

Bladder Care – Postnatal Management

Version 8.1

Lead Person(s)	Suneetha Rachaneni, Consultant Urogynaecologist
Care Group	Women and Children's
First implemented	Junel 2010
This version implemented	20 th December 2024
Planned Full Review	31 st May 2027
Keywords	Bladder care (postnatal) TWOC, IDC, Catheter, PVR, post void residual, bladder scan, pelvic floor, urinary retention, diuresis
Written by	Suneetha Rachaneni, Consultant Urogynaecologist
Revisions by	Suneetha Rachaneni, Consultant Urogynaecologist
Consultation	Maternity Guideline Group, Maternity Governance, Postnatal Ward Manager. Uro-gynaecology MDT Group
Comments	References to SaTH Guidelines in the text pertain to the latest version of the guideline on the intranet. Printed copies may not be the most up to date version. To be read in conjunction with Postnatal Care (133) Fluid Balance Standard Operating Procedure (001) Early Warning Score-Early recognition of the severely ill woman (039) Standard operating procedure for Trial without catheter (TWOC)(105)

Version	Implementation Date	History	Ratified By	Full Review Date
1	June 2010	New	MGG and Maternity governance	June 2013
2	October 2010	Minor changes to clarify process	MGG	Oct 2013
3	24 th January 2011	Minor changes not in line with NICE Monitoring updated	MGG Maternity Governance Clinical Governance Executive	Jan 2014
4	18 th March 2011	Minor changes	MGG	March 2014
5-5.4	4 th January 2013-23 rd April 2015	Amalgamation of history/version control front sheet table. Refer to version 6.0 for full history of revisions	MGG Maternity Governance	Jan 2016
6.0	25 th July 2016	Full version review Revision to Flowchart Revision to section 5.4.1 3 rd catheterisation management volumes	MGG Maternity Governance	July 2019
7.0	23 rd October 2019	Full version review New author	MGG Maternity	October 2024

		Introduction of post void residual volume bladder scanning	Governance	
7.1	24 th January 2020	Addition to section 5.3 emptying and recording urine output when catheter bag in use following SI	MGG Maternity Governance	October 2024
7.2	March 2021	Additional information 5.6 regarding TWOC process and patient information	MGG Maternity Governance	April 2024
7.3	19 th October 2021	Changes made to bring in line with enhanced recovery programme	MGG Maternity Governance	March 2026
7.4	November 2022	Audit & Monitoring paragraph updated to reflect new process		March 2024
8	17 th May 2024	Full version review	Maternity Governance	May 2027
8.1	20 th December 2024	Minor amendment to section 6.7 referral to the pelvic floor physiotherapy team.	Maternity Governance	May 2027

In this guideline we use the terms ‘woman’ or ‘mother’ throughout. These should be taken to include people who do not identify as women but are pregnant or have given birth.

1.0 Introduction

Postpartum urinary retention (PUR) is a common phenomenon in the puerperium, with prevalence varying between 1.5 % and 17 %. Women experience inability to empty their bladder following childbirth resulting in bladder over-distention. A single episode of bladder over-distention can lead to irreversible neurological damage to the detrusor muscle resulting in atony and hypo-contractile bladder. This makes further episodes of acute retention likely and increases the likelihood of patients developing chronic urinary retention. Long term voiding dysfunction may be seen in 5-8% of women on a 3 year follow-up. Vigilant monitoring and early detection of PUR will help in timely interventions and immediate and long-term sequelae.

