

Urinary Incontinence
Diagnosis and Management in the
primary care setting

Omar Gailani

Urinary Incontinence

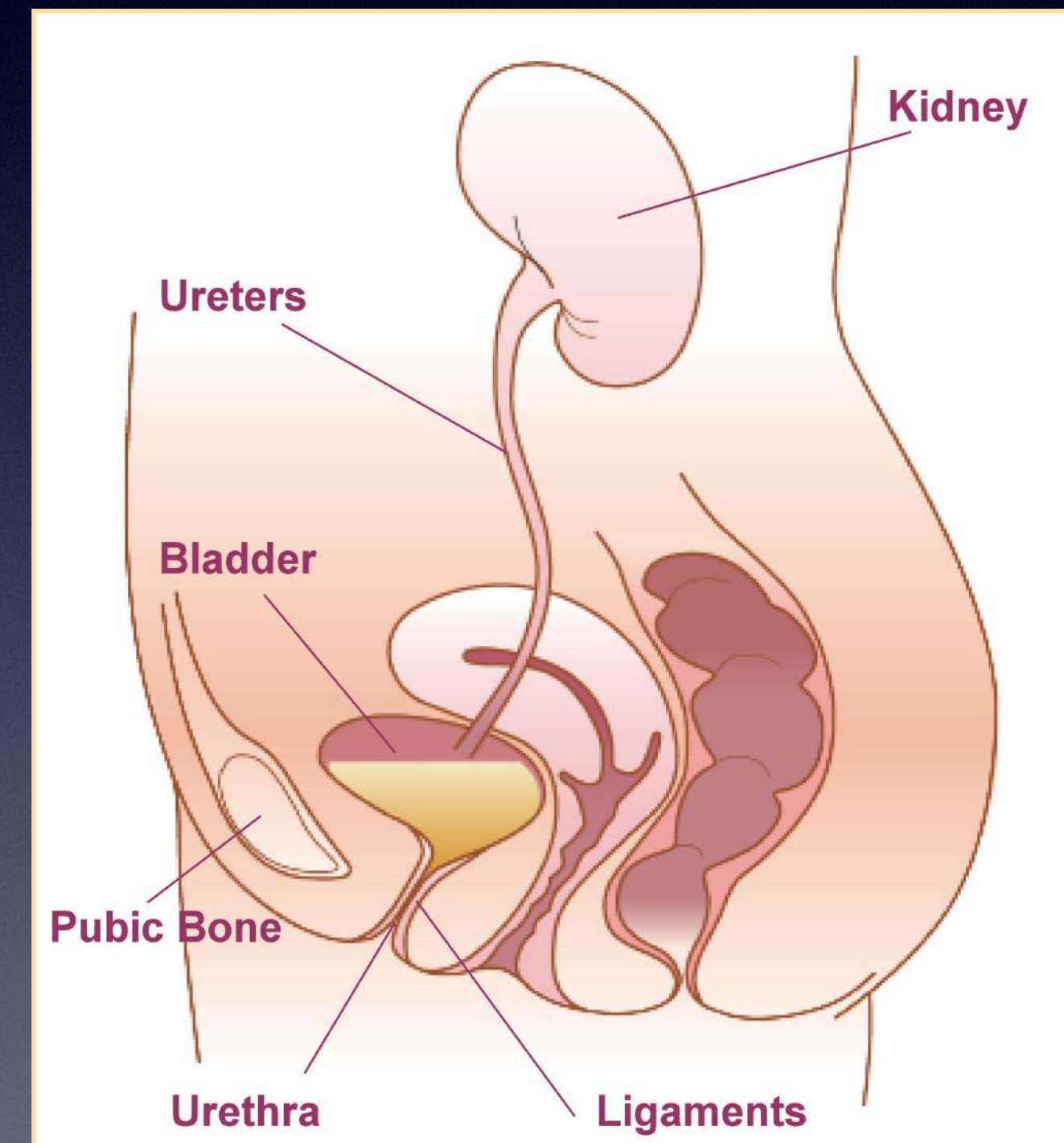
- Involuntary loss of urine
- 1/3 of woman over age of 45 has some type of urinary incontinence
- Between 19.3 to 37% of Australian women suffer from urinary incontinence

Risk factors

- Advanced age
- Parity and mode of delivery
- Obesity
- Family History
- Menopause
- Recurrent UTI"s
- Hysterectomy
- Neurological disease including multiple sclerosis
- Reduced mobility

Types of Incontinence

- Stress Urinary incontinence
- Urge urinary incontinence
- Mixed urinary incontinence
- Overflow incontinence



