

Erectile Dysfunction & Diabetes

Erectile dysfunction (ED), once called “impotence,” is a common complication of diabetes mellitus.

Erectile dysfunction is the inability to attain or maintain an erection that is sufficient for sexual intercourse. Erectile dysfunction is different from not having sexual desire or from ejaculating too quickly (premature ejaculation). Men with ED have sexual desire, but are unable to get or keep their erections.

Men with diabetes are much more likely to develop ED than men who do not have diabetes. They also develop ED 5 to 10 years earlier than men without diabetes. Between 20% to 75% of men with diabetes have ED. According to the American Diabetes Association, at least half of all men older than 50 years who have diabetes also report ED. The risk of ED increases with the number of years you have had diabetes and the severity of your diabetes. However, ED can be successfully managed in almost all men with diabetic ED.

WHAT CAUSES NORMAL ERECTIONS?

Erections are the result of physical or psychological stimulation that causes blood flow into and filling of sponge-like tissues (called the corpora cavernosa) in the penis. There is a central artery that runs

through the center of each of the 2 cylindrical corpora cavernosa. When you become aroused, your body sends out chemical messengers, or neurotransmitters, that tell the muscle cells in your penis to relax. When these cells relax, the central artery, along with the other blood vessels in your penis, expands and allows blood to rush into your penis. When the corpora cavernosa fill with blood, the spongy tissue inside presses up against the veins in your penis and prevents them from letting blood flow out of your penis. The trapped blood causes your penis to stiffen and become erect. Your penis returns to its nonerect, flaccid size and shape when the muscles in your penis contract and decrease the pressure on the spongy tissue.

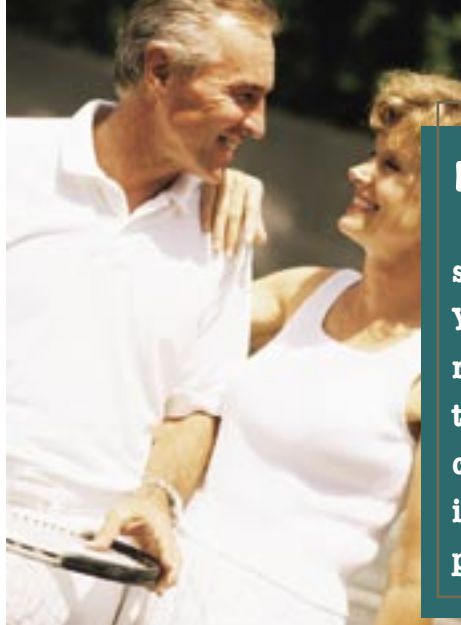
WHY ARE MEN WITH DIABETES AT RISK FOR ED?

Men with diabetes have three main risk factors for ED. First, diabetes can cause damage to nerves (neuropathy) throughout your body—including to nerves in your penis. Damage to penile nerves can interfere with your body’s ability to send messages to and from the penis, which can lead to ED. Second, diabetes can aggravate a condition

known as atherosclerosis, in which the blood vessels become narrow or harden. The blood vessels in your penis are smaller than the blood vessels elsewhere in your body, such as around your heart. Narrowing or hardening of these blood vessels prevents blood flow into and out of your penis, which can cause ED. Finally, men with diabetes need to control their blood sugar levels. When your blood sugar is not under control, your body does not produce enough nitric oxide (NO) and vascular tissues don’t respond as efficiently to NO. Nitric oxide is a neurotransmitter produced in the body that helps cells communicate with each other. Nitric oxide is a vasodilator—among other things, it is the primary neurotransmitter of erection. When enough blood flows into the penis, penile veins close off and block the blood from flowing out. This process results in an erection. If your body doesn’t produce enough NO or if your penile tissues don’t respond to NO the pressure of the blood flowing into your penis is not sufficient to trap the blood, and your penis will not get hard (erect). In addition to these direct causes, men with diabetes often suffer from other conditions that are associated with ED—including hypertension (high blood pressure), obesity, and dyslipidemia (problems with your serum cholesterol levels). It is possible that ED in diabetes is the result of more than one cause. Physicians call this multifactorial risks factors; the more risk factors you have the greater the likelihood you will develop ED. Unfortunately the severity of ED is also related to the

