

# MALE SEXUAL DYSFUNCTION

*A guide for men and their partners*



*Written by:*

**ANDREW SIEGEL, M.D.**

*An educational service provided by:*

**BERGEN UROLOGICAL ASSOCIATES  
N.J. CENTER FOR PROSTATE CANCER & UROLOGY**

ANDREW SIEGEL, M.D. • MARTIN GOLDSTEIN, M.D.

VINCENT LANTERI, M.D. • MICHAEL ESPOSITO, M.D. • MUTAHAR AHMED, M.D.

GREGORY LOVALLO, M.D. • THOMAS CHRISTIANO, M.D. • CHRISTOPHER WRIGHT, M.D.

255 SPRING VALLEY AVENUE

MAYWOOD, N.J. 07607

[WWW.BERGENUROLOGICAL.COM](http://WWW.BERGENUROLOGICAL.COM)

[WWW.ROBOTICUROLOGY.COM](http://WWW.ROBOTICUROLOGY.COM)

*“It is like a firstborn son—you spend your life working for him,  
sacrificing everything for him, and at the moment of truth  
he does just as he pleases.”*

Gabriel Garcia Marquez  
*Love In The Time of Cholera*

*“The penis does not obey the order of its master, who tries to erect or  
shrink it at will. Instead, the penis erects freely while its master is asleep.  
The penis must be said to have its own mind, by any stretch  
of the imagination.”*

Leonardo da Vinci

When asked about his sexual function, my 70-something year-old patient  
replied: *“Retired...and I’m really upset that I not even upset.”*

**Note To Reader:** This booklet is an abridged version of the chapter entitled  
“Male Sexual Dysfunction” from my book *Male Pelvic Fitness: Optimizing  
Sexual and Urinary Health*. The paperback is available on a discounted  
basis to patients at checkout and also as an e-book through Amazon, Apple  
iBooks, Barnes and Noble Nook and Kobo. ([www.MalePelvicFitness.com](http://www.MalePelvicFitness.com))

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# Overview

Sexuality is a vital aspect of our human existence, both for purposes of reproduction as well as for pleasure. Healthy sexual function entails a good libido (sex drive), the ability to obtain and maintain a rigid erection, and the ability to ejaculate and experience a climax. For many of us, being able to function well sexually—as we were intended to—contributes to a “swagger” that permeates positively into all areas of our lives.

Although sex is by no means a necessity for a healthy life, the loss or impairment of sexual function can result in embarrassment, a sense of isolation and frustration, and even depression. An inoperative or a poorly operative penis can not only be ego-deflating, but can negatively impact one’s self esteem and can infiltrate into other aspects of our lives in a very detrimental way. We don’t always need to be sexually active, but we relish the ability to function properly, the way we were designed. **Therefore, for many of us, it is important that we maintain our sexual health.**

On a functional level, sexuality is a very complex phenomenon dependent upon a number of body systems working synergistically. These include the *endocrine system* (which produces sex hormones); the *central nervous system* (where the sensations of sexual arousal are experienced and processed), the *peripheral nervous systems* (which provides nerve control); and the *vascular system* (which conducts blood flow). While all of these systems must function in an optimal and coordinated fashion, a healthy sexual response is, at its essence, largely about *adequate blood flow* to the genital and pelvic area. Increased blood flow to the genitals from sexual stimulation is what is responsible for the erect penis. In a male, blood flow to the penis is analogous to air pressure in a tire: if there is *not* enough air, thereby causing the tire to be improperly inflated, the tire functions suboptimally.

*Male sexual dysfunction* is a broad term applied to disorders of male sexual function, ranging the gamut from a lack of interest in sex, to the inability to obtain or maintain an erection, to disorders of ejaculation. *Erectile Dysfunction (ED)* is the persistent inability to achieve or maintain an erection sufficient for sexual intercourse.

Every man at one moment or another may experience a *transient or situational* erection problem. This lasts for a brief period of time, after which normal function typically resumes. Situational erection problems may occur because of fatigue, performance anxiety (“stage fright”), stress, a change in occupation, a new baby, too much alcohol consumption, etc. Situational erection problems are often worsened by excessive focus on

the issue, typically creating a self-fulfilling prophecy of failure and further decreasing the likelihood of obtaining a rigid erection.

ED is distinguished from other problems of male sexual function. *Premature ejaculation* is ejaculation occurring shortly after vaginal penetration. Retrograde ejaculation is “dry” ejaculation caused by semen released backwards into the bladder, a common occurrence after prostate surgery and also as a side effect of certain medications. Delayed ejaculation is ejaculation occurring after a prolonged time period following vaginal penetration, a common side effect of medications such as anti-depressants of the selective serotonin reuptake inhibitor class. *Loss of libido* is the loss of sexual desire and interest, often on the basis of low testosterone levels.

*Anorgasmia* is defined as the inability to achieve an orgasm. The physical act of *ejaculation*—the pulsatile expulsion of semen—is distinguished from *orgasm*, the climax of sexual excitement and feelings of intense pleasure.

ED is a highly prevalent problem. In the United States, one third of the male population over age 60 years is unable to achieve an erection suitable for intercourse. Although erectile dysfunction is not an inevitable consequence of the aging process as there are many elderly men who are sexually active on a regular basis, there is an increased prevalence of ED with each decade of life.

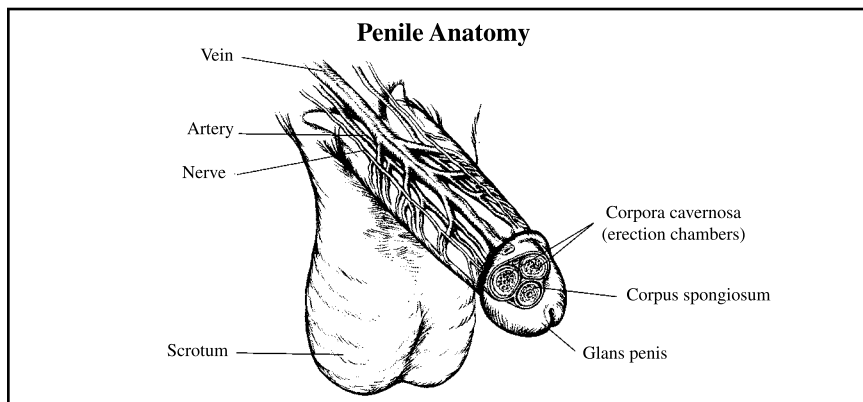
Some of the common sexual changes that occur with aging are diminished sex drive; decreased rigidity and durability of erections; decrease in volume, force, and trajectory of ejaculation; decreased orgasm intensity; and an increase in the refractory time it will take to recover before the ability to get another erection.

ED can be a warning sign that an underlying medical problem exists. The quality of our erections can serve as a barometer of our cardiovascular health. The presence of rigid and durable erections is an indicator of overall cardiovascular health, and conversely, the presence of ED can be a clue to poor cardiovascular health. For this reason, men with ED should consider undergoing a basic medical evaluation seeking arterial disease elsewhere in the body (heart, brain, aorta, and peripheral blood vessels). Since the penile arteries are generally rather small—1 to 2 millimeters in diameter—and the coronary (heart) arteries are about 4 millimeters in diameter, it stands to reason that if vascular disease is affecting the tiny penile arteries, it may well be soon affecting the larger coronary arteries as well. ED may be considered a genital “stress test.”

The presence of ED is as much of a predictor of cardiovascular disease as is

a strong family history of cardiac problems, tobacco smoking, or elevated cholesterol. The British cardiologist Graham Jackson has expanded the initials ED to mean: *Endothelial Dysfunction* (endothelial cells being the type of cells that line the insides of arteries); *Early Detection* (of cardiovascular disease); and *Early Death* (if missed). The bottom line: heart healthy is sexual healthy (and vice versa).

