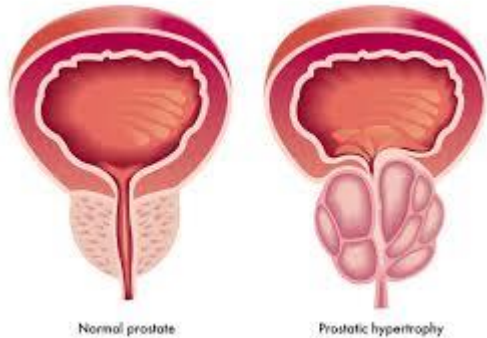


# Benign Prostatic Hyperplasia



The prostate is a walnut-shaped gland that is part of the male reproductive system. Benign prostatic hyperplasia (BPH) is a condition in men in which the prostate gland is enlarged and not cancerous. Benign prostatic hyperplasia is also called benign prostatic hypertrophy or benign prostatic obstruction.

The prostate goes through two main growth periods as a man ages. The first occurs early in puberty, when the prostate doubles in size. The second phase of growth begins around age 25 and continues during most of a man's life. Benign prostatic hyperplasia often occurs with the second growth phase. As the prostate enlarges, the gland presses against and pinches the urethra. The bladder wall becomes thicker. Eventually, the bladder may weaken and lose the ability to empty completely, leaving some urine in the bladder. The narrowing of the urethra and urinary retention (the inability to empty the bladder completely) cause many of the problems associated with benign prostatic hyperplasia.

## Causes of Benign Prostatic Hyperplasia

The cause of benign prostatic hyperplasia is not well understood; however, it occurs mainly in older men. Benign prostatic hyperplasia does not develop in men whose testicles were removed before puberty. For this reason, some researchers believe factors related to aging and the testicles may cause benign prostatic hyperplasia.

Throughout their lives, men produce testosterone, a male hormone, and small amounts of estrogen, a female hormone. As men age, the amount of active testosterone in their blood decreases, which leaves a higher proportion of estrogen. Scientific studies have suggested that benign prostatic hyperplasia may occur because the higher proportion of estrogen within the prostate increases the activity of substances that promote prostate cell growth.

Another theory focuses on dihydrotestosterone (DHT), a male hormone that plays a role in prostate development and growth. Some research has indicated that even with a drop in blood testosterone levels, older men continue to produce and accumulate high levels of DHT in the prostate. This accumulation of DHT may encourage prostate cells to continue to grow. Scientists have noted that men who do not produce DHT do not develop benign prostatic hyperplasia.

## Symptoms of Benign Prostatic Hyperplasia

Lower urinary tract symptoms suggestive of benign prostatic hyperplasia may include

- urinary frequency—urination eight or more times a day
- urinary urgency—the inability to delay urination

- trouble starting a urine stream
- a weak or an interrupted urine stream
- dribbling at the end of urination
- nocturia—frequent urination during periods of sleep
- urinary retention
- urinary incontinence—the accidental loss of urine
- pain after ejaculation or during urination
- urine that has an unusual color or smell

Symptoms of benign prostatic hyperplasia most often come from

- a blocked urethra
- a bladder that is overworked from trying to pass urine through the blockage

The size of the prostate does not always determine the severity of the blockage or symptoms. Some men with greatly enlarged prostates have little blockage and few symptoms, while other men who have minimally enlarged prostates have greater blockage and more symptoms. Less than half of all men with benign prostatic hyperplasia have lower urinary tract symptoms.

Sometimes men may not know they have a blockage until they cannot urinate. This condition, called acute urinary retention, can result from taking over-the-counter cold or allergy medications that contain decongestants, such as pseudoephedrine and oxymetazoline. A potential side effect of these medications may prevent the bladder neck from relaxing and releasing urine. Medications that contain antihistamines, such as diphenhydramine, can weaken the contraction of bladder muscles and cause urinary retention, difficulty urinating, and painful urination. When men have partial urethra blockage, urinary retention also can occur as a result of alcohol consumption, cold temperatures, or a long period of inactivity.

### **Diagnosis of Benign Prostatic Hyperplasia**

Screening and diagnostic procedures for BPH are similar to those used for prostate cancer. Some signs to look for include:

- Weak urinary stream
- Prolonged emptying of the bladder
- Abdominal straining
- Hesitancy
- Irregular need to urinate/Incomplete bladder emptying
- Post-urination dribble

- Irritation during urination
- Frequent urination
- Nocturia (need to urinate during the night)
- Urgency
- Incontinence (involuntary leakage of urine)
- Bladder pain
- Dysuria (painful urination)
- Problems in ejaculation

#### **Treatment options for benign prostatic hyperplasia may include**

- lifestyle changes
- medications that includes medicines like: alpha blockers, phosphodiesterase-5 inhibitors, 5-alpha reductase inhibitors.
- minimally invasive procedures. These procedures can destroy enlarged prostate tissue or widen the urethra, which can help relieve blockage and urinary retention caused by benign prostatic hyperplasia.
- Surgery.

A health care provider treats benign prostatic hyperplasia based on the severity of symptoms, how much the symptoms affect a man's daily life, and a man's preferences.

Men may not need treatment for a mildly enlarged prostate unless their symptoms are bothersome and affecting their quality of life. In these cases, instead of treatment, a urologist may recommend regular checkups. If benign prostatic hyperplasia symptoms become bothersome or present a health risk, a urologist most often recommends treatment.

#### **Reference**

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