

# Female urinary incontinence

## Effective management in primary care

MARCUS CAREY MB BS, FRANZCOG, CU

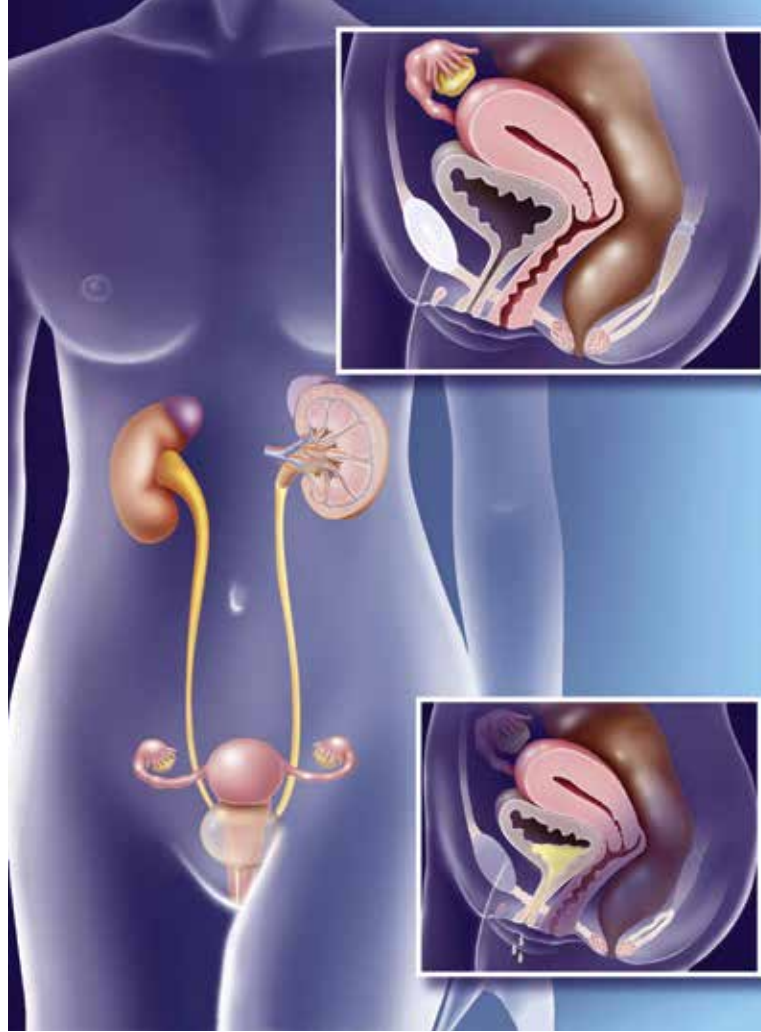
Urinary incontinence is a common condition in women that can cause significant distress. Conservative treatment and medications delivered in primary care are often very effective. Specialist referral is appropriate for patients who do not respond to initial management and for those with more complex presentations.

### KEY POINTS

- Female urinary incontinence is a common and distressing problem.
- Overactive bladder and stress urinary incontinence are the two common types of urinary incontinence in women.
- Most women with urinary incontinence can be managed effectively in primary care.
- Women with refractory incontinence and those with more complex presentations and associated problems should be referred for specialist management.
- Conservative management of overactive bladder involves pelvic floor muscle training, bladder retraining and fluid management.
- Antimuscarinic medication is the mainstay of drug therapy for overactive bladder.
- Stress urinary incontinence should be treated initially with pelvic floor muscle training.

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Dr Carey is a Urogynaecologist at The Royal Women's Hospital, Melbourne, and in practice at Frances Perry House and Epworth Freemason's Hospital, Melbourne, Vic. He has special interests in the conservative and surgical management of pelvic organ prolapse ([www.drmarcuscarey.com](http://www.drmarcuscarey.com)).



Urinary incontinence is one of the most prevalent chronic health problems affecting women. It has been estimated that 4.2 million Australians (mostly women) aged 15 years and over have urinary incontinence.<sup>1</sup> The problem becomes more prevalent with age; more than one-third of women aged 65 years or older have bothersome urinary incontinence.<sup>1</sup> A US survey found that women are more likely to have urinary incontinence than many other common chronic health problems, including diabetes and asthma.<sup>2</sup>

Fortunately, many women with urinary leakage can be managed successfully with appropriate conservative treatment. The assessment and treatment of female urinary incontinence can generally be carried out by GPs, often with the assistance of pelvic floor physiotherapists, continence advisers and local continence health services.

