

KIDNEY DAMAGE & CHRONIC KIDNEY DISEASE (CKD)

Kidneys clean waste products from the blood and help our bodies remove excess fluid. Elevated blood glucose (BG) levels over time may impair blood flow to the kidneys and/or reduce the ability of nerves to empty the bladder. Urine remaining in the bladder may cause excess pressure on the kidneys, leading to damaged kidneys that have problems removing all the waste from the blood.

Kidney damage and waste buildup are known as CKD, diagnosed by excessive amounts of protein in the urine for three months or more.

CHRONIC KIDNEY DISEASE RISK FACTORS

- Diabetes is the leading cause of CKD.
- Prolonged high blood pressure is the second leading cause.
- CKD is estimated to be more common in women than men.
- Genetics, such as family history of kidney disease, diabetes, or hypertension.
- Populations with a higher risk of diabetes are also at higher risk for CKD, including those of African American, Hispanic, Eskimo, and American Indian descent.
- Living with obesity increases your risk.
- Those over 65 years of age are at higher risk for CKD.
- Eating a high sodium and high protein diet increases your risk.

TESTS FOR KIDNEY FUNCTION

CKD may not have any symptoms. The only way to be sure is to check your urine and blood with the following lab tests:

- **Albumin-to-creatinine ratio (ACR)** – A urine test that measures the amount of albumin, a type of protein, excreted in the urine. A relatively high rate (>300) is called **macroalbuminuria**. A relatively low rate (from 30 to 300) is called **microalbuminuria**. A rate of <30 is considered normal.
- **Glomerular filtration rate (GFR)** – A blood test that measures the amount of creatinine, a waste product, in the blood. The GFR determines **kidney function** (how well the kidneys filter blood). A GFR of 60 or higher is in the normal range, < 60 may indicate kidney disease, and <15 may indicate kidney failure.

HOW HEART MEDICATIONS MAY HELP

- **ACE inhibitors** dilate blood vessels to improve the amount of blood the heart pumps, lower blood pressure, and increase blood flow. ACE inhibitors have a protective effect and slow the process that leads to kidney damage in many people with diabetes.
- **AR Blockers (ARB)** block the angiotensin II hormone by dilating blood vessels and lowering blood pressure.

WAYS TO PROTECT YOUR KIDNEYS AND PREVENT CKD

- Take blood pressure medications as directed.
- Talk with your doctor about daily low-dose aspirin.
- Consult a dietitian for sodium, potassium, and protein intake guidance.
- Be active for about 30 minutes most days of the week.
- Maintain a healthy weight.
- Stay hydrated and avoid drinking alcohol.
- Quit smoking to prevent damage to your kidneys and heart.
- Maintain target blood glucose and blood pressure levels.
- Seek out sources of peer support and health education.