Risk factors:

- Instrumental delivery
- Primiparity
- Prolonged second stage
- Epidural analgesia
- Episiotomy/second degree tears
- Third and fourth degree perineal tears
- Multiple Sclerosis
- Pre-existing history of voiding dysfunction

Mechanism of Postpartum urinary retention(PUR)

The first sensations of bladder filling ordinarily occur when about 100 to 150 millilitres of urine are present in the bladder. A desire to void will be felt when the bladder contains approximately 200-300 millilitres. With 400-500 millilitres, a marked feeling of fullness is usually present. Most women will have an urge to void within 6 hours postpartum. The bladder sensation may be delayed due to the following mechanisms:

- Labour and vaginal birth may cause temporary partial denervation of the pelvic floor. This can lead to reduced bladder sensation resulting in bladder over distension
- During the second stage of labour, the presenting part of the fetus, presses against the urethra and the bladder and may cause oedema
- Epidural analgesia/anaesthesia causes temporary loss of bladder sensation
- Postpartum diuresis results in increased urine production in the first 12-24 hours. Loss of bladder sensation along with physiological postpartum diuresis increases the risk of asymptomatic over distension of the bladder
- Pain from vulval or perineal lacerations/hematoma may have an adverse impact on voiding

2.0 Aim(s)

To provide a clear guidance for the management and documentation of bladder care in the postnatal period to help reduce the risk of unrecognised and untreated PUR

3.0 Objectives

- To ensure staff have pathways to identify, manage and refer women with any bladder or bowel problems to the most appropriate Health Professional

4.0 Definitions/abbreviations

4.1 **Diuresis** – increased production of urine

4.2 **PUR-Postpartum urinary retention** – a lack of ability to urinate

4.3 **PVR** Post-void residual volume

- 4.4 **Residual urine** – this is the urine measured after catheterisation and for the subsequent 15 minutes with the patient semi-recumbent and the catheter bag below the level patient.
 - 4.5 **Overt urinary retention** inability to void spontaneously within 6 hours of vaginal birth or removal or catheter requiring catheterisation
 - 4.6 **Covert urinary retention is voiding difficulty with a PVR ≥ 150 mls** after spontaneous void, verified by ultrasound scan or catheterisation.
 - 4.7 **Persistent urinary retention continues beyond third postnatal day and persists for several weeks.**
 - 4.8 CSU – Catheter Specimen of Urine
 - 4.9 IDC – Indwelling catheter
 - 4.10 TWOC-Trial without catheter
- 5.0 **Intrapartum prevention:** Bladder over distension should be prevented in labour. Women with regional analgesia, an indwelling catheter or intermittent catheterisation every 4 hours to empty the bladder is recommended.

6.0 Process – Also refer to Appendix 1

6.1 Time and volume of the 1st void

- The time and volume of the first void after delivery will need to be recorded. Equally Fluid input within the first 6 hours should be recorded. Patients should drink at least 200mls of water per hour as excessive drinking may rapidly distend an atonic bladder
- Patient needs to be encouraged to void between 3-6 hours of delivery

- 6.2 **Volume is equal to or greater than 200mls** and the woman experiences no difficulties in micturition and has no other urinary symptoms there is **no need to monitor further voids.**
- Assess bladder care as part of routine postnatal care unless the woman reports any concerns.

6.2 Home birth

If the woman has not voided urine when the midwife leaves the home she will be provided with a disposable urine container (ideally with graduated measurement) for use of the first void. The patient will be advised to record the time and volume of the void. The Midwife can review and document the record during the next planned postnatal contact.

The woman will be advised to make contact with her local maternity unit (MLU) if she is unable to void within 6 hours from birth or sooner or if she is in distress.

6.3 Women who have been catheterised after operative delivery

Following caesarean section or births and procedures in theatre, where an epidural has been topped up or woman has had a spinal anaesthesia, it is expected that the woman will be immobile for a few hours and will have an indwelling catheter inserted. Bladder sensation may take over 10 hours to return after caesarean section under spinal analgesia and over 6 hours following vaginal birth with or without epidural analgesia.

- Prior to transfer from delivery suite the volume of urine in the catheter bag needs to be recorded on a Fluid Balance Chart.
- On postnatal ward, the urine volume is to be recorded on the fluid balance chart during the routine observations as per MOEWS guideline or until catheter removal.
- An hourly catheter bag is needed in any blood loss > 1000 mls
- Any volume of less than 100mls over 4 hours will need to be escalated to the shift coordinator and the Obstetric Consultant on call for further review.

