

Urologic Surgical Associates of Delaware

PROSTATE HEALTH, BPH, and MALE VOIDING DYSFUNCTION

WHAT IS THE PROSTATE AND WHERE IS IT LOCATED IN THE BODY?

Only males have a prostate. It's a gland in the male reproductive system located just below the bladder, the organ that stores urine. The prostate surrounds a part of the urethra, the tube that carries urine from the bladder out through the penis.

WHAT DOES THE PROSTATE DO?

Semen passes through the prostate into the urethra. Sperm is made in the man's testicles. The sperm then travels from the testicle through a tube called the vas into the body where it enters the prostate gland. In the prostate, the sperm mixes with seminal fluid. Seminal fluid is fluid that does not contain sperm and is made in the seminal vesicles and prostate. The sperm mixes with seminal fluid in the prostate to make semen. The semen then is ejaculated out the urethra.

THE MANY STAGES OF THE PROSTATE

THE PROSTATE AT BIRTH

When a male is born, his prostate is about the size of an almond. It remains that size throughout childhood.

THE PROSTATE AT PUBERTY

During puberty, in response to the normal surge of testosterone (male hormone), the prostate begins to enlarge and approximately doubles in size; then growth slows. At about the same time that the testicles are able to produce sperm, the prostate is sufficiently mature to produce the seminal fluid that will support the sperm.

THE RENEWED GROWTH OF THE PROSTATE AT MIDDLE AGE

At about age 45, the prostate often starts growing again due to another surge in testosterone. In some cases, the prostate can continue to enlarge for the rest of a man's life. By itself, prostate enlargement isn't a problem; but the prostate gland surrounds the first section of the urethra, the tube that carries urine from the bladder out through the penis.

As the prostate continues to enlarge, it can frequently start to squeeze the urethra (like pinching a straw). This can interfere with the normal flow of urine and can cause uncomfortable symptoms. An enlarged prostate generally does not interfere with sexual functioning.

THE PREVALENCE OF AN ENLARGED PROSTATE IN LATER LIFE

Prostatic enlargement is extremely common but not always important. For unclear reasons in some men prostatic enlargement causes no symptoms or problems, in some cases it causes only mild symptoms, and in some it can cause urinary retention (complete inability to empty the bladder). It can be very difficult to determine who is most at risk for having their enlarged prostate cause significant health problems.

THE URINARY SYMPTOMS OF AN ENLARGED PROSTATE

The early symptoms commonly associated with an enlarged prostate are frequency, nocturia, and straining to void. Frequency is the need to urinate frequently during the day. Nocturia is the need to wake up at night to empty your bladder. Straining to void is having to struggle to initiate your urinary stream. That's because in the early phase of prostatic enlargement, the bladder muscle has to force urine through the narrowed urethra by contracting more forcefully. This prostatic obstruction can make it difficult to empty the bladder completely. Incomplete bladder emptying can cause a build-up of bacteria and lead to infections. Incomplete emptying can also cause

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frequency and nocturia and damage to the bladder wall. Over a period of time, the forcing causes the bladder muscle to gradually become stronger, thicker, and overly sensitive. This creates a need to urinate more frequently and with a sense of urgency. The urge to go to the restroom suddenly, with a sense of loss of urinary control can be a sign of advanced prostate obstruction.

The added pressure on the urethra can also cause a weak, interrupted urine stream, a sense of incomplete bladder emptying, leakage, and difficulty in starting urination. Incomplete emptying of the bladder can cause significant health problems such as urinary tract infections, bladder stones, and high bladder pressures. High bladder pressures can cause irreversible damage to the kidneys. Urinary tract infections are common in women but not in men. A male with a urinary tract infection before age 45 years should be evaluated by a urologist.

