



# Overactive bladder syndrome

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This information was produced by the European Association of Urology (EAU). It contains general information about overactive bladder syndrome. If you have any specific questions about your individual medical situation you should consult your doctor or other professional healthcare provider. No website or leaflet can replace a personal conversation with your doctor.

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This information was updated by the EAU Patient Information Working Group, July 2021

# Overactive bladder syndrome

## What is the bladder?

The bladder is the organ which stores urine produced by the kidneys. It is a muscle in the shape of a bag which can hold around 400 millilitres of urine.

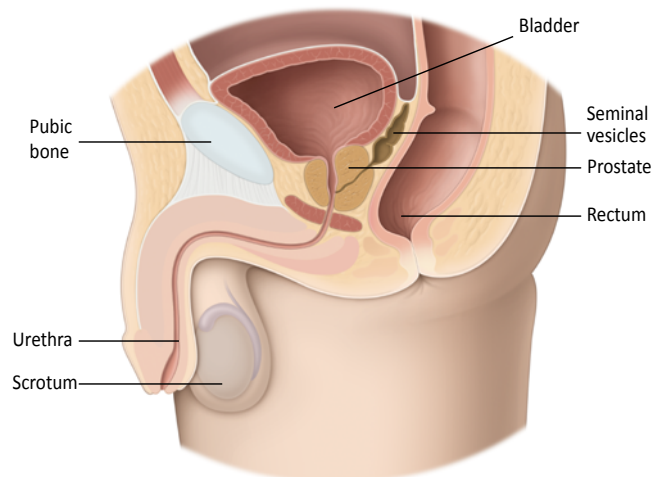
Most people become aware their bladder is filling when it is half full. In order to empty the bladder, you have to be able to relax. This usually means being in a socially convenient environment, such as a toilet or a private space. The brain will then send a signal to the bladder to start squeezing out the urine.

How often you urinate depends on many factors, but one in particular is how much you drink. Most people urinate less than 8 times during the day, and either not at all or once during the night.

[Click here to watch our video on overactive bladder.](#)

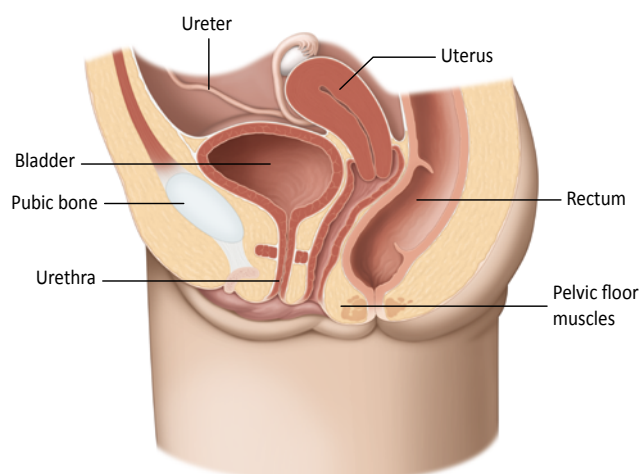
## Cause overactive bladder syndrome

- The precise cause of overactive bladder syndrome is not well understood and is still under investigation. Several factors may be involved and the main one may vary from individual to individual. Some people experience sudden and spontaneous contractions of the bladder muscle
- Some people are more sensitive to the feeling of their bladder filling
- Some people have a smaller bladder which is filled to capacity more quickly



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*The genital tract in men.*



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*The genital tract in women.*

## Symptoms of overactive bladder syndrome

Overactive bladder syndrome (OAB) is a common condition and can affect both men and women. Between 10 and 20% of people suffer from it at some stage in their lives. This syndrome is characterised by the presence of urinary symptoms that include:

- The sudden need to urinate and having trouble postponing it, also called urgency, that can be followed by an involuntary loss of urine
- The need to urinate more often than usual, called increased daytime frequency
- The need to wake up at night to urinate, also called nocturia

## Diagnosis of overactive bladder syndrome

When OAB symptoms are present, your doctor might need to rule out other possible explanations for the symptoms, such as urinary infection or diabetes.

