Lower Urinary Tract Symptoms in Women (LUTS)

Lower urinary tract symptoms (LUTS) are common in women of all ages, especially between the ages of 40-60. For many women, the symptoms come and go. But for some women, the symptoms are ongoing and interfere with normal life. The symptoms may include wetting yourself (incontinence), needing to pass urine frequently, or discomfort passing urine. These and other symptoms can result in poor quality of life. Many women never tell anyone about their symptoms. Your doctor may recommend tests to look for an underlying cause. Referral to a specialist is not usually needed. Often, no specific underlying cause is found. Treatment may help to relieve symptoms.

What are lower urinary tract symptoms in women?

The lower urinary tract system includes the bladder and urethra. In practice, most lower urinary tract symptoms (LUTS) in women are caused by urine infections in the bladder. LUTS are divided into three groups:

- Problems with the storage of urine in the bladder.
- Problems passing urine.
- Problems after passing urine.

Sometimes symptoms cross into more than one of these groups. Sometimes women just have symptoms from one group. Others may have symptoms from two or all groups. Some of the LUTS women may experience are:

- Burning or stinging when you pass urine.
- Constant lower tummy (abdominal) ache.
- Needing to pass urine often (frequency).
- An urgent feeling of needing to empty your bladder (urgency).
- Loss of bladder control (incontinence).
- Needing to get up to urinate several times in the night.
- Feeling of needing to empty your bladder even after urinating. Or, a dribble of urine after you think you have finished.
- Difficulty urinating.
- A slow stream of urine.

Understanding the urinary tract

Most people have two kidneys - one on each side of the back. The kidneys make urine all the time. A trickle of urine is constantly passing to the bladder down the tubes from the kidneys to the bladder (the ureters). You make different amounts of urine depending on how much you drink, eat and sweat.

The bladder is made of muscle and stores the urine. It expands like a balloon as it fills with urine. The outlet for urine (the urethra) is normally kept closed. This is helped by the muscles beneath the bladder that sweep around the urethra (the pelvic floor muscles).
Complex nerve messages are sent between the brain, the bladder and the pelvic floor muscles. These tell you how full your bladder is and tell the right muscles to contract or relax at the right time.

When a certain amount of urine is in the bladder, you become aware that the bladder is getting full. When you go to the toilet to pass urine, the bladder muscle squeezes (contracts) and the urethra and pelvic floor muscles relax. In women, the urethra is short and opens just above the opening of the vagina.

What are the causes of lower urinary tract symptoms?

There are several possible causes of LUTS. Often, no specific cause is found.

**Urinary tract infection (UTI)**

UTIs are very common among women. They are due to germs (bacterial infection) in the bladder. A UTI causes:

- Lower tummy (abdominal) discomfort.
- A soreness or burning sensation when you pass urine.
- A feeling you need to pass urine more often.
- A feeling that you need to pass urine urgently.

The urine may look cloudy or have blood in it. Your doctor can perform a urine test and may suggest an antibiotic medicine if needed. If you have a urine infection, you should drink plenty of fluids to help flush the germs out. Some women get repeated infections after the menopause. Hormone replacement therapy (HRT) may help.

Read more about [cystitis in women](#). Some women have repeated episodes of cystitis. Read more about [recurrent cystitis](#).

**Menopause**

After the menopause, levels of a female hormone produced by your ovaries (oestrogen) fall. Because of this, some women may notice changes in their vagina and genital area after the menopause. These changes may include vaginal dryness, discomfort during sex and bladder symptoms. These can all usually be improved with treatment. Treatment options include:

- HRT tablets.
- Oestrogen cream or pessaries.
- Lubricating gels.

See separate leaflet called [Vaginal Dryness (Atrophic Vaginitis)](#) for more details.

**Urge incontinence (detrusor instability)**

Urgency is a symptom where you have a sudden urgent desire to urinate. You are not able to put off going to the toilet. In urge incontinence, urine leaks before you get to the toilet when you have urgency. Urgency and urge incontinence are often due to an unstable or overactive bladder, or detrusor instability. (The detrusor muscle is the medical name for the bladder muscle.) Bladder training exercises are the first line of treatment. Medication may also help. Some people have mixed incontinence, which is both stress incontinence and urge incontinence. Read more about [urge incontinence](#).

**Stress incontinence**

Stress incontinence is the most common form of incontinence. It means you leak urine with actions such as coughing, laughing, sneezing or exercise. It happens when the pelvic floor muscles that support the bladder are weakened. Childbirth is a common reason for a weak pelvic floor. The first treatment for stress incontinence is pelvic floor exercises. Surgery to tighten or support the bladder outlet can also help. Medication may be used in addition to exercises if you do not want, or are not suitable for, surgery. Read more about [stress incontinence](#).

Some people have mixed incontinence, which is both stress incontinence and urge incontinence. You should always see your doctor if you develop incontinence. Each type has different treatments. See separate leaflet called [Urinary Incontinence](#) for a general overview and to understand what is likely to happen during your doctor’s assessment.

**Diabetes mellitus**

If diabetes is not well controlled, the high sugar (glucose) levels in the blood may make you produce more urine. UTIs are also more common if you have diabetes.

**Bladder stones**

Stones in the bladder or kidneys usually cause other symptoms rather than LUTS. They may cause blood in the urine and severe pain when urinating.

**Bladder cancer**

This is also uncommon. It causes blood in the urine and is painless. In most cases, the cancer is confined to the inside lining of the bladder. Treatment of these superficial bladder cancers is relatively easy and often completely cures the cancer. If the cancer has spread into or through the muscle layer of the bladder wall then treatment is less likely to result in a complete cure but can often slow the progress of the cancer. See separate leaflet called [Bladder Cancer](#) for more details.
Neurological conditions
Conditions such as multiple sclerosis may affect the nervous system and cause LUTS.

Medication
Sometimes medication you take can give you LUTS. Examples of medication which may do this include:

- Antidepressants such as amitriptyline may sometimes make it difficult to pass urine.
- 'Water' tablets (diuretics) make you pass urine more frequently. They may also give you a feeling of urgency.
- Lithium tablets can make you pass urine more often and with a sensation of urgency.

