CONDITION

Benign prostatic hyperplasia

Learn how benign prostatic hyperplasia can affect urination, how it is evaluated, and the lifestyle changes, medicines, and procedures used to manage it.

WHAT IT IS
Noncancerous enlargement of the prostate

BODY SYSTEM
Urinary and male reproductive systems

MAIN SYMPTOMS
Difficulty starting urination, weak urine stream, frequent urination, incomplete bladder emptying

WHAT CAUSES IT
Unknown, with age-related hormonal changes

HOW IT IS DIAGNOSED
Clinical evaluation with no single confirming test

MAIN TREATMENT
Monitoring, lifestyle changes, medicines or procedures

CAN IT BE CURED?
No - treatments manage symptoms and blockage

IS IT AN EMERGENCY?
Sometimes - complete inability to urinate

LONG-TERM OUTLOOK
May remain stable, improve or worsen

Overview

Benign prostatic hyperplasia, or BPH, is a noncancerous enlargement of the prostate. The prostate is a gland in the male reproductive system. It sits below the bladder and surrounds the urethra, the tube that carries urine out of the body.

The prostate often grows with age. As it enlarges, it may press on the urethra or change how the bladder works. This can slow urine flow, make it difficult to empty the bladder, or cause a frequent and urgent need to urinate. Doctors often call these problems lower urinary tract symptoms, or LUTS.

BPH is not prostate cancer, and having BPH does not mean that cancer will develop. However, BPH and prostate cancer can occur at the same time and may cause some of the same urinary symptoms. A medical evaluation can help identify the likely cause.

Symptoms do not always match prostate size. A person with a mildly enlarged prostate may have troublesome symptoms, while someone with a larger prostate may have few problems. Treatment is therefore based on symptom severity, test results, prostate features, personal priorities, and the effect on daily life.

BPH matters because persistent symptoms can disturb sleep, limit activities, and reduce quality of life. In some people, urinary blockage may also lead to retention of urine, infections, bladder stones, or kidney problems. These complications are not inevitable, and many people can manage BPH with monitoring, lifestyle changes, medicine, or a procedure.

Symptoms

BPH can cause symptoms related to urine flow and bladder storage. Symptoms may develop slowly and change over time.

Common symptoms include:

These symptoms are not specific to BPH. Urinary tract infections, bladder conditions, prostate inflammation, urethral narrowing, neurologic disorders, diabetes, and some medicines can produce similar problems. Prostate cancer may also cause urinary symptoms, although early prostate cancer often causes none.

Blood in the urine, pain with urination, fever, pelvic pain, or new urinary leakage deserves medical assessment because it may point to another condition or a complication.

A complete inability to urinate is called acute urinary retention. It often causes increasing lower abdominal pain or pressure and requires urgent medical care. Seek emergency care if you cannot pass urine, especially if the bladder feels painfully full.

- Difficulty starting urination
- A weak, slow, or interrupted urine stream
- Straining to urinate
- Dribbling after urination
- Feeling that the bladder has not emptied completely
- Urinating more often than usual
- A sudden, difficult-to-delay urge to urinate
- Waking during the night to urinate
- Leakage before reaching a bathroom

Causes and risk factors

The exact process that causes BPH is not fully understood. Age-related changes in prostate cells and hormones appear to play important roles. One hormone involved is dihydrotestosterone, or DHT, which is made from testosterone and can stimulate prostate growth.

Aging is the strongest established risk factor. BPH usually becomes more relevant later in adult life. A family history may also increase the chance of developing significant prostate enlargement or needing treatment.

Other factors associated with BPH or urinary symptoms include obesity, diabetes, heart and blood vessel disease, and low physical activity. These associations do not prove that any one factor directly causes prostate enlargement.

Symptoms can be worsened by conditions or substances that affect the bladder or tighten the muscles around the prostate. Examples include constipation, heavy alcohol use, caffeine, and medicines with decongestant or anticholinergic effects. Some cold and allergy products contain these ingredients. Diuretics like furosemide or hydrochlorothiazide , sometimes called water pills, can increase urine production.

Do not stop a prescribed medicine because of urinary symptoms without speaking with the clinician who prescribed it. A medication review may identify safer adjustments.

Diagnosis

There is no single test that diagnoses every case of BPH. A clinician usually begins by asking about the urinary symptoms, when they started, and how much they interfere with sleep and daily activities.

You may be asked to complete a symptom questionnaire, such as the International Prostate Symptom Score. This records the frequency and effect of several urinary problems. It can help guide treatment and track changes, but it does not determine the cause by itself.

The evaluation may include:

PSA is a protein produced by prostate tissue. Its level can rise because of BPH, prostate inflammation, recent urinary procedures, or prostate cancer. A PSA result must be interpreted in context. The choice to test should involve a discussion of its possible benefits, limits, and consequences.

Blood tests may be used to check kidney function when there is concern about significant blockage or another medical problem. A clinician may also measure how much urine remains in

the bladder after urination. This is called the post-void residual volume and is often checked with ultrasound.