First, the doctor or nurse might take your medical history and do a physical examination. If needed, other tests will be performed.

This section offers general information about the diagnosis of OAB and situations can vary from country to country.

### Medical history

The doctor might take a detailed medical history and ask questions about your symptoms. You can help your doctor by preparing for the consultation:

- Describe your current symptoms
- Note how long you have had the symptoms for
- Make a list of the medication you are taking
- Make a list of previous surgical procedures
- Mention other diseases or conditions you suffer from
- Describe your lifestyle (exercising, smoking, alcohol, and diet)

### Physical examination

Your doctor or nurse might do a general physical examination focussing on:

- Your abdomen
- Your genitals
- The nerves in your back

### Urine test

You might need to give some of your urine for testing. The test will show if you have a urinary tract infection and if there are traces of blood or sugar in the urine.

### Bladder diary

Your doctor may ask you to keep a bladder diary. Here you can note down how much you drink, how often you urinate, and how much urine you produce. The bladder diary is important because it helps your doctor to understand your symptoms better.

### Uroflowmetry

Uroflowmetry is a simple test that electronically records the rate of urine flow. It is easily done in privacy at the hospital or clinic. You will urinate into a container, called a uroflow meter. This test helps your doctor to check whether there is any obstruction to the flow of urine.

### Imaging of the bladder

You might get an ultrasonography (also known as ultrasound), which uses high-frequency sounds to create an image of your bladder. The doctor or nurse will scan your bladder to check how much urine is left in the bladder after urinating. This information helps to see if your symptoms are caused by urine retention in the bladder after urinating.



## Cystoscopy

With a cystoscopy, the doctor can look inside the urethra and the bladder with the help of a small camera, usually under local anaesthesia. It may be needed when you suffer from other symptoms, such as blood in the urine.

## Urodynamic evaluation

A urodynamic test is done to get more information about your urination cycle and how your bladder muscles work. During the test, your doctor or nurse inserts small catheters in your urethra and rectum to measure the pressure in your bladder and abdomen. The bladder is slowly filled with sterile water through the catheter in the urethra. This is done to simulate the filling of the bladder with urine. When your bladder is full, you will urinate into a uroflowmeter. The test results are shown on a screen which is connected to the catheters.

## Treatment of overactive bladder syndrome

### Self-management overactive bladder symptoms

The symptoms of overactive bladder are often bothersome but not life-threatening. OAB symptoms can last for a long time and there is no simple cure. There are various treatment options available. In most cases, self-management is offered as the first step of treatment. It is common to try different treatment options to figure out which one works best in your individual situation. You can discuss this with your doctor.

You can actively manage your symptoms. The following self-management measures may help you:

- Together with your doctor you can discuss adapting when, what, and how much you drink
- If urine leakage is a problem, your doctor may recommend wearing an absorbent pad to prevent wetting your clothes
- If recommended by your doctor, encourage yourself to “hold it” longer when you feel the urgency to urinate. This will train your bladder and gradually increase the time between toilet visits
- Pelvic muscles can weaken with age. Different exercises can help to regain muscle strength and suppress the urgent desire to urinate. A physiotherapist can help you do these exercises the right way.

Read more about continence products, such as different types of pads, at the [Continence Product Advisor](#) website.

### Lifestyle advice

In addition, general lifestyle changes can help manage your symptoms and improve your quality of life.

