

# Nutrition and chronic kidney disease

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Committing to better eating habits is a great start. In order to understand how your diet can affect your health, let's start with an overview of carbohydrates, protein and fat and why each is necessary in maintaining a healthy body.

## **Carbohydrates**

Carbohydrates should be the bulk of your daily diet. Why? Carbohydrates are the primary energy source for the body. The body burns energy constantly, even while at rest. The body needs energy not only for physical activities, but also for a number of automatic functions like breathing and blood circulation. Without energy, your major organs cannot do their jobs.

Carbohydrates are divided into two categories: simple and complex. Many people are under the impression that

complex carbohydrates are better for you than simple carbohydrates. Simple carbohydrates are associated with refined sugar, which may be why many people believe they are bad. Keeping away from all simple carbohydrates is not a good idea. For example, fruit is considered a simple carbohydrate, but it is packed with energy, fiber and vitamins your body needs. Complex carbohydrates are found in breads, grains and vegetables. These carbs also provide needed vitamins and minerals as well as fiber and energy.

Many people are concerned about the amount of carbohydrates they eat. The key is choosing carbohydrate sources that don't have "empty" calories, that is, a carbohydrate food that has nutritional value. If a food does not have nutrients or vitamins that can support your body, it is a

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waste of calories. People with diabetes should be even more concerned about carbohydrates because balancing carbohydrate foods can help in managing blood sugar levels.

### **Protein**

Protein builds muscle and repairs tissue. The body also uses protein to build antibodies, which are your body's weapons against disease. Other body chemicals like enzymes and hormones are manufactured from protein. Protein is found primarily in animal sources (chicken, beef, pork, eggs, milk), but also can be found in plant sources, especially legumes, soybean products and nuts. Most vegetables contain smaller amounts of protein, and fruit is practically protein free.

Protein is important for good health, but in later stages of chronic kidney disease, your doctor and renal dietitian may recommend cutting back on the amount of protein you eat in order to reduce the stress on your kidneys as well as the buildup of protein waste in the blood. Certain protein foods such as milk, yogurt, beans and nuts are high in potassium and phosphorus. These foods may be limited in advanced kidney disease.

### **Fats**

Fat is a necessary component in our diets. It helps transport vitamins like A, D, E and K to our cells. Fat is also used to make hormones like estrogen and testosterone. Certain dietary fats that have essential fatty acids are good for our skin, make up linings of the body's cells and help with nerve transmission. But too much fat, and too much of the wrong fat, can lead to heart disease, weight gain and other health problems.

Fats come in two categories: saturated and unsaturated. Saturated fats are found in meat and dairy products. These types of fats can raise cholesterol, in particular the LDL (low density lipoprotein) cholesterol associated with clogged arteries and heart disease. The FDA recommends reducing the amount of saturated fats in your diet. Unsaturated fats are found in fish, nuts and certain oils. These types of fats can help reduce cholesterol. Sometimes food is processed so that an unsaturated fat (like soybean oil) becomes hydrogenated or partially hydrogenated. This process increases a type of fat called trans fatty acids.

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Like a saturated fat, trans fat can raise LDL and total cholesterol levels. The FDA recommends choosing foods low in both saturated fats and trans fats for a healthy diet.

### **Sodium, Potassium, and Phosphorus**

These three minerals help the body to work and are carefully balanced by the kidneys. As chronic kidney disease advances, certain foods may need to be limited because the kidneys can no longer get rid of excesses of these minerals taken in from the foods eaten. Your doctor will order blood tests to monitor your levels of these minerals. If levels are above normal, the dietitian will teach you about diet changes to help lower sodium, potassium and phosphorus intake.

### **Nutrition for CKD patients**

Proper nutrition for CKD patients is extremely important. For patients in the early stages of CKD, a lower sodium diet may be prescribed if blood pressure is high. Major changes in food intake may not be the primary focus of treatment. But this doesn't mean you can't take steps to be as healthy as you can be. Food is the fuel we put into our bodies. A balanced diet helps our body

function efficiently. Also, a balanced diet gives us enough energy to sustain our activity level. Too much food leads to a calorie surplus, which is stored as fat and leads to weight gain. Too few calories lead to weight and muscle loss.

If you are a patient in the later stages of CKD, your doctor will refer you to a renal dietitian. Your dietitian will create an eating plan designed to help keep you healthy and lengthen the life of your kidneys. Although protein intake will be reduced, you will have enough protein in your diet to maintain a healthy body function. Sodium may be reduced to control blood pressure and prevent swelling. Minerals like potassium or phosphorus may also be reduced to help keep blood levels from going too high.

Your renal dietitian may have you keep a food diary. This is a great tool to help you manage your new diet. It is a written record of what you have eaten during the day and is helpful in calculating your suggested intake of protein and calories. It can also reveal if you are eating too much of a restricted item, such as sodium. It can also reveal if you aren't getting enough of a certain nutrient. Your food diary will help your doctor and

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dietitian determine if changes need to be made to your nutrition plan.

Your dietitian will also make sure you have enough calories in the day, and may recommend a higher intake of carbohydrates and fats so that you do not break down muscle or lose weight. However, this does not mean you can eat any carbohydrate or any fat. Your dietitian will help you choose carbohydrates and fats that supply your body with nutrients. If your CKD is a complication of diabetes or high blood pressure, your dietitian will make sure to tailor your diet to meet your specific needs. It's important to follow your dietitian and doctor's recommendations; making changes to your diet or following a different diet may have negative results on your health. With a proper balance of food and nutrients, you can better manage your CKD and feel your best.