INTRODUCTION:
Urinary incontinence (UI) is a common symptom that can affect both women and men of all ages, with a wide variety of severity & nature. Although rarely life-threatening, UI may profoundly impact on the wellbeing of affected patients/carers and have considerable resource implications for the local health service.

DEFINITIONS
- **Stress UI**: Involuntary urine leakage on effort/exertion or on sneezing/coughing
- **Urgency UI**: Involuntary urine leakage accompanied or immediately preceded by urgency
- **Mixed UI**: Involuntary urine leakage associated with both urgency & exertion/effort/sneezing/coughing
- **OAB**: Overactive bladder – urgency with/without urgency UI and usually with frequency & nocturia

These guidelines have been based on NICE CG171 – urinary incontinence in women (Sep 2013) which replaces the previous NICE CG40 (Oct 2006) and reflects the changes in new methods of managing UI and reported improvements in the effectiveness and advances in the types of procedures offered since 2006. The updated guidelines have also assessed the cost-effectiveness of the UI drugs and updated the recommendations for the 1st and 2nd line choices of drug treatment for OAB and mixed UI.

Although the guidelines are intended for use in women, the initial assessment, conservative management and drug treatment pathway may be applicable for men with symptoms of OAB and mixed UI.

SUMMARY OF KEY POINTS FOR PRIMARY CARE CLINICIANS:
See Page 4 for further details on drug treatment algorithm and Page 5 for Hertfordshire Community Trust (HCT) Adult Bladder & Bowel service referral forms & useful resource materials & information for patients

**INITIAL ASSESSMENT**
- Take history and test urine, urgent referral to specialist when certain symptoms present
- Score symptoms and assess QoL
- Categorise UI and direct treatment to predominant symptom
- Treat nocturia, vaginal atrophy and urinary retention
- Consider a referral for more complex patients (e.g. significant stress UI or patient with cognitive impairment) to HCT Adult Bladder & Bowel service for assessment and management.

**1ST LINE TREATMENT** - non-pharmacological **conservative** management:
- **Bladder diary** (minimum 3 days)
- **Lifestyle interventions** (↓ caffeine intake, fluid modification, ↓ weight if BMI>30)
- **Pelvic floor muscle training** (minimum 3 months) for stress or mixed UI
- **Bladder training** (minimum 6 weeks) for OAB or mixed UI
- **Patient education** on self-management of condition

If no improvement in 6-8 weeks, a referral can be made to HCT Adult Bladder & Bowel service for further assessment, treatment, advice and support.
**DRUG TREATMENT for OAB and MIXED UI** – Do NOT prescribe unless the patient has been assessed and 1st line non-drug conservative management has been tried for an adequate duration and has failed:

- **OAB drugs only provide modest benefit** and there are adverse effects (antimuscarinic effects i.e. dry mouth, constipation)
- Educate patient to manage patient expectation of drug treatment outcome. Discuss likelihood of success (only modest benefit); that side effects (dry mouth) means drug is working and may improve with time; and that full benefit may take at least 4-8 weeks.
- **Patient safety recommendations:** Start on low doses; take account of total anticholinergic load (other drugs with antimuscarinic side-effects) and co-existing conditions (e.g. poor bladder emptying). Do not prescribe oxybutynin IR in frail older people i.e. those with multiple co-morbidities, functional impairments (walking/dressing difficulties) and/or any degree of cognitive impairment.
- Treatment goals must be clear and objective. Use a bladder diary to assess response.
- ACUTE prescriptions only for new lines of drug treatment. Do not put on REPEAT until reviewed.
- Medication review at 4-8 weeks after starting. Do not change drug or dose if therapy is beneficial.
- If new line of treatment is no more effective or better tolerated, revert back to previous line.
- Review regularly. Only continue drug treatment if benefit maintained.
- Review long term patients annually or every 6 months if >75 years.
  - Consider a drug holiday in long-term patients to see if still required.
  - If drug still needed, consider choice of OAB drug within the guidelines (unless previously not tolerated or ineffective).
- No difference in the clinical efficacy between OAB drugs. No evidence that one treatment is better than another. More expensive OAB drugs do not mean they are more effective. The lowest cost drug should be used (see Page 4 for full details):
  - 1st line = oxybutynin IR or tolterodine IR
  - 2nd line = trospium MR
  - 3rd line = mirabegron
  - There is a local agreement for specialists to use a 3rd line antimuscarinic (NOT solifenacin or oxybutynin M/R) if clinically appropriate before consideration of invasive procedures.
- If OAB drug is not effective at any line of treatment, consider referral to HCT Adult Bladder & Bowel service for further management options.
- Patients currently on OAB drug choices not within the guidelines may remain on treatment whilst benefit is still maintained.
- Do not prescribe UI/OAB drugs for stress UI. Duloxetine may be used for stress UI (specialist initiation only) when primary stress UI procedures have failed.

