Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

INSTITUTE OF OBSTETRICIANS & GYNAECOLOGISTS
ROYAL COLLEGE OF PHYSICIANS OF IRELAND

CLINICAL PRACTICE GUIDELINE

Urinary Retention

Management of urinary retention in pregnancy, post-partum and after gynaecological surgery

Institute of Obstetricians and Gynaecologists,
Royal College of Physicians of Ireland
and
Directorate of Clinical Strategy and Programmes,
Health Service Executive

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Contents

1. Revision History

Version No.	Date	Modified By	Description
1.0			

2.Key Recommendations

1.Midwives, nurses and medical staff should be aware of

- The risk factors associated with overt and covert urinary retention.
- Women with pre-existing voiding difficulties.

2.All women should be closely monitored and encouraged to void within four to six hours post-delivery or removal of the urinary catheter as early identification is the key to management of urinary retention.

3.The timing of the **first two voids** post-delivery or removal of the catheter should be recorded. It is recommended that the first two volumes of urine passed are measured.

4. Symptoms of voiding dysfunction should be treated with conservative measures, which includes advice on how to manage difficulty emptying the bladder (See appendix 1).

5.Ensure adequate pain relief is given and check the perineum in obstetric patients for trauma.

6. Post-operative or post-delivery women should **not** be left more than **six hours** without voiding and, if unable to void spontaneously, urinary retention should be suspected and the abdomen palpated for a distended bladder.

7.Confirmation of retention should be made by a bladder scan or by catheterization and the residual urine volume measured.

8.All staff performing bladder ultrasound assessments should do so only after completing competency-based training.

9.Measurement of residual urine should be made with a size 12 - 14 single use urinary catheter, ideally within five minutes of bladder emptying to accurately measure the post void residual. If there is a time delay of more than 15 minutes it will not be an accurate post void residual.

10.Once the catheter is in situ, allow the bladder to drain for up to 10 minutes or until the urine stops flowing. Use gravity to assist drainage by keeping the catheter below the level of the bladder and without kinks in the tube.

11. The catheter should be removed once the woman is mobile and preferably during the morning hours after 6 am to facilitate the measurement of first two voids.

12. On insertion of an in-dwelling catheter, a specimen of urine should be obtained and screened for Microbiology.

13. Fluid intake and output charts must be completed for women with urinary retention, and each woman should be encouraged to drink for thirst up to two litres (2.7 litres if breastfeeding) of fluid in a 24 hour period (Panel & Nda 2010)

14. Women who have ongoing voiding difficulties should be educated in the use of self-intermittent catheterisation (SIC).

15. Women diagnosed with urinary retention must be referred promptly to the physiotherapist/bladder care nurse/midwife for advice and support.

16. All women diagnosed with urinary retention who require SIC must receive a outpatient follow-up appointment with the obstetrician within two weeks. Women with ongoing voiding dysfunction should be referred to a Urogynaecologist or Urologist and bladder care support nurse if required.

3.Purpose and Scope

To provide the multidisciplinary team with consistent guidance and advice on managing voiding dysfunction in women during pregnancy, labour and the immediate postnatal period, and following gynaecological surgery.

To provide evidence-based information on managing urinary retention in order to ensure a rapid return to normal bladder function and reduce the risk of long-term complications for women.

These guidelines are intended for healthcare professionals, particularly those in training, who are working in HSE-funded obstetric and gynaecological services. It is designed to guide clinical judgement, but not replace it. In individual cases, a healthcare professional may, after careful consideration, decide not to follow a guideline if it is deemed to be in the best interests of the woman.

4.Background and Introduction

Definition

Urinary retention (UR) is the inability to empty the bladder normally.
Overt UR (acute) occurs when there is a sudden inability to spontaneously void (S.K. Yip et al. 2004).
Covert UR occurs when a woman passes small amounts of urine and has an elevated post-void residual urine volume greater than 150ml with no symptoms of UR (Carley et al. 2002).
Postpartum voiding dysfunction is defined as failure to pass urine spontaneously within six hours of vaginal delivery or catheter removal (RCOG 2011; S.K.Yip et al. 2004) If postpartum voiding dysfunction is not diagnosed promptly, it can lead to bladder over-distension and under activity, and prolonged voiding dysfunction, with sequelae such as incontinence (Groutz et al. 2011) and recurrent urinary tract infections (UTIs) (Rizvi et al. 2005). Postpartum incontinence (involuntary leakage of urine) has been linked with depressive symptoms and an adverse impact on the woman's psychological wellbeing (Fritel et al. 2016).

Persistent postpartum UR is defined as the inability to void spontaneously by the third day postpartum despite the use of intermittent catheterisation (Groutz et al. 2011).

Bladder symptoms that should raise clinical suspicion of voiding dysfunction include urinary frequency, voiding small amounts, slow or intermittent stream, bladder pain or discomfort, straining to void, reduced sensation to void, incomplete emptying of the bladder and urinary incontinence (Lim 2010).

