RACGP
Royal Australian College *of* General Practitioners

RACGP aged care clinical guide (Silver Book)

5th edition

Part A. Urinary incontinence

General principles

- Urinary incontinence is common in older people and has an effect on multiple life domains.
- It is important to understand the different urinary incontinence subtypes, as the causative factor and management approaches to each may be different. These subtypes may overlap in some instances, which could complicate the clinical picture.
- A stepwise approach to urinary incontinence includes taking a detailed history, physical examination, relevant investigations, reviewing medications and ruling out potentially reversible factors.
- A multidisciplinary approach to urinary incontinence management should be in line with the patient's goals and preferences. This may include lifestyle and behavioural advice (Level of Evidence: 1), consideration of medication trials if appropriate (Level of Evidence: 3), containment or bladder drainage strategies and possible referrals for further investigations or specialist reviews if appropriate.

Practice points

Practice points	References	Grade
Step 1. Evaluation		
Evaluate the patient's lower urinary tract and general medical, functional and cognitive status	5	Consensus-based recommendation
Identify and treat transient, potentially reversible causes of incontinence using the DIPPERS mnemonic	5	Grade of Recommendation: B
Step 2. Take a detailed history	7	Consensus-based recommendation
Step 3. Review medication		Consensus-based recommendation
Review medications that may cause or aggravate urinary incontinence	7	

Step 4. Focused examination		
Use validated, evidence-based frailty screening tool	6	Consensus-based recommendation
Consider the effect of physical disability and possible cognitive impairment	6	Consensus-based recommendation
Conduct abdominal, gynaecological, rectal, perineal skin and lower-limb neurological examinations	6	Consensus-based recommendation
Step 5. Basic investigations		
Consider including urinalysis +/– microscopy and culture as part of the basic investigation	6	Grade of Recommendation: C
Consider including bladder chart over three days as part of the basic investigation	6	Consensus-based recommendation
Consider including portable bladder scan for measurement of post-void residual urine as part of the basic investigation	9	Consensus-based recommendation
Establish goals of care for urinary incontinence by taking into consideration patient factors, personal preference and the capabilities of care providers	6	Consensus-based recommendation
Consider altering lifestyle and behavioural measures; however, it may not be practical to implement many of these lifestyle and behavioural measures for older people who have significant cognitive impairment and/or physical disability	7	Consensus-based recommendation
Consider medications, bladder drainage options and surgical treatment options in some patients	11, 12	Consensus-based recommendation
Consider referral to specialist care based on indications for referral, availability, patient transport and patient preference	1	Consensus-based recommendation

Introduction

Incontinence is common in older people, with increasing prevalence and severity according to age.[1] Three out of four Australians living in supported accommodation have severe incontinence and require assistance with managing bladder or bowel control.[2]

True numbers on the prevalence of incontinence are likely to be underestimated given the nature of incontinence being underreported, underscreened and undertreated. The most recent nationwide census of incontinence from the Australian Bureau of Statistics (ABS) in 2012[3] found a 24% increase in prevalence between 2009 and 2012 (with incontinence defined as the need for assistance with bladder or bowel control, and/or the use of continence aids). Approximately 5% of people aged 65–84 years experience severe incontinence, and this increases by more than five times for those aged ≥85 years (28%).

Incontinence is associated with increased mortality and morbidity, and alters a person's quality of life by affecting multiple domains:

- Physical – increases risk of falls and related fractures,[1] leads to incontinence-associated dermatitis
- Functional – associated with higher levels of care required
- Emotional – linked with shame, depression, social isolation and reduced quality of life[3]
- Financial – the estimated total expenditure of incontinence in Australia was $1.6 billion in 2008–09, with $1.3 billion spent in residential aged care facilities (RACFs).[4] Personal costs include unsubsidised incontinence products, specialised equipment, medications and special dietary modifications
- Residential status – 87% of aged care assessment team respondents listed incontinence as a significant deciding factor for transition to living in residential care[1]

Urinary incontinence is defined as 'the complaint of any involuntary leakage of urine'.[5] It is not a physiological part of ageing, but age-related changes in the urinary tract system leave older people more susceptible to urinary incontinence.[6] Some of the age-related changes include:

- reduced bladder capacity
- reduced sensation of filling
- increased detrusor overactivity
- decreased bladder contractile function
- increased incidence of benign prostatic obstruction in men
- decreased urethral closure pressure and circulating oestrogen in women.

