

# What I need to know about Erectile Dysfunction



National Institute of  
Diabetes and Digestive  
and Kidney Diseases

National Kidney and Urologic Diseases  
Information Clearinghouse



# What I need to know about Erectile Dysfunction

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## What is erectile dysfunction (ED)?

**Erectile dysfunction**\* is when you cannot get or keep an **erection** firm enough to have sex. You may have ED if you

- can get an erection sometimes, though not every time
- can get an erection, yet it does not last long enough for sex
- are unable to get an erection at all

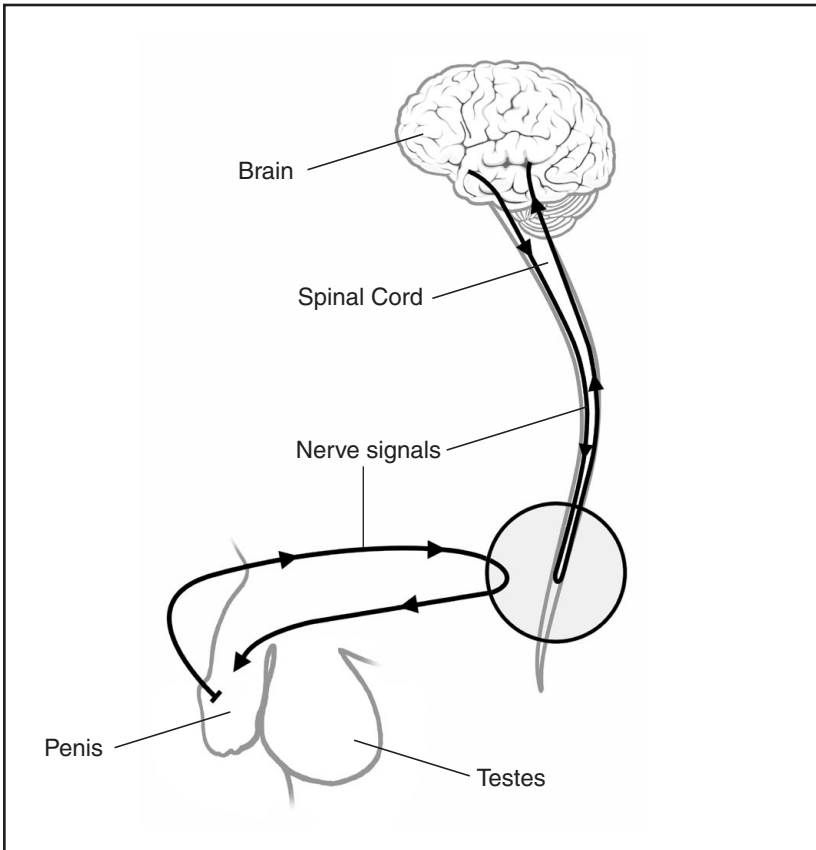
ED is sometimes called **impotence**; however, doctors use this term less often now.



\*See the Pronunciation Guide for tips on how to say the words in **bold** type.

## How does an erection occur?

An erection occurs when blood flow into the penis increases, making the penis larger and firmer. Hormones, blood vessels, nerves, and muscles all work together to cause an erection. When your brain senses a sexual urge, it starts an erection



When your brain senses a sexual urge, it starts an erection by sending nerve signals to the penis.

by sending nerve signals to the **penis**. Touch may cause this urge. Other triggers may be things you see or hear, or sexual images or thoughts.

The nerve signals cause the muscles in the penis to relax and let blood flow into the spongy tissue in the penis. Blood collects in this tissue like water filling a sponge. The penis becomes larger and firmer, like a blown-up balloon. The veins then shut off to keep blood from flowing out. An erection requires healthy blood vessels.

After orgasm or when the man is no longer aroused, the veins open up and blood flows back into the body.

## What causes erectile dysfunction?

Erectile dysfunction often has more than one cause. Many diseases can damage nerves, arteries, and muscles. Some can lead to ED, such as

- high blood pressure
- diabetes, when your blood glucose, also called blood sugar, is too high
- clogged arteries
- heart and blood vessel disease
- chronic kidney disease
- **multiple sclerosis**, a disease that attacks the nerves
- treatments for **prostate** cancer, including **radiation**, surgery to remove the prostate, and hormone treatments
- injury to the penis, spinal cord, prostate, bladder, or pelvis
- surgery for bladder cancer
- Peyronie's disease, in which scar tissue, called a plaque, forms in the penis



Unhealthy lifestyle choices, such as smoking, drinking too much alcohol, using illegal drugs, being overweight, and not exercising, can lead to ED.