UR postpartum can be silent, and some women may be unaware of the large volume of urine in the bladder or that they are unable to void to completion. This may occur because of reduced bladder sensation and contractility due to injury or trauma to the nerves supplying the bladder (Ismail & Emery 2008).

Aetiology

UR can occur at any stage of pregnancy, or in the early postpartum period. The pathophysiology of postpartum UR remains poorly understood but the causes are likely to be multifactorial and include physiological, neurological and mechanical factors.

Post Gynaecological surgery

Postoperative urinary retention is a frequent consequence of gynaecological surgery, especially with surgical correction of urinary incontinence and pelvic organ prolapse. Post surgical changes leading to UR are oedema, inflammation damage to peripheral nerves, over correction of the urethral angle, post operative pain and neuraxial anaesthesia (Geller 2014). Constipation can also be a risk factor.

Pregnancy

The elasticity of the lower urinary tract is increased during pregnancy, partly because of the hormonal-induced reduction in smooth muscle tone. Bladder capacity increases during pregnancy, beginning in the third month due to the reduction in detrusor (bladder) muscle tone (Glavind et al. 2003).

Intrapartum

The use of regional analgesia (for labour or surgery) may cause neurological deficits, such as impaired reflex mechanism, voluntary relaxation of the sphincter urethrae, periurethral and pelvic floor muscles, all of which can lead to micturition difficulties. Detrusor muscle function and contractility impairment may result from massive over- distension of the bladder.

In a study carried out by Weiniger et al.(2006) women who received neuraxial analgesia had significantly larger post-void residuals (PVR), and were more likely to need bladder catheterisation compared with women who did not receive neuraxial analgesia. Women should be encouraged to empty their bladder every three to four hours (Weiniger et al. 2006; Kearney & Cutner 2008).

Instrumental vaginal delivery may also result in a mechanical urethral outlet obstruction secondary to perineal oedema, hematomas or direct bladder trauma. Pelvic and pudendal nerve trauma can impair the initiation of micturition.
Carley et al.(2002) suggested that the pain caused by urethral and perineal muscle injury during instrumental delivery can make urination difficult because the pelvic floor muscles are unable to relax sufficiently to initiate micturition.
Prolonged first and second stages of labour may lead to pelvic nerve injury due to prolonged pressure (Lim 2010). Labours lasting longer than 12 hours for both the first and second stages are associated with higher incidence of UR (Yip et al. 1997)

Postpartum

Postpartum, there is no longer the pressure from the gravid uterus onto a hypotonic bladder which may increase the hormonal effect and lead to incomplete emptying. These changes can persist for up to six to eight weeks of the postpartum period, and may result in symptoms of voiding dysfunction (Liang et al. 2007).
Other risk factors for UR include oxytocin infusion (because of the post-infusion increase in urine production) (Blomstrand et al. 2015).
Constipation has also been cited as a risk factor (Basson et al. 2013).

Incidence

The reported incidence of postpartum voiding dysfunction varies considerably due to differences in the definition, methods of diagnoses and mode of delivery. Overt UR incidences range of 0.45% (Carley et al. 2002), 1.7% to 17.9% (Saultz et al. 1991) and from 0.05% to 37% (Lim 2010) have been reported. Incidences of covert UR range from 9.7% (Yip et al. 1997) to 37% (Ismail & Emery 2008). The incidence of UR following caesarean section varies between 3.38% (Chai et al. 2008) and 11.5% (Liang et al. 2007). However, if post-void residuals are not checked and recorded, it may not be possible to identify these women (Carley et al. 2002). As a result, the actual incidence may be higher than reported, and as many as 5% of these women may have significant and long-term bladder dysfunction.

Risk factors

There are a number of known risk factors which have been identified by various authors and have been summarized in Table 1 (Carley et al. 2002; Ching-Chung et al. 2002; Liang et al. 2015; GROUTZ et al. 2001; Mulder et al. 2012; Musselwhite et al. 2007; Pifarotti et al. 2014; Stanley & Conner 2014).

Additional care should be taken with the continued use of oxytocin. Due to the drug's anti-diuretic effect, it is not possible to foresee all women who will have voiding difficulties. All postpartum and post-surgery women should be monitored closely to ensure that normal bladder function returns and is maintained.
Early diagnosis and prompting women to pass urine from four to six hours postpartum, measuring the void and using conservative measures can prevent bladder distension and may reduce the likelihood of developing voiding dysfunction (Buchanan et al. 2014).