Impact on quality of life

| | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Psychological | Embarrassment can lead to a loss of self-respect and dignity and depression may also occur |
| Social | Social activity outside the home is often restricted for fear of leaking urine or because of the frequent need to use a toilet |
| Financial | Items such as pads can be costly and are not always covered by medical insurance |
| Sexual | Women have reported avoiding dating and sexual intimacy because of overactive bladder symptoms and fear of leaking urine |
| Physical | Some physical activities like exercising might be limited because of the frequent need to urinate or fear of leaking urine. |

A major reason for under-reporting

Overactive bladder – a syndrome of lower urinary tract symptoms¹

International Continence Society (ICS) definition of overactive bladder

Urgency with or without urge incontinence, generally usually with increased frequency and nocturia

Urgency

The complaint of a sudden compelling desire to pass urine that is difficult to defer

Urgency Urinary Incontinence

The complaint of involuntary loss of urine that is accompanied by or immediately preceded by urgency

Urinary Frequency

The need to void more than 8 times in a 24-hour period

Nocturia

The complaint of having to void more than once per night

Overactive bladder is highly prevalent¹⁻³

- Reported prevalence of OAB varies from 12% to 17%^{1-3*^†}
 - Prevalence is similar in men & women, but generally develops later in life in men^{1,2*^}
 - Up to ~55% of women and ~16% of men with OAB have urge urinary incontinence^{1*}
- Overactive bladder symptoms are reported in:^{3†}
 - 22% of men and women aged 70–74 years
 - 31% of females and 42% of males aged >75 years

Although prevalence increases with age, overactive bladder is treatable and should not be considered a normal part of ageing⁴

*Data from the US National Overactive Bladder Evaluation (NOBLE) Program involving 5204 adults aged >18 years and representative of the US population by sex, age and geographical region.¹

^Data from a cross-sectional survey of 19,165 individuals in Canada, Germany, Italy, Sweden and UK.²

†Data from a random sample of 16,776 subjects aged >40 years from six European countries.³

1. Stewart WF *et al.* *World J Urol* 2003;20:327–36.

2. Irwin DE *et al.* *Eur Urology* 2006;50:1306–15.

3. Milsom I *et al.* *BJU Int* 2001;87:760–6. 4.

Larocque P. *CME Bulletin* 2010;9:1–6.

Cost of incontinence in Australia¹

In 2010, the total financial cost of incontinence in Australia was an estimated \$42.9 billion¹

1. Continenence Foundation of Australia. The economic impact of incontinence in Australia, 2011.

Overactive bladder remains undertreated^{1,2}

- One study showed that only 38% of women with urinary incontinence symptoms seeks clinical help^{1*}
- Another study showed that only 27% of all patients with symptoms of overactive bladder receive treatment^{2†}

Patients want their primary care provider to discuss the issue, yet there appears to be a communication gap³

*Data from a US national, cross-sectional mailed survey identifying 1,970 women with urinary incontinence symptoms.¹

†Data from a random sample of 16,776 subjects aged >40 years from six European countries.²

1. Kinchen KS *et al.* *J Womens Health (Larchmt)* 2003;12:687–98.

2. Milsom I *et al.* *BJU Int* 2001;87:760–6.

3. Rosenberg MT *et al.* *Cleve Clin J Med* 2007;74 Suppl 3:S21–9.

Recognition of overactive bladder requires vigilance for symptoms¹

- Patients often delay seeking medical care for several reasons, including:^{1,2}
 - Embarrassment/anxiety
 - A belief the symptoms are part of normal ageing
 - The perception it is not a valid medical condition
- Physicians may not raise the issue for lack of time, concern that the evaluation is difficult, or concern that the treatment options are minimal²

Women tend to present when urge urinary incontinence develops and their quality of life is affected^{2,3}

1. Abrams P *et al.* *Am J Manag Care* 2000 Jul;6(11 Suppl):S580–90.
2. Rosenberg MT *et al.* *Cleve Clin J Med* 2007;74 Suppl 3:S21–9.
3. Stewart WF *et al.* *World J Urol* 2003;20:327–36.

Encouraging open discussion with your patients

- Given the prevalence of overactive bladder, annual physical examinations or medical check-ups may be a good opportunity to discuss urinary problems with patients

- A simple question may be sufficient to initiate discussion:
 - Are you bothered or worried by your urine control?
 - Do you have strong urinary urges you cannot control?
 - How often do you pass urine every day?
 - How often do you get up in the night to pass urine?
 - Do you often find yourself rushing to the toilet to urinate?
 - Do you always need to know where the nearest toilet is?