- Discuss with your doctor how much you should drink
- Drink less before and during long trips
- Drink less in the evening to avoid getting up at night to urinate
- Reduce alcohol and caffeine because they increase urine production and irritate the bladder
- Certain foods can irritate the bladder and worsen OAB symptoms. It may be helpful to reduce artificial sweeteners, spicy foods, citrus fruits and juices, caffeine and soft drinks in your diet
- Maintain a healthy weight (your Body Mass Index should be between 18-25 kg/m<sup>2</sup>). Reducing your weight may lead to improvement in urine leakage symptoms

### Drug treatment for overactive bladder

OAB symptoms are more common as people age, but they are not a normal part of ageing. They can be treated. If you have bothersome symptoms, it is important that you go to your doctor. Try not to be embarrassed in discussing your situation. If self-management and lifestyle changes cannot control your symptoms, your doctor may suggest drug therapy. The goal is to reduce the urgent need to urinate and the number of times you need to go, as well as to

prevent leakage episodes. Drugs used for OAB are antimuscarinic drugs or mirabegron (beta-3 agonist). Together with your doctor, you can decide which type of drug treatment is best for you.

Factors which influence this decision include:

- Your symptoms
- Your medical history
- Any other medication you are taking
- Drugs available in your country
- Your personal preferences and values

### Drug therapy with antimuscarinics

**Antimuscarinics** or Muscarinic receptor antagonists (MRAs) are a group of drugs which reduce the abnormal contractions of the bladder and improve urgency symptoms.

There are several MRAs. These work similarly, but they may have different side effects and be more or less tolerated by patients.

When antimuscarinics are taken by mouth, interactions with other drugs can occur. Ask your doctor about drug interactions. Read the prescription instructions for your drug treatment carefully to make sure you take medications correctly.

### Side effects

Muscarinic receptors exist throughout the body. Drug treatment for bladder contractions affects all of these receptors throughout the body. As a result, you may have side effects.

Antimuscarinics can cause confusion, memory loss, and worsening mental function in older people. If an MRA is prescribed, your doctor may consider prescribing medications to help reduce side effects.

If you experience side-effects, contact your doctor to reconsider your therapy. Options might include:

- another type of antimuscarinic drug
- drug therapy with a beta-3 agonist
- if you experience dry mouth, the transdermal administration of an antimuscarinic can avoid this side effect

### Drug therapy with Beta-3 agonists

#### Taking Beta-3 agonist

Beta-3 agonists ( $\beta_3$ -agonists) are a new class of drugs. They target  $\beta_3$  receptors in the bladder muscle. This signals the bladder muscle to relax. As a result, bladder contractions are reduced. Your bladder can hold urine longer, and you will feel the need to urinate less often. Currently, only one  $\beta_3$  agonist—mirabegron—is available for the treatment of OAB symptoms.



#### Antimuscarinics

Most antimuscarinics are taken by mouth once daily with or without food, although they can also be administered through a transdermal patch. The recommended dose for adults differs by the type of MRA. Start with the minimum dosage that gives you the beneficial effects of the drug with as few side effects as possible.

Antimuscarinics are not recommended for patients who are pregnant or those who suffer from conditions like:

- glaucoma (eye disease)
- severe liver disease
- urinary retention
- severe constipation

Mirabegron is taken by mouth once daily with or without food. Swallow the pill whole—do not break it up or crush it. The adult dose is usually 50 mg. Beta-3 agonist is not recommend for patients who:

- Have certain conditions like severe kidney or liver impairment.
- Have a history of severe high blood pressure
- Are pregnant or breastfeeding
- Are younger than 18 years old

### Side effects

Drug treatment for bladder contractions affects nerve endings throughout the body. As a result, you may have side effects.

Common side effects	Contact your doctor right away if you experience:
<ul style="list-style-type: none"><li>• Increased blood pressure</li><li>• Common cold symptoms</li><li>• Urinary tract infection</li><li>• Constipation</li><li>• Diarrhoea</li><li>• Dizziness</li><li>• Headache</li></ul>	<ul style="list-style-type: none"><li>• Increased blood pressure</li><li>• Difficulty emptying the bladder</li><li>• Swelling of the lips, face, tongue, or throat (angioedema), with or without difficulty breathing</li></ul>

### The treatment explained

[Click here to watch our video about drug therapy for OAB.](#)

This animation shows what happens when you are receiving drug therapy with antimuscarinics or a  $\beta$ 3-agonist.

