

## Sodium (Na<sup>+</sup>)



Sodium is commonly known as table salt. It plays a major role in regulating plasma volume throughout the body. Sodium is also important in neuromuscular function as well as maintaining acid-base balance. When sodium levels become too high, thirst levels increase leading to increased fluid intake which needs to be limited during dialysis treatment.



To reduce sodium in the diet, cook foods without salt and do not add it to food at the table. Food sources can be as categorized by low, medium, or high sources of sodium based on their content. Managing these foods will help control the amount of sodium that enters the body during dialysis.

High Sodium Foods	Food Group	Sodium Content (>250 mg)
Bacon, pork (2 medium slices)	Protein	370
Cheese, blue (1 oz.)	Dairy	395
Chex Mix (1/2 cup)	Grain	260
Chicken (3 oz.)	Protein	330
Crab (3 oz.)	Protein	510
Olives (1/2 cup)	Vegetable	595
Pancakes (2 5" across)	Grains	400
Pickles, dill (1/2 cup)	Vegetable	680
Pretzel, hard, salted (1 oz.)	Grain	380
Tomato juice (1/2 cup)	Vegetable	330
Medium Sodium Foods	Food Group	Sodium Content (100-250 mg)
All-bran cereal (1 cup)	Grain	150
Bagel (1/2 small)	Grain	155
Beets (1/2 cup)	Vegetable	220
Cheese, cheddar (1 oz.)	Dairy	175
Egg, boiled (1 large)	Protein	140
Graham cracker (3 squares)	Grain	130
Peanut butter (2 tbsp.)	Protein	150
Potato Chips (1 oz.)	Vegetable	150
Ranch dressing (1 tbsp.)	Oils	170
Turkey (3 oz.)	Protein	190
Yogurt (1/2 cup)	Dairy	115
Low Sodium Foods	Food Group	Sodium Content (<100 mg)
Almonds (1/2 oz.)	Protein	0
Apple juice (1/2 cup)	Fruit	5
Cantaloupe (1/2 cup)	Fruit	15
Celery (1/2 cup)	Vegetable	40
Milk (1/2 cup)	Dairy	50
Pineapple (1/2 cup)	Fruit	1
Rice, no salt added (1/2 cup)	Grain	1
Salmon (3 oz.)	Protein	65
Spinach (1/2 cup)	Vegetable	10

**Hint:** If using canned vegetables, be sure to rinse the product thoroughly to reduce the amount of sodium used to preserve foods.

## Phosphorus (P)

Phosphorus participates in various essential functions throughout the human body. In the structure of ATP, it plays a role in providing energy to our cells. Phosphorus also assists in phospholipid membranes of cells that provide cells with structure and when in combination with calcium, phosphorus is a component of hydroxyapatite which is a major inorganic molecule in teeth and bones.



However, individuals on dialysis are required to limit their phosphorus intake in order to prevent unwanted circumstances. Healthy kidneys play a role in eliminating excess phosphorus from the body. Without the assistance of the kidney, phosphorus will remain in high concentrations in the blood causing calcium to leave the bones leading to weak skeletal structure. Food sources can be categorized as low, medium, or high sources of phosphorus based on their phosphorus content. Good sources of protein are generally high in phosphorus; however, phosphorus can be found throughout all food groups. Managing these foods will help control the amount of phosphorus that enters the body.

High Phosphorus Foods	Food Group	Phosphorus Content (>120 mg)
All-bran cereal (1/2 cup)	Grain	350
Almonds (1 oz.)	Protein	140
Biscuit (1 small)	Grain	140
Cake w/ frosting (1 2x2 inch slice)	Grain	180
Cheese (1 oz.)	Dairy	150
Condensed and evaporated milk (1/4 cup)	Dairy	195
Cooked dried beans and peas (1/2 cup)	Protein	130
Granola (1/2 cup)	Grain	130
Milk (1 cup)	Dairy	225
Peanuts (1/4 cup)	Protein	130
Sardines (1 oz.)	Protein	140
Tortillas, corn (2, 6-inch)	Grain	150
Vegetarian burgers (2 oz.)	Vegetable	145
Yogurt (1/2 cup)	Dairy	385
Medium Phosphorus Foods	Food Group	Phosphorus Content (70-120 mg)
Cottage cheese (1/4 cup)	Dairy	70
Ice cream (1/2 cup)	Dairy	70
Light cream (1/2 cup)	Dairy	95
Milkshake (1/2 cup)	Dairy	90
Oatmeal (1/2 cup)	Grain	95
Organ meats (1 oz.)	Protein	115
Pancakes (1, 4-inch thick)	Grain	120
Potato, baked (1 small)	Vegetable	100
Soy milk (1 cup)	Dairy	105
Low Phosphorus Foods	Food Group	Phosphorus Content (<70 mg)
Apricot, dried (1/4 cup)	Fruit	15
Avocado, cubed (1/2 cup)	Fruit	40
Cream cheese (1 oz.)	Dairy	45
Pudding (1/2 cup)	Dairy	65
Raisins (1/4 cup)	Fruit	40
Tofu (1/4 cup)	Protein	60
Tomato (1/2 cup)	Vegetable	20

## Potassium (K<sup>+</sup>)

Potassium is an essential mineral that assists with muscle movement and promotes a healthy nervous system. It also plays a prominent role in balancing water throughout the body through the assistance of the kidneys. Without the proper functioning of the kidneys, potassium levels build up in the body's bloodstream. Too much potassium in the blood is also known as hyperkalemia and can cause heart complications if left unchecked.



Potassium is found in most foods we consume every day. Food sources can be as categorized by low, medium, or high sources of potassium and can be found throughout every food group. Managing these foods will help control the amount of potassium that enters the body during dialysis.

High Potassium Foods	Food Group	Potassium Quantity (>300 mg)
All-bran cereal (1 cup)	Grain	630
Apricots, dried (1/2 cup)	Fruit	515
Banana (1 medium)	Fruit	420
Cauliflower (1 cup)	Vegetable	300
Milk, 2% (1/2 cup)	Dairy	340
Orange (1 large)	Fruit	330
Orange juice (1/2 cup)	Fruit	300
Potato (1 small)	Vegetable	730
Tomato (1/2 cup)	Vegetable	300
Tomato sauce (1/2 cup)	Vegetable	390
Sweet Potato (1 small)	Vegetable	720
Yogurt (1/2 cup)	Dairy	625
Medium Potassium Foods	Food Group	Potassium Quantity (150-300 mg)
Apple (1 medium)	Fruit	150
Avocado, cubed (1/4 cup)	Fruit	180
Beef brisket (3 oz.)	Protein	215
Black beans (1/4 cup)	Protein	160
Chicken breast (3 oz.)	Protein	215
Cottage cheese (1cup)	Dairy	195
Grapes (1/2 cup)	Fruit	150
Mushrooms (1/2 cup)	Vegetable	155
Peanut butter (2 tbsp.)	Protein	210
Low Potassium Food	Food Group	Potassium Quantity (<150 mg)
Asparagus (1 cup)	Vegetable	30
Brown rice (1/2 cup)	Grain	50
Cheese (1 oz.)	Dairy	30
Cucumber (1/2 cup)	Vegetable	80
Granola (1/2 cup)	Grain	140
Green beans (1/2 cup)	Vegetable	90
Pineapple (1/2 cup)	Fruit	90
Spinach (1/2 cup)	Vegetable	85
Tortilla (1 8" across)	Grain	80
Whole wheat bread (1 slice)	Grain	70

**Hint:** Watch out for salt substitutes or other foods containing potassium chloride. This will increase the potassium in the blood.