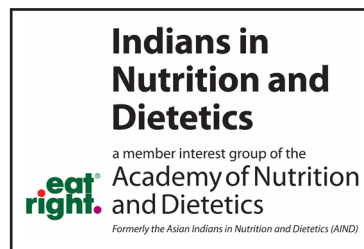


# Nutrition Guide for Chronic Kidney Disease - Indian Diet

This information is for individuals not on dialysis

Kidneys help filter several toxins and fluids from the body. If your kidney function is compromised, you will not feel well. It's time to change what you eat and drink to decrease the load on your kidneys. This meal plan will include guidelines for restricting sodium, potassium, phosphorus, protein and fluids to maintain optimal nutritional status with current kidney function and help slow down the progress of kidney disease.



## Protein

The body uses protein to build and maintain muscle, bones, skin and hair. It is also necessary to help with infections. With declining kidney function, you need to decrease protein intake to reduce overload on the kidneys and to slow down the progression of kidney disease.

**Total Protein needed: (.8g/kg):** \_\_\_\_\_

**Animal Protein serving size: 1 oz**

**Protein per serving: 7 g of Protein**

**Animal Protein foods:** \_\_\_\_\_ (servings per day)

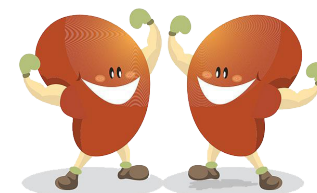
Animal Protein Sources	Plant Protein Sources
Beef	Veggie type burger ½ to 1
Egg substitute (1/4 cup)	Seitan (Wheat gluten) 1 oz.
Eggs	Tofu ¼ - ½ cup
Fish	Tempeh ¼ cup
Lamb (Mutton)	Nut Butters 2 tablespoons
Pork	*Channa dal (Bengal gram)
Poultry	*Urad dal (black gram)
Shellfish	*Moong dal (green GM)
Veal	*Lentils
Wild game	*Dry peas
	*Rajma (red kidney beans)
	*Soy beans



\*Maybe high in Potassium so ask your dietitian how to fit it in the meal plan

### Choose a more Plant based protein diet for the following reasons:

1. To decrease acid load and load of toxic metabolites such as urea.
2. To slow down the progression of kidney disease effectively and protect against complications.
3. To prevent muscle wasting with high animal protein consumption.
4. To have a positive impact on digestive tract health with more fiber.
5. To decrease protein in the urine.
6. Better control of hypertension.
7. Better control of phosphorus due to lower bioavailability in plant sources.



# Potassium

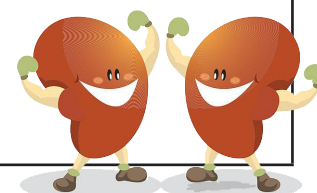
Potassium is a mineral that helps your muscles and nerves function properly. In Chronic Kidney Disease (CKD) patients, the kidneys may not be able to remove the excess potassium from the blood and could lead to elevated Potassium (K) levels. Too much or too little potassium can prevent the heart muscle from working properly. If you limit your intake of potassium in your diet, you can decrease the load on your kidneys and lower blood K levels.

**The following tables show low, medium and high Potassium vegetables and fruits, and your dietitian will help you determine the number of choices from each of these groups to eat daily.**

## Low Potassium (Less than 150 mg per serving)

You may have \_\_\_\_\_ servings each day.

<b>Vegetables</b>	<b>Fruits</b>
One serving of vegetables is equal to <b>1/2 cup cooked or 1 cup raw</b>	One serving of fruit is equal to <b>1/2 cup fresh or canned, or 1 small piece of fruit</b>
Alfalfa sprouts Bamboo shoots (canned) Bean sprouts Beets (canned) Bottle gourd (dudhi or lauki) Bitter gourd (bitter melon or karela) Cabbage Carrots Cauliflower Corn Chayote squash (Chow Chow) Cluster beans (Guar) Cucumber Daikon (Mooli) Endive Eggplant Green beans Lettuce (all types, 1 cup) Mushrooms Onions Ridge gourd Radishes Snake gourd Tinda Water chestnuts (canned) Watercress	Apples (1) Apple juice Applesauce Apricot nectar Blackberries Blueberries Cranberries Cranberry juice and cranberry juice cocktails Fruit cocktail Gooseberries Grape juice Grapes Lemons, Lemon juice Limes, Lime juice Papaya nectar Peaches (canned) and peach nectar Pears (canned) and pear nectar Pineapples Plums (1) Raspberries Star fruit Strawberries Tangerines (1) Watermelon



## Medium Potassium (150 - 250 mg per serving)

You may have \_\_\_\_\_ servings each day.