What tests are commonly performed?
The tests you may have will depend on your symptoms.

Your doctor may want to examine your tummy (abdomen). A vaginal examination may be suggested.

The most common tests performed include:

- A urine dipstick test for infection, sugar (glucose) and blood.
- A urine test to send to the hospital to confirm the dipstick findings.
- A blood test for glucose to rule out diabetes.

You may have an ultrasound scan on your bladder and urinary tract. You may be referred to a specialist (urologist) for tests on your urinary system (urodynamic tests). Urodynamic studies test the working of the bladder and are used to see how the urinary system and pelvic floor work. You may be asked to keep a diary. In your diary make a note of the times you pass urine and the amount (volume) that you pass each time. Also, make a note of the times you leak urine (are incontinent). Your doctor or nurse may have some pre-printed diary charts to give you for this purpose. Keep an old measuring jug by the toilet (you will need to urinate directly into this) so that you can measure the amount of urine you produce each time you go to the toilet.

If you have unexplained blood in your urine, you will be referred urgently to a urologist for further tests.

What self-help treatments are available?
The following may help your symptoms:

- Avoid drinking too many drinks containing caffeine. Caffeine can make symptoms worse.
- For a dry, sore vagina after the menopause, vaginal lubricants (for example, K-Y Jelly®) may be useful. They can be bought at a chemist.
- For an overactive bladder there are bladder training exercises. Try to empty your bladder at a set time before you are desperate to go - for example, every hour. Gradually increase the interval until you can hold your urine for longer. See separate leaflet called Incontinence Chart.
- For stress incontinence, practise pelvic floor exercises - for example, repeated clenching of the pelvic floor muscles.
- Try to lose weight if you are overweight.
- Try to stop smoking if you are a smoker.
- If you have UTIs frequently after having sex, it may help to get up and pass urine straight after having sex. If it keeps happening, your doctor may prescribe you an antibiotic to take each time.

What other treatments are available?
The treatment for LUTS will depend on the underlying cause. Often, no specific cause is found and so there is no specific treatment. Some women find that their symptoms come and go and do not cause them a great deal of bother or distress. But if your LUTS do interfere with your normal life, you should see your doctor for advice.

You may be offered help at a special continence clinic which can advise about pelvic floor exercises and ways of coping with incontinence. Specialist incontinence nurses can also advise about pads and catheters.

Medicines can be effective in helping symptoms of an overactive bladder if there is not enough improvement with bladder training alone. These medicines work by blocking certain nerve impulses to the bladder which relax the bladder muscle, so increasing the bladder capacity. These medications are called antimuscarinics (or anticholinergics). There are several different types and many different brand names. They include oxybutynin, solifenacin and tolterodine.

HRT can help menopausal symptoms including vaginal dryness and discomfort when you urinate.

An operation may be required to repair or boost your pelvic floor in some cases.

You may be referred to a specialist if your symptoms do not improve after self-help measures and treatment from your doctor.
A urine infection in the bladder (cystitis) is common in women. A short course of medicines called antibiotics is the usual treatment. Occasionally it may improve without the need for antibiotics. Cystitis clears quickly without complications in most cases.

Cystitis symptoms

Cystitis can cause various symptoms. The main ones are:

- Needing to pass urine urgently and more often.
- Burning or stinging feeling when you urinate.
- Blood in the urine.
- Discomfort in your lower tummy (abdomen).
- Feeling generally unwell and tired, with a raised temperature (fever).

What is cystitis?

Cystitis means inflammation of the bladder. It is usually caused by a urine infection. Typical symptoms are pain when you pass urine and passing urine frequently. You may also have pain in your lower tummy (abdomen), blood in your urine and a raised temperature (fever). Your urine may also become cloudy and may become smelly.

Most urine infections are due to germs (bacteria) that come from your own bowel. Some bacteria lie around your back passage (anus) after you pass a stool (faeces). These bacteria can sometimes travel to the tube from the bladder that passes out urine (the urethra) and into your bladder. Some bacteria thrive in urine and multiply quickly to cause infection.

Note: other causes of cystitis include radiotherapy and certain chemicals. This leaflet will only discuss cystitis caused by an infection.

Clinical Editor’s Notes (August 2017)
Dr Hayley Willacy recommends you look at the useful advice from Public Health England in ‘Further reading’, below. There is advice on self-help, when to seek help from a doctor and advice around treating with antibiotics.

Cystitis causes

Women are much more likely than men to have cystitis, as the tube that passes out urine from a woman’s bladder (the urethra) is shorter and opens nearer the back passage (anus).

About half of women have at least one bout of cystitis in their lives. One in three women will have had cystitis by the age of 24. About 4 out of 100 pregnant women develop cystitis.

Apart from being female, other cystitis causes include:

- Having diabetes mellitus.
- Being pregnant.
- Being sexually active.
- Using spermicide with contraception.
- Having had the menopause. The changes in the tissues of the vagina and urethra after menopause make it harder for them to defend against infection.
- Having a catheter in your bladder.
- Having abnormalities in your kidneys, bladder or urinary system.
- Having an immune system which is not working well (for example, due to AIDS or medication which suppresses the immune system).

Can I be sure it is cystitis?

Some conditions cause symptoms that may be mistaken for cystitis - for example, vaginal thrush. Also, soaps, deodorants, bubble baths, etc, may irritate your genital area and cause mild pain when you pass urine.

Your doctor or nurse may do a simple dipstick test on a urine sample to check for cystitis. This can detect changes in the urine that may indicate an infection. It is fairly reliable and usually no further test is needed. If the infection does not improve with treatment, or improves but then returns quickly, a urine sample is sent to the laboratory. This is to confirm the diagnosis and to find out which germ (bacterium) is causing the infection.

Cystitis treatment

Treatment options include the following:
Antibiotic medication. A three- to five-day course of trimethoprim or nitrofurantoin is a common treatment for most women. Symptoms usually improve within a day or so after starting treatment. Sometimes your doctor may offer you a delayed prescription for antibiotics. You then need only pick up the prescription if your symptoms worsen, or do not improve, over the following few days.