Recognising the symptom complex of overactive bladder¹⁻³

| Symptom | Description |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Urgency (primary driver) | <ul style="list-style-type: none">• A sudden, intense, difficult-to-defer desire to pass urine• Must be differentiated from normal urge or desire to void that can be deferred |
| Frequency | <ul style="list-style-type: none">• Defined as urinating >8 times in a 24-hour period |
| Nocturia | <ul style="list-style-type: none">• Defined as awakening to urinate more than once per night (or twice per night in older patients)• Enuresis (bedwetting) may also occur |
| Urgency incontinence (with or without) | <ul style="list-style-type: none">• Involuntary loss of urine accompanied or preceded by urgency• Up to ~55% of women and ~16% of men with OAB have urge urinary incontinence³ |

1. Abrams P *et al.* *Neurourol Urodyn* 2002;21:167–78.

2. Wein AJ *et al.* *J Urol* 2006;175:S5–10.

3. Stewart WF *et al.* *World J Urol* 2003;20:327–36.

Diagnosing overactive bladder

- The evaluation of patients with suspected overactive bladder should focus on:
 - Clinical history
 - Physical examination
 - Neurological assessment
 - Mid stream urine
 - Further investigations (where necessary)

Differential diagnosis of symptoms suggestive of overactive bladder in women

- Urinary tract infection
- Prolapse
- Urethral obstruction
- Atrophic vaginitis
- Bladder cancer
- Interstitial cystitis
- Postsurgical incontinence
- Diabetes
- Congestive heart failure
- Multiple sclerosis
- Medications/diuretics
- Neurogenic bladder
- Recent pelvic surgery
- Stress urinary incontinence

Effect of drugs on bladder function

- Antihistamines and decongestants
- Benzodiazepines
- Anticholinergics
- Ace inhibitors
- Alpha agonist and blockers
- Antidepressants (SSRI and tricyclic antidepressants)

Effect of selected medicines and other agents on bladder function

| | Medicines and other agents | Effect on bladder function |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allergy | | |
| Antihistamines | First generation H ₁ receptor antagonists (eg, brompheniramine, chlorpheniramine, demastine, cyproheptadine, dimenhydrinate, diphenhydramine, hydroxyzine, others) | Decreased contractility via anticholinergic effect |
| Decongestants | Pseudoephedrine, phenylephrine | Increased urethral sphincter tone |
| Analgesic and sedative | | |
| Benzodiazepines | Chlordiazepoxide, donazepam, temazepam, triazolam, others | Impaired micturition via muscle relaxant effect |
| Opioids | Codeine, meperidine, morphine, oxycodone, others | Decreased sensation of fullness and increased urethral sphincter tone |
| Anticholinergic* | | |
| Antimuscarinics (overactive bladder medications) | Darifenacin, fesoterodine, oxybutynin, solifenacin, tolterodine, trospium | Decreased contractility via anticholinergic effect |
| Spasmolytic | Dicyclomine, hyoscyamine, glycopyrrolate, methscopolamine, propantheline, scopolamine (hyoscine) | Decreased contractility via anticholinergic effect |
| Anticholinergics (antiparkinson medications) | Benzotropine, trihexyphenidyl | Decreased contractility via anticholinergic effect |
| Cardiology[†] | | |
| ACE inhibitors (ACEi) | Enalapril, lisinopril, ramipril, others | Decreased contractility; chronic coughing |
| Alpha-agonists | Midodrine, phenylephrine, vasopressors (various) | Increased urethral sphincter tone |
| Alpha ₁ -blockers | Alfuzosin, doxazosin, prazosin, silodosin, tamsulosin, terazosin | Decreased urethral sphincter tone |
| Antiarrhythmic | Disopyramide, flecainide | Decreased contractility via local anesthetic effect on bladder mucosa or anticholinergic effect |
| Diuretics | Various | Increased urine production, contractility, or rate of emptying |
| Psychotropic | | |
| Antidepressants | Serotonin-norepinephrine reuptake inhibitors (SNRIs): duloxetine, reboxetine ^Δ | Increased urethral sphincter tone |
| | Tricyclic antidepressants (amitriptyline, domipramine, desipramine, doxepin, imipramine, nortriptyline, others) | Decreased contractility via anticholinergic effect |
| Antipsychotics | First generation (chlorpromazine, fluphenazine, methotrimeprazine); second generation (clozapine, olanzapine, risperidone); others have lower effect | Mixed effects described; decreased contractility via anticholinergic effect; increased micturition and stress incontinence via stimulation of alpha ₁ receptors, and/or central dopaminergic receptors |
| Other | | |
| Skeletal muscle relaxants | Orphenadrine, tizanidine (also cyclobenzaprine, baclofen, and methocarbamol; but effect is lower) | Decreased contractility via anticholinergic effect |
| Estrogens | Oral estrogens (hormone replacement therapy) | Increased urinary incontinence |
| Beta ₃ -agonist | Mirabegron | Decreased contractility via beta ₃ -adrenergic effect |
| Alcohol | | Decreased contractility |
| Caffeine | | Increased contractility or rate of emptying |

ACE: angiotensin-converting enzyme.