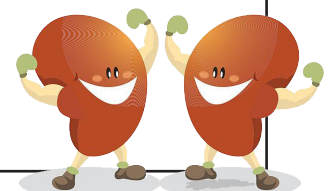
<b>Vegetables</b>	<b>Fruits</b>
Ash gourd (winter melon) Asparagus Broccoli Celery Drumstick Kale Mixed vegetables Peas Peppers Plantain flower Summer squash Turnips Zucchini	Cantaloupe Cherries Coconut raw ½ cup Figs (2 whole) Grapefruit Grapefruit juice Guava Lychee Mango and mango nectar Papayas Peaches (fresh) Pears (fresh) Rhubarb



## High Potassium (More than 250 mg per serving)

You may have \_\_\_\_\_ servings each day.

<b>Vegetables</b>	<b>Fruits</b>
Artichokes Arvi (Colocasia) Avocado Bamboo shoots (fresh, raw) Beets (fresh) Brussels sprouts Chard Greens (such as beet, collard, and mustard) Kohlrabi Lotus root Okra Parsnips Potatoes Pumpkins Rutabagas Spinach Sweet potatoes Tomatoes Tomato sauce or puree Tomato juice or V-8 juice, low sodium Wax beans Winter squashes Yams	Apricots (3) Bananas (1 small) Dates (¼ cup) Honeydew melon Jack fruit raw Kiwifruit Nectarine Orange (1) Orange juice Plantain Prune juice Prunes (5) Raisins Sapota



# Phosphorus

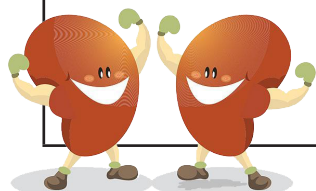
Phosphorus is a mineral also regulated by the kidneys. If phosphorus builds up in the blood, it can pull calcium from the bones leading to weak bones that can be painful and break easily. High phosphorus is also associated with heart disease. If your phosphorus is elevated, restricting phosphorus rich foods can help bring down the levels.

Phosphorus occurs naturally in dairy products, protein foods like meats, lentils and dry beans and peas, nuts and in processed foods and dark colored sodas.

**Following tables show low and high phosphorus foods to choose from as advised by your dietitian.**

## Low Phosphorus

Milk substitutes	Breads, Cereals & Grains
	You may have _____ servings each day.
*Almond Milk Rice Milk, unenriched Frozen non-dairy desserts: Fruit ices, popsicles, Snow cones	Bagel (1/2 small) Bread, all kinds (1 slice or 1 ounce) Bun, hamburger or hot dog type (1/2) Corn bread, homemade (1 piece or 2 ounces) Danish pastry or sweet roll (1/2 small) Dinner roll or hard roll (1 small) Doughnut (1 small) English muffin (1/2) Pita or pocket bread (1/2; 6-inch diameter) Tortilla, flour (1; 6-inch diameter)  Low-sodium dry cereals (such puffed wheat, or puffed rice) (1 cup or 1 ounce) Cooked cereals (such as cream of rice, cream of wheat, farina, grits, cooked) (1/2 cup) Pasta, cooked (such as noodles, macaroni, spaghetti) (1/2 cup) Rice, cooked (1/2 cup) Quinoa Ragi Barley Millet  Crackers, unsalted (4; 2-inch crackers) Graham crackers (3 squares) Melba toast (3 oblong pieces) Popcorn, unsalted (1 1/2 cups popped) Pretzels, unsalted sticks or rings (3/4 ounce or 10 sticks) Tortilla chips, unsalted (3/4 ounce or 9 chips)



## High Phosphorus

<b>Dairy and substitutes</b>	<b>Breads, Cereals &amp; Grains</b>
	<b>You may have _____ servings each day.</b>
Cheese (1 ounce) Condensed and Evaporated milk (1/4 cup) Cottage cheese (1/4 cup) Ice milk or ice cream (1/2 cup) Light cream or half-and-half (1/2 cup) Milk, all kinds (1/2 cup) Milkshake (1/2 cup) Non-dairy "milk" replacements (1 cup) Nut butters (2 tablespoons) Soy milk (1 cup) Tofu (1/4 cup) Yogurt, plain or fruit-flavored (1/2 cup)	Biscuits, muffins (1 small) Cake (1 slice, 2 × 2-inch piece) Cooked dried beans and peas (1/2 cup) Granola, oatmeal (1/2 cup) Pancakes, waffles (1; 4-inch diameter) Pudding, custard (1/2 cup) Tortillas, corn (2 6-inch diameter) Vegetarian meat replacements Vegetarian burgers (2 ounces) Whole wheat cereal, bran cereals (1/2 cup)  <b>Other High Phosphorus foods:</b> Nuts (1/4 cup) Organ meats (1 ounce) Sardines (1 ounce)

*\* Processed foods may contain phosphorus additives. Read the ingredients to look for phosphorus or the word PHOS. The phosphorus from processed foods is more dangerous than from natural sources.*

## Sodium

Sodium (Na) which is short for Sodium chloride is another name used for salt. As sodium filtration by the kidney is compromised with CKD, too much sodium in the diet can lead to excessive fluid retention. When you retain fluid, it could lead to high blood pressure and shortness of breath and further damage your kidneys and heart. Limiting salty foods is, therefore, necessary to prevent fluid build up.

