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This activity is designed for urologists who treat patients with sexual desire and arousal disorders, particularly erectile dysfunction. After participating in this activity, the participant should be able to:

- Use a multifaceted, systematic clinical evaluation process to assess and diagnose sexual desire and arousal disorders in patients at risk.
- Consider the sexual and psychosocial issues involved in the clinical evaluation of patients with sexual desire and arousal disorders.
- List resources that may enhance patient education, staff development, and practice management.

#### CME Information

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To receive credit, participants must read this newsletter and submit the enclosed activity evaluation form and posttest (passing score = 70% or higher). Participants may also receive a CME certificate immediately by completing the evaluation and posttest forms online at [www.expertinsightscme.com](http://www.expertinsightscme.com).

Length of Time to Complete the Activity: 1 hour

#### Disclosure Information

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## The Link Between Sexual Dysfunction (Desire & Arousal Disorders) and Hypogonadism: Focus on Clinical Evaluation

Clinical evaluation for sexual dysfunction has changed dramatically in the last 20 years. Prior to that time, clinical evaluation was primarily the domain of mental health professionals who focused solely on sexual history. Within the last 20 years, however, a shift occurred that brought medical history, physical examination, and diagnostic testing into the evaluation process. This shift was vital because it has aligned sexual dysfunction with other medical problems, for which the gold standard for diagnosis has always included these key clinical components. The evaluation of sexual dysfunction should be no different other than the inclusion of psychosocial assessment and involvement of the patient's partner.

The clinical evaluation phase brings me a high level of satisfaction because it is so important. Done well, the clinical evaluation is the key to defining the patient's problem and launching a successful therapeutic strategy. My practice has been to use a two-visit model for the evaluation (See Figure 1). During the first visit, I gather the diagnostic data. During the second visit, I educate the patient and partner about sexual function and the etiology of the current dysfunction.

### Diagnostic Evaluation

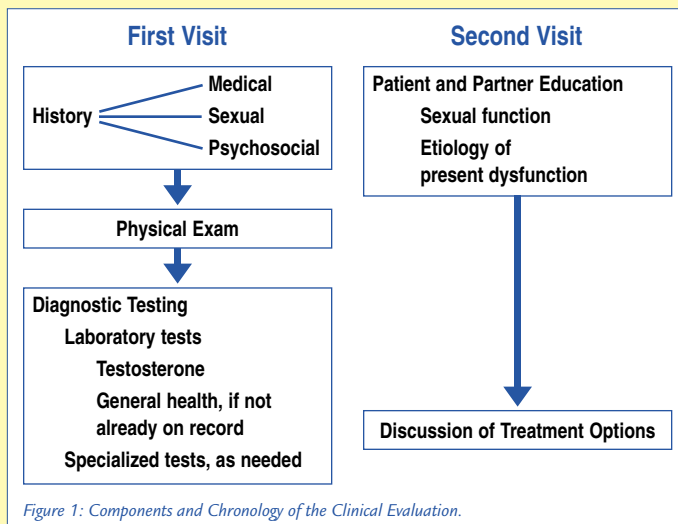
*Is there anything unique about a medical history for sexual dysfunction?* The medical history for sexual dysfunction is a classic medical history, similar to that taken for heart, liver, or kidney disease.<sup>1</sup> The chief complaint is identified — in this case, a sexual desire or arousal disorder — and the potential etiologies are explored by asking questions about disease and lifestyle history associated with these disorders. For example, questions about diabetes, hypertension, cigarette smoking, individual and family history of heart disease, and high cholesterol highlight potential risk factors for sexual dysfunction. A history of thyroid disease may indicate a hormonal issue. A history of diabetes means there may be sensation issues present, as well as hormonal issues. Past surgical procedures that affect blood flow, such as kidney transplant or aortic aneurysm repair, must be identified as well as procedures that would affect penile nerves, such as radical prostatectomy or lymph node dissection. It is particularly important to ask what medications the patient is taking.

