



Clinical Nutrition Department

## **Nutrition basics for dialysis**

### **What do your kidneys do?**

Food is broken down in your stomach and intestines to provide you with energy and nutrients. Waste products are produced from the breakdown of food. Healthy kidneys remove waste products from your blood. These wastes leave your body in your urine.

### **Importance of good nutrition while on dialysis**

When your kidneys are not working, dialysis removes wastes and fluids from your body. However, wastes and fluids can build up between dialysis sessions, and can cause you to feel unwell and cause harm to your body. Eating well and following the diet guidelines in this booklet and provided by your dietitian can:

- Help you eat the right foods so you can feel your best
- Minimize waste products that make you feel unwell
- Reduce long-term side effects of waste products

### **The remainder of this booklet will provide a basic overview of nutrition information for people on dialysis**

When on dialysis it is important to get enough protein to keep your muscles and immune system strong. Foods high in sodium, phosphorous and potassium may need to be limited in your diet.

## Protein

You need to eat more protein when you are on dialysis. The amount of protein you require depends on factors such as your height, weight, nutritional status, and other medical conditions. Most people on dialysis require 7 – 11 ounces of protein each day. Your dietitian can help you determine the amount of protein you need each day.

### Eating adequate protein will allow you to:

- Maintain blood protein levels
- Build and repair muscle tissue
- Keep your immune system strong

**We recommend that you eat a high quality protein with each meal.** High quality proteins include:

- Meat
- Poultry
- Pork
- Seafood
- Eggs



The following foods have protein, but they should be limited due to their high salt and/or high phosphorous content:

- regular side bacon
- canned or deli meat
- corned beef
- dried/smoked meats
- hot dogs and sausages
- blue and feta cheese
- processed cheese slices
- nuts and seeds
- liver
- dried and baked beans
- lentils
- dried peas
- canned sardines
- canned salmon with bones

## Potassium

Potassium is a mineral in our food that is needed to help our muscles, nerves and heart work properly. Potassium levels in our blood can become high between dialysis treatments and cause negative side effects, such as:

- muscle weakness
- irregular heartbeats

There are often no warning signs when your potassium is high. As a result, foods high in potassium need to be restricted.

### What should my potassium level be?

Low	Less than 3.5 mg/dL
Safe	3.5 to 5.5 mg/dL
High	5.6 to 6.0 mg/dL
Very high	Above 6.0 mg/dL

If your potassium level is high, you will need to limit foods high in potassium.

### Common foods high in potassium include:

- **Vegetables** such as potatoes, tomatoes, brussels sprouts, spinach, beets, winter squash
- **Fruits** such as avocados, bananas, cantaloupe, kiwi fruit, nectarines, and oranges
- **Dried fruits** such as prunes, raisins, and dates
- **Juices** such as orange, prune, grapefruit, pomegranate, and tomato
- **Nuts, seeds, dried beans, dried peas**
- **Dairy products:** milk, yogurt, ice cream, soy milk, pudding (limit dairy to ½ cup per day)
- **Salt-free foods** or salt substitutes that have potassium chloride



## Phosphorous

Phosphorous is a mineral that is found in many of the foods that we eat and drink. Along with calcium, phosphorous helps to keep our bones and teeth strong.

Dialysis does not filter phosphorous out of the blood very well, so it can become too high and cause the following:

- Weak bones
- Hard deposits in soft tissues and blood vessels
- Itchy skin
- Joint pain

Taking a phosphorous binder, in addition to limiting foods high in phosphorous will help you keep phosphorous levels normal. Phosphorous binders, which may be recommended by your doctor, include fosrenol, renagel, and calcium carbonate.

**Here are some high phosphorous foods to limit in your diet:**

<b>High in Phosphorous</b>	<b>Try these instead (lower in phosphorous)</b>
Milk products (milk, cream, yogurt, ice cream)	Rice milk (non-enriched), sherbet, sorbet
Processed cheese slices or spreads	Cream cheese or 1 oz. cheddar or swiss cheese
Bran cereal	Rice cereals, corn flakes, cream of rice
Bread: whole grain, whole wheat	Italian, French, Sourdough
Brown rice and whole wheat pasta	White rice and white pasta
Organ meats, processed meats with phosphorous additives	Unseasoned, fresh meats: chicken, pork, beef, fish, eggs
Cola soft drinks	Ginger ale, lemon/lime flavoured soda
Chocolate or nuts	Hard candy, unsalted popcorn
Dried beans and peas	Green beans

## Sodium

Sodium is a mineral that along with chloride makes up salt. Sodium is needed in our body for:

- maintaining normal blood pressure
- muscle contraction
- nerve function



In kidney disease, your kidneys are not able to get rid of excess sodium. High sodium levels can make you thirsty and cause your body to hold extra fluid. This can result in:

- high blood pressure
- swelling in your ankles and legs
- shortness of breath
- muscle cramps and blood pressure drops during dialysis

### Here are some tips to decrease your salt intake!

Avoid	Recommend
Do not add salt at the table or when cooking	Flavour foods using fresh/dried herbs such as basil, oregano or ground spices such as pepper & cinnamon
Limit canned foods, particularly canned soups, vegetables, & sauces.	Use fresh or frozen vegetables, and make your own homemade soups, sauces & salad dressing
Avoid soy sauce, barbeque sauce, steak sauce, & Worcestershire sauce.	Lemon juice, white vinegar & Tobasco sauce are better options to flavour foods.
Avoid processed meats particularly bacon, ham, sausages, wieners, corned beef, salami, bologna, and smoked meats.	Bake a roast beef or whole chicken and use the leftovers for sandwiches.
Avoid convenience foods and prepackaged meals (e.g. Michelinas, Hungry Man etc.).	If unable to prepare homemade meals, speak to your dietitian about lower sodium frozen meal options that are available.
Avoid fast food restaurants	Save dining out for special occasions

## Fluids

All foods and drinks that are liquid at room temperature are considered a fluid. Examples of fluids are:

Water	Coffee	Tea	Ice cream
Juice	Pop	Ice Cubes	Milk
Soup	Jell-O	Popsicles	Alcohol

The amount of fluid you are able to drink each day depends on your urine output. Fluid intake needs to be decreased when the amount of urine you produce decreases.

A safe weight gain in  
between dialysis treatments  
is no more than 2-3 kg.

Some tips to control fluid intake include:

- avoid salt and high sodium foods (see tips in sodium section)
- use small cups and glasses
- avoid highly sweetened beverages
- rinse your mouth with mouthwash and brush your teeth frequently
- drain fruits and vegetables well

## What's the bottom line?

When you are on dialysis it is important to eat well balanced meals with enough protein. Foods high in sodium and phosphorous need to be limited. Potassium and fluid may need to be limited in your diet as well. Eating the right foods can help you feel your best while you are on dialysis so you are able to do more of what you enjoy.

The dietitian at your kidney care clinic will:

- help you in making good food choices
- provide you with detailed kidney diet information
- provide a personalized meal plan

**Dietitian:** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_