Mental health problems such as the following can also cause or worsen ED:

- depression
- fear of sexual failure
- guilt
- low self-esteem
- stress
- worry

Even when ED has a physical cause, mental health problems can make ED worse. For example, a physical problem may slow your sexual arousal, which may make you more nervous and worsen your ED.

In addition, ED can be a side effect of many common medicines. A small number of ED cases result from low **testosterone**, a male hormone.

## Who gets erectile dysfunction?

Erectile dysfunction affects men of all races and in all parts of the world. Men are more likely to have ED as they get older. For example, ED occurs in

- about 12 percent of men younger than 60
- 22 percent of men age 60 to 69
- 30 percent of men age 70 or older

## What other problems can erectile dysfunction cause?

Having ED can cause you to feel depressed or anxious. ED may also cause low self-esteem. When you have ED, you may not have a satisfying sex life. You may not feel as close with your sexual partner, which may strain your relationship.

## See Your Doctor if You Have Erectile Dysfunction, as Erectile Dysfunction Could Mean You Have a More Serious Condition

If you have problems getting or keeping an erection, and the problems last for more than a few weeks, you should talk with your doctor. ED can be a sign of other health problems, such as diabetes or heart disease.

When you meet with your doctor, you might use phrases like, “I’ve been having problems in the bedroom” or “I’ve been having erection problems.” Remember that a healthy sex life is part of a healthy life. Don’t be shy about seeking help. Your doctor treats medical problems every day.

If talking with your doctor doesn’t put you at ease, ask for a referral to another doctor.

Your doctor may send you to a **urologist**—a doctor who specializes in sexual and urinary problems.



## How does my doctor find the cause of my erectile dysfunction?

To find the cause of your ED, your doctor may

- take your medical and sexual history
- ask you questions about your mental health
- give you a physical exam
- test your blood
- give you a nighttime erection test
- perform an injection test
- perform a Doppler penile ultrasound

### Medical and Sexual History

Your doctor will ask general questions about your health, as well as specific questions about your erection problems and your relationship with your sexual partner. Your doctor might ask you questions such as

- Have you ever had surgery?
- What medicines do you take?
- How sure are you that you can get and keep an erection?
- When you have erections, how often are they hard enough for sex?

- During sex, how often are you able to keep your erection?
- When you try to have sex, how often are you happy with the sex?
- How would you rate your level of sexual desire?
- How often are you able to reach climax and **ejaculate**?
- Do you have an erection when you wake up in the morning?
- Do you use illegal drugs, drink alcohol, or smoke?

The answers to these questions will help your doctor understand the problem.

Bring a list of all the medicines you take, or the actual medicines, to show to your doctor.

## **Mental Health Questions**

Your doctor may ask you questions about your mental health. For example, the doctor may ask if you feel nervous or depressed. He or she may also ask you to answer questions on paper. The doctor may also ask your sexual partner questions to get more information about the problem.

## **Physical Exam**

A physical exam can help your doctor find the cause of your ED. As part of the exam, the doctor will examine your **testes** and penis, take your blood pressure, and check for problems with your blood flow.

## **Blood Tests**

A blood test involves drawing your blood at a doctor's office or a commercial facility and sending the sample to a lab for analysis. Blood tests can show possible causes of ED, such as diabetes, clogged blood vessels, or chronic kidney disease. Low levels of testosterone in your blood can explain why you may have lost interest in sex.

## **Nighttime Erection Test**

During a nighttime erection test, you wear a plastic band around your penis to test whether you have nighttime erections. The band easily breaks if your penis expands. This test shows if you had at least one erection during the night. Another test uses an electronic device that can record the number of erections, how long they last, and how firm they are. A man normally has three to five erections during the night while he sleeps. If you do have an

erection, it probably means that your ED is more likely a mental health issue. If you do not have these erections, you probably have nerve damage or poor blood flow to your penis. You may do this test in your home or in a special sleep lab.