### Follow-up

Schedule an appointment (follow-up) to see your doctor after starting drug treatment. You and your doctor will discuss whether drug treatment seems to be helping and any side effects you have. Your doctor will also check your blood pressure or prescribe further tests such as a bladder diary.

### What if my drug treatment does not improve my OAB symptoms?

Sometimes the drug your doctor prescribed does not improve your symptoms. In that case, your doctor might switch you to another drug, antimuscarinic (MRA) or  $\beta$ 3-agonist, or other treatment options. Together with your doctor, you can decide which approach is best for you.

Common other treatment options for OAB symptoms are:

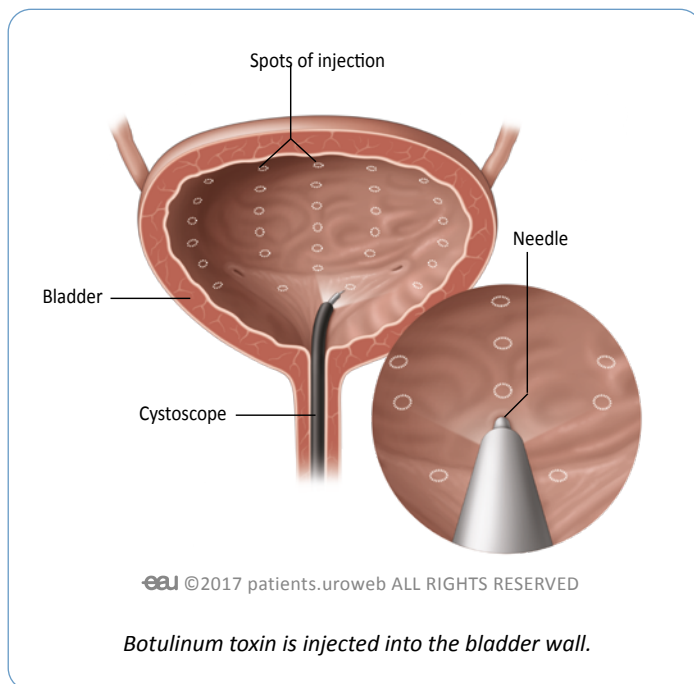
- Botulinum toxin (Botox) bladder injection
- Nerve stimulation, also known as 'neuromodulation'
- Surgery to increase bladder volume

## Botulinum toxin

Botulinum toxin is widely known by one of its trade names, Botox. It is a strong toxic substance which is used in cosmetic surgery and for medical purposes. For overactive bladder (OAB) symptoms, botulinum toxin is injected into the lining of the bladder to reduce the activity of the nerves involved in the symptoms. This treatment may improve the symptoms of urgency, frequency of urinating, and urgency incontinence.

### Botulinum toxin injection

For botulinum toxin injections, you will generally receive local anaesthesia. Sometimes other forms of anaesthesia are used. The doctor uses a type of endoscope, known as a cystoscope, to enter your bladder through the urethra. The cystoscope has a small camera to show a high-quality image of your bladder on a video monitor. The doctor injects a small dose of botulinum toxin into different areas of your bladder wall.



### Botulinum toxin is injected into the bladder wall

The effect of the procedure will wear off with time and after several months you will need to undergo repeat treatment.

Some people (less than 10%) may have difficulty urinating after a botulinum toxin injection, and may need a catheter. You also may present a urinary tract infection after botulinum toxin treatment and may need to get antibiotics prescribed.

