

Chapter 2

An Appointment with the Urologist

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Does the Urologist Work Only with Men's Diseases?

The urologist is a specialist in the diseases of the urinary tract, which includes the kidneys, ureters, bladder, and urethra, all present in both men and women. Therefore, the urologist

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works with both men and women. This specialist also deals with men's genital diseases—specifically those that affect the penis, testicles, or prostate—and those related to the male sexual function.

When Should the Urologist Be Consulted?

Whenever illness of the urinary tract is suspected—such as in the form of infections, calculi (stones), incontinence, or tumors, among others—a urologist should be consulted. As for prostatic diseases, the first consultation should take place at 50 years of age regardless of a suspected illness, unless the patient has a higher risk of prostate cancer, such as African Americans and those who have direct family members (brother, father, or grandfather) who have had this disease. In these latter, high-risk cases it is advisable to have the first consultation at age 40.

The consultation with the urologist is the first part of the evaluation. The urologist will ask about the personal data of the patient—such as age, previous illness, and health history of family members—as well as specific questions about the suspected urological disease, with emphasis on urinary discomfort. This is followed by a complete physical examination. Based on the findings, the urologist will order the relevant laboratory tests and imaging studies (Fig. 2.1).

Symptoms of Prostate Disease

In general, prostate disease symptoms are divided into two categories: irritative and obstructive.

The irritative symptoms include:

Dysuria (burning with urination): This is the presence of pain and/or burning during urination. It can occur at the

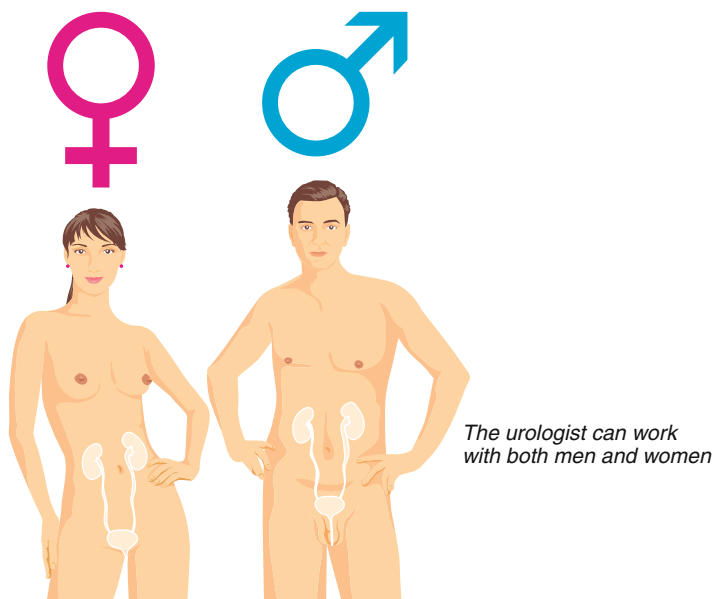


FIGURE 2.1 Men and women

beginning of urination, at the end of urination, or during the exit of the entire urinary stream. The presence of dysuria might mean an infection of the urinary tract, among other possibilities.

Urinary frequency: This is a pattern of urinating frequently, and often in small quantities. It may be accompanied by a sensation of incomplete emptying, which is related to the inability of the bladder to empty completely and expel all of the urine.

Urgency: A sudden, compelling urge to urinate is often, though not necessarily, associated with incontinence of urine (inability to control urination).

The obstructive symptoms include:

Straining: This is the inability to achieve spontaneous voiding of urine, so abdominal muscles must be employed to push one or more times before initiating urination.

Weakness of the urinary stream: This is the decreased caliber and force of the urinary stream, a sign that is usually gradual and imperceptible such that after some time the patient may think the thin and powerless stream is normal.

Post-void dribbling: This is the leakage of a few drops of urine after the patient has completed voluntary urination.

Nocturia (urinating several times a night): This may occur with a gradual or sudden increase in the number of times the patient has to urinate at night. This may occur because the bladder does not empty itself completely during daytime urination and continues emptying itself at night.

