

Eating Vegetarian with Chronic Kidney Disease

Can I meet my nutritional needs following a vegetarian diet?

Yes. A vegetarian diet will allow you to meet your nutritional needs at any stage of chronic kidney disease (CKD). Vegetarian diets are rich in nuts, fruits and vegetables and plant-based protein. These foods can give you enough protein, calories, vitamins and minerals. There is no one diet that is right for everyone with kidney disease. Your individual meal plan may change over time depending on your stage of kidney disease and treatment.

No matter what your level of kidney function, watching what you eat and drink can help you stay healthy. Healthy eating can help you to:

- cut down the workload on your kidneys to help maintain your kidney function
 - reduce symptoms like nausea, itching, and bad taste in the mouth
 - keep a healthy weight and prevent muscle loss
 - prevent infection
 - manage your blood pressure
 - get the energy you need to do your daily tasks
 - control high blood sugar if you have diabetes
 - control potassium and phosphate levels in your blood
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What type of vegetarian am I?

Lacto-vegetarian:

You do not eat eggs, but drink milk and eat other dairy products as well as plant foods.

Lacto-ovo vegetarian:

You eat eggs, milk, dairy products and plant foods.

Pesco-vegetarian:

You eat fish, dairy products and eggs as well as plant foods.

Vegan:

You eat only plant foods and avoid animal products.

What nutrients do I need to check when I have CKD?

Treatment for kidney disease includes a meal plan that controls the amount of sodium, potassium, phosphorus, protein and fluid in your body.

Based on your blood work, eating habits, and stage of kidney disease, your Registered Dietitian will work with you to develop a meal plan that is right for you.



Protein

Protein is found in every cell in your body and is used to build and repair muscles and other tissues. The amount of protein you need depends on your height and weight.

If you are not on dialysis you will have to limit how much protein you eat to protect your kidneys.

If you are on dialysis you will need to eat more protein since dialysis increases protein loss.

You need _____ grams of protein per day

Vegetarian protein sources

Item	Serving size	Protein (grams)
Almond butter	2 Tbsp	5
Black beans	$\frac{3}{4}$ cup	11
Bulgur	$\frac{1}{2}$ cup	3
Chickpeas	$\frac{3}{4}$ cup	9
Cottage cheese	$\frac{1}{2}$ cup	15
Couscous	$\frac{1}{2}$ cup cooked	3
Edamame	$\frac{1}{2}$ cup	9
Egg	1 large	6
Kidney beans	$\frac{3}{4}$ cup	10
Lentils	$\frac{3}{4}$ cup	13
Milk, 1%	1 cup	9
Millet	$\frac{1}{2}$ cup cooked	3
Peanut butter	2 Tbsp	8
Quinoa	$\frac{1}{2}$ cup cooked	4
Seitan (wheat protein)	$\frac{1}{3}$ cup	21
Soy beans, boiled	$\frac{3}{4}$ cup	21
Soy milk	1 cup	7
Tempeh	$\frac{1}{2}$ cup	15
Textured Vegan Protein (TVP)	$\frac{1}{2}$ cup	20
Tofu, firm	$\frac{1}{2}$ cup	10
Yogurt, plain, low fat	$\frac{3}{4}$ cup	8

The amount of protein, sodium, phosphorus, and potassium in these foods may be different by brand, so careful label reading is important.

Phosphorus

It is important for people with CKD to control the amount of phosphorus they get from the foods they eat. The amount of phosphorus that is absorbed into your blood after a meal depends on the type of food you eat.



For example, up to 80% of the phosphorus in meat is absorbed compared to 40% of the phosphorus from vegetarian sources. By law, phosphorus does not need to be on a nutrition label which makes it hard to know how much phosphorus is in the food you are eating. Avoiding meat is one way to get less phosphorus in your diet which prevents the buildup of phosphorus in the blood.

Phosphate additives

You can also get phosphorus in your diet from hidden sources added to pre-packaged and fast foods, called phosphate additives. Phosphate additives are added during processing and are used as stabilizers, leavening agents and colour and flavour enhancers. This form of phosphorus can be absorbed into the blood up to 100%. This can make them a major source of phosphorus even when eaten in small amounts. To spot hidden sources of phosphate, look for the word “phosphate” in the ingredient list. Examples of phosphate additives include: Aluminum Phosphate, Sodium Phosphate, Tricalcium Phosphate and Pyrophosphate.