Additional factors such as reduced physiological reserve, multimorbidity (refer to Part A. Multimorbidity), polypharmacy (refer to Part A. Polypharmacy) and environmental obstacles increase this vulnerability even further.

Clinical context

The subtypes of urinary incontinence may overlap and complicate the clinical picture for the treating physician. Refer to Appendix 1. Definitions and terminology relating to urinary incontinence for the specific definitions for the terminology commonly used in clinical practice that relates to incontinence.

Urge incontinence

Key factors to consider:

- Involuntary loss of urine is associated with a strong urge to void.
- This is a result of detrusor overactivity.
- Common causes include medication, age-related atrophic changes, anxiety, urinary tract infections (UTIs), prostatic hypertrophy and neurological disease.

Stress incontinence

Key factors to consider:

- Involuntary loss of urine occurs with raised intra-abdominal pressure (eg laughing, sneezing, coughing, lifting).
- This is a result of either urethral sphincter weakness or hypermobility of the urethra and its consequent failure to close effectively.
- It occurs more commonly in patients who are overweight, have pelvic floor weakness after childbirth, or as a complication of prostatic surgery.

Chronic retention (overflow incontinence)

Key factors to consider:

- Involuntary loss of urine is associated with an overdistended or poorly contractile bladder.
- Continuous or intermittent leakage may occur.
- It may be caused by an atonic bladder (eg neurogenic bladder) or partial obstruction of urine flow (eg prostatomegaly, pelvic mass, faecal impaction; refer to Part A. Faecal incontinence).

Functional or behavioural incontinence

Key factors to consider:

- It occurs in otherwise continent people who are unable to reach the toilet in time or who are not cognitively able to recognise the need to void in an appropriate place at an appropriate time.
- Common causes include mobility problems (eg arthritis, insufficient assistance, medications, Parkinson's disease) and cognitive or psychiatric disorders affecting recognition of the need to void (eg dementia, depression, medications).

Mixed incontinence

Key factors to consider:

- Mixed incontinence is a combination of urge and stress incontinence, for example
  - older women with pelvic floor weakness that leads to idiopathic detrusor overactivity
  - development of urge and stress incontinence following radical prostatectomy.

In practice

Assessment

A stepwise approach to urinary incontinence includes the following five steps:

1. Evaluation
2. Taking a detailed history
3. Medication review
4. Focused examination
5. Basic investigations

Evaluation

Evaluate the lower urinary tract, and general medical, functional and cognitive status. Identify transient, potentially reversible causes of incontinence using the DIPPERS mnemonic (refer to Box 1 for more information; Grade of Recommendation: B).[5]

Box 1. DIPPERS mnemonic[6]

D	Delirium
I	Infection
P	Pharmaceuticals
P	Psychological
E	Excess fluid
R	Restricted mobility
S	Stool impaction

Taking a detailed history

When taking a detailed history of an older patient who is suspected of experiencing urinary incontinence, the following information should be obtained:[7]

- Symptoms including frequency of incontinence, amount of urine loss and use of incontinence products (eg pads), keeping in mind that the bladder alone can often be an unreliable witness of urinary incontinence.
- Fluid intake – volume and type (including caffeine and alcohol).
- Bowel frequency, stool consistency and need to strain.
- Review of medical, past surgical or obstetric history, and conditions affecting mobility or dexterity.

- Psychological factors (ie cognition and mental state; refer to Part A. Mental health).
- Patient management and effect of their incontinence (eg anxiety, low self-esteem, embarrassment in social situations, social isolation, depression, problems with hygiene).

