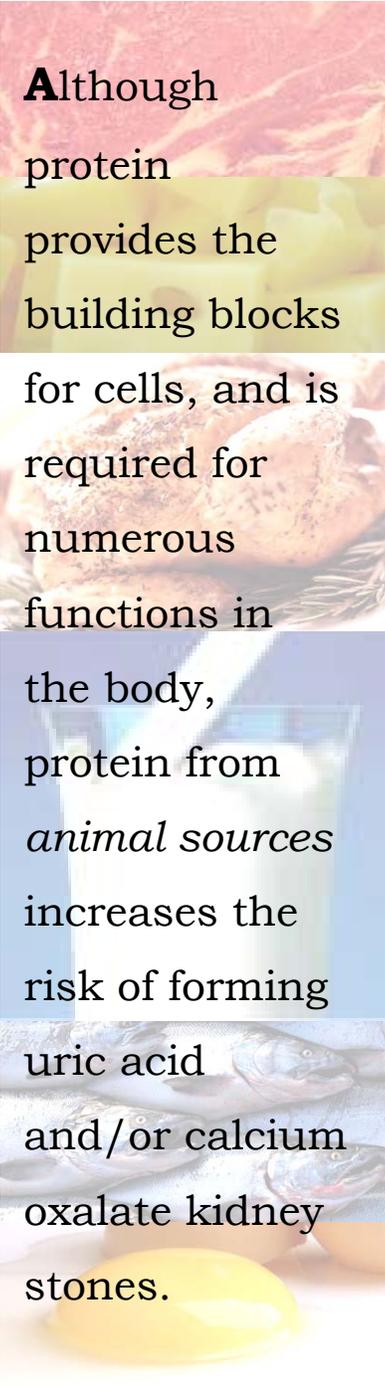


# Protein & Stone Disease



Although protein provides the building blocks for cells, and is required for numerous functions in the body, protein from *animal sources* increases the risk of forming uric acid and/or calcium oxalate kidney stones.

Protein in your diet may come from both animal and plant sources. Protein from animal sources increases the excretion of calcium, oxalate and uric acid in urine, and reduces urinary pH and citrate. These changes markedly increase the risk of forming uric acid and/or calcium oxalate kidney stones <sup>1</sup>.

Animal protein comes from meat, poultry, fish and milk products. While many people build their diets around animal protein, it is not necessary to have animal protein with every meal, or even every day. People who follow a strictly vegetarian diet are able to obtain all the protein they need from plant sources. The advantage of protein from plant sources is that it may *decrease* your risk of forming kidney stones. Dietary intake of animal protein should be limited to no more than 2 – 3 servings of Meat and Alternatives, and 2 – 3 servings of Milk and Alternatives each day.

\*\*\*It is important to note that some fruits and vegetables, nuts, soy products and dried beans, peas and lentils may be high in oxalate. Discuss their use on a reduced oxalate diet with your dietitian.

## Serving Size for Meat & Alternatives <sup>2</sup>

- 2.5 oz (½ cup) cooked fish, shellfish, poultry or lean meat
- ¾ cup cooked beans or lentils
- ¾ cup tofu
- 2 eggs
- 2 tbsp peanut or nut butters
- ¼ cup shelled nuts and seeds

## Serving Size for Milk & Alternatives <sup>2</sup>

- 1 cup milk or fortified soy milk
- ¾ cup yogurt
- 1.5 oz cheese

**Have meat alternatives such as beans, lentils and tofu often <sup>2</sup>.**

**Eat at least two servings of fish each week <sup>2</sup>.**

- Choose fish such as salmon, herring, mackerel, sardines, char and trout.

**Select lean meat & alternatives prepared with little or no added fat or salt <sup>2</sup>.**

- Trim the visible fat from meats. Remove skin on poultry.
- Use cooking methods such as roasting, baking or poaching that require little or no added fat.
- If you eat luncheon meats, sausages or prepackaged meats, choose those lower in salt and fat.



Department of Urologic Sciences  
Faculty of Medicine  
University of British Columbia

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Developed by:

Meredith Cushing, RD, MS, MSHSE  
Kristin Wiens, BSc (FNH)

For more information, please call (604) 875-5006.

1. Borghi R, Meschi T, Maggiore U, Prati B. Dietary therapy in idiopathic nephrolithiasis. Nutrition Reviews 2006; 64(7): 301-312.

2. Health Canada. Eating Well with Canada's Food Guide; 2007. Source: [http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index\\_e.html](http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index_e.html)