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Lower Urinary Tract Symptoms (LUTS) and Diagnosis of BPE

Symptoms

The underlined terms are listed in the glossary.

Benign prostatic enlargement (BPE) can affect the way you normally urinate. This happens because the enlarged prostate compresses the urethra at the outlet of the bladder (**Fig. 1a and b**).

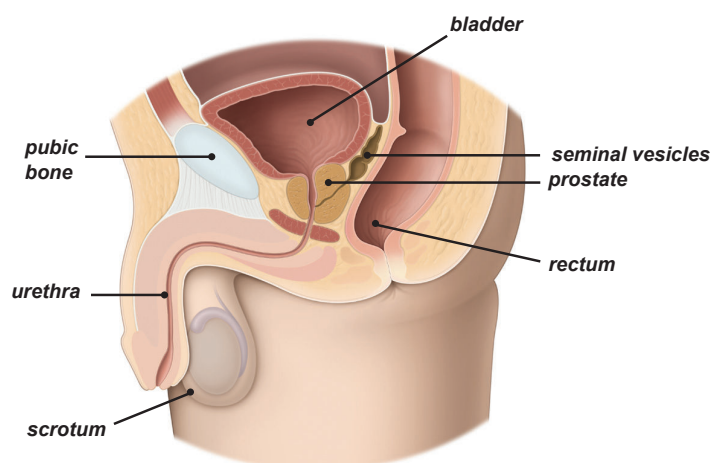


Fig. 1a: A healthy prostate in the lower urinary tract.

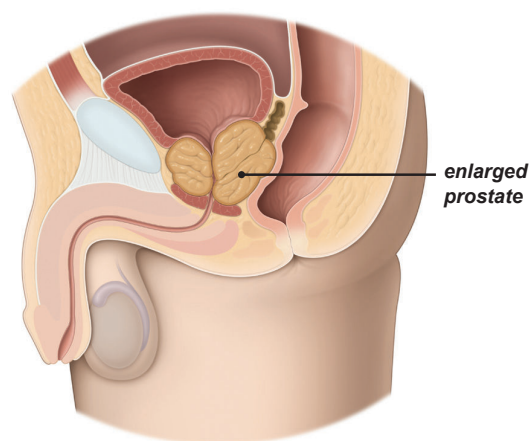


Fig. 1b: An enlarged prostate compressing the urethra and bladder.

Sometimes the symptoms are mild. For example you may need to urinate more often or find it more difficult to empty your bladder completely. These mild symptoms are a normal part of the ageing process – just like decline in mobility, memory, or flexibility. It is possible that your doctor will not recommend treatment for mild symptoms.

Sometimes the symptoms are very bothersome and can have a negative effect on your quality of life. In this case you may benefit from treatment.

The symptoms which are often called lower urinary tract symptoms (LUTS) may be caused by BPE and may be due to other conditions which affect the urinary system.

Types of symptoms

In men with BPE, the symptoms can affect urination in different ways:

- The way you hold the urine in the bladder (storage)
- The way you urinate (voiding)
- How you feel after you urinate (post-micturition)

Storage symptoms include:

- The need to urinate more often than usual
- The need to wake up at night to urinate
- The sudden need to urinate and having trouble postponing it
- Any involuntary loss of urine

Voiding symptoms include:

- A weak stream of urine
- Splitting or spraying of the urine stream
- The flow of urine starts and stops
- Straining when urinating
- It takes a while before the urinary flow starts
- It takes longer to finish urinating
- In rare cases acute or chronic urinary retention

Post-micturition symptoms include:

- The feeling that the bladder is not completely empty
- Involuntary loss or dribbling of urine into your underwear shortly after leaving the toilet

Diagnosis

The doctor and nurses do a series of tests to understand what causes your symptoms. This is called a diagnosis.

The symptoms listed in the previous section can point to many diseases and not only BPE. This is why you may need to take several tests before the doctor can make a diagnosis.

First, the doctor or nurse will take your medical history and do a physical examination. Then they may do urine and blood tests, take images of your bladder and prostate, and perform other tests if needed.

This section offers general information about diagnosis and situations can vary in different countries.

Medical history

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

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

The doctor may also ask you to fill out a questionnaire to understand your symptoms, how often they happen, and how much they affect your quality of life. There are several questionnaires available including IPSS, ICIQ Male LUTS, the Danish Prostate Symptom Score (DAN-PSS). The most-used questionnaire is the International Prostatic Symptom Score (IPSS). It consists of seven questions about your symptoms which can be scored between 0 and 5, from mild to severe.

Terms your doctor may use:

- LUTS – Lower urinary tract symptoms
- Micturition – Urination
- Nocturia – The need to wake up at night to urinate
- Post void residual urine (PVR) – The amount of urine left in the bladder after urination
- Urinary incontinence – Involuntary loss of urine
- Urgency – The sudden need to urinate which is difficult to postpone

Physical examination

Your doctor or nurse will do a general physical examination.

They will be looking for:

- A distended bladder (your bladder may stretch if it does not empty completely)
- Skin damage on the penis and scrotum (a sign of urinary incontinence)
- Discharge from the urethra (a sign of infection)
- Abnormalities in the penis, scrotum, and testicles

In addition, your doctor will do a rectal examination with a finger to feel the size, shape, and consistency of the prostate (**Fig. 2**). This test is known as digital rectal examination (DRE).

Urine test

You will 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 in the urine.

Blood test

As part of making the diagnosis your doctor may do a blood test to check your kidney function. The doctor may also recommend to check if your blood has higher levels of prostate-specific antigen (PSA). PSA is a protein produced by the prostate and it may increase in men with a benign prostatic enlargement, prostatic inflammation, or prostate cancer. The doctor will explain the possible consequences of this test before making this recommendation.

