

Diabetes and Chronic Kidney Disease

Diabetes is a leading cause of chronic kidney disease (CKD). Type 2 diabetes is common among Black Americans. Black adults are 60% more likely than nonHispanic white adults to be diagnosed with diabetes by a doctor.

What Is Diabetes?

Diabetes is a condition that affects the way the body processes blood sugar. Either the body doesn't make enough insulin or can't use normal amounts of insulin effectively. *Insulin* is a hormone that regulates how much sugar is in your blood. Diabetes can damage your kidneys, heart, blood vessels, eyes, and nerves.

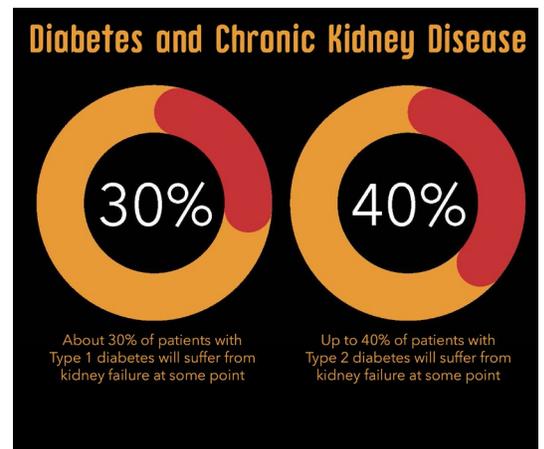
There are 2 types of diabetes:

- **Type 1** is often called "juvenile onset" diabetes. It occurs when the body doesn't make enough insulin.
- **Type 2** is often called "adult onset" diabetes. It usually occurs in people over 40 years old but can occur in children. In Type 2 diabetes, the pancreas makes a normal amount of insulin. But the body doesn't use it effectively. This causes the sugar in the blood to be too high.

Many people with Type 2 diabetes can control their blood sugar by making changes to what they eat or by taking medicine. Some patients must use insulin to control their blood sugar.

Diabetes and Chronic Kidney Disease are Linked

Diabetes and CKD are linked. If you have diabetes, you are at increased risk for CKD. Each condition can lead to or worsen the other. About 30% of patients with Type 1 diabetes and 10% to 40% of those with Type 2 diabetes will suffer from kidney failure at some point.



How Does Diabetes Damage the Kidneys?

Diabetes causes damage to small blood vessels in the kidneys. When the blood vessels in the kidneys are injured, the kidneys can't clean the blood properly. Your body will retain more water and salt than it should. This can result in weight gain and ankle swelling. Waste will build up in your blood; you may have protein in your urine.

Diabetes causes damage to nerves in your body. This can make it hard to empty your bladder. The pressure from a full bladder can damage your kidneys. If urine stays in your bladder for a long time, infection can develop from rapid growth of bacteria in urine that has a high sugar content.

What are the symptoms of kidney disease in people with diabetes?

The earliest symptom of diabetic kidney disease is increased protein in the urine. This is present long before the usual tests done in your doctor's office show evidence of kidney disease. People with diabetes should have their blood, urine, and blood pressure checked at least once a year. Early treatment of diabetes, high blood pressure, and kidney disease can lower your risk of developing kidney failure.

Symptoms of Kidney Disease in People with Diabetes

- Protein in the urine (shown by a urine test)
- High blood pressure
- Ankle and leg swelling, leg cramps
- Going to the bathroom more often at night
- High levels of BUN and creatinine in blood
- Less need for insulin or antidiabetic medications
- Morning sickness, nausea, and vomiting
- Weakness, paleness, and anemia
- Itching