

GUIDELINES ON URINARY INCONTINENCE

(Complete text update February 2012)

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This pocket version aims to synthesise the important clinical messages described in the full text and is presented as a series of ‘evidence summaries’ and graded ‘action based recommendations’, which follow the standard for levels of evidence used by the EAU (see Introduction chapter).

The grades of recommendation aim to make it clear what the clinician should or should not do in clinical practice, not merely to comment on what they might do.

Recommendations have been deliberately written as ‘action-based’ sentences. The following words or phrases are used consistently throughout the Guidelines, as follows.

- **Consider** an action. This word is used when there is not enough evidence to say whether the action causes benefit or risk to the patient. However, in the opinion of the Panel, the action may be justified in some circumstances. Action is optional.
- **Offer** an action. This word is used when there is good evidence to suggest that the action is effective, or that, in the

opinion of the Panel, it is the best action. Action is advisable.

- **Carry out (perform)** an action. **Do** something. This phrase is used when there is strong evidence that this is the only best action in a certain clinical situation. Action is mandatory.
- **Avoid** an action. This phrase is used when there is high-level evidence that the action is either ineffective or is harmful to the patient. Action is contraindicated.

The Panel has tried to avoid extensive narrative text. Instead, algorithms are presented for both initial and specialised management of men and women with non-neurogenic UI. Each decision node of these algorithms is clearly linked back to the relevant evidence and recommendations.

ASSESSMENT AND DIAGNOSIS

History and Physical Examination

Although there is no evidence to support this, there is absolute consensus of expert opinion that this is an essential step.

Recommendations 1	GR
Take a history to include the following; <ul style="list-style-type: none">• Type of incontinence (stress, urge or mixed)• Timing and severity• Any associated urinary symptoms• Obstetric and gynaecological history• Any comorbidities• Medication review	A*

<p>Do a physical examination to include:</p> <ul style="list-style-type: none"> • Abdominal exam to detect bladder enlargement or abdominal/pelvic mass • Perineal examination • Digital vaginal or rectal examination • Assess oestrogen status of woman • Assess voluntary pelvic floor contraction 	A*
<p>Consider early referral to specialist if:</p> <ul style="list-style-type: none"> • UI associated with pain • Haematuria • History of recurrent UTI • Previous pelvic surgery or radiotherapy • Constant leak suspicious of fistula • Any voiding difficulty • Suspicion of neurological disease 	A*

* Given Grade A because, despite an absence of evidence, expert opinion assigns absolute importance to these steps

Questionnaires

Recommendations 2	GR
Healthcare professionals should be aware that the use of questionnaires and PROMs has not been shown to influence patient outcome in UI due to the lack of specific research in this area	C

Voiding diaries

Recommendations 3	GR
Voiding diaries should be used in urinary incontinence to evaluate co-existing storage and voiding dysfunction in clinical practice and in research	A
A diary duration of between 3 and 7 days is recommended	B

Urinalysis and UTI

Recommendations 4	GR
Do urinalysis as a part of the initial assessment of a patient with urinary incontinence	A
In a patient with urinary incontinence, treat a symptomatic urinary tract infection appropriately (see 'EAU Guidelines on Urological Infections')	A
Do not treat asymptomatic bacteriuria in elderly patients to improve urinary incontinence	B

Post-voiding residual volume

Recommendations 5	GR
Post-voiding residual should be measured by ultrasound	A
Measure post-voiding residual in patients with urinary incontinence who have voiding dysfunction	B
Measure post-voiding residual when assessing patients with complicated urinary incontinence	C
Post-voiding residual should be monitored in patients receiving treatments that may cause or worsen voiding dysfunction	B

Urodynamics

Recommendations 6 (NB: These refer only to neurologically intact adults with urinary incontinence)	GR
Clinicians carrying out urodynamics in patients with urinary incontinence should: <ul style="list-style-type: none">• Ensure that the test replicates patient's symptoms• Interpret results in context of the clinical problem• Check recordings for quality control• Remember there may be physiological variability within the same individual	C
Advise patients that the results of urodynamics may be useful in discussing treatment options, although there is limited evidence that performing urodynamics will alter the outcome of treatment for urinary incontinence	C
Do not routinely carry out urodynamics when offering conservative treatment for urinary incontinence	B
Perform urodynamics if the findings may change the choice of surgical treatment	C
Perform urodynamics prior to surgery for urinary incontinence if there are either symptoms of overactive bladder, a history of previous surgery or a suspicion of voiding difficulty	C
Do not routinely carry out urethral pressure profilometry	C

Pad testing

A well-designed continence pad will contain any urine leaked within a period of time and this has therefore been used as a way of quantifying leakage. Although the International Continence Society has attempted to standardize pad testing,

there remain differences in the way patients are instructed to undertake activity during the test.

