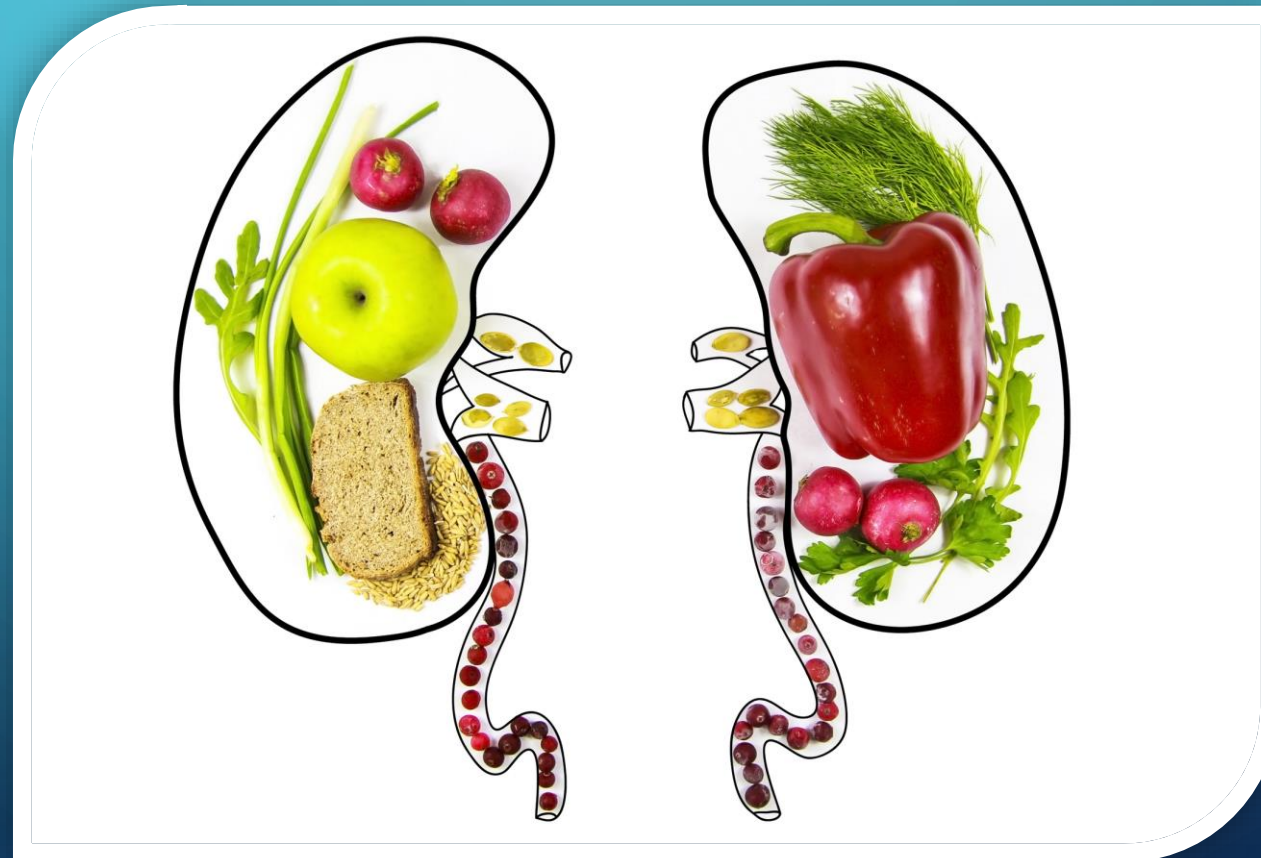


DIET ON THE PATIENTS WITH KIDNEY DISEASE.

LOW-POTASSIUM DIET



INTRODUCTION

- Potassium is a mineral that is found in many foods.
- It keeps the heart beating regularly, helps to maintain fluid balance, and allows the nerves and muscles to work properly.
- The kidneys are the main organ that controls the correct level of potassium in the blood. People who take certain medicines or who have chronic kidney disease must sometimes, under the direction of their clinician, limit or increase the amount of potassium in their diet to keep their potassium level close to normal.

REDUCE POTASSIUM IN DIET

- Normally, the level of potassium in human body is balanced by eating foods that contain potassium and getting rid of excess potassium in the urine. However, people who have lost more than two-thirds of their kidney function often cannot get rid of enough potassium in their urine because the kidneys do not work well
- In these people, the level of potassium in the blood can become higher than normal, causing a condition known as hyperkalemia ("hyper" = high, "kal" = potassium, "emia" = in the blood). Eating a lower-potassium diet can help treat and lower the risk of developing hyperkalemia.

