advisor or senior nurse clinician.
5. Perform hand hygiene.
6. Apply PPE.
7. Deflate catheter balloon and gently remove the urinary catheter.
8. Document the time of urinary catheter removal and any associated problems.
9. Advise the patient to maintain a fluid intake of 250mL/hour capped at 1200mL over the next 4-6 hours (unless contraindicated) (see Appendix 1).
10. Advise the patient to void without straining when they have the urge or desire to void and measure and record all voided volumes.
11. Provide nurse contact details and confirm the time of the afternoon home visit or clinic appointment for the PVR bladder scan.

If at any time the patient experiences discomfort and is unable to void, it is recommended that the patient contact the RN and be re-catheterised as soon as possible.

12. It is recommended that the attending nurse contacts the patient for a progress report after three hours.
13. After 4-6 hours the patient is followed up by the nurse who reviews any recorded voided volumes.
14. The patient is bladder scanned (if available) then requested to void. Post void residual urine volume is measured either by bladder scanner (within 10 minutes of voiding) or in and out catheterisation.<sup>11</sup> Encourage a second void if PVR is significant, and re-scan.<sup>12</sup>
15. Interpret the TOV results (see section of this toolkit on Patient management and interpretation of the outcome).
16. Document the outcome and all voided volumes and the PVR volumes.
17. Report the result to the referring medical officer, urologist, general practitioner, nurse practitioner, clinical nurse consultant or clinical nurse specialist urology continence.

18. If the catheter is left out, educate the patient about the signs and symptoms of urinary retention to enable early identification and intervention as necessary.
19. If the patient's voiding deteriorates, advise them to either go to emergency or contact the nursing service for reinsertion of the catheter.
20. Educate the patient on the signs and symptoms of urinary tract infections.
21. If the catheter is to be reinserted discuss teaching clean intermittent self-catheterisation with the patient (if applicable).

### Patient management and interpretation of the outcome

There is no universally accepted definition of significant residual urine.<sup>13</sup> Therefore as a general guide the following principles apply.

- The TOV outcome will also be determined by the patient's renal function, lower urinary tract symptoms, such as frequency nocturia, functional bladder capacity and impact of the symptoms on their quality of life (QOL).<sup>13</sup>
- The significance of the PVR is variable and requires individual patient assessment. As a guide, a PVR of one third to one half of the voided volume (up to 300mL) with no bothersome lower urinary tract symptoms can often be acceptable. Consider patients' relevant urological conditions and specialist recommendations such as timed void or double void. This is especially relevant for patients with history of underactive bladder.
- If the TOV is inconclusive consider teaching clean intermittent self-catheterisation (CISC) and or double voiding and extending the TOV to an overnight TOV.<sup>2</sup>
- Criteria for successful TOV may vary for each patient. Prior discussion with the medical officer or attending specialist is recommended.
- If a patient fails a TOV then the option of intermittent self-catheterisation may be explored.
- A urology consult should be arranged if the patient fails two TOVs.

### General TOV outcome and management guide for urethral catheter

<b>Successful TOV</b>	<p>≤200mL residual. <b>Leave the catheter out</b> if other criteria above considered.</p> <p>If the patient's residual is &gt;200mL, educate the patient in double voiding and explain the risks of having a high residual volume in the bladder.<sup>12</sup> A repeat bladder scan within 24 hours should also be performed.</p>
<b>Inconclusive TOV</b>	<p>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.</p>
<b>Failed TOV</b>	<p>300-500mL residual. Reinsert the catheter and repeat the TOV in 1-2 weeks or teach CISC and monitor residual volumes.</p>
<b>Failed TOV</b>	<p>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.</p>

## Community TOV with a suprapubic catheter

### Roles and responsibilities

#### Medical officer

- Know patient's medical and urological history and current health status
- Review the voided and post void residual volume
- Give medical order to remove the SPC catheter when the PVR is acceptable.

#### Registered nurse

- Know the medical, urological history medications and bowel status
- Educate the patient about the TOV process (refer to patient information at Appendix 2)
- Assess the day and night-time urine production before conducting the TOV
- Educate the patient and carer about releasing the valve and measurement of all voided and PVR volumes (Appendix 2 and 3)
- Review the measurements at the end of the day
- Discuss continuation with the valve and recording all measurements for the next 24-48 hours or repeating the TOV at a later date
- Review the impact of potential nocturia on QOL
- Liaise with the medical officer about removal of the SPC if volumes satisfactory.

### Management options for minimal diurnal urine output

Patients with peripheral oedema (unless contraindicated) can try lying down around 11am-2pm with both legs elevated in an attempt to encourage urinary output.<sup>3</sup>

### Additional documentation

- Patient instructions trial of void (TOV) – suprapubic catheter (SPC) (Appendix 2)
- Post void residual chart (Appendix 3).

### Equipment

- PPE: protective eyewear, plastic apron and gloves
- Catheter valve
- Measuring receptacle
- Dressing to cover stoma site if SPC removed.

### Procedure

1. Perform hand hygiene in accordance with the five moments of hand hygiene.
2. Verify patient's identity, explain the procedure and obtain consent.
3. If the catheter is on free drainage, don PPE. Disconnect the drainage bag and insert the valve onto the suprapubic catheter to allow the bladder to fill (Appendix 2).
4. Advise the patient to drink normally.
5. Advise the patient to void urethrally, when they get the sensation or urge to void.
6. Request the patient to measure and record all voided volumes and immediately following voiding, release the valve and drain the bladder into a measuring device. Record this as the post residual void (Appendix 3).

