NHS
National Institute for Health and Clinical Excellence

Quick reference guide

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Urinary incontinence

The management of urinary incontinence in women

NICE clinical guideline 40
Developed by the National Collaborating Centre for Women's and Children's Health

Contents

Woman-centred care

Treatment and care should take into account women's individual needs and preferences. Good communication is essential, supported by evidence-based information, to allow women to reach informed decisions about their care. If a woman does not have the capacity to make decisions, healthcare professionals should follow the Department of Health guidelines – 'Reference guide to consent for examination or treatment' (2001) (available from www.dh.gov.uk). From April 2007, healthcare professionals will need to follow a code of practice accompanying the Mental Capacity Act (summary available from www.dca.gov.uk/menincap/bill-summary.htm).

Carers and relatives should also be provided with the information and support they need.

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This guidance is written in the following context

This guidance represents the view of the Institute, which was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. The guidance does not, however, override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Key priorities for implementation

The following recommendations have been identified as priorities for implementation. The recommendations are followed by short summaries of the evidence supporting them.

Assessment and investigation

- At the initial clinical assessment, the woman's urinary incontinence (UI) should be categorised as stress UI, mixed UI, or urge UI/overactive bladder syndrome (OAB). Initial treatment should be started on this basis. In mixed UI, treatment should be directed towards the predominant symptom.

  Expert opinion concludes that symptomatic categorisation of UI based on reports from the woman and history taking is sufficiently reliable to inform initial, non-invasive treatment decisions. (See section 3.2 of the full guideline.)

- Bladder diaries should be used in the initial assessment of women with UI or OAB. Women should be encouraged to complete a minimum of 3 days of the diary covering variations in their usual activities, such as both working and leisure days.

  Bladder diaries are a reliable method of quantifying urinary frequency and incontinence episodes. The Guideline Development Group (GDG) concluded that a 3-day period allows variation in day-to-day activities to be captured while securing reasonable compliance. (See section 3.9 of the full guideline.)

- The use of multi-channel cystometry, ambulatory urodynamics or videourodynamics is not recommended before starting conservative treatment.

- For the small group of women with a clearly defined clinical diagnosis of pure stress UI, the use of multi-channel cystometry is not routinely recommended.

- Multi-channel filling and voiding cystometry is recommended in women before surgery for UI if:
  - there is clinical suspicion of detrusor overactivity, or
  - there has been previous surgery for stress incontinence or anterior compartment prolapse, or
  - there are symptoms suggestive of voiding dysfunction.

  Ambulatory urodynamics or videourodynamics may also be considered in these circumstances.

  It has not been shown that carrying out urodynamic investigations before initial treatment improves outcome. Complex reconstructive urological procedures were developed for use in specific urodynamic abnormalities. Hence, the GDG concluded that urodynamic investigations should be used to demonstrate the presence of specific abnormalities before undertaking these procedures. The GDG considered that urodynamic investigations are also of value if the clinical diagnosis is unclear prior to surgery or if initial surgical treatment has failed. (See section 3.11 of the full guideline.)

Key priorities for implementation *continued*

Conservative management

- A trial of supervised pelvic floor muscle training of at least 3 months' duration should be offered as first-line treatment to women with stress or mixed UI.

  There is good evidence that daily pelvic floor muscle training continued for 3 months is a safe and effective treatment for stress and mixed UI. (See section 4.2 of the full guideline.)

- Bladder training lasting for a minimum of 6 weeks should be offered as first-line treatment to women with urge or mixed UI.

  There is good evidence that bladder training is an effective treatment for urge or mixed UI, with fewer adverse effects and lower relapse rates than treatment with antimuscarinic drugs. (See section 4.3 of the full guideline.)

- Immediate release non-proprietary oxybutynin should be offered to women with OAB or mixed UI as first-line drug treatment if bladder training has been ineffective. If immediate release oxybutynin is not well tolerated, darifenacin, solifenacin, tolterodine, trospium, or an extended release or transdermal formulation of oxybutynin should be considered as alternatives. Women should be counselled about the adverse effects of antimuscarinic drugs.