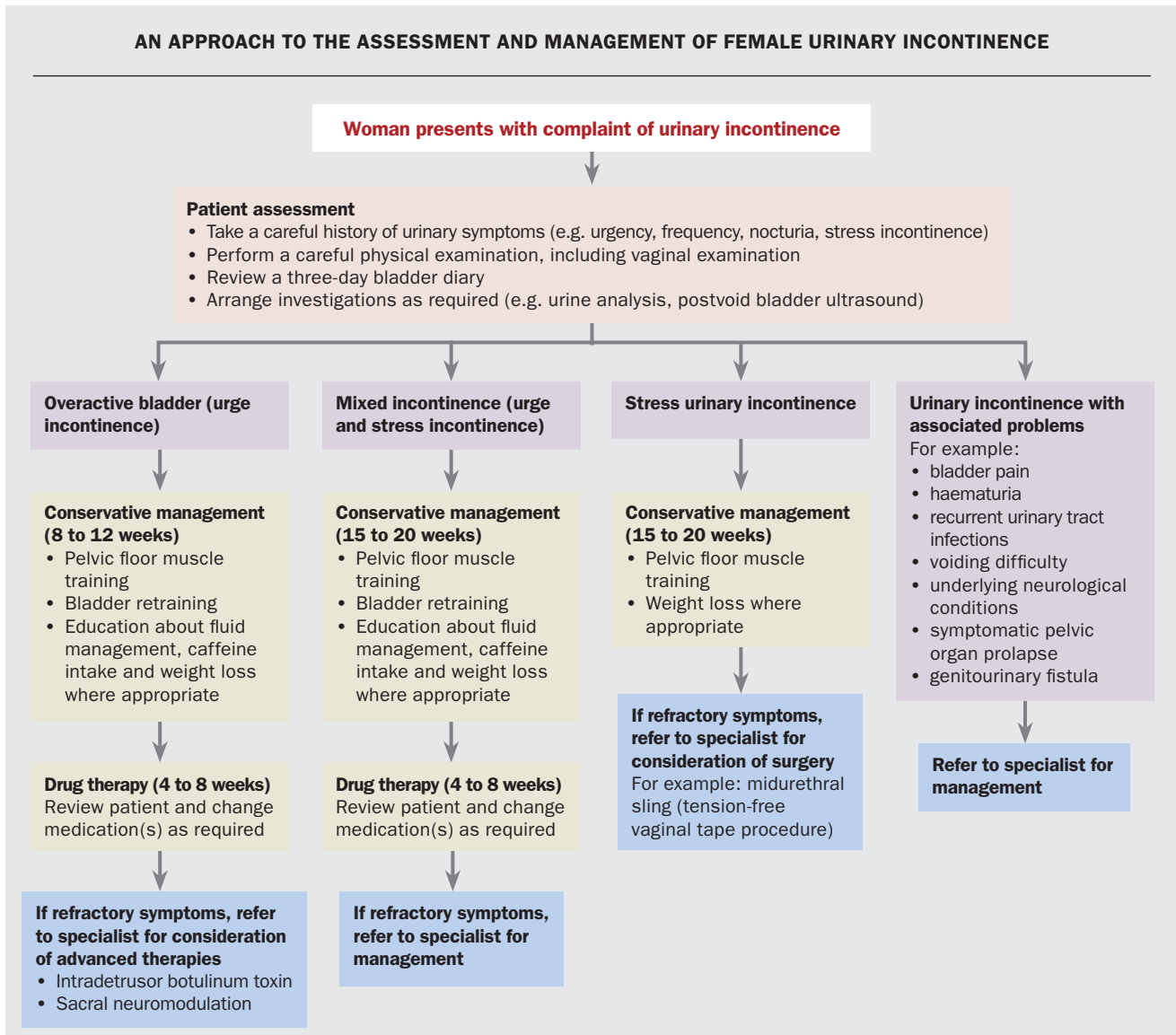
An approach to the assessment and management of female urinary incontinence is summarised in the Flowchart. Some useful online resources for GPs and patients are listed in the Box.

### Types of female urinary incontinence

The two most common types of female urinary incontinence are urge incontinence and stress urinary incontinence (SUI).

Urge incontinence was reclassified in 2010 by the International Urogynecology Society and International Continence Society as part of overactive bladder (OAB) syndrome, which is defined as the presence of urinary urgency, usually accompanied by frequency and nocturia, with or without urge incontinence, in the absence

## AN APPROACH TO THE ASSESSMENT AND MANAGEMENT OF FEMALE URINARY INCONTINENCE



of a urinary tract infection or other obvious pathology.<sup>3</sup> SUI is the complaint of involuntary leakage on effort or exertion or on sneezing and coughing. Some women present with a combination of OAB and SUI, which is referred to as mixed urinary incontinence.