Also of concern would be the presence of lower urinary tract symptoms (LUTS). LUTS is highly associated with erectile dysfunction, so soliciting a history of nocturia, hesitancy, straining, diminished force in stream, urgency, and incontinence is extremely important.

*What is a good system to use to assess the potential areas of sexual dysfunction when taking a sexual history?* First, consider the scope of potential sexual dysfunction by remembering the sequence of the sexual response cycle: desire, arousal, orgasm/ejaculation, and resolution. Next, ask questions related to these phases of the response cycle. Help your patient judge his current level of function by asking for a reference point when sexual function of that response phase was peak. For example, to assess desire, ask the patient if at any time in life he had a good supply of sexual thoughts and fantasies and a strong need for sexual activity. Most people will indicate a time, traditionally in the teens to early 20s. Let that be the reference point called 100%. Then ask the patient how long he maintained this strong interest. Many patients will say they maintained this strong interest from teens through the age of about 30 years. Some patients may not have become sexually active until later, so for these patients, the years of intense interest may be from the age of 30 to 40 years. Finally, ask the patient to estimate his current level of interest as a percentage of that peak interest. For example, a 55-year-old man may say he is about 25% as interested in sexual activity as he was at his peak. This indicates low libido.

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A similar process should be followed to assess arousal function. Ask a patient with erectile dysfunction at what period in his life he could easily obtain and maintain a rigid, spontaneous erection. This question covers the three dimensions of erectile function: spontaneity, rigidity, and maintenance. Ask the patient to compare his current erectile function to his past peak period along those three dimensions. In addition, always ask if the patient has good-quality nocturnal and morning erections, as the presence or absence of this erectile activity has diagnostic value. Use the same pattern of questioning to cover the areas of orgasm/ejaculation and resolution.

Questions concerning symptoms of sexual pain are included in taking the sexual history: Is there pain during erection? Is there pain during ejaculation or orgasm? Although rare, sexual pain disorders in men need to be addressed for full sexual rehabilitation.

**What are the crucial questions to ask when taking a psychosocial history?** When taking a psychosocial history, it is important to ask questions related to relationship issues.<sup>1</sup> What is your social status? Are you married, single, divorced, widowed? How many times have you been married? How many times have you been divorced? If the patient has been widowed, ask questions related to the loss of a spouse: How are you dealing with the loss? Do you have depression? Did you ever meet a new partner? Are you afraid to meet a new partner? Ask about history of sexual trauma and abuse, even in men. Although sexual trauma and abuse are more common in women, many men have undergone molestation and other trauma. This hidden psychosocial pain needs to emerge carefully, and its emergence must be both courted and greeted by the physician with compassion and understanding,

questioning described previously. Patients often complete this questionnaire while in the waiting room or prior to their appointment. Validated instruments also may be used, such as the International Index of Erectile Function (IIEF);<sup>2</sup> the Sexual Health Inventory for Men,<sup>3</sup> which is a 5-question subset of the IIEF; and the Androgen Deficiency in the Aging Male (ADAM) questionnaire.<sup>4</sup> These instruments can be reviewed with the patient during the visit, or, alternatively placed in the waiting room or mailed out in advance of the visit.

**How should needed diagnostic information be gathered during the physical examination of a patient with erectile dysfunction?** It is extremely important that a physician don gloves and have physical contact with the penis during the examination. In particular, this is necessary in order to detect the presence of Peyronie's disease. To that end, part of the physical examination should be to grasp the penis by the corona and stretch it. If the penis has elasticity and is able to be stretched, Peyronie's disease is an unlikely diagnosis. In contrast, if the penis lacks elasticity and does not stretch, then Peyronie's disease may be diagnosed. Compress the stretched penile shaft between the thumb and index finger to assess for penile nodules or masses.

Other directives for the physical examination include: Pull back the prepuce in uncircumcised men to check for undetected penile cancer. Examine the testicles for masses and the epididymis for tenderness and inflammation. Assess the hair-growth pattern as an indicator of hormone function. Conduct the classic and mandatory rectal examination.