- Not taking any treatment may be an option if symptoms are very mild (and if you are not pregnant or if you have no other illnesses). Your immune system can often clear the infection. Without antibiotics, cystitis (particularly mild cases) may go away on its own in a few days. However, symptoms can sometimes last for a week or so if you do not take antibiotics.
- Paracetamol or ibuprofen. These ease pain or discomfort and can also lower a high temperature (fever).

Have lots to drink is traditional advice to 'flush out the bladder'. However, there is no proof that this is helpful. Some doctors feel that it does not help and drinking lots may just cause more (painful) toilet trips. Therefore, it is difficult to give confident advice on whether to drink lots, or just to drink normally.

There is no strong evidence that drinking cranberry juice or taking products that alkalise your urine (such as potassium citrate or bicarbonate) improve the symptoms of cystitis. These sorts of products are sometimes sold as a treatment for cystitis.

If your symptoms worsen or you develop a fever you should see your doctor. You should also see your doctor if your symptoms do not improve by the end of taking the course of antibiotics or if they come back within two weeks of the course finishing.

Note: if you are pregnant or have certain other medical conditions, you should always be treated with antibiotics to prevent possible complications.

How can I prevent cystitis?

Cystitis is a bladder infection. Symptoms may include frequent, painful urinating, lower tummy pain, smelly urine and a raised temperature (fever). Simple steps to help prevent cystitis include passing urine after sex and monitoring blood sugar (glucose). Recurrent bouts need a medical review.

What is the outlook?

The vast majority of women improve within a few days of developing cystitis. However, if your symptoms still do not improve after you have been taking antibiotics then you may need an alternative antibiotic. Some germs (bacteria) causing cystitis can be resistant to some types of antibiotic.

You should see a doctor if you have recurring bouts of cystitis, to discuss ways of preventing it. Learn more about recurrent cystitis in women.

Cystitis means inflammation of the bladder. It is usually caused by a urine infection. Some women have recurring bouts of cystitis, sometimes defined as two proven infections within six months, or three infections in a year. In many cases there is no apparent cause. There are a number of treatment options to consider. This might be treating each episode promptly with a short course of antibiotics, a regular low dose of antibiotics taken long-term, or taking a single dose of antibiotic after having sex (if having sex seems to trigger episodes of cystitis).

Why do some women have recurring cystitis?

Your body has defences to prevent germs (bacteria) from causing cystitis. The mucus around your vagina and opening of your urethra is slightly acid which prevents bacteria from multiplying. Although bacteria may thrive in urine, you empty your bladder regularly which flushes urine out. Also, the cells that line your urethra and bladder have some resistance against bacteria.

In most cases, there is no apparent reason why cystitis returns. There is usually no problem with your bladder or defence (immune) system that can be identified. It is possible there may be a slight alteration in the ability of the body to resist bacteria getting into the bladder and causing infection. A slight variation in the body's defence may tip the balance in favour of bacteria to cause infection. (In a similar way, some people seem more prone to colds, sore throats, etc.)

For some women, one of the following may contribute:

- Bladder or kidney problems may lead to infections being more likely. For example, kidney stones, or conditions that cause urine to pool and not drain properly. Your doctor may arrange some tests if a problem is suspected.
- Having sex increases the chance of cystitis in some women (see below).
- Contraceptive choice. The use of diaphragms and spermicide may make cystitis more likely.
- Hormones. Your vagina, bladder and urethra respond to the chemical (hormone) called oestrogen. After the menopause, when the levels of oestrogen in the body reduce, the tissues of these organs become thinner, weaker and dry. These changes can increase the risk of recurrent cystitis. Cystitis is also more common during pregnancy because of changes in the urinary tract.

What can I do to help prevent cystitis?
Unfortunately there is no evidence that any lifestyle changes really help to prevent cystitis. Traditionally, doctors have advised drinking plenty of fluids to ‘flush out’ the germs, and drinking cranberry juice. However, there is no evidence this makes any difference. Other changes, such as the way you clean yourself and which underwear you wear, have also not been found to make any difference. If recurring cystitis is a problem, you may need to discuss one of the options below with your doctor.

What are the treatment options for recurring cystitis?

**Prompt self-treatment of each bout of cystitis**

Antibiotic medication is usually needed for the treatment of bouts of recurrent cystitis. If your symptoms are mild then it is usually advisable to wait for the results of your urine test to see which antibiotics you should be treated with. However, if your symptoms are bad or worsening then you should start antibiotics without any delay.

Some women are prescribed a supply of antibiotics to keep on standby. You can then treat a bout of cystitis as soon as symptoms begin without having to wait to see a doctor. A three-day course of antibiotics is the usual treatment for each bout of cystitis. Antibiotics commonly used include trimethoprim and nitrofurantoin.

Ideally, you should do a midstream specimen of urine (MSU) to send to the laboratory before starting a course of antibiotics. You should see a doctor if your symptoms do not go within a few days, or if they worsen.

**Antibiotic prevention is another option**

This means taking a low dose of an antibiotic regularly. One dose each night will usually reduce the number of bouts of cystitis. A six-month course of antibiotics is usually given.

You may still have bouts of cystitis if you take antibiotics regularly (but they should be much less often). If a bout does occur, it is usually caused by a germ (bacterium) which is resistant to the antibiotic you are taking regularly. A urine sample is needed to check on which bacterium is causing any bout of cystitis. You may then need a temporary change to a different antibiotic.

Cystitis related to having sex

Some women find that they are prone to cystitis within a day or so after having sex. This may be partly due to the movements during sex which may push bacteria up into the bladder. There may also be slight damage to the urine outlet tube (urethra). This slight damage encourages bacteria to thrive. This is more likely if the vagina is dry during sex. The normal mucus in and around the vagina may also be upset if spermicides or diaphragm contraceptives are used. The following may reduce the chance of cystitis developing after sex:

- After having sex, go to the toilet to empty your bladder.
- If your vagina is dry, use a lubricating jelly during sex.
- One option is to take a single dose of antibiotic within two hours after having sex.
- Do not use spermicides and/or a diaphragm for contraception. See your doctor or practice nurse for advice on other forms of contraception.