Eating fresh fruits and vegetables, and cooking food from scratch can help you control the amount of phosphorus you eat.



What is a phosphate binder?

Your doctor may prescribe a medication to help you control phosphorus in your blood. This medication is called a phosphorus binder.



Phosphorus binders work by sticking to phosphorus found in food. As a result, you absorb less phosphorus from your food. It is important that you take this medication with your meals so it can attach to the phosphorus in your food. Examples of common phosphate binders include: calcium carbonate, calcium acetate, and sevelamer.

Potassium

Vegetarian diets can be higher in potassium. You may need to take a medication like Kayexalate to control levels of potassium in your blood.

Vegetarian menus

The next few pages have examples of menus to help you choose foods for your stage of CKD (predialysis and dialysis):

- The menus on pages 6 to 11 allow you to compare foods with higher amounts of sodium, potassium and phosphorus, to foods with lower amounts.

You can limit the amount of sodium, potassium and phosphorus you eat by choosing fresh foods and cooking homemade meals.

- The menus on pages 10 and 11 show you examples of menus that are lower in sodium, potassium and phosphorus. They have the same calories but different levels of protein. These menus support predialysis (lower protein) and dialysis (higher protein).

Vegetarian menus for predialysis

High Sodium, High Potassium, High Phosphorus Menu

Predialysis Menu	Sodium (mg)	Potassium (mg)	Phosphorus (mg)
Breakfast			
2 slices whole wheat bread	368	176	160
2 Tbsp peanut butter	149	210	116
1 cup milk 1%	113	387	245
1 medium orange	0	237	18
Snack			
1 medium banana	1	422	26
Lunch			
1½ cups Campbell's Tomato Soup	1102	40	54
6 soda crackers	194	27	18
2 Tbsp cream cheese	174	70	62
½ cup cucumber slices	2	76	12
½ cup carrot sticks	45	165	24
Snack			
Chocolate chip muffin	341	192	147
Dinner			
Frozen veggie burger	411	432	225
Whole wheat bun	368	176	160
½ avocado	7	487	52
1 Tbsp ketchup	169	57	5
1 Tbsp mustard	180	22	17
2 pickle slices	130	4	1
½ cup potato salad	468	385	80
1 cup water	0	0	0
Total 2000 calories, 55 grams protein	4222	3565	1422

Lower Sodium, Lower Potassium, Lower Phosphorus Menu

Predialysis Menu	Sodium (mg)	Potassium (mg)	Phosphorus (mg)
Breakfast 2 slices white bread 2 tbsp peanut butter ½ cup milk 1 apple	476 149 57 1	70 210 193 148	70 116 122 15
Snack ½ cup blueberries 1 cup water	1 0	59 0	9 0
Lunch ½ cup tofu strips 1 corn tortilla 2 Tbsp mayonaise ¼ cup hummus ½ cup cucumber ½ cup carrot sticks 1 cup water	26 9 158 233 2 45 0	222 36 10 140 76 165 0	182 60 8 108 12 24 0
Snack Fruit nut granola bar 1 cup gingerale	71 18	110 3	147 0
Dinner 2 slices homemade vegetarian pizza 1 cup romaine lettuce 2 Tbsp oil and vinegar dressing 1 cup water	165 5 6 0	210 146 21 0	111 18 4 0
Dessert 1 serving ready to eat rice pudding	84	59	67
Total 2000 calories, 55 grams protein	1503	1878	1073

Vegetarian menus for dialysis

High Sodium, High Potassium, High Phosphorus Menu

Dialysis Menu	Sodium (mg)	Potassium (mg)	Phosphorus (mg)
Breakfast			
1 cup All Bran Cereal	610	816	700
1 cup 1% milk	113	387	245
1 banana	1	422	26
1 cup coffee latte	79	340	156
Snack			
¼ cup hummus	233	140	108
½ cup carrot sticks	45	165	24
6 Triscuits crackers	197	97	93
Lunch			
Vegetable, cheese and black bean burrito (frozen package)	597	357	199
1 cup V8 juice	640	460	44
1 apple	1	148	15
Snack			
½ cup greek yogurt	41	161	171
¼ cup Bran Buds	121	162	162
1 kiwi fruit	2	237	26
Dinner			
1 cup whole wheat spaghetti	4	65	132
6 veggie meatballs	380	300	151
½ cup tomato sauce	652	505	47
1 cup greek salad with feta cheese and olives	315	130	85
1 cup chocolate milk	161	449	272
Total 2000 calories, 90 grams protein	4192	5341	2656