Check the circulation by palpating the femoral artery for pulse. Check for sensa-

acceptance of tears, and provision of ample time and tissues.

In some practices, including mine, the psychosocial history is taken by a psychologist.

**What tools can be used to assess the presence and severity of sexual dysfunction in a patient?**

In my practice, we have developed an intake questionnaire based on the

tion by touching a needle to the lower abdomen for a reference point, and then touching the needle to the penile shaft. Check for nerve compression at the lumbosacral disk with the straight leg raising test.

**Which laboratory tests should be performed at the initial urology visit?** Every man with low libido or erectile dysfunction should have some measure of testosterone.<sup>1</sup> A number of different testosterone or testosterone-related measurements are available, including total, free, bioavailable, and sex hormone-binding globulin (SHBG). Unfortunately, there is no consensus as to which is the best measure.

I typically gather an expanded supply of laboratory data, which measures gonadotropins, synthetic byproducts of the testicle, synthetic byproducts of the zona reticularis of the adrenal gland, and thyroid function, as well as a screen for prostate cancer.

Many patients have a recent panel of general-health laboratory test results in their records. If these tests have not been performed prior to a patient's visit, they should be performed during the clinical evaluation.

**What are the differences among the most common forms of measurable testosterone?**

The majority of circulating total testosterone is tightly bound to the plasma protein, SHBG, with the remainder loosely bound to albumin.<sup>5</sup> Only testosterone that is able to separate itself from plasma protein and enter a free state can enter a cell and exert its androgenic effect inside the cell nucleus. The tight SHBG bond, therefore, renders bound testosterone biologically inactive.

The concentration of physiologically active testosterone, therefore, is primarily a function of the total testosterone and relative SHBG concentrations. Total testosterone measurements include both the bound and unbound fractions. Free testosterone may be measured directly or indirectly or calculated using the free androgen index, in which the total testosterone concentration is divided by SHBG and multiplied by 100.<sup>6</sup> Bioavailable testosterone is generally referred to as the sum of circulating free testosterone and testosterone bound to albumin and may be measured after precipitation of the SHBG-bound fraction. SHBG concentration is directly measured.

Due to diurnal variation in testosterone levels, blood should always be drawn for testosterone tests in the morning when levels are highest.<sup>7</sup>

(See Case Vignettes for a discussion of the interpretation of testosterone tests.)

### **Under what circumstances should additional specialized testing be performed?**

Specialized testing is largely contingent on the goal of the patient. Unlike most patients with cardiac disease who want to know exactly what is causing their disease, a good number of patients with desire or arousal disorders are not interested in knowing what is causing their dysfunction. Recognizing this, I typically ask each patient what he wants from his office visit and from the evaluation. I then let the patient's answer guide the extent of specialized testing performed. Imminently life-threatening illnesses are not common in cases of sexual dysfunction, so it is usually appropriate to be guided by the patient's wishes regarding the extent of testing. The basic tenet *primum non nocere* (first, do no harm) is an applicable reminder not to take diagnostic evaluation beyond the wishes of the patient.

Scenarios in which specialized tests are more likely to be performed include a job-related injury for which compensation for documented damage is sought, a spouse who needs reassurance that the dysfunction is not simply an absence of love, or a patient concerned about occult diabetes, atherosclerotic vascular disease, or cancer.

## **Education**

**What is the best way to educate a patient about his disorder?** Most men and women know little about the anatomy and physiology of sexual function. The typical lack of knowledge extends to the creation of sexual desire; penile function; anatomical terminology; the nature of ejaculation,

female arousal, and orgasm; and the relationship of erection to orgasm.

Patient education should be delivered within the context of this broad picture of sexual function, yet focused toward the discovered cause of the disorder. For example, if the penis is curved, then the anatomy of the tunica albuginea should be discussed, as well as the definition of Peyronie's disease. If the patient is young and has just returned from a cross-country mountain bike trip, the anatomy and consequent vulnerability of the nerve and artery passing through the Alcock's canal should be diagrammed and explained. If the patient has had a radical prostatectomy, the anatomy of the penile and surrounding nerves should be described and the likely damage to those nerves detailed. The physician should use charts, diagrams, pictures, and patient information handouts to explain to the patient and partner exactly what the problem is.

