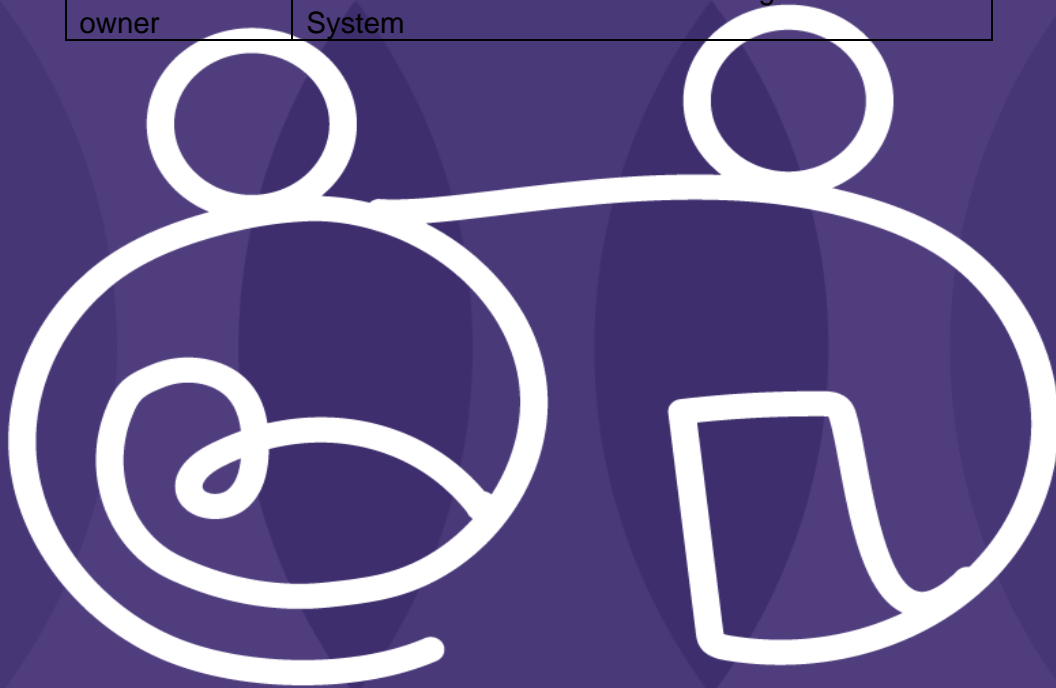




Perinatal Pelvic Health Service - Bladder Care Pathway

Version	1.0
Document Type	Guideline
Author	Victoria Kershaw
Approval date	
Review date	
Document owner	North East and North Cumbria Integrated Care System



Perinatal Pelvic Health Service - Bladder Care

1 Introduction

The purpose of this pathway is to guide professionals to a suitable route of referral for women who experience bladder trauma both during and after childbirth.

- To recognise voiding difficulties early
- To appropriately manage postnatal voiding dysfunction
- To prevent the immediate and long-term complications of urinary retention

During labour and after delivery, the bladder is particularly vulnerable to urinary retention following trauma to the bladder, pelvic floor muscles and nerve supply during delivery. A number of other factors can also impair bladder function including;

- regional anaesthesia
- general anaesthesia
- prolonged labour
- difficult instrumental delivery
- extensive perineal and vaginal lacerations
- macrosomic baby
- caesarean section (bladder dissection and oedema)
- catheterisation in labour with residual >500mls
- increased output due to postnatal diuresis e.g. post syntocinon, pre-eclampsia
- pain
- constipation
- immobility
- urinary tract infection
- previous voiding dysfunction
- known neurological disease linked to bladder dysfunction.

Between 0.05-14.1% of women have been found to experience postnatal urinary retention, with 1-5% resulting in permanent bladder damage. Overt urinary retention is defined as the inability to pass urine 6 hours post-delivery/removal of catheter. Covert urinary retention occurs when there is an elevated post-void residual volume (PVR) remaining in the bladder of >150mL urine or frequent voids <200ml. Other symptoms of voiding dysfunction include; sensation of incomplete bladder emptying, lack of sensation of urge to void, frequent/constant feeling of needing to void, new-onset urinary incontinence, pain associated with inability to pass urine, slow stream/dribble and only being able to pass small volumes.