## **Injection Test**

During an injection test, the doctor will inject a medicine into your penis to cause an erection. If the erection is not firm or does not last, it may mean you have a problem with blood flow. This test most often takes place in the doctor's office.

## **Doppler Penile Ultrasound**

An x-ray technician most often performs a Doppler penile ultrasound in a doctor's office or an outpatient center. During a Doppler penile ultrasound, the x-ray technician or doctor lightly passes a device over your penis to create images of blood vessels in your penis. An injection is used to create an erection. The images can show if you have a blood flow problem. The pictures appear on a computer screen. A radiologist—a doctor who specializes in medical imaging—looks at the images to find possible problems.

## How is erectile dysfunction treated?

Your doctor can offer you a number of treatments for ED. For many men, the answer is as simple as taking a pill. Other men have to try two or three options before they find a treatment that works for them. Don't give up if the first treatment doesn't work. Finding the right treatment can take time. You may want to talk with your sexual partner about which treatment fits you best as a couple.

A doctor can treat ED by

- treating the cause of your ED:
  - lifestyle changes
  - changing the medicines you take to treat other health problems
  - counseling
- prescribing medicines to treat your ED:
  - medicine by mouth
  - other forms of medicine
- prescribing a vacuum device
- performing surgery:
  - implanted devices
  - surgery to repair blood vessels



## Treating the Cause of Your Erectile Dysfunction

The first step is to treat any health problems that may be causing your ED. Untreated diabetes or high blood pressure may be part of the cause of your ED.

**Lifestyle changes.** For some men, the following lifestyle changes help:

- quitting smoking
- drinking less alcohol
- increasing physical activity
- stopping illegal drug use

**Changing medicines you take to treat other health problems.** Talk with your doctor about all the medicines you are taking, including over-the-counter medicines. The doctor may find that a medicine you are taking is causing your ED. Your doctor may be able to give you another medicine that works in a different way, or your doctor may tell you to try a lower dose of your medicine.

**Counseling.** Counseling can help couples deal with the emotional effects of ED. Some couples find that counseling adds to the medical treatment by making their relationship stronger.

## Prescribing Medicines to Treat Your Erectile Dysfunction

Depending on which medicine your doctor gives you, you may take it by mouth or by putting it directly into your penis.

**Medicine by mouth.** Your doctor may be able to prescribe a pill to treat ED. Common medicines include

- **sildenafil** (Viagra)
- **varденаfil** (Levitra, Staxyn)
- **tadalafil** (Cialis)
- **avanafil** (Stendra)

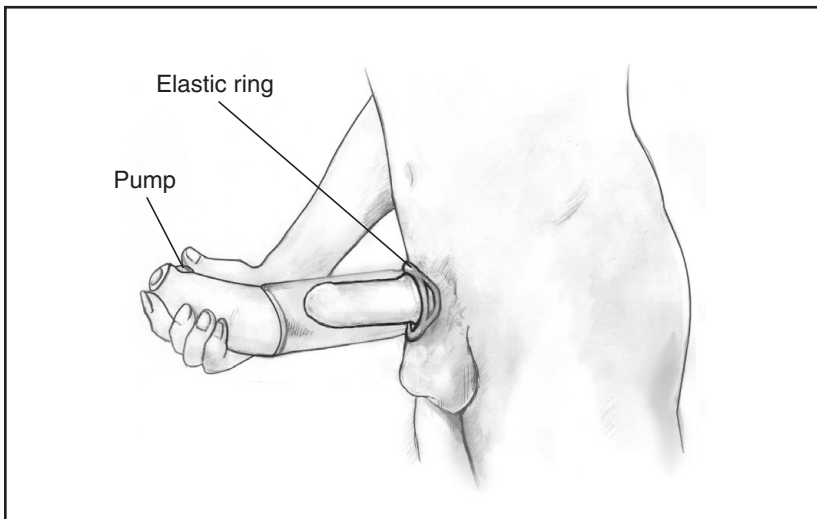
If your health is generally good, your doctor may prescribe one of these medicines. You should not take any of these pills to treat ED if you take any nitrates, a type of heart medicine. All ED pills work by increasing blood flow to the penis. They do not cause automatic erections. Talk with your doctor about when to take the pill. You may need to experiment to find out how soon the pill takes effect.

