**BOO IN WOMEN**

Bladder outlet obstruction (BOO) in women is rarely diagnosed but many urologists now appreciate that this is an under-diagnosed condition and with increased awareness of it, the condition is being diagnosed and treated successfully by specialists.

**What symptoms will I have?**

If you have symptoms of slow or poor urinary flow, having to push to pass urine, inability to empty your bladder completely, having to pass urine frequently or recurrent urinary tract infections, you could have BOO (although other bladder conditions can cause similar symptoms). In some situations, you may not be able to pass urine at all – this is called urinary retention.

You will need to have an examination of your abdomen and your vagina/pelvis, you will always be offered a chaperone for this.

**What tests will I need to have?**

If we suspect you have BOO from your symptoms and examination, we may ask for any of the following tests:

* A urine sample which we will check for an infection
* A pelvic ultrasound scan to check if any of the pelvic organs are compressing on your bladder to cause similar symptoms
* A kidney ultrasound scan may be requested if you are experiencing frequent urinary tract infections
* A flow rate test: you will be asked to drink until you have a *comfortably* full bladder and then pass urine into a specially designed toilet which measures how much urine you have passed and how fast you have passed urine. Your bladder will be scanned afterwards to see if you have emptied your bladder completely.

If the tests above lead us to suspect you have BOO, we may ask you to have a videourodynamic study and cystoscopy to finalise the diagnosis.

**What are the causes of BOO in women?**

Some of the causes of BOO in women are summarised in the table below:

|  |  |
| --- | --- |
| Compression of the bladder or urethra (waterpipe) | Prolapse of pelvic organs |
| Large uterine masses e.g. fibroids |
| Following surgery on the bladder or urethra (bladder) |
| Blockage of the urethra (waterpipe) | Stricture (narrowing) of the urethra |
| Meatal stenosis (narrowing of the opening of the urethra) |
| Urethral caruncle |
| Urethral diverticulum or cyst (a pocket forms alongside the urethra which may or may not be connected to the urethra and causes compression of it) |
| Problems with the sphincter within the urethra | The sphincter is a band of muscle within the urethra which maintains continence. The sphincter needs to relax fully to allow the passage of urine. Sometimes, the sphincter is unable to relax fully or at all. |
| Problems with relaxation of the pelvic floor | Sometimes during childhood or adolescence, young girls can learn to tighten rather than relax their pelvic floor when passing urine. This leads to the symptoms described above and if left untreated can cause problems with the bladder and kidneys. |

**How will I be treated?**

The treatment you are offered will vary according to which of the diagnoses above have caused your symptoms. If you are offered any of these options, you must discuss them fully with your Urologist before you agree to proceed.

Some of the treatment options include:

* Pelvic floor physiotherapy
* Intermittent self catheterisation (<https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/ISC%20female.pdf>)
* Urethral dilation ([https://www.baus.org.uk/\_userfiles/pages/files/Patients/Leaflets/Bladder neck dilatation in women.pdf](https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Bladder%20neck%20dilatation%20in%20women.pdf))
* Urethroplasty
* Surgical removal of urethral diverticulum/cyst ([https://www.baus.org.uk/\_userfiles/pages/files/Patients/Leaflets/Urethral diverticulum.pdf](https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Urethral%20diverticulum.pdf))
* Sacral neuromodulation (<https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Sacral%20neuromodulation.pdf>)
* Suprapubic catheter insertion ([https://www.baus.org.uk/\_userfiles/pages/files/Patients/Leaflets/Suprapubic care female.pdf](https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Suprapubic%20care%20female.pdf))
* Formation of mitrofanoff (<https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Mitrofanoff.pdf>) or urinary diversion ([https://www.baus.org.uk/\_userfiles/pages/files/Patients/Leaflets/Ileal conduit.pdf](https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Ileal%20conduit.pdf)) in extreme cases

**OAB**

Overactive bladder (OAB) is a common bladder complaint which affects both men and women, the young and old. You may have OAB if you need to pass urine more frequently than usual, with urgency (i.e. the inability to defer passage of urine) and if you wake up in the night to pass urine. OAB may also cause urinary leakage.

**What causes OAB?**

An overactive bladder occurs when the bladder muscle contracts too often, in response to having very small volumes of urine within it and involuntarily. The causes of OAB are quite varied and it may not always be possible to diagnose the cause of OAB in all cases. Some common causes include:

* Caffeinated drinks and alcohol
* Nerve problems e.g. if you have been diagnosed with multiple sclerosis, Parkinson’s disease, stroke)
* Enlarged prostate in a man
* Medicines
* Urinary tract infections
* Increasing age
* Surgery to the bladder/pelvis

**What symptoms will I have?**

Symptoms of OAB include:

* Needing to pass urine very frequently (it is thought that passing urine up to 8 times during waking hours is normal)
* Waking from sleep to pass urine in the night
* The sudden desire to pass urine which cannot be deferred, known as urgency
* Urine leakage/incontinence
* ‘Coital incontinence’ or urinary leakage during intercourse

**What tests will I need?**

OAB can often be diagnosed by taking a thorough history and performing an abdominal/pelvic examination to rule out other diagnoses. A urine sample will be requested to rule out a urinary infections. You will also be asked to complete a ‘3-day bladder diary’ or ‘frequency-volume chart’ (https://www.baus.org.uk/\_userfiles/pages/files/Patients/Leaflets/Input%20output%20chart.pdf). This is a very useful tool to help us determine how to manage your condition.