HOW DO WE CUT DOWN ON POTASSIUM?

- Almost all foods contain some potassium, so the key is to choose foods with a lower potassium level, when possible.
- Measure and be aware of the serving size when calculating the amount of potassium in a food; a large serving of a lower-potassium food may have more potassium than a small serving of a food with a high level of potassium. Online or smartphone calculators for potassium can be useful in keeping track.
- Drain and rinse canned vegetables, fruits, and meats before serving.

- Foods with higher levels of potassium — Foods that have the highest concentrations of potassium include cantaloupe, watermelons, grapefruit, all dried fruit and fruit juices, avocados, tomatoes, potatoes (plain and sweet), Brussels sprouts, milk, yogurt, lentils, and most nuts (except peanuts). The foods in the table have greater than 200 mg of potassium per serving and should be avoided or eaten in very small portions.
- Yes, these are healthy foods, but if your kidneys cannot handle the potassium, they are not healthy

FOODS WITH HIGHER LEVELS OF POTASSIUM

Grains	Whole-grain breads, wheat bran, granola and granola bars
Beverages	Sports drinks (Gatorade, etc), instant breakfast mix, soy milk, coffee/tea (limit to 16 fluid ounces)
Snack foods/sweets	Fig cookies, chocolate (1.5 to 2 ounces), molasses (1 tablespoon)
Fruits	Apricots, avocado (1/4 whole), bananas (1/2 whole), coconut, melon (cantaloupe and honeydew), kiwi, mango, nectarines, oranges, orange juice, papaya, pears (fresh), plantains, pomegranate (and juice), dried fruits (apricots [5 halves], dates [5], figs, prunes, raisins), prune juice, yams
Vegetables	Bamboo shoots, baked or refried beans, beets, broccoli (cooked), Brussels sprouts, cabbage (raw), carrots (raw), chard, greens (except kale), kohlrabi, olives, mushrooms (canned), potatoes (white and sweet), parsnips, pickles, pumpkin, rutabaga, sauerkraut, spinach (cooked), squash (acorn, butternut, hubbard), tomato, tomato sauce, tomato juice, and vegetable juice cocktail
Dairy products	Milk and milk products, buttermilk, yogurt
Proteins	(3-ounce serving) Clams, sardines, scallops, lobster, whitefish, salmon (and most other fish), ground beef, sirloin steak (and most other beef products), pinto beans, kidney beans, black beans, navy beans (and most other peas and beans, serving size is 1/2 cup)
Soups	Read label for potassium as many low-sodium soups and bouillon cubes or broth may have added potassium
Condiments	Imitation bacon bits, salt substitutes, or lite salt made with potassium
Nuts, seeds, and legumes	Tofu, lentils, adzuki beans, most legumes, peanut butter, most nuts, and most seeds (including sunflower seeds)

- Foods with lower levels of potassium — The foods in this table have a low level of potassium (less than 200 mg potassium per serving on average)
- Human can eat low-potassium foods regularly but limit your portion size since potassium can quickly add up if you eat a large portion.

FOODS WITH LOWER LEVELS OF POTASSIUM

Grains	Foods prepared with white flour (eg, pasta, bread), white rice
Beverages	Non-dairy creamer, fruit punch, drink mixes (eg, Kool-Aid), tea (<2 cups or 16 ounces per day), coffee (<1 cup or 8 ounces per day)
Sweets	Angel or yellow cake, pies without chocolate or high-potassium fruit, cookies without nuts or chocolate
Fruits	Apples (1), apple juice, applesauce, apricots (canned), blackberries, blueberries, cherries, cranberries, fruit cocktail (drained), grapes, grape juice, grapefruit (1/2), mandarin oranges, peaches (1/2 fresh or 1/2 cup canned), pears (1/2 cup canned), pineapple and juice, plums (1 whole), raspberries, strawberries, tangerine (1 whole), watermelon (1 cup), lemons
Vegetables	Alfalfa sprouts, asparagus (6 spears), green or wax beans, cabbage (cooked), carrots (cooked), cauliflower, celery (1 stalk), corn (1/2 fresh ear or 1/2 cup), cucumber, eggplant, kale, iceberg lettuce, mushrooms (fresh), okra, onions, parsley, green peas, green peppers, radish, rhubarb, water chestnuts (canned, drained), watercress, spinach (raw, 1 cup), squash (yellow), zucchini, scallions, turnips, turnip greens
Proteins	Chicken, turkey (3 ounces), tuna, eggs, baloney, shrimp (all 1 ounce), unsalted peanut butter (1 tablespoon)
Dairy products	Cheddar or swiss cheese (1 ounce), cottage cheese (1/2 cup)
Nuts, seeds, and legumes	Macadamia nuts, pecans, cashews, walnuts, almonds, peanuts, sesame seeds, sunflower or pumpkin seeds, chia seeds, flax seeds (all 1 ounce)

