

A Comparison of Common Enteral Nutrition Supplements

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AS MOST RENAL dietitians are aware, prevention and treatment of protein-calorie malnutrition is an ongoing battle with patients with stage 5 chronic kidney disease. Once a patient starts dialysis, whether it is hemodialysis (HD), home HD, or peritoneal dialysis (PD), nutrient losses often in combination with a restricted diet, decreased appetite, and/or altered intake can lead to chronic nutritional deficiencies. In addition, psychological and social conditions faced by many of these patients can further contribute to inadequate consumption of nutrients, resulting in malnutrition.^{1,2} It is a widely known and documented fact that malnutrition greatly increases the risk for morbidity and mortality of dialysis patients³⁻⁸ and that an average of 50% or more (23% to 76% of HD patients and 18% to 50% of PD patients) of these patients are suffering from at least mild nutritional deficiencies.⁹⁻¹² Nutrition support in the form of orally administered, liquid nutritional supplements can be an important tool in preventing and treating dialysis-related causes of malnutrition.^{7,13-16}

For oral nutritional supplements to be effective tools in preventing and treating malnutrition, they have to be used consistently, which usually means finding and recommending the brand that best fits the patient's blood chemistry profile. However, of equal importance is recommending brands whose products will be willingly consumed by patients and which are readily accessible. Although the renal dietitian is generally the "go to" expert on this subject, even we can fall behind sometimes

on new product availability because of the sheer volume of supplements that are now being marketed. Therefore, it can be a welcome surprise when the patients themselves are resources for new product brands especially when one of the (newer) product brands has a renal formula that may not be as well known. Such was the case for this author (S.B.) with the brand of supplements known as Enterex (Victus Inc. Nutrition and Medical Products) and Premier Protein Shakes (Premier Nutrition).

Victus Inc. Nutrition and Medical Products is a company that provides medical supplies, enteral and parenteral nutritional supplements, and wound care products. The main corporate office is located in Miami, Florida, with regional offices in Venezuela, Panama, Puerto Rico, Colombia, and Argentina. With the corporate offices located in Miami, this brand of nutritional and medical products may be more familiar to those residing on the east coast and in the southeastern areas of the United States. However, distribution of this product line is fairly new to the west coast and Pacific Northwest. Their supplement line includes a general formula in powder form only, with a diabetic, renal, pediatric, and hepatic formula available as a liquid, in ready-to-drink cans. According to a company representative, only the diabetic formula is currently available retail, nationally, at Wal-Mart and Target. The rest of the supplement line is available online. There may be plans to offer the regular formula in a ready-to-drink form in the future, but no firm timeline has been provided. The vanilla- and chocolate-flavored diabetic formulas were taste-tested by this author and were found to be slightly thicker in consistency (when compared with other liquid supplements) but had mild, pleasant flavors that were not overwhelming or chalky. The renal formula was not sampled at the time of this review. [Table 1](#) demonstrates a nutritional comparison of the general, diabetic, and

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Table 1. A Comparison of Common Enteral Nutrition Supplements

Product	Serving Size	Kcal	Protein (g)	Total Fat (g)	Saturated Fat (g)	Fiber (g)	CHO (g)	K (mg)	PO4 (mg)	Na (mg)	Ca (mg)	Source
Enterex powder packets	55.8 gm	250	8.8	8.8	1.5	0	34.2	370	130	200	130	Victus
Enterex diabetic	237 mL	237	11.9	9.1	0	3.4	26.7	370	223	210	250	Victus
Enterex renal	237 mL	480	20	20	2	0	56	140	140	240	57.2	Victus
Premier protein shake	330 mL	160	30	3	1	2	3	320*	250	330	250	Premier
Boost (regular)	237 mL	240	10	4	0.5	0	41	400	300	130	300	Nestle
Boost high protein	237 mL	240	15	6	0.5	0	33	380	300	170	350	Nestle
Boost Plus	237 mL	360	14	14	1.5	0	45	380	300	170	350	Nestle
Boost glucose control	237 mL	190	16	7	1	3.5	16	150	220	180	276	Nestle
Novasource renal	237 mL	475	17.4	24.1	NA	NA	47.3	192	154	210	308	Nestle
Ensure (regular)	237 mL	250	9	6	1	0	40	370	250	200	300	Abbott
Ensure high protein	237 mL	230	12	6	1	0	31	500	250	290	300	Abbott
Ensure Plus	237 mL	350	13	11	1	0	50	420	300	240	300	Abbott
Nepro w/Carb steady	237 mL	425	19.1	22.7	2	3	37.9	250	170	250	250	Abbott
Glucerna shake, bottles†	237 mL	200	10	7	0.5	5	26	380	250	210	250	Abbott
Glucerna shake, can	237 mL	220	9.9	8.6	1	2.8	29.3	370	250	210	250	Abbott
Glucerna snack shake	237 mL	140	7	5	0.5	3	19	290	150	180	150	Abbott
Enlive! (apple)	237 mL	250	9	0	0	0	52	45	280	45	50	Abbott
CIB essentials	325 mL	250	14	5	1.5	0	34	330	500	180	500	Nestle
CIB essentials NSA chocolate	325 mL	150	13	5	1.5	2	16	540	500	240	500	Nestle
CIB Plus (can)	250 mL	375	13.1	16.2	NA	NA	44.1	467	187	292	187	Nestle
CIB VHC (can)	250 mL	560	22.5	30	NA	NA	49.2	440	308	290	308	Nestle