**How can a physician differentiate for the patient which factor — biologic or psychologic — is the primary etiology?** It is neither necessary, nor helpful, to select one as primary and the other secondary. Both factors affect the endpoint, which is for the patient to achieve a functional sexual activity with the person he loves. There should be no effort to separate psychologic from biologic factors when discussing a diagnosis. I stress to my patients that both factors play a role. Part of the education process is to communicate this complexity of sexual dysfunction: Adequate blood flow, nerve function, and hormone levels must be assured, but relationship and interpersonal issues of both patient and partner must also be attended to.

## **References**

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## **Tips & Resources**

### **Tips for Patients**

Hope for Sexual Dysfunction: Education and support, including an interactive question-and-answer feature, for people with sexual dysfunction, [www.justinpfister.com/ism.cfm](http://www.justinpfister.com/ism.cfm).

Institute for Sexual Medicine, Boston University School of Medicine: Sexual medicine information sessions and online information for patients, [www.bumc.bu.edu/sexualmedicine](http://www.bumc.bu.edu/sexualmedicine).

National Kidney and Urologic Diseases Information Clearinghouse: Links to patient information about Peyronie's disease and erectile dysfunction, covering erectile anatomy and physiology, diagnosis, and treatment, <http://kidney.niddk.nih.gov/kudiseases/topics/erectile.asp>.

The American Foundation for Urologic Disease: Patient information about low testosterone and erectile dysfunction, [www.afud.org](http://www.afud.org).

The Women's Sexual Health Foundation: Links, resources, and downloadable brochures about women's sexual health, [www.twshf.org](http://www.twshf.org).

### **Staff Development**

Institute for Sexual Medicine, Boston University School of Medicine: Sexual medicine information sessions and online information for health care professionals, [www.bumc.bu.edu/sexualmedicine](http://www.bumc.bu.edu/sexualmedicine).

*Talking to patients about sex: Training program for physicians.* American Medical Association. Downloadable materials to train physicians to talk about sex and sexuality with their patients, [www.ama-assn.org/mem-data/joint/sex001.htm](http://www.ama-assn.org/mem-data/joint/sex001.htm).

### **Practice Management**

ICD-9 codes that support medical necessity:

Erectile dysfunction	607.84
Male hypogonadism	257.2
Peyronie's disease	607.85
Premature ejaculation	302.75
Decreased libido	799.89
Penile pain	607.9
Ejaculatory disorder	608.89

Note: These ICD-9 codes are for the use of medical providers. They are accurate at time of printing.

### **News and Notes**

Free public seminar, "Female Sexual Dysfunction: Symptoms & Solutions." Speaker, Irwin Goldstein, MD. Nov. 23, 2003, Newton Lower Falls, MA. For information and on-line registration, [www.bumc.bu.edu/sexualmedicine/fdsseminar](http://www.bumc.bu.edu/sexualmedicine/fdsseminar) or call 617-638-8576.

## Case Vignettes

*Many of my patients with erectile dysfunction do not want a complete clinical evaluation. They simply want to take an oral erectile agent in hopes that it will fix the problem. In these cases, why should a complete clinical evaluation be conducted?*

The clinical evaluation as described in this newsletter is conducted so the first thing to emerge is the definition of a patient's true sexual dysfunction. It is uncommon to find that the only sexual problem a man has is an erectile problem. The case histories of many men whom I have treated over the years reflect the host of sexual issues that can be present concomitant with erectile dysfunction: premature ejaculation followed by loss of erection; delayed ejaculation; low libido; curvature of the penis; prostatic syndrome; orgasm-associated migraine; glandular pain during sexual activity; and erection of the penile shaft but not the glans. This partial list of the sexual issues I have seen in my patients with erectile dysfunction is representative of the issues that cannot be resolved with an oral agent alone and must be discovered by the physician through clinical evaluation.