THE POTASSIUM LEVEL

- The potassium level is measured by taking a small sample of blood from a vein. A typical normal range for potassium is 3.8 to 5 mEq/L. A level greater than 6 mEq/L or less than 3 mEq/L is considered dangerous. Blood potassium must be well regulated to prevent serious complications.
- Hyperkalemia does not usually cause noticeable symptoms, even at very high levels. At levels above 6 mEq/L, there are usually changes on an electrocardiogram and the patient has nonspecific symptoms of not feeling well. At this level, dangerous complications can develop, including an irregular heart rhythm, severe muscle weakness, paralysis, or even sudden death.

HOW MUCH POTASSIUM WE NEEDS?

- In general, experts recommend eating a diet that contains at least 4700 mg of potassium per day. People with moderate to severe chronic kidney disease, defined as kidney function (glomerular filtration rate, or "GFR") below 45 mL/min (normal is 100 to 120 mL/min), should eat less than 3000 mg of potassium per day. Further restrictions should be made based on labs and the advice of your clinician. A-low potassium diet is defined as a dietary intake of between 2000 to 3000 mg/day.

SAMPLE LOWER-POTASSIUM DIET

Food	Calories	Sodium content (mg)	Potassium content (mg)
Breakfast			
English muffin, white	129	242	62
Low-calorie, nonhydrogenated margarine, 2 teaspoons	58	65	4
Puffed corn cereal (non-sweetened), 1.5 cups	135	247	45
Eggs, 2 medium fresh	126	123	118
Coffee, 1.25 cups	3	6	145
Non-dairy, fat-free coffee creamer, 1 ounce	20	3	0
Snack			
Cheddar cheese (reduced fat), 1 ounce	49	270	19

SAMPLE LOWER-POTASSIUM DIET

Food	Calories	Sodium content (mg)	Potassium content (mg)
Lunch			
White bread, 2 slices	108	234	44
Turkey breast, 3 ounces	119	189	236
Mayonnaise (low fat), 1 tablespoon	25	140	2
Cheddar cheese (reduced fat), 1 ounce	49	270	19
Egg, hard boiled	78	62	63
Lettuce (iceberg; shredded), 1 cup	8	6	80
Cucumber, peeled, 1/2 medium	12	2	137
Water chestnuts, canned & drained, 5 pieces	17	5	54
Salad dressing (Italian, low fat), 1 tablespoon	27	192	4
Snack			
Clementine, 1	35	1	131

SAMPLE LOWER-POTASSIUM DIET

Food	Calories	Sodium content (mg)	Potassium content (mg)
Dinner			
Chicken breast (skin removed, baked with breadcrumb coating and no fat), 4 ounces	221	87	287
Green beans, cooked, no salt added, 1 cup	60	46	184
Low-fat, nonhydrogenated margarine, 1 teaspoon	29	33	2
Rice, white, cooked in unsalted water, 1 cup after cooking	234	3	89
Extra virgin olive oil, 2 teaspoons	40	0	0
Snack			
Oatmeal cookies (reduced fat), 2 small	56	58	22

HOW DO WE CUT DOWN ON POTASSIUM?

Nutrition facts	
8 servings per container	
Serving size	2/3 cup (55g)
Amount per serving	
Calories	230
	% daily value*
Total fat 8g	10%
Saturated fat 1g	5%
Trans fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total carbohydrate 37g	13%
Dietary fiber 4g	14%
Total sugars 12g	
Includes 10g added sugars	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

REDUCING POTASSIUM LEVELS IN VEGETABLES

- It is possible to remove some of the potassium in certain vegetables with high potassium levels. Leaching is a process of soaking raw or frozen vegetables in water for at least two hours before cooking to "pull" some of the potassium out of the food and into the water. You should not eat these vegetables frequently because there is still a lot of potassium in the food after leaching.

- Wash and then cut the raw vegetable into thin slices. Vegetables with a skin (eg, potatoes, carrots, beets, rutabagas) should be peeled before slicing.
- Rinse the cut vegetables in warm water.
- Soak the vegetables for at least two hours or overnight. Use a large amount of unsalted warm water (approximately 10 parts water to 1 part vegetables). If possible, change the water every four hours. Drain the soaking water.
- Rinse the vegetables again with warm water.
- Cook vegetables as desired, using a large amount of unsalted water (approximately 5 parts water to 1 part vegetables). Drain the cooking water.

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