### Assessment

The main goal of clinical assessment for a female patient who presents with urinary incontinence is to identify whether she has predominantly OAB or SUI, or mixed incontinence. A three-day bladder diary is a very helpful tool in distinguishing between patients with OAB and SUI; a useful template is available from the Continence Foundation of Australia website ([www.continence.org.au/data/files/Factsheets/bladderdiary.pdf](http://www.continence.org.au/data/files/Factsheets/bladderdiary.pdf)).

Patients with OAB complain of urgency (sudden compelling desire to pass urine that is difficult to defer) and urge incontinence (involuntary leakage of urine accompanied by urgency). Women with urge incontinence typically describe a sudden desire to void but not making it to the toilet in time, which may be triggered by certain events, such as hearing running water or opening the front door. Women with urge incontinence commonly report losing quite large amounts of urine and find that the leakage is often unpredictable. The volume of the urinary loss and its unpredictability make urge incontinence a very distressing problem.

Women with SUI complain of leakage of urine with activity. Typical precipitants include coughing, sneezing, laughing, physical exercise and sport. SUI is generally more predictable than urge incontinence and usually causes less urinary loss.

**FEMALE URINARY INCONTINENCE:  
USEFUL RESOURCES**

**The Royal Women's Hospital, Melbourne**  
– [www.thewomens.org.au](http://www.thewomens.org.au)  
Clinical practice guidelines for GPs and urogynaecology fact sheets for patients

**HealthPathways Melbourne**  
– <https://melbourne.healthpathways.org.au>  
Information for GPs regarding management and referral of patients with urinary incontinence

**Continence Foundation of Australia**  
– [www.continence.org.au](http://www.continence.org.au)  
Information about urinary incontinence for health professionals and patients

The assessment of a woman presenting with urinary incontinence should include a physical examination, including a vaginal examination. Patients should be examined for the presence of pelvic organ prolapse. Irritative bladder symptoms (frequency, urgency, nocturia and dysuria) may be part of the genitourinary syndrome of menopause, and postmenopausal women should be examined for the presence of vaginal epithelial atrophy. A urine analysis should be performed routinely to exclude a urinary tract infection. In patients with symptoms of incomplete bladder emptying, a measurement of postvoid residual urinary volume should be undertaken by either postvoid bladder ultrasound examination or the passage of a postvoid catheter. Obesity is a known and potentially reversible risk factor for urinary incontinence.

Less common causes of female urinary incontinence should be considered, including genitourinary fistula, congenital abnormalities and urethral diverticulum. Transient leakage of urine occurs secondary to other medical conditions, such as urinary tract infection, faecal impaction, immobility and excessive urine output (e.g. diabetes insipidus or hypercalcaemia), and abates when the underlying cause has been addressed.

A useful and comprehensive guide for the assessment of women with urinary incontinence in general practice has been

developed by HealthPathways Melbourne and is available online (<https://melbourne.healthpathways.org.au>).

**Management  
Overactive bladder**

The initial management of OAB involves the conservative measures of pelvic floor muscle training, bladder retraining and education about managing fluid intake. Lifestyle changes such as reducing caffeine intake and weight loss should be discussed when appropriate.

Medications used to treat OAB symptoms are listed in the Table. Optimal management involves reviewing patients to determine the best medication (or combination of medications) and dosage for each individual. The mainstay of drug therapy is antimuscarinic medication. Oxybutynin (oral and transdermal) is listed on the PBS and should be tried before darifenacin, solifenacin and tolterodine (which are not listed on the PBS). Despite the benefits of these agents, however, most patients with OAB cease or become noncompliant with medication by six months because of side effects (e.g. dry mouth, constipation) – rates of discontinuation or noncompliance with antimuscarinic medication for OAB have been reported to be 72% and 82% at six and 12 months, respectively.<sup>4</sup>

Mirabegron, a beta-3 adrenoceptor agonist, can be considered for patients experiencing anticholinergic side effects on antimuscarinic medication. Mirabegron is indicated for symptomatic treatment of urgency, increased micturition frequency and/or urgency incontinence in patients with OAB syndrome. It can be used in combination with solifenacin in patients who are nonresponsive or only partially responsive to antimuscarinic medication.

Imipramine is often used in low doses for elderly women with OAB (off label) and acts by decreasing bladder contractility and increasing urethral tone. Many of the symptoms of genitourinary syndrome of menopause can be improved or reversed with vaginal oestrogen therapy.