## **Anatomy And Function Of The Penis**



A few words on the embryology of our sex organs (the science of our anatomical development before we are born): You probably never realized that the male and female genitals are remarkably similar. In the first few weeks of existence as an embryo, the external genitals are the same—consisting of a *genital tubercle* (a midline swelling), *urogenital folds* (two vertically-oriented folds of tissue below the genital tubercle), and *labio-scrotal folds* (two vertically-oriented folds outside the urogenital folds). In the *presence* of testosterone (the male sex hormone), the genital tubercle becomes the penile shaft and head; the urogenital folds fuse and become the urethra and part of the penile shaft; and the labio-scrotal folds fuse and become the scrotum. In the female embryo, the *absence* of testosterone causes the genital tubercle to become the clitoris, the urogenital folds to become the inner lips (labia minora), and the labio-scrotal folds to become the outer lips (labia majora). Essentially then, the penis and the clitoris are the same structure, as are the scrotum and outer labia.

The penis has a dual role as a *urinary* organ allowing directed urination that permits men to stand to urinate, and a *sexual* and *reproductive organ* that, when erect, allows the rigid penis the ability to penetrate the vagina and function as a conduit for release of semen into the vagina. No other organ in the body demonstrates such great versatility in terms of the physical

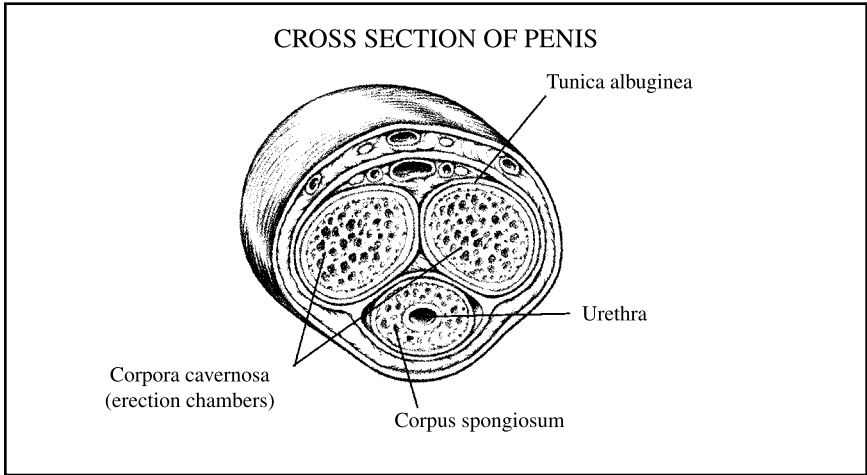
changes between its “inactive” versus “active” states.

The penis consists of three cylinders: the solitary **corpus spongiosum** contains the urethra (the channel that conducts urine from the bladder); the other paired cylinders are called the **corpora cavernosa** (erectile bodies), that are anchored internally to the pubic bone and extend into the **glans** (head of the penis). These corpora cavernosa communicate with each other and are enclosed in a sheath called the **tunica albuginea**. The corpora contain **sinusoids** (spongy tissue) that are endowed with a very rich blood supply. The sinusoids receive blood flow via the **cavernosal arteries** which are branches of the **pudendal arteries**. When the corpora become engorged with blood, an erection results. The seemingly simple process of achieving an erection is actually a highly complex event requiring integrated functioning of the brain, nerves, blood vessels, and hormones.

When the penis is flaccid, there is only minimal arterial inflow, sufficient to maintain the basic nutritional demands of the penis. During this unerect state, the sinusoids are closed while the venules remain open. However, when the cavernosal nerve is stimulated by sexual activity, the smooth muscle of both the **cavernosal arteries** and the corporal bodies relaxes, allowing blood to fill the corpora. Furthermore, the swelling of the corpora obstructs the venous outflow to maintain the erection. The **pudendal nerve** provides the nerve supply to the **ischiocavernosus** and **bulbocavernosus muscles** that enhance penile rigidity, engorgement of the glans, and allow ejaculation and orgasm when these muscles contract rhythmically. So, for an erection to occur, 3 events need to happen—an increase in arterial flow to the corporal bodies, relaxation of smooth muscle, and a decrease in venous outflow.

What is actually happening on a chemical basis when one is involved in a sexually stimulating situation? The control center for erections is the brain, where sensations of sexual arousal are experienced. The brain sends signals to the cavernosal nerves, which are also stimulated by direct sensory contact, such as foreplay or the act of sexual intercourse itself. During such sexual stimulation, the cavernosal nerves release a neurotransmitter, **nitric oxide**, which causes an increase of a chemical messenger known as **cGMP (cyclic guanosine monophosphate)** within the smooth muscle of the corporal bodies. This causes relaxation of the smooth muscle and enlarges the sinusoids, providing the space for the increased blood flow, causing **penile tumescence** or **turgidity** (lengthening and widening of the penis). This engorgement with blood causes compression of the veins directly under the tunica albuginea, trapping the blood within the penis. After ejaculation, an enzyme called **PDE (phosphodiesterase)** is released—this degrades cGMP resulting in a return to the flaccid state by

a reversal of the aforementioned mechanisms. Viagra, Cialis, Levitra, and Stendra work by inhibiting PDE.



## ***The Male Sexual Response***

There are four phases of the male sexual response including **excitement**, **plateau**, **orgasm**, and **resolution**. In the **excitement** phase, penile erection occurs as a result of an arousing sexual situation. Accompanying erection is thickening of the scrotal skin and elevation of the testicles. In the **plateau** phase, there is increasing engorgement of the corpora and the glans, increasing size and elevation of the testicles, and a pre- ejaculatory secretion that may occur at the tip of the penis as a result of discharge from the **bulbo-urethral gland**. **Orgasm** actually consists of three phases: *emission*, in which seminal fluid and sperm from the **epididymis**, **vas deferens**, **seminal vesicles** and **prostate** is deposited into the urethra; *ejaculation*, which is the forcible expulsion of semen from the urethral opening, resulting from contractions of the pelvic floor muscles; and orgasm, which is defined as the intense emotional excitement and climax that accompanies ejaculation, with considerable subjective variation. Finally, in the **resolution** phase, there is loss of erection, the testicles decrease in size and drop down to the bottom position of the scrotum, and the scrotal skin regains its laxity.

# ***Risk Factors For Erectile Dysfunction***

*Aging.* Getting older is one of the major risk factors for erectile dysfunction. Men age 40-50 have about a 40% chance of having some degree of ED and this prevalence increases by about 10% in each succeeding decade. The loss in erectile function is often so gradual that it barely gets noticed at first.

*Atherosclerosis.* Alterations in blood flow, most commonly on the basis of an accumulation of fatty plaque deposits within the walls of arteries, are often associated with the aging process. The resultant compromise in blood flow to our organs negatively affects the functioning of all of our systems, since every cell in our body is dependent upon the vascular system for the delivery of oxygen and nutrients and removal of metabolic waste products. Additionally, with aging there is a loss of elasticity and an increase in stiffness of blood vessels, both of which can affect arterial function.

Pelvic atherosclerosis, the accumulation of fatty plaque within the walls of the blood vessels that bring blood to the penis, will diminish blood flow and will engender ED. Deficient genital blood flow initiates sexual dysfunction; this in turn produces a state of poor oxygen levels in the genital tissues. Poorly oxygenated tissues induce scarring, which further compounds the ED.

*Harmful lifestyle.* Many adults in Western nations are beset with “Civilization Syndrome,” a cluster of health problems that have arisen as a direct result of poor lifestyle choices. These include a sedentary existence, excessive stress, insufficient sleep and substance abuse—of food, alcohol, tobacco, etc. Civilization Syndrome can lead to obesity, high blood pressure, elevated cholesterol, and can result in health issues including ED, diabetes, heart attack, stroke, cancer, and premature death. The diabetic situation in our nation—often referred to as “diabesity”—has become widely prevalent and is one of the leading causes of sexual dysfunction in the United States.

*Obesity.* Carrying too much weight is associated with atherosclerosis. Additionally, obesity can have a negative effect on sex hormone balance (the balance of testosterone and estrogens), further contributing to ED. The fatty tissue present in obese abdomens contains abundant amounts of the enzyme *aromatase*—functioning to convert testosterone to estrogen—literally emasculating us. So obesity can steal away one’s masculinity,

male athletic form and body composition, mojo, strength, and also one of our most precious resources—the ability to obtain and maintain a good quality erection.