Table 1 Risk Factors

During pregnancy	Postpartum	Gynaecology
Uterine fibroids	Nulliparous women	Post anterior / posterior surgery
Congenital uterine anomalies	Prolonged labour/ second stage	Hysterectomy, mid urethral sling, TOT, TVT
Pelvic adhesions	Assisted / instrumental delivery	Laparoscopy Intravesical injection of botox
Retroverted uterus	Excessive perineal injury Mediolateral episiotomy	Infertility Investigations
Pre-existing voiding difficulties	Neuraxial anaesthesia	Laparotomy
	Babies weighing ≥4kg Large fetal head circumference	
	Caesarean section	Other Pelvic surgery
	Shoulder dystocia	
	Previous history of urinary retention	Previous history of urinary retention
	Manual removal of placenta	
	Post-operative immobility and wound pain Constipation	Post-operative immobility and wound pain Constipation
	English not first language Communication barriers	English not first language Communication barriers

Diagnosis of UR

Clinically, a tender, palpable, distended bladder with symptoms of voiding dysfunction should be investigated (S. K. Yip et al. 2004). Abdominal palpation to evaluate uterine involution should be performed to assess if the uterus is felt above the umbilicus or is off set to one side which may be an indication of urinary retention (Lamb & Sanders 2016).However, abdominal palpation can be difficult so the two most commonly used methods for diagnosis are bladder scanning, either by a hand held bladder scanner or real-time ultrasound and catheterisation.

Bladder scanning

There are conflicting views about the accuracy of bladder ultrasound scan results in the immediate postpartum period. Measurements may be inaccurate because

of the shape and size of the postpartum uterus, the echogenic nature of the debris in the uterus, the presence of abdominal scars, the thickness of the abdominal wall in obese women, and the inclusion of blood within the uterus. Both the authors Pallis & Wilson (2003) and Blomstrand et al. (2015) found the ultrasound bladder scanner over-measured compared to emptying the bladder with a urinary catheter.

In contrast, Lukasse et al. (2007) found that the ultrasound scanner was a reliable screening instrument for detecting PUR with a clinical threshold of 400mls. Although the volume measured by the catheter was higher, this may be due to the fact there was a delay of up to 10 minutes between the scanning and catheterisation. Yip et al. (2004) concluded that the use of bladder scanning was an accurate non-invasive method of diagnosis which limited the need for catheterisation in women with proven UR. Nusee et al. (2014) and Mulder et al. (2016) compared ultrasound bladder scanning with catheterisation for measuring the PVR and found no statistically significant differences between the two methods. Barrington et al. (2001) found that the bladder scan was accurate for measuring postpartum bladder volume post caesarean section.

All staff learning to use an ultrasound bladder scanner must receive competency-based training in advance.

Catheterisation

Catheterisation to empty the bladder is currently regarded as the gold standard for measuring bladder volume (Gyampoh et al. 2004; Pallis & Wilson 2003). However, it carries several risks, including infection, haematuria, urethral trauma and patient discomfort (Kalsi et al. 2003), and subsequent urethral stricture formation (Yip et al. 1997).

The two factors which must be considered when measuring the post void-residual volume (PRV) are; the diuresis (ml/min of urine production) occurring at the time and the time delay between micturition and measurement. Haylen & Lee (2008) report that PRV can be efficiently measured if catheterisation is performed within five minutes of voiding.

Garcia et al. (2007) found that Foley's catheters can develop air pockets in the tube when the patient has been bed bound for at least two hours which can prevent urine draining. Thus the tube requires manipulating to facilitate drainage so that the catheter is below the bladder. A coated catheter is likely to cause less trauma to the urethra on insertion and infection. A closed-bag system also reduces the rate of infection(Geng et al. 2012)

There is no consensus in the literature on the length of time that the catheter should remain in-situ following a significant residual volume of >150 ml or on the use of intermittent or free flow drainage (S. K. Yip et al. 2004). Protocols vary from using an indwelling catheter for a period of 24 hours (Lim 2010) to 24-48 hours (Gursoy et al. 2015;) 72 hours (Pifarotti et al. 2014) and from one week (Lim 2010; Pifarotti et al. 2014) and up to two weeks (Kearney 2008) if the perineum is still painful and swollen.
Residual volumes >1,000ml are at an increased risk of long term voiding dysfunction (Pifarotti et al. 2014; Lim 2010).
MacKensie (2002) recommends removal of catheter early in the morning to prevent disturbing sleep. (Griffiths & Fernandez (2010) found there were higher residual volumes associated with catheters that were removed at midnight.

The risk of developing bacterial infection increases with multiple catheterisation and approximately 40% of women will develop a UTI when there is an indwelling catheter for>24 hours (S. K. Yip et al. 2004). Refer to Catheter acquired urinary tract infections guideline for management of suspected UTI (Health Protection Surveillance centre 2011).
The use of self-intermittent catheterisation (SIC) has been employed successfully to drain any residual urine following spontaneous voiding. This enables the bladder to normally void first and then SIC is continued until the PRV is reduced to 150ml.
UR is common post pelvic organ prolapse (POP) surgery and, left undiagnosed, may result in severe morbidity such as renal failure (Mulder et al. 2012). Hakvoort et al. (2011) found that SIC reduced the incidence of bacteriuria and UTI following vaginal prolapse surgery.

Women can be taught SIC to facilitate earlier discharge from hospital, and follow-up advice and support can be provided by community midwives or dedicated continence nurse specialist.