Medication review

It is important to review medications that may cause or aggravate urinary incontinence. For example:[8]

- urge incontinence may be caused/aggravated by diuretics, selective serotonin reuptake inhibitors (SSRIs), cholinergic and anticholinesterase agents
- stress incontinence may be caused/aggravated by alpha-adrenergic blockers
- chronic urinary retention may be caused/aggravated by anticholinergic agents, verapamil, pseudoephedrine, opioids, and many psychotropic medications
- functional incontinence may be caused/aggravated by psychotropics, analgesics.

Refer to Part A. Medication management for more information.

Focused examination

A focused examination should consider the following:[6]

- Does the patient appear frail? The use of a validated, evidence-based screening tool can be helpful as frailty is associated with an increased risk of incontinence (Level of Evidence: 1; refer to Part A. Frailty).
- Consider the effects of physical disability – observe mobility and transfers.
- Consider possible cognitive impairment – briefly assess cognitive function.
- Assess the abdomen (ie enlarged bladder, pelvic masses), bearing in mind that abdominal palpation is a relatively insensitive method of diagnosing urinary retention.
- Gynaecological examination (ie atrophic vulval or vaginal changes, prolapse, loss of urine observed at the urethral meatus on coughing).
- Rectal examination – inspection and digital rectal examination (ie constipation/faecal impaction, prostatic hypertrophy, anal tone, perineal sensation).
- Perineal skin examination – inspect for dermatitis or thrush.
- Lower-limb neurological examination, focusing on weakness and any upper motor neuron signs.
- Signs of conditions associated with incontinence (eg diabetes, neuropathy, cerebrovascular disease, Parkinson's disease, depression).

Basic investigations

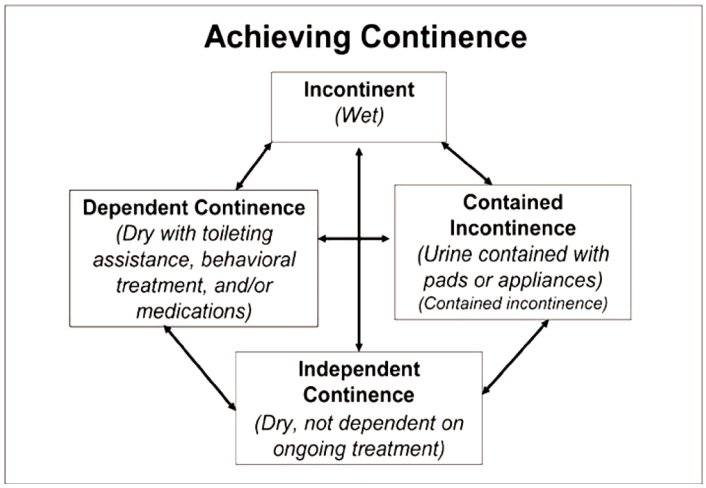
Basic investigations should include the following:[6]

- Urinalysis +/– microscopy and culture (Grade of Recommendation: C). Asymptomatic bacteriuria in this population is common, and general practitioners (GPs) need to be cautious about interpreting a positive culture result in this context.
- Bladder chart over three days (as part of the Aged Care Funding Instrument Assessment), including input and output volumes, times of voiding and fluid intake, episodes of incontinence and some estimate of the severity of the incontinence.
- Portable bladder scan for measurement of post-void residual urine (where possible and available)[9]
  - Normal bladder capacity is about 500 mL with minimal residual urine post-void.
  - A residual urine volume of more than 100 mL may require further investigation.
  - If a portable bladder scan is not available or there is some doubt over the result, a renal tract ultrasound to ascertain post-void residual urine should be ordered.

Management

Following the five assessment steps, it is important to treat causes of potentially reversible, usually transient urinary incontinence. If this is not possible, it is then necessary to establish goals of care for urinary incontinence by taking into consideration patient factors (eg physical disability, cognitive impairment), personal preference and the capabilities of care providers (Figure 1).