*With no consensus on the definition of a normal testosterone level in the context of erectile function, how should testosterone test results be interpreted?*

When interpreting a testosterone test result, it is necessary to remember that the reported normal ranges of testosterone tests for men have been derived from samples from a healthy male population not controlled for sexual dysfunction. Yet, approximately 30% of those healthy males do have sexual dysfunction. A subset of the reported normal range of testosterone tests, therefore, represents testosterone levels compatible with hypogonadism and sexual dysfunction.

Testosterone levels, therefore, are best interpreted within the context of patient symptoms. For example, a 55-year-old man presented to me with erectile dysfunction. While taking his medical history, I discovered that he was falling asleep after dinner and having increased episodes of depressed and agitated moods, decreased overall strength and energy, and decreased job and athletic performance. While taking his sexual history, I discovered the additional symptoms of decreased ejaculation, less orgasmic strength, and less interest in sexual activity. While conducting the physical

examination, I found his testicles to be smaller than normal. Although every measure of testosterone was within the normal range, all were in the lower quartile of the normal range. Interpreted in consideration of the findings from the clinical evaluation, these results clearly support a diagnosis of hypogonadism for this patient. This case underscores the role of the clinical evaluation in putting the focus on the complete patient and not on individual test results or isolated symptoms.

*How can a physician overcome feelings of embarrassment when broaching the topic of sexual dysfunction with a patient?*

In our society, talking about sexual function is difficult for everyone, including physicians. Physicians can overcome their discomfort by keeping the discussion at a medical level. Recognize scientific and epidemiologic facts as your cues, and then relate your initial comment about sexual issues to those facts. Also emphasize the frequency of sexual dysfunction in your initial comment to put the patient at ease. To illustrate this, when a 49-year-old man presented to me recently with LUTS, I brought up the subject of sexual dysfunction by telling him that 3 out of 4 men with LUTS also have erection problems. I then told him that if he had that problem, he was welcome to talk with me about it because I would be able to help him. I use the same approach for a patient who has had radical prostatectomy. I share that it is extremely common to have the nerves near the penis injured during the procedure. I ask if it is possible this has happened to him, because if it has, I can help him.

Urologists, in particular, have a responsibility to clearly and comfortably talk with their patients about sexual dysfunction, even to initiate the discussion. As men's health physicians, urologists should attend to the health of the total man, which includes sexual health. Unfortunately, however, urologists often create erectile and other sexual dysfunction through the therapies we employ. Ejaculation issues can result from lymph node dissections, libido problems from hormonal manipulations, and erectile dysfunction from various drugs and surgical procedures. Urologists must be willing and able to broach the topic of sexual dysfunction with all their patients, but they have a particular responsibility to do so with men who have undergone a urologic therapy that places them at high risk for sexual dysfunction.

## Put It Into Practice

- Embarrassment to broach the topic of sexual dysfunction may be overcome by introducing the subject within a medical context.
- All patients with sexual dysfunction deserve a classic clinical evaluation, which includes a medical, sexual, and psychosocial history; a physical examination; blood tests; and when appropriate, additional specialized testing. Most insurance carriers cover diagnostic testing for sexual dysfunction, a legitimate medical disorder.
- All men with low libido or erectile dysfunction should have their testosterone level checked.
- Most people understand very little about the anatomy and physiology of sexual function, including the biosynthetic pathway and role of androgens. Education regarding these matters is essential so that expectations throughout the treatment process are appropriate.
- The complexity of sexual dysfunction requires a high level of commitment from the patient and partner for its management. Both patient and partner must understand there is no quick cure.

## Issues In This Series

Issue 1: Focus on Epidemiology and Etiology

Issue 2: Focus on Clinical Evaluation

Issue 3: Focus on Treatment

Issue 4: Focus on Special Populations

Issue 5: Focus on Psychosocial Aspects

Issue 6: Focus on Optimizing Outcomes

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