**Review Period:**
Guidelines to be reviewed every 3 years or in the event of new evidence or significant drug price changes

**Acknowledgements:**
The Hertfordshire guidelines have been produced by the Central Eastern CSU Pharmacy & Medicines Optimisation Team (PMOT) and approved by Hertfordshire Medicines Management Committee (HMMC April 2014) following consultation with local specialists at East & North Hertfordshire (E&NHHT), West Hertfordshire Hospital Trusts (WHHT) and Hertfordshire Community Trust (HCT) Adult Bladder and Bowel service.

Special thanks to the following for their contribution to the development of these guidelines:
- **WHHT:** Mr Andrew Hextall (Obs & Gynae consultant), Mr Freddie Banks (Urology consultant), Mr Michael Menzes (Obs & Gynae consultant) and Ms Rekha Shah (pharmacist)
- **E&NHHT:** Miss Charlotte Foley (Urology consultant) and Mr Rami Atalla (Obs & Gynae consultant)
- **HCT:** Ms Lee O’Hara (Clinical Lead, HCT Adult Bladder and Bowel Service)
- **CECSU PMOT:** Ms EY Cheung (Senior Pharmaceutical Adviser)
**Hertfordshire Urinary Incontinence Guidelines approved by HMMC April 2014**

---

### Diagnosis and Assessment

**Initial Assessment (Primary Care/HCT)**
- Categorise as stress UI, mixed UI, or urgency
- Start initial conservative treatment on this basis.
- In mixed UI, direct treatment to the predominant symptom. If this is stress UI, advise on the benefit of conservative management including OAB drugs before offering surgery.
- Ask patient to complete a bladder diary for at least 3 days, covering variations in usual activities (e.g. working and leisure days).
- The use of incontinence-specific quality of life (I-QoL) scales may be useful to score symptoms and evaluate therapies e.g. ICIQ, BFLUTS and KHQ etc.
- Use urine dipstick tests to detect blood glucose, protein, leucocytes and nitrates. See above table for actions.

<table>
<thead>
<tr>
<th>Urine Dipstick Test Results</th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urinary Tract Infection (UTI) Symptoms</td>
<td>Prescribe appropriate antibiotics pending culture results</td>
<td>Consider prescribing appropriate antibiotics pending culture results</td>
</tr>
<tr>
<td>No UTI Symptoms</td>
<td>Do not prescribe antibiotics unless there is a positive urine culture result</td>
<td>UTI unlikely. Do not send an urine sample for culture</td>
</tr>
</tbody>
</table>

**Diagnosis and Assessment**

- 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 (more acceptable and inverse events).
- Consider referral, particularly more complex patients e.g. significant stress UI or patients with neurological disease may be useful to score symptoms and evaluate therapies e.g. ICIQ, BFLUTS and KHQ etc.

**Conservative Management (Primary Care/HCT)**

- Pelvic floor muscle training (PFMT): 1st-line treatment for stress or mixed UI.
  - Digital assessment to confirm pelvic floor muscle contraction before PFMT.
  - Trial of supervised training lasting at least 3 months. PFMT should consist of at least 8 contractions, 3 times a day.
  - If PFMT is beneficial, continue an exercise programme.
  - If frequency is still troublesome after training, consider combination of OAB drug with bladder training.