Recommendations 7	GR
Use a pad test when quantification of urinary incontinence is required	C
Use repeat pad test if objective treatment outcome measure is required	C

Imaging

Recommendation 8	GR
Do not routinely carry out imaging of the upper or lower urinary tract as part of the assessment of uncomplicated stress urinary incontinence in women	A

CONSERVATIVE TREATMENT

Conventional medical practice encourages the use of simple, relatively harmless, interventions before resort to those associated with higher risks.

Simple Medical interventions

Correction of Underlying disease/cognitive impairment

Numerous conditions exacerbate UI or make it more likely to occur, whether or not they play any part in the pathophysiology of leakage. These conditions include:

- cardiac failure
- chronic renal failure
- diabetes
- chronic obstructive pulmonary disease
- neurological disorders
- stroke

- dementia
- multiple sclerosis
- general cognitive impairment
- sleep disturbances e.g. sleep apnoea.

Adjustment of medication

There is very little evidence of benefit from the adjustment of medication. There is also a theoretical risk, at least, that stopping or altering medication may bring with it more harm than good.

Recommendations 9	GR
Take a drug history from all patients with urinary incontinence	A
Inform women with urinary incontinence that begins or worsens after starting systemic oestrogen replacement therapy that it may cause urinary incontinence	A
Review any new medication associated with the development or worsening of urinary incontinence	C

Constipation

Several studies have shown strong associations between constipation, urinary incontinence and overactive bladder. Constipation can be improved by behavioural and medical treatments.

Recommendations 10	GR
For adults with urinary incontinence, treat co-existing constipation	C

Containment (pads etc)

Recommendations 11	GR
Offer pads when containment of urinary incontinence is needed	B
Adapt the choice of pad to the type and severity of urinary incontinence and the patient's needs	A
Offer catheterisation to manage urinary incontinence when no other treatments can be considered	B
Offer condom catheters to men with urinary incontinence without significant residual urine	A
Offer to teach intermittent catheterisation to manage urinary incontinence associated with retention of urine	A
Do not routinely offer intravaginal devices as treatment for incontinence	B
Do not use penile clamps for control of urinary incontinence in men	A

Lifestyle Changes

Examples of lifestyle factors that may be associated with incontinence include obesity, smoking, level of physical activity and diet. It may therefore be possible to improve urinary incontinence by beginning lifestyle interventions, such as weight loss, fluid restriction, reduction of caffeine or alcohol intake, limiting heavy activity and stopping smoking.

Recommendations 12	GR
Encourage obese women suffering from any urinary incontinence to lose weight (> 5%)	A
Advise adults with urinary incontinence that reducing caffeine intake may improve symptoms of urgency and frequency but not incontinence	B
Patients with abnormally high or abnormally low fluid intake should be advised to modify their fluid intake appropriately	C
Counsel female athletes experiencing urinary incontinence with intense physical activity that it will not predispose to urinary incontinence in later life	C
Patients with urinary incontinence who smoke should be given smoking cessation advice in line with good medical practice although there is no definite effect on urinary incontinence	A

Behavioural and physical therapies

Recommendations 13	GR
Offer supervised pelvic floor muscle training, lasting at least 3 months, as a first-line therapy to women with stress or mixed urinary incontinence.	A
Pelvic floor muscle training programmes should be as intensive as possible.	A
Consider using biofeedback as an adjunct in women with stress urinary incontinence.	A
Offer supervised pelvic floor muscle training to continent women in their first pregnancy to help prevent incontinence in the postnatal period.	A

