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Improving the management of urinary incontinence

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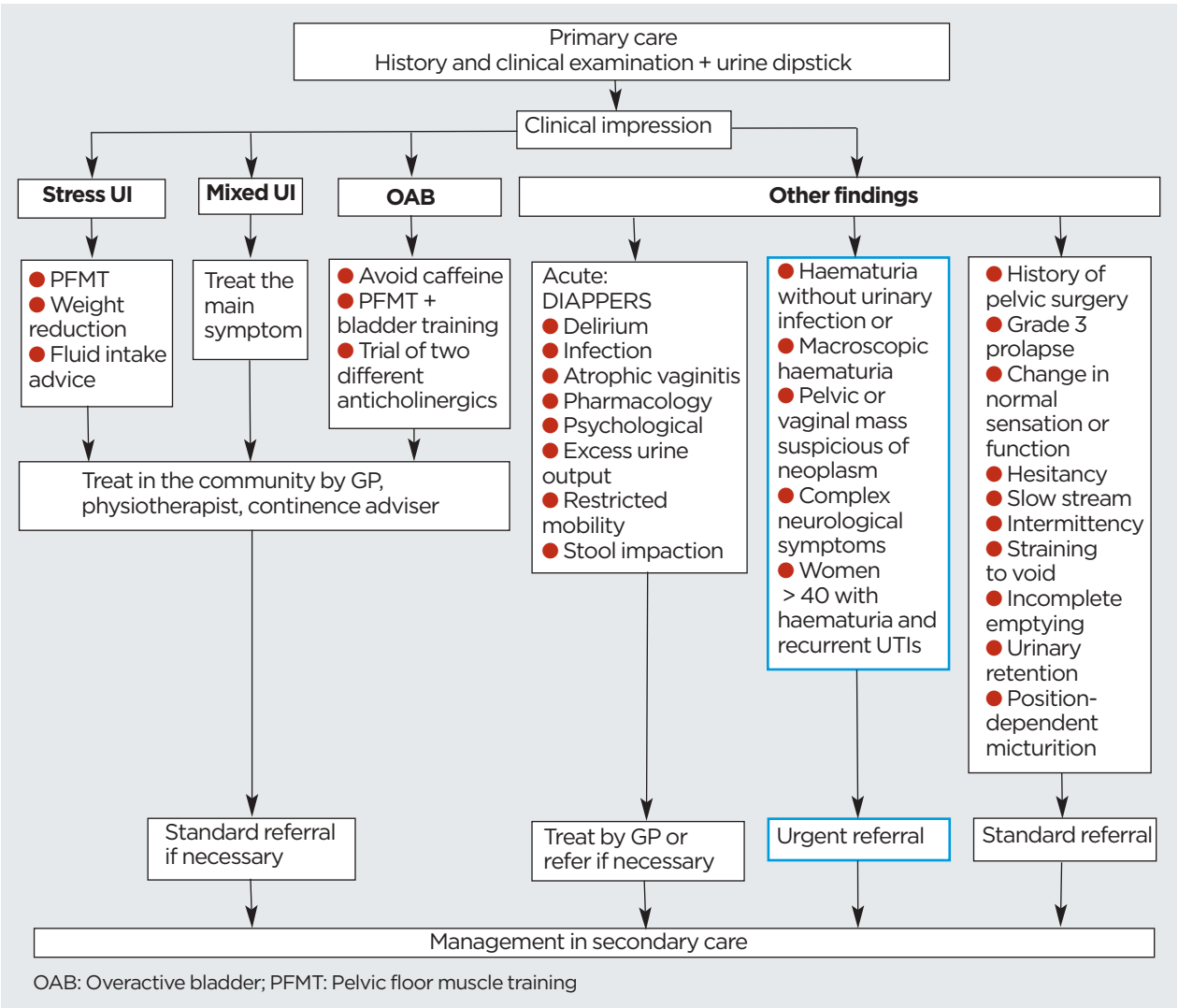


FIGURE 1
Algorithm for the management of urinary incontinence in women

OAB: Overactive bladder; PFMT: Pelvic floor muscle training

What are the different types of incontinence?

URINARY INCONTINENCE (UI) IS THE COMPLAINT OF ANY INVOLUNTARY LOSS OF URINE.[1] THIS IS a symptom-based definition set out by the International Continence Society (ICS) and the International Urological Association.