You may also be asked to complete questionnaires about your symptoms to assess how severe your symptoms are whether the treatments you are being given are helping.

Other tests include:

* A pad test (if you suffer from urinary leakage)
* An ultrasound of your kidneys and bladder
* A flow rate test
* Urodynamic studies
* A cystoscopy

**What treatments will I be offered?**

Conservative treatment

It is often advisable to start with lifestyle changes such as reducing your caffeine and/or alcohol intake and teaching you to perform bladder (re)training (also called ‘bladder drill’) <https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Bladder%20training.pdf> with or without pelvic floor exercises. Depending on the results of your tests this may be enough to start with.

Medication

Some people with OAB may benefit from medications such as:

* Vaginal oestrogens (women only)
* Anticholinergic tablets
* Beta-3-agonist tablets

Surgery

If the above measures fail, you will be offered surgical options to help with your symptoms. These include:

* **Percutaneous tibial nerve injection** **(PTNS)**: this is a minimally invasive treatment which does not require any anaesthetic. It is performed in the outpatient department. The treatment involves placing a fine needle above your ankle and attaching it to a stimulator to provide 30 minutes of therapy. You will be asked to have 12 sessions at one-weekly intervals following which your symptoms will be assessed to decide if you need further treatment. The success rates of this treatment can be anywhere between 40 and 90% after a full course of treatment but it may take up to 8 weeks to notice any improvement in symptoms. The effects wear off in time and you can be offered top-up treatment to maintain the beneficial effects. The most common side effects are mild discomfort or bleeding around the site of the needle insertion.
* **Botox injections into the bladder wall** (<https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Botox.pdf>): this is a minimally invasive treatment which can be performed under a local or general anaesthetic. It is reported to provide improvement in symptoms in 80% of patients with OAB. It is not a permanent treatment and if is successful it needs to be repeated every six to nine months. Whilst a very successful treatment, it does carry some risks, including but not limited to urinary tract infections (20%) and incomplete bladder emptying requiring clean intermittent self-catheterisation (10%).
* **Sacral neuromodulation** (<https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Sacral%20neuromodulation.pdf>): this is a minimally invasive procedure performed in two stages under general anaesthetic or sedation. It is reported to provide improvement in symptoms in 70% of patients with symptoms of OAB. As this is an implanted device, you would not be able to undergo MRI scans below the neck after the procedure for as long as you have the device. The device is considered permanent although it does require replacement when the battery life runs out, which is usually 3-7 years following initial insertion. Whilst a very successful treatment, it does carry risks including but not limited to infection of the device.
* **Augmentation cystoplasty** (<https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Enterocystoplasty.pdf>): this is a major operation in which the size of the bladder is increased using a segment of your own bowel. It is used only if other treatments have been unsuccessful.
* **Diversion of urine into a conduit** (<https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Ileal%20conduit.pdf>):this is a major operation and is used as a last report when all other measures have failed.

**MALE INCONTINENCE**

Persistent urinary leakage following prostate surgery (e.g. open, robotic or laparoscopic prostatectomy for prostate cancer, TURP, HoLEP) can occur in up to 40% of men. Some men do not find this bothersome but when they do, it is important to seek help as it can be treated.

**What symptoms will I have?**

Urinary leakage following prostate surgery may be related to an overactive bladder (OAB), stress incontinence or to a combination of both. Symptoms include:

* Needing to pass urine very frequently (it is thought that passing urine up to 8 times during waking hours is normal)
* Waking from sleep to pass urine in the night
* The sudden desire to pass urine which cannot be deferred, known as urgency
* Urine leakage/incontinence if you cannot reach the toilet in time
* Urine leakage/incontinence when coughing/sneezing, walking or being active (e.g. walking up and down the stairs, gardening or playing golf)

**What tests will I need?**

Following a thorough history and examination, you may be asked to have the following tests:

* A urine sample will be taken to rule out an infection
* A flexible cystoscopy (<https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Flexible%20cystoscopy.pdf>): to ensure there is no scarring within the waterpipe (urethra) and at the junction between the bladder and waterpipe.
* A videourodynamic study (<https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Urodynamics.pdf>): to differentiate between stress incontinence and OAB.