*Diabetes.* The prevalence of ED in diabetics is three times that of the general population. ED occurs at an earlier age in diabetics and is related to how long the diabetes has been present. Approximately 10% of diabetics will have ED as the initial manifestation of the disease. Satisfactory sexual functioning is predicated upon good blood flow and an intact nerve supply to the genitals and pelvis. Diabetics often develop sexual problems because of the combination of blood vessel disease and diabetic neuropathy. Diabetes has clearly been linked with testosterone deficiency that can worsen libido and sexual function. Because of the neuropathy, many diabetic males have retrograde ejaculation.

*Hypertension.* High blood pressure can damage the inner wall of arteries, including the penile arteries, causing them to become thicker and less elastic. Additionally, it can give rise to cardiovascular complications, including cardiac disease and kidney failure, which can worsen ED.

*Blood pressure medications.* Although very helpful to prevent the negative effects of hypertension—heart attacks, strokes, etc.—anti-hypertensive medications contribute to ED. As a result of the decreased arterial pressure, there will be less blood flow through the penile arteries.

*High cholesterol.* This contributes to fatty plaque buildup in our arteries, compromising blood flow by narrowing the caliber of our blood vessels.

*Tobacco.* Tobacco constricts blood vessels and impairs blood flow through our arteries, compromising virtually every organ in our body. Tobacco promotes inflammation and decreases the oxygenation of all tissues.

*Alcohol abuse.* In small amounts, alcohol can alleviate anxiety and act as a vasodilator and can actually improve erectile function, but in large amounts it can be a major risk factor for ED.

*Stress.* Stress induces the adrenal glands to release a surge of adrenaline. Adrenaline is a vasoconstrictor that narrows blood vessels and has a negative effect on erections. This is the physiologic explanation for the common occurrence of *performance anxiety*.

*Marital conflict.* It takes two to tango, so marital discord and inter-personal issues can profoundly contribute to ED. The mind-body connection is of immense importance to sexual function.

*Cycling and other “saddle” sports.* Long distance cycling can cause ED by causing pressure damage to the nerves, blood vessels and other vital

structures of the perineum. The same is true of motorcycle, moped, and horseback riding.

*Weakened Pelvic Floor Muscles.* The blood pressure in the penis resulting from the inflow of blood alone, in the absence of a contribution from the pelvic floor muscles, cannot exceed systolic pressure. Without the pelvic floor muscles engaging to compress the roots of the penis sufficiently to increase the blood pressure in the penis to the sky high levels needed for full erectile rigidity, at best one will achieve penile swelling without rigidity. The bottom line is that the pelvic floor muscles play a vital role with respect to achieving penile rigidity and durability of erections.

## ***Causes of Erectile Dysfunction***

### **Psychological Causes**

The brain is our largest and arguably most important sex organ. Think for a moment about performance anxiety. Because of this situational stage fright, the brain initiates a series of biochemical reactions that ultimately doom the perfectly healthy and functional penis. This is the mind-body connection in action.

There are numerous psychological causes of ED including stress, anxiety, depression, guilt, traumatic life events, etc. Clues as to psychological causes of ED are the presence of a psychological process (such as depression, stress, anxiety, breakup of a relationship, death of a loved one, etc.), sudden onset of erectile difficulty, intact early morning and nocturnal erections (but not at other times), and the ability to obtain an erection with masturbation although not with intercourse. Clues that ED is physical in origin are the presence of a disease process or the use of a medication that is known to give rise to ED, gradually deteriorating erections, or the loss of early morning and nocturnal erections. In young men with ED, it is usually the “big head” that is at issue (psychological ED); with older men, it is typically the “little head” (physical ED).

### **Vascular Causes**

An erection requires a substantial increase in penile blood flow. If the cavernosal arteries (the arteries to the corpora cavernosa) are unable to supply sufficient blood flow to the penis, vascular ED will occur.

The presence of generalized atherosclerosis, as evidenced by angina, heart attacks, strokes, and/or claudication (leg and buttock pain that occurs with exercise and is indicative of poor blood flow), points to a great likelihood



of penile arterial involvement as well. Diabetes is well known to promote atherosclerosis. Radiation therapy to the pelvis can cause scarring and damage to the penile circulation, thus resulting in vascular ED. Because cigarettes contain nicotine, which functions to constrict blood vessels, ED commonly occurs on the basis of chronic tobacco use.

In many men, the arterial supply to the penis is intact, but because of venous leakage, a condition in which the corpora cavernosa soften prematurely due to loss of blood through the veins, an erection cannot be sustained for long. The blood simply drains away from the corpora, resulting in flaccidity of the penis and the inability to maintain an erection. Venous leakage is due to the loss and damage of sinusoidal smooth muscle, abnormal deposits of collagen, and a decrease in elasticity such that the sinusoids become stiff and poorly functional. As a result, sufficient sinusoidal relaxation to achieve obstruction of venous outflow cannot occur, resulting in the blood in the sinusoids leaking back into the venous system that drains the penis. It is similar in a sense to hypertension that is due to the loss of smooth muscle within arterial walls that leads to stiff blood vessels. Venous leakage can be a factor with aging, Peyronie's disease (abnormal scarring of the penis—more on this to follow), penile trauma and fractures, and diabetes.

## Neurologic Causes

Normal erectile function requires an intact brain, spinal cord, and peripheral nerve supply to the corpora cavernosa. Any interruption of the nervous system may result in ED, since it is the nerve impulse to the cavernosal arteries that is the trigger for increased penile blood flow. Since erections are a neuro-vascular event, any problem that affects the central or peripheral nervous system, including the cavernous and pudendal nerves, can trigger ED.

Diabetes, aside from causing damage to penile circulation, causes a *neuropathy* (nerve damage) that commonly contributes to ED. Alcohol abuse similarly may give rise to a neuropathy factoring into ED. In fact, any neurological disease process including stroke, multiple sclerosis, Parkinson's disease, spina bifida, or trauma to the brain, spinal cord, or pelvis, etc., may engender ED.

Both pelvic fracture and radiation therapy may impair the nerve supply to the corpora cavernosa, as well as compromise the blood supply. Radical pelvic surgery, most commonly for bladder, prostate, or rectal cancers, may injure or damage the cavernosal nerve supply, resulting in neurogenic ED.

## Endocrine Causes

Low testosterone (T) can contribute to ED as well as a myriad of other maladies. Although usually a problem of the testicles, low T can also be on the basis of a benign pituitary tumor or thyroid disease. 95% of testosterone is manufactured by the testicles and 5% by the adrenal glands. T serves as the “governor” of our libido and the small amounts of T present in females also are a prime source of the female libido.

T is an important male sex hormone that promotes the physical changes that start at the time of puberty including pubic, underarm and facial hair, deepening voice, prominent Adam’s apple and increased bone and muscle mass. Throughout adulthood, testosterone helps maintain libido, masculinity, sexuality, and youthful vigor and vitality. Additionally, T contributes to our mood, bone and muscle strength, red blood cell count, energy, and general mojo.

Healthy men produce 6-8 mg testosterone daily, in a circadian pattern with a peak in early morning hours and a lag in the late afternoon. There is a gradual decline in T that occurs with the aging process—approximately a 1% decline each year after age 30. Although the decrease will occur in most men, not all will be symptomatic. Symptoms of low T may include one or more of the following: fatigue; irritability; decreased cognitive abilities; depression; decreased libido; ED; ejaculatory dysfunction; decreased energy and sense of well-being; loss of muscle and bone mass; increased body fat; and abnormal lipid profile. A simple way to think about the effect of low T is that it accelerates the aging process.

Obesity can have a pivotal role in the process leading to low T. Fat is a metabolically active endocrine organ that produces numerous chemicals including pro-inflammatory factors, hormones and immune cells including *cytokines*. These cytokines function to inhibit T production in the testicles and the release of hormones from the hypothalamus and pituitary that govern the release of T. Low T is present in about half of obese men. Fat has an abundance of the hormone “aromatase,” which converts testosterone to the female hormone estrogen. The consequence of too much conversion of testosterone to estrogen is the potential for feminization, including gynecomastia, aka breast enlargement or man-boobs. Too much estrogen slows T production, and with less T, more abdominal obesity occurs and even more estrogen is made, a vicious cycle of castration and emasculation.