Prognosis

For the majority of women, normal bladder function will return. Yip et al.(1997) found that in 67 patients with covert retention, the PVR had resolved by four days postpartum. Carley et al. (2002) found in their study of 51 patients with overt retention that, 45.1% had a resolution by 48 hours, 29.4% by 72 hours and 25.5% by >72 hours. 10 patients had persistent UR by the time of discharge but all resolved within 45 days post -partum. However, the greater the residual volumes, the more likely that persistent bladder dysfunction will occur and require longer periods of catheterisation. Residual volumes of 700-750ml or more, which is greater than normal bladder capacity, have resulted in poorer prognosis (Lim 2010).

In a four-year follow-up study, Yip et al. (2002) found there was no difference in the prevalence of urinary incontinence in women with and without postpartum UR. However, in this study, the women were not asked about voiding dysfunction.

Onwards referral

With earlier discharge from hospital being usual, it is important that all women are educated regarding good bladder health, and that the signs of voiding dysfunction are noted and action is taken promptly. Referral to a bladder care specialist nurse /midwife continence advisor (MacKensie 2002) or women's health physiotherapist (Zaki et al. 2004) for information regarding fluid management, bladder retraining, good voiding techniques and correct defecation dynamics is advisable. Physiotherapy interventions for reducing urinary incontinence after an operative vaginal delivery is recommended (RCOG 2002). All women diagnosed with urinary retention who require SIC should receive an outpatient follow-up appointment with the obstetrician within two weeks. Women with ongoing voiding dysfunction should be referred to a Urologist/Urogynaecologist.

Developing the guideline

There is no consensus about the diagnosis and management of postpartum voiding dysfunction (Zaki et al. 2004). As a result, maternity units have developed their own guidelines to manage UR both nationally and internationally. A review of these guidelines have been used to gain consensus for the management of UR.

Recommendation for management of UR

National Institute for Health and Care Excellence (2011) recommends '*the urinary catheter should be removed once the women are mobile after a regional anaesthetic but no sooner than 12 hours after the last epidural top-up dose'.*

Royal College Obetricians Gynaecologists(2002) recommends that '*no post operative or post-delivery patient should be left more than 6 hours without voiding or catheterisation'*.

National Institute for Health and Clinical Excellence (2015) recommends that *'women who have not voided by 6 hours postpartum should be encouraged to micturate using measures such as taking a warm bath or shower. If these measures are not immediately successful; bladder volume should be assessed and catheterisation considered as an urgent action'.*

Royal College Obstetrians Gynaelcologists(2011) recommends:
'The timing and volume of the first void urine should be monitored and documented, as a minimum. The post-void residual urine should be measured if UR is suspected. Women should be offered physiotherapy-directed strategies to prevent urinary incontinence'.

Further research is needed.

This guideline has been developed using the above recommendations, literature review and a review of national and international guidelines. Further research is recommended to evaluate the management of postpartum, post-surgery UR. There is no compelling evidence on the specific management of UR or guidelines

for catheter protocols. However, what is important is that the woman with UR, or suspected UR, receives prompt diagnosis and urgent action.

5.Methodology

Medline, EMBASE and Cochrane Database of Systematic Reviews were searched using terms relating to urinary retention, female, postpartum, pregnancy. Searches were limited to humans and restricted to the titles of English language articles published between 2000-2016.Reference lists from key papers were searched by hand. Relevant meta-analyses, systematic reviews, intervention and observational studies were reviewed.

Guidelines reviewed included:

- Rotunda Hospital (2014) Urinary retention
- National Maternity Hospital (2013) Care and Management of postpartum urinary retention
- Coombe Women and Infants University Hospital (2014) Prevention and Management of postpartum retention.
- Nottingham University Hospitals NHS Trust (2016) Guideline for postpartum bladder care.
- Royal Cornwall Hospitals NHS Trust (2016) Bladder care for the obstetric patient - management of postpartum urinary retention.
- Canterbury District Health Board(2012) Intrapartum and postnatal bladder care.
- ACT Health(2009)
- South Australia Perineal Practice Guidelines (2012) Postpartum bladder dysfunction
- Auckland District Health Board (2012) Bladder Care Postpartum and Management of urinary retention
- Women and Newborn Health Service, King Edward Memorial Hospital. (2015) Bladder management: During labour and the postnatal period

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6.0 Clinical Guidelines

6.1 Antenatal period

The woman usually presents in distress with a history of not being able to empty her bladder (overt retention), increasing abdominal pain and bladder distension.

6.1.2

Obtain the relevant history including: urinary symptoms, fluid intake, length of time since last normal void and previous history of urinary difficulties, and or constipation.

6. 1.3

An abdominal examination should be performed noting tenderness and distension of the bladder.

6. 1.4

Adequate analgesia should be administered to relieve pain.

6. 1.5

Apply conservative measures for example, ensuring adequate fluid intake, walking to the toilet, running the water tap, allowing privacy, sitting to empty the bladder and use of a warm shower.