COMMON PROBLEMS OF THE PROSTATE:

BLADDER NECK DYSFUNCTION (BND)

Bladder Neck Dysfunction can also contribute to male voiding dysfunction. BND is the inability to fully relax the special smooth muscle that surrounds the bladder neck and prostate and can make it difficult to empty your bladder. This problem can be treated with medications or a procedure to open the bladder neck.

PROSTATE ENLARGEMENT

PROSTATE ENLARGEMENT or Benign Prostatic Hyperplasia (BPH) is a benign condition. BPH is most commonly found in men over age 45. BPH is not cancer and does not turn into cancer and having BPH does not increase your risk of having prostate cancer. However, a man can have BPH and prostate cancer at the same time.

Testosterone in the prostate is generally thought to be involved in the growth of new tissue which can enlarge the prostate and can "pinch" the urethra. This, in turn, can create bothersome symptoms. After proper diagnosis, many enlarged prostate conditions can be improved by a spectrum of different treatments. While you may have an enlarged prostate, you may have no signs or symptoms. If this is the case, you and your doctor may decide on a program of "watchful waiting," which involves only periodic checkups. If your symptoms are bothersome to you, any one of a number of treatments (surgical and nonsurgical) might be recommended. Only your doctor can properly diagnose your condition and recommend an appropriate treatment for your consideration.

PROSTATITIS

PROSTATITIS is an entirely different condition from an enlarged prostate. Prostatitis is an inflammation of the prostate which may be caused by the presence of a bacterial infection. This condition can affect men of all ages. Having prostatitis does not increase your risk of getting any other prostate disease. Some of the symptoms of prostatitis are similar to those caused by an enlarged prostate, e.g., the frequent urge to urinate, yet difficulty in doing so. Furthermore, a man can have both BPH and prostatitis. Prostatitis can also be accompanied by chills and fever (in acute infections) and by pain or burning during urination.

Most cases of prostatitis are chronic and lack any obvious signs of a bacterial infection. Acute prostatitis is usually associated with obvious bacterial infection and high fevers.

PROSTATE CANCER

PROSTATE CANCER is a serious disease because it is a malignant condition (cancer). The malignancy can spread to other parts of the body. Prostate cancer is most commonly found in men older than 40 years of age.

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In its early stages, prostate cancer may not cause urinary symptoms. In fact, it is most often a silent disease (no symptoms). It is usually detected during a routine rectal exam or by the use of a screening blood test called PSA or Prostate Specific Antigen. When caught early, prostate cancer has an encouragingly high cure rate. In its advanced stages -- when cure is most difficult -- prostate cancer may produce symptoms that are similar to an enlarged prostate.

Approximately one out of every 10 American men develops prostate cancer. More than 30,000 die annually from this disease. A wide range of strategies can be employed to treat prostate cancer, including surgical removal of the diseased prostate.

WHAT EVERY MAN SHOULD DO

Every man age 50 or older (age 40 or older for African Americans or any man with a family history of prostate cancer) should have a rectal exam as part of an annual checkup and have a PSA blood test drawn. These, coupled with a frank, open discussion of any changes in urinary habits, will better enable your doctor to diagnose your problem.

WHAT YOUR DOCTOR WILL DO

Once you've given your doctor a detailed description of any symptoms that you may be having, the doctor will examine your prostate using a digital rectal technique. Since the prostate is located near the rectum, the doctor can feel the prostate by inserting a gloved, lubricated finger into the rectum. This simple exam helps the physician to determine whether the prostate is enlarged or if it has lumps or areas of abnormal texture. He will also be able to evaluate your PSA level and determine if further tests or consultation is needed to rule out prostate cancer. Keep in mind that enlargement is an indicator of BPH, not cancer. Prostate cancer and BPH are two very different unrelated prostate problems.

If you already have urinary symptoms (especially if they are persistent), you should consult your doctor sooner. Your doctor may recommend additional tests and, if necessary, refer you to a urologist.