Postpartum urinary retention is generally a transient condition, which self resolves in the majority of cases. However, prompt recognition and management of urinary retention is essential to prevent long-term sequelae of bladder overdistension including prolonged bladder underactivity, long-term self-catheterisation, recurrent urinary infections, and overflow incontinence. In rare and severe cases of acute retention, bladder rupture can also occur.

The most accurate method of measuring post-void urinary residual is an in-out catheter, but a bladder scanner is less invasive and avoids the small risk of infection associated with catheterisation (2%).

2 Guideline scope

This guideline applies to pregnant women during labour and after delivery at maternity units in the North East of England and Cumbria that experience trauma to the bladder, pelvic floor muscles and nerve supply during delivery. The guidelines will be followed by Obstetricians, midwives and midwifery support workers across the North East and North Cumbria.

3 Intrapartum Bladder Care

- Encourage the woman to void urine 2-4 hourly.
- The volume and timing of voids should be recorded on Badgernet.
- Women with an epidural should be encouraged to pass urine spontaneously prior to insertion of epidural.
- If the woman is unable to void after a 4-hour period or voids frequent small amounts; pass an in/out catheter to ensure that the bladder is emptied and record the volume drained. Ideally catheterisation should be planned to coincide with vaginal examination if possible. Consider an indwelling urinary catheter for the remaining duration of the labour unless the delivery is likely to occur within the next hour.
- If a second catheterisation is indicated during labour, then an indwelling catheter should be inserted and left on free drainage. Type and size of the catheter used should be documented.
- An indwelling catheter should be removed before the active second stage to prevent damage to the bladder neck during pushing.
- There may be other indications for catheterisation during labour such as pre-eclampsia, obstetric haemorrhage, renal impairment, prior to caesarean section etc.
- An indwelling catheter should also be inserted after delivery in the following situations as they are risk factors for postpartum voiding dysfunction:
 - Catheterisation in labour of volume >500mls
 - Instrumental delivery with regional anaesthesia
 - Extensive vaginal/labial/perineal tears
 - Spinal anaesthetic post-delivery for operative procedures e.g. manual removal of placenta, repair of obstetric anal sphincter injury, insertion of Bakri balloon/vaginal pack

3.1 Postpartum Bladder Care

- All women should be encouraged to drink fluids following delivery and input should be monitored.

- All women should be encouraged to pass urine within 4 hours of delivery/catheter removal and a full explanation given about how to measure the urine using the receptacles stored in the toilets.
- When to remove a catheter:
 - Following operative delivery, the midwife should check if there are special instructions in the operation notes regarding when to remove the catheter. If there are no specific instructions, catheter removal will usually be the next morning following an elective caesarean section or once the woman is mobile following an uncomplicated non-rotational instrumental delivery or manual removal of placenta.
 - For women who have had an epidural with no other risk factors, the catheter should be removed 6 hours after last top-up and/or when full sensation returns.
 - For women who have had regional anaesthesia and other risk factors such as; midcavity/rotational instrumental deliveries, anterior/complex perineal trauma, catheterisation in labour of volume >500mls, the catheter should not be removed for at least 12 hours after delivery.
 - For women who have had caesarean section, the catheter should be removed once a woman is mobile after a regional anaesthetic, but no sooner than 12 hours after the last 'top-up' dose.
 - Where the catheter has been inserted to monitor fluid balance e.g. postpartum haemorrhage, it will be removed once there is no longer a clinical need and this will normally be decided by the medical team.
 - If the timing for removal of catheter falls after 00:00hrs, this should be delayed until 06:00hrs, to avoid disturbing the woman's sleep and retention occurring unnoticed overnight.
 - Catheters are generally removed early in the day so that the women have adequate time to void during the normal working day should further intervention be necessary.
- All initial voids with volumes and times should be documented on Badgernet. If unable to measure the first void (e.g. the woman has voided in the bath/shower) document this and ensure the subsequent void is measured and the time and volume recorded.
- If the initial void is >200mls, no further monitoring is required.
- If the woman is unable to pass urine within 4 hours of delivery/catheter removal:
 - Commence fluid balance.
 - Ensure the woman is drinking to thirst (approx. 100mls/hour).
 - Consider adequate analgesia.