6. 1.6

If these measures are unsuccessful, catheterisation is necessary using a size 12-14 urinary catheter.

- If the residual volume is >150ml, and <500ml, insert an indwelling catheter for 24 hours, and leave on continuous drainage using a closed system to rest the bladder.
- >500ml, and <1000ml, leave on continuous drainage for 48 hours.
- >1000ml, leave on continuous drainage for three to five days. (With significant bladder volumes, consider a longer period of catherisation to rest the bladder).
- When a woman requires indwelling catheterisation, a specimen of urine should be retained and sent to the laboratory for culture and sensitivity.

6.1.7

If the woman is discharged home with the catheter insitu, specific arrangements must be made to return to the hospital for a trial without catheter (TWOC)

The woman should be educated on good bladder care and management of the

catheter prior to discharge.

6.1.8

At readmission for TWOC, encourage the woman to void within four to six hours of catheter removal. If the woman can void urine spontaneously, and the volume is >200ml on two separate occasions with normal bladder sensation and a residual of <150mls, no further action is required.

The woman can be discharged home with education and advice on what to do if symptoms reoccur. If TWOC is unsuccessful, the woman should be taught to void first and then use SIC until residual volumes <150ml on two separate occasions. If the woman is unable or unwilling to use SIC, repeat the catheter procedure as in 6.1.6 and a further TWOC until bladder is voiding normally.

6.2 Intrapartum Care.

A distended bladder during labour can interfere with the descent of the presenting part, or make expulsion of the placenta difficult. A palpable bladder can displace the uterus, and indicate the need for voiding or catheterisation.

6.2.1

A fluid intake and output chart should be completed during labour recording all oral, intravenous fluids and urine voided. Be aware of oxytocin use.

6.2.2

Women should be encouraged to empty their bladder every three to four hours. If unable to pass urine during labour, consideration should be given to using either intermittent or an indwelling catheter up to commencement of second stage of labour.

6.2.3

During the active (pushing) phase of the second stage of labour, the indwelling catheter **must** be removed to avoid trauma to the urethra.

6.2.4

Following vaginal birth, consider leaving the catheter in situ for a minimum of six hours after the last top-up or discontinuation of neuraxial anaesthesia. If significant perineal trauma has occurred including obstetric anal sphincter injury, consider leaving the catheter insitu for up to 12 hours or longer, depending on the degree of perineal or vulval oedema, and the woman's level of pain.

6.2.5

Following delivery, the woman should be encouraged to void, If she has not passed urine prior to leaving the delivery suite, the postnatal ward staff must be informed so that the timing and volume of the first void can be recorded accurately.

6.3 Caesarean section

Bladder sensation may take up to 10 hours or more to return post caesarean section under spinal anaesthesia. The urinary catheter should be removed once the woman is mobile after a regional anaesthetic, but no sooner than 12 hours after the last epidural top-up dose. If the catheter removal time is estimated to be after six pm, the catheter should be left in place overnight to prevent sleep disturbance and enable the TWOC to take place when the woman is mobile.

6.4 Postnatal Management

6.4.1 Bladder care following delivery/ removal of the catheter.

For obstetric patients, check for significant vulval oedema prior to removal of urinary catheter. If the degree of oedema is judged to be severe, consider leaving the catheter until the swelling and pain has subsided.

6.4.2

All women should record the time of the first two voids post-delivery/surgery or following removal of the catheter. The patient should record the volume of urine voided and report to staff.

The first void should be within four to six hours of giving birth.

Encourage regular voiding in the immediate postpartum period.

6.4.3

If the woman has voided 200ml or more spontaneously on two occasions and has normal bladder sensation, no further action is required.

6.4.4

If the woman has not emptied her bladder within four to six hours of giving birth, start conservative measures and commence strict fluid input and output chart.

6.4.5

Ensure adequate pain relief is given.

For obstetric patients check the perineum for any swelling and advise on the use of disposable cold compress (East et al. 2007).

6.4.6

Offer each woman advice and written information on how to empty the bladder (Appendix 1).

6.4.7

Manage constipation if required.

6.4.8

If conservative measures are unsuccessful within six hours of giving birth, suspect and assess the woman for UR and dehydration.

6.5 Diagnosis

If the woman has not passed urine at six hours postpartum, an abdominal examination should be performed noting tenderness or pain, uterine position, displacement, abnormal fundal height and a palpable distended bladder.

6.5.1

Assess for UR by a bladder scan (if available) followed by catheterisation to drain the bladder using either a size 12-14 urinary catheter, measure and record the residual urine, using gravity to assist adequate drainage.

6.5.2 Complete and submit a clinical risk form.

6.6 Management

6.6.1

If the volume of urine obtained by catheterisation is

- >150ml and <500ml, leave urinary catheter for 24 hours on continuous drainage using a closed system.
- If the volume of urine obtained >500ml and <1000ml, leave the catheter in situ on continuous closed drainage for 48hours.
- If the volume of urine obtained >1,000ml, leave the catheter in situ on continuous drainage for three to five days.

