



Nutrition and chronic kidney disease



The foundation of kidney care.

■ Introduction

Healthy eating plays an important role in helping to manage *chronic kidney disease* (CKD). This brochure is for people who have been diagnosed with chronic kidney disease and who have questions about what to eat.

■ Why is proper nutrition so important?

Regardless of how much kidney function you have, what you eat is an essential part of your kidney care plan. Healthy eating can help to do the following:

- Meet your nutritional needs so that you won't be malnourished
- Cut down the workload on your kidneys to help maintain your kidney function that is left
- Control the build-up of food wastes like *urea*
- Reduce symptoms like nausea, itching and bad taste in the mouth
- Help maintain a healthy weight and prevent muscle loss
- Prevent infection
- Give you the energy you need to perform your daily tasks
- Help control high blood sugar if you have diabetes

■ What is the role of the registered dietitian?

The registered dietitian is an important member of your healthcare team. One of the best things you can do is ask your doctor for a referral to a registered dietitian, especially a *renal* dietitian if one is available in your community. The registered dietitian will work with you to design a tasty, daily eating plan that will give you the right kinds and amounts of food to meet your nutritional needs, try to slow the loss of kidney function and help you stay as healthy as possible.

Here are some ways the registered dietitian can help you:

- Explain about menu planning and how to adjust to new ways of eating
- Show you how to adapt some of your favourite recipes to meet your nutritional needs, for example, how to reduce the amount of salt
- Be creative and adventurous with new recipes
- Show you how to measure food and fluids correctly
- Provide food lists showing the content of potassium, phosphorus, salt, etc. in various foods
- Teach you how to read food product labels
- Suggest specific branded products commonly available in stores, such as lower sodium alternatives to high salt foods

- Monitor your nutritional needs over time
- Help you combine your renal diet with other special diets (for diabetes, celiac disease, etc.)

■ Will I need to follow a special diet?

There is no such thing as a “special kidney diet” for everyone. That’s because each person has very individual nutritional needs depending on their age, medical history, amount of kidney function, activity level, and other factors. Not everyone with chronic kidney disease follows the same diet.

■ Will my diet change over time?

What you can or cannot eat may change over time as your kidney function changes. For example, in the early stages of chronic kidney disease, you may need to eat less protein. Later, if dialysis or a kidney transplant is needed, you may need to eat more protein, based on the treatment option you choose.

■ What are healthy food choices?

The following are the foods and nutrients you will have to consider to help relieve symptoms, control blood pressure and maintain health. These are protein, energy foods, sodium, potassium, phosphorus, calcium and Vitamin D.

Protein

Foods like meat, fish, poultry, eggs, tofu and milk are high in protein. Protein builds, repairs and maintains your body tissues. It also helps your body fight infections and heal wounds.

As your body breaks down protein foods, a waste called *urea* is formed. If this is not eliminated, too much urea in the blood may cause tiredness, nausea, headaches and a bad taste in your mouth. But if you eat too little protein, you may lose muscle and weight, lack energy and have difficulty fighting infections. Therefore, you need to eat enough protein for your body while limiting the amount of urea formed.

In the early stages of chronic kidney disease, you may need to limit the amount of protein you eat. If you need to start dialysis treatments, you may have to eat more protein than before, especially if you are on peritoneal dialysis.

Your registered dietitian will recommend the correct amount of protein for you based on your size, kidney function and treatment regimen.

Note: Until you see a registered dietitian, follow Canada's Food Guide to Healthy Eating. Choose 2-3 servings of Meat and Alternates per day. Choose from the higher serving range (three) if you are on dialysis. If you are vegetarian, speak to your registered dietitian about how you can still meet your protein needs.

Energy foods

Energy (or calories) is found in most foods, particularly starches, sugars, grains, fruits, vegetables, fats and oils. Energy foods provide the fuel (calories) you need to do your daily activities and help you maintain a healthy body weight. If you are getting fewer calories from protein because you are controlling your protein intake, you'll need to get more calories from other food sources. The registered dietitian can suggest the right energy foods to meet your needs, and, if you have diabetes, to help control your blood sugar.

Sodium (salt)

Sodium affects your body fluids and blood pressure. You need to control your salt intake and avoid foods with a high sodium content. These include processed foods like “deli” meats, canned foods, convenience and “fast” foods, salty snacks and salty seasonings. Many prepared foods also have a lot of “hidden” salt in them – learn to read food labels and always look for lower sodium foods.

To enhance the taste of unsalted food, you can use unsalted spices, fresh or dried herbs, vinegar and lemon.

Potassium

Potassium is a mineral which helps your nerves and muscles work well. You need some potassium for good health, but too much can be dangerous. If the potassium level in your blood is too high or too low, it can affect your heartbeat. A very high level can cause the heart to stop beating.

Some people in the early stages of CKD (pre-dialysis stages) don't need to limit their potassium intake, while others do need to watch it. If you need to restrict your potassium intake, your doctor and/or registered dietitian will tell you how much potassium you should have each day to keep your potassium level in the healthy range. The registered dietitian will teach you how to follow a low potassium diet and help you make an eating plan.

If you are on hemodialysis, you will need to limit your potassium intake to avoid too much build-up between treatments. With peritoneal dialysis, you may be able to enjoy a variety of higher potassium foods, but check with your registered dietitian to be sure.

Examples of high potassium foods are potatoes, squash, bananas, oranges, tomatoes, dried peas and beans.

Medications can also affect how much potassium you have in your blood.