Figure 1. Achieving continence



Many regional aged-care service providers offer a specialised continence service with access to a geriatrician, nurse continence specialist and continence physiotherapist:

- Nurse continence specialists can provide advice on assessment, pelvic floor exercises and suitable choice of continence products.
- Continence physiotherapists can assist with lifestyle advice plus education on pelvic floor exercises with or without biofeedback or electrical stimulation.

The National Continence Helpline (1800 330 066) can provide details of these clinics and services. Governmental subsidies such as the Continence Aids Payment Scheme (CAPS) may be available for eligible parties, although most patients in RACFs are ineligible.[10] State and territory specific programs such as the State-wide Equipment Program (SWEP) in Victoria may provide further financial assistance.

Lifestyle and behavioural measures

It may not be practical to implement many of these lifestyle and behavioural measures for older people who have significant cognitive impairment and/or physical disability. For such patients, the use of incontinence products is usually the most important aspect of management, combined with a regular toileting assistance program. If possible, the following lifestyle and behavioural measures should be implemented:[7]

- Appropriate fluid intake (1.5 L/day), limit caffeine and alcohol intake.
- Minimise evening fluid intake and ensure adequate night lighting for those with nocturia.
- Avoidance or treatment of constipation (eg increase dietary fibre).
- Regular toileting habits with good posture and time for complete emptying.
- Bladder retraining for urge incontinence in patients with good cognitive function.
- Pelvic floor exercises for women with stress incontinence and overactive bladder, and men with overactive bladder.
- Toileting assistance and prompting for regular voiding.
- Incontinence products (eg disposable pants, absorbent bedding).
- Mobility aids, bedside commode or urinal, over-toilet frame.

Pharmacological

In some patients, prescribed medications may be indicated:

- Oestrogen cream for atrophic vaginitis can improve incontinence and reduce the recurrence of UTIs.[11]
- Aperients, including bulking agents, osmotic laxatives, stimulant laxatives or stool softeners, and, if necessary, suppositories or enemas for constipation (refer to Part A. Faecal incontinence).
- The role of antibiotic prophylaxis for recurrent urine infections is controversial as this may promote microbial resistance; however, this may be worthwhile to reduce urine infections, especially if there is associated delirium or hospitalisation.[12]
- Oxybutynin is an anticholinergic agent that may help relieve overactive bladder symptoms; however, there are concerns over its side-effect profile (ie xerostomia, constipation, worsening urinary retention, cognitive impairment). Oxybutynin remains the only Pharmaceutical Benefits Scheme (PBS)-funded medication available for the treatment of overactive bladder in Australia. Thus, tips on prescribing include the following
  - Start at low dose of 2.5 mg orally at night, increase slowly according to response and tolerability (maximum dose is 5 mg three times a day, but frail, older people are rarely able to tolerate this dose).
  - Stop if there is no benefit after four to six weeks.
  - The common complaint of dry mouth may be alleviated by switching to a trial of transdermal oxybutynin, which is associated with less dry mouth.
- Non-PBS-funded options for overactive bladder include
  - solifenacin or darifenacin
    - These may have fewer anticholinergic side effects because of their targeted actions on the M3 muscarinic receptors in the bladder smooth muscle.
    - Darifenacin is said to be associated with fewer central nervous system side effects, and may be an alternative to consider in patients with cognitive impairment.
  - mirabegron
    - This is a beta-3 adrenergic receptor agonist that does not have anticholinergic side effects, and is an attractive option for the older population, especially if the patient is cognitively impaired.
    - Side effects include a rise in blood pressure, and is contraindicated if there is severe uncontrolled hypertension (ie ≥180 mmHg systolic +/– ≥110 mmHg diastolic).
- Medications for treating possible bladder outlet obstruction related to prostatic enlargement because of benign prostatic hypertrophy include
  - PBS-funded options: prazosin or dutasteride–tamsulosin
    - Prazosin tends to lower blood pressure, which increases the risk of falls.
    - Dutasteride with tamsulosin has become a preferred option for the geriatric cohort.
    - Tamsulosin alone is funded under the Department of Veterans' Affairs and not the PBS.