- Do not encourage over drinking as this may over distend the bladder.
- Advise warm shower/bath to encourage bladder emptying
- **No woman should be allowed to go past 6 hours post-delivery/removal of catheter without voiding.**
- Women experiencing incontinence should be referred to Registrar on call for assessment and discussion with consultant.

4 Referral pathway

What to do if the patient cannot void within 6 hours after delivery/catheter removal or has voided <200mls

- See Appendix A
- If the woman is unable to pass urine after 6 hours or has voided <200mls; the volume in the bladder should be measured by ultrasound scan (or in/out catheter if a scan cannot be performed).
 - If estimated volume < 150mls: encourage fluid intake and reassess in 2 hours
 - If estimated volume 150-400mls: insert an in/out catheter
 - If estimated volume > 400mls: insert a Foley's catheter
- Actual bladder volume
 - If < 500mls: Women should be offered analgesia and asked to attempt to void again within 6 hours. Her post void residual (PVR) should then be checked again by a bladder scanner.
 - If estimated PVR < 150mls on two occasions: no further action is necessary
 - If estimated PVR >150mls: insert a Foley's catheter.
 - ❖ If actual residual <150mls: offer woman removal of catheter and re-attempt at void and residual check (2 x voids with PVRs <150mls required before monitoring can be discontinued).
 - ❖ If actual residual >150mls: send CSU, leave Foley's catheter in for 48 hours on free drainage. Arrange trial without catheter (TWOC) in 48 hours. Patient can go home if appropriate.
 - If ≥500mls but <1000mls: insert a Foley's catheter on free drainage for 48 hours, send CSU. Arrange trial without catheter (TWOC) in 48 hours. Patient can go home if appropriate.
 - If ≥1000mls: insert a Foley's catheter on free drainage for 7 days, send CSU, complete Datix. Arrange trial without catheter (TWOC) in 7 days. Patient can go home if appropriate.
- If a patient is being discharged home with a Foley's catheter in situ; the woman should be advised appropriate hand hygiene and instructed on how to empty the catheter bag. A 2-litre bag for night use and a leg bag for convenience should be provided. Advice should be given to avoid overfilling of either catheter bag, as this can lead to bladder distention or trauma. Signs of urinary infection and catheter blockage should also be discussed.

When the patient returns for trial without catheter (TWOC) after 48 hours

- See Appendix B
- Arrange for the patient to attend in the morning
- The patient should be assessed for any signs of urinary infection - including urinary symptoms, visual analysis of the urine and clinical observations. A catheter urine sample should be sent if there is suspicion of a urinary tract infection. If an infection is suspected, refer to medical team on call for assessment and further management plan.
- The catheter should be removed, the woman encouraged to drink to thirst and void 2-3 hourly. Explain to the woman what to use to measure the urine she passes and that she will need to have a bladder scan to check the post void residual volume. Explain this process will need to be completed at least twice.
- No patient should be left more than 6 hours without assessment.
- If the patient voids >200mls: check the estimated PVR with a bladder scanner:
 - If estimated PVR <150mls on 2 x occasions: reassure and discharge
 - If estimated PVR >150mls: perform in/out catheter
 - If actual PVR <500mls: re-attempt void and residual check.
 - If actual PVR >500mls: insert Foley's catheter for 7 days with free drainage at night and flip-flow valve to drain the bladder 4-6 hourly during the day. Arrange TWOC in 7 days.
- If the patient voids <200mls: check the estimated PVR with a bladder scanner:
 - If estimated PVR <150mls: re-attempt void and residual check
 - If estimated PVR >150mls: perform in/out catheter
 - If actual PVR <500mls: re-attempt void and residual check
 - If actual PVR >500mls: insert Foley's catheter for 7 days with free drainage at night and flip-flow valve to drain the bladder 4-6 hourly during the day. Arrange TWOC in 7 days.
- If the patient is unable to void within 6 hours: estimate bladder volume with bladder scanner
 - If estimated volume <150mls: encourage oral fluids and reassess in 2 hours
 - If estimated volume >150mls: insert Foley's catheter
 - If actual volume <150mls: offer removal of catheter and re-attempt at void and residual check
 - If actual volume >150mls: leave Foley's catheter in for 7 days on free drainage at night and using a flip-flow valve to drain bladder 4-6 hourly during the day. Arrange TWOC in 7 days.