Offer instruction on pelvic floor exercises to men undergoing radical prostatectomy to speed recovery of urinary incontinence.	B
Offer bladder training as a first-line therapy to adults with urgency urinary incontinence or mixed urinary incontinence.	A
Offer timed voiding to adults with urinary incontinence, who are cognitively impaired.	A
Do not offer electrical stimulation with surface electrodes (skin, vaginal, anal) alone for the treatment of urinary incontinence.	A
Do not offer magnetic stimulation for the treatment of urinary incontinence or overactive bladder in adult women.	B
Do not offer posterior tibial nerve stimulation to women or men who are seeking a cure for urgency urinary incontinence.	A
Offer, if available, posterior tibial nerve stimulation as an option for improvement of urgency urinary incontinence in women, but not men, who have not benefited from antimuscarinic medication.	B

DRUG TREATMENT OF URINARY INCONTINENCE

Antimuscarinics

Recommendations 14	GR
Offer instant release or extended release formulations of antimuscarinic drugs as initial drug therapy for adults with urgency urinary incontinence	A
If instant release formulations of antimuscarinic drugs are unsuccessful for adults with urgency urinary incontinence, offer extended release formulations or longer-acting antimuscarinic agents	A

Consider using transdermal oxybutynin if oral antimuscarinic agents cannot be tolerated due to dry mouth	B
Offer and encourage early review (of efficacy and side effects) of patients on antimuscarinic medication for urgency urinary incontinence (< 30 days)	A
When prescribing antimuscarinic drugs to elderly patients, be aware of the risk of cognitive side effects, especially in those receiving cholinesterase inhibitors	C
Avoid using oxybutynin instant release in patients who are at risk of cognitive dysfunction	A
Consider use of trospium chloride in patients known to have cognitive dysfunction	B
Use solifenacin, tolterodine and darifenacin with caution in patients with cognitive dysfunction	B
Do an objective assessment of mental function before treating patients whose cognitive function may be at risk	C
Check mental function in patients on antimuscarinic medication if they are at risk of cognitive dysfunction	C

Duloxetine

Recommendations 15	GR
Duloxetine should not be offered to women or men who are seeking a cure for their incontinence	A
Duloxetine can be offered to women or men who are seeking temporary improvement in incontinence symptoms	A
Duloxetine should be initiated using dose titration because of high adverse effect rates	A

Intravaginal Oestrogen

Recommendations 16	GR
Women using systemic oestrogen should be counselled that they have an increased risk for developing urinary incontinence or worsening of their existing incontinence	A
Offer post-menopausal women with urinary incontinence local oestrogen therapy, although the ideal duration of therapy and best delivery method are unknown	A
Advise post-menopausal women who are taking oral oestrogens that they have an increased risk for developing urinary incontinence or worsening of their existing urinary incontinence	B

Desmopressin

Recommendations 17	GR
Offer desmopressin to patients requiring occasional short-term relief from urinary incontinence, inform them that this drug is not licensed for this indication	B
Do not use desmopressin for long-term control of urinary incontinence	A

SURGICAL TREATMENT

Generic principles of surgery:

- Always discuss the purpose of surgery and the likely benefits and risks, with the patient and/or carers
- Explain alternative approaches even if they are not available locally
- Surgeons should be properly trained to do these proce-

dures and perform adequate numbers to maintain expertise

- Surgeons should be able to report their own outcomes for any operation they offer and share this information with their patient

Recommendations 18 <i>(Surgery for women with uncomplicated stress urinary incontinence)</i>	GR
Offer the mid-urethral sling to women with uncomplicated stress urinary incontinence as the preferred surgical intervention whenever available	A
Offer colposuspension (open or laparoscopic) or autologous fascial sling to women with stress urinary incontinence if mid-urethral sling cannot be considered	A
Warn women who are being offered a retropubic insertion synthetic sling about the relatively higher risk of peri-operative complications compared to transobturator insertion	A
Warn women who are being offered transobturator insertion of mid-urethral sling about the higher risk of pain and dyspareunia in the longer term	A
Warn women undergoing autologous fascial sling that there is a high risk of voiding difficulty and the need to perform clean intermittent self-catheterisation; ensure they are willing and able to do so.	A
Do a cystoscopy as part of retropubic insertion of a mid-urethral sling, or if difficulty is encountered during transobturator sling insertion, or if there is a significant cystocele	C