Urinary catheter can be removed 12-24 hours after CS unless stated otherwise.

Following **vaginal birth**, the catheter needs to remain in situ for a minimum of **6 hours after delivery** in patients with an epidural or spinal analgesia.

6.4 Initial conservative management

First void should be encouraged at 3-6 hours following birth or after removal of catheter. Simple measures that may aid voiding are mobilising to the toilet, using a bed pan and voiding in the shower.

- If a woman is in distress with symptoms of urinary retention, a PVR should be performed at this stage.
- Also consider: Palpation of abdomen to assess for signs of a palpable bladder, or deviation of the uterus which may indicate urinary retention
- Inspect perineum for extensive perineal trauma, swelling or hematoma as these may hinder the ability to pass urine.
- Provide adequate analgesia
- Escalate if not passed urine after 6 hours of catheter removal.
- Assess the fluid balance chart (where applicable) for volume and timing of voids.
- A void of $\geq 200\text{mLs}$ with normal sensation suggests normal voiding and no further monitoring required.

Symptoms of Urinary retention:

- Inability to pass urine
- Passing small amounts of urine
- Sensation of incomplete emptying
- Poor stream
- Pain during micturition

If there are any symptoms of urinary retention after the birth, bladder volume to be confirmed by Bladder scan and/or in and out catheter. If evidence of large post void residual $>150\text{mls}$ please escalate to the obstetric on call team. **Refer to Appendix 1**

The accuracy of bladder scanners in the postnatal period does not appear to be reliable due to the enlarged postpartum uterus and bladder oedema. However, it can be used as a non-invasive screening tool. In a recent study comparing PVR on bladder scan and catheterisation volume, the bladder scanner was less accurate than catheterized urine volume. However, the median difference between the bladder scanner and the catheterized volume was 42.7 mL, making it suitable for clinical use. Accuracy deteriorates in obese patients.

Consider a PVR scan for women who are experiencing voiding difficulties who also have the following:

1. Women with a prior history of voiding difficulty
2. Women with catheter inserted for retention during labour
3. Prolonged labour >12 hours
4. Emergency Caesarean section
5. Instrumental delivery
6. Epidural or spinal analgesia or anaesthesia
7. Extensive perineal trauma or 3rd/4th degree tears

If following bladder scan oliguria is confirmed, consider additional test for FBC and U&Es to review any suspected renal function abnormalities.

6.6 1st catheterisation –Also refer to appendix 1

If the bladder volume is $>150\text{ml}$ and $<700\text{ml}$, **catheterise** with an indwelling catheter and leave it **for 48 hours**.

If the bladder volume is **700ml-1500ml**, immediately after catheterisation, leave the **catheter for 1 week** and **organise a TWOC in Postnatal ward** – Refer to Appendix 1

If the bladder volume is **more than 1500ml**, leave the **catheter for 2 weeks** and organise a **TWOC in postnatal ward** – Refer to Appendix 1

With every indwelling catheterisation please send a CSU

Catheterisation document as per IPC 30 Urinary Catheterisation minimum documentation to include insertion date/indication/size & type with planned date for removal needs to be completed.

6.7 Management for 2nd catheterisation

Women who fail their TWOC after initial catheterisation for voiding dysfunction, a second catheterisation process needs to be followed and a referral to the Uro-gynae team on sath.urogynaecologyteam@nhs.net along with an ISC leaflet **and referral to the pelvic floor physiotherapy team.**

A full discussion regarding the problem must take place with the woman including possibility of ISC, reassure that normal voiding is likely to return. Resting the bladder for a protracted period of time will help return of bladder function.

2nd Catheterisation Process

After removing the catheter, **allow 3-6 hours for spontaneous voiding**. After spontaneous voiding, **record residual urine within 20 minutes by a PVR scan**.

