

# The Prostate Owner's Manual

FACT SHEET

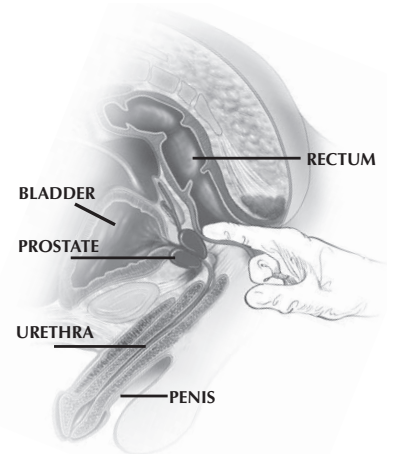
## What you Should Know about the Prostate

Only men have a prostate. A part of the male reproductive system, the prostate is located just below the bladder. It surrounds the urethra (the tube that carries urine from the bladder and semen through the penis and out of the body). The prostate's main job is to help create semen by generating ejaculatory fluid. Semen is the fluid that helps protect and energize the sperm when a man ejaculates. The seminal vesicles are located next to the prostate. They also add fluid to semen. The prostate gland is in front of the rectum. The prostate gland may be a source of health problems in men. The most common problems are enlarged prostate (benign prostatic hyperplasia, or BPH), an inflammatory disease (prostatitis) and prostate cancer.

Because the prostate is located inside the pelvis, there are no simple self-exams for a man to check his own prostate. There are two main tests doctors use to monitor prostate health for men: the digital rectal examination (DRE) and a blood test called a prostate-specific antigen (PSA) test. Most experts agree that men over the age of 50 should have an annual prostate examination with a PSA test and DRE to screen for cancer and other diseases. Screening should occur earlier, at age 40, in

those who are at a higher risk of prostate cancer. This includes African-American men and those with a family history of prostate cancer.

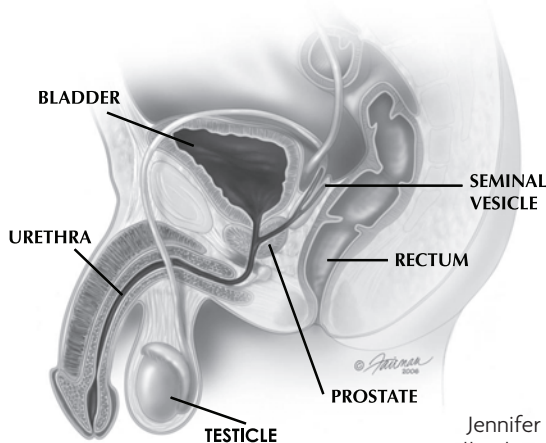
**What is the DRE?** The doctor inserts a lubricated gloved finger into the rectum. He or she feels for abnormal size, shape or consistency in the prostate. The DRE can help the doctor decide if a man has an enlarged prostate. However, the DRE by itself is not the best way to detect early prostate cancer. A man should also have a PSA test.



**What is the PSA test?** This blood test measures the level of prostate-specific antigen in the blood. Very little PSA is found in the blood of a man with a healthy prostate. Some conditions can cause larger amounts of PSA to leak into the blood. One possible cause of a high PSA level is enlargement of the prostate. Inflammation of the prostate, called prostatitis is another common cause of PSA elevation. Prostate cancer is the most serious possible cause of an increased PSA level.

## Enlarged Prostate

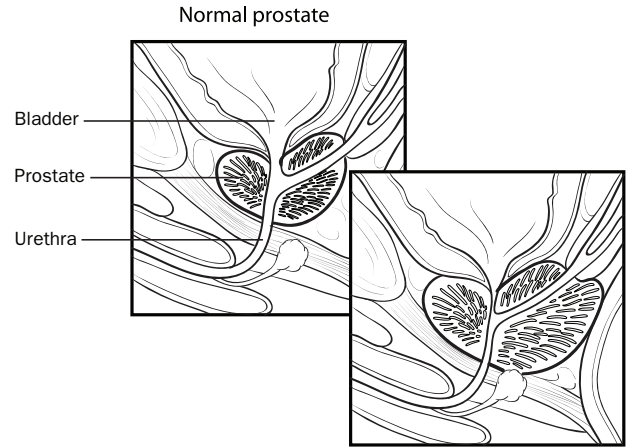
The prostate may become larger and may start to cause problems as a man ages. Enlarged prostate is also known as benign prostatic hyperplasia (BPH). The prostate of a 50-year-old man is about 20-30 grams or about the size of a walnut. It may grow to 50-100 or grams or more with BPH. As the prostate enlarges, it can squeeze the urethra. This can cause some men to have lower urinary tract symptoms (LUTS) when their prostate grows.



