

NEUROPATHY

and diabetes

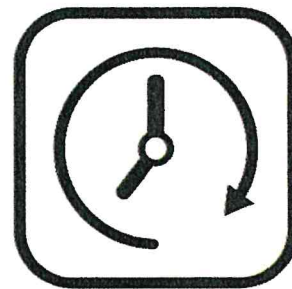
Diabetic Neuropathy is **nerve damage** that can occur in people who have diabetes. The body's nerves can be damaged by decreased blood flow and a high blood sugar level. This condition is more likely when the blood sugar level is not well controlled.

Neuropathy is one of the most common diabetic complications. About

50%

of people with diabetes develop nerve damage.

Symptoms often develop slowly over many years



Nerve damage and your feet: **what's the worst that could happen?**

Amputation of the foot or leg because of limited blood flow.

Foot Ulcers, which can lead to infection.

Poor circulation, which makes it more difficult for your foot to heal and fight infection.

Calluses, which can lead to infection. NEVER try to remove calluses or corns yourself.

Skin Changes such as dry skin. Moisturize your feet after bathing (but not between the toes!).

Symptoms of nerve damage in your feet



- Tingling, burning, or deep pain in the toes and feet
- Loss of feeling in feet and legs as damage gets worse
- Numb skin

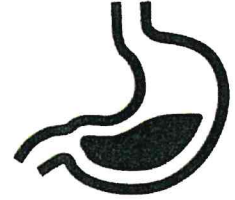
This means you may not notice if:

- 1) You step on something sharp
- 2) You have a blister or small cut
- 3) Your feet or hands touch something that is too hot or cold

But it's not just about your feet

When the nerves that control digestion are affected, you may have trouble digesting food. This can make your diabetes harder to control.

- Feeling full after eating only a small amount of food
- Heartburn and bloating
- Nausea, constipation, or diarrhea
- Swallowing problems
- Throwing up undigested food a few hours after a meal



When nerves in your heart and blood vessels are damaged, you may:

- Feel lightheaded when you stand up
- Have a fast heart rate
- Not notice angina, the chest pain that warns of heart disease and heart attack

Other symptoms of nerve damage are:

- Sexual problems, which cause trouble getting an erection in men and vaginal dryness or orgasm problems in women



- Not being able to tell when your blood sugar gets too low
- Bladder problems, which cause urine leakage or not being able to empty the bladder
- Sweating too much, even when it's cool, when you're at rest, or at other unusual times



- Feet that are very sweaty (early damage) or very dry (later)

There are actions you can take

Control your blood sugar (glucose) level:

- 1) Eat healthy foods
- 2) Get regular exercise
- 3) Check your blood sugar as often as instructed and keep a record
- 4) Take oral medicine or injections as instructed by your provider

Take care of your feet!

- Check your feet every day
- Get a foot exam each time you see your provider
- Wear the right kind of socks and shoes, as directed by your provider



Diabetes and High Blood Pressure

If you are a patient with high blood pressure and diabetes, it is important to talk to your health care provider to help manage your blood pressure. High blood pressure puts stress on your heart and kidneys. High blood pressure can increase your chance of having a heart attack, kidney disease, or stroke.

What Is High Blood Pressure?

- Hypertension is the medical term for high blood pressure. When you have high blood pressure, your heart works harder. In time, this may cause damage to your arteries, heart, and kidneys.
- Often, there are no noticeable symptoms associated with high blood pressure. Most people feel fine and are unaware that their heart and kidneys may be damaged.
- When your blood pressure is checked, 2 numbers are being measured: a top number (systolic blood pressure) and a bottom number (diastolic blood pressure). The top number is the pressure of blood against the artery walls when the heart beats. The bottom number is the pressure of blood against the artery walls after each heartbeat. A blood pressure of 140/90 mm Hg or higher on a regular basis is classified as high blood pressure. If your readings reflect high blood pressure, your health care provider will want to help you lower your numbers.
- The blood pressure goal of the American Diabetes Association is less than 140/90 mm Hg. However, in some selected patients it may be less than 130/80 mm Hg.



Knowing your numbers is the first step in managing your blood pressure.

Talk to your health care provider about a plan to lower your numbers.

This health information is being provided for general educational purposes only. Your health care provider is the single best source of information regarding your health. Please consult your health care provider if you have any questions about your health or treatment.

Diet

A healthy diet is very important when you're trying to lower your blood pressure. A low-salt and low-fat diet with fruits, vegetables, and grains is recommended for people with high blood pressure.

Exercise

Exercise increases blood flow and helps strengthen your heart. Generally, at least 150 minutes a week is recommended of moderate intensity aerobic exercise (where your heart rate increases). This can be spread out through the week with no more than 2 days without exercise.

Medication

You may be given medicine or a combination of medicines to help lower your blood pressure. There are many different types of blood pressure medications. Discuss options with your health care provider to determine the best blood pressure treatment that is appropriate for you.

Is Your Blood Pressure at Goal?

You should be monitoring your blood pressure regularly. Talk to your health care provider about how often you should get your blood pressure checked.

Knowing your numbers is the first step in managing your blood pressure. Always discuss your numbers when you visit your health care provider, and stay informed about changes that have occurred between your visits.