6.6.2

When a woman requires indwelling catheterisation, a specimen of urine should be retained and sent to the laboratory for culture and sensitivity.

6.6.3

The senior Obstetrician, Physiotherapist/Bladder care Continence Nurse/Midwife should be informed of the acute episode and become involved in on-going care.

6.6.4

If woman is discharged home with catheter insitu, arrangements must be in place for the woman to return to the hospital for a TWOC

The woman should be educated about good fluid intake, avoidance of constipation, perineal, hand hygiene and catheter care prior to discharge from hospital.

6.7 Trial without CATHETER (TWOC)

The catheter should be removed in the morning, ideally after **six am.**

If the estimated time for catheter removal is after six pm in the evening, it is advisable to leave the catheter in situ until the following morning to enable measurement of the next two voids.

6.7.1

Record the time of catheter removal on the intake and output chart.

6.7.2

Record the woman's symptoms .e.g. If the woman feels an urge to void or no sensation is felt. If she is not emptying her bladder completely or experiences any urinary incontinence.

6.7.3

Encourage fluid intake

6.7.4

Encourage the woman to void within four to six hours of catheter removal.

If successful, and the volume voided spontaneously is >200ml and residual <150mlon **two separate occasions,** and the woman has **normal** bladder sensation, no further action is required.

The woman can be discharged home, and offered advice on good bladder care and what to do if symptoms reoccur and a designated contact person identified.

6.8 Unsuccessful TWOC

If after four to six hours, the void is <200ml or woman is unable to void, check the residual volume. If the post void residual is >150ml the women should be taught SIC. If the women is unable or reluctant to perform SIC, a second period of catheterisation is repeated as in **section 6.6** followed by another trial without the catheter until the bladder is voiding normally.

6.9 Self-intermittent catheterisation (SIC)

Commence intermittent catheterisation (IC) every three to four hours until the woman is able to perform SIC and given information on same.

6.9.1

The woman must attempt to empty her bladder **prior** to catheterisation. Measure the void passed and residual volume passed by catheter or bladder scan, and record these separately on the intake and output chart.

6.9.2

The woman can be discharged home once she feels confident with performing SIC every four hours during the day. Before discharge from hospital, the woman should be given a prescription for a supply of catheters and a supply of intake and output charts to complete at home and bring back to outpatient clinic. Assess that the woman understands the information, and has the literacy and numeracy skills to complete the intake and output chart and knows how to manage or avoid constipation.

6.9.3

On discharge from hospital, the woman **must** be given written and oral information on the need to return to the hospital if she experiences difficulties with SIC or has symptoms of a UTI and who is the designated contact person.

6.9.4

All women diagnosed with urinary retention who require SIC must receive a follow-up outpatient appointment with the Obstetrician within two weeks. Women with ongoing voiding dysfunction should be referred to a Urologist/Urogynaecologist.

6.8.5

SIC is continued until the woman has residual volumes <150ml on two separate occasions.

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8. Implementation Strategy

- Distribution of guideline to all members of the Institute and to all maternity units.
- Distribution to the Director of the Acute Hospitals for dissemination through line management in all acute hospitals.
- Implementation through HSE Obstetrics and Gynaecology programme local implementation boards.
- Distribution to other interested parties and professional bodies.