BPH, MALE VOIDING DYSFUNCTION, BLADDER OUTLET OBSTRUCTION, PROSTATISM

These are all names for what the AUA (American Urologic Association) calls LUTS, Lower Urinary Tract Symptoms. What these imply is that some sort of obstruction is occurring where the bladder ends and the prostate begins. This obstruction may be more anatomic (related to prostate enlargement) or physiologic (related to how tight or tense the bladder neck is) or a combination of both. The AUASS (American Urological Association Symptom Score) is a questionnaire designed to help assess how much of a problem LUTS is for you.

Completing the AUASS will give us some idea of how significant these symptoms are on your well being and track the progress of symptoms as well as response to any treatment. Once we have assessed the nature of the problem we may then consider therapy such as medications, a change in voiding habits, or some interventional procedure or surgery.

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AUASS

American Urological Association Symptom Score Sheet

OVER THE PAST MONTH OR SO ... (Circle the appropriate number):

[0]	[1]	[2]	[3]	[4]	[5]
Almost Never	Some of the time	Less than half the time	Half of the time	More than half the time	Almost Always

1. How often have you had a sensation of not emptying your bladder completely after you finished urinating?

[0] [1] [2] [3] [4] [5]

2. How often have you had to urinate again less than 2 hours after you finished urinating?

[0] [1] [2] [3] [4] [5]

3. How often have you found you stopped and started again several times when you urinated?

[0] [1] [2] [3] [4] [5]

4. How often have you found it difficult to postpone urination?

[0] [1] [2] [3] [4] [5]

5. How often have you had a weak stream?

[0] [1] [2] [3] [4] [5]

6. How often have you had to push or strain to begin urination?

[0] [1] [2] [3] [4] [5]

7. How MANY times did you typically get up at night to urinate from the time you went to bed until getting up?

[0] [1] [2] [3] [4] [5]

Bother Score = Sum of Questions 1 - 7

Quality of life due to urinary problems

If you were to spend the rest of your life with your urinary condition just the way it is now, how would you feel about it? Circle one

[1] Delighted	[5] Mostly dissatisfied
[2] Pleased	[6] Unhappy
[3] Mostly Satisfied	[7] Terrible
[4] Mixed (about equally satisfied and dissatisfied)	

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NON-SURGICAL or MEDICAL TREATMENTS FOR BPH

Medical treatment for male voiding dysfunction involves two major concepts: reducing prostate size and relaxing the muscles that surround the prostate to allow flow through the urinary channel.

Androgen Suppression (5 Alpha Reductase)

Proscar (finasteride) and Avodart (Dutasteride) suppress the action of the hormone testosterone in the prostate cells without affecting the level of testosterone in the blood stream. Studies show that 70 percent of patients are finding reduction in prostate volume with a regression of their symptoms and improvement in flow rates over a four to twelve month period. This allows most men to have normal libido, but at the same time the prostate does not see the testosterone. The drug is taken once a day, and has very little in the way of side effects (it can cause a decrease in libido in about 5-10% of men).

Bladder Neck Muscle Relaxing Medications (Alpha Blockers)

The special muscle that runs around the prostate channel and bladder neck can be relaxed by taking specific medications. Most of these drugs are blood pressure medications including, Hytrin (terazosin), Cardura (doxazosin), Flomax (tamsulosin), and Uroxatral (alfuzosin) that can lower blood pressure. The muscles around the neck of the bladder and prostate are relaxed by these medications and many men have both subjective and objective improvement of their urinary flow. We generally use Hytrin as a first line agent.

The medicine will not stop the growth of the prostate, and theoretically, as the prostate grows over the years, these medicines will become ineffective. A percentage of men will have difficulties with lowering of their blood pressure to a point where dizziness and even fainting can occur, and certainly, men with significant heart disease would not be put on these medications without some risk. These medications might be used adjunctively with normal blood pressure treatment.