Urgent incontinence is a common form of incontinence. You have an urgent desire to pass urine and sometimes urine leaks before you have time to get to the toilet. It is usually due to an overactive bladder. Treatment with bladder retraining often cures the problem. Medication may also be advised to relax the bladder. Advice from a continence advisor is also usually helpful.

What is urge incontinence?

- Urgency is a symptom where you have a sudden urgent desire to pass urine. You are not able to put off going to the toilet.
- Urge incontinence is the term used for when urine leaks before you get to the toilet when you have urgency.

Urgency and urge incontinence are often symptoms of an unstable or overactive bladder, also known as detrusor instability. (The detrusor muscle is the medical name for the bladder muscle.)

If you have urgency or urge incontinence, you also tend to pass urine more often than normal (this is called frequency). Sometimes this is several times during the night as well as many times during the day. Some women also find that they leak urine during sex, especially during orgasm.

Your doctor or nurse may ask you to keep a chart to record the times you pass urine, the amount of urine you pass on each occasion, and the times you leak urine (are incontinent).

How common is urge incontinence?

Urgo incontinence is the second most common cause of incontinence. About 3 in 10 cases of incontinence are due to urge incontinence. It can occur at any age but commonly first starts in early adult life. Women are more commonly affected than men.

What causes urge incontinence?

In this condition, the bladder muscle (detrusor) seems to become overactive and squeeze (contract) when you don't want it to.
Normally, the bladder muscle is relaxed as the bladder gradually fills up. When the bladder is about half full, you start to get a feeling of wanting to pass urine. In people with overactive bladder and urge incontinence, the bladder muscle seems to give the message to the brain that the bladder is fuller than it actually is. This results in the bladder contracting too early, giving you the feeling that you have to pass urine urgently.

In most people, the reason why an overactive bladder develops is not known. In such cases, the condition is called overactive bladder syndrome or idiopathic urge incontinence. Symptoms may get worse at times of stress. They may also be made worse by caffeine (in tea, coffee, cola, etc) and by alcohol. Read more about overactive bladder syndrome.

Some women develop urge incontinence after the menopause and this is thought to be due to the lining of the vagina shrinking (vaginal atrophy) due to a drop in the level of the female hormone oestrogen.

In some cases, symptoms of an overactive bladder develop as a complication of a nerve- or brain-related disease. Examples are following a stroke or spinal cord damage, or with illnesses such as Parkinson’s disease or multiple sclerosis (MS). Similar symptoms may occur if there is irritation in the bladder. Bladder irritation can occur when you have a urinary tract infection (UTI) or stones in your bladder.

What are the treatments for urge incontinence?

Treatments include:

- Some general lifestyle measures which may help.
- Bladder retraining, which is a common treatment. This can work well in up to half of cases.
- Medication. This may be advised in addition to bladder retraining.
- Pelvic floor exercises. These may also be advised in some cases.
- Surgery. This is a last resort and rarely used to treat urge incontinence.

If your urge incontinence is related to thinning of the lining of the vagina after the menopause, you may benefit from oestrogen cream applied directly inside the vagina. There is some evidence that oestrogen tablets can make urge incontinence worse; however, more research needs to be done on this.

Read more about the treatments for urge incontinence in the section on overactive bladder syndrome.

Overactive bladder (OAB) syndrome is common. Symptoms include an urgent feeling to go to the toilet, going to the toilet frequently and sometimes leaking urine before you can get to the toilet (urge incontinence). Treatment with bladder training often cures the problem. Sometimes medication may be advised in addition to bladder training to relax the bladder.

What is overactive bladder syndrome?

Overactive bladder (OAB) syndrome means an urgent feeling to pass urine, having to pass urine more often than usual, and sometimes leaking urine before you can get to the toilet. Treatment with bladder training often cures the problem. Medication may be needed to relax the bladder.

An OAB occurs when the bladder squeezes (contracts) suddenly without you having control and when the bladder is not full. OAB syndrome is a common condition where no cause can be found for the repeated and uncontrolled bladder contractions. (For example, it is not due to a urine infection or an enlarged prostate gland.)

OAB syndrome is sometimes called an irritable bladder or detrusor instability (detrusor is the medical name for the bladder muscle).

What are the symptoms of overactive bladder syndrome?

The symptoms of OAB syndrome include:

- Urgency. This means that you have a sudden urgent desire to pass urine. You are not able to put off going to the toilet.
- Frequency. This means going to the toilet often - more than seven times a day. In many cases it is a lot more than seven times a day.
- Nocturia. This means waking to go to the toilet more than once at night.
- Urge incontinence occurs in some cases. This is a leaking of urine before you can get to the toilet when you have a feeling of urgency.

How common is overactive bladder syndrome?

In two large studies it was found that about 1 in 6 adults reported some symptoms of an OAB. Symptoms vary in their severity. About 1 in 3 people with an OAB have episodes of urge incontinence.

What causes overactive bladder syndrome?
The cause of OAB syndrome is not fully understood. The bladder muscle (detrusor) seems to become overactive and squeeze (contract) when you don't want it to.

Normally, the bladder muscle is relaxed as the bladder gradually fills up. As the bladder is gradually stretched, we get a feeling of wanting to pass urine when the bladder is about half full. Most people can hold on quite easily for some time after this initial feeling until a convenient time to go to the toilet. However, in people with an OAB, the bladder muscle seems to give wrong messages to the brain. The bladder may feel fuller than it actually is.

The bladder contracts too early when it is not very full and not when you want it to. This can make you suddenly need the toilet. In effect, you have much less control over when your bladder contracts to pass urine.

In most cases, the reason why an OAB develops is not known and the condition is then referred to as 'overactive bladder syndrome'. Symptoms may become worse at times of stress. Symptoms may also be made worse by caffeine in tea, coffee, cola, etc and by alcohol (see below).

In some cases, symptoms of an OAB develop as a complication of a nerve- or brain-related disease such as:

- Following a stroke.
- With Parkinson's disease.
- With multiple sclerosis.
- After spinal cord injury.

Also, similar symptoms may occur if you have a urine infection or a stone in your bladder.

Strictly speaking, these conditions are not classed as OAB syndrome as they have a known cause.