## Nerve stimulation

### Nerve stimulation or neuromodulation

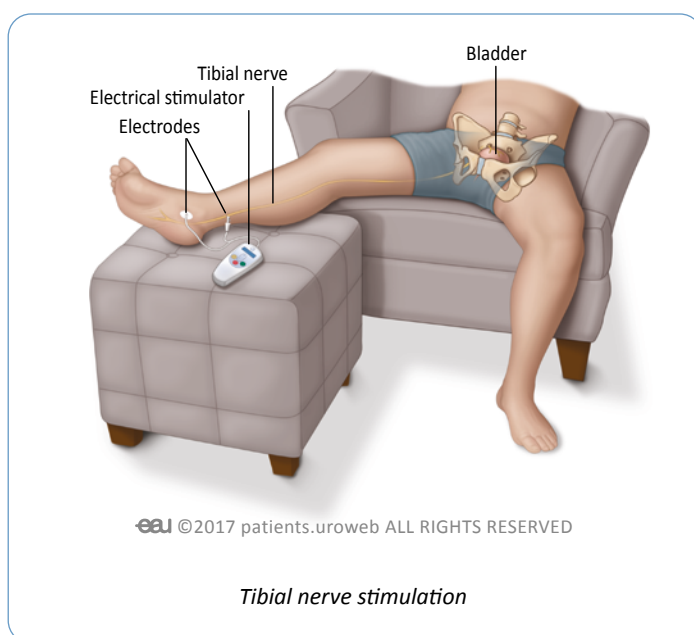
Nerve stimulation, also known as neuromodulation, is an option for overactive bladder (OAB) if drug treatment has not worked. It is also an option if you have a urological problem caused by a disturbance of the nervous system (neurological disorder).

Nerve stimulation uses electrical pulses to stimulate the sacral nerves, which control the bladder. There are two types of nerve stimulation:

- Tibial nerve stimulation uses a needle at the level of the ankle
- Sacral nerve modulation uses a device that is implanted in your lower back

### Tibial nerve stimulation

Your doctor will place a needle with electric current near your ankle. The needle passes through the skin and stimulates the tibial nerve. This nerve runs from the inner part of the ankle, along the leg, up to the sacral nerves in the lower back.





A treatment course for tibial nerve stimulation generally includes 12 sessions. Treatment sessions are done once a week at a clinic and usually last 30 minutes. The effect will wear off over time, and you will likely need more treatment courses.

### **Sacral nerve modulation**

The sacral nerve modulation procedure is done in two stages:

The doctor places an electrode through the skin and tests whether or not your OAB symptoms respond to nerve modulation. If the therapy fails to help, the electrode can easily be removed. If there is a response, you will receive surgery to implant a small device like a pacemaker (programmable pulse generator) above your pelvic bone.

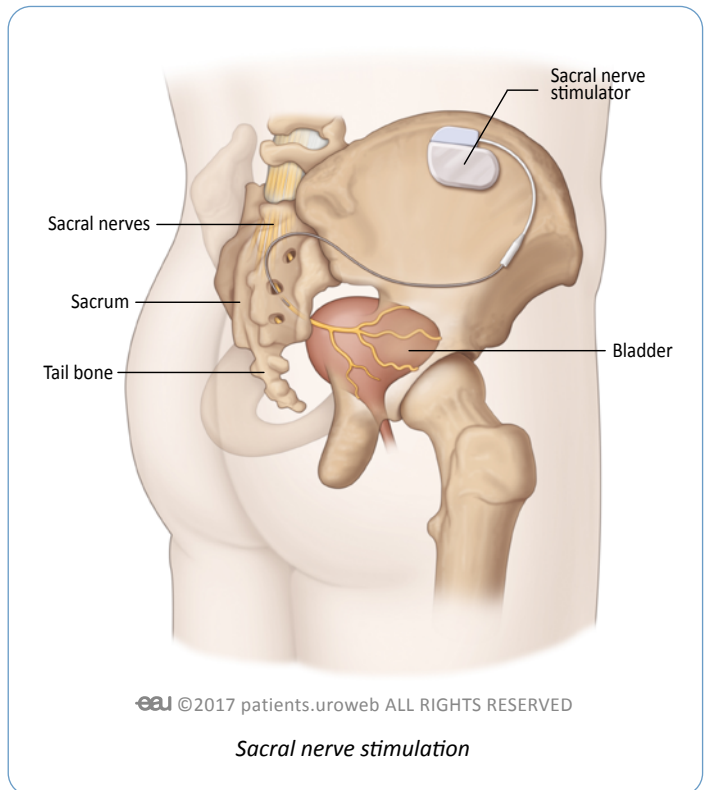
For treatment, the electrode connects the implant to the area to be modulated. After surgery, you will have a controller outside the body to adjust electrical modulation on the nerves that reach the bladder. You can change modulation to the nerve to affect bladder activity. Sacral nerve modulation can greatly improve your symptoms.