## Medication-Induced Causes

Many prescription medications may have adverse effects on erections. The

most common classes of medication implicated are anti-hypertensives, anti-depressants, and anti-androgens, although many other medication classes can contribute to ED, including peptic ulcer drugs, some cold and allergy medications, and some recreational drugs.

## **Systemic Illness**

Major organ issues including heart, lung, kidney or liver disease may result in ED. The heart functions to pump blood and the lungs oxygenate the blood. Because increased flow of well-oxygenated blood is a prerequisite for an erection, cardiac or pulmonary dysfunction may cause ED. The kidneys and the liver function to remove waste products from the circulation and when these organs do not function properly, ED may occur because of chemical changes and metabolic imbalances resulting from the buildup of toxic waste products.

## **Peyronie's Disease**

Peyronie's is an inflammatory condition of the penis that causes scarring of the sheath surrounding the corpora cavernosa. Scar formation on this sheath of the erectile cylinders can cause pain with erections; penile curvature; the presence of a penile scar or "plaque" that can be felt as a hard lump under the skin; penile shortening; a visual indentation described as an *hour-glass* deformity; and failure of the erectile bodies to properly fill with blood, causing erections of poor rigidity. The plaque most commonly occurs on the top surface of the penis and often involves the septum between the corpora.

Penile pain, curvature, and poor expansion of the erectile cylinders contribute to difficulty in having a functional and anatomically correct rigid erection suitable for intercourse. The curvature can range from a very minor, barely noticeable deviation, to a deformity that requires "acrobatics" to achieve vaginal penetration, to an erection that is so angulated that intercourse is physically impossible. The angulation can occur in any direction and sometimes involves more than one angle, depending on the number, location and extent of the scarring. The angulation results from the scarring of the sheath of the erectile cylinders, which upon engorgement with blood, expand in an asymmetrical fashion.

A nice way of understanding the curvature that results from Peyronie's disease is to think about what would happen if you placed a piece of cellophane tape on a child's balloon and then inflated it. Where the tape (scar) is, the balloon cannot expand properly, resulting in an angulation at that point.

The prevalence of Peyronie's disease is roughly 5% of males, typically presenting in the 50-60 year old population. The underlying cause of Peyronie's is unclear, but is suspected to be penile trauma, perhaps associated with "buckling" injuries from sexual intercourse.

The active phase is characterized by painful erections and an *evolving* scar, curvature and deformity. The *quiescent* phase typically occurs a year or so after the initial onset and is characterized by absence of pain, *stable* deformity, and possible ED. Peyronie's regresses spontaneously in about 15% of men, progresses in 40% of men, and remains stable in 45% of men. Many men—understandably so—become very self-conscious about the appearance of their penis and the limitations it causes, and avoid sex entirely.

Various treatment options include oral medications, topical agents, injections, shock wave therapy, and surgery. Upon initial diagnosis, most men are started on oral Vitamin E, as this has the potential to soften the scar tissue causing the plaque, with the caveat that Vitamin E can cause issues with blood coagulation. The ED that occurs as part of Peyronie's can be managed with one of the oral ED medications. A promising new non-surgical option for treating Peyronie's is Xiaflex (collagenase). It functions as a "chemical knife" capable of dissolving collagen, the main constituent of scar tissue. It is injected directly into the scar tissue after which the area is massaged and modeled to disrupt the scar tissue and mold the penis and may require as many as eight injections.

If there is no response to conservative management of erectile dysfunction, a penile implant may be appropriate—this can manage the dual problems of erectile dysfunction and penile angulation. If erections are adequate, but curvature precludes intercourse, options include procedures that attempt to neutralize the angulation by doing a "nip and tuck" opposite the plaque in an effort to make the penile expansion more symmetrical. Although this "plication and corporoplasty" technique is effective in improving the angulation, it does so at the cost of some penile shortening, and I have yet to find a man who is pleased with the prospect of losing penile length. Other more complex procedures involve incising or removing the scar tissue and using grafting material to replace the tissue defect.

## Priapism

A rock-hard erection is a good thing, truly an ingenious design and feat of nature. However, when the system fails and an erection does not regress, it is not such a good thing—and in fact can negatively impact one's sexual future. This condition is known as *priapism*—an unwanted, persistent,

painful erection that is not on the basis of sexual stimulation. Although priapism is an uncommon medical disorder, it is important to know about it because of its potential risk of damage to the penis. The word priapism is derived from the Greek and Roman mythological God of fertility named Priapus. He is commonly portrayed in classical artwork as having disproportionally large genitals.

Priapism can occur at any age, ranging from the pediatric to the geriatric population. When it occurs in children, it is most commonly on the basis of sickle cell disease. Although many cases of priapism in both adults and children have no clear-cut underlying cause, possibilities include the following: leukemia; use of certain medications; dialysis; neurological infections; herniated discs; spinal cord stenosis; anesthesia; genitourinary cancer; and penile or perineal trauma. Certain medications—particularly the vasoactive agents injected into the penis as a treatment for erectile dysfunction that has not responded to the commonly used oral medications—are often implicated in causing priapism.

Broadly speaking, priapism can be divided into two types, *ischemic priapism* and *non-ischemic priapism*. Ischemic refers to compromised blood flow. Ischemic priapism is also called *veno-occlusive* or *low-flow* priapism and is marked by minimal fresh blood flow within the corpora of the penis, the corpora containing old, clotted blood. Ischemic priapism is painful because of the lack of fresh, oxygenated blood flow to the penis. Ischemic priapism can ultimately cause tissue necrosis (death) and fibrosis (scarring), damaging the erectile tissue such that ED will result. Generally, if an episode of ischemic priapism persists for more than 4 hours, functional damage to the erectile tissue of the penis will occur.

Priapism is very similar to other “compartment syndromes” in which there is high-pressure in a closed body space with metabolic changes and tissue damage. Compartment syndromes are emergency situations that most commonly occur after trauma to the limbs such that the increased pressure within the arm or leg compartment compromises blood flow to the muscles.

Non-ischemic priapism is usually on the basis of trauma to the penis or the perineum, the anatomical section of the body located between the scrotum and the anus. A common scenario underlying non-ischemic priapism is a *straddle injury* resulting from the perineum striking a blunt object such as a fence or the top tube on a bicycle. Non-ischemic priapism generally is not painful. As a result of the trauma to blood vessels, an abnormal connection occurs between the artery to the corpora and the spongy tissue within the corpora. This abnormal connection promotes increased blood

flow and unregulated blood filling of the corpora. Non-ischemic priapism is also called *arterial* or *high-flow* priapism.

An important diagnostic study is putting a needle into the corpora cavernosum of the penis and drawing out blood and submitting it for blood gas testing. In ischemic priapism, the blood is typically dark and sludge-like and very low in oxygen content as opposed to patients with non-ischemic priapism who have well-oxygenated, bright red blood.

Ischemic priapism is treated by decompressing the corpora, which is done by evacuating blood from the corpora and then irrigating them to try to release the clotted blood. Additionally, it is often helpful to inject a vasoconstrictor agent (medication that constricts blood vessels), while monitoring blood pressure and cardiac rhythm, since vasoconstrictors can elevate blood pressure and pulse. If the ischemic priapism has occurred over an extended duration, it is unlikely to resolve with such local treatment and *surgical shunting* will likely be necessary. A surgical shunt is a means of trying to facilitate blood drainage from the corpora to another anatomical structure.

Initial management of non-ischemic priapism is observation. If the priapism fails to resolve, the next step is *selective arterial embolization* (blocking the abnormal connection by injecting a clotting substance into the injured blood vessel), a procedure done in interventional radiology.

## Penile Trauma

*Penile trauma* can occur from a myriad of different causes including accidents, pelvic crush injuries, sports trauma, or traumatic sexual activity.