Phosphorus (phosphate)

Phosphorus is a mineral which helps keep your bones strong and healthy. It may be referred to as phosphorus or phosphate.

As kidney function declines, your blood phosphate level will rise, causing itchy skin or painful joints, and loss of calcium from your bones. Therefore, you may need to limit the amount of high and moderate phosphorus foods you eat. These include milk, cheese and other milk products, and protein foods such as meat, fish and poultry. However, you still need milk products and protein foods for overall good nutrition, so your registered dietitian will make sure you have enough of these in your daily eating plan.

Generally, foods with very high levels of phosphorus, such as seeds, nuts, dried peas, beans and bran cereals, are *not* included in your daily eating plan.

Note: If you are vegetarian, speak to your registered dietitian about how you can still meet your protein needs.

Read product labels carefully for “hidden” sources of phosphorus such as *phosphoric acid* and *sodium phosphate* (phosphorus is often used in many meat products such as fresh pork or frozen chicken breasts). The amount of phosphorus in these foods can be quite significant. Also, most processed meats and many beverages, especially colas, contain added phosphates.

Your doctor may prescribe *phosphate binders*. These medications bind with the phosphorus in your intestine. The bound phosphorus will pass in your stool. For phosphate binders to work properly, you must always take them with food: they are best taken in the *middle* of your meal or snack. Do not take phosphate binders at the same time as iron supplements

Calcium & Vitamin D

Calcium and Vitamin D are needed for strong bones and are carefully regulated by healthy kidneys. Damaged kidneys may not be able to activate Vitamin D into a usable form. When your kidneys are no longer working well, your doctor will advise you about starting calcium and activated Vitamin D supplements. Your doctor will also carefully monitor the calcium levels in your blood and adjust your supplements as needed. People with chronic kidney disease should only take calcium and Vitamin D as prescribed by their physician.

■ **What about fluids?**

Some people need to limit their fluids while others can drink any amount they wish. As kidney function decreases, the kidneys may not produce as much urine as before, and your body may become overloaded with fluid. This can cause swelling of the legs, hands and face, high blood pressure and shortness of breath;

you may then need to limit your fluids. The registered dietitian will build your fluid allowance into your daily eating plan. Fluids include anything that is liquid at room temperature such as water, soup, juice, milk, popsicles, alcoholic beverages and gelatine.

Important: Do not limit fluids unnecessarily because this may cause damage to the kidneys.

■ Are vitamin and mineral supplements necessary?

Normally, a well-balanced diet will give you enough vitamins and minerals to keep you in good health. With kidney problems, you may need additional vitamins and minerals, such as calcium and iron. Vitamin and mineral supplements must be prescribed by your doctor in collaboration with your registered dietitian. This ensures that you get the right kind. Many over-the-counter vitamins and minerals may be harmful.

■ What about herbal remedies and “health foods”?

Don't take any kind of herbal remedy or “health food” because these substances may create serious problems for someone with chronic kidney disease. If you have questions about specific products, discuss them with your registered dietitian and/or doctor.

■ I don't feel like eating. What can I do?

Sometimes it's hard to eat if you have a poor appetite, are feeling sick or have a bad taste in your mouth. But you still need to eat enough calories so that your body does not start to break down muscle tissue. Here are some helpful tips:

- Eat smaller meals and add 3 to 4 snacks each day.
- Eat foods cold. Sometimes the smell from hot foods might make you feel sick.
- Eat whatever appeals to you; don't worry about variety in your diet at this point because it is more important that you eat something.

■ I have both kidney disease and diabetes. What can I do?

Carefully follow your kidney disease and diabetes meal plans and eat your meals and snacks at regular times. Limit your milk and dairy intake. If in doubt about what to eat or drink, it may be better to follow your kidney diet until you can talk to a registered dietitian. A registered dietitian can help you develop a meal plan that puts both diets together.

■ Besides eating properly, what else can I do to help prevent kidney damage?

Be actively involved in decisions about your health, and manage your own well-being by taking good care of yourself. Besides eating properly, these other aspects of chronic kidney disease management are important:

- Have your urine, blood and blood pressure checked regularly by your doctor.
- Maintain good control of your blood sugar (if you have diabetes).
- Control high blood pressure.
- Stop smoking.
- Maintain a healthy weight.
- Exercise regularly.
- Avoid excess alcohol.
- Get enough sleep.
- Take your medication as prescribed and always carry an up-to-date list with you; show this list each time you visit a doctor or member of your healthcare team.

■ Where can I go for more information?

Contact your local office of The Kidney Foundation of Canada or visit our Web site at www.kidney.ca for Fact Sheets (see list below) on other nutrition-related topics.

■ Fact Sheets available

- Eating guidelines for diabetes and chronic kidney disease
- Phosphorus (phosphate) and chronic kidney disease
- Potassium and chronic kidney disease
- Potassium in multicultural fruits and vegetables
- Sodium (salt) and chronic kidney disease

The Kidney Foundation

OUR VISION

Kidney health, and improved lives for all people affected by kidney disease.

OUR MISSION

The Kidney Foundation of Canada is the national volunteer organization committed to reducing the burden of kidney disease through:

- funding and stimulating innovative research;
- providing education and support;
- promoting access to high quality healthcare; and
- increasing public awareness and commitment to advancing kidney health and organ donation.

For further information, or if you wish to help us in our efforts, please contact The Kidney Foundation of Canada office in your area. You can also visit our Web site at **www.kidney.ca**.

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This material is available in accessible formats upon request by contacting **info@kidney.ca** or calling **1-800-361-7494**.