**Other forms of medicine.** Taking a pill doesn't work for all men. You may need to use medicine that goes directly into your penis. You may use an injection into the shaft of your penis, or you may use medicine placed in your **urethra**, at the

tip of your penis. The urethra is the tube that carries urine and semen outside of the body. Your doctor will teach you how to use the medicines. They most often cause an erection within minutes. These medicines can be successful, even if other treatments fail.

### **Prescribing a Vacuum Device**

Another way to create an erection is to use a device with a specially designed vacuum tube. You put your penis into the tube, which is connected to a pump. As air is pumped out of the tube, blood flows into your penis and makes it larger and firmer. You then move a specially designed elastic ring from the end of the tube to the base



Vacuum device

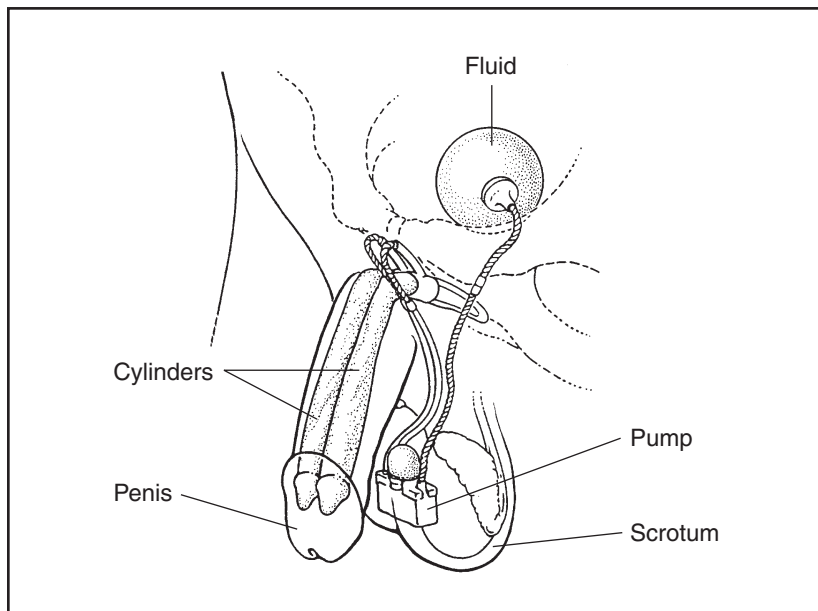
of your penis to keep the blood from flowing back into your body. You may find that using a vacuum device requires some practice.

## Performing Surgery

If the other options fail, you may need surgery to treat ED.

**Implanted devices.** A urologist can place a device that fills with fluid or a device with bendable rods inside the penis to create an erection.

One kind of implant uses two cylinders that fill with fluid like a balloon. Tubing connects the cylinders to a small ball that holds the fluid. You



Implanted device

fill the cylinders by squeezing a small pump that the urologist places under the skin of the scrotum, in front of your testes. The pump causes fluid to flow into the two cylinders in your penis, making it hard. The fluid can make the penis slightly longer and wider. An implant that uses fluids instead of bendable rods leaves the penis in a more natural state when not in use.

Implants that bend most often have two rods that the urologist places side by side in your penis during surgery. You use your hands to adjust the position of the rods to make your penis straight. Your penis does not get larger. After sex, you bend the rods down.

Implanted devices do not affect the way sex feels or the ability to have an orgasm.

Once you have an implanted device, you must use the device to have an erection every time. Talk with your doctor about the pros and cons of having an implanted device.

**Surgery to repair blood vessels.** Doctors treat some cases of ED with surgery to repair the blood vessels that carry blood to the penis. This type of surgery is more likely to work in men younger than 30.

## How can I prevent erectile dysfunction?

You can prevent many of the causes of ED by making healthy lifestyle choices. Following a healthy diet may help prevent ED. Quitting smoking and getting physical activity are also important ways to prevent ED.

Physical activity increases blood flow throughout your body, including your penis. Talk with your doctor before starting new activities. If you have not been active, start slow, with easier activities such as walking at a normal pace or gardening. Then you can work up to harder activities such as walking briskly or swimming. Try to aim for at least 30 minutes of activity most days of the week.