Scale of prostate symptoms: Besides asking about the previous symptoms, the urologist uses certain questionnaires designed to gather information about particular problems. These questionnaires are developed and validated by international scientific organizations and make it possible for all urologists to standardize selection and delivery of treatment options.

Subjective data is gathered and converted into numeric variables, which permit measurement and quantification in a more precise and objective manner. This numeric scale, in addition to quantifying the initial condition, makes it possible to objectively measure the effects of the treatment. The following is a questionnaire that evaluates the degree of urinary obstruction due to prostate disease and is known as the International Prostate Symptom Score (IPSS)

IPSS Scale of Prostate Symptoms

International Prostate Symptom Score (I-PSS)

Patient Name: _____ Date: _____							
	Not at all	Less than 1 time in 5	Less than half the time	About half the time	More than half the time	Almost always	Your Score
1. Incomplete emptying Over the past month, how often have you had a sensation of not emptying your bladder completely after you finish urinating?	0	1	2	3	4	5	
2. 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	
3. 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	
4. Urgency Over the past month, how often have you found it difficult to postpone urination?	0	1	2	3	4	5	
5. Weak Stream Over the past month, how often have you had a weak urinary stream?	0	1	2	3	4	5	
6. 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	
7. Nocturia Over the past month, how many times did you most typically get up to urinate from the time you went to bed at night until the time you got up in the morning?	0	1	2	3	4	5	
Total I-PSS Score							
	Delighted	Pleased	Mostly Satisfied	Mixed – about equally satisfied and Dissatisfied	Mostly Dissatisfied	Unhappy	Terrible
Quality of Life due to Urinary Symptoms							
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 that?	0	1	2	3	4	5	6

The International Prostate Symptom Score (I-PSS) is based on the answers to seven questions concerning urinary symptoms. Each question is assigned points from 0 to 5 indicating increasing severity of the particular symptom. The total score can therefore range from 0 to 35 (asymptomatic to very symptomatic).

Although there are presently no standard recommendations into grading patients with mild, moderate or severe symptoms, patients can be tentatively classified as follows: **0–7 = mildly symptomatic; 8–19 = moderately symptomatic; 20–35 = severely symptomatic.**

The International Consensus Committee (ICC) recommends the use of only a single question to assess a patient's quality of life. The answers to this question range from "delighted" to "terrible" or 0 to 6. Although this single question may or may not capture the global impact of BPH symptoms on quality of life, it may serve as a valuable starting point for a doctor-patient conversation.

For patients with erection dysfunction, there is a specific male sexual health form called the ***Sexual Health Inventory for Men (SHIM)***. This is a scale widely used in clinical practice for the detection and diagnosis of erectile dysfunction and its severity,

as well as for evaluating the response to treatment. With regards to male sexual performance, the following are some of the symptoms the urologist may ask about, when necessary.

Premature ejaculation (early expulsion of semen)

This is the involuntary and early expulsion of semen a common disorder in young men. It occurs when a man ejaculates sooner during sexual intercourse than he or his partner would like.

Erectile dysfunction (impotence)

This is the permanent or recurrent inability to achieve penile erection, or to maintain it with sufficient rigidity to perform and consummate intercourse. Sexual Health Questionnaire for Men

1. How do you rate your confidence that you could keep an erection?

1	2	3	4	5
Very low	Low	Moderate	High	Very high

2. When you had erections with sexual stimulation, how often were your erections hard enough for penetration (entering your partner)?

1	2	3	4	5
Almost never or never	A few times (much less than half the time)	Sometimes (about half the time)	Most times (much more than half the time)	Almost always or always

3. During sexual intercourse, how often were you able to maintain your erection after you had penetrated (entered) your partner?

1	2	3	4	5
Almost never or never	A few times (much less than half the time)	Sometimes (about half the time)	Most times (much more than half the time)	Almost always or always

4. During sexual intercourse, how difficult was it to maintain your erection to completion of intercourse?

1	2	3	4	5
Extremely difficult	Very difficult	Difficult	Slightly difficult	Not difficult

5. When you attempted sexual intercourse, how often was it satisfactory for you?

1	2	3	4	5
Almost never or never	A few times (much less than half the time)	Sometimes (about half the time)	Most times (much more than half the time)	Almost always or always

Why Should You Have a Prostate Examination?