- Bladder training: 1st-line treatment for urge UI or mixed UI – training should last a minimum of 6 weeks.
  - In patient with OAB who also have cognitive impairment, prompted and timed toileting programmes may help leakage episodes.

- For the few patients with pure stress, UI multi-channel cystometry is not routinely necessary before primary surgery
  - Use multi-channel filling and voiding cystometry before surgery for UI if there are OAB symptoms and chronic suspicion of detrusor overactivity OR there are symptoms of voiding dysfunction or anterior compartment prolapse OR there has been previous surgery for stress UI.

### Surgical/Invasive Management

**Stress UI**
- Discuss the risks and benefits of surgical and non-surgical options. Use NICE information to facilitate discussion: http://publications.nice.org.uk/urinary-incontinence-cg171/recommendations (after section 1.11.9). Consider the woman’s child-bearing wishes during the discussion.
- If conservative treatments have failed, consider - Synthetich mid-urethral tape - Open colposuspension - Autologous rectus fascial sling - Offer follow-up review 6-8 weeks following surgery

**Secondary Stress UI procedures**
- Refer to specialist care for further assessment
- Consider duloxetine (specialist initiation only)
- Or if woman does not want continued invasive SUI procedures, offer advice on managing symptoms with option for review appointment and further treatment if she changes her mind

**Alternative treatments**
- Intravesical bulking agents (e.g. silicone)
- Artificial urinary sphincter if previous surgery has failed.

**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.
- Botulinum toxin type A – consider for idiopathic detrusor or neurogenic detrusor overactivity in those willing and able to self-catheterise.
  - Discuss the likelihood of symptom reduction; risk of self-catheterisation and variable durations of use after injections worn off; lack of evidence in long-term efficacy, risks, and duration of efficacy, and risk of S/E/S (UTI risk).
  - See HMMC decision for treatment initiation criteria – EANHCCG and HVCFCG
  - Percutaneous sacral nerve stimulation (P-SNS): Offer if unable to self-catheterise or if botulinum toxin A has failed.
  - Discuss long term implications including test stimulation and success; risk of failure; long-term commitment; need for surgical revision and S/Es.
  - Percutaneous posterior tibial nerve stimulation (P-PNTS): Offer if woman does not want botulinum toxin A or P-SNS.
  - Augmentation cystoplasty – restrict to those willing and able to self-catheterise; explain common and serious complications and the small risk of malignancy in the augmented bladder.
  - Urinary diversion – consider if botulinum toxin A, sacral nerve stimulation, and augmentation cystoplasty are not appropriate or unacceptable.
Hertfordshire Drug Treatment Algorithm for OAB and mixed UI

**Do NOT start drug treatment** unless initial assessment completed and conservative management is unsuccessful after an adequate trial.

**Consider referral to HCT Adult Bladder & Bowel service**

1st Line**

**Oxybutinin** IR tablets
- (immediate release)
- Starting dose: 5mg BD - TDS
- Maximum dose: 5mg QDS

**Medication Review*** at 4-8 weeks and if ineffective or not tolerated

**Consider referral to HCT Adult Bladder & Bowel service**

2nd Line**

**Tolterodine IR tablets**
- (immediate release)
- Starting dose: 2mg BD
- (↓ to 1mg BD to minimise S/Es)

*Do NOT use oxybutinin IR in FRAIL OLDER people defined as those with multiple co-morbidities, functional impairments e.g. walking or dressing difficulties and any degree of cognitive impairment

**Offer referral to secondary care** if woman does not want to try another drug, but would like to consider further treatment.