Urinary incontinence is a common condition that is likely to be under-reported because of embarrassment and the misconception that it is a normal component of aging. UI is more common in women than men and its frequency increases with age, parity, high BMI, and associated comorbidities.

How should patients be evaluated?

In the UK, the prevalence is estimated to be 17-40%,[2,3] and rates are higher in the elderly.

Which patients should be referred?

The social and psychological repercussions of UI are important, as it can have a very detrimental effect on the quality of life of these patients.

PRIMARY CARE

GPs are key in the detection and management of urinary tract pathology. Women often wait several years before seeking help for »

incontinence. Routine enquiry by GPs about urinary incontinence or bladder complaints is likely to increase the early detection of these problems, improving patients' quality of life.

A well structured community referral system and network provides these patients with the necessary support and expertise.

Physiotherapists, continence advisers and specialist nurses also have a central role. Women are often uncertain about how to do pelvic floor exercises correctly and may need instruction or reassurance. Likewise patients may also need advice on bladder retraining.

ASSESSMENT

The diagnosis of UI is based on history, basic investigations and examination. The updated NICE guideline, published in September 2013, highlights the importance of taking a good history; being guided by the patient's symptoms and the effect on their quality of life.[4] It recommends the use of bladder diaries and routine digital pelvic floor assessment.

Most cases will fall into the categories of stress UI, overactive bladder (OAB) and mixed UI, see box 1, below.

History

The history should include the circumstances in which the incontinence occurs, the duration and how it affects the patient's quality of life.

Stress UI is associated with an increase in abdominal pressure. Ask the patient:

- Do you leak when coughing, sneezing or during physical activity?

OAB is associated with urgency, frequency and nocturia. OAB symptoms are often excerbated by caffeinated drinks, red wine and acidic or spicy food. Ask the patient:

- Do you go to the toilet every 1, 2 or 3 hours?
- Do you have urgency?
- Do you have an accident if you have to hold on?
- If so, how many accidents do you have in a week?
- Do you have to wear pads?
- If so, how many do you change a day?
- Is this affecting your social and personal life?
- On a scale of one to ten how much is your incontinence bothering you?

When there is an acute onset of UI, a full neurological examination is needed. Any new medication should be reviewed.

Restricted mobility, cognitive impairment and depression also need to be excluded as causes of UI.

Examination

The initial assessment should include enquiring for symptoms of urinary tract infection and carrying out a urine dipstick test,[6] see table 1, p23.

At examination the patient should ideally have a comfortably full bladder.

Abdomen

- Exclude a large pelvic-abdominal mass. Any pelvic mass warrants an urgent two-week referral. An ultrasound scan will be needed but should not delay the referral
- Exclude palpable bladder post micturition

Vulva-vagina

- Inspection, assess for atrophic vaginitis and prolapse
- Speculum, assess for prolapse
- Bimanual, assess for masses
- Digital examination, assess pelvic floor muscle contraction using the Oxford scale (1-5/5)

The bladder diary provides a functional assessment of the bladder capacity; it should be completed for at least three days, including a normal working day and a normal resting day.

Box 1

Classification of urinary incontinence

Common types	
Stress UI	Involuntary loss of urine that occurs in association with an increase in intra-abdominal pressure. Possible causes are bladder neck weakness, poor pelvic floor muscle strength, nerve damage or obesity
Overactive bladder or urge UI	Overactive bladder is caused by overactivity of the detrusor muscle. This may be idiopathic or secondary to lesions affecting the motor or sensory pathways to the muscle e.g. MS, neurological injury, diabetes, stroke, Alzheimer's disease or Parkinson's disease
Mixed UI	This is a combination of stress UI and overactive bladder
Less common types	
Overflow UI	The bladder leaks as a result of overflow. Causes include detrusor muscle atony or bladder outlet obstruction, this may be secondary to previous incontinence surgery or to a prolapsed uterus
Functional UI	The patient has difficulty reaching the toilet in time because of restricted mobility or altered mental capacity
Nocturnal enuresis	Involuntary loss of urine during sleep. Causes include delay in the development of bladder control, inadequate toilet training, urinary infections or emotional distress. It has a strong familial association
Continuous UI	This is the involuntary and continuous loss of urine. It may be caused by a fistula or distorted anatomy
Postural UI	Involuntary loss of urine that occurs in association with a change in body position
Insensible UI	The patient is unaware of the occurrence and origin of the loss of urine
Coital UI	The involuntary loss of urine with coitus. It can occur during penetration or orgasm

TREATMENT

Patients should be managed by a multidisciplinary team involving the GP, community continence adviser, specialist physiotherapist and/or specialist nurse, see figure 1, p21.

