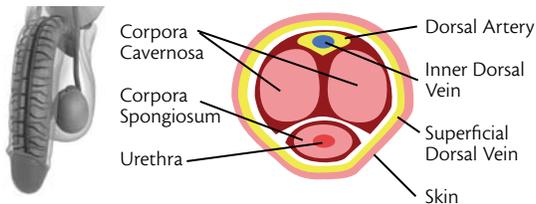


Sexual Dysfunction and **DIABETES** in Men

Erectile dysfunction (ED) is a condition in which a man has difficulty achieving or maintaining an erection firm enough to engage in sexual intercourse. ED affects 18 million men in the United States. Fifty percent of men with diabetes will suffer with erectile dysfunction. ED may develop 10-15 years earlier in men with diabetes versus men who are not diabetic.

A Normal Erection



The shaft of the penis contains two side-by-side chambers of spongy tissue. This spongy tissue, called the corpora cavernosa, contains small arteries, veins, and smooth muscles. The urethra carries semen and urine out of the penis through the center of this spongy tissue.

An erection begins when a message is received from the brain or nerve endings in the penis. This stimulus causes the smooth muscle in the spongy tissue to relax, resulting in an increase of blood flow

into the spongy tissue, increasing the amount of blood contained in the penis. As the blood flow increases, the pressure within the spongy tissue increases and the penis expands. As pressure in the penis increases, the veins that drain blood out of the penis are compressed—trapping the blood within the penis—and an erection is achieved. When the stimulation ceases or after ejaculation, the pressure within the penis decreases, the blood flows outward through the veins and the penis softens—resuming its normal shape.

Problems Achieving an Erection

Nitric oxide is released by the lining of the blood vessels into the blood stream. It is the chemical messenger that tells the smooth muscles and the arteries in the penis to relax. Damage to the blood vessels in the penis due to high blood sugars result in a lack in the release of nitric oxide; consequently the smooth muscles do not relax—restricting the blood flow into the penis—preventing the erection.

A healthy lifestyle and working with your health care provider to control your diabetes and treat your erectile dysfunction can result in an improvement in sexual functioning. It is important to discuss any problems you may be experiencing with your health care provider; treatments are available.

Your health care provider will ask you a series of questions about your medical history to identify any illnesses that may cause ED. The inquiry will include:

- review of your sexual activity
- physical exam - indicating nerve damage
- pulses in your arms and legs - to identify circulation and blood flow
- monitoring erections during sleep to rule out psychological causes

Lab tests:

blood counts, urinalysis, cholesterol, liver tests, kidney function, testosterone levels may be measured-- especially if a patient has decreased sexual desire.

CAUSES OF ERECTILE DYSFUNCTION:

Damage to the blood vessels, smooth muscles, nerves, arteries or spongy tissue of the penis

Damage to the brain or spinal cord

Diabetes

Age

Kidney disease

Chronic alcoholism

Multiple sclerosis

Atherosclerosis

Vascular disease

Neurological disease

Injury to the penis, prostate, bladder or pelvis

Decreased levels of testosterone

PSYCHOLOGICAL FACTORS:

Stress, Anxiety, Guilt, Depression, Low self-esteem, Fear of sexual failure

MEDICATIONS:

Blood pressure medications, Antihistamines, Antidepressants, Tranquilizers, Appetite suppressants, Cimetidine (an ulcer medication)

Options

There are now many treatments available for erectile dysfunction. Most health care professionals will discuss the options and allow you to make a choice of treatment.

Medication

Phosphodiesterase type 5 (PDE-5) inhibitors: Viagra®, Levitra®, and Cialis®. These medications work by increasing the blood flow to the penis when sexually aroused. They are all similar in effect but onset of action and duration are different. They may only be taken once a day.

MEDICATION	ONSET	DURATION	DOSAGE
Viagra®	15-30 minutes	4 hours	25-100mgm
Levitra®	30-60 minutes	4-5 hours	10-20 mgm
Cialis®	30-60 minutes	36 hours	10-20 mgm

Both Levitra and Cialis are also available in 5 mg tablets. Levitra is available in 2.5 mg; lower doses may be required if other medications or conditions decrease the ability of the body to use the medication without side effects.

Men who are taking nitrate medication for chest pain or alpha blockers for elevated blood pressure or prostate problems, have uncontrolled high blood pressure, very low blood pressure, a history of stroke or heart attack in the last six months; kidney, liver disease, or retinitis pigmentosa should not take Viagra, Cialis or Levitra.

Supplements or herbals have not been proven to be effective in the treatment of ED, although these products are frequently advertised.

Penile suppository

A pellet of medication is inserted into the urethra (the tube that expels urine). Muse® (alprostadil) is an example of this form of treatment. It works once the pellet has been absorbed into the penis across the lining of the urethra. Muse appears to work in about two-thirds of patients, while injections are effective in over four-fifths of cases. Prolonged erections are virtually unheard of and side effects can include some discomfort for a little while after insertion of the pellet.

Penile Injections

Injections directly into the penis using alprostadil, phentolamine or papaverine are very effective. These drugs cause the blood vessels to enlarge. The dose can be altered to allow the penis to stay erect for up to one hour. A majority of patients notice just a little tingling on injection, rather than actual discomfort. The technique would be taught to you by the health care professional, who would then get you to do a practice injection during your office visit.

Concerns over prolonged erections (termed priapism) have been largely dispelled with the use of newer drugs for injections, and the finding that this problem is very rare with careful and gradual alterations of the injected dose.

Vacuum Devices

For men not interested in using drug treatments a vacuum device may be an acceptable alternative. The device includes a cylinder, a bulb or plunger, and a constriction band. The cylinder is placed over the penis and the bulb is compressed. Suction creates a vacuum and the blood rushes into the penis filling the spongy tissue and creating an erection. The constriction band is then placed on the base of the penis trapping the blood. It is safe to leave this band in place for as long as 30 minutes. Vacuum devices are available without a prescription, but be sure to obtain the device from a reputable manufacturer. Most companies provide a limited money-back guarantee if you are not satisfied. Physicians may have loaner vacuum devices to evaluate at home.

Surgical Treatment

Surgical treatment for impotence is available but is rarely needed. A rigid but flexible rod is implanted. It is bent upward for sexual intercourse or bent downward for daily living. The second option is an inflatable implant. Fluid is stored in a reservoir under the skin of the scrotum or abdomen. Pressure is applied to the reservoir and the fluid is pumped into the cylinders located in the penis. A valve then drains the fluid from the penis when intercourse is over. The erection achieved with an implant may be shorter than a normal erection or the device may malfunction requiring additional surgery to repair or replace the implant. If an inflatable implant is chosen, other treatments would not be effective as the implanted cylinder replaces the spongy tissue of the penis.

ED is a treatable condition. When seeking medical advice it is important that both you and your partner are involved in the decision-making process. Your treatment choice should be acceptable to both of you.



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The mission of **Diabetes Research & Wellness Foundation (DRWF)** is to help find the cure for diabetes, and until that goal is achieved, to provide the care and self-management skills needed to combat the life-threatening complications of this terrible disease.

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