7. If the patient is **unable to void** and they have an urge or are uncomfortable, advise them to release the valve and drain the bladder. Request that they measure and record all urine volumes drained via the catheter and resume timed emptying of the bladder via the catheter valve.
8. Review the voided volumes and the post void residuals at the end of the day by a home visit or phone call. A decision is made to continue with the valve or to resume free drainage.
9. Document the outcome in the patient record, including the recorded volumes, and follow medical instructions for either a repeat TOV or removal of suprapubic catheter.
10. Inform the medical officer and continence advisor of the outcome.

### Important consideration

Patients with a large overnight output who have previously managed with a night drainage bag need to be assessed for the impact of nocturia on their QOL, if the catheter is to be removed.<sup>14</sup> For this reason it is important to continue the TOV overnight and for the patient to record how many times they get up overnight to void with the valve in situ. This needs to be considered and discussed for the frail elderly who are at risk of falling.

Ultimately it is always better to have the catheter removed if it is no longer required and adaptations may need to be made to reduce the risk of falls.

### Patient management and interpretation of the outcome

There is no universally accepted definition of significant residual urine.<sup>13</sup> Therefore, as a general guide, the following principles apply:

- When a suprapubic catheter is in situ, the relevant medical officer would normally provide clear instructions for removal of the suprapubic catheter, when the residual volume is consistently below a certain volume.
- For a conclusive result, a documented record of the voided volumes and PVR should be kept over a period of some weeks and provided as clear evidence for the medical officer, nurse practitioner or continence clinical nurse consultant to make the decision to remove the catheter. The suprapubic catheter may only be removed following consultation with the medical officer or urology or continence clinical nurse consultant.
- The TOV outcome will also be determined by the patient's symptoms, such as frequency nocturia, functional bladder capacity and impact of the symptoms on their QOL.
- Medical officer criteria may vary, so communication with the individual specialist is recommended.
- If a patient insists on removal of the suprapubic catheter while it is still medically indicated, explore the option of intermittent self-catheterisation. The suprapubic catheter must not be removed until the patient has mastered CISC and is happy to continue.<sup>15</sup>

## Appendices

### 1. Patient instructions trial of void (TOV) – urethral catheter

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## Trial of void (TOV) – urethral catheter

### Patient instructions



#### What is a trial of void?

A trial of void is a test to see whether your bladder has returned to normal so your urinary catheter can be removed permanently.

#### What does it involve?

The community nurse may request that you keep a record of your urine output for 24 hours prior to removing the catheter, as some people produce more urine at night than during the day. This information will help us to know the best time to remove the catheter.

#### Day of the trial of void

1.		On the appointed day, we will arrange for you to either come to the clinic or for a nurse to visit you at home to remove the catheter. This is a simple procedure of deflating the balloon and the catheter will slip out easily.
2.		At home you will be encouraged to drink approximately 250mL an hour over a 4-6 hour period, capped at 1200mL (unless contraindicated), so that the bladder begins to fill. If you feel the urge to pass urine, do so and measure and record the volume on the chart provided.
3.		At the end of the day you will either return to the clinic or the nurse will return to your home and your bladder will be checked using a portable bladder ultrasound machine.
4.		The nurse will review the chart and ask if your urine flow is good. It is also important to report if you are straining to pass urine.
5.		If you are passing only small amounts of urine and the volume of urine left in the bladder is high, it may be necessary to replace the catheter.
6.		The nurse will report the outcome of the trial of void to your specialist and GP.



**ALERT**

If at any time you experience discomfort and you are unable to pass urine you should call your clinician to re-catheterise you as soon as possible.




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## 2. Patient instructions trial of void (TOV) – suprapubic catheter (SPC)

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# Trial of void (TOV) – suprapubic catheter (SPC)

## Patient instructions



### What is a trial of void?

A trial of void is a test to see whether your bladder has returned to normal so your urinary catheter can be removed permanently.

### What does it involve

1.		If the catheter is attached to a bag, the bag will be removed and the nurse will attach a catheter valve to allow the bladder to fill. The nurse will document the time the catheter valve is connected on the chart.
2.		You will be encouraged to drink approximately 250mL hour over a period of 4-6 hours capped at 1200mL (unless contraindicated) and asked to record all fluid intake on the chart.
3.		If you experience an urge, have a desire to void or become uncomfortable, attempt to pass urine normally. Immediately after passing urine normally, release the valve and drain the bladder. Measure and record all urine volumes on the chart.
4.		The nurse will review the volume of urine passed normally and the volume drained via the catheter and will decide whether to continue with the valve overnight or reconnect to the bag.
5.		The doctor normally requires this to be repeated over several days.
6.		The nurse will follow the medical instructions for either a repeat trial of void at a later date, or removal of the SPC if authorised, and inform your doctor of the outcome.
7.		If the SPC is to be removed, the nurse will provide advice on care of the site.



### ALERT

If at any time you are unable to pass urine, you should release your valve and discuss with your nurse.



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## Glossary

CAUTI	Catheter-associated urinary tract infection
CISC	Clean intermittent self-catheterisation
PPE	Personal protective equipment
PVR	Post void residual
QOL	Quality of life
TOV	Trial of void

## Acknowledgements

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Version two of the guide has been further reviewed by the Urology and Continence Nurses Working Group, made up of ACI network members. It has also been peer reviewed by an external subject matter expert, Celina Lin, Clinical Nurse Consultant Continence (Northern Sydney Home Nursing Service).

Literature searches were conducted on PubMed and ProQuest databases.

Appendix 1: Patient instructions trial of void (TOV) – urethral catheter and Appendix 2: Patient instructions TOV – supra public catheter, were developed by Central Coast LHD. They have been re-designed as ACI publications with permission from Central Coast LHD, to allow use by other LHDs

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