

Benign Prostatic Hyperplasia (BPH)

Definition

Prostate gland enlargement is a common condition as men get older. Also called benign prostatic hyperplasia (BPH), prostate gland enlargement can cause bothersome urinary symptoms. Untreated, prostate gland enlargement can block the flow of urine out of the bladder and cause bladder, urinary tract or kidney problems.

There are several effective treatments for prostate gland enlargement, including medications, minimally invasive therapies and surgery. To choose the best option, you and your doctor will consider your symptoms, the size of your prostate, other health conditions you might have and your preferences.

Benign Prostatic Hyperplasia



Normal prostate



Enlarged prostate

Symptoms

The severity of symptoms in people who have prostate gland enlargement varies, but symptoms tend to gradually worsen over time. Common signs and symptoms of BPH include:

- Frequent or urgent need to urinate
- Increased frequency of urination at night (nocturia)
- Difficulty starting urination
- Weak urine stream or a stream that stops and starts
- Dribbling at the end of urination
- Straining while urinating
- Inability to completely empty the bladder

Less common signs and symptoms include:

- Urinary tract infection
- Inability to urinate
- Blood in the urine

The size of your prostate doesn't necessarily mean your symptoms will be worse. Some men with only slightly enlarged prostates can have significant symptoms, while other men with very enlarged prostates can have only minor urinary symptoms.

In some men, symptoms eventually stabilize and might even improve over time.

Other possible causes of urinary symptoms

Conditions that can lead to symptoms similar to those caused by enlarged prostate include:

- Urinary tract infection
- Inflammation of the prostate (prostatitis)
- Narrowing of the urethra (urethral stricture)
- Scarring in the bladder neck as a result of previous surgery
- Bladder or kidney stones
- Problems with nerves that control the bladder
- Cancer of the prostate or bladder

Causes

The prostate gland is located beneath your bladder. The tube that transports urine from the bladder out of your penis (urethra) passes through the center of the prostate. When the prostate enlarges, it begins to block urine flow.

Most men have continued prostate growth throughout life. In many men, this continued growth enlarges the prostate enough to cause urinary symptoms or to significantly block urine flow.

It isn't entirely clear what causes the prostate to enlarge. However, it might be due to changes in the balance of sex hormones as men grow older.

Treatments and drugs

A wide variety of treatments are available for enlarged prostate, including medication, minimally invasive therapies and surgery. The best treatment choice for you depends on several factors, including:

- The size of your prostate
- Your age
- Your overall health
- The amount of discomfort or bother you are experiencing

If your symptoms are tolerable, you might decide to postpone treatment and simply monitor your symptoms. For some men, symptoms can ease without treatment.

Medication

Medication is the most common treatment for mild to moderate symptoms of prostate enlargement. The options include:

- **Alpha blockers.** These medications relax bladder neck muscles and muscle fibers in the prostate, making urination easier. Alpha blockers — which include alfuzosin (Uroxatral), doxazosin (Cardura), tamsulosin (Flomax), and silodosin (Rapaflo) — usually work quickly in men with relatively small prostates. Side effects might include dizziness and a harmless condition in which semen goes back into the bladder instead of out the tip of the penis (retrograde ejaculation).
- **5-alpha reductase inhibitors.** These medications shrink your prostate by preventing hormonal changes that cause prostate growth. These medications — which include finasteride (Proscar) and dutasteride (Avodart) — might take up to six months to be effective. Side effects include retrograde ejaculation.
- **Combination drug therapy.** Your doctor might recommend taking an alpha blocker and a 5-alpha reductase inhibitor at the same time if either medication alone isn't effective.
- **Tadalafil (Cialis).** Studies suggest this medication, which is often used to treat erectile dysfunction, can also treat prostate enlargement. However, this medication is not routinely used for BPH and is generally prescribed only to men who also experience erectile dysfunction.

