

CKD Stages

“Knowing your Chronic Kidney Disease (CKD) stage will help you make treatment decisions and plan for the future.”

Doctors divide CKD into 5 stages.

Your doctor will tell you your CKD stage based on:

- Your level of kidney function, determined by the lab test, Glomerular Filtration Rate (GFR)
- Your symptoms

Glomerular Filtration Rate (GFR)

GFR is the rate at which kidneys eliminate waste from the blood.

Calculating your GFR requires measuring the amount of creatinine, a waste product of muscle activity, in your blood.

A higher than normal level of creatinine in the blood means that kidney function is slowing down.

Completely healthy kidney function is measured at a GFR of 100, which means that the kidneys are clearing at 100%. Your kidney function is still considered normal if the GFR number is 90 or greater. If your GFR is 26, you know that your kidneys are working at approximately 26% of the normal rate.

The GFR is also influenced by a person's age, gender, weight, and race. For instance, GFR decreases with age. The GFR calculator also changes the equation depending on muscle mass, which tends to be higher in men than women, and higher in blacks than in people of other ethnicities.

| CKD Stage | Definition | What It Means |
|-----------|---------------------------------------|--------------------------------------|
| Stage 1 | With normal/high GFR; greater than 90 | Slight kidney damage |
| Stage 2 | GFR = 60 to 89 | Mild decrease in kidney function |
| Stage 3 | GFR = 30 to 59 | Moderate decrease in kidney function |
| Stage 4 | GFR = 15 to 29 | Severe decrease in kidney function |
| Stage 5 | GFR less than 15 | Kidney failure |

CKD Stages

“Stage 1 and 2 is defined as slight damage and mild decrease in kidney function.”

Early Stage CKD

In early Stages 1 and 2, a healthy lifestyle may help slow or prevent further damage to the kidneys.

A healthy lifestyle includes:

- A healthy diet and exercise
- A healthy weight
- Quitting smoking
- Taking medicines as directed
- Managing stress
- Avoiding kidney enemies
- Seeing your doctor regularly

In Stages 1 and 2 you may not have any symptoms of kidney disease, and often people don't even know that they have CKD. Their kidney disease is usually found when they are tested for other conditions, such as diabetes or high blood pressure, the two leading causes of CKD.

In Stages 1 and 2, the kidneys are not functioning at 100% of the normal rate, but they are still doing a good job of cleaning waste out of the blood. Stage 1 and 2 is defined as slight damage and mild decrease in kidney function. A healthy lifestyle, in particular a kidney-friendly diet, can slow down further damage to the kidneys and even stop the progress of the disease. It is important to avoid some common medications and herbal supplements that may harm your kidneys.

Eating grains, fresh fruit, and vegetables, and limiting your consumption of fats, as well as processed foods that are high in sugar and salt, called sodium, is kidney-friendly. At the same time, eat the recommended daily amount of protein and get the recommended daily amounts of safe vitamins and minerals. Also important is to follow your health team's advice as to the proper balance of your fluid intake. It is important that you not become dehydrated by drinking too few fluids.

With CKD, the buildup of waste products, minerals, fluid and other chemicals in your blood happens slowly. You may not feel the first symptoms, but the signs show up in tests your doctor orders. Common problems are high blood pressure, anemia, hardening of the arteries, called atherosclerosis, and weakening bones.

It is important to find a doctor who specializes in kidney disease, called a nephrologist, and to partner closely with your doctor and other members of your health care team as early as possible.

Page 2 of 5

CKD Stages

“If you are in Stage 3 CKD, your regular doctor should refer you to a nephrologist.”

The right treatment includes following your doctor’s instructions about diet, exercise and medications. This customized treatment plan will keep your kidneys functioning and may hold off further damage and symptoms.

First and foremost, stay engaged with life. If you are working, keep at it. Your job provides income, often provides other benefits, such as health insurance, and is usually a good social outlet and source of support.