### **Here are some tips to cut down sodium in your diet**

- Do not add salt to your food at the table, only a little in cooking.
- Read labels and choose foods with 200 milligrams (mg) of sodium per serving or less. 140 mg is considered to be low sodium.
- Watch out for salt blends. Salt substitutes may contain potassium.
- Soy sauce, other Asian sauces are usually high in sodium.
- Avoid convenience foods and packaged goods (such as frozen dinners, canned or dried soups, stews, casseroles, and deli meals).
- Avoid fast foods (commercial hamburgers, pizzas, and tacos) like cured or processed meats and cheeses.
- Avoid salted snack foods.
- Avoid vegetables that are canned or processed with salt. Choose frozen instead.

# Fluids

Fluid restriction may be advised by your doctor if your urine input has decreased or you have fluid buildup or edema. Fluid is defined as anything liquid at room temperature.

**Foods below are considered fluids. Make sure you choose low phosphorus, low potassium options.**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Kulfi</li> <li>• Milk, non-dairy creamers</li> <li>• Soup</li> <li>• Tea, masala chai</li> <li>• Water</li> <li>• Buttermilk</li> </ul> | <ul style="list-style-type: none"> <li>• Fruit infused drinks</li> <li>• Coffee</li> <li>• Fruit drinks</li> <li>• Fruit or vegetable juice</li> <li>• Ice cream, frozen yogurt, sherbet</li> <li>• Herbal teas</li> </ul> |
|--|--|



Meal	Menu
Breakfast	
Lunch	
Dinner	
Snacks	

## Notes:

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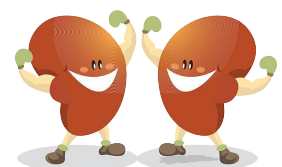
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# General Guidelines and Suggestions

1. The food lists may not include all foods so be sure to check with your dietitian about regional foods that you consume regularly.
2. Try to make fresh meals as much as possible which provides nourishment for healthy living and helps avoid additives loaded with phosphorus that could have a negative impact on kidney function.
3. Use spices and herbs in cooking instead of salt to enhance flavor and aid in digestion, like cumin, coriander, cardamom, ginger, black pepper, cinnamon, garlic powder, etc.
4. If you are using any herbal supplements or Ayurvedic medication please inform your dietitian and doctor to make sure it is safe since these can interact with other medications or food.
5. It is important to have a bowel movement every day for better elimination of wastes and toxins in the body. If you suffer from constipation, discuss it with you registered dietitian for appropriate diet and lifestyle recommendations.
6. Sleep is very important. Practice good sleep hygiene with a bedtime ritual if you have trouble falling asleep or have disturbed sleep.
7. Practice stress management modalities like Yoga and breathing exercises regularly to keep blood pressure and blood sugar under control if you are a diabetic.
8. If you are considering intermittent fasting or keto diet (latest trends) for better blood sugar control or weight loss, speak to your dietitian about pros and cons and safe ways to do it.



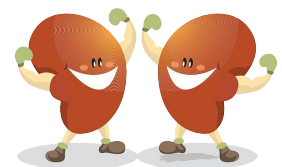
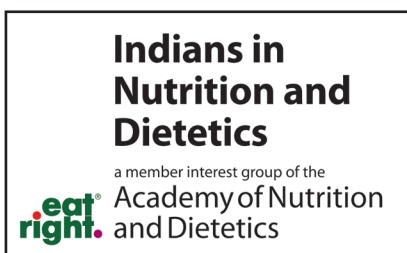
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### Food Lists partially adapted from following resources:

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2. Academy of Nutrition and Dietetics. Chronic Kidney Disease (CKD) Stage 5 Nutrition Therapy handout
3. Indian Food Composition Tables. National Institute of Nutrition (Indian Council of Medical Research) 2017
4. Vegetarian Diets in Chronic Kidney Disease. Vegetarian Nutrition Dietetic Practice Group handout. [www.vndpg.org](http://www.vndpg.org) © 2018

### Studies:

5. **Vegetarian Diet in Chronic Kidney Disease—A Friend or Foe**  
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6. **Stirring the Pot: Can Dietary Modification Alleviate the Burden of CKD?**  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5372928/>
7. **Dietary acid load: a novel nutritional target in chronic kidney disease?**  
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8. **The Skeletal Muscle Anabolic Response to Plant- versus Animal-Based Protein Consumption**  
<https://academic.oup.com/jn/article/145/9/1981/4585688>



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