General measures include:

- Fluid intake limited to 1.5-2 L/day[4]
- Weight reduction for patients who have a BMI ≥ 30
- In those with cognitive impairment, timed voiding can be used to reduce the number of episodes of UI[4]

Stress incontinence

- Pelvic floor muscle training (PFMT). At least eight contractions performed three times per day
- Educational leaflets[4]
- Supervised PFMT for at least 3 months[4]
- Management of other exacerbating conditions such as constipation, and smoking cessation.

When standard PFMT has not produced a satisfactory result, other therapies to maximise pelvic floor strength can be tried such as: biofeedback PFMT, electrical stimulation or weighted vaginal cones.

These measures are generally undertaken under the supervision of the community continence adviser, specialist nurse or physiotherapist.

Overactive bladder

- Caffeinated beverages should be restricted or stopped
- Bladder retraining for a minimum of six weeks
- Avoidance of drinking four hours before sleep will help manage OAB symptoms[6]

When conservative measures for OAB are unsuccessful, the next step is pharmacological treatment, see table 2, below.[4]

Review co-existing medical conditions, along with the concurrent use of other medications.

Antimuscarinics have similar side-effects reported and tolerability varies between patients. Before commencing »

Table 1

Urine dipstick testing [6]

Symptoms	Urine dipstick result	Action	Antibiotic treatment
Symptomatic	Leucocytes and/or nitrites	MSSU	Commence antibiotics while waiting for the MSSU result
Symptomatic	Negative	MSSU	Consider antibiotics while awaiting the MSSU result
Asymptomatic	Leucocytes and nitrites	MSSU	Wait for the MSSU result before starting antibiotics
Asymptomatic	Negative	None	None

Table 2

Recommended pharmacological treatment for overactive bladder[4]

First line	Dosage	Dose titration	Comments
Oxybutynin immediate release	2.5 mg od to 5 mg tds	Gradual increase	Immediate effect, can be used PRN Low cost
Tolterodine immediate release	1-2 mg bd	Increase after 4 weeks if needed	Titration
Darifenacin	7.5-15 mg od	After two weeks reassess and increase dose if needed	Extended release, titration
Second line			
Solifenacin	5-10 mg od	Increase after 4 weeks if needed	Extended release, allows titration §
Fesoterodine	4-8 mg od	Increase after 4 weeks if needed	Extended release, allows titration §
Tolterodine extended release	4 mg od	Nil	Extended release §
Oxybutynin XL §	5 mg to 15 mg od	Increase after 4 weeks if needed	Extended release §
Oxybutynin patches §	3.9 mg/24 hours Twice weekly	Nil	Extended release avoids first hepatic passage §
Trospium immediate release §	20 mg bd	Reduced dose if renal impairment	Does not penetrate the blood-brain barrier. No CNS side effects. (confusion) §
Trospium extended release §	60 mg od	Nil	Does not penetrate the blood-brain barrier. No CNS side effects. (confusion) §
Propiverine §	15 mg od to tds	Increase after 4 weeks if needed	Extended release, calcium channel blocking properties §
Desmopressin	0.05 mg bd	Titrate as needed. Optimal dose depends on the patient's response	Treatment of idiopathic nocturia and diabetes insipidus. Its use is off license. Requires monitoring of sodium during initiation of therapy in the elderly
Third line			
Mirabegron	50 mg od	25 mg in renal or hepatic impairment	Can be used when antimuscarinics are contraindicated or poorly tolerated

§ Common side-effects are dry mouth, constipation, blurred vision, dyspepsia. In the elderly can aggravate or trigger confusion

Contraindications

Antimuscarinics: Untreated narrow angle glaucoma or narrow anterior chamber angles, unless discussed with ophthalmologist. Myasthenia gravis, bladder retention, bowel obstruction, severe ulcerative colitis

Mirabegron: Severe hypertension. Can cause tachycardia, mild BP increase, UTI Use cautiously when using concomitant drugs that prolong the QT-interval

key points

SELECTED BY
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Urinary incontinence (UI) is the complaint of any involuntary loss of urine and is a common condition that is likely to be under-reported. In the UK, the prevalence is estimated to be 17-40%, and rates are higher in the elderly. UI is more common in women than men. Its frequency increases with age, parity, high BMI, and associated comorbidities.