A penile fracture is a rare but dramatic occurrence in which the sheath surrounding the corpora of the penis ruptures under the force of a strong blow to the erect penis. Even though there is no bone in the human penis, the term *fracture* is an appropriate term for the injury, because the sheath ruptures, resulting in a break of the integrity of the corpora. A fracture of the penis is an emergency and prompt surgical repair is necessary to obtain satisfactory cosmetic and functional results.

Anatomy of the corpora and sheath can be understood in terms of a car tire, with the rubber representing the sheath and the air filled interior representing the corpora cavernosa. A penile fracture is not unlike the tire of a car being driven forcibly into a curb, resulting in a gash in the tread, and leakage of air through the gash.

Blunt traumatic injuries rarely occur to the flaccid penis by virtue of its mobility. Blunt trauma to the penis is typically of concern only when the

penis is in an erect state, at which time there is peak tension and stretch on the sheath. A penile fracture occurs when this outer tunic—already under internal stretch and tension by virtue of the expansion of the corpora and the great pressure within the corpora—is further subjected to external blunt trauma. Fracture can also occur under the circumstance of rolling over or falling onto the erect penis as well as any other situation that could inflict damage to the erect penis, such as walking into a wall in a poorly illuminated room or very forcible masturbation.

The most common scenario for a penile fracture is a forcible misstroke in which the erect penis crashes into the female perineum, causing the penis to buckle and the sheath that houses the corpora to rupture. A penile fracture typically causes a classic and dramatic clinical sequence of events. An audible popping sound occurs as the sheath ruptures, followed by acute pain, rapid loss of the erection, and purplish discoloration and extreme swelling of the penis, as the blood within the corpora escapes through the rupture site into the superficial soft tissues of the penis, similar to a blow-out of a car tire.

MRI (magnetic resonance imaging) can be used to demonstrate the precise site, extent and anatomy of the penile fracture. Penile fractures need to be promptly treated in the operating room, as surgical repair of the injury is important in order to maintain erectile function and minimize scarring of the erectile cylinders that could result in penile angulation. Essentially, the skin of the penis is temporarily de-gloved (peeled back like a banana skin) and the fracture is identified and repaired with sutures, after which the skin is reattached.

If allowed to heal on its own without surgical intervention, scarring will occur at the site of the fracture and many patients will develop a penile curvature with erections. As a result of the scar tissue, when an erection occurs, there is asymmetrical expansion of the corpora—essentially Peyronie’s disease—resulting in a penile bend or deviation that can make sexual intercourse difficult, if not impossible.

## **Cycling and Other Saddle Sports**

Bicycle riding, as well as any other activity that places prolonged pressure on the “saddle” of our body including motorcycle, moped, and horseback riding, are potential causes of ED and should probably be listed under the *penile trauma* heading, although the damage is indirect. When cycling, intense pressure is applied to the perineum, which is the area of the body that can be considered to be “the heart” of the blood and nerve supply to the penis.

Prolonged pressure on the perineum can “shock” the blood vessels and nerves that course through the perineum on their way to the penis, thus contributing to ED. Additionally, sitting on one’s perineum for prolonged time intervals can traumatize the pelvic floor muscles, particularly the bulbocavernosus and ischiocavernosus muscles. Additionally, as with many forms of exercise, there is a “steal” of blood flow from non-essential areas such as the genitals to the muscles that are being utilized for the sport—in the case of cycling, the lower extremities being responsible for most of the work. Between the compromised arteries and nerves, the direct effect of the pressure on the pelvic floor muscles, and the steal, there is a perfect storm for ED. It does not help the situation that many cyclists are extraordinarily lean and their paucity of body fat—specifically their bony derrieres—do not afford the padding and insulation that could potentially offer some relief from the saddle pressure.

Cycling-engendered ED is a complex issue with multiple factors involved including the specifics of the geometry and hardness of the saddle, the anatomical variations of the individual, the amount of time spent in the saddle, the weight of the cyclist, the intensity of the cycling effort, and the particular style of sitting, which is nuanced and variable. The ED that may occur after a prolonged ride is typically temporary, but can potentially become permanent if the perineum is continually subjected to such trauma.

The first clue that trouble is lurking is genital numbness and tingling, signs to shift positions and perhaps assume a standing posture on the pedals to allow the symptoms to subside. It is important to recognize the numbness and tingling and manage it immediately and not ignore it or defer dealing with it. Frequent subtle adjustments by shifting and shimmying and making an effort to sit on the ischial tuberosities (sit bones) are important. Other measures a cyclist can take to try to avoid trouble in this department include having high quality, well-padded cycling shorts, as well as investing in a well-fitted saddle tailored to the specifics of one’s anatomy. Saddles with central cutouts can substantially reduce perineal pressure. The saddle needs to be carefully adjusted and fine-tuned in terms of height and angulation to minimize perineal pressure. Finally, using pelvic floor exercises to breathe some life back into the perineum and pelvic floor muscles can be an effective means of helping minimize the perineal trauma induced by cycling.



# **Evaluation Of Erectile Dysfunction**

An accurate diagnosis of the root cause of ED can virtually always be achieved. For most men, a history and physical examination and a simple laboratory test or two will suffice, including testosterone, fasting glucose and lipid profile.

A tailored physical examination generally includes the following: observation of body type and male secondary sexual characteristics; exam of the testicles to evaluate their size and consistency; palpation of the penis for scar tissue; a digital rectal examination to check anal sphincter tone and the prostate; and examination of the peripheral pulses for intact blood flow.

On occasion, sophisticated tests need to be utilized to further clarify the specifics of the ED. These include *nocturnal penile tumescence testing* (a test of penile rigidity performed while sleeping); *injection of a vasodilator medication* into the corpora and observation of the effect; *duplex ultrasound of the penis* (a sonogram of the penis and its blood vessels); *arteriography* (studying the arterial supply to the penis using dye and x-ray imaging); and *cavernosometry/cavernosography* (measuring the pressures and anatomy of the corpora cavernosa, using dye and x-ray imaging).

## **Management of Erectile Dysfunction**

*Lifestyle Remake.* A healthy lifestyle is of paramount importance in terms of optimizing quality and quantity of life. The initial approach to treating many health problems is a lifestyle “angioplasty.” Intelligent lifestyle choices include the following: good eating habits; maintaining a healthy weight; engaging in exercise; obtaining adequate sleep; consuming alcohol in moderation; avoiding tobacco; and stress reduction.

Since ED is in the category of an issue that is often brought on by unwise lifestyle choices, it should come as no surprise that the first line approach to managing it is to improve one’s lifestyle. By simply tweaking one’s daily habits in a positive way, sexual issues can be improved or even prevented.

In terms of maintaining good cardiovascular health—and thus healthy sexual function—smart nutritional choices are a key component, obviously in conjunction with other intelligent lifestyle choices. Maintaining a healthy weight and fueling with nutritionally wholesome and natural foods will

help prevent the build-up of harmful plaque deposits within blood vessels that can lead to compromised blood flow to the penis as well as every other organ. Poor dietary choices with calorie-laden, nutritionally-empty selections (e.g., fast, processed, or refined foods), puts you on the fast track to clogged arteries that can make your sexual function as small as your belly is big. Exercise is an equally essential component of maintaining good sexual health and harmonizes well with healthy eating. The “golden rule” is relevant to our penis: Be nice to your penis (in terms of healthy lifestyle) and it will be nice to you; treat your penis poorly and it will rebel.

*Pelvic Floor Muscle (PFM) Exercises.* When the pelvic floor muscles contract, they increase blood flow to the genitals, specifically by the actions of the two superficial *pelvic floor muscles*—the *bulbocavernosus (BC)* and *ischiocavernosus (IC)* muscles that become engaged at the time of erectile rigidity. Contractions of these PFM prevent the exit of blood from the penis, enhancing penile rigidity. With each pulsatile contraction of the BC and IC muscles, a surge of blood flows into the penis. Additionally, these muscles act as powerful struts to support the roots of the penis, the foundational support that when robust, will allow a more “skyward” angling erection. It stands to reason that if you can increase the strength, tone and conditioning of these muscles, they will function in an enhanced manner—namely more powerful contractions, and more penile rigidity and stamina. PFM exercises can serve as a potent tool to help reignite your erectile function.