Jennifer Fairman.  
All rights reserved.

Men with an enlarged prostate may have some or all of these symptoms:

- a frequent urge to urinate
- a strong, sudden urge to urinate
- gets up to urinate two or more times a night
- difficulty emptying his bladder
- a weak urine stream that may start and stop
- trouble starting to urinate
- only urinates a little bit each time he goes to the bathroom
- leaks or dribbles urine after going to the bathroom
- feels like he still has to urinate, even after he has gone to the bathroom



Benign prostatic hyperplasia (BPH)

Jennifer Fairman.  
All rights reserved.

## How do they diagnose an enlarged prostate?

The American Urological Association (AUA) designed a series of questions that ask how often symptoms occur. The International Prostate Symptom Score (IPSS) Index helps doctors measure the problems caused by enlarge prostate, ranging from mild to severe.

	Not at all	Less than one time in 5	Less than half the time	About half the time	More than half the time	Almost always	Your score
Incomplete emptying – Over the past month, how often have you had a sensation of not emptying your bladder completely?	0	1	2	3	4	5	
Frequency – Over the past month, how often have you had to urinate again less than two hours after you finished urinating?	0	1	2	3	4	5	
Intermittency – Over the past month, how often have you found you stopped and started again several times when you urinated?	0	1	2	3	4	5	
Urgency – Over the last month, how difficult have you found it to postpone urination?	0	1	2	3	4	5	
Weak stream – Over the past month, how often have you had a weak urinary stream?	0	1	2	3	4	5	
Straining – Over the past month, how often have you had to push or strain to begin urination?	0	1	2	3	4	5	
	None	1 time	2 times	3 times	4 times	5 times or more	Your score
Nocturia – Over the past month, many times did you most typically get up to urinate from the time you went to bed until the time you got up in the morning?	0	1	2	3	4	5	
<b>Total IPSS score</b>							
Quality of life due to urinary symptoms	Delighted	Pleased	Mostly satisfied	Mixed – about equally satisfied and dissatisfied	Mostly dissatisfied	Unhappy	Terrible
If you were to spend the rest of your life with your urinary condition the way it is now, how would you feel about that?	0	1	2	3	4	5	6
Total score: 0-7 mildly symptomatic; 8-19 moderately symptomatic; 20-35 severely symptomatic.							

## Who is at risk for an enlarged prostate?

Prostate enlargement is common as men age. Experts are still learning what causes an enlarged prostate. Scientists have found that a hormone (dihydrotestosterone, or DHT) may cause the prostate to grow larger. Men who have close relatives with an enlarged prostate are more likely to have it. Being overweight may also increase a man's risk. Aging is the biggest risk factor for enlarged prostate.

When a doctor checks a man for enlarged prostate, he or she takes a thorough medical history. The doctor performs a physical exam (including a DRE) and he or she may also ask questions about his symptoms. The doctor will often do a urine test called a urinalysis. They may offer other medical tests to a man who may have enlarged prostate. These include:

1. prostate-specific antigen (PSA), a blood test to screen for prostate cancer
2. urinary cytology, a urine test to screen for bladder cancer
3. measuring the amount of urine left in the bladder after urinating (the post-void residual volume or PVR)
4. a urine flow study (uroflowmetry), to measure of how fast urine flows when a man urinates
5. cystoscopy, a direct look in the urethra and/or bladder using a small flexible scope
6. urodynamic pressure-flow study that tests the pressures inside the bladder during urination
7. ultrasound or other imaging of the kidneys, bladder or prostate

## When should a man see a doctor about enlarged prostate?

A man should see a doctor if he has any of the symptoms that are bothersome. In addition, he should see a doctor immediately if he has blood in his urine, pain with urination, burning with urination or is unable to urinate.