CIB, carnation instant breakfast; NSA, no sugar added; VHC, very high calorie.

*The potassium content listed for the Premier protein shake is for the vanilla flavor. The chocolate flavor has 680 mg K and may not be suitable for most in-center patients on hemodialysis.

†Glucerna shake bottles (BTL) varieties are available retail only. This formulation is what is most commonly stocked at retail stores.

renal formulations. Other nutritional products such as a food thickeners, protein powders, and parenteral formulations are commercially available but were not included in this comparison.

Premier Nutrition Inc. is a nutrition company that started out by producing protein bars and now also produces ready-to-drink protein shakes, protein cookies, protein powder, and concentrated protein shots. This company is based in Carlsbad, California, with national distribution of its ready-to-drink protein shakes, protein shots, and bars available at Costco and Sam's Club. The chocolate-flavored shakes are the only flavor currently marketed by Costco. The vanilla-flavored shakes are currently only available online but, according to a company representative, are expected to be available retail, at both stores, by January 2011 (Table 1) Table 1 demonstrates a nutrient comparison of the protein shake. This line of protein shakes and bars are worth considering because they are high in protein (30 g), low in carbohydrates (5 g), and have a low calorie content (160 kcals). This combination works very well for peritoneal patients. The chocolate flavor also works better with home HD and PD patients because of its high potassium content (680 vs. 320 mg for the vanilla). Both supplement flavors were found to be acceptable for consumption but had a mild, vitamin-like aftertaste that was less noticeable when served cold.

Table 1 presents nutritional products considered to be common and/or readily available nationally (including Nestle and Abbott) to the average patient with stage 5 CKD. Most of the supplements, with the exception of the Enterep powder and the renal formulas, can be found at larger chain grocery stores, discount stores, and discount pharmacies. Nutrient information in this article was compiled using product resource guides, product labels, and company websites. There was some variability in nutrient data between the 3 sources. Updated online information has been provided wherever possible, but there were differences here as well, especially with respect to information provided on calories, protein, potassium, and phosphorus content. For the purposes of this article, the vanilla formulations were used as the reference unless otherwise stated. Nutrient data for different flavor options within each product line may differ considerably, especially for potassium, phosphorus, and sodium. For accurate information, it is advisable to review

the label of the specific flavor being used by your patient.

Manufacturer Information

- Abbott Nutritional and Pharmaceutical Products
Abbott Nutrition Consumer Relations
625 Cleveland Avenue
Columbus, Ohio 43215-1725
E-mail: www.abbottnutrition.com
Tel: (800) 227-5767
- Nestle Nutrition
13700 Oakland Avenue
Highland Park, Michigan 48203
E-mail: www.nestlenutrition.com
Tel: (888) 240-2713
- Premier Nutrition Inc.
6215 El Camino Real, Suite #200
Carlsbad, California 92009
E-mail: www.premiernutrition.com
Tel: (888) 836-8977
- Victus, Inc.
4918 Southwest 74th Court
Miami, Florida 33155
E-mail: www.vitcus.com
Tel: (305) 663-2129

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