  There is no evidence of a clinically important difference in efficacy between antimuscarinic drugs. However, immediate release non-proprietary oxybutynin is the most cost effective of the available options. (See section 4.4.1 of the full guideline.)

- Pelvic floor muscle training should be offered to women in their first pregnancy as a preventive strategy for UI.

  There is evidence that pelvic floor muscle training used during a first pregnancy reduces the likelihood of postnatal UI. (See section 4.7 of the full guideline.)

Surgical management

- Sacral nerve stimulation is recommended for the treatment of UI due to detrusor overactivity in women who have not responded to conservative treatments. Women should be offered sacral nerve stimulation on the basis of their response to preliminary percutaneous nerve evaluation. Life-long follow-up is recommended.

  The treatment options for women who have detrusor overactivity and have not responded to conservative therapy are all costly and associated with significant morbidity. There is a stronger body of evidence for the effectiveness of sacral nerve stimulation than for other procedures. Up to two thirds of patients achieve continence or substantial improvement in symptoms after this treatment. (See section 5.1 of the full guideline.)

Key priorities for implementation *continued*

- Retropubic mid-urethral tape procedures using a 'bottom-up' approach with macroporous (type 1) polypropylene meshes are recommended as treatment options for stress UI where conservative management has failed. Open colposuspension and autologous rectus fascial sling are the recommended alternatives when clinically appropriate.

  Many procedures have been described for the treatment of stress UI; although there is no strong evidence of superior effectiveness of any one, the best available data support the use of retropubic mid-urethral tape procedures, colposuspension and autologous rectus fascial sling. Retropubic mid-urethral tape procedures consume fewer hospital resources and are associated with faster recovery than the other two procedures. (See section 5.2 of the full guideline.)

Competence of surgeons performing operative procedures for UI in women

- Surgery for UI should be undertaken only by surgeons who have received appropriate training in the management of UI and associated disorders or who work within a multidisciplinary team with this training, and who regularly carry out surgery for UI in women.

  The expertise of the surgeon is one of the factors that influence surgical outcomes. The best outcomes are achieved when surgeons and/or their multidisciplinary team have specialist training and regular practice in continence surgery. (See section 6 of the full guideline.)

The management of urinary incontinence in women

Lifestyle interventions

Advise women with UI or OAB to:

- modify high or low fluid intake
- lose weight if their body mass index is over 30.

Initial assessment

- Categorise UI as stress UI, urge UI/OAB or mixed UI. Start treatment on this basis.
- Identify factors that may require referral.
- Ask the woman to complete a bladder diary for at least 3 days, covering variations in usual activities (e.g. working and leisure days).
- Use urine dipstick tests to detect blood, glucose, protein, leucocytes and nitrites.

Stress UI

- First-line treatment for stress or mixed UI should be pelvic floor muscle training (PFMT) lasting at least 3 months.
  - Digitally assess pelvic floor muscle contraction before PFMT.
  - PFMT should consist of at least eight contractions, three times a day.
  - If PFMT is beneficial, continue an exercise programme.
  - During PFMT, do not routinely use:
    - electrical stimulation; consider it and/or biofeedback in women who cannot actively contract their pelvic floor muscles
    - biofeedback using perineometry or pelvic floor electromyography.
- Duloxetine:
  - should not be used as a first-line treatment for stress UI
  - should not routinely be used as a second-line treatment for stress UI
  - may be offered as an alternative to surgical treatment; counsel women about adverse effects.

Further assessment

- For the few women with pure stress UI multi-channel cystometry is not routinely necessary before primary surgery

Stress UI

Discuss the risks and benefits of surgical and non-surgical options. Consider the woman's child-bearing wishes during the discussion.