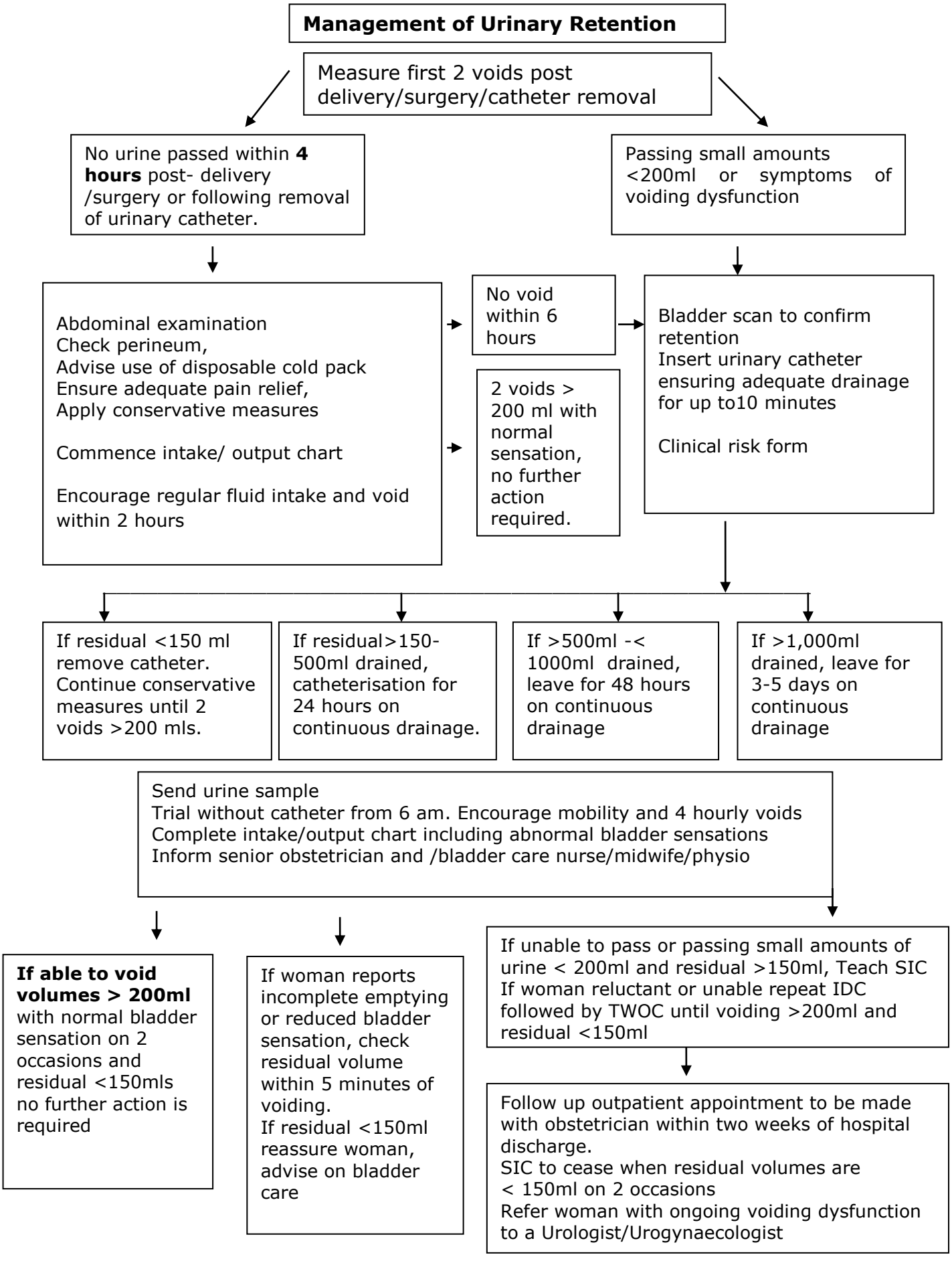
9.Qualifying Statement

These guidelines have been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. Clinical material offered in this guideline does not replace or remove clinical judgement or the professional care and duty necessary for each pregnant woman. Clinical care carried out in accordance with this guideline should be provided within the context of locally available resources and expertise.

This Guideline does not address all elements of standard practice and assumes that individual clinicians are responsible for:

- Discussing care with women in an environment that is appropriate and which enables respectful confidential discussion.
- Advising women of their choices and ensure informed consent is obtained.

- Meeting all legislative requirements and maintaining standards of professional conduct.
- Applying standard precautions and additional precautions, as necessary, when delivering care.
- Documenting all care in accordance with local and mandatory requirements.


Management of Urinary Retention
Measure first 2 voids post delivery/surgery/catheter removal
No urine passed within 4 hours post- delivery /surgery or following removal of urinary catheter.
Passing small amounts <200ml or symptoms of voiding dysfunction
Abdominal examination
Check perineum,
Advise use of disposable cold pack
Ensure adequate pain relief,
Apply conservative measures
Commence intake/ output chart
Encourage regular fluid intake and void within 2 hours
No void within 6 hours
2 voids > 200 ml with normal sensation, no further action required.
Bladder scan to confirm retention
Insert urinary catheter ensuring adequate drainage for up to10 minutes
Clinical risk form
If residual <150 ml remove catheter. Continue conservative measures until 2 voids >200 mls.
If residual>150-500ml drained, catheterisation for 24 hours on continuous drainage.
If >500ml -< 1000ml drained, leave for 48 hours on continuous drainage
If >1,000ml drained, leave for 3-5 days on continuous drainage
Send urine sample
Trial without catheter from 6 am. Encourage mobility and 4 hourly voids
Complete intake/output chart including abnormal bladder sensations
Inform senior obstetrician and /bladder care nurse/midwife/physio
If able to void volumes > 200ml with normal bladder sensation on 2 occasions and residual <150mls no further action is required
If woman reports incomplete emptying or reduced bladder sensation, check residual volume within 5 minutes of voiding.
If residual <150ml reassure woman, advise on bladder care
If unable to pass or passing small amounts of urine < 200ml and residual >150ml, Teach SIC
If woman reluctant or unable repeat IDC followed by TWOC until voiding >200ml and residual <150ml
Follow up outpatient appointment to be made with obstetrician within two weeks of hospital discharge.
SIC to cease when residual volumes are < 150ml on 2 occasions
Refer woman with ongoing voiding dysfunction to a Urologist/Urogynaecologist

Appendix 1. Difficulty Emptying Your Bladder

If you have difficulty emptying your bladder or have no *urge* to pass urine, this means you are not fully emptying your bladder. If the bladder is not completely emptied then the urine that is left behind can build up over time, this is known as **Urinary Retention**.

