

Nutrition/Dehydration

Your Guide to Eating Healthy After Your Kidney Transplant

You have recently had a kidney transplant and may be wondering if your diet will be different from before your transplant. These diet guidelines describe changes you may need to make in order to feel your best. This includes:

- Food safety
- Calorie and protein needs to help in healing, while preventing weight gain
- How to monitor carbohydrate intake (while preventing high blood sugars)
- Your overall heart-healthy diet that includes electrolytes in your diet

Food Safety

Because of your recent transplant and medicines you are on to prevent organ rejection, this can cause an increase your risk for food-borne illness. To lower the risk:

- Do not eat:
 - Raw and undercooked meat
 - Raw and undercooked seafood
 - Raw and undercooked eggs
 - Dairy items or juice and cider that are not pasteurized
- Avoid cross contamination of raw meat by dirty knives, cutting boards, or dirty work surfaces with other foods
- Always wash fresh fruits and vegetables
- Clean work surfaces
- Change dish cloths daily
- Always wash your hands before eating

- Keep cold foods cold and hot foods hot. Avoid eating room temperature foods and meats thawed on the counter
- Do not eat leftovers that are more than 2 to 3 days old
- Calorie and protein needs
- Short-term goals: Your recovery
- Your calorie and protein needs will increase right after your transplant. This is because surgery has put more stress on your body and because your wounds need to heal

You must eat and drink to provide your body the building blocks for healing and to help prevent infection and muscle loss. You will be given a diet based on the transplanted kidney's function. Usually this is a well-balanced general diet. If the new kidney isn't working as well as expected, you may need to cut back on sodium, potassium and other fluids for a while. Your transplant team will talk to you about this.

During the first few weeks of recovery, be sure to eat nutritious foods. For example: lean beef and pork, chicken, turkey, fish, low-fat milk, cheese, yogurt, eggs, nuts, whole-grain breads and cereal, and fruits and vegetables will give you the protein, vitamins and minerals you need.

If you have a poor appetite or unintended weight loss, tell the transplant dietitian.

Maintain blood glucose control after transplant if you are diabetic. Anti-rejection medication can cause elevated blood sugars and increase your

Nutrition/Dehydration, continued

risk for diabetes. If this occurs after transplant it will be addressed by your transplant team.

Long-term Goals

Maintain a desirable weight. Weight gain after a transplant can be a problem and is common due to improved appetite and fewer diet restrictions. Weight gain also can occur from side effects of anti-rejection medications. Weight gain after transplant increases your risk for high blood pressure, diabetes, heart disease, joint or bone disease and may shorten the life of your new organ. We want you to be as healthy as possible to enjoy the life of your new organ for as long as possible.

To control your weight, pay attention to the number of calories you are getting in food and in drinks. Fat adds the most calories to your diet, so try low-fat ways to prepare your meals and trim added fats from your diet to save calories. Do not eat fast food. Have low-calorie snacks on hand for snacking — fruits, vegetables and low-fat dairy products. Read labels and pay attention to portion sizes. To keep your mind off of food, try to stay busy with your favorite hobbies and activities (reading, gardening or yard work, housework, dancing, crafts, etc.). Keep moving daily with exercise and activities you enjoy to burn more calories. Make a plan and stick with it. If you struggle to control your weight, contact the transplant dietitian — what do you have to lose besides weight?

Bone health is important. Anti-rejection medicines may affect bone strength. In addition, any poor bone health before transplant may make bone disease even more likely after transplant. Eat calcium-rich foods (low-fat dairy and cheese). Take calcium supplements and medicines as prescribed. Exercise to keep your bones strong. Don't smoke.

Heart-healthy Eating

A heart healthy diet is meant to help lower cholesterol levels and blood pressure. It may also help to decrease the risk of heart disease. It includes eating a variety of foods that are low in fat, especially saturated fat and trans fats. The diet is also low in cholesterol and low in sodium. Adding fiber and Omega-3 fatty acids to your diet are recommended.

