
Chronic Kidney Disease



Chronic Kidney Disease (CKD) is a gradual deterioration and usually permanent loss of kidney function over time that makes it more difficult to remove waste products, drugs, and other toxins from the blood, regulate body fluids including water and minerals such as sodium, potassium, calcium, and phosphorus, and produce hormones that help control your blood pressure and make red blood cells.

Although anyone can develop CKD, the two leading causes of are uncontrolled high blood pressure and diabetes. Other causes include hypoparathyroidism, glomerulonephritis, chronic hyperkalemia, and tubular disease. Those with CKD may eventually progress to End Stage Renal Disease (ESRD) needing a kidney transplant or dialysis to stay alive.

To decrease your chances of developing CKD avoid alcohol, stop smoking, limit your intake of protein, salt, & over-the-counter pain relief medications, drink water instead of soda, try to exercise more and manage your hypertension &/or diabetes.

Symptoms of CKD progression include

- Feeling weak
- Loss of appetite
- A metallic taste in the mouth or ammonia breath
- Not sleeping
- Swelling of feet and ankles
- Dry, itchy skin
- Muscle cramping at night
- Puffiness around the eyes, especially in the morning
- Increase need to urinate especially at night
- Nausea, vomiting

Nutrition & CKD

Nutrition therapy is the single most important factor to prevent progression of the disease. Unlike ESRD, potassium and fluids usually do not need to be restricted. Here are some general things to consider:

Protein

Limiting the amount of protein eaten may help alleviate the symptoms of uremia, such as nausea, vomiting, and weight loss. Protein should be limited on to 0.6-0.75 grams per kilogram ideal body weight per day.

For more information:

God's Love We Deliver, Nutrition Department
212-294-8103 or 800-747-2023
nutrition@glwd.org
www.glwd.org

Here is an example of how the protein in the diet would be figured

A man 5'6" tall and 145 pound (66 kilos) :

0.6 grams x 66 kilos = 40 grams of protein per day

0.75 grams x 66 kilos = 49 grams of protein per day

This man would need to limit his protein intake to 40-49 grams per day.

Here are some samples of protein in foods

1 egg = 7 grams protein

1 chicken thigh = 14 grams protein

1 cup cooked rice = 4 grams protein

½ cup corn = 2 grams protein

8 ounces of milk = 8 grams protein

1 slice of bread = 2 grams protein

1 hotdog = 7grams protein

3 ounces of salmon = 21 grams of protein

1 slice of American cheese = 7grams protein

3 ounces hamburger = 21 grams of protein

Fluids

There is usually no restriction in the amount of fluids you can drink until severe kidney disease is reached.

Potassium

Potassium helps regulates fluids and mineral balance in and out of body cells, maintains your normal blood pressure, transmits nerve impulses, and helps your muscles contract. Potassium is found in a wide range of foods, especially fruits, vegetables, and fresh meat, fish and poultry. People with kidney problems may not be able to get rid of excess potassium. Potassium is generally not restricted unless there is also a diagnosis of diabetes. If you have CKD & diabetes limit your intake of bananas, cantaloupe, tomatoes, okra, oranges, prunes, nuts, chocolate, dried peas, beans, and whole milk.

Sodium

Sodium helps regulate the movement of body fluids in and out of your body cells, transmit nerve impulses, regulate your blood pressure, and helps your muscles relax including your heart. Sodium is mainly found in processed foods and table salt. Kidney disease may interfere with sodium excretion causing fluid retention and swelling. High sodium foods to avoid include: salt, pork products, pepperoni, sausage, pickles, Fast Food, cheese, Chinese Food, soy sauce, potato chips, canned soups, and pizza. **Check with your doctor before using a salt substitute.

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Phosphorus

Phosphorus helps generate energy in every cell of your body, acts as the main regulator of energy metabolism in your body's organs, serves as part of the DNA and RNA, which are your body's master plan for cell growth and repair, and is a major component of bones and teeth. Phosphorus is elevated in CKD, which can cause calcification of eyes, heart, skin, and joints. Eliminate from your diet: milk (any kind) – try milk substitutes instead (Coffeemate, Cremora), beans (red, black, or white), black eyed peas, lima beans, nuts, chocolate, yogurt, cheese, liver, sardines, desserts made with milk (ice cream, pudding)

Iron

Since red blood cell production is hindered with kidney disease it is common to develop anemia. Iron rich foods should be encouraged to improve anemia, a common symptom of CKD. Also, an iron supplement should be taken. Iron is available in most foods but to increase its absorption cook with a cast iron skillet, consume vitamin C rich foods (i.e. pineapples, broccoli, green pepper, cranberries) with meal and avoid coffee & tea at meals.