## Are there treatments for enlarged prostate problems?

A urologist will examine a man with enlarged prostate to determine the best treatment option for him. There are medications to treat enlarged prostates. For some men, a combination of drugs may work best. If the medications do not help, some minimally invasive procedures and surgical procedures can help with the lower urinary tract symptoms. If the symptoms do not improve after treatment, men should report back to their doctor to see if there might be a different cause for their symptoms.

## Are there risks in not seeking treatment for an enlarged prostate?

In many men, enlarged prostate can get worse over time. It can lead to bladder damage, infection and even kidney damage. A health care provider should monitor a man with enlarged prostate.

## Prostatitis

Prostatitis is a common and painful disease of the prostate gland and its surrounding structures.



Prostate

Jennifer Fairman.  
All rights reserved.

## What are the different types of prostatitis and their causes?

**Acute bacterial prostatitis** is the least common type of prostatitis. Bacterial infections are always the cause. In acute bacterial prostatitis, the symptoms are severe and sudden and may cause the patient to seek emergency medical care. Chills, fever, severe burning during urination and being unable empty the bladder completely are common symptoms. A visit to a doctor or hospital is required. Acute bacterial prostatitis can affect any age group but commonly occurs in older and middle-aged men.

Bacterial infections also cause **chronic bacterial prostatitis**. In this condition, a man has urinary tract infections that keep coming back. This condition is most common in young and middle-aged men. In chronic bacterial prostatitis, the symptoms include burning during urination; urinary frequency, especially at night; perineal, testicular, bladder and low back pain; and painful ejaculation. However, it does not cause a fever.

**Nonbacterial prostatitis** and **prostatodynia** are now called **chronic pelvic pain syndrome**. These are the most common types of prostatitis. The symptoms of chronic pelvic pain syndrome include difficult and sometimes painful urination, discomfort or pain in the perineum, bladder, testicles and penis as well as difficult and painful ejaculation. In some cases, these symptoms can be hard to tell apart from those of chronic bacterial prostatitis. The exact cause of these non-bacterial

prostatitis conditions is unknown. They may be due to persistent infection, inflammation and/or pelvic muscle spasm. Inflammation in the prostate can also occur without symptoms.

## What causes prostatitis?

The bacteria that cause acute and chronic bacterial prostatitis get into the prostate from the urethra by backward flow of infected urine into the prostate ducts. You cannot catch bacterial prostatitis from someone else. It is not a sexually transmitted disease. A sexual partner cannot catch this infection.

Certain conditions or medical procedures increase the risk of having bacterial prostatitis. There is a higher risk if the man has recently had a catheter or other instrument inserted into his urethra. The risk may also be higher if a man has an abnormality of his urinary tract or a recent bladder infection.

Unusual organisms such as chlamydia, mycoplasma (which may be transmitted by sexual contact) and ureaplasma may cause chronic prostatitis or chronic pelvic pain syndrome. It may also be due to a chemical or immunologic reaction to an injury. The nerves and muscles in the pelvis may cause pain in the area, either as a response to the prostate infection or inflammation or as an isolated problem itself.

## How do they diagnose prostatitis?

The treatment is different for the different types of prostatitis syndromes. It is important to make sure other conditions such as urethritis, cystitis, an enlarged prostate or cancer are not causing the symptoms. To help make an accurate diagnosis, several types of examinations are useful.

To examine the prostate gland, the doctor will perform a DRE. He or she will be able to feel if the prostate is enlarged or tender. Lumps or firm areas can suggest the presence of prostate cancer. He or she will also ask about the level of pain or discomfort that the man may feel as the doctor presses the muscles and ligaments of the pelvic floor and perineum. If a man has prostatitis, he may have some pain or discomfort with the DRE exam.

If the doctor wants a closer look at the prostate gland, a transrectal ultrasound uses sound waves to show an image of the prostate gland. If you are at risk for cancer, your physician may order a PSA test. During a prostate infection however, the PSA can be falsely high. The doctor may analyze the urine and prostatic fluid for signs of inflammation and infection. If the doctor thinks that a man has prostatitis or other prostate problems, he may refer him to a urologist. The urologist is a doctor who specializes in diseases of the urinary tract and male reproductive system.