## Eating, Diet, and Nutrition

To prevent ED, you should eat a healthy diet of whole-grain foods, fruits and vegetables, low-fat dairy foods, and lean meats. A diet that causes you to be overweight and have heart and blood vessel disease can also lead to ED. You should avoid foods high in fat and sodium, the main part of salt. You should also avoid smoking, drinking too much alcohol, or using illegal drugs.

## Points to Remember

- Erectile dysfunction (ED) is when you cannot get or keep an erection firm enough to have sex. You may have ED if you
  - can get an erection sometimes, though not every time
  - can get an erection, yet it does not last long enough for sex
  - are unable to get an erection at all
- An erection occurs when blood flow into the penis increases, making the penis larger and firmer. Hormones, blood vessels, nerves, and muscles all work together to cause an erection.
- ED often has more than one cause. Many diseases can damage nerves, arteries, and muscles.
- To find the cause of your ED, your doctor may
  - take your medical and sexual history
  - ask you questions about your mental health
  - give you a physical exam
  - test your blood

- give you a nighttime erection test
- perform an injection test
- perform a Doppler penile ultrasound
- Your doctor can offer you a number of treatments for ED. For many men, the answer is as simple as taking a pill. Other men have to try two or three options before they find a treatment that works for them.
- You can prevent many of the causes of ED by making healthy lifestyle choices. Following a healthy diet may help prevent ED. Quitting smoking and getting physical activity are also important ways to prevent ED.



## Hope through Research

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) sponsors programs aimed at understanding and treating ED. One team of researchers is exploring the effect of weight loss on ED in men who are obese and sexual dysfunction in women who are obese. One group of participants in the study received bariatric surgery or a lap band procedure to bring about weight loss. Another group lost weight through counseling and behavior change. At the beginning of the study, participants filled out surveys that measured erectile or sexual function. Four years after surgery or weight loss counseling, they will retake the surveys. The Changes in Sexual Function Following Bariatric Surgery study, funded under National Institutes of Health (NIH) clinical trial number NCT00670098, will test the theory that weight loss can improve erectile function.

Other investigators are studying how better control of blood sugar and blood pressure in diabetes could help reduce the chances of developing ED.

Clinical trials are research studies involving people. Clinical trials look at safe and effective new ways to prevent, detect, or treat disease. Researchers also use clinical trials to look at other aspects of care, such as improving the quality of life for people with chronic illnesses. To learn more about clinical trials, why they matter, and how to participate, visit the NIH Clinical Research Trials and You website at [www.nih.gov/health/clinicaltrials](http://www.nih.gov/health/clinicaltrials). For information about current studies, visit [www.ClinicalTrials.gov](http://www.ClinicalTrials.gov).

## Pronunciation Guide

**avanafil** (av-AN-uh-fil)

**ejaculate** (ee-JAK-yoo-layt)

**erectile dysfunction** (ee-REK-tyl)  
(diss-FUHNK-shuhn)

**erection** (ee-REK-shuhn)

**impotence** (IM-puh-tenss)

**multiple sclerosis** (MUL-tih-puhl)  
(skleh-ROH-siss)

**penis** (PEE-niss)

**prostate** (PROSS-tayt)

**radiation** (RAY-dee-AY-shuhn)

**sildenafil** (sil-DEN-uh-fil)

**tadalafil** (tuh-DAL-uh-fil)

**testes** (TESS-teez)

**testosterone** (tess-TOSS-tuh-rohn)

**urethra** (yoo-REE-thruh)

**urologist** (yoo-ROL-uh-jist)

**ildenafil** (var-DEN-uh-fil)

## For More Information

### **American Association of Sexuality Educators, Counselors, and Therapists**

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Washington, D.C. 20005

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Email: [info@aasect.org](mailto:info@aasect.org)

Internet: [www.aasect.org](http://www.aasect.org)

### **American Diabetes Association**

1701 North Beauregard Street

Alexandria, VA 22311

Phone: 1-800-DIABETES (1-800-342-2383)

Internet: [www.diabetes.org](http://www.diabetes.org)

### **Urology Care Foundation**

1000 Corporate Boulevard

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Phone: 1-800-828-7866 or 410-689-3700

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