The two main advanced treatments for refractory OAB are intradetrusor botulinum toxin and sacral neuromodulation. In rare cases, patients with refractory OAB may require a permanent indwelling catheter, urinary diversion or bladder augmentation surgery.

Intradetrusor botulinum toxin is effective therapy for refractory OAB, having both motor effects (decreased detrusor muscular contractions) and sensory effects (reduced urgency, frequency and nocturia) on the bladder.<sup>4</sup> It is indicated for patients with refractory urge incontinence (i.e. failure to respond to at least two antimuscarinic medications) who experience at least 14 episodes of urinary leakage per week and are willing to self-catheterise in the event of urinary retention after the procedure. Typically, botulinum toxin (100 IU diluted in 20 mL of saline) is injected, under cystoscopy control, between the urothelial and detrusor muscle cell layers at 20 sites. Repeat treatments are usually required every nine to 12 months. About 7% of patients develop postoperative voiding difficulty requiring clean intermittent self-catheterisation.<sup>5</sup>

Sacral neuromodulation is indicated for patients with refractory urge incontinence and nonobstructive idiopathic urinary retention who have tried at least 12 months of conservative therapy and medication. An implanted sacral neuromodulation system comprises a neurostimulator in the buttock and an electrode in the right or left third sacral foramen abutting the third sacral nerve root (Figure 1). Small electrical pulses generated by the neurostimulator are delivered via the electrode to the third sacral nerve root to improve or restore normal bladder function. Sacral neuromodulation provides effective and durable treatment of refractory OAB that is nonresponsive to drug therapy and nonobstructive idiopathic urinary retention.<sup>6</sup>

**Stress urinary incontinence**

Women presenting with SUI should be treated initially with a program of pelvic floor muscle training. It is preferable for

<b>TABLE. MEDICATIONS USED TO TREAT OVERACTIVE BLADDER SYMPTOMS IN WOMEN</b>				
<b>Medication</b>	<b>Dosage</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>PBS listing</b>
<b>Antimuscarinic medications</b>				
Oxybutynin, oral	2.5 to 5 mg twice a day, titrating up to a maximum of 5 mg three times a day	Recommended first-line treatment Ability to vary dosage	Anticholinergic side effects (dry mouth, dry eyes, constipation, blurred vision, impaired alertness, voiding difficulty) Twice or thrice daily dosing	Yes
Oxybutynin, transdermal	3.9 mg patch applied twice weekly	Dry mouth may be less common than with oral oxybutynin Good for patients who do not like tablets	Skin irritation at application site Inability to vary dosage	Yes
Darifenacin, oral	7.5 to 15 mg daily	Once daily dosing Selective for M3 muscarinic receptors (fewer anticholinergic side effects) Minimal effect on cognition Suitable for elderly patients		No
Solifenacin, oral	5 to 10 mg daily	Once daily dosing Reduced side effects compared with oxybutynin		No
Tolterodine, oral	1 to 2 mg, twice a day	More selective for detrusor muscle than oxybutynin	Twice daily dosing	No
<b>Beta-3 adrenergic agonist</b>				
Mirabegron, oral	25 to 50 mg daily	No anticholinergic side effects May be used in patients with voiding difficulty May be used in combination with solifenacin	Need for caution in hypertensive patients	No
<b>Tricyclic antidepressant</b>				
Imipramine, oral	10 to 25 mg, taken at night	Useful for nocturia	Hypotension, sedation and anticholinergic side effects Long acting (three weeks)	Yes

this training to be supervised by a continence physiotherapist or continence nurse practitioner, and for the patient to be reviewed after a period of 15 to 20 weeks. If her symptoms have not responded to the training then she should be referred to a specialist or pelvic floor clinic for consideration of surgical treatment.

The standard surgical procedure for SUI in women is the midurethral sling, which is often referred to as tension-free vaginal tape (TVT) surgery (Figure 2). This is a minimally invasive operation that involves the placement of a synthetic tape to support the urethra. It is usually performed as a 20-minute day-procedure and patients are typically able to resume normal activities four weeks later.