The PelvicRx Pelvic Floor Muscle Training Program ([www.PelvicRx.com](http://www.PelvicRx.com)) is a comprehensive, interactive, follow-along exercise program that strengthens the muscles that support sexual and urinary health. The program was created by a team of urologists led by myself, physiotherapists and sexual health educators.

Dr. Arnold Kegel popularized PFM exercises in order to improve female sexual and urinary health after childbirth; his legacy lives on with the exercises that bear his name—Kegel exercises. Men have essentially the same pelvic floor muscles that women do and an equivalent capacity for exercising them, with parallel benefits to urinary and sexual health, and the PelvicRx builds upon the foundational work of Dr. Kegel.

Safe, easy-to-use, medically sanctioned and FDA registered, the PelvicRx’s exercise routines strengthen the PFMs, which adapt to the stresses and resistances placed upon them, as do all muscles. Stronger PFMs result in more rigid and durable erections, more robust ejaculation and improved ejaculatory control and a positive impact on stress urinary incontinence, overactive bladder, and post-void dribbling.

The PelvicRx offers two unique exercise programs on DVD –“Basic Training” and “Complete Training.” The Basic Training program strengthens the pelvic floor muscles with a series of progressive “Kegel” exercises for men. The patented Complete Training program provides maximum opportunity for gains through its use of resistance equipment.

*Vibrational Stimulation.* Viberect, made by Reflexonic, is an FDA-certified hand-held penile vibratory stimulation device useful for triggering erection and ejaculation. It provides simultaneous stimulation of the genital nerves at both the dorsal (top) and ventral (bottom) surfaces of the penis. Penile vibratory stimulation stimulates the reflex between the penis and the spinal cord (pudendal-cavernosal reflex), resulting in tumescence (gradual filling of the penis with arterial blood). Penile vibratory stimulation of the head of the penis also contributes to erectile rigidity via inducing rhythmic contractions of the ischiocavernosus and bulbocavernosus via the bulbocavernosus reflex. By enhancing the bulbocavernosus reflex and triggering neural activity in the brain, spinal cord and peripheral nerves, vibratory stimulation provokes erection and ultimately, ejaculation.

*Psychological Counseling.* If ED is deemed to be on a psychological basis, referral to a qualified psychiatrist, psychologist, or sexual counselor may be warranted.

*Hormone Replacement.* If the testosterone level is found to be low, a trial of replacement testosterone may be indicated. There are a variety of different means of testosterone replacement therapy (TRT). Oral replacement is generally not used because of erratic absorption and liver toxicity. Injections are typically not the first-line means of TRT because of wide fluctuations in testosterone levels and injection site reactions. There are a number of testosterone gel formulations that are commonly used. There are also skin patches, pellets that are injected into the fatty tissue of the buttocks, and a formulation that is placed in the inner cheek or gum.

Men on replacement T need to be carefully followed to ensure that the TRT is effective, adverse effects are minimal, and blood levels are in-range. Periodic digital rectal exams are important to check the prostate for enlargement and irregularities, and, in addition to testosterone levels, other blood tests are obtained including a complete blood count and PSA (Prostate Specific Antigen). One of the problems with TRT is that the external source of T will turn off whatever natural production of T is being made by the testes as well as inhibiting the production of sperm. Long term TRT may thus result in smaller, poorly functioning testes. Clomid (Clomiphene) is an alternative means of boosting T levels without using external T and works by stimulating the testes to make natural T. It has

been FDA approved for infertility issues in both sexes.

*Modification or Elimination of Medications.* If ED has been caused by a new medication (often a blood pressure pill), it may be prudent to check if an alternative medication that has less of an adverse effect on erections can be tried. Stopping tobacco will eliminate high levels of nicotine that can cause ED. If ED is due to excessive alcohol consumption, moderation or elimination of alcohol intake can certainly be beneficial.

*PDE5 inhibitors: Viagra, Levitra, Cialis, Stendra.*

Viagra (Sildenafil). Viagra is available in three doses: 25 mg, 50 mg, and 100 mg. It is taken on demand and once swallowed, it will produce an erection in most men within 30-60 minutes *if they are sexually stimulated*, and will remain active for up to 8 hours. Like other medications of its class, it should never be used by men who are taking nitrates of any kind, including nitroglycerin, nitrostat, nitro patches, isordil, isorbide, imdur, etc. If taken with drugs containing nitrates, serious consequences may result including a precipitous drop in blood pressure, causing dizziness, faintness, or even a heart attack or stroke.

The most common side effects of Viagra are headache, facial flushing, upset stomach, and nasal stuffiness. Less common side effects that may occur are temporary changes in color vision, sensitivity to light, and blurry vision.

Levitra (Vardenafil). This is an oral medication similar to Viagra, available in 5 mg, 10mg, and 20mg doses. The effectiveness and side effect profile is similar to Viagra.

Cialis (Tadalafil). This is an oral medication similar to Viagra, available in 2.5, 5 mg, 10mg, and 20mg doses. The effectiveness and side effect profile is similar to Viagra. It has duration of action of approximately 36 hours that has earned it the nickname of “the weekender” as it can be taken on Friday evening and remain effective for the remainder of the weekend without the need for an additional dose. This affords a considerable advantage in terms of spontaneity. In 2012, daily lower doses of Cialis were FDA approved for the management of urinary symptoms due to benign prostate enlargement.

Stendra (Avanafil). This is an oral medication similar to Viagra, available in 50 mg, 100 mg and 200 mg doses. It has the advantage of a very rapid onset of action.

*Penile Injections.* Injections of vasodilators into the corpora bypass the psychological, neurological, and hormonal influences and act locally. This can be effective in psychological, neurological, and hormonal causes of

ED as well as men with a slight degree of vascular disease. *Prostaglandin E1* is a vasodilator that results in increased blood flow to the corpora and sinusoidal relaxation and hence an erection. After a patient learns the technique of injection, the medication can be used on demand. Side effects can be pain, bruising, scarring and prolonged erections. A combination of medications can be used for optimal results; this combination is known as *Trimix* and consists of *Papaverine*, *Phentolamine*, and *Alprostadil*.

*Urethral Suppositories. M.U.S.E. (Medicated Urethral System for Erection)* is a prostaglandin-containing pellet that is inserted into the urethra by means of an applicator. It is available in 125, 250, 500, and 1000 microgram dosages.

*Constriction Device.* For many patients with a venous leak, the simplest treatment is a device placed around the base of the penis to reduce blood outflow. This adjustable device is designed to slow blood flowing out of the penis, thus allowing the penis to stay erect.

*Vacuum Device.* This is a mechanical means of producing an erection. The penis is placed in a plastic cylinder that is connected to a vacuum generating source, either manual or battery-powered. This engorges the penis because of the negative pressure created. A constriction ring placed around the penile base maintains the erection. This method does not cause rigidity of the root of the penis and therefore results in a “pivoting” erection because of instability. The penile skin can become cool and dusky because of the constriction ring, which can be uncomfortable and impede ejaculation.

*Arterial Revascularization* (surgical bypass of a blocked artery). In older men with atherosclerosis and narrowed or blocked arteries, this has not met with much success because of the generalized nature of the process, which is often present diffusely throughout the body. It is best reserved for younger men with arterial insufficiency as a result of pelvic trauma.

*Penile Implants.* An inflatable penile prosthesis is a self-contained hydraulic system made of synthetic material. There are four parts: two penile cylinders, a pump, and a reservoir. Each component is connected together by silicone tubing. The implant is surgically placed through a small incision. The cylinders are placed within the corpora cavernosa, the control pump is positioned in the scrotum, and the reservoir behind the pubic bone. It is entirely concealed within the body. The penile implant is designed to closely mimic the characteristics of a normal erection. Instead of the heart pumping blood into the penis, the scrotal pump, when squeezed repeatedly, transfers fluid from the reservoir into the penile cylinders. As

the cylinders fill, an erection develops that can be maintained for as long as desired. After the completion of sexual intercourse, by activating a release bar on the control pump, the fluid in the cylinders will return to the reservoir where it is again stored, restoring the penis to its flaccid state.