If conservative treatments have failed, consider:

- retropubic mid-urethral tape procedures using a 'bottom-up' approach with macroporous (type 1) polypropylene meshes, open colposuspension or autologous rectus fascial sling
- synthetic slings using a retropubic 'top-down' or a transobturator foramen approach. Explain the lack of long-term outcome data
- intramural bulking agents (glutaraldehyde cross-linked collagen, silicone, carbon-coated zirconium beads, hyaluronic acid/dextran co-polymer). Explain that:
  - repeat injections may be needed
  - the effect decreases over time
  - the technique is less effective than retropubic suspension or sling.
- an artificial urinary sphincter if previous surgery has failed.*

[1] The use of desmopressin for idiopathic UI is outside its UK marketing authorisation. Informed consent to treatment should be obtained
MRI, magnetic resonance imaging; CT, computed tomography.

FOLD

Woman with urinary incontinence (UI) or overactive bladder syndrome (OAB)

		Dipstick test results	
		Positive for leucocytes and nitrites	**Negative for either leucocytes or nitrites**
Urinary tract infection (UTI)	Symptoms	Send a mid-stream urine sample for culture and antibiotic sensitivity analysis. Prescribe appropriate antibiotics pending results.	Consider antibiotics pending results.
	No symptoms	Do not prescribe antibiotics unless there is a positive urine culture result.	UTI unlikely. Do not send a urine sample for culture.

Mixed UI
- Determine treatment according to whether stress or urge UI is the dominant symptom.

Other treatments for UI or OAB
- Consider desmopressin to reduce troublesome nocturia.[1]
- Consider propiverine to treat frequency of urination in OAB.

The following are not recommended:
- propiverine for the treatment of UI
- flavoxate, imipramine and propantheline
- systemic hormone-replacement therapy
- complementary therapies.

- Use multi-channel filling and voiding cystometry before surgery for UI if:
  - there is clinical suspicion of detrusor overactivity, or
  - there has been previous surgery for stress UI or anterior compartment prolapse, or
  - there are symptoms of voiding dysfunction.

Ambulatory urodynamics or videourodynamics may be considered before surgery for UI in the same circumstances as multi-channel filling and voiding cystometry.

The following are not recommended for stress UI:
- routine use of laparoscopic colposuspension
- synthetic slings using materials other than polypropylene that are not of a macroporous (type 1) construction
- anterior colporrhaphy, needle suspensions, paravaginal defect repair and the Marshall–Marchetti–Krantz procedure
- autologous fat and polytetrafluoroethylene as intramural bulking agents.

and documented. [2] The use of botulinum toxin A for this indication is outside its UK marketing authorisation. Informed consent to treatment should be

- Measure post-void residual urine in women with symptoms of voiding dysfunction or recurrent UTI. If available, use a bladder scan in preference to catheterisation.

The following are not recommended:

- urodynamics before conservative treatment
- ultrasound, except to assess residual urine volume
- routine use of pad tests or imaging (MRI, CT and X-ray)
- cystoscopy in the initial assessment of women with UI alone
- Q-tip, Bonney, Marshall and Fluid-Bridge tests.

Indications for referral
See page 9.

OAB with or without urge UI

- Recommend caffeine reduction.
- First-line treatment for urge or mixed UI should be bladder training lasting at least 6 weeks. If frequency remains troublesome, consider adding an antimuscarinic drug.
- If bladder training is ineffective, prescribe non-proprietary oxybutynin.
  - Counsel the woman about adverse effects of antimuscarinic drugs.
  - If oxybutynin is not tolerated, alternatives are darifenacin, solifenacin, tolterodine, trospium, or different oxybutynin formulations.
  - Carry out an early treatment review after any change in drug.
- In postmenopausal women with vaginal atrophy, offer intravaginal oestrogens for OAB symptoms.
- In women with UI who also have cognitive impairment, prompted and timed toileting programmes may help reduce leakage episodes.
- Do not routinely use electrical stimulation in OAB.