* Inhaled antimuscarinic bronchodilators (eg, ipratropium, tiotropium) and ophthalmic drops (eg, atropine, cyclopentolate) can be absorbed systemically in varying degrees; urinary retention has been rarely associated with their use particularly among older adults, men with benign prostatic hyperplasia (BPH), and administration of inhaled anticholinergic drug by nebulizer.

[†] Increased micturition reported by ≤3% of patients in clinical studies of calcium channel blockers; mixed effects have been described.

^Δ Not available in United States.

Prepared with data from:

1. Verhamme K, Sturkenboom M, Stricker B, et al. Drug induced urinary retention. *Drug Saf* 2008; 31:373.
2. Zyczynski H, Parekh M, Kahn M, et al. Urinary incontinence in women. *American Urogynecologic Society* (2012); available at <http://guideline.guidelinecentral.com/i/76622-augs-urinary-incontinence>

Algorithm to assist in diagnosing patients with overactive bladder¹

Patient presents with symptoms suggestive of overactive bladder (i.e. urgency +/- urge incontinence, usually with frequency and nocturia)



Obtain patient history (including past genitourinary disorders)



Perform physical examination to exclude obvious pathologies (e.g., inflammation, prolapse, masses)



Obtain urinalysis to exclude conditions sometimes associated with overactive bladder (e.g., urinary tract infections)



In the absence of proven infection or other pathology, the symptoms of urgency with or without urge incontinence, usually with frequency and nocturia, should be treated as overactive bladder

Red flags that should prompt further studies or referral to a specialist¹

- Uncertain diagnosis and inability to develop a reasonable management plan
- Lack of response to an adequate trial of conservative therapies (e.g., bladder training, pelvic muscle exercises and drug therapy)
- Haematuria without infection
- Severe (beyond the introitus) pelvic organ prolapse
- Abnormal postvoid residual urine volume
- Neurologic condition (e.g., multiple sclerosis, spinal cord lesions) in which a component of neurogenic bladder is suspected
- History of pelvic surgery