What are the treatments for overactive bladder syndrome?

- Some general lifestyle measures may help.
- Bladder training is a main treatment. This can work well in up to half of cases.
- Medication may be advised instead of, or in addition to, bladder training.
- Pelvic floor exercises may also be advised in some cases.

Some general lifestyle measures which may help

- **Getting to the toilet.** Make this as easy as possible. If you have difficulty getting about, consider special adaptations like a handrail or a raised seat in your toilet. Sometimes a commode in the bedroom makes life much easier.
- **Caffeine.** This is in tea, coffee and cola and is part of some painkiller tablets. Caffeine has the effect of making urine form more often (a diuretic effect). Caffeine may also directly stimulate the bladder to make urgency symptoms worse. It may be worth trying without caffeine for a week or so to see if symptoms improve. If symptoms do improve, you may not want to give up caffeine completely. However, you may wish to limit the times that you have a caffeine-containing drink. Also, you will know to be near to a toilet whenever you have caffeine.
- **Alcohol.** In some people, alcohol may make symptoms worse. The same advice applies as with caffeine drinks.
- **Drink normal quantities of fluids.** It may seem sensible to cut back on the amount that you drink so the bladder does not fill so quickly. However, this can make symptoms worse as the urine becomes more concentrated, which may irritate the bladder muscle (detrusor). Aim to drink normal quantities of fluids each day. This is usually about two litres of fluid per day - about 6-8 cups of fluid, and more in hot climates and hot weather.
- **Go to the toilet only when you need to.** Some people get into the habit of going to the toilet more often than they need. They may go when their bladder only has a small amount of urine so as 'not to be caught short'. This again may sound sensible, as some people think that symptoms of an overactive bladder will not develop if the bladder does not fill very much and is emptied regularly. However, again, this can make symptoms worse in the long run. If you go to the toilet too often the bladder becomes used to holding less urine. The bladder may then become even more sensitive and overactive at times when it is stretched a little. So, however, you may wish to limit the times that you use a toilet. Also, you will know to be near to a toilet whenever you have caffeine.
- **Try to lose weight if you are overweight.** It has been shown that even 5-10% weight loss can help symptoms.

Bladder training (sometimes called bladder drill)

The aim is to slowly stretch the bladder so that it can hold larger and larger volumes of urine. In time, the bladder muscle should become less overactive and you should become more in control of your bladder. This means that more time can elapse between feeling the desire to pass urine and having to get to a toilet. Leaks of urine are then less likely. A doctor, nurse, or continence advisor will explain how to do bladder training. The advice may be something like the following:

You will need to keep a diary. On the diary make a note of the times you pass urine, and the amount (volume) that you pass each time. Also make a note of any times that you leak urine (are incontinent). Your doctor or nurse may have some pre-printed diary charts for this purpose to give you. Keep an old measuring jug by the toilet so that you can measure the amount of urine you pass each time you go to the toilet.

When you first start the diary, go to the toilet as usual for 2-3 days at first. This is to get a baseline idea of how often you go to the toilet and how much urine you normally pass each time. If you have an OAB you may be going to the toilet every hour or so and only passing less than 100-200 ml each time. This will be recorded in the diary.
After the 2-3 days of finding your baseline, the aim is then to hold on for as long as possible before you go to the toilet. This will seem difficult at first. For example, if you normally go to the toilet every hour, it may seem quite a struggle to last one hour and five minutes between toilet trips. When trying to hold on, try distracting yourself. For example:

- Sitting straight on a hard seat may help.
- Try counting backwards from 100.
- Try doing some pelvic floor exercises (see below).

With time, it should become easier as the bladder becomes used to holding larger amounts of urine. The idea is gradually to extend the time between toilet trips and to train your bladder to stretch more easily. It may take several weeks but the aim is to pass urine only 5-6 times in 24 hours (about every 3-4 hours). Also, each time you pass urine you should pass much more than your baseline diary readings. (On average, people without an OAB normally pass 250-350 ml each time they go to the toilet.) After several months you may find that you just get the normal feelings of needing the toilet, which you can easily put off for a reasonable time until it is convenient to go.

Whilst doing bladder training, perhaps fill in the diary for a 24-hour period every week or so. This will record your progress over the months of the training period.

Bladder training can be difficult but becomes easier with time and perseverance. It works best if combined with advice and support from a continence advisor, nurse or doctor. Make sure you drink a normal amount of fluids when you do bladder training (see above).

**Medication**

If there is not enough improvement with bladder training alone, medicines called antimuscarinics (also called anticholinergics) may also help. They include oxybutynin, tolterodine, trospium, propiverine and solifenacin. These also come in different brand names. They work by blocking certain nerve impulses to the bladder, which relaxes the bladder muscle and so increases the bladder capacity.

Medication improves symptoms in some cases but not in all. The amount of improvement varies from person to person. You may have fewer toilet trips, fewer urine leaks and less urgency. However, it is uncommon for symptoms to go completely with medication alone. A common plan is to try a course of medication for a month or so. If it is helpful, you may be advised to continue for up to six months or so and then stop the medication to see how symptoms are without the medication. Symptoms may return after you finish a course of medication. However, if you combine a course of medication with bladder training, the long-term outlook may be better and symptoms may be less likely to return when you stop the medication. So, it is best if the medication is used in combination with the bladder training.

Side-effects are quite common with these medicines but are often minor and tolerable. Read the information sheet which comes with your medicine for a full list of possible side-effects. The most common is a dry mouth and simply having frequent sips of water may counter this. Other common side-effects include dry eyes, constipation and blurred vision. However, the medicines have differences and you may find that if one medicine causes troublesome side-effects, a switch to a different one may suit you better.

Another medicine which has recently become available is called mirabegron. This acts by helping the bladder muscle to relax. Side-effects can include raised blood pressure, headache, blocked nose, sneezing, sore throat, constipation and diarrhoea.

**Pelvic floor exercises**

Many people have a mixture of OAB syndrome and stress incontinence. Pelvic floor exercises are the main treatment for stress incontinence. Briefly, this treatment involves exercises to strengthen the muscles that wrap underneath the bladder, womb (uterus) and rectum. Learn more about stress incontinence and pelvic floor exercises.

