



4

## Drug Treatment for Urinary Incontinence

The underlined terms are listed in the glossary.

Treatment for urinary incontinence depends on the type of incontinence, how severe it is, and what may cause it. Often, self-management measures (see Self-management of Urinary Incontinence) are combined with drug treatment. Together with your doctor you can decide which drug treatment is best for your situation.

The main types of medications used to manage incontinence are muscarinic receptor antagonists (MRAs), mirabegron, and oestrogen. Other drugs include desmopressin and duloxetine.

### Muscarinic receptor antagonists

Muscarinic receptor antagonists (MRAs) are a group of drugs most commonly used to treat urgency urinary incontinence (UUI). They help control UUI by relaxing the muscle in the bladder wall. They block the involuntary nerve signals that cause the bladder wall to contract and the bladder to empty. As a result, sudden uncontrollable bladder contractions happen less often. Because of the muscle relaxation, the

capacity of the bladder to hold urine also increases. This reduces the need to urinate.

MRAs can be used to manage the frequent need to urinate at night, a condition known as nocturia.

MRAs are not effective for stress urinary incontinence (SUI) because this is generally not caused by an overactive detrusor muscle.

There are several types of MRAs:

- Oxybutynin
- Tolterodine
- Darifenacin
- Solifenacin
- Trospium chloride
- Fesoterodine
- Propiverine

Most MRAs are taken as a pill. Some are taken once a day and work for 24 hours. Others can be taken multiple times a day and have an immediate but shorter effect. Oxybutynin is also available as a cream or skin patch.

The immediate-release versions of MRAs are helpful if you experience incontinence only at certain times,

for instance at night. They also help to manage incontinence if you want to take medication only in specific situations, like when travelling. Immediate-release MRAs generally cause more side effects, compared to the slow-release MRAs.

Side effects of MRAs are usually mild. They may include dry mouth and eyes, constipation, difficulties urinating, blurred vision, and dizziness. In the elderly, MRAs can cause impaired memory and confusion. Especially oxybutynin can have these effects.

## Mirabegron

Mirabegron is a beta-3 receptor agonist. This medicine relaxes the bladder muscle and helps to increase the capacity of the bladder. Because of this, you will feel less need to urinate. Your doctor may recommend mirabegron if your incontinence has not improved when taking MRAs. It can also help if you experience bothersome side effects from the MRAs but you do not want to have surgery. The side effects of mirabegron are usually mild but the long-term side effects are unclear.

## Oestrogen

The hormone oestrogen plays an important role in female continence. Oestrogen is known to improve blood flow and increase nerve function. It also helps maintain the strength and flexibility of tissues in the urethra and vagina. As women age, they produce less oestrogen. Lower levels of oestrogen cause vaginal dryness and may affect the bladder and urethra. This can contribute to problems with bladder control.

Local oestrogen therapy can be recommended for women who suffer from urinary incontinence and have already gone through menopause. The treatment comes as a vaginal cream, or can be released through a vaginal ring or pessary.

There is no evidence that vaginal oestrogen therapy cures SUI, but it may improve or even cure UUI. It can be used in combination with other drug treatments for incontinence. When vaginal cream is used correctly,

it usually does not cause side effects. The ideal duration of vaginal oestrogen therapy is unknown and the long-term side effects are still being researched.

## Desmopressin

Desmopressin limits the amount of urine the kidneys produce. This drug can reduce the need to urinate at night. Desmopressin can improve frequency and urgency symptoms, but it does not improve or cure incontinence. Long-term use of the drug is not recommended.

The medicine comes as a tablet, a nasal spray, or a melt-in-the-mouth tablet, and is taken right before sleeping. The drug is effective for 4 hours.

Desmopressin can cause a drop in blood sodium levels because of water retention. That is why it is common to have your blood tested before and during your treatment. Less common side effects are headache, nausea, diarrhoea and pain in the abdomen. If you take desmopressin as a nasal spray, you may experience a stuffed nose or nosebleeds. Make sure your doctor knows your full medical history and is aware of all the medication you are taking before you begin using this drug.

## Duloxetine

Duloxetine can be used for improving moderate to severe urinary incontinence, but will not cure it. The drug strengthens the sphincter muscle, and reduces involuntary nerve signals which lead to urine leakage. It makes the sphincter muscle more resistant to pressure from the bladder.

The effects of duloxetine are only temporary. Many people experience side effects when taking the drug. Common side effects are nausea and vomiting, dry mouth, constipation, fatigue and difficulty sleeping. Discuss any questions you may have about this treatment with your doctor.

## **This information was updated in November 2014.**

This leaflet is part of EAU Patient Information on Urinary Incontinence. It contains general information about diagnosis and assessment of the condition and available treatment options. If you have any specific questions about your individual medical situation you should consult your doctor or other professional healthcare provider. No leaflet can replace a personal conversation with your doctor.

This information was produced by the European Association of Urology (EAU) in collaboration with the EAU Section of Female and Functional Urology (ESFFU), and the European Association of Urology Nurses (EAUN).

The content of this leaflet is in line with the EAU Guidelines.

You can find this and other information on urological diseases at our website: <http://patients.uroweb.org>

### **Series contributors:**

Prof. Dr. Frank van der Aa	Leuven, Belgium
Dr. Jean-Nicolas Cornu	Paris, France
Ms. Sharon Holroyd	Leeds, United Kingdom
Prof. Dr. José Enrique Robles	Pamplona, Spain
Ms. Eva Wallace	Dublin, Ireland