What urinary retention might feel like?

- Bladder pain or discomfort
- No *urge* to empty the bladder
- Difficulty passing urine
- A sense of not fully emptying
- A slow or a start/stop stream of urine
- A need to strain to pass urine
- Leakage from an overly full bladder

How much you should drink?

You need to be drinking to thirst, around two litres of fluid each day. (2,700mls if you are breastfeeding). Your drinks should be spread out over the day so you don't suddenly overload the bladder. Not drinking enough fluid can irritate the bladder and make symptoms worse. It is best to drink water or herbal teas and reduce the amount of tea, green tea, coffee and fizzy drinks as the caffeine in them can irritate your bladder.

How to empty the bladder fully

It is normal to empty your bladder approximately every three hours during the day. The best position to sit on the toilet seat and do not hover above it.

- Use a foot stool or raise your heels so that your knees are higher than your hips.
- Lean forward, with your feet apart and your elbows on your knees.
- Allow your tummy to relax and do some gentle deep breaths to help the pelvic floor relax.
- Allow yourself time, do not rush or STRAIN to empty the bladder.
- Using this position can make it easier to empty the bowels.

Double bladder emptying

If you feel your bladder has not completely emptied fully, rock your pelvis backwards and forwards on the toilet seat and try again.
If not successful, stand up, rock your pelvis backwards and forwards then sit down and try again.

Hints to help empty your bladder

- Urinate in a warm shower or bath
- Running water in the background can help you to empty your bladder
- Place your hand in cold water as you empty your bladder
- Firmly tap over your bladder with your fingers
- Whistling gently to put some pressure on the bladder can help
- Ask your midwife or doctor for pain medication if pain is stopping you from emptying your bladder

Your Pelvic floor muscle exercises

Your pelvic floor muscles are important for healthy bladder function.
The Physiotherapist will teach you and advise you how and when to start your pelvic floor muscle exercises.

Reducing swelling and pain

Doing your pelvic floor exercises lying down and very gently can help with healing, reducing pain and swelling.

Try to rest lying down as much as possible to reduce the effect of gravity on any swelling in your pelvic floor.
You can use disposable cool packs over your underwear to help reduce pain and swelling.
A pad held firmly against your pelvic floor by supportive underwear can also help.

Appendix 2. Trial Without Catheter (TWOC)

What is a trial without catheter?

A trail without catheter is the removal of the urinary catheter (the tube inserted into your bladder to drain urine). Removing the catheter is the only way to find out if you can pass urine normally. This procedure is carried out on the ward where you were an in-patient.

You are usually in hospital for the day, if you have recently had a baby you are welcome to bring baby with you. Please remember to bring a change of clothes and nappies for the baby.

What are the benefits of this procedure?

The benefits of this procedure are to hopefully enable you to pass urine and empty your bladder on your own, without needing a catheter.

What are the risks of this procedure?

The risk is that you will need to have another catheter put in if you are unable to empty your bladder spontaneously.

What should I expect on the day of the procedure?

You should come to the ward at the appointed time and a staff member will remove the catheter. You will be asked to drink fluids once the catheter is removed and to record the amount taken. We provide chilled water, tea and coffee, and meals during the day. You can remain in your own clothes for this procedure or change into night clothes if you feel more comfortable.

Within four hours of having the catheter removed the staff will check with you if you are feeling an urge to pass urine, you will be given a container to use in the toilet to collect any urine you pass, this must be measured.

The nurse/midwife will then perform a bladder scan to see if you are managing to empty your bladder completely. On completion of this first scan you will also get a catheter passed into your bladder to drain and measure the urine left in your bladder and this is compared to the amount measured by the bladder scan for accuracy.

If you feel you have emptied your bladder completely and the amount of urine drained by the catheter is less than 150mls you will be allowed home with advice on bladder care.

What happens if I cannot pass urine?

If you have no sensation to pass urine; or unable to pass urine, at 4hours the nurse/midwife will perform a bladder scan. If the amount of urine in your bladder is greater than 400mls she will re-insert a urinary catheter to drain and measure the urine. If less than 400mls is measured with the bladder scan you will be encouraged to continue drinking fluids and pass urine within 6 hours. If

at this stage you are unable or only passing small amounts of urine the nurse/midwife will discuss with you the option of re-inserting a catheter with the collection bag as you had before, or for you to learn how to pass the catheter yourself to empty your bladder.

After the procedure

If you have not been re-catheterised: you are advised to drink 2 -2.5 litres of fluid a day and to pass urine at least every 4 hours for the next few days even if you do not have the urge to go, this is to improve the muscle of your bladder. Please keep a record of all fluids you drink and measure the amount of urine you pass during these days as this will tell you if you are completely emptying your bladder. It is also very important to avoid constipation.