It is not clear if pelvic floor exercises help if you just have OAB syndrome without stress incontinence. However, pelvic floor exercises may help if you are doing bladder training (see above).

**Treatment with botulinum toxin A**

This is an alternative treatment to surgery if other treatments including bladder training and medication have not helped your symptoms. The treatment involves injecting botulinum toxin A into the sides of your bladder. This treatment has an effect of damping down the abnormal contractions of the bladder. However, it may also damp down the normal contractions so that your bladder is not able to empty fully. If you have this procedure you usually need to insert a small tube (catheter) into your bladder in order to empty it.

**Note:** botulinum toxin A has now been approved (licensed) for the treatment of OAB syndrome in the UK. Make sure that you discuss this procedure fully with your doctor and understand all its risks and benefits before you go ahead with it.

**Nerve stimulation**

This can be offered when medicines or botulinum toxin A do not work or if you do not want these treatments.

- **Sacral nerve stimulation.** A small pulse generator device is implanted under the skin of the buttock to send a burst of electrical signals to the nerves that control the bladder.
- **Peroneal nerve stimulation.** This is another way of stimulating the nerves that control the bladder.
- **Percutaneous posterior tibial nerve stimulation.** The posterior tibial nerve also controls bladder function. It can be stimulated by passing an electric current through a needle inserted through the skin just above the ankle.

**Surgery**

After the 2-3 days of finding your baseline, the aim is then to hold on for as long as possible before you go to the toilet. This will seem difficult at first. For example, if you normally go to the toilet every hour, it may seem quite a struggle to last one hour and five minutes between toilet trips. When trying to hold on, try distracting yourself. For example:

- Sitting straight on a hard seat may help.
- Try counting backwards from 100.
- Try doing some pelvic floor exercises (see below).

With time, it should become easier as the bladder becomes used to holding larger amounts of urine. The idea is gradually to extend the time between toilet trips and to train your bladder to stretch more easily. It may take several weeks but the aim is to pass urine only 5-6 times in 24 hours (about every 3-4 hours). Also, each time you pass urine you should pass much more than your baseline diary readings. (On average, people without an OAB normally pass 250-350 ml each time they go to the toilet.) After several months you may find that you just get the normal feelings of needing the toilet, which you can easily put off for a reasonable time until it is convenient to go.

Whilst doing bladder training, perhaps fill in the diary for a 24-hour period every week or so. This will record your progress over the months of the training period.

Bladder training can be difficult but becomes easier with time and perseverance. It works best if combined with advice and support from a continence advisor, nurse or doctor. Make sure you drink a normal amount of fluids when you do bladder training (see above).

**Medication**

If there is not enough improvement with bladder training alone, medicines called antimuscarinics (also called anticholinergics) may also help. They include oxybutynin, tolterodine, trospium, propiverine and solifenacin. These also come in different brand names. They work by blocking certain nerve impulses to the bladder, which relaxes the bladder muscle and so increases the bladder capacity.

Medication improves symptoms in some cases but not in all. The amount of improvement varies from person to person. You may have fewer toilet trips, fewer urine leaks and less urgency. However, it is uncommon for symptoms to go completely with medication alone. A common plan is to try a course of medication for a month or so. If it is helpful, you may be advised to continue for up to six months or so and then stop the medication to see how symptoms are without the medication. Symptoms may return after you finish a course of medication. However, if you combine a course of medication with bladder training, the long-term outlook may be better and symptoms may be less likely to return when you stop the medication. So, it is best if the medication is used in combination with the bladder training.

Side-effects are quite common with these medicines but are often minor and tolerable. Read the information sheet which comes with your medicine for a full list of possible side-effects. The most common is a dry mouth and simply having frequent sips of water may counter this. Other common side-effects include dry eyes, constipation and blurred vision. However, the medicines have differences and you may find that if one medicine causes troublesome side-effects, a switch to a different one may suit you better.

Another medicine which has recently become available is called mirabegron. This acts by helping the bladder muscle to relax. Side-effects can include raised blood pressure, headache, blocked nose, sneezing, sore throat, constipation and diarrhoea.

**Pelvic floor exercises**

Many people have a mixture of OAB syndrome and stress incontinence. Pelvic floor exercises are the main treatment for stress incontinence. Briefly, this treatment involves exercises to strengthen the muscles that wrap underneath the bladder, womb (uterus) and rectum. Learn more about stress incontinence and pelvic floor exercises.

It is not clear if pelvic floor exercises help if you just have OAB syndrome without stress incontinence. However, pelvic floor exercises may help if you are doing bladder training (see above).

**Treatment with botulinum toxin A**

This is an alternative treatment to surgery if other treatments including bladder training and medication have not helped your symptoms. The treatment involves injecting botulinum toxin A into the sides of your bladder. This treatment has an effect of damping down the abnormal contractions of the bladder. However, it may also damp down the normal contractions so that your bladder is not able to empty fully. If you have this procedure you usually need to insert a small tube (catheter) into your bladder in order to empty it.

**Note:** botulinum toxin A has now been approved (licensed) for the treatment of OAB syndrome in the UK. Make sure that you discuss this procedure fully with your doctor and understand all its risks and benefits before you go ahead with it.

**Nerve stimulation**

This can be offered when medicines or botulinum toxin A do not work or if you do not want these treatments.

- **Sacral nerve stimulation.** A small pulse generator device is implanted under the skin of the buttock to send a burst of electrical signals to the nerves that control the bladder.
- **Peroneal nerve stimulation.** This is another way of stimulating the nerves that control the bladder.
- **Percutaneous posterior tibial nerve stimulation.** The posterior tibial nerve also controls bladder function. It can be stimulated by passing an electric current through a needle inserted through the skin just above the ankle.