The urologist may use cystoscopy, where he or she passes a small telescope through the urethra into the bladder. This allows the urologist to see the urethra, prostate and bladder. The urologist may also order urine flow studies, which help measure the strength of your urine flow and any blockage caused by the prostate, urethra or pelvic muscles.

## How do they treat prostatitis?

There is no scientifically proven medication to cure prostatitis. The treatment recommended often depends on the type of prostatitis a man has. For many men with prostatitis, the urologist may give antibiotics. Depending on his symptoms, a man may receive other treatments. These may include alpha-blockers, anti-inflammatory drugs, muscle relaxants, plant extracts and repeat prostatic massage (to drain the prostate ducts).

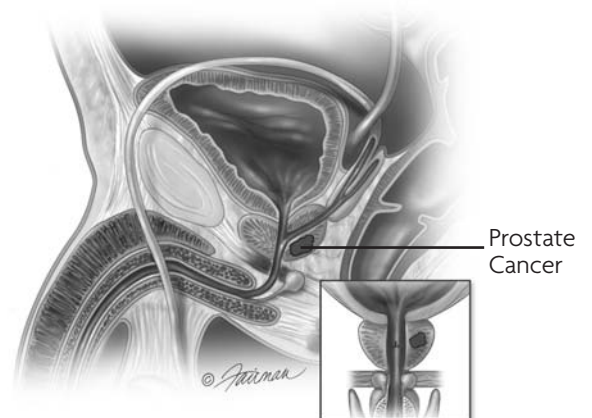
Heat therapies, biofeedback and relaxation exercises may help relieve some symptoms. A man may be advised to stay away from some foods (e.g., spicy) and drinks (e.g., caffeinated, acidic) and avoid doing things (e.g., bicycle riding) that make the problem worse. Once he has a correct diagnosis, one of the best therapies may be that of reassurance that the man does not have a life threatening condition.

## How will prostatitis affect a patient?

Prostatitis is frustrating for both the man and his doctor. It can seriously affect a man's quality of life. The correct diagnosis of the prostatitis problem is difficult. Prostatitis can be treated. A man can usually get relief from major symptoms by following the recommended treatment. A cure for prostatitis is not always possible.

## Prostate Cancer

Prostate cancer is a major healthcare problem in the United States. It is the most common non-skin cancer. Each year more than 200,000 American men learn they have prostate cancer. Sometimes this cancer can be small and slow growing, with a limited risk to the patient. Other prostate cancers may threaten his well-being or life.



Jennifer Fairman.  
All rights reserved.



## What are the causes and risks of prostate cancer?

Prostate cancer is rare before age 40 and the risk increases as a man ages. One in six men faces a diagnosis of prostate cancer in his lifetime. Researchers are still studying what causes prostate cancer. It is likely that prostate cancer occurs due to many reasons; some have to do with your family history or genetics, others with diet and lifestyle.

Men with a close family member (father, brother or uncle) diagnosed with prostate cancer are at greater risk of getting prostate cancer. Prostate cancer also appears to be more common in men with a high intake of fat in their diets.

Talk to your doctor about what you can do to reduce the risk of prostate cancer. Most doctors agree if you do things that are heart healthy, that you will also help keep your prostate healthy. Eating right, exercising and not smoking can help improve men's health.

## What are the symptoms of prostate cancer?

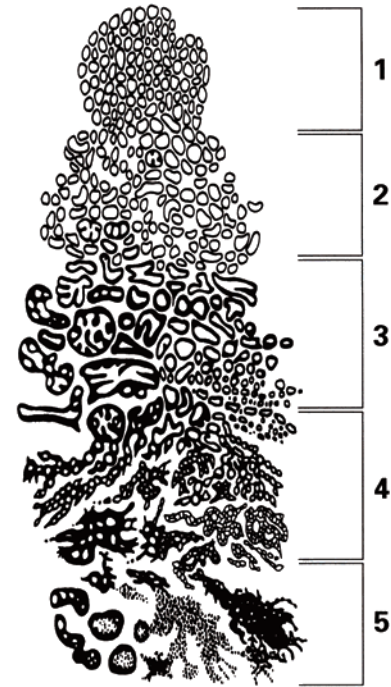
In its early stages, prostate cancer often causes no symptoms. When symptoms do occur, they may include any of the following: dull pain in the lower pelvic area; frequent urination; problems with urination such as the inability, pain, burning, weakened urine flow; blood in the urine or semen; painful ejaculation; general pain in the lower back, hips or upper thighs; loss of appetite and/or weight; and persistent bone pain. The symptoms can be similar to those of BPH so it is very important to have the PSA and DRE when you have such symptoms.

