

URINARY INCONTINENCE

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 GUEST AUTHOR 08/01/2021

Urinary incontinence (UI) is the involuntary leakage of urine. It is common in both genders, prevalence rising with age.¹ The Continence Foundation of Australia estimates one in three women, one in 10 men and one in five children in Australia experience this condition.²

Not only does loss of bladder control affect quality of life, but there are productivity losses for both patient and carer.³

What constitutes normal bladder function?

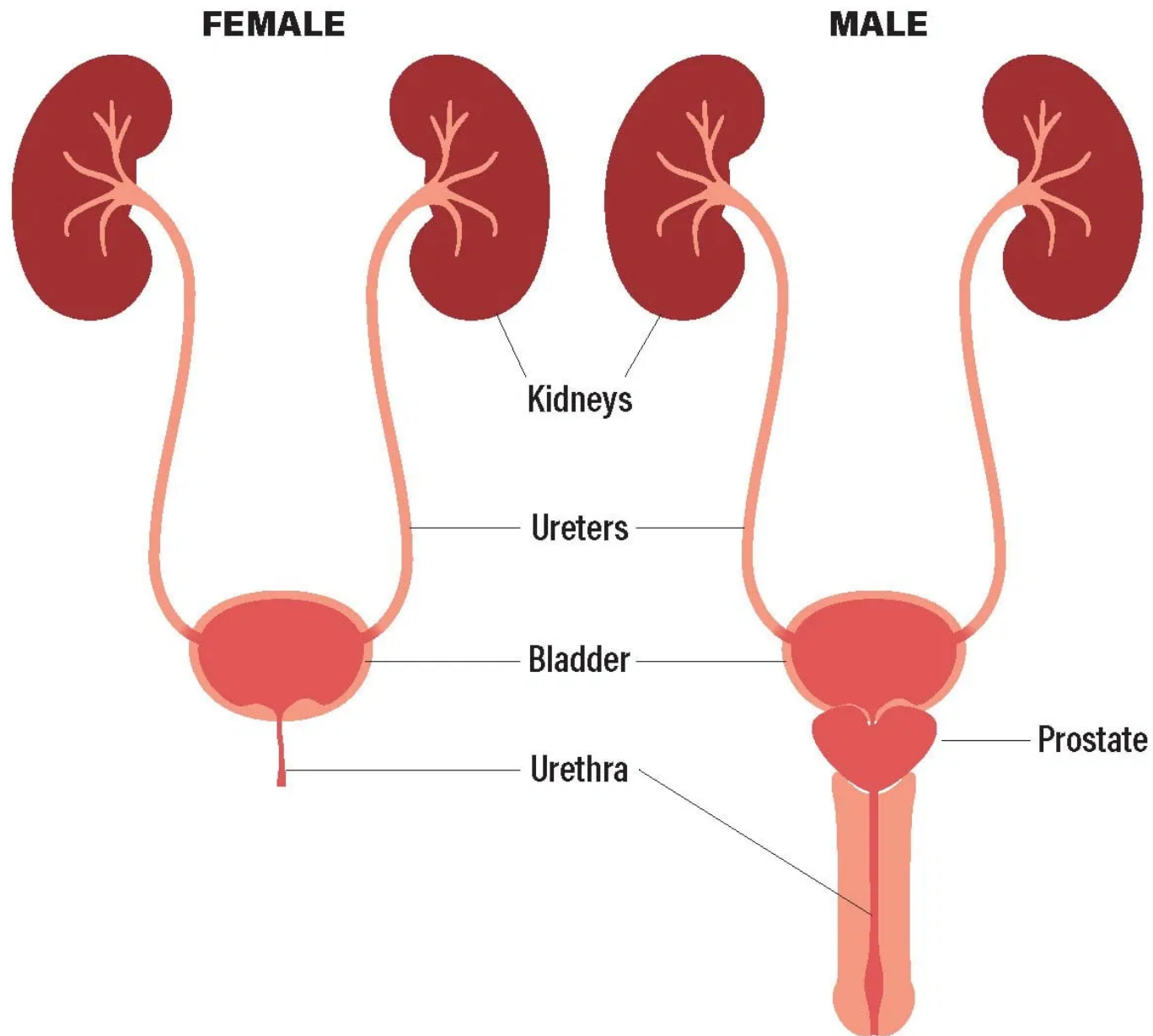


FIGURE 1: ANATOMY OF THE HUMAN URINARY TRACT⁴

Urine is produced by the kidneys by filtration of blood, removing excess water and waste products from the body. The urine is then stored in the bladder, which is made of muscle and lined by urothelium.⁵ There are two types of muscle: the trigone (or base) where the ureters join the bladder, and the body (or detrusor).⁶ Once nerve fibres sense the bladder is near or at full stretch (300–400mL in adults), a voluntary urge to urinate takes place. This happens around every three to four hours⁵ or seven times daily⁷ on average, and one or fewer times at night.⁵ A healthy person should be able to defer urination without leakage.⁵

