

# Kidney Diet Cornerstones: Protein

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*(850 words)*

## What is it?

Protein is a macronutrient important for your everyday health. It is composed of building blocks called amino acids and can be found in every cell of our bodies. There are 20 amino acids that link together in different forms to carry out specific body functions including the building, maintenance and repair of tissues.<sup>1</sup>

## Protein, Your Kidneys and Dialysis

When protein is broken down and used by our body, it creates a waste product called urea. Healthy kidneys act as a filter to remove urea, fluid and other waste products from the body through urine. When you are on dialysis, your kidneys are no longer able to filter out enough fluid and waste.<sup>2</sup> You must rely on your treatment to keep you safe.

Patients on dialysis require more protein in their diet. This is because a certain amount of protein is removed during the treatment process. The type of dialysis you are receiving can affect how much protein you should include each day. In Peritoneal Dialysis, protein is removed on a daily basis. In Home Hemodialysis, treatment hours can be extended or more frequent, causing additional protein losses. This means patients on Home Dialysis therapies may require more protein than those who are receiving In-Centre Hemodialysis 3 times per week.<sup>3</sup>

## Protein and Your Diet

Eating enough protein can be challenging. Lack of appetite, altered taste, low energy (fatigue) and financial issues are just some of the barriers that prevent patients from meeting their daily needs. Overtime, this can lead to protein malnutrition, resulting in loss of muscle mass and decreased strength. It may also make it difficult to fight infections. Try these strategies below to help you meet your goals:

- Spread protein throughout the day
- Eat the protein sources first on your plate
- Choose protein options you enjoy
- Hide protein in your dishes by adding small pieces to soups, salad or pasta
- Buy inexpensive protein sources such as eggs, canned fish, ricotta or cottage cheese
- Purchase protein items on sale and freeze for future meals

### Quick Tip

Adding a nutritional supplement can be beneficial when you are unable to meet your protein needs through dietary sources. There are many options on the market including nutrition drinks, protein powders and gels. Speak with your Registered Dietitian about which ones fit with your kidney diet.

## Types of Protein

Choosing the right **type** of protein is just as important as eating the right **amount** of protein each day.

### Complete Protein

“Complete” proteins are animal-based and contain all of the **essential** amino acids your body is unable to make on its own. They are also easy for your body to absorb and use. Examples of complete proteins include fresh meat, poultry, fish, eggs and dairy.<sup>5</sup> It is recommended that at least 50% of your total daily protein intake should come from these sources.<sup>4</sup>

### Did You Know?

Meats that are labelled “Seasoned” mean they have been injected with sodium, phosphorus and/or potassium and should be avoided if possible.<sup>6,7</sup>

### Incomplete Protein

“Incomplete” proteins are plant-based and while nutritious, they do not contain all of the essential amino acids. A variety of incomplete proteins must be eaten throughout the day for the body to use them efficiently. These include legumes, nuts, seeds, breads and cereals.<sup>8</sup>

Some plant-based foods are also higher in potassium and phosphorus and may need to be limited in your diet. Your Registered Dietitian will work with you to find the right balance.

### True or False?

If you are on dialysis, it is NOT possible to follow a vegetarian diet.

- a) True
- b) False

**Answer:** b) False. It is possible to follow a vegetarian diet but you need to work with your Registered Dietitian to ensure you keep your blood levels safe while meeting your high protein needs for dialysis.

### Fast Fact

Soy products such as tofu have the similar quality of protein as animal products. Try adding tofu into a vegetable stir-fry for more variety.<sup>9</sup>

### Portion Size

Once you know how much protein you need, how do you achieve this? The table below can help guide you by providing examples of approximate serving sizes for common protein sources.<sup>10</sup>

1 ounce	2 ounces	3 ounces
1 large egg or 2 egg whites	12 medium shrimp	1 pork chop
¼ cup shredded cheese	½ cup ricotta or cottage cheese	1/2 cup canned tuna
40g roasted chicken breast, sliced	1 medium chicken drumstick	cooked fish; size of a check book
*2 tbsp peanut butter	½ cup cooked ground beef or poultry	cooked beef or poultry; size of a deck of cards
*½ cup cooked beans	*2/3 cup Greek yogurt	*1 cup regular or firm tofu

\*These products are rich in potassium and/or phosphorus for the amount of protein they provide. Your Registered Dietitian can work with you on how to fit these foods safely into your diet.

### How much protein can I have?

The amount of protein you can include in your diet will be different for everyone. Your dietary habits and type of dialysis treatment, along with other factors such as your nutritional status, weight, presence of infection and other medical conditions must be considered. Your Registered Dietitian will work with you to determine your needs and develop a personalized nutrition care plan.

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