After surgery there is a risk of infection, and you may experience pain in the area of implantation. Over time, the implant or the electrode may move, causing discomfort. The implanted battery can also run out. If this happens, you will need another surgery to replace the battery. Be sure to discuss any of your concerns about these risks with your doctor.

### **Bladder surgery**

In case your symptoms have not improved with drug or other treatments, you may need surgery on your bladder. The goal of the procedure is to increase the capacity of the bladder. This will reduce the pressure in the bladder as it fills so that it can hold more urine.

The doctor makes an incision in your lower abdomen and uses a piece of your bowel to increase the size of the bladder. This procedure is called bladder augmentation or clam cystoplasty, and is rarely performed nowadays. If this surgery is recommended you will need to discuss its implications and side effects with your doctor because they can be significant.



## **Living with overactive bladder syndrome**

Although overactive bladder symptoms (OAB) are not life-threatening, they usually have a negative impact on your quality of life. Different people cope differently with their symptoms and the possible side effects of treatment. Your personal preferences and values and the impact of OAB symptoms on your life should not be underestimated. Quality of life involves both physical and psychological health. It is important not only to feel healthy but also to feel free from the psychological pressure of living with OAB symptoms.

Symptoms such as urgency or the need to urinate frequently are likely to have a negative effect on your quality of life. Someone with OAB symptoms often needs to locate toilets before leaving the house and may avoid certain activities altogether. Also, losing sleep because of waking up at night to urinate may lower your energy levels, which makes it more difficult to maintain your daily activities. Episodes of urgency which result in leakage of urine are embarrassing and may lower your self-esteem.

These problems can also impact your loved ones. For example, your partner might be awoken by night time toilet visits. Because of your OAB symptoms you may avoid social activities. This can also affect your partner's social life and lead to a feeling of isolation which prevents you and your loved ones from fully enjoying life.

There are many ways to keep the symptoms under control. They should not stop you from being happy in your relationships and participating in the social, cultural, and economic life of your community. Seek help if your symptoms bother you: consult your family doctor, general practitioner, or a urologist.

### **Seeking help**

Overactive bladder symptoms become more common with increasing age. However, they should not be seen as a normal part of ageing or an untreatable problem. If you have bothersome symptoms it is important that you go to your doctor and are not embarrassed to discuss your situation.

It can help and might make you feel more comfortable if your partner, relatives, or friends read the information regarding your condition. Write down all of your questions to remind you of any important points you need to discuss with your doctor or nurse. Let someone accompany you to an appointment to help you remember any questions you may need to ask.

# Glossary of terms

## **Anaesthesia (general or local)**

Before a procedure you will get medication to make sure that you don't feel pain. Under general anaesthesia you are unconscious and unaware of what is happening to you. Under local anaesthesia you will not feel pain in the part of your body where the procedure is done. Anaesthesia wears off gradually after the procedure.

## **Bladder**

Organ that collects urine from the kidneys (*see also* Kidneys).

## **Catheter**

A hollow flexible tube to insert or drain fluids from the body. In urology, catheters are generally used to drain urine from the bladder.

## **Cystoscope**

A type of endoscope which is used in the urethra (*see also* Endoscope, Urethra).

## **Endoscope**

A tube-like instrument to examine the inside of the body. Can be flexible or rigid.

## **Kidneys**

Two bean-shaped organs in the back of the abdomen that filter the blood and produce urine.

## **Nocturia**

Waking up one or more times during the night because of the need to urinate.

## **Urethra**

The tube which carries urine from the bladder and out of the body.

## **Urgency**

The sudden need to urinate.



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