RISK FACTORS FOR ED IN DIABETES

1. **Damage to nerves (neuropathy)**
2. **Hardening of the arteries (atherosclerosis)**
3. **Poor control of blood sugar levels**



The first goal in treating ED is to get your blood sugar level under control. Your doctor will probably recommend some changes to your lifestyle, such as changing your diet and increasing your level of physical activity.

number of risks factors causing the dysfunction.

HOW IS ED TREATED IF I HAVE DIABETES?

The first goal in treating ED is to get your blood sugar level under control. Your doctor will probably recommend some changes to your lifestyle, such as changing your diet and increasing your level of physical activity. If you smoke cigarettes, your doctor will strongly recommend that you stop, as tobacco causes blood vessels to narrow. Your doctor will almost certainly recommend more exercise, since exercise naturally improves the body's ability to metabolize sugar and may also need to take medicine specifically to help control your diabetes.

It is also important for your doctor to find out if you have other conditions that accompany diabetes, such as hypertension (high blood pressure) and atherosclerosis (narrowing of the arteries). If you have any of these other conditions, your doctor will need to treat you for them before focusing on your ED. For many men, treating these underlying conditions may help treat your ED.

Your doctor may also prescribe one of the three oral drugs that are available to treat ED: Cialis, Levitra, or Viagra. These three agents are all in the same class of drugs called phosphodiesterase-5 (PDE-5) inhibitors. If you are sexually excit-

ed, these drugs amplify the nerve signals to your penis to allow better blood flow. Remember that special nerve transmitter which signals an erection when you are sexually excited, NO. Cialis, Levitra, and Viagra inhibit your body from breaking down NO. These drugs simply increase the efficiency of your natural erection mechanism. The agents differ somewhat from one another in how quickly they begin to work, how long they last, and how long they take to work if you have eaten a heavy, fatty meal. Your doctor will help determine which drug is the best for you.

Phosphodiesterase-5 inhibitors can help improve erections regardless of age, race, or duration of ED. Phosphodiesterase-5 inhibitors work in most men, providing satisfactory erections for penetration. Depending on the number of additional risk factors you have and the severity of your diabetes, your chances of responding to PDE-5 inhibitor tablets may be as low as 30% or as high as the average ED patient of 70–80%. Some men do not respond to the pills, and other men may have uncomfortable side effects from them. In these instances, your doctor might recommend alternate treatments such as intracavernosal injection therapy, intraurethral prostaglandin therapy, vacuum-constriction (pump) devices, or penile implant. Men with low testosterone

levels may need androgen replacement therapy, alone or in combination with a PDE-5 inhibitor tablet. Your doctor will talk with you to determine which treatment will best match your condition and your needs. Your doctor will also review all of the other medications that you are taking to see if they might be contributing to your ED problems. While some medications cannot be changed, sometimes other agents can be substituted that are less likely to cause ED.

SUMMARY

Erectile dysfunction need not necessarily be a complication of your diabetes. Keeping your blood sugar levels under control and maintaining a healthy lifestyle can help reduce your risk of ED. Controlling any other associated health conditions, such as hypertension or cardiovascular disease, will also help you maintain erectile function. It is, however, important that you talk with your doctor if you begin to experience ED. □

TREATING ED IN DIABETICS

Lifestyle Changes

- Dietary Changes
- Increase your physical activity
- Lose weight
- Stop smoking

Medications

- For diabetes
- For other associated illnesses
- PDE-5 inhibitors for ED

Other ED Treatment Options

- Injection therapy
- Intraurethral prostaglandin therapy
- Vacuum-constriction (pump) devices
- Androgen therapy