A patient must produce 2 x voids >200mls with PVRs <150mls or 2 x voids with PVRs <1/3rd of the voided volume to successfully complete their TWOC.

When the patient returns for trial without catheter (TWOC) after 7 days

- See Appendix C
- Arrange for the patient to attend in the morning
- The patient should be assessed for any signs of urinary infection - including urinary symptoms, visual analysis of the urine and clinical observations. A catheter urine sample should be sent if there is suspicion of a urinary tract infection. If an infection is suspected, refer to medical team on call for assessment and further management plan.
- The catheter should be removed, the woman encouraged to drink to thirst and void 2-3 hourly. Explain to the woman what to use to measure the urine she passes and that she will need to have a bladder scan to check the post void residual volume. Explain this process will need to be completed at least twice.
- No patient should be left more than 6 hours without assessment.
- If the patient voids >200mls: check the estimated PVR with a bladder scanner
 - If estimated PVR <150mls on 2 x occasions: reassure and discharge
 - If estimated PVR >150mls: perform in/out catheter
 - If actual PVR <500mls: re-attempt void and residual check. If actual PVR >150mls on 2 or more occasions then arrange intermittent self-catheterisation (ISC) teaching and follow-up with a Urogynaecology Specialist Nurse in 2 weeks. If ISC teaching cannot be done on the same day then re-insert the Foley's catheter until the appointment for ISC teaching (free drainage at night and flip-flow valve to drain the bladder 4-6 hourly during the day).
 - If actual PVR >500mls: arrange intermittent self-catheterisation (ISC) teaching and follow-up with a Urogynaecology Specialist Nurse in 2 weeks. If ISC teaching cannot be done on the same day then re-insert the Foley's catheter until the appointment for ISC teaching (free drainage at night and flip-flow valve to drain the bladder 4-6 hourly during the day).
 - If the patient voids <200mls: check the estimated PVR with a bladder scanner
 - If estimated PVR <150mls: re-attempt void and residual check.
 - If estimated PVR >150mls: perform in/out catheter
 - If actual PVR <500mls: re-attempt void and residual check. If actual PVR >150mls on 2 or more occasions then arrange intermittent self-catheterisation (ISC) teaching and follow-up with a Urogynaecology Specialist Nurse in 2 weeks. If ISC teaching cannot be done on the same day then re-insert the Foley's catheter until the appointment for ISC teaching (free drainage at night and flip-flow valve to drain the bladder 4-6 hourly during the day).
 - If actual PVR >500mls: arrange intermittent self-catheterisation (ISC) teaching and follow-up with a Urogynaecology Specialist Nurse in 2

weeks. If ISC teaching cannot be done on the same day then re-insert the Foley's catheter until the appointment for ISC teaching (free drainage at night and flip-flow valve to drain the bladder 4-6 hourly during the day).

- If patient is unable to void within 4 hours: arrange intermittent self-catheterisation (ISC) teaching and follow-up with a Urogynaecology Specialist Nurse in 2 weeks. If ISC teaching cannot be done on the same day then re-insert the Foley's catheter until the appointment for ISC teaching (free drainage at night and flip-flow valve to drain the bladder 4-6 hourly during the day).