Blood Pressure Guidelines

Category (For Adults)	Top Number (Systolic) mm Hg		Bottom Number (Diastolic) mm Hg
Normal	Less than 120	and	Less than 80
Prehypertension	120 — 139	or	80 — 89
High Blood Pressure (Hypertension) Stage 1	140 — 159	or	90 — 99
High Blood Pressure (Hypertension) Stage 2	160 or higher	or	100 or higher
Hypertensive Crisis (Emergency Care Needed)	Higher than 180	or	Higher than 110
ADA Diabetes Goal	Less than 140*	and	Less than 90

*Less than 130/80 mm Hg in selected patients.

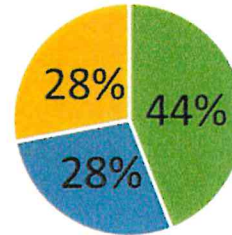
Adapted from the American Diabetes Association and the American Heart Association

Talk to your health care provider before changing diet or exercise routine.

YOUR KIDNEYS and diabetes

Diabetes is the
#1 CAUSE
of kidney failure

Causes of Kidney Failure

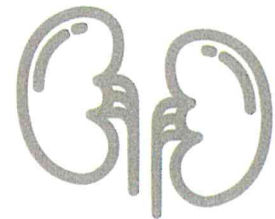


■ Diabetes ■ High Blood Pressure ■ All other causes combined

Diabetes is a disease that causes your body to have trouble making or using insulin, a hormone that helps your body turn sugar from the foods you eat into energy. When your body doesn't use insulin the way it should, too much sugar stays in your blood.

Diabetes damages your kidneys over time

- 1) Too much glucose (sugar) in the blood makes your kidneys work harder.
- 2) This damages the tiny filters (glomeruli) in your kidneys. This damage cannot be reversed.
- 3) Your kidneys begin to leak protein into your urine instead of keeping it in your blood.
- 4) The damage gets worse over time, so more fluid and wastes stay in the blood instead of being filtered out into your urine.



What you can do

Manage diabetes



Work with your health care provider to control your blood sugar, eat healthy, and stay active to manage diabetes.

Prevent Diabetes



A healthy diet, weight control, and regular exercise may help prevent diabetes.

Diabetic Eye Disease

What is it?

It refers to eye problems people with diabetes may have. These include



There are often NO early warning signs.

Cataract

Clouding of the lens of the eye.



Diabetic retinopathy

Damage to blood vessels in the retina; most common.



Glaucoma

Damage to the optic nerve.



What can you do?

Get a comprehensive dilated eye exam at least once a year.

Keep your health on **TRACK**:



Take your medications.



Reach and maintain a healthy weight.



Add physical activity to your daily routine.



Control your blood sugar, blood pressure, and cholesterol.



Kick the smoking habit.

Where can you learn more?

Visit www.nei.nih.gov/diabetes

Source: National Eye Institute, 2013

What are the numbers?

7.7 million people ages 40 and older have diabetic retinopathy. Will reach 11 million people by 2030.



95%

of severe vision loss from diabetic retinopathy can be prevented by early detection, timely treatment, and appropriate follow-up.

Who is at risk?

→ All people with diabetes.



The longer you have diabetes, the higher your risk of getting diabetic eye disease.

How is it detected?

Through a comprehensive dilated eye exam.



Diabetes and Depression

Most people with diabetes do not have depression. However, if you do, it is not something to be ashamed of.

You may feel overwhelmed, since you have to:

- Manage your diabetes
- Take medication
- Carry a blood sugar meter
- Make various doctor appointments that may make you feel you are different from others

Temporary feelings of sadness may happen, but if you feel sad for more than 2 weeks, you may want to discuss your symptoms with your health care provider.

Physical Causes

Poorly controlled diabetes may make you tired or anxious.

- Low blood sugar may make you hungry or cause you to eat more.
 - It can even disturb your sleep.
- High blood sugar at night may make you get up to urinate often.
 - Getting up at night may cause daytime sleepiness.
- Alcohol or drug abuse may be a physical cause of depression.
- Thyroid problems or side effects from certain medications may also be signs of depression.

The best idea is to tell your health care provider that you are especially sad.

If there is no physical reason for your sadness, your health care provider might send you to a mental health professional who treats depression. You may be treated with counseling or medication to improve your outlook.

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You may feel limited on what you can do and be anxious about your health.

Depression Symptoms

The American Diabetes Association states that if you have 3 or more of these symptoms, or if you have just 1 or 2 but have been feeling bad for 2 weeks or more, it's time to get help.

- Loss of pleasure**
 - lack of interest in doing things you enjoy
- Change in sleep patterns**
 - trouble falling asleep, or you wake up often during the night, or you want to sleep more than usual
- Wake up early**
 - cannot get back to sleep
- Change in appetite**
 - eating more or less, resulting in a quick weight gain or weight loss
- Trouble concentrating**
 - cannot watch a TV program or read an article because of other thoughts or feelings
- Loss of energy**
 - feel tired all the time
- Nervousness**
 - anxious or you can't sit still
- Guilt**
 - feel you “never do anything right” and worry that you are a burden to others
- Morning sadness**
 - feel worse in the morning than you do the rest of the day
- Suicidal thoughts**
 - feel you want to die or are thinking about ways to hurt yourself



If you have any of these symptoms, talk with your health care provider.