Benefits of the midurethral sling procedure compared with physiotherapy (supervised pelvic floor muscle training) have been studied in a randomised Dutch trial involving 460 women with SUI.<sup>7</sup> On a per-protocol analysis, subjective and objective cure rates of 15.9% and 44%, respectively, were reported for physiotherapy, and subjective and objective cure rates of 85.2% and 76.5%, respectively, for surgery. Improvement in symptoms was reported by 90.8% in women in the surgery group compared with 31.7% in the physiotherapy group.<sup>7</sup>

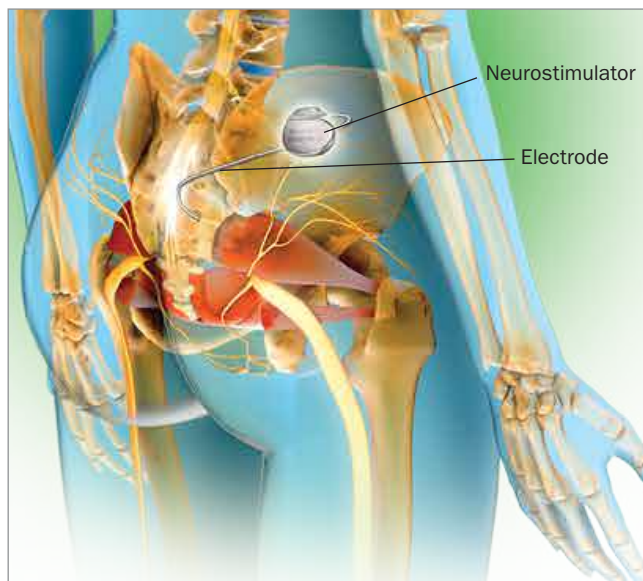
#### **Mixed incontinence**

Women with mixed incontinence (symptoms of both OAB and SUI) should have

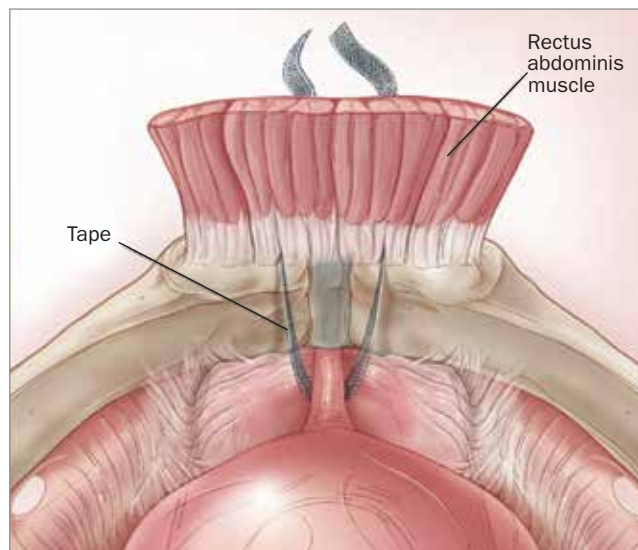
both conditions addressed. Initially, conservative treatment for SUI and OAB symptoms should be initiated, as outlined above. Patients who do not respond to conservative treatment and drug therapy should be referred for specialist management.

#### **Referral**

Women with OAB who do not respond to conservative therapy, trialled over eight to 12 weeks, and who have a poor response to at least two antimuscarinic medications should be referred to a clinic or specialist with expertise in female urinary incontinence (e.g. a pelvic floor clinic, urogynaecologist or urologist specialising in urinary incontinence). Women with SUI who fail



**Figure 1.** Sacral neuromodulation for refractory overactive bladder. Small electrical pulses are generated by a neurostimulator and delivered via an electrode to an area near the sacral nerves. Courtesy of Medtronic. © Medtronic.



**Figure 2.** The midurethral sling, which is often referred to as a tension-free vaginal tape (TVT), is used to treat stress urinary incontinence and involves placement of a synthetic tape to support the urethra. Rogers RG. *N Engl J Med* 2008; 358: 1029-1036. © Massachusetts Medical Society. Reprinted with kind permission.

to respond to a program of 15 to 20 weeks of pelvic floor muscle training should also be referred for specialist management.

Specialist referral is also appropriate for women with urinary incontinence who have more complex presentations. Associated problems include:

- bladder pain
- haematuria
- recurrent urinary tract infections
- voiding difficulty
- suspected neuropathic cause for urinary incontinence
- symptomatic prolapse
- suspected genitourinary fistula.

### Conclusion

Urinary incontinence is a common condition in women that can cause significant distress. On the basis of a patient's symptoms, examination findings and a three-day bladder diary, it is usually possible to determine whether she has predominantly SUI or OAB, which are the two most common types of urinary incontinence, or mixed incontinence. Most women with urinary incontinence can be managed effectively in primary care. Patients with

refractory symptoms and those with more complex presentations should be referred for specialist management. **MT**

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COMPETING INTERESTS: None.

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