

Waiter, There's Potassium in My Soup!

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AS RENAL DIETITIANS, much of our time revolves around helping our patients to navigate the ever-changing nutrition market, whether it is new foods targeted to renal patients or upcoming food trends present in the media. Dialysis patients may be inclined to select low-sodium products as part of their nutrition education revolves around limiting dietary sodium intake. Low-sodium soups can act as an easy and quick meal for patients; however, they may be surprisingly high in potassium. This article will address potassium content of soup from two leading manufacturers of canned soup: Campbell's and Progresso.

Salt reduction is not just a focus for renal patients; the majority of Americans eat too much salt.¹ The average American consumes 3.6 to 4.8 g of sodium per day.² According to the National Health and Nutrition Examination Survey 2003–2008, 99.4% of American's consume more than the American Heart Association's recommendation of 1,500 mg of sodium per day.¹ The 2015–2020 Dietary Guidelines for Americans recommend less than 2,300 mg of sodium.³ In the United States, cardiovascular disease (CVD) continues to be the number one killer of men and women, and hypertension is the leading cause of CVD.⁴ Excess dietary sodium intake is associated with an increased risk of hypertension. This link between hypertension, heart disease, and increased mortality risk has driven the public health campaign to reduce sodium in food.^{3,4}

To combat the high dietary sodium intake of Americans, food manufacturers are searching for salt substitutes to provide a salt-like flavor while limiting the overall sodium content. The most commonly used salt substitute is potassium chloride; potassium chloride has multiple benefits when replacing sodium chloride in foods. The World Health Organization has made a strong recommendation for the increase in dietary potassium intakes to reduce blood pressure, thereby reducing the risk of heart disease and stroke.⁵ The National

Health and Nutrition Examination Survey results reflected that less than 2% of the US adult population meets the 4,700 mg recommendation of daily potassium consumption.¹ A study in 2006 showed a long-term beneficial effect on CVD secondary to a major increase in dietary potassium consumption with a moderate decrease in sodium consumption.⁶ Food Business News lauds potassium chloride as an additive of choice to meet the increasing demand to lower sodium in foods with the benefit of adding potassium.⁷

Dialysis patients are educated to limit their potassium intake, with most recommendations ranging from 2,000 to 3,000 mg.⁸ Potassium levels are monitored regularly in patients on dialysis, a normal potassium level is 3.5 to 5.0; a level greater than 6.0 can be life threatening.⁹ Hyperkalemia can be asymptomatic and cause ventricular arrhythmias; these alterations in the rhythm of the heart can be fatal.¹⁰ Although potassium is an essential electrolyte and may be considered an important nutrient for blood pressure control for the general population, it is a nutrient of concern that needs to be regularly monitored for hemodialysis patients.

The presence of potassium in soups marketed to be of reduced sodium or "heart healthy" can be seen in [Table 1](#). Potassium chloride is the salt substitute of choice for these products. A concern for dialysis patients is the use of potassium products in soups that are not labeled as reduced sodium and do not advertise the increased potassium content. Progresso's Light Soup products use potassium chloride; however, the main selling point of the soup is a reduction in calories. The reduced-sodium Progresso soups contained 1,000 to 1,700 mg of potassium per container, whereas their light soups contained 500 to 1,200 mg of potassium. These soups can provide as much as 50% or greater of total recommended intake of potassium for dialysis patients.

The soups listed in [Table 2](#) show "original" chicken noodle soup products versus chicken noodle soup products listed as reduced sodium or heart healthy. The products offer a wide range of sodium and potassium content; however, 5 of the 7 products contain over 1,000 mg of sodium per can. It is important to reiterate to patients the use of the nutrition food label. A low-potassium diet is approximately 2,000 mg; of the soups compared, 3 of the 4 reduced-sodium soups contain greater than 900 mg of potassium per container. These high-potassium foods

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Table 1. Sodium and Potassium* Content in Leading Canned Soup Brands (Single Serving vs. Total Container)