What Do These Terms Mean?

Saturated Fats: These fats are usually solid at room temperature. They are the “bad” fats that raise cholesterol. Some sources are: high-fat dairy products, high-fat meat products, butter, lard, palm and tropical oils.

- *A low saturated fat item will have only 1 gram/serving*
- *A saturated fat-free item will have less than 0.5 gram/serving*
- *Aim for <5-6 percent of total calories from saturated fat*

Nutrition/Dehydration, continued

Trans Fats: A process called hydrogenation turns liquid (unsaturated) fats (or oils) into solid fats. This type of fat, like saturated fat, can raise your cholesterol levels. You should avoid this type of fat. Some sources of trans fat include: some margarines, vegetable shortenings, peanut butter, crackers, cookies, etc. Recommended <1 percent of total calories from trans fat.

Omega-3 Fatty Acids: This is a type of polyunsaturated fat that may help to prevent blood clots and help your blood vessels dilate (or get bigger). This can make your blood flow more smoothly. They are the “good” types of fat. Adding this type of fat to your diet is recommended.

- *Sources include: Fatty fish (salmon, mackerel, tuna, halibut, lake trout, sardines, etc.), canola oil, flaxseed and nuts (1 1/2 oz/day)*
- *Consumption of fish two to three times a week is recommended*

Sodium: Sodium is in most foods naturally. Processed foods are usually high in sodium. Many food items have low-sodium varieties. Sodium can cause you to retain fluid and/or increase your blood pressure. No more than 1,500 mg of sodium (new guidelines) a day is recommended.

- *Try to use other herbs/seasonings instead of salt (use salt substitutes only with a doctor's permission)*
- *A low sodium item will have 140 mg of sodium or less/serving*
- *A very low sodium item will have 35 mg of sodium or less/serving*

How much fat can I have in a day?

The American Heart Association (AHA) recommends no more than **30 percent** of your total calories to come from fat. The recommendation is different for each person. It is based on how many calories you need everyday. You can visit www.mypyramid.gov to find a meal plan for you.

Nutrition/Dehydration, continued

Hydration

It is important to drink approximately two liters of fluid (eight full 8-ounce glasses of fluid, 68 ounces) per day. Make sure you understand what your fluid needs are. It is best to avoid fluids that have caffeine or limit your caffeine drinks to one per day.

It is important for you to know the symptoms of dehydration. Dehydration can be the cause for an increase in BUN and creatinine levels. Dehydration (and low blood pressure) can also cause acute tubular necrosis (ATN) in which the kidney can temporarily shut down, causing a rise in creatinine and BUN.

Signs of Dehydration

- Low blood pressure, especially when standing up
- Dizziness when standing up
- Rapid pulse rate
- Weight loss
- Fatigue, loss of strength and confusion
- Dry mouth
- Certain lab values may increase, such as your BUN, creatinine and hematocrit
- Low urine output
- Constipation/abdominal pain

Your medicines may affect the levels of certain electrolytes in your body, especially potassium and magnesium. You may need to decrease or increase the foods you eat that are high in these electrolytes.

It is best to talk to a registered dietitian with all of your nutrition-related questions. A registered dietitian has specific training and can provide you with the best information regarding the foods you eat and any diet restrictions you may need. A transplant registered dietitian can be reached at 402.552.3648.