Summary

Not every man needs treatment for mild prostatic obstruction. It is normal for a man's urinary flow to reduce as he ages. Mandatory reasons to proceed with some form of treatment include recurring infections, repeated bleeding episodes, bladder or kidney damage and the presence of cancer. When any of the above problems occur, or one's lifestyle is changed by the presence of prostate obstruction, consideration to treat the prostate enlargement should be given.

SURGERY FOR LUTS, BPH

There are multiple procedures or interventions designed to reduce prostate volume and improve male bladder function: TUNA (Transurethral Radiofrequency Ablation of the Prostate), TURP (Transurethral Resection of the Prostate), TUIBN (Transurethral Incision of the Prostate), TUMT (Transurethral Microwave Therapy of the Prostate), and Laser Prostatectomy.

SPECIAL TREATMENTS FOR BPH

Benign Prostatic Hyperplasia (BPH) is the term used to describe the non-malignant growth of the prostate gland that is responsible for blocking the flow of urine out of the urinary bladder.

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Transurethral RESECTION of the Prostate (TURP)

Transurethral resection of the prostate (TURP) has been the classic choice for the past 50 years for surgical treatment of BPH obstruction of the bladder outlet

TURP is a safe procedure with four out of five patients experiencing resolution of their voiding symptoms with improvement of all of their urinary flow measurements. Essentially, TURP is the removal of the obstructing portions of the prostate with a telescopic electrocautery knife. The TURP requires a spinal or general anesthetic and takes about 30-60 minutes to perform. A tube or catheter is inserted into the bladder and is left in place for 1-5 days. The hospitalization lasts from 1-3 days and requires two weeks of severe activity restrictions and another two weeks of modest restrictions. No treatment to date has bettered the long term effectiveness of TURP in alleviating obstruction caused by benign prostatic hyperplasia.

TURP as a 10% risk of requiring a return to the operating room in the in the 30 days following TURP to treat post-TURP gross hematuria. Also, TURP is generally followed by 30 days of irritative voiding symptoms.

While the long-term effectiveness of TURP is excellent the 10% risk of post-op gross hematuria and the post-op irritative voiding symptoms, other methods of therapy can be considered in proper situations. These include medical treatments and minimally invasive treatments such as TUIP, TUNA, TUMT, and laser prostatectomy.

Transurethral INCISION of the Prostate (TUIP)

A transurethral incision of the prostate (TUIP), is an alternative to TURP. The basic goal of the procedure is to incise the prostate and bladder neck thereby opening the channel to allow adequate flow through the prostate. This is done by making a simple cut or incision along the entire length of the prostate. Because of the circular muscle fibers running around the prostate, the TUIP allows the bladder neck to spring open and allows free urinary flow.

TUIP is particularly beneficial for smaller prostates and does have a lower incidence of ejaculation disturbances. TUIP is best suited for men in whom bladder neck dysfunction is the cause for their male voiding dysfunctions (vs. BPH, prostate enlargement). Hospital stays and recovery are much shorter.

TUNA (Transurethral Radiofrequency Ablation of the Prostate)

TUNA is a very safe and easy outpatient procedure used to reduce prostate volume. A special cystoscope is inserted into the prostate to allow radiofrequency energy to be directed into the prostate. The special cystoscope allows radiofrequency needles to be inserted into the prostate and deliver the radiofrequency energy that destroys the prostate tissue.

Transurethral Laser Prostatectomy

Essentially, the procedure consists of passing a laser into the prostatic channel under telescopic guidance. The laser is the used to destroy or heat up the obstructing portions of the prostate. Compared to transurethral resection (TURP), the advantages of laser prostatectomy are

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no significant bleeding, shorter hospitalization, and reduced operating time, an apparent and decreased incidence of lack of ejaculation disturbances.

TUMT (Transurethral Microwave Therapy of the Prostate)

In this, a microwave probe is placed into the prostatic channel and the prostate is heated up to temperatures above 105 degrees Fahrenheit. This causes destruction to the prostate tissue and shrinkage of the gland. Again, no prostate is removed for pathologic diagnosis