A patient must produce 2 x voids >200mls with PVRs <150mls or 2 x voids with PVRs <1/3rd of the voided volume to successfully complete their TWOC.

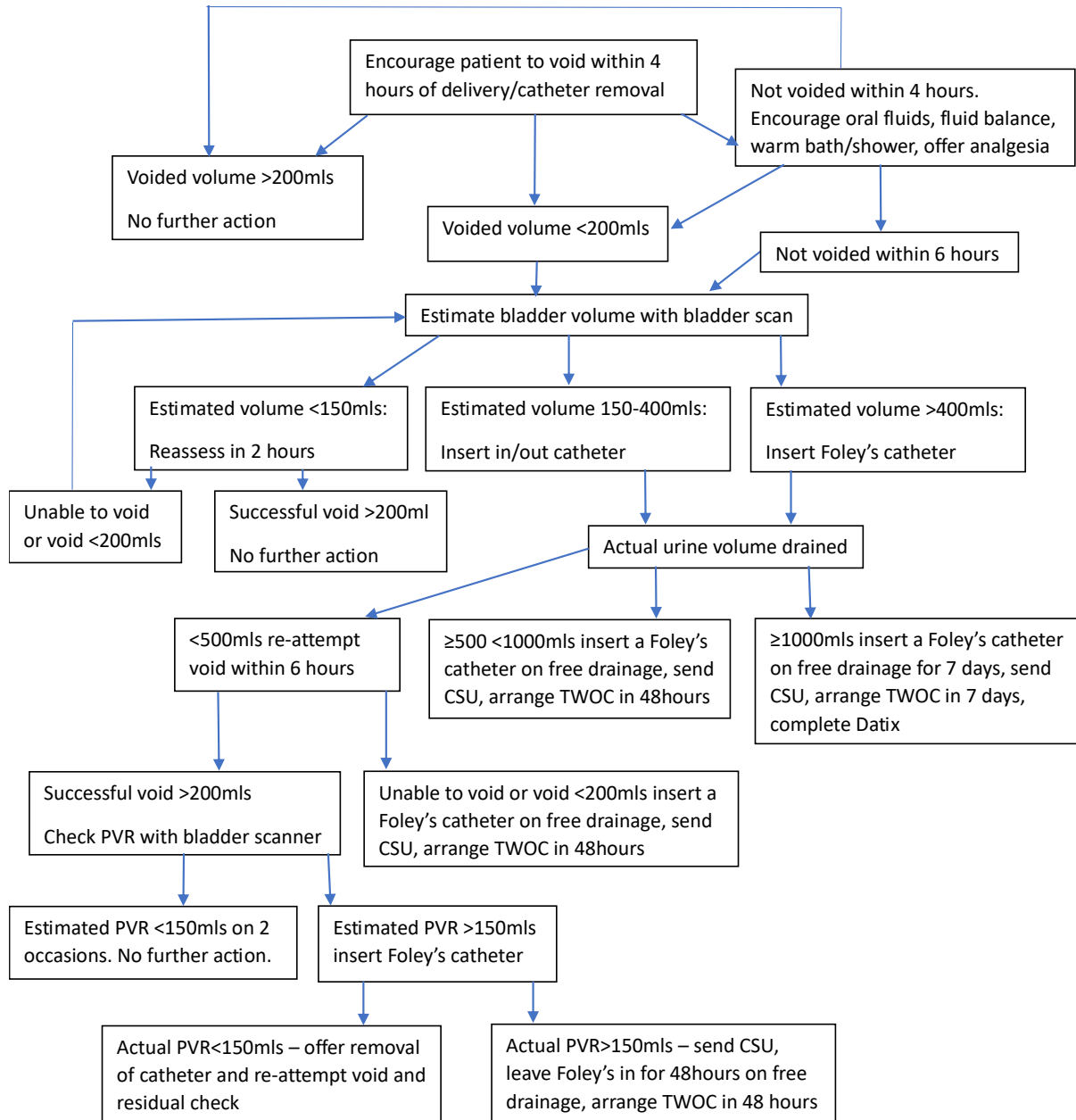
5 References

1. Carley ME, Carley JM, Vasdev G, Lesnick VG, et al. Factors that are associated with clinically overt postpartum urinary retention after vaginal delivery. *Am J Obstet Gynecol* 2002; 187:430-3.
2. Ching-Chung L, Shuenn-Dhy C, Ling-Hong T, Ching-Chang H, et al. Postpartum urinary retention: assessment of contributing factors and long-term clinical impact. *Aus NZJ Obstet Gynaecol* 2002; 42:365-8.
3. Hinman F. Postoperative overdistension of the bladder. *Surg gynecol. Obstet.* 1976;142(6): 901-2.
4. Kearney R, Cutner A. Postpartum voiding dysfunction. *The Obstetrician & Gynaecologist* 2008;110(2): 72-74.
5. NHS litigation authority Clinical Negligence Scheme for Trusts: Maternity Clinical Risk Management Standards [Online]. 2009 March [cited June 2009]; Available from: URL: <http://www.nhsla.com/NR/rdonlyres/42975A74-1BE2-458D-AAAA-56E027871E3F/0/CNSTMaternityStandards.doc>
6. NICE (2021) Caesarean birth NICE Guideline [NG192]
7. Ramsay IN, Torbet TE. Incidence of abnormal voiding parameters in the immediate postpartum period. *Neurol Urodyn* 1993;12:179-83.
8. RCN (2021) – RCN Bladder and Bowel Care in Childbirth. RCN Guidance – clinical professional resource. London (009 553)
9. Kerr-Wilson R, McNally S. (1986) Bladder drainage for caesarean section under epidural analgesia. *BJOG*; 93 (1): pp 28-30 cited in Boston L. (2006) Op.cit.
10. Mona MZ, Pandit M, Jackson S. (2004) National Survey for Intrapartum and Postpartum Bladder Care: Assessing the need for guidelines. *BJOG* 111(8): 874-876.
11. Maclean AB, Cardozo L. Incontinence in Women 2002 London RCOG Press.

