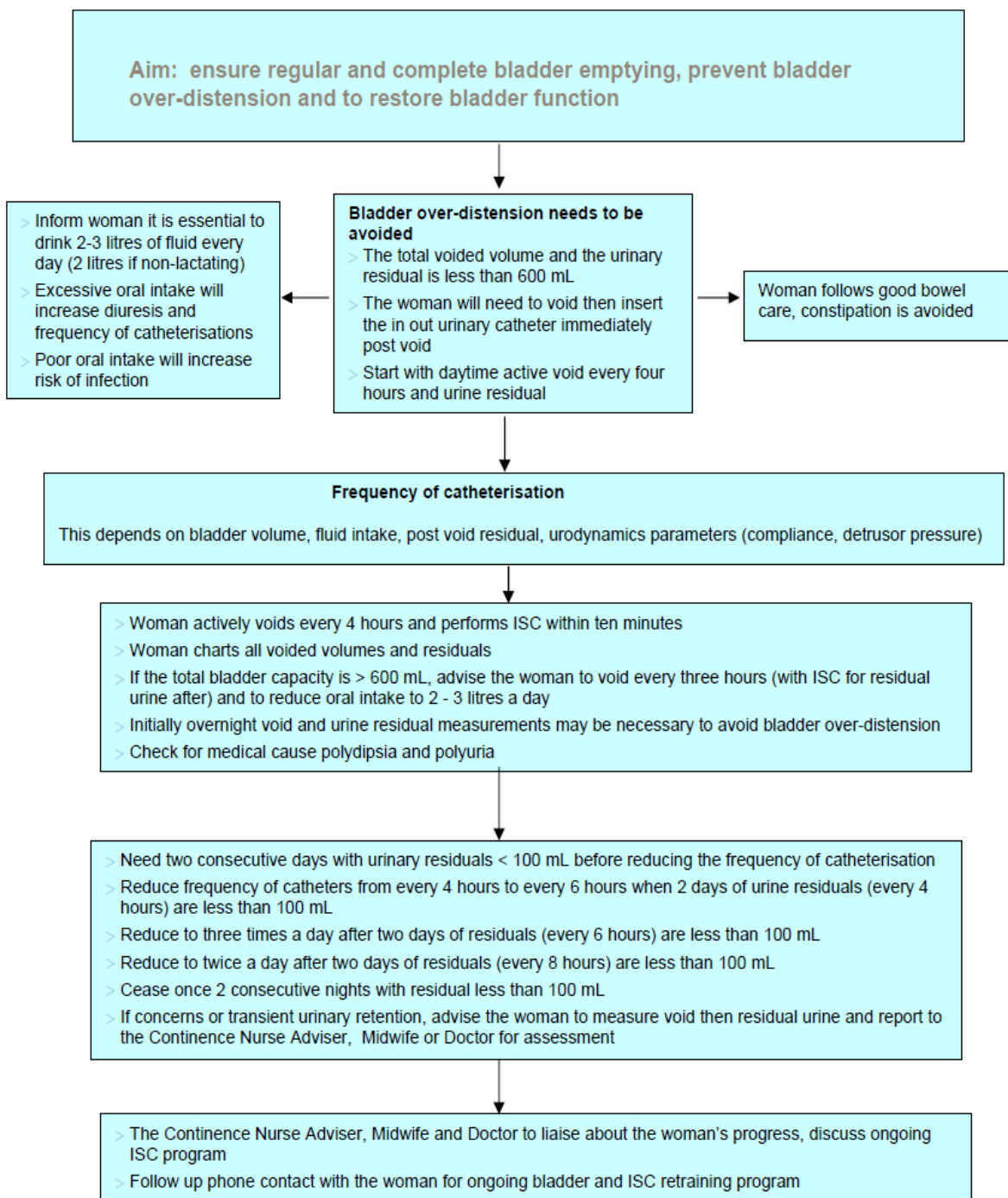


South Australian Perinatal Practice Guidelines

Postpartum bladder dysfunction

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Algorithm for instructing women about intermittent self catheterisation (ISC)



