



On Call[®] Advisor Diabetes and Kidney Disease

Diabetes and Kidney Disease

Diabetic kidney disease is a type of kidney disease caused by diabetes. It is also called chronic kidney disease (CKD). Studies have shown that diabetes is the leading cause of kidney disease. About 1 out of 4 adults with diabetes has kidney disease.

The main job of a healthy kidney is to:

- Remove waste products from the body.
- Balance the body's fluid.
- Help keep blood pressure under control.
- Keep bones healthy.
- Help make red blood cells.

Once the kidney is damaged, it will not be able to filter your blood or perform other tasks. As a result, the waste would start to build up in your blood. There are five stages of CKD, and people at early stages usually feel fine. When CKD has reached to the kidney failure stage, patients might feel really sick and a transplant would be the only way to survive.



Stages of Kidney Disease

Stage	Description	Glomerular Filtration Rate (GFR)*
1	Kidney damage (e.g., protein in the urine) with normal GFR	90 or above
2	Kidney damage with mild decrease in GFR	60 to 89
3	Moderate decrease in GFR	30 to 59
4	Severe reduction in GFR	15 to 29
5	Kidney failure	Less than 15

Diabetes Damage to The Kidney

There are three common damages that diabetes can do to the kidney:

- **Nerves in the body** – When the nerves in the body are damaged by diabetes, it is possible that the brain does not send a message to the bladder notifying it that it is full. When this happens, the pressure from a full bladder can harm the kidney.

- **Blood vessels in the kidneys** – The high blood glucose level can cause the blood vessels in the kidney to become clogged. This problem would cause the kidney to have a lack of blood, and it can also lead to the flow of albumin (a protein) to enter the urine when it is not suppose to.
- **The urinary tract** – When urine stays in the bladder for too long, it will develop a urinary tract infection that is caused by bacteria. Bacteria tend to grow rapidly in urine with high blood sugar level. This infection affects the bladder but sometime it can spread to the kidney.

Tips to Prevent Kidney Disease

- *Control your blood sugar level.*
- *Keep blood pressure under control (below 130/80).*
- *Test for kidney disease at least once a year.*
- *Take medication to control your blood glucose, blood pressure and cholesterol.*
- *Follow a healthy diet for diabetes (less sodium food).*
- *Perform suitable physical activities regularly.*
- *Avoid alcohol and quit smoking.*
- *Visit your physician for check ups as suggested.*

Tests to See How Your Kidneys are Doing

Perform the tests listed below regularly to keep track of the progress, that way you will get a better understanding of what is affecting your kidney's functions.

- **Blood pressure test** – In order to slow down your CKD, it is advised to keep your blood pressure level below 130/80, this can help prevent or delay kidney failure.
- **Glomerular filtration rate (GFR)** – This number tells you the kidney's blood filtering function. The GFR number will only decrease, so it is important to prevent the number from dropping so that kidney failure can be prevented or delayed. (Normal GFR is between 120 and 60)
- **A1C** – The A1C test is a laboratory test that shows your average blood glucose level in the past three months. The test helps diabetes to stay healthy and the normal A1C goal for people with diabetes is at 7%.
- **Urine albumin** – Albumin is the protein that can pass into the urine when the kidney is damaged. Treatment medication will help to lower the amount of albumin and keeping this protein away from the urine is good for your kidneys.

This material is general information for diabetes and kidney disease. If you need a more specific treatment for your health, please consult your healthcare provider.