3rd Line**

**Mirabegron 50mg OD**
- (≥ to 25mg OD if moderate renal or hepatic impairment or if drug interactions. See SPC)
- - Beta3-adrenergceptor (not an antimuscarinic agent. Efficacy is similar to antimuscarinics (but it is not superior). Can be used 1st line when absolute contraindication to antimuscarinic. See HMMC decision for initiation criteria in line with NICE TA290: E&NHCCG & HVCCG

**Medication Review*** at 4-8 weeks and if ineffective or not tolerated

**Consider referral to HCT Adult Bladder & Bowel service**

FURTHER INVESTIGATION & INVASIVE TREATMENT OPTIONS

Arrange urodynamic investigation to determine if detrusor overactivity is present:

- Consider botulinum toxin type A (for idiopathic detrusor or neurogenic detrusor overactivity if patient is able and willing to self catheterise). See HMMC and HVCCG websites.
- Sacral neuromodulation or Percutaneous Tibial Nerve Stimulation (PTNS).

**Consider referral to HCT Adult Bladder & Bowel service**

**REFERRAL TO SECONDARY CARE**

Specialist use only: Consider 3rd antimuscarinic drug, where appropriate, before offering invasive treatment.

Choice is based on the drug costs at the time of guideline publication and will be reviewed in light of any significant changes in drug prices.

Drugs for UI - Cost for 28 days (Drug Tariff and DM+D Feb 2014)

**SODEN much†**

- ± solifenacin or oxybutynin MR – see below cost chart). When requesting GP to continue prescribing, specialist will provide clear communication on the previous lines of therapy and the rationale for the initiation of the 3rd antimuscarinic drug.

The drug choices in this guideline will be reviewed in light of any significant changes in drug prices. Solifenacin and oxybutynin MR currently have the most expensive acquisition costs for their licensed dose range and should not be used.

***Medication review***

- First review at 4-8 weeks (face-to-face or telephone), after starting drug treatment. Review sooner if side-effects are intolerable.
- If optimal improvement (may take up to 8 weeks), continue treatment. Review regularly.
- If clinically ineffective (defined as when there has not been a beneficial improvement in symptoms or QoL) OR side-effects are intolerable (change dose or consider alternative OAB drug (see 2nd and 3rd line choices).
- If new line of drug treatment is no more effective or better tolerated, revert patient to previous (less expensive) line of treatment.
- Review patients on long-term drug treatment annually in primary care (or every 6 months for >75yrs).
- Consider a drug holiday to see if treatment is still required. If still needed, consider 1st or 2nd line OAB drug choice if patient has not previously taken.
- Offer referral to secondary care if woman does not want to try another drug, but would like to consider further treatment.

Hertfordshire Urinary Incontinence Guidelines approved by HMMC April 2014
**Catheters:** Consider when persistent urinary retention causes incontinence, symptomatic infections, or renal dysfunction which cannot be corrected. Inform patient that use of indwelling catheters in urgency UI may NOT result in continence.

**Absorbent products, urinals and toileting aids:** Not to be considered as treatment. Only to be used as a coping strategy pending definitive treatment; as an adjunct to ongoing therapy or long-term management of UI only after other treatment options have been explored.

**Products to prevent leakage (intravaginal and intraurethral devices):** Do not use for routine management of UI in women. Do not advise use of devices other than for occasional use when necessary to prevent leakage (e.g., during physical exercise)

