



DiabetesSisters is honored to work with a wide variety of organizations, companies, institutions, health systems, government agencies, diabetes bloggers, and online communities serving people with diabetes in order to reach more women with diabetes with our messages of healthy living and positive peer support.

No Woman Should Walk Alone in Her Diabetes Journey

More than 15 million women in the U.S. and 181 million women worldwide are currently living with diabetes. They quietly face unique challenges every day such as fluctuating blood sugars due to pregnancy, menses, and menopause. For reasons not fully understood, women with diabetes also face increased health risks with heart disease, depression, eating disorders, osteoporosis, and ketoacidosis. And they also report higher levels of loneliness and isolation.



Our Mission

To improve the health and quality of life of women with, and at risk for, diabetes and to advocate on their behalf.

Our Vision

A world where women are fully empowered to effectively manage their diabetes.

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KIDNEY HEALTH



**WOMEN
DIABETES
LIFE**

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What Is Diabetes?

Diabetes is a condition characterized by the body's inability to properly use blood glucose (BG) or produce insulin, resulting in high blood sugar (hyperglycemia).

Type 1 diabetes—the pancreas no longer makes insulin, so BG cannot enter the cells to be used for energy. Individuals with type 1 diabetes require insulin to survive. The cause of type 1 diabetes is unknown, but the occurrence is greater if a parent or sibling also has type 1 diabetes.

Type 2 diabetes—either the pancreas does not make enough insulin or the body is unable to use insulin correctly. People with type 2 diabetes may use a variety of treatments including medication, diet, and exercise. Causes of type 2 diabetes include various factors such as family history, age, physical inactivity, excess weight, gestational diabetes, and race/ethnicity.

Adults with diabetes, high blood pressure, or both are more likely to develop kidney disease. Chronic kidney disease (CKD) is estimated to be more common in women than in men.

What Is Chronic Kidney Disease (CKD)?

Kidneys clean waste products from blood and help our bodies remove excess fluid. If blood glucose levels are elevated over extended periods of time, blood flow to the kidneys may be impaired, the ability of the nerves to empty the bladder may be reduced, and urine remaining in the bladder may cause excess pressure on the kidneys. This leads to kidney damage.

Damaged kidneys have problems removing all the waste from the blood. When kidneys are damaged and waste starts building up in the blood, this is known as CKD. It is diagnosed by the presence of abnormal amounts of protein in the urine for three months or more.

While the causes are complex, having prolonged high blood glucose levels over time is a leading factor in CKD. Other major factors include high blood pressure, diets containing high amounts of protein, and genetics.

Monitoring Kidney Function and Risk Factors

Women with CKD may not have or notice any symptoms. The only way to find out for sure is to get results from specific urine and blood tests.

- **Albumin-to-creatinine ratio (ACR)**—This urine test measures the presence and amount of albumin, a type of protein, in the urine.

- **Glomerular filtration rate (GFR)**—This blood test measures the presence and amount of creatinine, a waste product, in the blood. The GFR is generated by inserting the creatinine result in a math formula with your age, race, and sex. The GFR tells how well kidneys are working (kidney function).
- **Blood pressure**
- **Blood glucose**
- **Cholesterol**

Managing blood pressure, blood glucose, and cholesterol levels (also risk factors for heart disease and stroke) is even more important with CKD and diabetes.

Important Terms

Albuminuria: The presence of protein in human urine, often symptomatic of kidney disease

Angiotensin-converting enzyme inhibitors (ACE inhibitors): heart medications that dilate blood vessels to improve the amount of blood the heart pumps, lower blood pressure, and increase blood flow. Some ACE inhibitors have been found to slow the process that leads to kidney damage in many people with type 2 diabetes.

Angiotensin II receptor blockers (ARBs): heart medications that block the angiotensin II hormone and widen or dilate blood vessels to improve blood flow. ARBs work very similarly to ACE inhibitors.

Creatinine: a waste product formed by the breakdown of a substance (creatinine) important for converting food into energy. Kidneys filter creatinine out of the blood, and then it is passed out of the body through urine. If kidneys are damaged and cannot function, the amount of creatinine in the blood increases.

Dialysis: process that does the work for the kidneys when a person has kidney failure

ESRD: end stage renal disease

Glomerular filtration rate (GFR): process by which kidneys filter blood and remove excess waste and fluids. GFR is a calculation that determines how well blood is filtered by the kidneys.

Macroalbuminuria: characterized by a relatively high rate of urinary excretion of albumin

Microalbuminuria: characterized by a relatively low rate of urinary excretion of albumin

Nephrologists: physicians who specialize in the diagnosis and treatment of diseases of the kidney and urinary system

Nephropathy: kidney damage

Proteinuria: presence of excess protein in the urine

Renal: relating to, involving, affecting, or located in the region of the kidneys

Urine protein to creatinine ratio (UPCR): ratio of urinary protein to creatinine used to quantify the amount of protein being excreted through urine. Used to calculate proteinuria.

Ways to Protect Kidneys and Lower CKD Risk

- If blood pressure medication is prescribed, take as directed.
- Talk with your doctor about whether a daily low-dose aspirin is right for you.
- Be active for about 30 minutes most days of the week.
- Talk with a dietitian about food choices, specifically limiting sodium, choosing lower-potassium foods, and limiting amounts of protein.
- Maintain a healthy weight.
- Quit smoking. Get help by calling **800-QUIT-NOW** or go to **smokefree.gov**.
- Avoid drinking alcohol.

Resources

DiabetesSisters: diabetessisters.org

National Kidney Foundation: kidney.org

American Diabetes Association: diabetes.org/living-with-diabetes/complications/kidney-disease-nephropathy.html

Centers for Disease Control and Prevention: cdc.gov/kidneydisease

National Institute of Diabetes and Digestive and Kidney Diseases: niddk.nih.gov

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