Nutrition/Dehydration, continued

Potassium Content of Foods

Approximate serving of fruit and vegetables ½ cup (unless specified)

High Potassium Foods

Avocado	French fried potatoes	Pumpkin, canned
Apricots, canned or dried	Honey dew melons, 1/8 small	Rutabagas
Banana, 1/2	Kiwi	Spaghetti sauce
Beans, canned with pork	Kohlrabi, fresh or cooked	Spinach, cooked
Beef, ground	Lentils	Sweet potatoes/yams
Beef roast	Mango	Tomato, 1 medium
Beets	Milk	Tomato or vegetable juice, low sodium
Beet greens	Nectarines	Tomato sauce/paste
Broccoli	Okra	Winter squash: acorn and butternut
Brussel sprouts	Orange, fresh	Yogurt
Cantaloupe, 1/8 small	Orange juice	Zucchini
Chicken	Peanut butter	
Chinese cabbage	Pears	
Dates, 1/4 cup	Potato, baked, boiled or mashed	
Figs, 2 whole	Prune juice	
Fish: tuna, salmon, haddock or cod	Prunes	

Medium Potassium Foods

Apple	Corn	Peas
Apple juice	Cottage cheese	Pineapple, juice or canned
Apricot nectar	Eggplant	Plums, canned or fresh
Asparagus, fresh or cooked	Figs, canned	Pudding, vanilla
Blackberries	Fruit cocktail	Radishes
Broccoli	Gooseberries	Raisins, 2 tablespoons
Cabbage	Grapes, 15 small	Raspberries
Carrots	Grapefruit, 1/2	Rhubarb
Cauliflower	Lemon juice	Summer squash
Celery	Mushrooms, canned or fresh	Tangerine
Cherries	Onions	Turnips
Collard: mustard or turnip greens	Papaya	Watermelon, 1 cup
	Peach	Spinach, raw

Nutrition/Dehydration, continued

Low Potassium Foods

Applesauce	Green beans	Pears, canned or nectar
Blueberries	Green peppers	Wax beans, canned (low sodium)
Cranberry juice/sauce	Lemon	
Cucumbers	Lettuce	
Grape juice	Peach, canned or nectar	

Magnesium Content of Food

High Magnesium Foods

Avocado	Nuts: almonds, brazil nuts or cashews	Spinach, fresh, frozen or canned
Cereal, all bran or 100 percent bran	Seeds: pumpkin or squash	Swiss chard, cooked
Muffin, oat bran	Soybeans, cooked	Tofu, raw or regular

Medium Magnesium Foods

Acorn squash	Chocolate milk	Peanut butter
Artichoke	Fish: tuna	Potato, baked with skin
Bean: black, lima, navy, white, kidney, pinto or great northern	Nuts: chestnuts, hazelnuts, walnuts, peanuts	Rice: brown
Beet greens	Oatmeal	Soy milk
	Okra, frozen	Spaghetti: whole wheat

Low Magnesium Foods

Banana	Prune juice	Sweet potato, canned
Baked beans	Pumpkin, canned	Tomato sauce
Bread: whole wheat	Sardines	Wild rice
Chickpeas	Seeds: sunflower	Yogurt
Lentils	Spinach, raw	
Milk: all types	Summer squash	

Nutrition/Dehydration, continued

Phosphorus Content of Food

High Phosphorus Foods

Almonds	Milk: all kinds	Sardines
Biscuit	Nuts	Seeds
Beef	Oatmeal	Soybeans and soy milk
Bran cereal	Organ meats	Tofu
Cheese and yogurt	Pancake and waffle	Tortillas
Chicken	Peanut butter	Turkey
Cottage cheese	Pork loin	Dark colas
Fish: tuna	Potato, baked with skin	
Granola	Pudding	

Medium Phosphorus Foods

Asparagus	English muffins	Rice: brown or wild
Bagel	Granola bars	Spaghetti: whole wheat
Baked beans	Muffins	Sweet potato, baked with skin
Bread: whole wheat	Mushrooms	
Corn	Noodles: egg	
Eggs	Peas	

Low Phosphorus Foods

Beans: green or yellow	Cream of wheat and grits	Pretzels and popcorn
Bread: white, pumpernickel or rye	Coffee and tea	Spinach
Brussel sprouts	Fruit juices	Soda: lemon lime or clear
Cereals: rice and corn	Fruits	Tomato
Cream cheese	Gelatin	White rice and pasta
	Greens	Sausage: pork