Soup Product	Total Potassium, mg/Container	Potassium, mg/1 Cup Serving	Total Sodium, mg/Container	Sodium, mg/1 Cup Serving
“Reduced” Sodium				
Campbell’s Healthy Request Minestrone (10.75 oz.)	2,575	1,030	1,020	410
Campbell’s Chunky Healthy Request Savory Vegetable (18.6 oz.)	2,100	1,050	820	410
Campbell’s Healthy Request Tuscan-Style Lentil (11 oz.)	2,050	820	1,025	410
Campbell’s Healthy Request Tomato (10.5 oz.)	1,750	700	820	410
Campbell’s Healthy Request Chicken Noodle (18.6 oz.)	1,700	850	820	410
Campbell’s Health Request Savory Chicken with Brown Rice (18.6 oz.)	1,480	740	820	410
Campbell’s Healthy Request Chicken Noodle (10.5 oz.)	950	380	1,025	410
Progresso Reduced Sodium Garden Vegetable (18.5 oz.)	1,360	680	960	480
Progresso Reduced Sodium Hearty Minestrone (18.5 oz.)	1,340	670	960	480
Progresso Reduced Sodium Black Bean & Vegetable (18.5 oz.)	1,240	620	900	450
Progresso Light New England Clam Chowder (18.5 oz.)	1,200	600	1,380	690
Progresso Reduced Sodium Italian Style Wedding (18.5 oz.)	1,060	530	960	480
Progresso Light Beef Pot Roast (18.5 oz.)	1,040	520	960	480
Progresso Light Chicken & Dumpling (18.5 oz.)	520	260	1,360	680
Progresso Light Chicken Noodle (18.5 oz.)	500	250	1,380	690

<https://www.campbells.com>.

<https://www.generalmills.com/en/Brands/soup/progresso/brand-product-listq>.

The potassium and sodium levels are listed as per 1 cup serving and per container.

*Potassium chloride present in all soups listed.

can be considered dangerous for patients on dialysis and may lead to hyperkalemia.

The nutrition label on soup products can help steer patients to make informed choices, allowing them to be advocates for their own health. Dual-column labeling indicates the amount of calories and nutrients, representing both the amounts per serving versus entire container. A common canned soup serving is one cup, but people are likely to consume the full container, which is 2 to 2½ cups depending upon the brand. Potassium is not yet a required component of the nutrition facts label; however, when potassium chloride is added to a product, manufacturers are required to list it on the ingredient panel. The mandatory use of the updated nutrition facts

label (that includes potassium/serving and dual-column labeling) has been delayed until January 1, 2020.¹¹

The dietitian can provide education on deciphering the nutrition facts label and recognizing potassium additives on soup and other processed foods. Education on portion control can be an important tool for dialysis patients to help provide greater liberalization to the diet, as determined on an individualized basis. In addition, the dietitian can suggest homemade soup seasoned with spices and vegetables to limit sodium and potassium content among other suggestions. Although not discussed, it is important for patients to be reminded that fluid from soup is included within fluid recommendations. As the momentum and demand for sodium-reduced food

Table 2. Sodium and Potassium Content in Chicken Noodle Soup (Single Serving vs. Total Container)

Soup Product	Potassium, mg/1 Cup Serving	Sodium, mg/1 Cup Serving	Total Potassium, mg/Container	Total Sodium, mg/Container
Reduced sodium				
Campbell’s Chunky Healthy Request (18.6 oz.)	850	410	1,700	820
Progresso Reduced Sodium (18.5 oz.)	470	480	940	960
Campbell’s Healthy Request (10.5 oz.)	380	410	950	1,025
Campbell’s 25% Less Sodium (10.5 oz.)	90	660	225	1,650
Original				
Campbell’s Chunky (18.6 oz.)	430	790	860	1,580
Progresso (18.5 oz.)	350	690	700	1,380
Campbell’s (10.5 oz.; condensed)	50	890	125	2,225

<https://www.campbells.com>.

<https://www.generalmills.com/en/Brands/soup/progresso/brand-product-list>.

The table compares reduced sodium chicken noodle soup with original chicken noodle soup. The potassium and sodium levels listed are per 1 cup serving and per container amounts.

increases, issues with potassium additives will demand the attention of nutrition care professionals.¹²

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