## How do they diagnose prostate cancer?

The DRE and PSA are the main methods to screen for prostate cancer. If the DRE and or PSA suggest further testing, a prostate biopsy is the next step to diagnose prostate cancer. The biopsy removes small pieces of prostate tissue. A pathologist (a physician who examines human tissue to see whether it is normal or diseased) will confirm if cancer is present in the biopsy tissue. If there is cancer, the pathologist will also grade the tumor. The grade indicates the tumor's degree of aggressiveness—how quickly it is likely to grow and spread.

The Gleason grading system is the most widely used system for prostate tumors. In this system, the pathologist gives the tumor pattern seen the most in the biopsy sample, a score from 1 to 5. The tumor pattern they see next most often, is also given a score, using the same scale. Both scores are added to give a Gleason score ranging between 2 and 10. Scores of 2 to 4 show low aggressiveness, 5 to 6 mildly aggressive, 7 moderately aggressive and scores of 8 to 10 depict highly aggressive prostate cancers.

## The Gleason Scale



Grade \_\_\_\_ + Grade \_\_\_\_ = Score \_\_\_\_

## Why do they stage prostate cancer?

The stage of prostate cancer guides a man's treatment options. Has it spread beyond the prostate gland to the nearby tissues? The urologist and other members of the health care team help guide men with prostate cancer as they learn about their treatment options.

## How do they treat prostate cancer?

There are a number of treatment options for men with prostate cancer, the most common being surgery or internal (brachytherapy) or external radiation. The best option for each man depends on many factors, including his age, overall health, stage and grade of the cancer and personal preferences. Once diagnosed, men should discuss prostate cancer treatment options with their health care team.

## Prostate health is an important men's health issue

Prostate health is important for men. Winning the battle against prostate diseases involves a team approach. With a urologist leading a team made up of healthcare workers, family and friends, men can take charge of their prostate health. For more information about prostate health issues, go to [www.UrologyHealth.org](http://www.UrologyHealth.org) or call 1-800-828-7866.

## The American Urological Association Foundation

The AUA Foundation is the nation's leading voluntary urological health-care organization that promotes research, patient/public education and advocacy. Our mission is to improve prevention, detection, treatment and, ultimately, cure urologic diseases.

The AUA Foundation provides this information based on current medical and scientific knowledge. This information is not a tool for self-diagnosis or a substitute for professional medical advice. It is not to be used or relied on for that purpose. Please see your urologist or other healthcare provider regarding any health concerns and always consult a healthcare professional before you start or stop any treatments, including medications. For more information about the AUA Foundation, please visit [www.AUAFoundation.org](http://www.AUAFoundation.org).

## Glossary:

**Acute bacterial prostatitis:** The least common form of prostatitis caused by bacteria traveling up the urethra and the backward flow of infected urine into the prostatic ducts.

**Alpha-blockers:** These drugs work by relaxing the smooth muscle of the prostate and bladder neck to improve urine flow and reduce bladder outlet obstruction. Although alpha-blockers may relieve the symptoms of BPH, they usually do not reduce the size of the prostate.

**Biopsy:** A procedure in which a tiny piece of a body part (tissue sample), such as the prostate or bladder, is removed (with a needle or during surgery) for examination under a microscope to determine if cancer or other abnormal cells are present.

**Bladder neck:** Area of thickened muscle fiber where the bladder joins the urethra. Acting on signals from the brain, bladder neck muscles can either tighten to hold urine in the bladder or relax to allow urine out and into the urethra. These muscles also tighten during ejaculation to prevent backflow of semen into the bladder.

**Bladder:** The balloon-shaped pouch of thin, flexible muscle in which urine is temporarily stored before being discharged through the urethra.

**Catheter:** A thin tube that is inserted through the urethra into the bladder to allow urine to drain or for performance of a procedure or test, such as insertion of a substance during a bladder X-ray.