Women being offered a single-incision sling device for which an evidence base exists, should be warned that short-term efficacy is inferior to standard mid-urethral slings and that long-term efficacy remains uncertain	C
Only offer single-incision sling devices, for which there is no level 1 evidence base, as part of a structured research programme	A
Only offer adjustable mid-urethral sling as a primary surgical treatment for stress urinary incontinence as part of a structured research programme	C
Do not offer bulking agents to women who are seeking a permanent cure for stress urinary incontinence	A

Complicated Stress UI in women

Recommendations 19 (<i>Surgery for complicated stress urinary incontinence in women</i>)	GR
The choice of surgery for recurrent stress urinary incontinence should be based on careful evaluation of the individual patient	C
Women should be warned that the outcome of second-line surgical procedures is likely to be inferior to first-line treatment, both in terms of reduced benefit and increased risk of harm	C
Offer implantation of AUS or ACT as an option for women with complicated stress urinary incontinence if they are available and appropriate monitoring of outcome is in place	C

Warn women receiving AUS or ACT that there is a high risk of mechanical failure or a need for explanation	C
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AUS = Artificial Urinary Sphincter; ACT = Adjustable Compression Therapy

Men with Stress UI

Recommendations 20 (Surgical treatment of men with stress urinary incontinence)	GR
Only offer bulking agents to men with mild post-prostatectomy incontinence who desire temporary relief of UI symptoms	C
Do not offer bulking agents to men with severe post-prostatectomy incontinence	C
Offer fixed slings to men with mild-to-moderate post-prostatectomy incontinence	B
Warn men that severe incontinence, prior pelvic radiotherapy or urethral stricture surgery, may worsen the outcome of fixed male sling surgery	C
Offer AUS to men with persistent (more than 6 months) moderate-to-severe post-prostatectomy incontinence that has not responded to conservative management	B
Warn about the long-term risk of failure and need for revision when counselling men for insertion of AUS	C
Only offer the non-circumferential compression device (ProACT®) for men with post-prostatectomy incontinence if arrangements for monitoring of outcome are in place	C

Warn men considering a non-circumferential compression device (ProACT®) that there is a high risk of failure and subsequent explantation	C
Do not offer non-circumferential compression device (ProACT®) to men who have had pelvic radiotherapy	C

AUS = Artificial urinary sphincter

Surgical interventions for Refractory Detrusor Overactivity

Intravesical Botulinum Toxin injection

Recommendations 21	GR
Offer botulinum toxin A intravesical injections to patients with urgency urinary incontinence refractory to antimuscarinic therapy	A
Warn patients of the possible need to self-catheterise and the associated risk of urinary tract infection; ensure that they are willing and able to do so	A
Patients should also be warned of the licensing status of botulinum toxin A, and that the long-term effects remain unknown	A

Sacral nerve stimulation (neuromodulation)

Recommendation 22	GR
If available, offer patients with urgency urinary incontinence that is refractory to conservative therapy, the opportunity to be treated by sacral nerve neuromodulation before bladder augmentation or urinary diversion is considered	A

Augmentation Cystoplasty / Urinary Diversion

Recommendations 23	GR
Only offer augmentation cystoplasty to patients with detrusor overactivity incontinence who have failed conservative therapy, in whom the possibility of botulinum toxin and sacral nerve stimulation has been discussed	C
Warn patients undergoing augmentation cystoplasty of the high risk of having to perform clean intermittent self-catheterisation; ensure they are willing and able to do so	C
Do not offer detrusor myectomy as a treatment for urinary incontinence	C
Only offer urinary diversion to patients who have failed less invasive therapies for the treatment of urinary incontinence and who will accept a stoma	C
Warn patients undergoing augmentation cystoplasty or urinary diversion of the high risk of short-term and long-term complications, and the possible small risk of malignancy	C
Life-long follow-up is recommended for patients who have undergone augmentation cystoplasty or urinary diversion	C

Treatment of Mixed Urinary Incontinence

Recommendations 24	GR
Treat the most bothersome symptom first in patients with mixed urinary incontinence	C
Warn patients with mixed urinary incontinence that the chance of success of pelvic floor muscle training is less satisfactory than for stress urinary incontinence alone	B
Offer antimuscarinic drugs to patients with urge-predominant mixed urinary incontinence	A
Warn patients with mixed urinary incontinence that surgery is less likely to be successful than surgery in patients with stress urinary incontinence alone	A

This short text is based on the more comprehensive EAU guidelines (ISBN 978-90-79754-09-0), available to all members of the European Association of Urology at their website - <http://www.uroweb.org>.