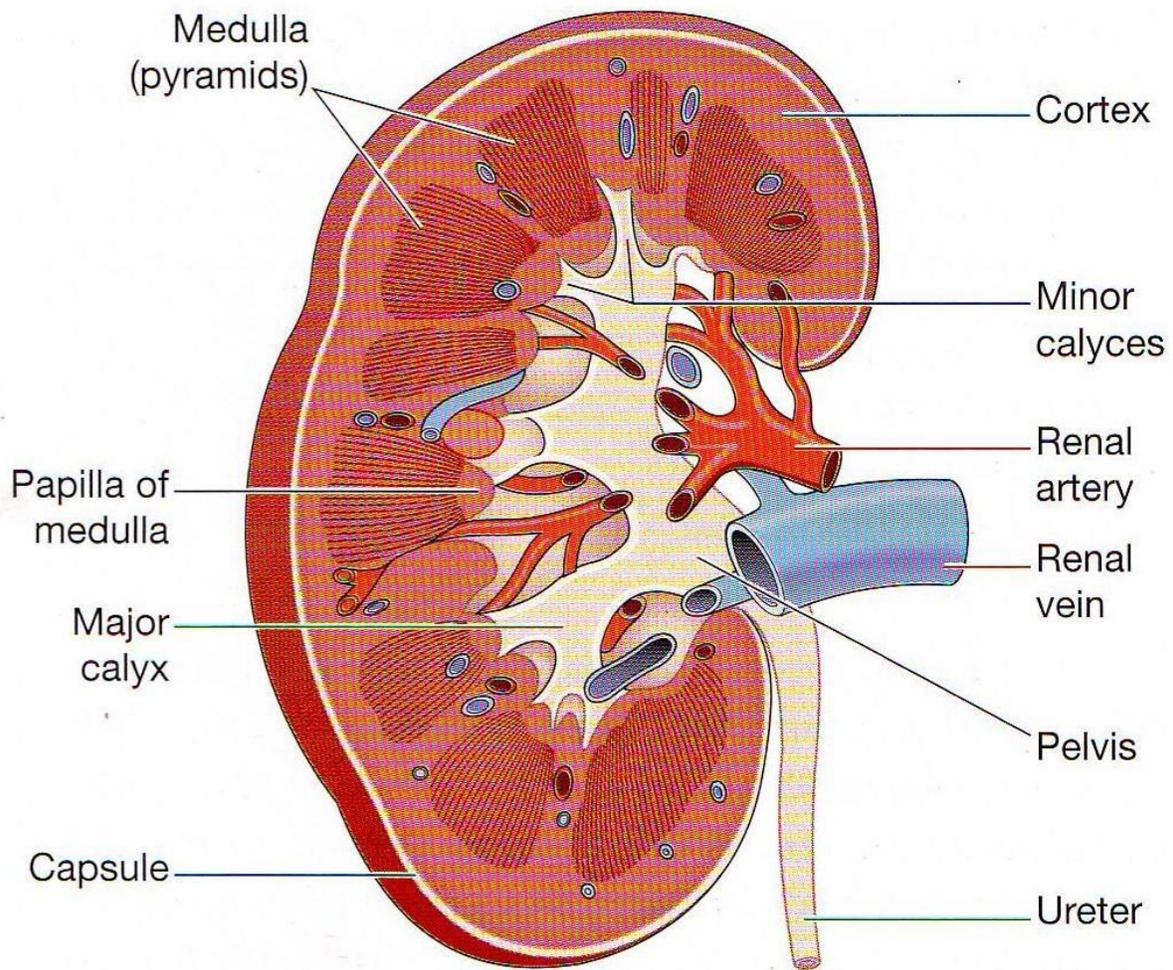
Vitamins

People with kidney disease tend to have increased homocysteine levels in the blood. Too much in the blood has been found to be associated with increased risk of heart disease, stroke, and blood vessel disease. Studies have shown that Folic Acid, Vitamin B12 and Vitamin B6 prevent high levels in the blood.

Foods rich in Folic Acid include	Foods rich in Vit B12	Foods rich in Vit B6
Navy beans Legumes Leafy vegetables Fortified cereals Enriched grain products Yeast breads Wheat germ Avocado	Meat Fish Poultry Eggs Liver	Chicken Fish Pork Whole grains Legumes

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A longitudinal section of the right kidney.

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