- If <150 ml, no further intervention is required and timed voiding every 3-4 hours is advised
- If ≥ 150 ml re-catheterise for the next 14 days, and inform the on call Obstetric Consultant to decide a management plan for discharge (to rest the bladder for a protracted period of time)
- Trial without catheter (TWOC) will be carried out in the postnatal ward
- Provide TWOC patient information leaflet

Expected Management options on Uro-gynaecology referral could include:

- Continuous bladder drainage. This maybe either a:
 - Indwelling urethral catheter (already in situ)
 - Supra-pubic catheter (referral to an identified Urologist for insertion will be required).
- Intermittent self-catheterisation (ISC) 4-6 hourly (Referral to Urogynaecology nurse Specialist who will be able to assist in training Midwives on ISC). The ultimate frequency of ISC will be determined by the volume of urine obtained but the aim will be to have a recorded residual urine of no greater than 400cc.

A full discussion with the woman regarding the problem.

- Clear management plan including advantages & disadvantages of catheter method used must be instigated and documented
- The woman can be discharged home with a contact number for the hospital in case of any complications
- The woman will need to be given an appointment for **two weeks after discharge** to return to Postnatal ward

Catheterisation document as per IPC 30 Urinary Catheterisation minimum documentation to include insertion date/indication/size & type with planned date for removal needs to be completed.

7.0 Bladder care of women with bladder injury during caesarean section

Leave the catheter for 2 weeks and organise Cystogram(either X-Ray or CT Cystogram).

Remove catheter only if Cystogram reveals that the bladder injury has healed and there is no extravasation of dye. Discussion with the Radiologist will help in identifying the correct radiological investigation.

8.0 Urinary incontinence

Women with involuntary leakage of urine following resolution of voiding dysfunction should be taught pelvic floor exercises as needed by a pelvic floor physiotherapist and appropriate referral to be made.

9.0 Training

Refer to Maternity Training Guideline.