Woman presenting with Urinary Incontinence

Initial assessment

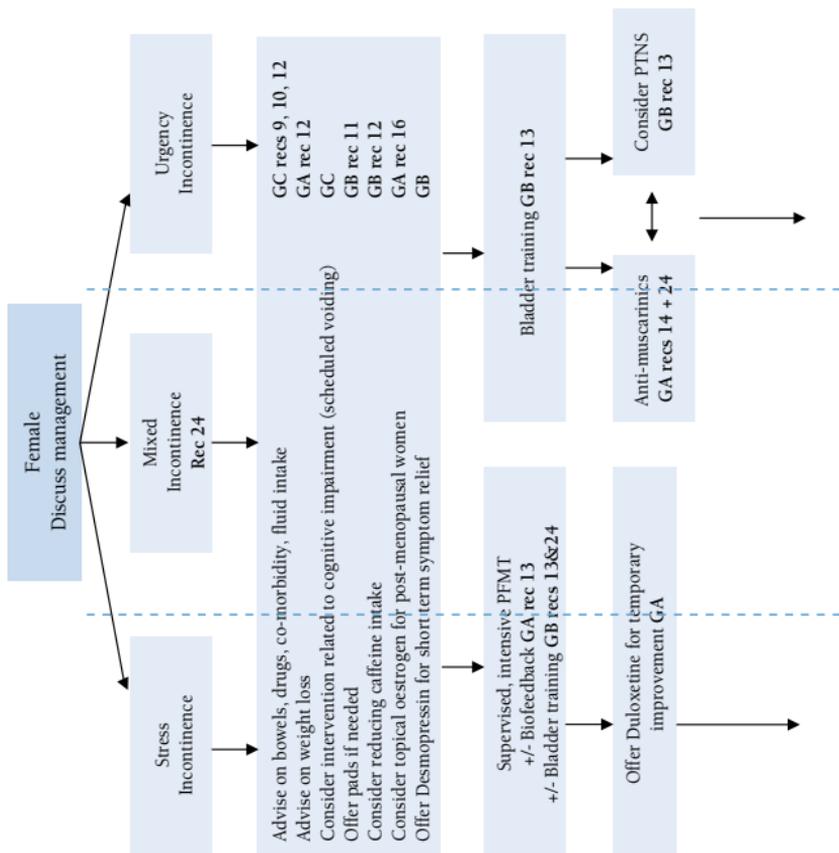
- History
- Physical examination
- Questionnaire optional
- Voiding diary
- Urinalysis
- Post void residual if voiding difficulty
- Pad test if quantification of leakage is desired

GA rec 1
GA rec 1
GC rec 2
GB rec 3
GA rec 4
GB rec 5
GC rec 7

Reasons for specialist Referral (rec 1)

- Haematuria
- Pain
- Recurrent UTI
- Grade 3 or symptomatic prolapse
- Previous pelvic radiotherapy
- Previous surgery for UI (go to bottom of pathway)
- Pelvic mass
- Suspicion of fistula

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Male presenting with Urinary Incontinence