You will also be asked to complete a bladder diary and a 24-hour pad test (see below).

**How do I complete a 24-hour pad test?**

A part of your urinary incontinence evaluation includes an assessment of the quantity of urine you leak in one day. Please follow the instructions below.

**What you will need to perform this test:**

* 2x water-tight bags e.g. sandwich bags or ziplock bags
* Your regular pads
* 1 dry pad

**How will this test be performed?**

1. During a 24 hour period prior to your clinic appointment (e.g. from 8 AM to 8 AM) collect every pad you use. Be sure to use the same type pad during this period of time.
2. Place the wet pads into a water-tight bag such as a ziplock plastic bag or sandwich bag. Place one dry pad in a separate water-tight bag ready for your appointment (the same type of pad as those worn for the 24 hours collection).
3. Continue your normal routine during the 24-hour test.
4. Bring the bag containing your wet pads **and** the bag containing the clean dry pad (in a separate ziplock bag) with you on the day of your clinic appointment.

**What will we do with the pads?**

The wet pad(s) will be weighed and the dry pad will be weighed separately. The dry pad weight is multiplied by the number of wet pads worn over the 24-hour period. By taking away the weight of the dry pad(s) from the wet pad(s), a calculation of how much urine leaks over a 24 hours period can be made. If you prefer, you can calculate the pad weights at home using a sensitive digital weighing scale which can take measurements in grams.

Alternatively, you could weigh the pads at home and e-mail us the measurements at xxxxxxx.

**What treatment options will I be offered?**

If your leakage is related to OAB, you will be offered the treatments for OAB. If your leakage is related to stress incontinence, you could be offered any of the following options depending on how much leakage you have and how bothered you are by it. Sometimes, you may need a combination of treatments for OAB and stress incontinence.

* Conservative measures: this includes looking at your fluid intake and output to see if any changes can be made to what, how much and when you are drinking to improve your symptoms. You will also be asked to perform pelvic floor exercises (<https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Pelvic%20floor%20XS%20male.pdf>).
* Medication: duloxetine is a selective serotonin (5-HT) reuptake inhibitor which works by increasing the tone of the sphincter in the urethra (waterpipe). Whilst it is often used in the early stages of incontinence following prostatectomy, it has a significant side-effect profile with up to 40% of men stopping the medication due to one or more of the following side-effects: fatigue, light-headedness, insomnia, nausea and dry mouth. If taken, it cannot be stopped suddenly and the dose must be reduced gradually. It is not a recommended long-term treatment for urinary leakage following prostate surgery in men who are fit for surgery.
* Surgery:
1. Urethral bulking agents: this treatment involves injection of an agent (e.g. collagen, silicone or autologous fat) into the join between the bladder and waterpipe (urethra) under local or general anaesthetic. The effect is to increase the resistance to the passage of urine and thereby reduce unwanted leakage. Whilst this treatment is minimally invasive, the impact is short-lived and up to 50% of men will require repeated treatments to see a significant improvement in symptoms. It is therefore only recommended in a limited number of men with post-prostatectomy incontinence.
2. Male urethral slings (<https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Synthetic%20sling%20male.pdf>): this is minimally invasive surgery where a mesh sling is placed underneath the waterpipe (urethra) to reposition the urethra and in that way to allow the external sphincter to work in the correct orientation as it was prior to surgery. It involves a small incision in the perineum (the area between the scrotum and anus) and a very small incision in each groin. The operation is carried out under a general or spinal anaesthetic and a catheter will be placed in the bladder which will be removed the following day prior to discharge home. The success rates from this procedure are reported as upto 85%. Whilst a highly successful operation, there are risks including (but not limited to): temporary urinary retention (the inability to pass urine) and groin or thigh pain.
3. Artificial urinary sphincter (AUS) (<https://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/AUS%20male.pdf>): this operation is currently considered the gold standard treatment for urinary leakage related to a weak sphiuncter following prostate surgery. The device is a prosthetic device which consists of a cuff that is placed around the urethra (waterpipe), a pump which is placed in the scrotum and a reservoir which is placed underneath the abdominal fat and muscle. The whole device is fluid-filled. When you have a full bladder and the desire to pass urine, the pump in the scrotum is pressed manually which makes the cuff deflate and urine is able to be passed. The cuff reinflates spontaneously after 1 to 2 minutes, providing continence. The surgery involves an incision in the perineum (the space between the scrotum and anus) and in the abdominal wall, in a similar position to appendix/hernia surgery. Success rates (which means being dry or requiring 1 thin pad per day) of upto 92% have been have been reported from this surgery. Whilst this surgery is highly successful, risks include (but are not limited to): device infection or erosion requiring it to be removed (upto 5% per year) and mechanical failure requiring device replacement. The lifespan of the device is considered to be 10-15 years.