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Introduction

- > Postpartum urinary retention occurs in 10-15 % of women^{1, 2}
- > Postpartum urinary retention is likely to be multifactorial, involving physiological, neurological and mechanical processes
- > A single episode of postpartum bladder overdistention, if not diagnosed and treated early, may cause persistent urinary retention and irreversible damage to the detrusor muscle, with recurrent urinary tract infections and permanent voiding difficulties³
- > In a large prospective study Groutz et al.⁴ found persistent postpartum urinary retention, beyond the early puerperium, in only 0.05 % of cases of postpartum urinary retention
- > Persistent postpartum urinary retention is usually associated with detrusor hypotonia^{4, 5}

Definitions

- > **Postpartum urinary retention** is the inability to void, with a painful (usually), palpable or percussable bladder and the need for catheterisation to obtain relief³
 - > Women with pre-existing neurogenic changes or recent neurogenic insult may have no pain or altered threshold for sensation to void
- > **There are two types of urinary retention that can affect women in the postpartum period:**
 - > **Overt retention** refers to the inability to void spontaneously within 6 hours of vaginal birth or removal of indwelling catheter^{3, 5}
 - > **Covert retention** refers to increased post void residual volumes of > 150 mL and no symptoms of urinary retention^{3, 5}
- > **Persistent postpartum urinary retention** may be defined as the inability to void spontaneously despite the use of an indwelling catheter for three days⁴

Risk factors^{1, 2, 8, 9, 10,}

- > History of voiding difficulties
- > Primiparity
- > First vaginal birth
- > Epidural, spinal or pudendal block in labour
- > Difficult instrumental birth and / or shoulder dystocia
- > Prolonged second stage
- > Birth weight of > 3.8 kg
- > Excessive perineal trauma i.e. Para-urethral tear, clitoral tear, large episiotomy, large 2nd or 3rd degree tear, significant oedema
- > Catheterisation during or after birth
- > Change in sensation to void after birth
- > Incomplete emptying of bladder
- > Labour

NB: Ensure that women from non English speaking backgrounds are aware of normal voiding function and understand the risks and symptoms associated with postpartum urinary retention

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SA Maternal & Neonatal Clinical Network

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Symptoms

- > Lower abdominal pain
- > Unable to spontaneously void after birth or removal of an indwelling urinary catheter
- > Straining to void
- > High or displaced uterine fundus (check vaginal loss not excessive)
- > **Altered voiding parameters including:** decreased or absent sensation to void, slow or start-stop urine flow, small volume voids, feeling of incomplete bladder emptying
- > Delay in voiding more than 6 hours following birth
- > Unable to void spontaneously on the toilet
- > Requiring sensory stimulus (e.g. running tap water)
- > Nocturia more frequent than 2-3 times not related to feeding the baby

NB: A detailed assessment of the woman's voiding function is required

Management

Intrapartum bladder management

- > Women should be encouraged to void every 2 hours in labour with a low threshold for catheterisation if unable to void (unable to void on 2 occasions or a palpable bladder)¹⁶

Postpartum bladder management

- > After epidural anaesthesia, normal bladder sensation may be impaired for up to 8 hours¹⁷
- > Women who have a procedure that requires a dense epidural or spinal block should have an indwelling catheter until 6 hours after birth. Once the woman is mobile, remove catheter and monitor first and second void¹⁷
- > Indwelling catheter is indicated for:
 - > Postpartum haemorrhage with 40 units oxytocin infusion (for the duration of infusion)
 - > 4th degree tear
- > Consider indwelling catheter in the following:
 - > Grossly swollen labia or trauma around the urethra
 - > 3rd degree tear
- > After birth or removal of a urinary catheter, encourage all women to void within 1-2 hours – maximum 6 hours
- > Screen all women within four hours of birth for risk factors and symptoms of urinary retention (see above)
- > Discuss with the woman the importance of ensuring urinary function returns to normal

