



## **Education**

### **Benign Prostatic Hyperplasia (Enlarged Prostate)**

#### **What is benign prostatic hyperplasia?**

Benign prostatic hyperplasia (BPH) is an enlarged prostate. The prostate gland is part of a man's reproductive system. It is, on average, a little bigger than a walnut. It is located between the base of the bladder and the beginning of the penis. It surrounds the upper part of the urethra. (The urethra carries urine from the bladder out through the penis.) When the prostate gets bigger it may put pressure on the urethra and cause trouble with urination.

BPH is one of the most common health problems in men over age 60. Another name for this condition is benign prostatic hypertrophy.

#### **How does it occur?**

Usually after a man reaches age 40, his prostate gland starts to enlarge. At first, as the prostate gets bigger, the bladder muscle forces urine through the narrowed urethra by squeezing more strongly. As a result, the bladder muscle often becomes thicker and more sensitive, causing urination problems, such as a need to urinate more often. As the prostate grows even bigger, the urethra may be squeezed more tightly. This may make the bladder unable to empty completely.

#### **What are the symptoms?**

Many men with enlarged prostates have no symptoms. If you have symptoms, they may include:

- a weak stream of urine
- stopping and starting of the stream of urine
- leaking of urine
- dribbling of urine, especially after urinating
- a sense of not emptying the bladder
- difficulty starting urination
- more frequent urination, especially at night
- a strong and sudden desire to urinate
- blood in the urine.

Rarely, BPH may cause repeated urinary tract infections. If you have an infection, you may have burning or pain during urination. BPH may also cause a sudden inability to urinate (acute urinary retention). When this happens, it is a medical emergency.

#### **How is it diagnosed?**

Your health care provider will ask you questions about your medical history and about any symptoms, particularly problems with urination. Your provider will do a physical exam to see if other medical problems may be causing your symptoms.

Your provider will give you a rectal exam. He or she can feel the prostate by inserting a gloved, lubricated finger into the rectum. This procedure allows your provider to estimate the size and condition of the prostate.

Your provider may check your urine (urinalysis) for blood or signs of infection. Your blood may be tested for kidney problems or prostate-specific antigen (PSA).

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Your provider may refer you to a urologist for further tests. Urologists specialize in diseases of the male and female urinary tracts and of the male genital tract. Before you are treated for BPH, it is important to rule out other diagnoses, such as cancer. Other tests you might have are:

- **Rectal ultrasound and prostate biopsy:** A probe inserted in the rectum sends sound waves at the prostate to create a picture of the prostate gland. To see if an abnormal-looking area is indeed a tumor, your provider can use the ultrasound images to guide a biopsy needle to this area. The needle collects a few pieces of prostate tissue for examination with a microscope.
- **Urine flow study:** Your provider may ask you to urinate into a special device that measures how fast the urine flows. A reduced flow is often a sign of BPH.
- **Cystoscopy:** This procedure allows your provider to look at the bladder and prostate with a slim, flexible, lighted tube inserted through the urethra. It is done after you are given a solution to numb the inside of the penis so that you will have little discomfort during the procedure.

### How is it treated?

If you have BPH but your symptoms are mild, your provider may not recommend treatment other than one or more exams a year to be sure that you are not developing more serious problems. This program of care is called watchful waiting. In some cases, symptoms lessen without treatment.

If your symptoms become bothersome or are a health risk, your provider may recommend getting treatment for the BPH. It may be treated with medicines or various procedures.

Two types of **medicine** have been approved for treatment of BPH:

- **Finasteride (Proscar)** and **dutasteride (Avodart)** can stop the prostate from becoming larger. In some men these drugs may even cause the prostate to get smaller. As a result the urinary symptoms may get better. However, these drugs do not work for everyone.
- **Alpha blockers**, such as **terazosin (Hytrin)**, **doxazosin (Cardura)**, **tamsulosin (Flomax)**, and **alfuzosin (Uroxatral)** relax the muscles in the prostate and may thus relieve symptoms. These medicines often work well and are commonly used.

Because drug treatment is not effective in all cases, researchers in recent years have developed a number of procedures that relieve BPH symptoms but are less invasive than conventional surgery. These procedures include:

- **Transurethral microwave thermotherapy (TUMT)**, which uses microwaves to heat and destroy excess prostate tissue. The procedure takes about 1 hour and can be performed on an outpatient basis without general anesthesia. TUMT has not been reported to lead to erectile dysfunction (impotence, or ED) or loss of bladder control (incontinence). Microwave therapy does not cure BPH, but it reduces urinary symptoms such as having to urinate too often. It does not always correct the problem of incomplete emptying of the bladder.
- **Transurethral needle ablation**, which delivers low-level radio waves through needles to burn away part of the enlarged prostate. This procedure improves urine flow and relieves symptoms. It does not appear to cause incontinence or ED.

Removal of the enlarged part of the prostate is often the best long-term solution for BPH. Surgery reduces pressure on the urethra and generally gives relief from symptoms. The common surgical procedure for BPH is **transurethral resection of the prostate (TURP)**. For this procedure the surgeon removes just the part of the prostate that is pressing on the urethra. The surgeon uses a small scope and wire loop inserted through the penis to do this. One possible side effect of TURP is retrograde, or backward, ejaculation. This means that semen flows backward into the bladder during climax instead of out the urethra.

In some cases a procedure called **transurethral incision of the prostate (TUIP)** may be done instead of TURP. Instead of removing prostate tissue, the surgeon passes an instrument through the penis to make a few small cuts in the prostate and the part of the urethra that joins the bladder. These cuts reduce the prostate's pressure on the urethra, making it easier to urinate.

Another surgical procedure uses a **laser** to destroy prostate tissue that is causing blockage. The doctor passes the laser through the urethra into the prostate using a cystoscope and then delivers several bursts of energy lasting 30 to 60 seconds. The laser energy destroys prostate tissue and causes shrinkage. Like TURP, laser surgery requires anesthesia and a hospital stay. One advantage of laser surgery over TURP is that laser surgery causes little blood loss. Recovery from the procedure is also faster. But laser surgery may not work if you have a very large prostate. How long the effect of this treatment will last is not known.

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Sometimes **open surgery** needs to be done. This means that prostate tissue is removed through a cut made in your lower abdomen. Open surgery is often done when the gland is greatly enlarged, when there are complicating factors, or when the bladder has been damaged and needs to be repaired.

You will be given an anesthetic for all surgical procedures so that you do not have pain during the surgery.

Ask your provider about the potential risks and benefits of medicine, surgery, and other possible treatments. It is important to remember that surgery for BPH does not take away your risk of prostate cancer.

### **How long will the effects last?**

Your condition may improve, remain the same, or become worse. BPH may damage the bladder or kidneys over time. Serious urinary problems from BPH affect one in 10 older men. If the bladder is permanently damaged from BPH, treatment for BPH may not be as effective.

BPH is not cancer nor does it seem to increase the chances of getting prostate cancer. You can, however, have both BPH and prostate cancer at the same time.

### **How can I help take care of myself?**

Follow the treatment prescribed by your health care provider.

### **What can be done to help prevent BPH?**

There is no known way to prevent BPH. It is a common part of aging.

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