## ***Other Problems Of Male Sexual Dysfunction***

### **Ejaculation Issues**

***Premature ejaculation.*** Premature ejaculation (PE) is defined as ejaculation with minimal sexual stimulation with climax occurring before, upon, or shortly after vaginal penetration, prior to one's desire to do so, over which the sufferer has little voluntary control. PE typically causes the sufferer and partner extreme bother and distress. The cardinal three features of PE are a brief period of time to ejaculation, lack of control over ejaculation, and sexual dissatisfaction and distress. The time between penetration and ejaculation is highly variable among men and is often inconsistent in an individual, but the normal range is typically within 2-10 minutes.

In a study of over 1500 men, The Journal of Sexual Medicine reported that the average IELT (intra-vaginal ejaculatory latency time—the time between penetration and ejaculation) for a premature ejaculator was 1.8 minutes, compared to 7.3 minutes for non-premature ejaculators.

The basis of PE can be psychological and/or biological and can occur for a number of reasons including hyper-excitability reflexes, hypersensitivity of the penis, extreme arousal, infrequent sexual activity and the use of alcohol or other substances. Other factors are genetics, limited control of ejaculation, guilt, fear, performance anxiety, and weakened pelvic floor muscles.

PE is a very prevalent sexual dysfunction, occurring in up to 30% of men, involving all ages, ethnicities, and socio-economic groups. PE can be a devastating issue, causing embarrassment, frustration and loss of self-confidence and negatively affecting one's relationship with his partner. PE is very common among young men during their earliest sexual experiences.

PE can be classified as either primary (lifelong) or secondary (acquired). Primary PE applies to men who have had the problem since becoming sexually active and is thought to have a strong biological component. Psychological or situational stressors may contribute to secondary PE, but it is also associated with ED and genital-urinary inflammatory processes such as prostatitis and urethritis.

Emphasis on ejaculation as the focal point of sexual intercourse tends to worsen the performance anxiety that can initiate the problem. Once PE has occurred and established itself as a problem, fear of and mental preoccupation with the issue can actually induce the unwanted ejaculation, creating an unfortunate vicious cycle.

Treatment to overcome PE consists of behavior modification techniques, physical and pharmacological interventions, and sexual counseling. One method of attempting to prolong the time to ejaculation is to employ mental diversionary tactics. “De-erotization” by concentrating on thoughts other than ejaculating in order to prevent doing so can occasionally be helpful. Baseball, work, counting backwards, etc., are examples of such thoughts. Unfortunately, these are rarely effective and diminish the pleasure of sexual activity and intimacy.

The *stop-start* method requires one to develop an enhanced awareness of the feelings and sensations in the time immediately preceding ejaculation. This will enable accurately predicting when ejaculation will occur. Recognizing imminent ejaculation will allow one to gain control before the occurrence of the “point of no return.” By slowing the pace of pelvic thrusting and varying the angle and depth of penetration before this critical time is reached, the feeling of imminent ejaculation may dissipate. If slowing the tempo is not sufficient to prevent the PE, one may need to use the *stop-pause* method by stopping thrusting completely while maintaining penetration in order for the ejaculatory “urgency” to go away. Once the sensation to ejaculate subsides, pelvic thrusting may be resumed. Another option is the *squeeze technique* originated by Masters and Johnson. This involves recognition of imminent ejaculation and withdrawing and squeezing the penis until the sensation subsides, thus arresting the ejaculation and allowing resumption of intercourse.

Pelvic floor muscle exercises can be an effective means of helping alleviate PE. A pelvic muscle contraction can be a great alternative to the squeeze technique. The problem with the squeeze technique is that, although effective, it requires an interruption of intercourse and a rather cumbersome scenario that follows.

So instead of the clunky and obvious squeeze technique, a more subtle and discreet alternative is to slow the pace of intercourse, pause the pelvic thrusting and do a pelvic muscle contraction—not a pulsating quality contraction as occurs with ejaculation, but a sustained contraction. This, in essence, is a “squeeze” without the hand squeeze, and can obtain the same goal, stifling the forthcoming ejaculation so that intercourse can be resumed and a “reset” can be achieved. If need be, this process can be

repeated several times during the act of intercourse. With sufficient practice and the achievement of “muscle memory,” this process can become easier and the problem of PE improved.

Decreasing penile sensitivity can be helpful in the management of PE. One means of doing so is the use of thick condoms. Another means of decreasing sensitivity is the use of local anesthetics in the form of topical creams, gels or sprays that desensitize the penis. These include *Lidocaine cream or gel*, *Lidocaine and Prilocaine (EMLA cream)* or *Lidocaine spray (Promescent)* that are applied prior to intercourse. One needs to be careful about penile numbness and vaginal absorption resulting in vaginal numbness. Another desensitization technique is increasing the frequency of ejaculation since PE tends to be more pronounced after prolonged periods of sexual abstinence. By masturbating prior to engaging in sexual intercourse, the ejaculatory latency period can be increased. The PDE5 inhibitors (Viagra, Levitra, Cialis, and Stendra) that are commonly used for ED may have a role in the treatment of PE in men with acquired PE secondary to ED.

Anti-depressants of the *S.S.R.I. class (selective serotonin reuptake inhibitors)* can substantially delay ejaculation. These medications can have undesirable side effects such as decreased libido, ED, fatigue, yawning, insomnia, headache, nausea, diarrhea, sweating and dry mouth. One is generally started on a low dose with an increase in dosage as necessary. Once an effective dosage is achieved, the medication can be used on a situational basis, several hours prior to sexual intercourse. The most commonly used medications are: Anafranil (Clomipramine) 25-50mg; Paxil (Paroxetine) 20-40mg; Zoloft (Sertraline) 25-100mg; and Prozac (Fluoxetine) 5-60mg. A new medication, Dapoxetine (30/60mg), is currently in investigational trials.

Since many cases of PE have an underlying psychological basis, it may be beneficial to seek the aid of a sexual therapist who can help manage the problem with counseling sessions. This can be done in conjunction with some of the other aforementioned techniques in order to bring about a quicker resolution.

***Retrograde ejaculation.*** This is a “dry” ejaculation in which there is a sensation of ejaculation but there is no seminal fluid released. It is caused by a failure of ejaculation to occur in an *antegrade* (outward) direction, with semen being released in retrograde (backward) direction into the bladder. Semen may be evident in the urine when voiding after sexual activity.



This is a not uncommon occurrence after surgery for benign prostate enlargement, which can render the bladder neck incompetent and thus the path of least resistance for semen is into the bladder. This is also a side effect of certain medications, including medications that relax the prostate and bladder neck. Retrograde ejaculation can also occur on a neurological basis in diabetics, patients with multiple sclerosis, and those who have had certain abdominal operations that interfere with the nerves that are involved with emission and ejaculation. Spinal cord injury is a common cause of failure of emission.

***Delayed ejaculation.*** Delayed ejaculation (DE) is a condition in which ejaculation occurs only after a prolonged time period following vaginal penetration. Some men are unable to achieve a climax at all, despite having a rigid and durable erection. It is a not uncommon side effect of medications such as anti-depressants of the selective serotonin reuptake inhibitor class.

DE can be very problematic for both the delayed ejaculator and his partner, resulting in frustration, exhaustion, soreness and pain. The partner often feels distress, inadequacy and responsibility because of the possible implication that the problem is hers and that the delayed ejaculator does not consider her sufficiently attractive to be able to reach a climax. The combination of not being able to achieve sexual “closure,” the inability to enjoy the mutual intimacy of vaginal ejaculation, and denying the partner the gratification that she is capable of bring her man to climax is a formula for significant stress in a relationship.

Interestingly, some men with this condition can ejaculate in an appropriate amount of time with masturbation, but are unable to do so with intercourse. Some men can ejaculate in a normal range of time with manual or oral stimulation from their partner although they cannot do so with intercourse. It is plausible that one’s masturbation technique can provide much more sensory stimulation than sex with a partner. The amount of sensory stimulation derived from intercourse is predicated on partner skill, anatomy, pelvic floor tone, the quality of the “fit” and many other elements. In addition to physical aspects, there are numerous psychological factors as well.