Lower Sodium, Lower Potassium, Lower Phosphorus Menu

Dialysis Menu	Sodium (mg)	Potassium (mg)	Phosphorus (mg)
Breakfast			
2 eggs (hard boiled)	124	126	172
½ cup cream of wheat	123	24	22
½ cup 1% milk	57	193	122
½ cup blueberries	1	59	9
Snack			
3 cups air-popped popcorn	0	75	75
1 apple	1	148	15
1 Tbsp natural peanut butter	1	103	56
1 cup water	0	0	0
Lunch			
1½ cups garden salad (shredded cabbage/romaine)	12	237	27
1 tbsp oil and vinegar dressing	6	21	4
⅓ cup chickpeas (canned, no added salt, drained and rinsed)	0	55	40
½ cup couscous	4	48	18
30 g grie cheese	211	51	63
White pita (6 inch)	322	72	58
Snack			
1 fresh pear	2	198	18
¼ cup walnuts	1	112	88
1 cup water	0	0	0
Dinner			
1½ cup homemade vegetable curry with ¾ cup white rice and ¾ cup lentil dahl	268	884	296
Dessert			
½ cup sherbet	36	75	31
1 cup watermelon	2	180	18
Total 2000 calories, 90 grams protein	1171	2661	1132

Vegan menus for predialysis and dialysis

Lower Sodium, Lower Potassium, Lower Phosphorus Menu - Predialysis

Predialysis Menu	Sodium (mg)	Potassium (mg)	Phosphorus (mg)
Breakfast			
½ cup vanilla soy beverage	60	156	55
2 Shredded Wheat Biscuits	0	180	166
½ cup fresh blueberries	2	118	18
2 fresh figs	2	232	14
2 tbsp ground flaxseed	6	89	53
Snack			
1 medium apple	1	148	15
¼ cup roasted macadamia nuts	90	123	67
Lunch			
1 cup quinoa	8	276	154
3 homemade falafel balls	150	297	99
1 cup mesclun mix salad	21	202	23
2 Tbsp sunflower seeds	65	135	185
1 Tbsp oil and vinegar dressing	6	21	4
Snack			
2 Tbsp sesame butter (tahini)	35	126	29
8 whole wheat crackers	210	96	94
Dinner			
¼ cup textured vegetable protein (TVP)	2	20	194
½ cup fiddleheads	0	244	78
1 cup couscous	8	96	36
Dessert			
1 cup tropical fruit salad	8	320	20
Total 2000 calories, 55 grams protein	674	2879	1304

Lower Sodium, Lower Potassium, Lower Phosphorus Menu - Dialysis

Dialysis Menu	Sodium (mg)	Potassium (mg)	Phosphorus (mg)
Breakfast			
¾ cup oatmeal	1	98	111
1 cup soy beverage	120	313	110
½ cup raspberries	1	98	19
3 Tbsp hemp seeds	3	360	159
Snack			
¼ cup hummus	233	140	108
½ cup celery slices	32	104	10
½ cup raw broccoli	15	147	31
2 rye wafers	159	99	67
1 cup water	0	0	0
Lunch			
2 cups iceberg lettuce	12	164	24
½ cup tempeh	7	340	93
2 Tbsp roasted cashews	111	95	85
½ cup unsweetened applesauce with cinnamon	3	97	9
1 cup water	0	0	0
Snack			
1 cup vanilla rice beverage	91	72	36
1 cup red river hot cereal	4	167	122
¼ cup walnuts	1	112	88
½ cup pineapple	1	88	7
Dinner			
1 cup tabbouleh	198	250	38
½ cup firm tofu	26	222	182
1 cup grilled eggplant and zucchini	4	164	23
Total 2000 calories, 90 grams protein	1023	3030	1322

Notes:

Metric and Imperial Sizes	
250 ml	= 1 cup
175 ml	= 3/4 cup
125 ml	= 1/2 cup
60 ml	= 1/4 cup
15 ml	= 1 tablespoon (Tbsp)
5 ml	= 1 teaspoon (tsp)