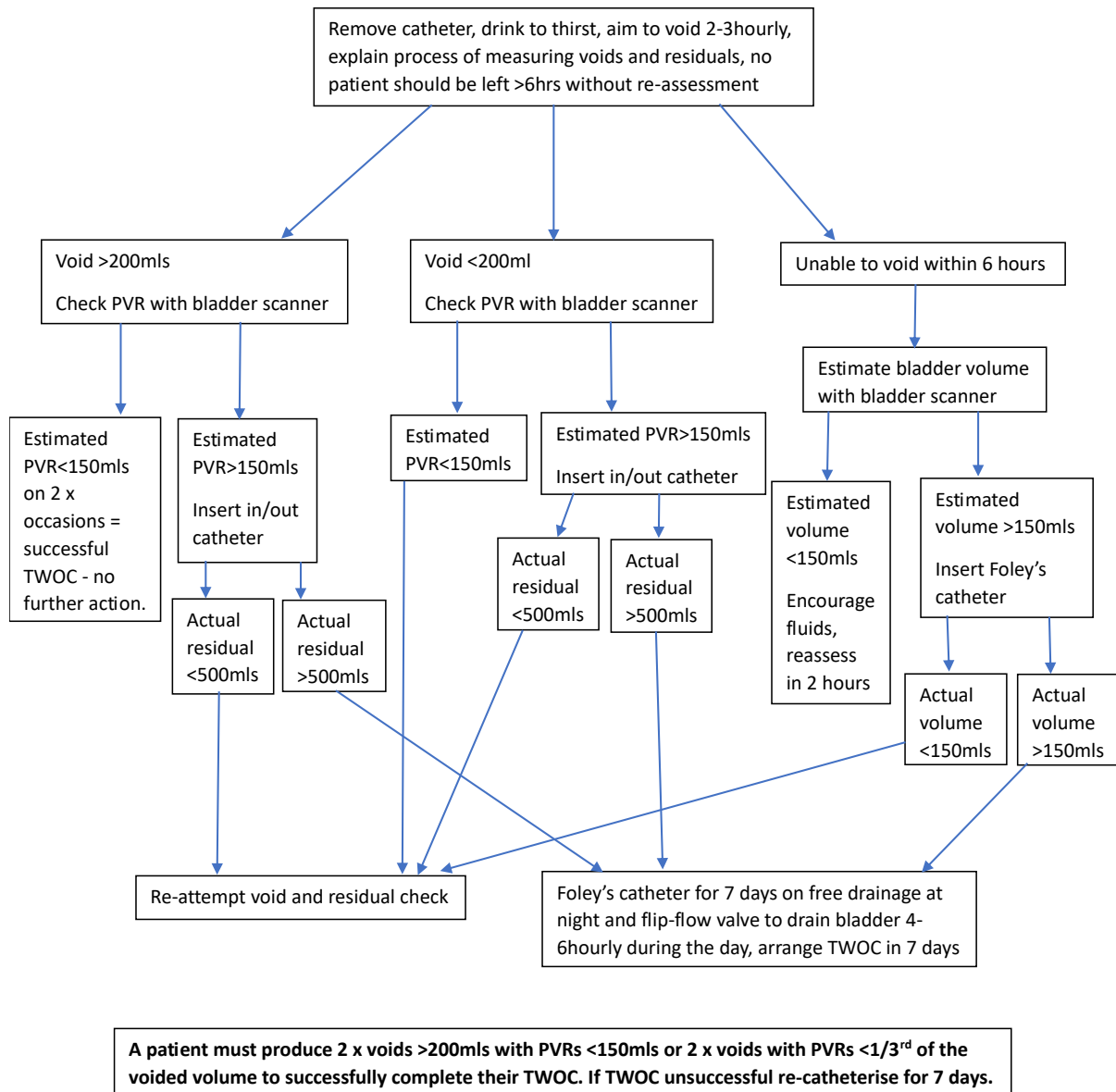
12. Rizvi RM, Khan ZS, Khan Z. (2005) Diagnosis and management of postpartum urinary retention. International Journal of Gynaecology and Obstetrics; (91) : pp 71-72 (consensus)
13. Yip SK, Sahota D, Pang MW, Chanh , A.(2005) Post Partum Urinary Retention. Am J Obstet Gynecol; 106 : pp602-605
14. Delivery related risk factors for covert postpartum urinary retention after vaginal delivery. Femke, EM. Katrienoide, Rengerink Roovers J PWR. International urogynaecology journal (2016)
15. Mulder FEM, et al. Postpartum urinary retention: a systematic review of adverse effects and management. Int Urogynecol J 2014; 25:1605-1612
16. Bladder care in the context of motherhood: Ensuring holistic midwifery practice. Lamb, K Sanders, R (2016) British Journal of Midwifery 24(16)
17. NICE guidelines CG190 Intrapartum care: care of healthy women and their babies during childbirth. 2014
18. National Institute for Health and Clinical Excellence. (2021). Postnatal Care. London: NICE (NG194). available at: www.nice.org.uk
19. National Institute for Health and Clinical Excellence. (2021). Caesarean Birth. London: NICE (NG192). available at: www.nice.org.uk

