

High-Protein Frozen Desserts

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FROZEN DESSERTS HOLD popular appeal as they are easy to consume and comforting, especially in warm weather. In a clinical context, frozen desserts can be a suitable option for providing calories and protein to patients in need. Nutrition product companies have recognized this need and created a variety of high-protein dessert foods. In addition, some frozen desserts are considered good sources of protein although not being produced or marketed specifically for protein content. Achieving adequate protein intake can be challenging for the chronic kidney disease (CKD) population, especially those on hemodialysis or peritoneal dialysis. Although frozen desserts are an appealing option to CKD patients, many of these products are inherent sources of phosphorus, potassium, and fluid. An understanding of the nutrient composition of various frozen desserts will aid in determining the appropriate use of these products in the context of the diet as a whole.

For the purpose of this comparison, there must first be a definition of what is considered “high protein.” According to the Food and Drug Administration (FDA), the recommended daily value for protein based on a generic 2000-cal diet is 50 g/day.¹ Furthermore, as per FDA labeling regulation, for a product to claim on the package that it is “high protein,” it must contain $\geq 20\%$ of the recommended daily value for protein. To claim that a product is a “good source” of protein, that product must contain 15% to 19% of the daily value of protein.² These products must display the percentage daily value in the nutrition facts label, based on the Protein Digestibility Corrected Amino Acid Score. This score is a method based on the value of protein in human nutrition and is calculated as follows:

Protein Digestibility Corrected Amino Acid Score (%) = $[(\text{mg of limiting amino acid in 1 g of test protein}) / (\text{mg of same amino acid in 1 g of reference protein})] \times \text{fecal true digestibility (\%)} \times 100.$ ³

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By deduction, based on a 50 g/day daily value, a “high protein” product would be one that contains ≥ 10 g of protein per serving. To include a greater number of products in this comparison, those that are considered a “good source” of protein are also included and considered to be those products that contain 5 to 9 g of protein per serving.

For the purposes of this analysis, a “frozen dessert” is defined as a product that is sweet in nature and intended to be served very cold. These products can be freezing liquids, semisolids, and solids. Items that are sold frozen and intended to be thawed before serving were excluded from this analysis. Beyond this definition, the FDA has additional criteria for foods to be classified as ice cream, sorbet, melamine, and so forth based on percentage of milk, milk fat, milk proteins, egg, and so forth.⁴ These definitions will assist in determining the type of products included in the analysis.

This product review included an extensive Internet search using search terms “high protein frozen dessert,” “frozen nutrition supplement,” “high protein ice cream,” “high protein frozen yogurt,” “Greek frozen yogurt,” “high protein gelato” and brand-specific searches, as well as grocery store visits including Giant Eagle, Whole Foods, Trader Joe’s, and ALDI. Some products identified have limited geographic availability and include information on where they can be found on their Web sites. The tables included in this review are likely not exhaustive of all frozen desserts that contain ≥ 5 g of protein per serving, as new products are constantly being created and/or may be regionally available without a Web presence.

Manufacturers were contacted to provide additional information on nutrient content as available. Many products did not have phosphorus and potassium information available; thus, appropriate use of these goods in the context of the patient’s diet must be based on the practitioner’s extrapolation per ingredients and similar products. For generic comparison, according to the USDA Nutrient Database, a 0.75 cup serving of rich chocolate ice cream contains 279 calories, 5.2 g of protein, 63 mg of sodium, 128 mg of phosphorus, and 264 mg of potassium.⁵ Although the standard serving size for ice cream is defined as half a cup per the FDA, the serving size was increased to provide comparable (5 g) protein content.⁶

This product analysis indicated that the varieties of frozen dessert that are the most likely to be better sources

of protein are those that are rich, higher in calories, and more likely to contain nuts and nut butters. A review of ingredients lists indicated whether products contain additional phosphorus additives.⁷

For patients with CKD, some of the traditional frozen dessert options, particularly those that are dairy based, may be best consumed on rare occasion. However, with the increasing variety in high-protein frozen dessert options and the introduction of more frozen nutrition supplements and frozen Greek yogurt, these products may have more of a place in the CKD diet. High-protein frozen desserts offer an appealing and easy-to-consume option to consider for the CKD population.

Table 1 lists frozen desserts classified as “high protein” and containing ≥ 10 g of protein per serving. Table 2 lists frozen desserts classified as “good source of protein” containing 5 to 9 g of protein per serving.

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