Before starting any exercise program, talk to your healthcare team to set goals that are gradually increased over time. Exercise not only improves your physical health, but it has also been shown to reduce stress, reduce or maintain body weight, improve mood, and control blood pressure.

At Stage 3, you may develop high blood pressure or your high blood pressure may get worse. Your lab tests may show that you have a low red blood cell count, called anemia, or early bone disease. You can also develop heart disease. Along with abnormal lab tests, you may begin to feel some of the symptoms of kidney disease.

If you are in Stage 3 CKD, your regular doctor should refer you to a nephrologist. You will likely visit your kidney doctor about every 3 to 6 months, to monitor how well your kidneys are functioning, and to check related conditions, such as high blood pressure and diabetes. If you have hypertension, you should monitor your blood pressure at home, between doctor visits. If you have diabetes, you should monitor your glucose between visits. If either your blood pressure or blood sugar levels are unstable or are poorly controlled, you should call your doctor. Do not wait until your next appointment. Your medications might need adjustment. It may also be good to see a cardiologist, a doctor who specializes in heart diseases, to evaluate whether your heart has been affected by your CKD.

At Stage 3 symptoms of CKD may begin to appear. Some signs of Stage 3 include:

- Lab tests that show accumulation of waste products in the blood
- Increasing high blood pressure, low red blood cell count, early bone disease
- Symptoms such as kidney pain, swelling of hands, feet, and around the eyes, shortness of breath, trouble concentrating, poor appetite or nausea and vomiting



CKD Stages

“Lifestyle choices and close attention to your diet can help slow down the disease.”

Late Stage Kidney Disease

In the early stages you probably did not feel differently, and may only have been diagnosed with CKD because lab tests revealed concerning results. In the later stages, Stages 4 and 5, you will likely experience some symptoms. The buildup of waste, minerals and other chemicals in your blood is called uremia and may happen slowly. Your lab tests will also show continuing signs of declining kidney function. At this stage, it is important to see your nephrologist regularly. Your doctor will begin talking with you about treatment options, including transplant and dialysis, once you are in the later stages of CKD.

Stage 4 is the beginning of late stage CKD. Your kidneys are no longer able to remove fluids or extra waste products, causing toxins and fluids to build up. Stage 4 means that the time has come for you to thoughtfully plan and make decisions for treatment, which may need to start as soon as the next weeks or months. With guidance from your health care team and the counsel of your family, you have a great deal to say and do about what your future holds.

It would be completely understandable for you to be feeling overwhelmed, and maybe frightened, and even sad, or angry that your CKD has reached a point where you will need treatment—choices that will be with you for the rest of your life.

In Stages 4 and 5, your body is even less effective at regulating blood pressure, making red blood cells and keeping your bones healthy. For some people who have reached Stage 4, and in all cases of Stage 5 CKD, the kidneys are no longer able to function well enough on their own, and a treatment plan that includes dialysis or transplant becomes necessary.

Stage 5 CKD, also called end stage renal disease (ESRD), is fatal if untreated. With proper treatment, you will be able to live a longer and healthier life. Treatment options include kidney transplant and dialysis. Kidney transplant involves a surgery to receive a healthy kidney from someone else. Dialysis is a method of cleaning your blood that does not use the kidneys, and can be done either through peritoneal dialysis or hemodialysis.

It usually takes time to go from one stage of CKD to the next. Lifestyle choices and close attention to your diet can help slow down the disease. At the same time, less careful attention to these choices, as well as illnesses such as the flu, can sometimes speed up the progression to the next stage.

CKD Stages

“At Stage 5, diet remains a big part of treatment.”

Pay close attention to your symptoms and let your doctor know immediately if you have any signs that could suggest a later stage of CKD:

- Nausea, vomiting and loss of appetite
- Headaches, sleepiness, inability to concentrate
- Itching, tingling in hands and feet
- Swelling around eyes, or hands and ankles
- Muscle cramps
- Little or no urine output
- Changes in skin color

At Stage 5, diet remains a big part of treatment. A dietitian will develop a meal plan based on the treatment you choose, your lab results and food preferences.