Training and competencies on Bladder scanner

10.0 Monitoring and Audit

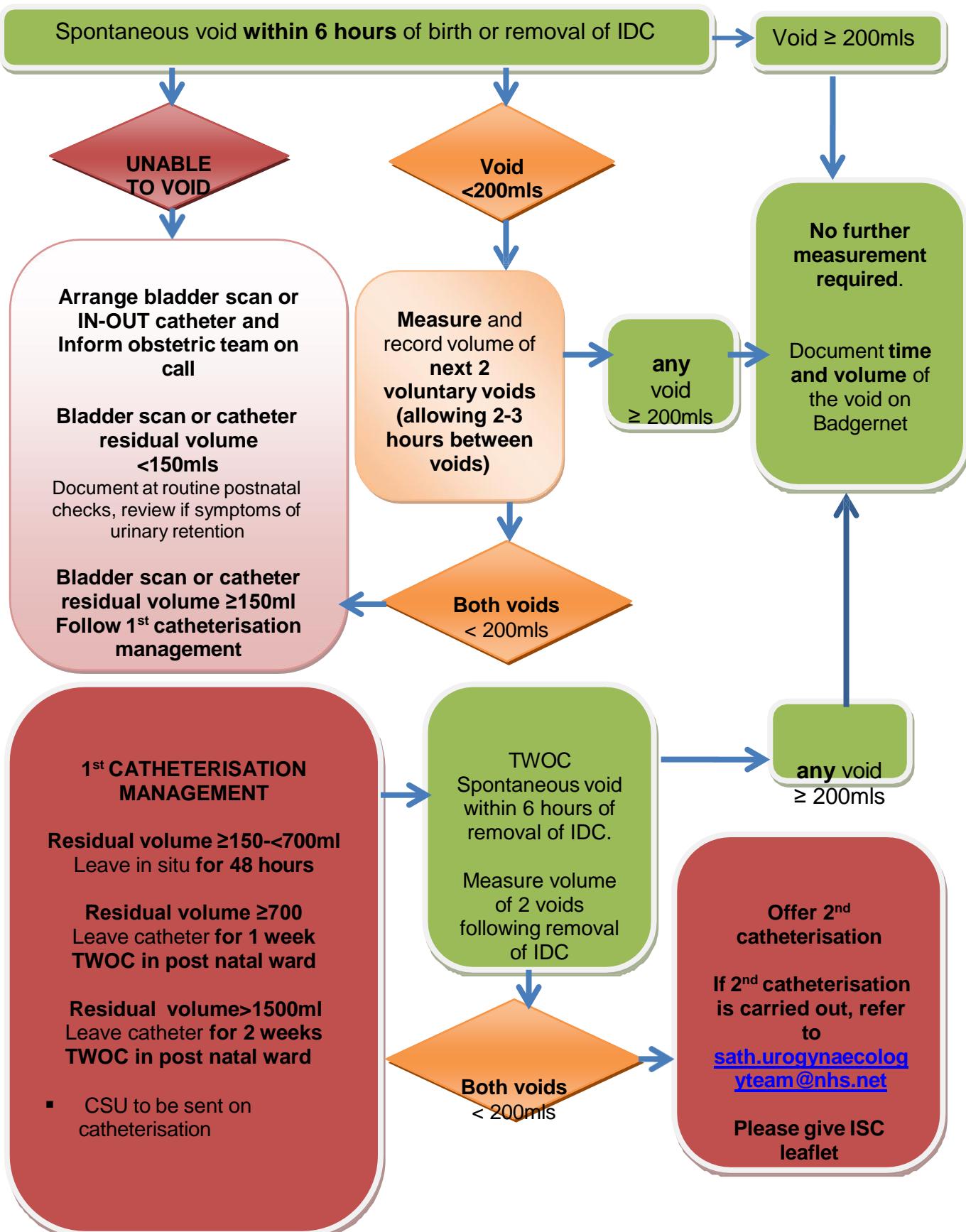
The decision to audit/monitor standards within the guideline will be taken by the Maternity Clinical Governance Group. Audit/Monitoring will follow the process set out Women & Children's Care Group Monitoring and Audit Procedure for Assurance (105) and where appropriate in conjunction with the SaTH Clinical Audit Policy CG25.

11.0 References

1. Postpartum urinary retention: what are the sequelae? A long-term study and review of the literature. Mohr S, Raio L, Gobrecht-Keller U, Imboden S, Mueller MD, Kuhn A. Int Urogynecol J. 2022 Jun;33(6):1601-1608. doi: 10.1007/s00192-021-05074-5. Epub 2022 Feb 7.
2. Post-partum voiding dysfunction and urinary retention. Lim JL . Aust N Z J Obstet Gynaecol 2010;50(6):502–505. doi: 10.1111/j.1479-828x.2010.01237.x.
3. Postpartum urinary retention: an expert review. Nutaitis AC, Meckes NA, Madsen AM, et al. Am J Obstet Gynecol 2023;228(1):14–21. doi: 10.1016/j.ajog.2022.07.060.
4. Accuracy of postvoid residual volumes after vaginal delivery: a prospective equivalence study to compare an automatic scanning device with transurethral catheterization. Mulder FEM, van der Velde S, Pol F, et al. Int Urogynecol J 2019;30(5):773–778. doi: 10.1007/s00192-018-3700-9.

If not voided 6 hours after birth or removal of indwelling catheter (IDC) consider:
PVR

- Symptoms and signs of urinary retention (Palpable bladder, Deviated Uterus, haematoma, High PVR on Bladder scan or IN-OUT catheter)
- Escalate to Obstetric on call team



Appendix 2**Referral for TWOC**

Patient's name	
Hospital Number	
Date of birth	
Telephone number	
Consultant	
Date of delivery	
Mode of delivery	
Postvoid residual urine volume	
Date of catheter insertion	
Any bladder injury	
Cystogram result	
Other relevant information	
Patient specific information	
Name of the person requesting TWOC	
Designation	