Pathway Maps

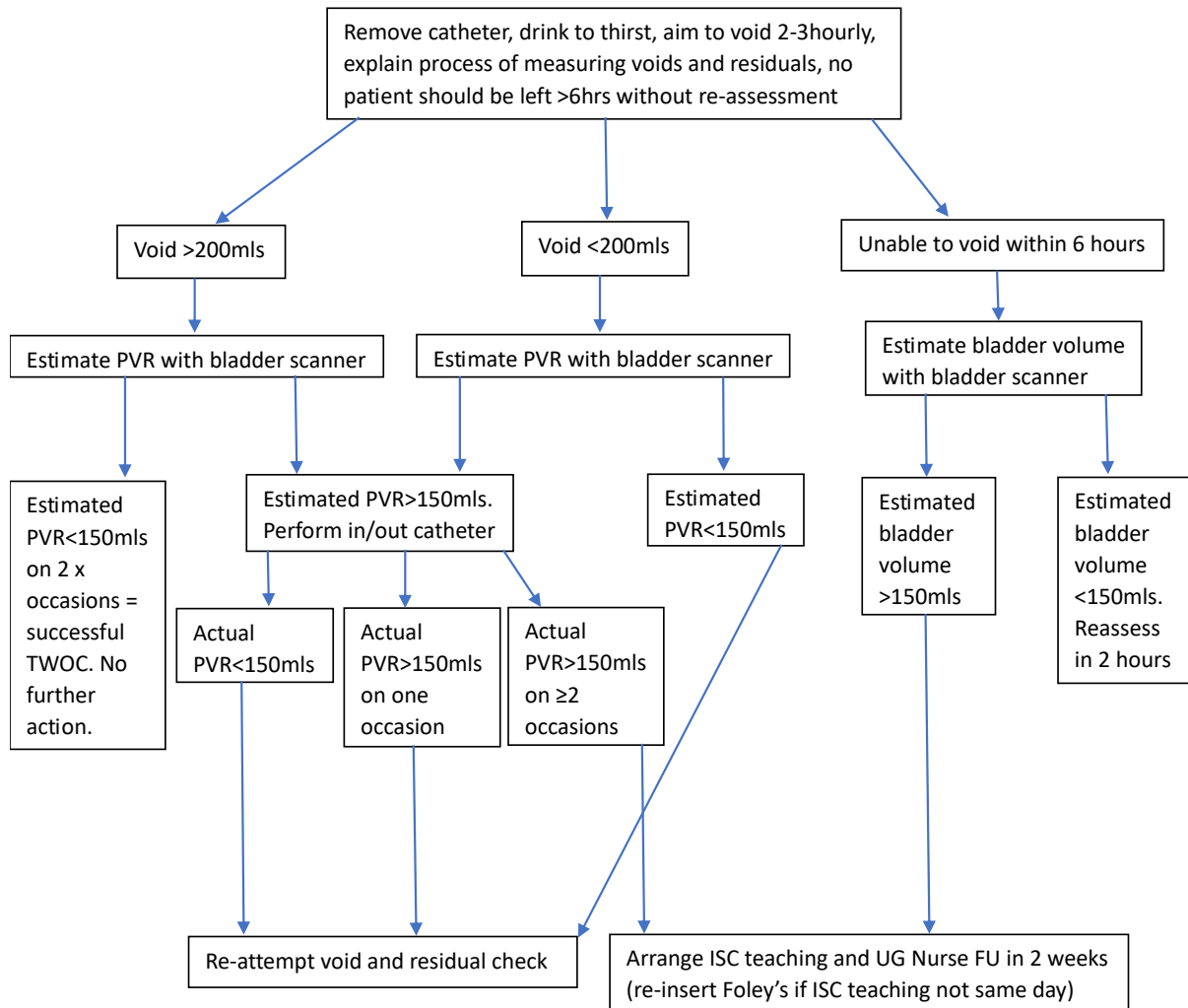
Appendix 1 What to do if the patient cannot void within 6 hours after delivery/catheter removal or has voided <200mls



Appendix B When the patient returns for trial without catheter (TWOC) after 48 hours



Appendix C When the patient returns for trial without catheter (TWOC) after 7 days



A patient must produce 2 x voids >200mls with PVRs <150mls or 2 x voids with PVRs <1/3rd of the voided volume to successfully complete their TWOC. If TWOC unsuccessful, arrange ISC teaching and UG Nurse FU in 2 weeks (re-insert Foley's if ISC teaching not same day).