Initial assessment

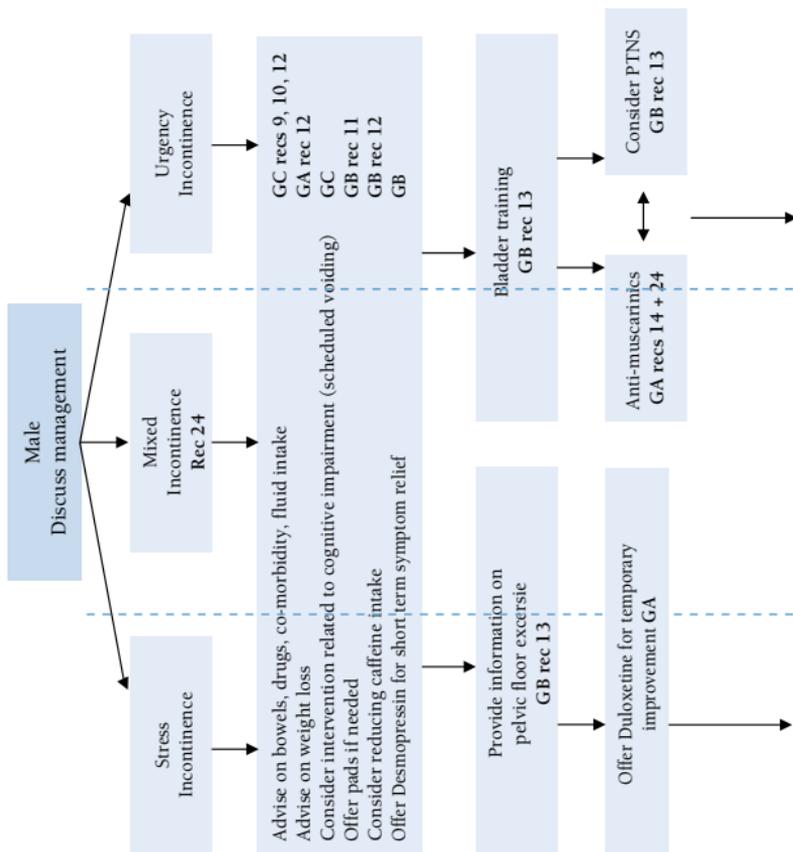
- History
- Physical examination
- Questionnaire optional
- Voiding diary
- Urinalysis
- Post void residual if voiding difficulty
- Pad test if quantification of leakage is desired

GA	rec 1
GA	rec 1
GC	rec 2
GB	rec 3
GA	rec 4
GB	rec 5
GC	rec 7

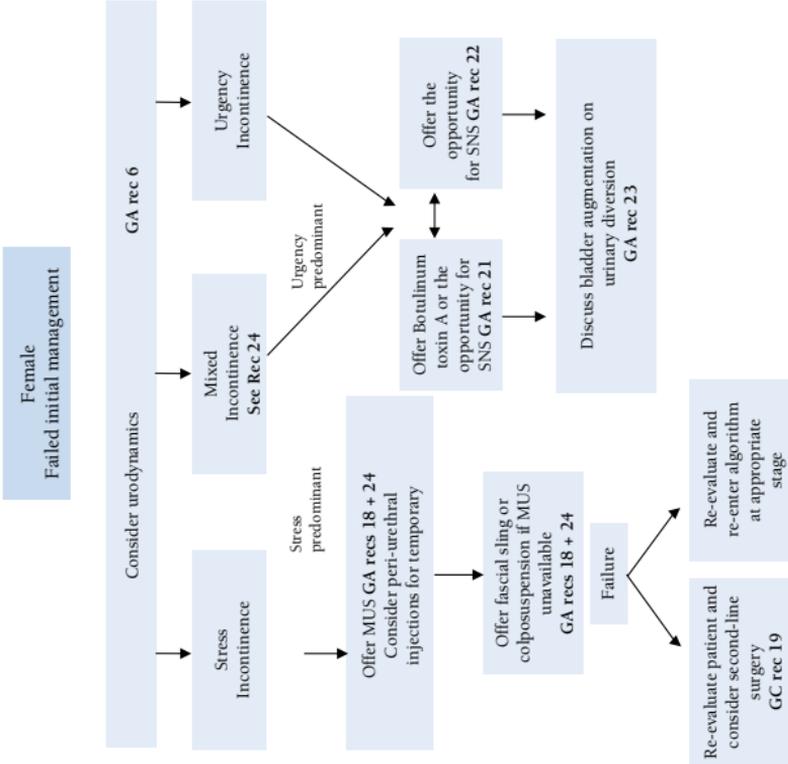
Reasons for specialist Referral

- See rec 1
- Haematuria
- Pain
- Recurrent UTI
- Previous pelvic radiotherapy
- Abnormal DRE
- Findings suspicious of voiding dysfunction

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Male
Failed initial management