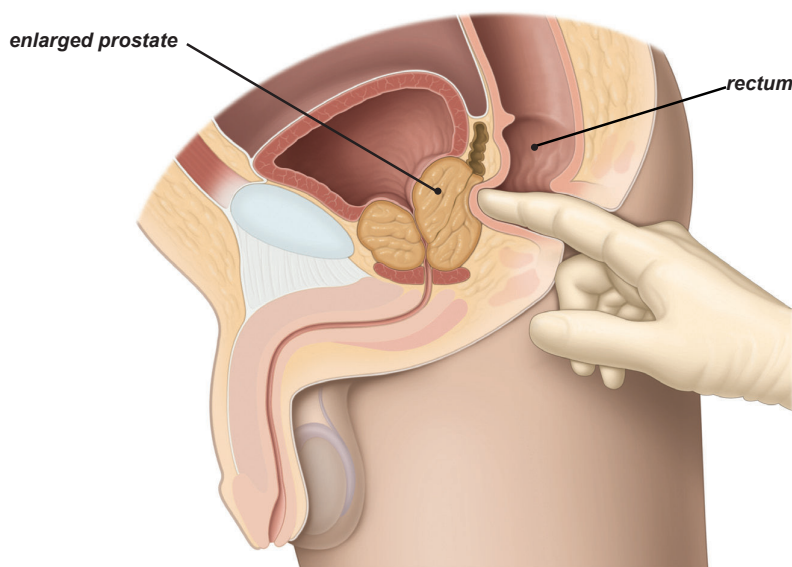


Fig. 2: Digital rectal examination to feel the size, shape, and consistency of the prostate.

Bladder diary

Your doctor may ask you to keep a bladder diary. Here you will note down how much you drink, how often you urinate, and how much urine you produce by measuring the volume of urine at home with the help of a measuring jug. The bladder diary is important because it helps your doctor to understand your symptoms better.

You may use a stopwatch to record the time it took you to urinate. Note down the amount of urine (in millilitres) and the time (in seconds) (**Fig. 3**).

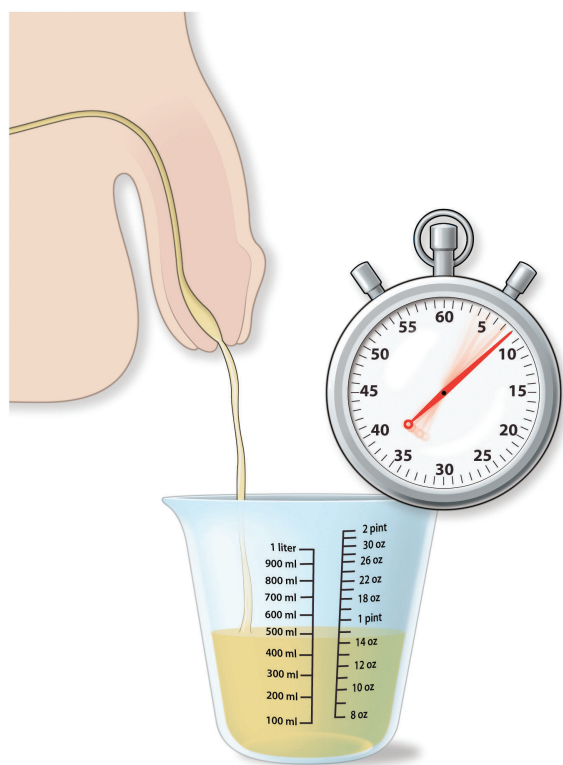


Fig. 3: Measuring urine flow rate at home.

Uroflowmetry

This is a simple test which electronically records the flow of urine. It is easily done in privacy at the hospital or clinic. You will urinate in a container, called a uroflowmeter (**Fig. 4**). This test helps your doctor to check if the enlarged prostate causes a blockage in the lower urinary tract.



Fig. 4: A common type of uroflowmetry container.

What measuring your urine flow rate at home can tell you:

- Normal urine flow is above 15 millilitres per second.
- If your flow of urine is 10 millilitres per second or less and you experience symptoms, you should see your urologist.

Measuring at home is never as accurate as at the hospital or clinic. Make sure to consult your doctor about your urine flow rate.

Imaging of the urinary tract

You may get an ultrasonography (also known as ultrasound), which uses high-frequency sounds to create an image of your bladder and your prostate.

The doctor or nurse will scan your bladder using ultrasound to check how much urine is left in the bladder after urinating. This information helps to see if your symptoms are caused by chronic urinary retention, which can occur in men with BPE.

An ultrasound may also be used to measure prostate volume. This may help to select the best treatment option for you.

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 inserts catheters in your urethra and rectum to measure the pressure in your bladder and abdomen.

The bladder is slowly filled with sterile fluid through the catheter in the urethra. In this way, the filling of the bladder with urine is simulated. When the bladder is full, you will urinate into a uroflowmeter.

The test results are shown on a screen which is connected to the catheters. Sometimes the test has to be repeated to get accurate results but the catheters will already be in place for the second test.

Your doctor may decide to give you this test if:

- You have a neurological dysfunction
- You have had pelvic or prostate surgery
- You have much urine left in the bladder after urination
- BPE is uncommon in your age group
- The urologist needs more information to understand the cause of your symptoms

This information was updated in September 2013.

This leaflet is part of EAU Patient Information on BPE. It contains general information about benign prostatic enlargement. If you have any specific questions about your individual medical situation you should consult your doctor or other professional healthcare provider.

This information was produced by the European Association of Urology (EAU) in collaboration with the EAU Section of Uro-Technology (ESUT), Europa Uomo, and the European Association of Urology Nurses (EAUN).

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

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

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