**Surgery**
If the above treatments are not successful, surgery is sometimes suggested to treat OAB syndrome. Procedures that may be used include:

- **Augmentation cystoplasty.** In this operation, a small piece of tissue from the intestine is added to the wall of the bladder to increase the size of the bladder. However, not all people can pass urine normally after this operation. You may need to insert a catheter into your bladder in order to empty it. The operation is sometimes done by opening the tummy (abdomen) and sometimes through an operating telescope (laparoscope).
- **Urinary diversion.** In this operation, the tubes from the kidneys to the bladder (the ureters) are routed directly to the outside of your body. There are various ways that this may be done. Urine does not flow into the bladder. This procedure is only done if all other options have failed to treat your OAB syndrome.

**Continence adviser**

Your GP may refer you to the local continence adviser. Continence advisers can give advice on treatments, especially about bladder training and pelvic floor exercises. If incontinence remains a problem, they can also give lots of advice on how to cope. For example, they may be able to supply various appliances and aids to help, such as incontinence pads, etc.

Stress incontinence is the most common form of incontinence. It means you leak urine when you increase the pressure on the bladder, as in coughing, sneezing or exercise. It happens when the pelvic floor muscles that support the bladder are weakened.

Weakened pelvic floor muscles cannot support the bladder and urine outlet (urethra) as well as they should. The pressure is too much for the bladder outlet to withstand and so urine leaks out.

Childbirth is a common reason for a weak pelvic floor. The main treatment for stress incontinence is pelvic floor exercises. Surgery to tighten or support the bladder outlet can also help. Medication may be used in addition to exercises if you do not want, or are not suitable for, surgery.

**Stress incontinence symptoms**

Stress incontinence occurs when urine leaks because there is a sudden extra pressure within the tummy (abdomen) and on the bladder.

This pressure (or stress) may be caused by things like coughing, laughing, sneezing or exercising (such as running or jumping).

Small amounts of urine may leak but sometimes it can be quite a lot and can cause embarrassment.

Your doctor or nurse may ask you to keep a chart to record the times you pass urine, the amount of urine you pass on each occasion, and the times you leak urine (are incontinent).

**How common is stress incontinence?**

Stress incontinence is the most common form of urinary incontinence. It is estimated that about three million women in the UK are regularly incontinent. Overall this is about 4 in 100 adults and well over half of these are due to stress incontinence. Stress incontinence becomes more common in older women. As many as 1 in 5 women over the age of 40 have some degree of stress incontinence.

It is likely that the true number of people affected is much higher. Many people do not tell their doctor about their incontinence, due to embarrassment. Some people wrongly think that incontinence is a normal part of ageing or that it cannot be treated. This is unfortunate, as many cases can be successfully treated or significantly improved.

**Other types of urinary incontinence**

The second most common type of incontinence is urge incontinence. Briefly, urge incontinence occurs when you have an urgent desire to pass urine from an overactive bladder. Urine may leak before you have time to get to the toilet. Treatment is different to treatment for stress incontinence. Some people have both stress incontinence and urge incontinence. This is known as mixed incontinence.

**Note:** you should always see your doctor if you develop incontinence. Each type has different treatments. Your doctor will assess you to determine the type of incontinence and advise on possible treatment options. See separate leaflet called Urinary Incontinence for a general overview and to understand what is likely to happen during your doctor's assessment.

**What causes stress incontinence?**

Most cases of stress incontinence are due to weakened pelvic floor muscles. Pelvic floor muscles are often weakened by childbirth. The pelvic floor muscles are a group of muscles that wrap around the underside of the bladder and back passage (rectum). Stress incontinence is common in women who have had children, particularly if they have had several vaginal deliveries. It is also more common with increasing age, as the muscles become weaker, particularly after the menopause. Stress incontinence is also more common in women who are obese. Stress incontinence can occur in men who have had some treatments for prostate cancer. This includes surgical removal of the prostate (prostatectomy) and radiotherapy.
What are the treatment options for stress incontinence?

First-line treatment involves strengthening the pelvic floor muscles with pelvic floor exercises. About 6 in 10 cases of stress incontinence can be cured or much improved with this treatment. If you are overweight and incontinent then you should first try to lose weight in conjunction with any other treatments. Surgery may be offered if the problem continues and is a significant problem. Medication may be used in addition to exercises if you do not want, or are not suitable for, surgery.

Strengthening the pelvic floor muscles - pelvic floor exercises

It is important that you exercise the correct muscles. Your doctor may refer you to a continence advisor or physiotherapist for advice on the exercises. They may ask you to do a pelvic floor exercise while they examine you internally, to make sure you are doing them correctly. The sort of exercises are as follows:

Learning to exercise the correct muscles

- Sit in a chair with your knees slightly apart. Imagine you are trying to stop wind escaping from your back passage (anus). You will have to squeeze the muscle just above the entrance to the anus. You should feel some movement in the muscle. Don't move your buttocks or legs.
- Now imagine you are passing urine and are trying to stop the stream. You will find yourself using slightly different parts of the pelvic floor muscles to the first exercise (ones nearer the front). These are the ones to strengthen.
- If you are not sure that you are exercising the right muscles, put a couple of fingers into your vagina. You should feel a gentle squeeze when doing the exercise. Another way to check that you are doing the exercises correctly is to use a mirror. The area between your vagina and your anus will move away from the mirror when you squeeze.
- The first few times you try these exercises, you may find it easier to do them lying down.

Doing the exercises

- You need to do the exercises every day.
- Sit, stand or lie with your knees slightly apart. Slowly tighten your pelvic floor muscles under the bladder as hard as you can. Hold to the count of five, then relax. These are called slow pull-ups or long squeezes.
- Then do the same exercise quickly and immediately let go again. These are called fast pull-ups or short squeezes.
- The aim is to do a long squeeze followed by ten short squeezes, and repeat this cycle at least eight times. It should only take about five minutes.
- Aim to do the above exercises at least three times a day.
- Ideally, do each set of exercises in different positions. That is, sometimes when sitting, sometimes when standing and sometimes when lying down.
- As the muscles become stronger, increase the length of time you hold each slow pull-up or long squeeze. You are doing well if you can hold it each time for a count of 10 (about 10 seconds).
- Do not squeeze other muscles at the same time as you squeeze your pelvic floor muscles. For example, do not use any muscles in your back, thighs, or buttocks.
- Some people find it difficult to remember to do their exercises; a chart or a reminder on a phone may help.
- Try to get into the habit of doing your exercises at other times too, whilst going about everyday life. For example, when brushing your teeth, waiting for the kettle to boil, or washing up, etc.
- You may find it helpful to do a 'squeeze' just before you do something that would otherwise cause you to leak, like coughing or lifting.
- After several weeks the muscles will start to feel stronger. You may find you can squeeze the pelvic floor muscles for much longer without the muscles feeling tired.