Normal voiding function:

- > Normal frequency of micturition is up to 8 times in a 24 hour period – allow for a few extra voids in the first 24 - 48 hours after birth

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- > 80 % of the bladder volume should be passed with each void. Usual volumes are between 300 - 400 mL
- > In the early postpartum period some women have a diuresis of less than 2 litres in 24 hours while other women may have a diuresis of more than 4 or 5 litres

Non-invasive measures to encourage voiding

- > Ensure adequate analgesia, hydration, ambulation and privacy
- > Some women are only able to void standing in the shower or sitting over a warm bidet or in a warm bath. Document time and check with woman about nature of void (see documentation below). This is acceptable for a first void. Second void document time and volume
- > Consider trial of void in women with risk factors and symptoms of urinary retention. This includes:
 - > A fluid balance chart for 24 hours (measure all voids and document)
 - > Encouraging the woman to void every 2 to 3 hours

Documentation

- > At first void after birth, assess and document the following in clinical record:
 - > Normal sensation to void
 - > Any difficulty encountered with initiating void, change in urine flow rate, feeling of incomplete bladder emptying
 - > Volume voided and time
 - > Frequency of voiding

Symptoms of incomplete emptying

- > Regardless of hydration status, **women with symptoms of incomplete emptying require assessment of residual urine**, preferably with an ultrasound and /or bladder scan, otherwise assess by in / out catheter

NB: The standard bladder scanner may report on echogenic uterine debris when measuring urinary residual. An in / out catheter is the only reliable tool in the first 2 – 4 weeks postpartum

Process for residual urine with in / out catheter:

- > Ask woman to void
- > Pass in / out catheter immediately after the void using aseptic technique (within 10 minutes as later measurements reflect renal perfusion)
- > Record volume voided and residual obtained (a significant residual urine is greater than 100 mL. Expect woman to pass 80 % of total bladder volume)
- > Report findings to Medical Officer

Unable to void six hours after birth or removal of catheter:

1. Regardless of perceived hydration status, pass an in / out catheter and record volume

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- > If in doubt about woman's bladder function, check for constipation, commence 24 hour fluid balance chart and record:
 - > Fluids consumed
 - > Volume of urine voided
 - > Number of times voided
 - > Difficulties encountered including need for catheterisation and volume obtained
 - > Urinary incontinence
 - > Avoid detrusor over distension (> 600 mL)
 - > Urinalysis to exclude Nitrites. If Nitrite positive, send urine for microscopy, culture and sensitivity to exclude urinary tract infection
- 2. If still unable to void after a further 6 hours, insert indwelling catheter
 - > Document urinary drainage following urinary catheter insertion
 - > If drainage is more than 500 mL in one hour, leave catheter insitu for 24 hours
 - > If drainage is more than 1,000 mL in one hour, consider 48 hours free catheter drainage and liaise with appropriate health professional (send baseline urine microscopy, culture and sensitivity at this time)
 - > If no intrapartum antibiotic prophylaxis has been given, commence prophylactic antibiotics after six hours (e.g. Cephalexin 250 mg every 6 hours) and discontinue when the catheter is removed
- 3. After removal of the indwelling catheter, women who continue to have high urine residuals or retention should be offered a choice between management with another indwelling catheter (consider flip-flow catheter valve) or intermittent self-catheterisation

If bladder retraining is required, refer to Continence Nurse Advisor / Urology Nurse or Dedicated Catheter Nurse experienced in bladder retraining as soon as possible

NB: To enable an accurate assessment of a woman's bladder function, a good history needs to be obtained from the woman and accurate documentation and communication is required