Bladder drainage options

Bladder drainage options include the following:

- Condom drainage – this may be an option for men with a penile shaft of reasonable length on which to attach the condom. Condom drainage can be particularly helpful for nocturnal incontinence, although problems such as the condom frequently falling off limits the use of this option (consultation with a nurse continence specialist is advised).
- Indwelling catheter (ie urethral, suprapubic) – this is only considered for urinary incontinence alone if all other treatment options have been tried unsuccessfully. The complications of an indwelling catheter, particularly catheter-associated UTIs, catheter bypassing and recurrent blockage, usually become more of a management problem than the urinary incontinence itself. Therefore, indwelling catheters, as a measure to manage urinary incontinence alone, should be avoided whenever possible. Apart from incontinence, they may be needed for managing chronic urinary retention related to conditions such as benign prostatic hyperplasia, detrusor acontractility or neurological (usually spinal cord pathology) causes, in order to prevent risks of hydronephrosis and renal failure.

Further investigations

A renal tract ultrasound may be used to investigate:

- haematuria on urinalysis
- recurrent UTIs
- benign prostatic hypertrophy to estimate prostate size, although the degree of prostatic enlargement on ultrasound does not necessarily reflect the degree of prostatic obstruction
- chronic retention for observation of bladder trabeculation
- upper-tract dilatation in those with lower urinary tract obstruction.

Consider the following points about urodynamics:

- This is a specialised study looking at bladder function during filling and voiding; it is usually carried out by urologists, urogynaecologists or geriatricians working with a regional continence service.
- Urodynamics should only be considered if the results of the study will clearly influence management (eg deciding surgical treatment).
- For most older patients, urodynamics will not normally be considered; however, for mobile, medically fit patient who are candidates for surgery, urodynamics may be appropriate.

Referral for cystoscopy depends on the patient's clinical circumstances (refer to Indications for specialist referral).

Surgical treatments

Surgical treatments include:

- treatment of urethral obstruction in men (eg dilation of a urethral stricture, transurethral resection of prostate)
- mid-urethral sling for stress incontinence, usually in women
- administration of intravesical botulinum toxin via cystoscopy to patients with refractory overactive bladder (either neurogenic or idiopathic). There is a risk of urinary retention post-operatively, thus patients may need to learn to self-catheterise prior to the procedure which, for most frail older patients, may prove challenging.

Indications for specialist referral

Consider referral to geriatrics, urology or urogynaecology services for urodynamic studies or further investigations and management. Common indications for specialist care referral include:[1]

- persistent haematuria
- persistent pelvic pain
- suspected pelvic mass
- symptomatic prolapse
- suspected neurological disease
- voiding difficulty
- poor response to initial therapy
- unclear type/diagnosis of incontinence.

Appendix 1. Definitions and terminology relating to urinary incontinence

There are specific definitions for the terminology commonly used in clinical practice that relate to incontinence.[5]

Overactive bladder syndrome	Storage symptoms of urgency with or without urgency incontinence, usually with frequency and nocturia
Detrusor overactivity	Diagnosis made on urodynamics testing confirming involuntary detrusor contractions during the filling phase, which may be spontaneous or provoked
Nocturia	Interruption of sleep one or more times at night to void (in practice, a three-day bladder diary should be recorded and assessed)
Nocturnal polyuria	>33% of the total daily urine production occurs at night in older people; >20% in younger people
Nocturnal enuresis	Involuntary loss of urine during sleep
Lower urinary tract symptoms	Includes both storage (ie frequency, urgency, nocturia) and voiding symptoms (ie hesitancy, poor stream, incomplete emptying, post-void dribbling)

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