Urine-flow testing can measure the speed and pattern of the stream. Imaging, cystoscopy, or urodynamic testing is not needed for every person. Cystoscopy uses a thin viewing instrument to examine the urethra and bladder. Urodynamic testing studies how the bladder stores and releases urine. These tests may be considered when the diagnosis is uncertain, complications are suspected, or a procedure is being planned.

- A review of prescription medicines, nonprescription products, supplements, fluid intake, and other medical conditions
- A physical examination, sometimes including a digital rectal examination to assess the prostate through the rectum
- A urine test to look for infection, blood, glucose, or other abnormalities
- A discussion about prostate-specific antigen, or PSA, testing when the result could affect care

Treatment and management

Treatment depends on how bothersome the symptoms are, whether complications are present, and what matters most to the patient. Prostate size and the risk of future urinary retention can also influence the choice.

For mild symptoms that do not interfere much with daily life, active monitoring may be reasonable. This means having follow-up visits and reporting changes rather than starting treatment immediately.

Practical measures may help reduce symptoms:

Several types of prescription medicine are used for BPH.

Alpha blockers relax muscle around the prostate and bladder opening. They may improve urine flow relatively quickly but do not shrink the prostate. Possible effects include dizziness, a fall in blood pressure when standing, tiredness, and changes in ejaculation. A person planning cataract surgery should tell the eye surgeon about current or past alpha-blocker use because some of these medicines can affect the iris during surgery.

Five-alpha-reductase inhibitors reduce the production of DHT and can gradually shrink an enlarged prostate. Improvement may take several months. These medicines are generally considered when prostate enlargement is present and may reduce the chance of urinary retention or future surgery in appropriate patients. Possible effects include reduced sexual

desire, erection problems, and changes in ejaculation. They also lower PSA levels, which clinicians must account for when interpreting future tests.

An alpha blocker and a five-alpha-reductase inhibitor may be used together when their different effects are likely to be helpful.

Tadalafil, a phosphodiesterase-5 inhibitor, can improve urinary symptoms and may also help erectile dysfunction. It can lower blood pressure and has important interactions, including with nitrate medicines used for chest pain. A clinician should review heart health and other medicines before prescribing it.

For people whose main problems are urgency, frequency, or urge leakage, a clinician may consider medicines that calm bladder activity, such as an antimuscarinic or a beta-3 agonist. These require careful selection and follow-up, particularly if the bladder is not emptying well.

A procedure may be considered when medicines do not provide enough relief, side effects are unacceptable, or complications develop. It may also be preferred by someone who wants a more durable improvement.

Options include transurethral resection of the prostate, laser procedures such as holmium laser enucleation, water-vapor therapy, prostatic urethral lift, waterjet treatment, and surgical removal of enlarged prostate tissue. Most procedures remove, destroy, or move tissue that is blocking urine flow.

The best option depends on prostate size and shape, other health conditions, available expertise, and personal priorities. Procedures differ in recovery time, likelihood of needing another treatment, and possible effects on ejaculation, erections, continence, bleeding, or urinary infection. A urologist can explain which choices fit the clinical findings without assuming that one procedure is best for everyone.

Medicines commonly used for this include dutasteride , tamsulosin and terazosin . Which one suits you, if any, is a decision for you and your doctor.

- Limit large amounts of fluid before bedtime or before leaving home, while continuing to drink enough overall
- Reduce caffeine and alcohol if they increase urgency or nighttime urination
- Empty the bladder regularly and take time to finish urinating
- Try urinating again after a short pause, sometimes called double voiding
- Treat constipation and stay physically active
- Ask a clinician or pharmacist whether cold, allergy, or other medicines could worsen symptoms

Complications

BPH may remain stable, improve, or worsen. Some people develop urinary retention, in which the bladder cannot empty adequately. Acute retention occurs suddenly, while chronic retention may develop gradually and cause few obvious symptoms.

Other possible complications include repeated urinary tract infections, bladder stones, visible blood in the urine, and weakening or thickening of the bladder muscle. Severe or long-lasting blockage can allow pressure to affect the kidneys, although this is not the usual course for everyone with BPH.

Medicines and procedures can also have unwanted effects. These vary by treatment and may include low blood pressure, sexual changes, bleeding, infection, temporary burning with urination, incontinence, or the need for further treatment. Discussing these tradeoffs before treatment can help align the plan with personal goals.

Follow up

Routine follow-up is used to check whether symptoms are stable, improving, or interfering more with daily life. The clinician may repeat a symptom score, review side effects, assess urine flow, or measure the urine left in the bladder. People taking a five-alpha-reductase inhibitor may need PSA results interpreted differently because the medicine lowers PSA.

Arrange a routine medical visit if urinary symptoms are new, gradually worsening, disturbing sleep, causing leakage, or affecting work and activities. Contact a clinician promptly for pain with urination, visible blood in the urine, repeated infections, fever, or increasing difficulty emptying the bladder.

Seek urgent or emergency care for:

These symptoms do not automatically mean that BPH is the cause, but they require timely assessment.

- A complete inability to urinate
- Severe lower abdominal pain with a full-bladder sensation
- Fever or chills with significant urinary symptoms or feeling seriously unwell
- Heavy blood in the urine, especially with clots or difficulty passing urine

Sources

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