It takes time, effort and practice to become good at these exercises. It is best to do these exercises for at least three months to start with. You should start to see benefits after a few weeks. However, it often takes two to five months for most improvement to occur. After this time you may be cured of stress incontinence. If you are not sure that you are doing the correct exercises, ask a doctor, physiotherapist or continence advisor for advice.

If possible, continue exercising as a part of everyday life for the rest of your life. Once incontinence has gone, you may only need to do one or two bouts of exercise each day to keep the pelvic floor muscles strong and toned up and to prevent incontinence from coming back.

Other ways of exercising pelvic floor muscles

Sometimes a continence advisor or physiotherapist will advise extra methods if you are having problems or need some extra help performing the pelvic floor exercises. These are in addition to the above exercises. For example:

- Electrical stimulation. Sometimes a special electrical device is used to stimulate the pelvic floor muscles with the aim of making them contract and become stronger.
- Biofeedback. This is a technique to help you make sure that you exercise the correct muscles. For this, a physiotherapist or continence advisor inserts a small device into your vagina when you are doing the exercises. When you squeeze the right muscles, the device makes a noise (or some other signal such as a display on a computer screen) to let you know that you are squeezing the correct muscles.
- Vaginal cones. These are small plastic cones that you put inside your vagina for about 15 minutes, twice a day. The cones come in a set of different weights. At first, the lightest cone is used. You will naturally use your pelvic floor muscles to hold the cone in place. This is how they help you to exercise your pelvic floor muscles. Once you can hold on to the lightest one comfortably, you move up to the next weight and so on.
Other devices. There are various other devices that are sold to help with pelvic floor exercises. Basically, they all rely on placing the device inside the vagina with the aim of helping the pelvic muscles to exercise and squeeze. There is little research evidence to show how well these devices work. It is best to get the advice from a continence advisor or physiotherapist before using any. One general point is that if you use one, it should be in addition to, not instead of, the standard pelvic floor exercises described above.

Surgery
Various surgical operations are used to treat stress incontinence. They tend only to be used when the pelvic floor muscle exercises have not helped. The operations aim to tighten or support the muscles and structures below the bladder.

The tension-free vaginal tape (TVT) procedure is the name of an operation often used to treat stress incontinence. It involves a sling of man-made (synthetic) tape being used to support the urine outlet (urethra) and bladder neck. Sometimes a sling is made using tissue from another part of the patient's own body, such as the tummy (abdominal) muscles.

Colposuspension is the name of another operation to support the urethra and treat stress incontinence.

If you have a vaginal prolapse there is a weakness of the support structures of the pelvis and one or more of the organs of the body drops down into the vagina. Commonly, the prolapse involves the bladder. This is known as a cystocele. Surgical repair of this weakness (called an anterior repair) is often performed to treat the associated urinary incontinence. See separate leaflet called Genitourinary Prolapse for more details.

Other procedures involve injections of bulking agents around the bladder entrance, to keep it closed. These injections may be either natural materials (such as fat) or synthetic ones (such as silicone).

In general, surgery for stress incontinence is often successful.

Medication
Duloxetine is a medicine that is usually used to treat depression. However, it was found to help with stress incontinence separate to its effect on depression. It is thought to work by interfering with certain chemicals that are used in transmitting nerve impulses to muscles. This helps the muscles around the urethra to contract more strongly.

One study showed that in about 6 in 10 women who took duloxetine, the number of urine leakages halved compared to the time before they took the medication. Therefore, on its own, duloxetine is not likely to cure the incontinence but may help to make it less of a problem. However, duloxetine in addition to pelvic floor exercises may give a better chance of curing the incontinence than either treatment alone.

Duloxetine may be advised if pelvic floor exercises alone are not helping to treat your stress incontinence. It is usually advised in women who do not want to undergo surgery, or in women who have health problems that may mean that surgery is unsuitable.

Some general lifestyle measures which may help
- Your GP may refer you to the local continence adviser. Continence advisors can give advice on treatments, especially pelvic floor exercises. If incontinence remains a problem, they can also give lots of advice on how to cope. Examples include the supply of various appliances and aids such as incontinence pads, etc.
- Getting to the toilet. Make this as easy as possible. If you have difficulty getting about, consider special adaptations like a handrail or a raised seat in your toilet. Sometimes a commode in the bedroom makes life much easier.
- Obesity. Stress incontinence is more common in women who are obese. Weight loss is advised in those who are overweight or obese. It has been shown that losing a modest amount of weight can improve urinary incontinence in overweight and obese women. Even just 5-10% weight loss can help symptoms.
- Smoking can cause cough which can aggravate symptoms of incontinence. It would help not to smoke.

Can stress incontinence be prevented?
If you do regular pelvic floor exercises (as described above) during pregnancy and after you have a baby then stress incontinence is less likely to develop following childbirth and in later life. Maintaining an average weight for your height will also help.

Further reading & references
- Uncomplicated urinary tract infection in women; Royal College of General Practitioners/Public Health England (January 2017)
- Urinary incontinence in women: management; NICE Clinical Guideline (September 2013)
- Urinary tract infection (lower) - women; NICE CKS, July 2015 (UK access only)
- International Painful Bladder Foundation (IPBF)

Disclaimer: This article is for information only and should not be used for the diagnosis or treatment of medical conditions. Patient Platform Limited has used all reasonable care in compiling the information but makes no warranty as to its accuracy. Consult a doctor or other healthcare professional for diagnosis and treatment of medical conditions. For details see our conditions.
Ask your doctor about Patient Access

- Book appointments
- Order repeat prescriptions
- View your medical record
- Create a personal health record (iOS only)

Simple, quick and convenient.
Visit patient.info/patient-access or search 'Patient Access'

© Patient Platform Limited - All rights reserved.