Minimally invasive or surgical therapy

Minimally invasive or surgical therapy might be recommended if:

- Your symptoms are moderate to severe
- Medication hasn't relieved your symptoms
- You have a urinary tract obstruction, bladder stones, blood in your urine or kidney problems
- You prefer definitive treatment

Minimally invasive or surgical therapy might not be an option if you have:

- An untreated urinary tract infection
 - Urethral stricture disease
 - A history of prostate radiation therapy or urinary tract surgery
 - A neurological disorder, such as Parkinson's disease or multiple sclerosis
- Any type of prostate procedure can cause side effects. Depending on the procedure you choose, complications might include:

- Semen flowing backward into the bladder instead of out through the penis during ejaculation
- Temporary difficulty with urination
- Urinary tract infection
- Bleeding
- Erectile dysfunction
- Very rarely, loss of bladder control (incontinence)

There are several types of minimally invasive or surgical therapy.

Transurethral resection of the prostate (TURP)

A lighted scope is inserted into your urethra, and the surgeon removes all but the outer part of the prostate. TURP generally relieves symptoms quickly, and most men have a stronger urine flow soon after the procedure. After TURP you might temporarily need a catheter to drain your bladder, and you'll be able to do only light activity until you've healed.

Transurethral incision of the prostate (TUIP)

A lighted scope is inserted into your urethra, and the surgeon makes one or two small cuts in the prostate gland — making it easier for urine to pass through the urethra. This surgery might be an option if you have a small or moderately enlarged prostate gland, especially if you have health problems that make other surgeries too risky.

Transurethral microwave thermotherapy (TUMT)

Your doctor inserts a special electrode through your urethra into your prostate area. Microwave energy from the electrode destroys the inner portion of the enlarged prostate gland, shrinking it and easing urine flow. This surgery is generally used only on small prostates in special circumstances because re-treatment might be necessary.

Transurethral needle ablation (TUNA)

In this outpatient procedure, a scope is passed into your urethra, allowing your doctor to place needles into your prostate gland. Radio waves pass through the needles, heating and destroying excess prostate tissue that's blocking urine flow.

This procedure might be a good choice if you bleed easily or have certain other health problems. However, like TUMT, TUNA might only partially relieve your symptoms and it might take some time before you notice results.

Laser therapy

A high-energy laser destroys or removes overgrown prostate tissue. Laser therapy generally relieves symptoms right away and has a lower risk of side effects than does nonlaser surgery. Laser therapy might be used in men who shouldn't have other prostate procedures because they take blood-thinning medications.

The options for laser therapy include:

- **Ablative procedures.** These procedures vaporize obstructive prostate tissue to increase urine flow. Examples include photoselective vaporization of the prostate (PVP) and holmium laser ablation of the prostate (HoLAP). Ablative procedures can cause irritating urinary symptoms after surgery, so in rare situations another resection procedure might be needed at some point.
- **Enucleative procedures.** Enucleative procedures, such as holmium laser enucleation of the prostate (HoLEP), generally remove all the prostate tissue blocking urine flow and prevent regrowth of tissue. The removed tissue can be examined for prostate cancer and other conditions. These procedures are similar to open prostatectomy.

Prostate lift

In this experimental transurethral procedure, special tags are used to compress the sides of the prostate to increase the flow of urine. Long-term data on the effectiveness of this procedure aren't available.

Embolization

In this experimental procedure, the blood supply to or from the prostate is selectively blocked, causing the prostate to decrease in size. Long-term data on the effectiveness of this procedure aren't available.

Open or robot-assisted prostatectomy

The surgeon makes an incision in your lower abdomen to reach the prostate and remove tissue. Open prostatectomy is generally done if you have a very large prostate, bladder damage or other complicating factors. The surgery usually requires a short hospital stay and is associated with a higher risk of needing a blood transfusion.

Follow-up care

Your follow-up care will depend on the specific technique used to treat your enlarged prostate.

Your doctor might recommend limiting heavy lifting and excessive exercise for seven days if you have laser ablation, transurethral needle ablation or transurethral microwave therapy. If you have open or robot-assisted prostatectomy, you might need to restrict activity for six weeks.

Whichever procedure you have, your doctor likely will suggest that you drink plenty of fluids afterward.