**Chronic bacterial prostatitis:** An uncommon form of prostatitis caused by bacteria traveling up the urethra and the backward flow of infected urine into the prostatic ducts causing recurrent infections.

**Cystitis:** Also known as bladder infection. Urinary tract infection involving the bladder, which causes inflammation of the bladder and results in pain and a burning feeling in the pelvis or urethra.

**Cystoscopy:** An examination with a narrow, flexible tube-like instrument passed through the urethra to examine the bladder and urinary tract for structural abnormalities or obstructions, such as tumors or stones.

**Digital Rectal Examination (DRE):** Insertion of a gloved, lubricated finger into the rectum to feel the prostate and check for any abnormalities.

**Ejaculate:** The fluid that is expelled from a man's penis during sexual climax (orgasm). To release semen from the penis during an orgasm.

**Ejaculation:** Release of semen from the penis during sexual climax (orgasm).

**Immunologic:** Relates to the immune system.

**Nocturia:** Excessive urination at night; especially common in older men.

**Pathologist:** A scientist who is skilled in identifying the cause and progress of diseases by examining tissue and fluid from the body, especially one who determines the cause of someone's death by conducting an autopsy.

**Pelvic:** Relating to, involving or located in or near the pelvis.

**Penis:** The male organ used for urination and sex.

**Perineum:** The area between the anus and the scrotum in males.

**Pernieal:** Related to the area between the anus and the scrotum in males and the area between the anus and the vagina in females.

**Prostate:** In men, a walnut-shaped gland that surrounds the urethra at the neck of the bladder. The prostate supplies fluid that goes into semen.

**Prostatitis:** Inflammation or infection of the prostate. Chronic prostatitis means the prostate gets inflamed repeatedly. The most common form of prostatitis is not associated with any known infecting organism.

**PSA Test:** Also referred to as prostate-specific antigen test. A blood test used to help detect prostate cancer.

**PSA:** Also referred to as prostate-specific antigen. A protein made only by the prostate gland. High levels of PSA in the blood may be a sign of prostate cancer.

**Rectum:** The lower part of the large intestine, ending in the anal opening.

**Semen:** Also known as seminal fluid or ejaculate fluid. Thick, whitish fluid produced by glands of the male reproductive system that carries the sperm (reproductive cells) through the penis during ejaculation.

**Seminal vesicles:** Two pouch-like glands behind the bladder. They produce a sugar-rich fluid called fructose that provides sperm with a source of energy that helps sperm move. The fluid of the seminal vesicles makes up most of the volume of a man's ejaculatory fluid, or ejaculate.

**Sperm:** Also referred to as spermatozoa. Male germ cells (gametes or reproductive cells) that are produced by the testicles and that are capable of fertilizing the female partner's eggs.

**Testicular:** Relating to the testicle (testis).

**Tissue:** Group of cells in an organism that are similar in form and function.

**Transrectal ultrasound (TRUS):** A special ultrasound test in which the sound waves are produced by a probe inserted into the rectum. In men, the structures most commonly examined with this test are the prostate, bladder, seminal vesicles and ejaculatory ducts.

**Tumor:** An abnormal mass of tissue or growth of cells.

**Urethra:** In males, this narrow tube carries urine from the bladder to the outside of the body and serves as the channel through which semen is ejaculated. Extends from the bladder to the tip of the penis.

**Urethritis:** Inflammation of the urethra.

**Urinalysis:** An examination of the urine to determine the general health of the body.

**Urinary cytology:** Inspection under a microscope of cells found in the urine.

**Urinary tract:** The system that takes wastes from the blood and carries them out of the body in the form of urine. Passageway from the kidneys to the ureters, bladder and urethra.

**Urinate:** To excrete urine.

**Urine:** Liquid waste product filtered from the blood by the kidneys, stored in the bladder and expelled from the body through the urethra by the act of urinating (voiding).

**This AUA Foundation urologic  
information was provided to you by:**



For more information call the National Urology Health Line at 1-800-828-7866 or visit [www.AUAFoundation.org](http://www.AUAFoundation.org)

1000 Corporate Boulevard  
Linthicum, MD 21090

This product made possible with funding from GlaxoSmithKline.