The prostate can be the source of diverse illnesses, like with all organs of the human body. Among these, the most representative are those caused by inflammation (prostatitis), benign growth (benign prostatic hyperplasia), and cancer. Fortunately, the prostate is an organ that is easily accessible with a simple and rapid examination by way of the rectum. All of these diseases can be rapidly diagnosed if periodic follow-up visits are made to the urologist. Moreover, they can be treated in time to prevent the deterioration of other related organs and the advancement of the illness.

What means are available for prostate evaluation?

For the general prostate evaluation, two basic tools are available: a digital rectal examination and a blood test to measure a substance called prostate-specific antigen (PSA), which will be dealt with in a special chapter.

What is the digital rectal examination?

During digital rectal examination, the urologist inserts his index finger into the patient's rectum in order to palpate (feel) the back part of the prostate. This examination not only can give the physician information about abnormalities in the configuration of the gland, but also information about its size, consistency, and tenderness. It assists in diagnosing the growth of the prostate, specifically with a concern for prostatitis or suspected prostate cancer (Fig. 2.2).

Diagnostic Tests

After questioning the patient and performing the physical examination, the urologist generally carries out the following four tests.

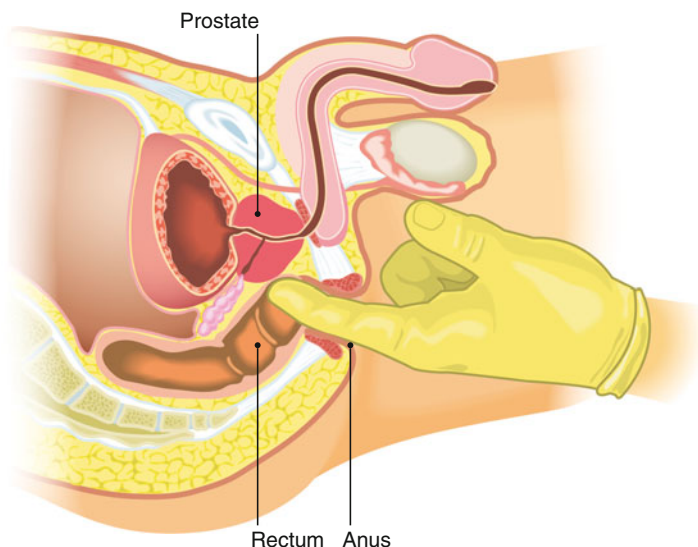


FIGURE 2.2 Exam

1. **Prostate-specific antigen (PSA) analysis:** This is a protein substance produced mainly in the prostate and measured in the blood. The results make it possible to estimate the possibility of the patient having prostate cancer. This test should be requested even when the findings of the digital rectal examination are normal, since there are many small, undetectable tumors that are only diagnosed on the basis of an elevated PSA value.
2. **Urine analysis:** Such analysis provides information about diseases and disorders of the kidneys and the urinary tract, and evaluates the presence of blood, proteins, and crystals in the urine, among other aspects. Blood in the urine may be due to calculi (stones), tumors, or infections in the urinary tract, and also is seen in some diseases that affect the functioning of the kidneys. The presence of crystals may be related to metabolic disorders that produce stones in the urinary tract, and the presence of proteins in the urine may be due to impairment of the kidney function.

3. **Urine culture:** This is a study used to confirm a urinary infection. A sample of urine is cultured in a special medium. If an infection exists, the infectious microorganism will grow and it is then possible to identify the drugs to which it is sensitive or resistant, thereby indicating the most effective treatment.
4. **Serum creatinine:** This is a blood test that is related to kidney function. A high level of serum creatinine allows medical professionals to infer that the kidney function is impaired. This might be the consequence of a prostate obstruction; although, other illnesses such as arterial hypertension and diabetes, which also cause damage to the kidneys, must be ruled out.