Treatment of overactive bladder

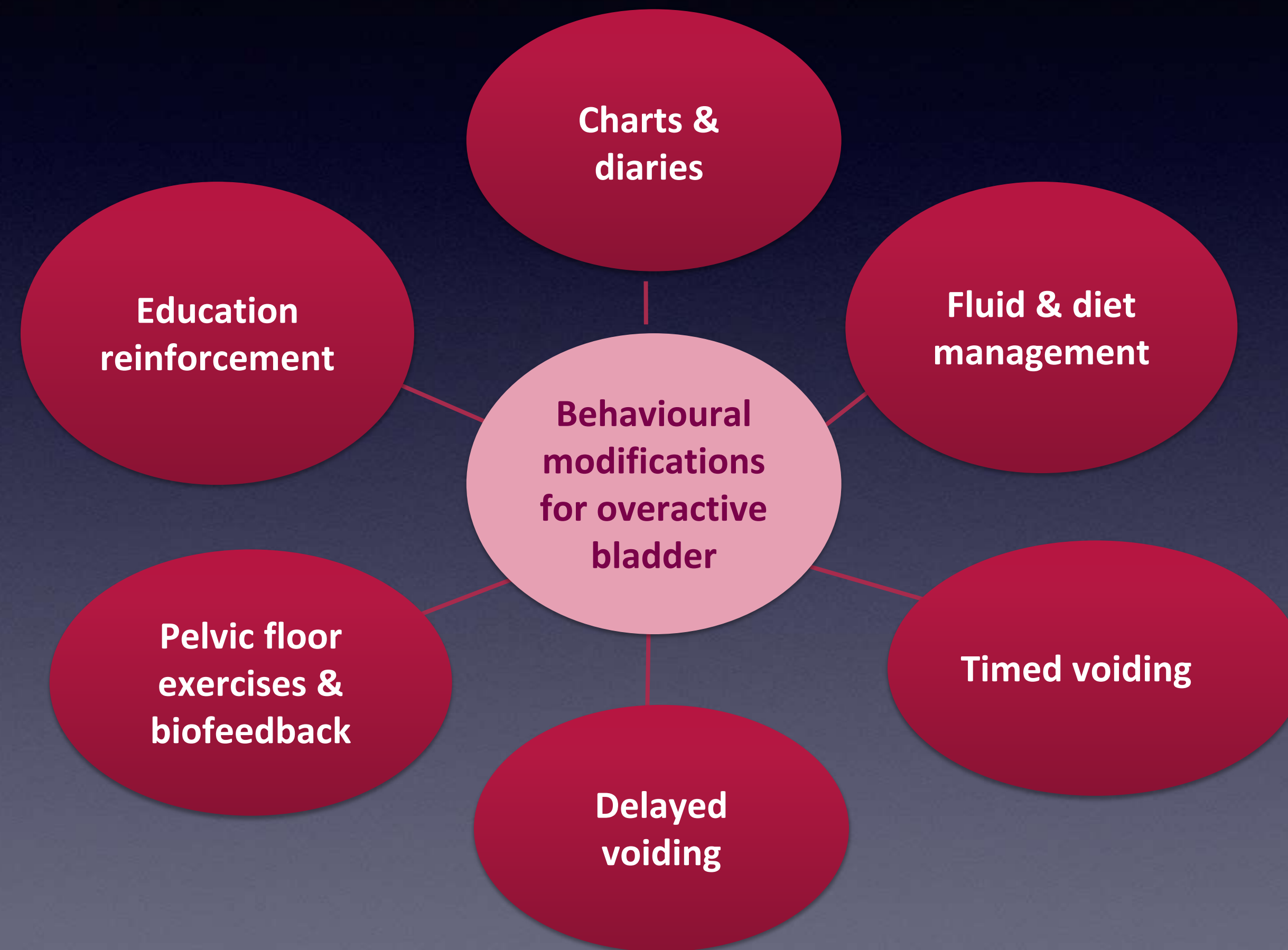
□ **Non-pharmacological**

- life style modification
- Behavioural therapy
- Patient education on fluid intake
- Bladder training, pelvic floor exercises
- Neuromodulation

□ **Pharmacological**

- Antimuscarinic agents
- Local vaginal oestrogen application
- Tricyclic antidepressants
- B3 Adrenergic agonist
- Botulinum toxin injections

Behavioural therapy for overactive bladder¹



Reviewing lifestyle changes as part of a bladder training program

- Reduce or cease intake of caffeine, alcohol and sweet drinks
- Manage constipation
- Only go to the toilet when needed (i.e. don't go "just-in-case")
- Drink ~1.5 L of fluid per day (mostly water)
- Exercise pelvic floor muscles
- Maintain a healthy weight

Selecting an antimuscarinic agent^{1,2}

- Agents differ at the structural and molecular level, resulting in different metabolism, absorption, potency and selectivity profiles
- Antimuscarinic agents can be divided into two main groups:
 - Non-selective – have affinity for all muscarinic receptors
 - Selective – have relatively more affinity for M2 and M3 receptors

- Understanding how these differences impact efficacy and safety allows clinicians to make informed decisions about the most suitable treatment option for their patients

Available anticholinergic agents and their predominant receptor affinity

| Medication | Predominant receptor affinity* | Metabolism |
|---------------------------|--------------------------------|------------|
| Oxybutynin Ditropan | M1, M2, M3, M4 | Hepatic |
| Tolterodine Detrusitol | M1, M2, M3, M4, M5 | Hepatic |
| Solifenacin Vesicare | M3 | Hepatic |
| Darifenacin Enablex | M3 | Hepatic |

B3 Adrenergic agonist

- Mirabegron (Betmiga)
- Avoid with hypertension

Managing patient expectations

- A USA survey (n=5392) showed 45.4% of patients treated with antimuscarinics for overactive bladder reported unmet treatment expectations as the reason for discontinuation¹
- Treatment success is more likely if the patient is:²
 - Given realistic expectations of symptom response
 - Forewarned about adverse effects and advised on coping strategies
 - Given sufficient duration of treatment
 - Provided with the option of dose adjustment

Thus, GPs have an important role to play in promoting realistic expectations among their patients treated with antimuscarinics

Summary

- Overactive bladder is highly prevalent occurring in 12% to 17% of people
- Untreated overactive bladder can have a negative impact on psychological well-being, quality of life and physical health
 - Despite this, patients often delay seeking medical care⁵ and only 27% receive treatment
- By recognising the symptoms of overactive bladder, it is usually possible for GPs to diagnose and treat the condition within the primary care setting
 - Antimuscarinic agents represent the main pharmacological option for controlling the symptoms of overactive bladder in primary care

Proactively ask your patients about bladder symptoms and check for urgency, the defining symptom of overactive bladder