OAB with or without urge UI

Discuss the risks and benefits of surgical and non-surgical options. Consider the woman's child-bearing wishes during the discussion.

If conservative treatments have failed, consider:

- botulinum toxin A to treat idiopathic detrusor overactivity in those willing and able to self-catheterise; explain the lack of long-term data; special arrangements for audit or research should be in place[2]
- sacral nerve stimulation for UI due to detrusor overactivity; select patients on basis of response to preliminary peripheral nerve evaluation*
- augmentation cystoplasty in those willing and able to self-catheterise; explain common and serious complications and the small risk of malignancy in the augmented bladder*
- urinary diversion if sacral nerve stimulation and augmentation cystoplasty are not appropriate or unacceptable.*

obtained and documented. Do not use botulinum toxin B. *Provide life-long follow-up after this procedure.

Indications for referral

Urgently refer women with any of the following:[3]

- microscopic haematuria if aged 50 years and older
- visible haematuria
- recurrent or persisting UTI associated with haematuria if aged 40 years and older
- suspected pelvic mass arising from the urinary tract.

Refer women with:

- symptomatic prolapse visible at or below the vaginal introitus
- palpable bladder on bimanual or physical examination after voiding.

Consider referring women with:

- persisting bladder or urethral pain
- clinically benign pelvic masses
- associated faecal incontinence
- suspected neurological disease
- voiding difficulty
- suspected urogenital fistulae
- previous continence surgery
- previous pelvic cancer surgery
- previous pelvic radiation therapy.

[3] NICE's 'Referral guidelines for suspected cancer' (www.nice.org.uk/CG027) define urgent referral as the patient being seen within the national target for urgent referrals (currently 2 weeks).

Non-therapeutic interventions

Bladder catheterisation

Consider catheterisation in women with persistent urinary retention that causes incontinence, symptomatic infections or renal dysfunction that cannot otherwise be corrected.

- Use intermittent urethral catheterisation if the woman or her carer can perform the technique.
- Consider the impact of long-term indwelling urethral catheterisation and discuss its benefits and risks. Indications include:
  - chronic retention in women unable to manage intermittent self-catheterisation
  - urine contamination of skin wounds, pressure sores or irritations
  - distress and disruption caused by bed and clothing changes
  - woman's preference for this form of management.
- Consider indwelling suprapubic catheters as an alternative to long-term urethral catheters. Explain that they may cause lower rates of urinary tract infection, 'by-passing' and urethral complications.
- Explain that indwelling catheters may not result in continence in urge UI.

Other strategies

- Absorbent products, hand held urinals and toileting aids are not a treatment for UI. Use them only as:
  - a coping strategy while awaiting definitive treatment
  - an adjunct to ongoing therapy
  - long-term management of UI only after treatment options have been explored.
- Do not routinely use intravaginal and intra-urethral devices to manage UI. They may be useful occasionally to prevent leakage, for example during physical exercise.

Competence of surgeons

Surgeons who perform procedures for UI or OAB in women should:

- have training in the management of UI and associated disorders or work in a multidisciplinary team with this training
- have training in cystourethroscopy
- have their operative competence formally assessed by trainers
- be able to show that their training, experience and practice equates to standards for newly trained surgeons, if they are already carrying out procedures for UI
- maintain careful audit data and submit their outcomes to national registries such as those maintained by the British Society of Urogynaecology or the British Association of Urological Surgeons
- carry out a sufficient case load to maintain their skills.
  - An annual workload of at least 20 cases of each primary procedure for stress UI is recommended.
  - Surgeons undertaking fewer than five cases of any procedure annually should do so only with the support of their clinical governance committee; otherwise referral pathways should be in place.

There should be a nominated clinical lead for UI and prolapse surgery within each surgical unit. He or she should work within an integrated continence service.

About this booklet

This booklet summarises the recommendations NICE has made to the NHS in 'Urinary incontinence: the management of urinary incontinence in women' (*NICE clinical guideline* 40).

Who should read this booklet?