---

### Useful Contact Details and Resource Materials – Patient QOL Questionnaires/Leaflets/Information

- **Hertfordshire Community Trust Contience (Adult Bladder and Bowel) Service:**
  - Information for Healthcare Professionals:
    - [http://www.hertschs.nhs.uk/services/adult/Adult_Bladder_Bowel_CareFor_Healthcare_Professionals.aspx](http://www.hertschs.nhs.uk/services/adult/Adult_Bladder_Bowel_CareFor_Healthcare_Professionals.aspx)
  - Service Information Leaflet:
    - [http://www.hertschs.nhs.uk/Library/Adult_Services/Adult_Bladder_and_Bowel_Care/Bladder%20Bowel%20GP%20Leaflet%20July%202013%20v3.pdf](http://www.hertschs.nhs.uk/Library/Adult_Services/Adult_Bladder_and_Bowel_Care/Bladder%20Bowel%20GP%20Leaflet%20July%202013%20v3.pdf)
  - Patient Information Leaflet:
    - [http://www.hertschs.nhs.uk/Library/Adult_Services/Adult_Bladder_and_Bowel_Care/Bladder%20Information%20Pamphlet%20July%202013%20v3.pdf](http://www.hertschs.nhs.uk/Library/Adult_Services/Adult_Bladder_and_Bowel_Care/Bladder%20Information%20Pamphlet%20July%202013%20v3.pdf)
  - Referral Form:
    - [http://www.hertschs.nhs.uk/Library/Adult_Services/Adult_Bladder_and_Bowel_Care/Referral_Form_online_2011.doc](http://www.hertschs.nhs.uk/Library/Adult_Services/Adult_Bladder_and_Bowel_Care/Referral_Form_online_2011.doc)

- **Patient Information on Urinary Incontinence and Further Reading:*
  - [NICE Clinical Guideline 171 – Urinary Incontinence in Women](http://www.nice.org.uk/nicemedia/live/14271/65268/65268.pdf)
  - [Patient Information on Overactive Bladder (OAB):](http://www.patient.co.uk/health/overactive-bladder-syndrome)
  - [Bladder & Bowel Foundation](http://www.bladderandbowelfoundation.org/bladder/bowel-problems/overactive-bladder.asp)

- **Patient Incontinence-Specific QoL & symptom scoring questionnaires:**
  - [Norwegian Stress and Urge Incontinence Questionnaire (SUIQQ):](http://www.iciq.net/structure.html)
  - [Bristol Female Urinary Tract Symptoms Questionnaire (BFLUTS):](http://www.bladderandbowelfoundation.org/bladder/bowel-problems/overactive-bladder.asp)
  - [Kings Health Questionnaire (KHQ):](http://www.nice.org.uk/nicemedia/live/14271/65298/65298.pdf)
  - [Patient QOL Questionnaires/Leaflets/Information](http://www.patient.co.uk/health/overactive-bladder-syndrome)
  - [Incontinence Quality of Life Questionnaire (IQOL):](http://depts.washington.edu/seagol/IQOL)

- **Bladder Diary:**
  - [http://www.hertschs.nhs.uk/Library/Adult_Services/Adult_Bladder_and_Bowel_Care/Bladder%20Record%20Chart%20V2.doc](http://www.hertschs.nhs.uk/Library/Adult_Services/Adult_Bladder_and_Bowel_Care/Bladder%20Record%20Chart%20V2.doc)

- **Bladder Training:**
  - [http://www.patient.co.uk/health/overactive-bladder-syndrome](http://www.patient.co.uk/health/overactive-bladder-syndrome)

- **Lifestyle Interventions:**
  - [http://www.nhs.uk/Conditions/Incontinence-urinary/Pages/Treatment.aspx](http://www.nhs.uk/Conditions/Incontinence-urinary/Pages/Treatment.aspx)

- **Pelvic Floor Exercises:**
  - [Bladder and Bowel Foundation Fact Sheet for women and men (registration required):](http://www.bladderandbowelfoundation.org/resources/fact-sheets.asp)

- **Patient Information on OAB drugs:**

- **NICE Clinical Guideline 171 – Urinary Incontinence in Women**
  - [http://guidance.nice.org.uk/CG171](http://guidance.nice.org.uk/CG171)

- **Hertfordshire Medicines Management Committee (HMMC) Decisions:**

- **Further information:**
  - The Bladder & Bowel Foundation - a charitable organisation providing information and support for patients, carers and healthcare professionals [www.bladderandbowelfoundation.org](http://www.bladderandbowelfoundation.org)
  - Promocon - An organisation promoting awareness and providing information and advice to patients and health professionals, particularly useful for product information and aids to daily living. [www.promocon.co.uk](http://www.promocon.co.uk)