

What Causes CKD?

Diabetes, hypertension, glomerular diseases, and genetics

Diabetes: Diabetes prevents the breakdown of glucose or sugar. When present at high concentrations in the blood, glucose damages the kidneys' nephrons. Serious deterioration of kidney function occurs 15-20 years after the onset of diabetes.

Hypertension: High blood pressure damages the blood vessels or glomeruli in the kidney, preventing waste from being filtered.

Glomerulonephritis: Kidney infections not caused by bacteria damage the kidneys' blood vessels. Symptoms include protein and/or blood in urine.

How is CKD Diagnosed?

As CKD exhibits few symptoms in its early stages, health care providers employ 2 types of lab tests:



BLOOD TEST

To test the levels of blood creatinine and urea, waste products from the breakdown of muscle and protein. The level of these substances rises as kidney function deteriorates.



URINE TEST

To gauge the presence of albumin or protein in urine. Individuals with healthy kidneys will not have proteins in their urine.

CKD Stages

There are 5 stages of CKD that are defined by the changes in a person's Glomerular Filtration Rate (GFR), which measures how well the kidneys are removing waste from the blood.

The 5 stages are as follows:

- STAGE 1** With normal or high GFR (GFR > 90ml/ min)
- STAGE 2** Mild CKD (GFR= 60-89 ml/ min)
- STAGE 3** Moderate CKD (GFR > 30ml/ min)
- STAGE 4** Severe CKD (GFR > 15-29ml/ min)
- STAGE 5** End Stage CKD (GFR > 15ml/ min)

When a patient has a GFR < 60ml/min/1.73 m2 for more than three months, the patient then becomes a CKD patient.

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CKD

Chronic Kidney Disease



How Do I Prevent CKD

1. Take caution in the medicines you take as the kidney is responsible for metabolizing many medicines. Antihistamines and painkillers containing acetaminophen and aspirin damage the kidneys. Refrain from taking herbal medications, as they lack nutritional labels. There is a possibility they might contain FDA-banned herbs with aristocholic acid. Some may also contain lead, mercury, and other heavy metals.

2. Watch your protein and sodium intake!

Protein: People who consume too much protein are 3.5 times more likely to develop kidney disease than adults who consume the suggested amount (that is determined by your weight in kg x 0.8g) For example, an adult weighing 50kg can consume 40g protein daily - equivalent to five servings of protein. A normal serving size of protein is 7-8g. That amount of protein can be found in 1 bowl of rice, 4 pieces of toast, 1 cup of milk or 2-3oz of meat.

Salt: Since 95% of consumed salt is secreted by the kidneys, excessive salt intake taxes the renal system. Daily sodium intake should not exceed 8 grams. As most food naturally contains salt, it is recommended that only 1 teaspoon of additional salt should be added to season food.

3. Control high blood pressure and diabetes, which increase your chance of developing kidney disease by 2 and 1.5 times respectively. To reduce your risk for CKD, maintain your blood pressure below 7%, low density lipoprotein (LDL) under 100mg/dl, and blood pressure below 130/80mmHg. This can be achieved through regular exercise (5 days a week, 30-60 minutes/day), a balanced diet (with low levels of fats, sugars, and calories), and remembering to take a urine test once every half year.

4. Drink lots of water! Water stimulates the body's natural metabolism and helps in ridding wastes, such as urea and kidney stones. The suggested daily water intake is 2 liters. This is equivalent to at least 4 bottles of water.



Kidney Disease Cannot Be Reversed, But Can Be PREVENTED!



Chronic Kidney Disease At a Glance...

- Chronic kidney disease is the 9th leading cause of death among Americans. About 67,000 people die each year due to renal failure
- Over 16% of adults over age 20 have CKD. That means about 1 in 6 individuals have kidney disease, and over 400,000 patients are on dialysis or have received kidney transplants (Center for Disease Control)
- Kidney disease is more common in minority communities, especially among Asian-Americans, African-Americans, and Hispanics.
- Symptoms of CKD include high blood pressure, chest pain, headaches, the urge to urinate frequently, fatigue, and vomiting. These symptoms arise only in the more advanced stages of the disease, often too late to prevent mortality or the need for dialysis or kidney transplantation.

What Do My Kidneys Do?

Located near your back below the ribcage, your kidneys filter blood through millions of microscopic units called nephrons. Your kidneys filter nearly 200 quarts of blood each day to remove about

two quarts of excess water and bodily waste, which is generated through normal tissue breakdown and the digestion of food. In filtering blood and sieving out waste in the form of urine your kidneys maintain the delicate balance of electrolytes, salts, and acids in your body.

If kidney function fails, your body is damaged by the toxic waste that aggregates in your blood. Moreover, as the kidneys also produce hormones that control blood pressure, red blood cell production, and the regulation of vitamin D and calcium levels, kidney failure often leads to mortality.

What is Kidney Disease?

There are 2 types of kidney disease - acute kidney disease and chronic kidney disease.

1. Acute kidney disease is the rapid loss of kidney function over a few days or weeks, caused by disorders that disrupt the kidneys' blood supply, the activity of the kidney themselves, or urine flow from the kidneys. As acute kidney disease does not cause permanent damage to the nephrons - the tiny units that filter blood - appropriate treatment can often cure this disease.
2. Chronic kidney disease (CKD) is the gradual, irreversible damage to the kidneys' nephrons over several months or years. Initial symptoms do not appear until its later stages, making CKD a silent killer.

