



Diabetes happens when your body does not make enough insulin or cannot use insulin properly. Insulin is a hormone. It controls how much sugar is in your blood. A high level of sugar in your blood can cause damage to the very small blood vessels in your kidneys. Over time, this can lead to kidney disease and kidney failure.

### About kidney failure

Healthy kidneys do many important jobs. They filter your blood, keep fluids in balance, and make hormones that help your body control blood pressure, have healthy bones, and make red blood cells. If you have kidney failure, it means your kidneys have stopped working well enough to do these important jobs and keep you alive. As a result:

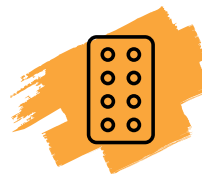
- Harmful wastes build up in your body
- Your blood pressure may rise
- Your body may hold too much fluid
- Your body cannot make enough red blood cells

About 30% of people with Type I diabetes and about 10% to 40% of people with Type II diabetes will eventually develop end-stage kidney failure. There is no cure for kidney failure. A person with kidney failure needs treatment to live.

### Kidney failure treatments

There are 3 types of treatment can be used if your kidneys have failed:

#### HEMODIALYSIS



#### PERITONEAL DIALYSIS



#### KIDNEY TRANSPLANTATION



Your healthcare team will discuss these different treatments with you and answer all your questions. They will help you choose the best treatment for you, based on your general health, lifestyle, and treatment preference. Your decision does not need to be final. Many people have used each one of these treatments at different times in their lifetime.

## Diabetes and kidney failure

A kidney doctor (called a nephrologist) will plan your treatment with you, your family, and your dietitian. In addition to dialysis or a transplant, you will need to:

- **Keep your blood sugar under control.** This is usually done with diet, exercise, and, if needed, insulin shots or hypoglycemic pills. The dose of insulin often has to change when people go on dialysis or get a new kidney transplant.
- **Test for A1C regularly.** Your A1C test tells you what your average blood sugar has been for the past 2–3 months. It also helps your doctor know whether your diabetes is under control. Ask your healthcare team what your A1C result should be. Keeping your A1C on goal will help protect your heart, blood vessels, eyes, feet, and nerves.
- **Use a blood glucose meter.** You must also check your blood sugar levels every day. You can do this test at home with a blood glucose meter. The test is usually done several times a day. It tells you what your blood sugar is at any moment.
- **Safeguard against low blood sugar.** Most people know that high blood sugar is dangerous. But low blood sugar (called hypoglycemia) can be dangerous as well. Your risk of low blood sugar is higher if you are on dialysis, especially if you have trouble eating, are often sick to your stomach, or have other digestive problems. Tell your doctor if you have any of these symptoms.
- **Get tested regularly for heart and blood vessel disease.** Heart and blood vessel problems are common in people with both diabetes and kidney failure.
- **Manage your diet carefully.** There are special dietary needs for people with diabetes who are also on dialysis. A dietitian who specializes in kidney disease can help you with this.
- **Control high blood pressure.** You must check your blood pressure as often as your healthcare provider recommends. You may also need to take medicine to control your blood pressure.
- **Manage cholesterol and blood lipids.** If your cholesterol and lipids are too high, you may need medicine to help lower them.
- **Treat anemia (low red blood cell count),** if needed. People on dialysis often get anemia. Treatment involves taking a special medicine called an ESA (erythropoiesis-stimulating agent) and iron supplements to help make red blood cells.
- **Treat mineral and bone disorder, if needed.** Many people with kidney failure have mineral and bone disorder. You may need special medicine for it.
- **Follow your diabetes treatment plan of medications, diet, and exercise.** You must continue to follow your diabetes treatment plan of medications, diet, and exercise. This will help protect the rest of your body, including your heart, blood vessels, eyes, nerves, and feet.

## Diabetes and kidney transplant

If you have a kidney transplant, it is likely you may need a higher dose of insulin or hypoglycemic pills (to lower blood sugar level). This is because:

- You will be eating more.
- Your new kidney will break down insulin better than your injured one.
- You will be using medicines to keep your body from rejecting your new kidney and these may react less well to the insulin.

*If your transplanted kidney stops working well, dialysis treatment can be started and you can be placed on the waitlist for a new kidney.*

**For more information, contact the National Kidney Foundation**

Toll-free help line: **855.NKF.CARES** or email: **nkfcares@kidney.org**