The common types are stress UI, overactive bladder or urge UI, and mixed UI a combination of the two. In stress UI there is involuntary loss of urine that occurs in association with an increase in intra-abdominal pressure. Overactive bladder is caused by overactivity of the detrusor muscle. This may be idiopathic or secondary to lesions affecting the motor or sensory pathways to the muscle.

The history should include the circumstances in which the incontinence occurs, the duration and how it affects the patient's quality of life. The initial assessment should include enquiring for symptoms of urinary tract infection and carrying out a urine dipstick test. Abdominal examination should exclude a large pelvic-abdominal mass and a palpable bladder post micturition. Vulval-vaginal examination should assess for atrophic vaginitis and prolapse, masses and pelvic floor muscle contraction.

General treatment measures include limiting fluid intake to 1.5-2 L/day and weight reduction for patients who have a BMI ≥ 30. Pelvic floor muscle training (PFMT) and management of other exacerbating conditions are indicated for stress incontinence. In overactive bladder caffeinated beverages should be restricted or stopped, bladder retraining should be carried out for a minimum of six weeks and drinking four hours before sleep avoided.

When conservative measures for OAB are unsuccessful, the next step is pharmacological treatment. Referral to secondary care should be offered when the response to two drugs has not been satisfactory. For stress UI, referral is indicated after failure of PFMT.

A well structured community referral system and network which includes physiotherapists, continence advisers and specialist nurses can provide patients with the necessary support and expertise. Women are often unsure about how to do pelvic floor exercises correctly and may need instruction or reassurance. Likewise patients may also need advice on bladder retraining. Involving a skilled continence nurse or dedicated pelvic physiotherapist will improve care and can reduce referrals to secondary care.

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medication, discuss the likelihood of success and associated side effects.[4] Inform the patient that the treatment effect may take up to four weeks.[4] Two different antimuscarinics should be tried before referral to secondary care.[4] Oxybutynin immediate release should not be offered to frail older women because it has an increased side effect profile.[4]

Follow-up should be offered four weeks after commencing a new drug, either face to face or by telephone.[4] It is important to assess the patient's satisfaction with, and the effectiveness and tolerability of, the treatment. An increase in dose needs to be considered if the effect is suboptimal, or changing to a second antimuscarinic if there are intolerable side effects or no improvement.

NICE recommends that the selection of a second antimuscarinic should be based on the lowest acquisition cost and transdermal medication should be offered if women are unable to tolerate oral medication.[4]

Mirabegron is the first in a new class of drugs, the beta-3-adrenoceptor agonists. It can be used when antimuscarinics are either contraindicated or have failed to achieve satisfactory symptom relief or when intolerable side effects are reported.

Patients on long-term treatment need yearly review, patients over 75 should be reviewed every six months.[4]

Mixed UI

The predominant symptoms should be treated. When stress UI predominates, NICE recommends considering conservative management of OAB including drugs before offering surgery.[4]

The prognosis will depend on the cause, the patient's expectations and the desired outcome.

Stress UI

PFMT alone can improve symptoms of stress incontinence by 56-75%, but appears to be less effective in the long term and depends on good compliance.[5]

OAB

PFMT can improve OAB symptoms by up to 55%.[6] Antimuscarinics can produce long-term symptom improvement of 60-70%,[7] but side-effects are common and can affect compliance.

REFERRAL

Involving a skilled continence nurse or dedicated pelvic physiotherapist will improve care and can reduce referrals to secondary care.

Timely review of the response to conservative and pharmacological measures provides an opportunity to assess the patients' satisfaction with current treatment and determine whether they should be referred for further treatment.

Patients should be referred when conservative measures have failed. For stress UI, referral is indicated after failure of PFMT. For OAB, referral should be offered when the response to two drugs has not been satisfactory, or the patient wishes to discuss further options.

Patients with other types of urinary incontinence should be managed as shown in the algorithm in figure 1, p21.

SECONDARY CARE

Urodynamic studies are normally carried out before deciding the best management option. The following approaches are used for stress UI: synthetic mid-urethral slings, autologous rectus fascial slings, open colposuspension, and intramural bulking agents.

In cases where the patient is unfit for surgery or declines a non-surgical treatment an alternative is duloxetine with PFMT. This has a high risk of adverse effects and is therefore not generally tolerated or prescribed.

For OAB symptoms intravesical injection of botulinum toxin A or percutaneous sacral nerve stimulation can be used.

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