Discharge planning

- > All women should have voided before discharge. Usual early postpartum volume is \geq 400 mL
- > Women with risk factors and who have required an in / out or indwelling urinary catheter must have three documented voids with normal voiding parameters post removal of catheter before they may be discharged home
- > Women who require ongoing bladder retraining should be counselled and referred to a health professional with appropriate training and expertise in the treatment options for urinary retention which may include one of the following:
 1. Indwelling urinary catheter with continuous drainage and appropriate link system
 2. Indwelling urinary catheter with a flip-flow valve
 3. Intermittent self catheterisation

Intermittent self-catheterisation (ISC)

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Women with persistent postpartum urinary retention may choose ISC management (includes women with significant residual urine or women where further evaluation of bladder function is indicated)

Referral and follow up

- > Woman has referral to appropriate health professional for education, implementation and management of urinary drainage system
- > Refer to Continence Nurse Adviser (CNA) or staff trained in the management of catheters (e.g. urology nurse / dedicated catheter nurse)
- > The woman who requires ISC should make active attempts to void every 4 hours
- > Perform ISC immediately after voiding. (A delay of 10 minutes is measuring renal perfusion and not urine residual)
- > Ensure complete emptying of bladder at regular intervals
- > Avoid any bladder over distension (volumes > 600 mL)
- > Chart both volumes of urine passed and ISC volume and ensure total volume is < 600 mL. Change post void ISC to every 3 hours if total volume is > 600 mL
- > Commence a planned bladder-retraining program (see algorithm)
- > Advise the woman to drink 2-3 litres in 24 hours
- > Obtain MSSU if there is any suspicion of urinary tract infection
- > Follow up with the medical officer and specialist nurse may be required for several weeks
- > If there is no available Continence Nurse Advisor / adult urology nurse or dedicated catheter nurse on site, the medical officer should arrange referral / follow up phone consultation with a selected nurse (see available phone contacts below)
- > The Continence Nurse Advisor, urology nurse or catheter nurse, must liaise with the medical team throughout the management to ensure best practice and to maximise outcome

Phone Contacts

- > Continence Nurse Practitioner, Family Clinic, Lyell McEwin Hospital, 82821497 Monday – Friday
- > Continence Nurse Advisor, The Queen Elizabeth Hospital, 82226000 Monday - Tuesday
- > Registered Midwife dealing with continence issues, Women's Health Clinic, Flinders Medical Centre, 82044667
- > Practice Manager, Clinical Nurse Consultant, Urology and Continence Services, Repatriation General Hospital, 82769666

Complications

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Incomplete emptying of the bladder after birth may cause the following complications:

- > Urinary tract infection
- > Urinary / faecal incontinence
- > Short and long term bladder dysfunction
- > Ureteric reflux
- > Bilateral hydronephrosis
- > Acute renal failure
- > Long-term renal impairment

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Useful web site

NICE guidance. Urinary incontinence - the management of urinary incontinence in women. National Collaborating Centre for Women's and Children's Health. Commissioned by the National Institute for Health and Clinical Excellence. Available from URL: <http://www.nice.org.uk/nicemedia/pdf/CG40fullguideline.pdf>

Example of Postpartum voiding review record

POST PARTUM VOIDING REVIEW

(Circle each response where appropriate)

Date and time of delivery:

Urinary catheter: Yes No **Time removed:**

Sensation to void: Normal Decreased Absent

Hesitancy initiating void: Yes No

Urine flow: Normal Slow "Start Stop Start"

First Void Volume = **Time:**

Second Void Volume = **Time:**

Reassuring **Non Reassuring**

Action:

Name:

Signature:

Designation:

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Abbreviations

CNA	Continence Nurse Adviser
et al.	And others
hr	hour
ISC	Intermittent self catheterisation
kg	Kilogram(s)
mL	Millilitre(s)
MSSU	Mid-stream sample of urine
%	Percent

Version control and change history

PDS reference: OCE use only

Version	Date from	Date to	Amendment
1.0	08 Aug 05	20 Oct 09	Original version
2.0	20 Oct 09	18 Sept 12	Reviewed
3.0	18 Sept 12	current	