Normal urination requires initial pelvic floor and bladder neck relaxation, followed by voluntary detrusor muscle contraction. Flow should be strong, continuous and painless with complete emptying.⁵

The bladder neck, external urethral sphincter and the pelvic floor muscles work together to maintain continence.⁵

Definitions and types

A key definition published by the International Continence Society describes three main types of UI, simplified as follows:¹

- **Stress incontinence**—involuntary leakage on effort/exertion, on sneezing/coughing/laughing/bending down. This occurs when intra-abdominal pressure exceeds urethral closure pressure.⁸
- **Urge incontinence**—involuntary leakage accompanied by, or immediately preceded by urgency. It can also be idiopathic, accompany overactive bladder syndrome, or be due to neurological problems such as stroke, Parkinson's disease or dementia.⁹
- **Mixed urinary incontinence**—involuntary leakage associated with urgency, as well as exertion/effort or sneezing/coughing/bending down.

The other main types of incontinence are:

- **Overactive bladder syndrome (OBS) or overactive bladder (OAB)**—urgency with/without incontinence. The cause is unknown but associated with detrusor muscle overactivity. About one-third of patients have “OBS wet”, i.e. with incontinence, and two-thirds have “OBS dry”, i.e. without leakage.¹⁰
- **Functional incontinence**—inability to access the toilet in time, due to cognitive, physical or environmental factor(s), e.g. dementia, physical disability.¹¹
- **Urinary retention**—incomplete bladder emptying causes overflow leakage when there is increased pressure on the bladder, such as coughing. Causes of retention include enlarged prostate, pelvic organ prolapse, or neurological conditions affecting bladder volume sensation.¹² Retention can cause obstructive nephropathy, in serious cases leading to kidney failure.¹³
- **Nocturnal enuresis** (bedwetting in children).

Risk factors

In women, UI risk factors include:

- overweight/obesity—every 5kg/m² BMI rise increases risk of UI, of possibly all types;¹⁴
- increasing number of vaginal deliveries versus caesarean section. However, even women who have never given birth may experience UI;¹⁵
- metabolic syndrome,⁷ diabetes mellitus;¹⁶
- post-menopausal status;⁷
- pelvic organ prolapse;⁷ and
- previous hysterectomy.¹⁷

In men, UI risk factors include:

- metabolic syndrome, diabetes;¹⁷
- urinary tract infection;¹⁸ and
- prostate diseases, prostate cancer treatments.¹⁸

In both men and women, UI risk factors include:

- rising age;
- neurological conditions such as stroke or Parkinson's disease;⁹
- medications such as:
 - calcium channel blockers (urinary retention);
 - diuretics (urge, urinary retention);
 - antipsychotics (urinary retention, functional UI);
 - selective alpha blockers e.g. prazosin;¹⁹
 - sedating medications (overflow, slow response to bladder signals); and
- constipation (causing urinary retention).²⁰

Clinical features

It is helpful to work towards a diagnosis of UI type, i.e. stress, urge or mixed, and the severity of the patient's UI. If UI is of the mixed type, then it is advisable to treat the predominant type.

Incontinence is often embarrassing for the patient, so sensitive communication is needed. The pharmacist may consider opportunistic questioning when a patient enquires about continence products or during a medication review.

The pharmacist should feel comfortable performing an assessment of symptoms, including risk factors. This could also be aided by a self-assessment questionnaire. One example is the '3 Incontinence Questions' (3IQ),²¹ which asks patient about leakage during physical activity including coughing/sneezing (stress) or needing to urinate but being unable to hold on (urge).

Inability to hold on, frequency (≥ 8 times in 24 hours), nocturia (≥ 1 time/night) and urge incontinence point to OBS.⁷

Further evaluation

Referral to the patient's primary care physician is recommended for assessment of underlying causes, exclusion of serious pathology and pharmacological management if needed. Specialist referral may also be warranted.

Patients who have longstanding, stable symptoms may decline further assessment. However, if red flags are present, this should be strongly advised.

These include:

- first onset UI;
- haematuria;
- dysuria;
- pelvic pain;
- severe urgency, frequency and/or nocturia;
- severe stress, urge or mixed incontinence;
- constant urinary leakage; and