As with so many sexual dysfunctions, excessive focus on the problem instead of allowing oneself to be “in the moment” can become a self-fulfilling prophecy, as the brain and the mind-body connection are of immense importance in the sexual domain. One possible solution is to avoid ejaculation for a number of days prior to intercourse, the same line of reasoning used for managing premature ejaculation by masturbating

immediately before intercourse. There are no effective medications available to treat this disorder as there are for premature ejaculation. Sexual counseling can be of benefit.

**Anorgasmia.** Anorgasmia is defined as the inability to achieve an orgasm, a much more prevalent problem in females than males. Orgasm needs to be distinguished from ejaculation. The physical act of *ejaculation*—the expulsion of semen—is differentiated from *orgasm*, the climax of sexual excitement and feelings of intense pleasure. It is possible to ejaculate and thus release semen from the urethra without experiencing the intense emotional pleasure of an orgasm that is typically associated with the act of ejaculation. Likewise, it is possible to experience an orgasm in the absence of ejaculation, typical in a man after a radical prostatectomy who has had the prostate and seminal vesicles removed and experiences a “dry” orgasm. Anorgasmia often occurs on a psychological basis, but it may be present for biological reasons.

## ***Concluding Words***

Despite the prevalence of male sexual dysfunction, it is widely under-diagnosed and under-reported. Two reasons are that many practitioners remain uneducated about this condition and individuals are often too ashamed or embarrassed to seek professional help. It is important to stress, however, that sexual dysfunction is a treatable condition and that in the past few years, great strides have been made with respect to the diagnosis and management of this disabling problem. The urologists at Bergen Urological Associates and NJ Center for Prostate Cancer and Urology approach this delicate subject with sensitivity and compassion, and have significant expertise in the behavioral, pharmacological and surgical treatments of this condition.

# ***International Index of Erectile Function (IIEF) Questionnaire\****

Name: \_\_\_\_\_

Date: \_\_\_\_\_

***Write the number that best describes your erectile function for the past 4 weeks in the spaces provided.***

***Over the past four weeks:***

**1. How often were you able to get an erection during sexual activity? \_\_\_\_\_**

0 = No sexual activity

1 = Almost never/never

2 = A few times (much less than half the time)

3 = Sometimes (about half the time)

4 = Most times (much more than half the time)

5 = Almost always/always

**2. When you had erections with sexual stimulation, how often were your erections hard enough for penetration? \_\_\_\_\_**

0 = No sexual activity

1 = Almost never/never

2 = A few times (much less than half the time)

3 = Sometimes (about half the time)

4 = Most times (much more than half the time)

5 = Almost always/always

**3. When you attempted sexual intercourse, how often were you able to penetrate (enter) your partner? \_\_\_\_\_**

0 = Did not attempt intercourse

1 = Almost never/never

2 = A few times (much less than half the time)

3 = Sometimes (about half the time)

4 = Most times (much more than half the time)

5 = Almost always/always

- 4. During intercourse, how often were you able to maintain your erection after you had penetrated (entered) your partner? \_\_\_\_\_**  
0 = Did not attempt intercourse  
1 = Almost never/never  
2 = A few times (much less than half the time)  
3 = Sometimes (about half the time)  
4 = Most times (much more than half the time)  
5 = Almost always/always
- 5. During sexual intercourse, how difficult was it to maintain your erection to completion of intercourse? \_\_\_\_\_**  
0 = Did not attempt intercourse  
1 = Extremely difficult  
2 = Very difficult  
3 = Difficult  
4 = Slightly difficult  
5 = Not difficult
- 6. How many times have you attempted sexual intercourse? \_\_\_\_\_**  
0 = No attempts  
1 = One to two attempts  
2 = Three to four attempts  
3 = Five to six attempts  
4 = Seven to ten attempts  
5 = Eleven or more attempts
- 7. When you attempted sexual intercourse, how often was it satisfactory for you? \_\_\_\_\_**  
0 = Did not attempt intercourse  
1 = Almost never/never  
2 = A few times (much less than half the time)  
3 = Sometimes (about half the time)  
4 = Most times (much more than half the time)  
5 = Almost always/always

**8. How much have you enjoyed sexual intercourse? \_\_\_\_\_**

- 0 = No intercourse
- 1 = No enjoyment
- 2 = Not very enjoyable
- 3 = Fairly enjoyable
- 4 = Highly enjoyable
- 5 = Very highly enjoyable

**9. When you had sexual stimulation or intercourse, how often did you ejaculate? \_\_\_\_\_**

- 0 = No sexual stimulation/intercourse
- 1 = Almost never/never
- 2 = A few times (much less than half the time)
- 3 = Sometimes (about half the time)
- 4 = Most times (much more than half the time)
- 5 = Almost always/always

**10. When you had sexual stimulation or intercourse, how often did you have the feeling of orgasm or climax? \_\_\_\_\_**

- 0 = No sexual stimulation/intercourse
- 1 = Almost never/never
- 2 = A few times (much less than half the time)
- 3 = Sometimes (about half the time)
- 4 = Most times (much more than half the time)
- 5 = Almost always/always

**11. How often have you felt sexual desire? \_\_\_\_\_**

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

**12. How would you rate your sexual desire? \_\_\_\_\_**

- 1 = Very low/none at all
- 2 = Low
- 3 = Moderate
- 4 = High
- 5 = Very high

**13. How satisfied have you been with your overall sex life? \_\_\_\_\_**

1 = Very dissatisfied

2 = Moderately dissatisfied

3 = About equally satisfied and dissatisfied

4 = Moderately satisfied

5 = Very satisfied

**14. How satisfied have you been with your sexual relationship with your partner? \_\_\_\_\_**

1 = Very dissatisfied

2 = Moderately dissatisfied

3 = About equally satisfied and dissatisfied

4 = Moderately satisfied

5 = Very satisfied

**15. How would you rate your confidence that you could get and keep an erection? \_\_\_\_\_**

1 = Very low

2 = Low

3 = Moderate

4 = High

5 = Very high

# About the Author

Dr. Andrew Siegel earned a medical degree from the Chicago Medical School, Chicago, Illinois, where he was elected to the Alpha Omega Alpha Honor Medical Society.

He completed a two-year residency in general surgery at the North Shore University Hospital, Manhasset, New York, an affiliate of Cornell University School of Medicine. Dr. Siegel then went on to undertake residency training in urology at the University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania. Dr. Siegel completed a fellowship in voiding dysfunction, urodynamics, reconstructive and female urology at the UCLA School of Medicine, Los Angeles, California, under the direction of Dr. Shlomo Raz, prior to joining Bergen Urological Associates.

Dr. Siegel is a diplomate of the American Board of Urology and the National Board of Medical Examiners and is board certified in both Urology and Female Pelvic Medicine & Reconstruction Surgery. He is a member of the American Urological Association, the American Uro-Gynecological Society, the International Continence Society, the Society for Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction, and the Sexual Medical Society of North America.

Dr. Siegel has authored chapters in urology textbooks including *Current Operative Urology and Interstitial Cystitis*, and has published articles in numerous professional journals including *Urology*, *Journal of Urology*, *Urology Clinics of North America*, *Postgraduate Medicine*, *Neuro-Urology and Urodynamics*, and *International Urogynecology Journal*. He has presented papers at professional meetings for many medical societies including the Philadelphia Urological Society, the American Academy of Pediatrics, the American Urological Association, and the American College of Surgeons.

He is a urological surgeon at Hackensack University Medical Center and a Clinical Assistant Professor of Urology at Rutgers New Jersey Medical School. He is a *2016 Castle Connolly Top Doctor: N.Y. Metro Area* and *Inside Jersey Top Doctor for Women's Health*.

Dr. Siegel has authored the books: *Finding Your Own Fountain of Youth – The Essential Guide to Maximizing Health, Wellness, Fitness & Longevity*; *Promiscuous Eating: Understanding and Ending Our Self-Destructive Relationship With Food*; *Male Pelvic Fitness: Optimizing Sexual and Urinary Health*; and *The Kegel Fix: Recharging Female Pelvic, Sexual and Urinary Health*.