Depending on the circumstances of the patient, some of the other tests that might be requested are the following:

1. **Cystoscopy:** This is a relatively rapid and simple examination which consists of inserting a cylindrical instrument with a lens (cystoscope) into the urethra. It can be used to see inside the urethra, passing through the sphincter and the prostate and then up to the bladder for the purpose of studying the diseases of these structures. Before beginning the study, a local anesthetic gel is applied by way of the urethra to minimize pain and discomfort.

A common tool employed for these tests are flexible cystoscopes: modern, thin-caliber, flexible instruments adapted to the natural form of the urethra so as to be inserted through the urethra and into the bladder. This results in less discomfort for the patient while providing excellent image quality (Fig. 2.3).

2. **Uroflowmetry:** This is a study that makes it possible to determine the speed at which urine is expelled. It is simple to carry out. The patient is asked to urinate into a container while flow sensors report the velocity with which the bladder expels the urine. Normal velocity is more than 15 ml/s. Lesser velocities might imply an obstructive situation or defects of the bladder itself that render it unable to pass the urine with sufficient pressure for elimination at a normal rate.

Olympus® Flexible Cystoscope

- Modern flexible instruments are adapted to the natural form of the urethra and travel through it into the bladder.
- This results in less discomfort for the patient while providing excellent image quality.

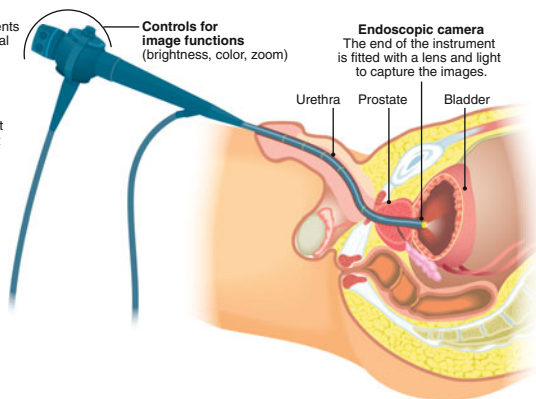


FIGURE 2.3 Cystoscopy

3. **Urodynamics:** This is a study that makes it possible to determine the functioning of the bladder and its capacity to expel urine. This study also evaluates bladder nerve coordination with the outlet duct, the urethra. This study involves placing catheters in the urethra and the rectum. This study is indicated when there is the suspicion that the symptoms are not due to the growth of the prostate but rather to impaired bladder function, such as is the case with neurological illnesses (e.g. strokes, diabetes mellitus).
4. **Post-void residual urine measurement:** This study allows medical professionals to determine the quantity of urine remaining in the bladder after the patient urinates. The normal amount should be less than 50 ml. Higher residual value implies an incomplete emptying, either because of an obstruction of the flow or because of the inability of the bladder to completely expel the urine. To obtain a measurement, a lubricated catheter is passed into the bladder or non-invasively by means of an ultrasound; although, in some cases, this latter method may give results different than the real values. The amount of residual urine enables the physician to estimate the seriousness of the problem, measure the response to treatments already started, and even evaluate the need for treatment.

5. **Intravenous urography:** This study involves a radiological examination. First the patient is injected with a contrast medium into the bloodstream. Later, after the kidneys eliminate the contrast medium, several X-rays are performed to show the passage of the liquid through the entire urinary tract. This diagnostic study, which has been a reference for many urological diseases, is now used less and less because of the advent of more modern techniques such as computerized axial tomography (CT scans) or magnetic resonance imaging (MRI scans). CT or MRI scans can provide the same if not more information than intravenous urography. They allow the entire urinary tract to be evaluated and permit the study of the characteristics of neighboring organs.
6. **Ultrasound:** To perform an ultrasound study, a transducer is placed on the skin and this transmits real-time images to a screen. It enables visualization of the urinary tract but does not provide data about kidney function. Ultrasound has the advantage that it does not require complex equipment nor does it expose the patient to any radiation. Nevertheless, it has the disadvantage that its interpretation depends on the training and experience of the radiologist to identify suspicious areas. Ultrasound is the best tool for taking biopsies of the prostate. This is fully explained in the later chapter dedicated to that subject.

Prostate Cancer

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