The booklet is for GPs, nurses, physiotherapists, gynaecologists, urologists and others who care for women with urinary incontinence or overactive bladder syndrome. It contains what you need to know to put the guideline's recommendations into practice.

Who wrote the guideline?

The guideline was developed by the National Collaborating Centre for Women's and Children's Health, which is based at the Royal College of Obstetricians and Gynaecologists. The Collaborating Centre worked with a group of healthcare professionals (including consultants, GPs and nurses), representatives of the Royal Colleges and professional bodies, patients and carers, and technical staff, who reviewed the evidence and drafted the recommendations. The recommendations were finalised after public consultation.

For information on how NICE clinical guidelines are developed, go to www.nice.org.uk

Where can I get more information about the guideline on urinary incontinence in women?

The NICE website has the recommendations in full, summaries of the evidence they are based on, a summary of the guideline for patients and carers, and tools to support implementation (see below for more details).

Implementation

NICE has developed tools to help organisations implement this guideline (listed below). These are available on our website (www.nice.org.uk/CG040).

- Slides highlighting key messages for local discussion.
- Costing tools:
  - costing report to estimate the national savings and costs associated with implementation
  - costing template to estimate the local costs and savings involved.
- Implementation advice on how to put the guidance into practice and national initiatives that support this locally.
- Audit criteria to monitor local practice.

Further information

Ordering information

You can download the following versions of this guideline from www.nice.org.uk/CG040

- The quick reference guide (this document) – a summary of the recommendations for healthcare professionals.
- 'Understanding NICE guidance' – information about the guideline for patients and carers.
- The NICE guideline – all the recommendations.
- The full guideline – all the recommendations, details of how they were developed and summaries of the evidence they were based on.

For printed copies of the quick reference guide or 'Understanding NICE guidance', phone the NHS Response Line on 0870 1555 455 and quote:

- N1128 (quick reference guide)
- N1129 ('Understanding NICE guidance').

Related guidance

For information about NICE guidance that has been issued or is in development, see the website (www.nice.org.uk).

Cancer service guidance

- Improving outcomes in urological cancers. *NICE cancer service guidance* (2002). Available from www.nice.org.uk/csguc

Clinical guidelines

- Routine postnatal care of women and their babies. *NICE clinical guideline* no. 37 (2006). Available from www.nice.org.uk/CG037
- Referral guidelines for suspected cancer. *NICE clinical guideline* no. 27 (2005). Available from www.nice.org.uk/CG027
- Infection control: prevention of healthcare-associated infection in primary and community care. *NICE clinical guideline* no. 2 (2003). Available from www.nice.org.uk/CG002

Interventional procedure guidance

- Insertion of biological slings for stress urinary incontinence in women. *NICE interventional procedure guidance* no. 154 (2006). Available from www.nice.org.uk/IPG154
- Insertion of extraurethral (non-circumferential) retropubic adjustable compression devices for stress urinary incontinence in women. *NICE interventional procedure guidance* no. 133 (2005). Available from www.nice.org.uk/IPG133
- Intramural urethral bulking procedures for stress urinary incontinence in women. *NICE interventional procedure guidance* no. 138 (2005). Available from www.nice.org.uk/IPG138
- Sacral nerve stimulation for urge incontinence and urgency-frequency. *NICE interventional procedure guidance* no. 64 (2004). Available from www.nice.org.uk/IPG064
- Bone-anchored cystourethropexy. *NICE interventional procedure guidance* no.18 (2003). Available from www.nice.org.uk/IPG018

NICE is in the process of developing the following guidance (details available from www.nice.org.uk):

- The management of faecal incontinence in adults. *NICE clinical guideline*. (Publication expected June 2007.)

Updating the guideline

NICE clinical guidelines are updated as needed so that the results of new research can be put into practice. We check for new evidence 2 and 4 years after publication, to decide whether all or part of the guideline should be updated. If important new evidence is published at other times, we may decide to do a more rapid update of some recommendations.

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