

Protein Bars

Jennifer Blasiola, RD, CSR, CD

MALNUTRITION is common in patients with chronic kidney disease. Most patients present with uremia, lack of appetite, nausea, and vomiting. Altered sense of taste and fatigue make shopping, cooking, and eating a low priority. Hemodialysis itself removes valuable proteins. Yet, it is well known that malnutrition and a low serum albumin increase morbidity and mortality. “A decrease in albumin levels from 4.0 to 3.5 g/dL doubles the mortality risk, and the relative risk of death is five times greater if the albumin concentration decreases to between 3.0 and 3.5 g/dL.”¹ The National Kidney Foundation Kidney Disease Outcomes Quality Initiative guidelines recommend a serum albumin equal or greater to the lower limit of normal and a protein intake of at least 1.2 g/kg/body weight for patients on hemodialysis.² Most patients fall short of this recommendation.

Nutritional supplements are often used to increase calorie and protein intake of patients on dialysis. Liquid supplements are often used. Patient tolerance and adherence to recommended intake varies. Patients tend only to take their supplements “when they feel like they need it.” These supplements also add extra fluid to a fluid restriction that is already difficult to follow. Most private insurance companies do not cover nutritional supplements, and most Medicaid programs also have strict rules of coverage. In addition,

renal-specific supplements are often expensive for patients to pay for themselves.

Renal dietitians are striving to maximize patients’ protein intakes with acceptable, well-tolerated food items at a low-to-moderate cost with easy accessibility. Protein bars have exploded onto the market with the trendy low-carbohydrate, high-protein diets. These bars can also be used as an option for the population with chronic kidney disease. One protein bar can supply up to 26 g of protein for a 2-ounce bar, usually for \$2.00 or less. These bars resemble snack bars or candy bars, which can make them better accepted by patients. Phosphorus levels of these bars can range from 10% to 35% of Daily Value (Daily Value for phosphorus is 1000 mg), and potassium was usually less than 250 mg per bar in reported values. Protein bars do require patients to have decent dentition. Calcium content also needs to be considered when trying to control the total dietary calcium intake of patients on dialysis. Bars ranged from 10% to 50% of Daily Value (Daily Value for calcium is 1000 mg).

Protein bars, when eaten with phosphate binders, are another option in increasing patients’ protein intakes. **Table 1** lists the nutrition information for various protein bars in the United States obtained from the companies’ websites.

References

1. Beutler K, Park G, Wilkowski M: Effect of oral supplementation on nutrition indicators in hemodialysis patients. *J Ren Nutr* 7:77-82, 1997
2. National Kidney Foundation Kidney Disease Outcomes Quality Initiative Clinical Practice Guidelines for Nutrition in Chronic Renal Failure. 2000. Available at <http://www.kidney.org>. Accessed June 28, 2006

Davita, Milwaukee, Wisconsin.
Address reprint requests to Jennifer Blasiola, RD, CSR, CD, Davita, 1563 N. RiverCenter Drive, Milwaukee WI 53212.
E-mail: jennifer.blasiola@davita.com
© 2006 by the National Kidney Foundation, Inc.
1532-8503/06/1604-0012\$32.00/0
doi:10.1053/j.jrn.2006.07.002

Table 1. Nutrition Information of Various Protein Bars

Product	Calories	CHO (gm)	Fat (gm)	Sodium (mg)	Protein (gm)	Potassium (mg)	Phosphorus (mg)	Calcium (mg)
AdvantEdge Complete Nutrition								
Golden, CO: www.eas.com								
Chocolate Caramel	240	28	8	240	17	90	250	300
Chocolate Peanut Butter Crisp	210	27	5	160	15	65	N/A	N/A
Double Chocolate	240	27	8	280	17	270	250	300
Peanut Butter Caramel	240	26	8	280	17	110	250	300
Rocky Road Crisp	210	27	5	160	15	65	N/A	N/A
AdvantEdge Carb Control								
Golden, CO: www.eas.com								
Blueberry	220	24	6	150	21	75	80	500
Chocolate Brownie	220	24	7	150	21	135	100	300
Chocolate Caramel Crisp	230	26	8	370	18	170	150	300
Chocolate Cream Pie	220	24	6	180	21	95	150	300
Chocolate Peanut Butter	210	23	7	240	21	125	150	300
Chocolate Peanut Butter Crisp	230	25	8	370	18	115	150	300
Cookies 'n Cream	220	22	7	210	21	120	100	500
Double Chocolate Crisp	230	26	8	370	18	170	150	300
Atkins Advantage								
Ronkonkoma, NY: www.atkins.com								
Chocolate Peanut Butter	240	22	11	180	19	N/A	150	300
Caramel Fudge Brownie	160	17	8	85	12	N/A	150	300
Peanut Butter Granola	200	18	8	260	17	N/A	100	500
Caramel Cookie Dough	180	17	6	110	14	N/A	100	350
S'Mores	220	27	9	120	17	N/A	100	350
Almond Brownie	220	22	9	105	20	N/A	250	250
Chocolate Chip Granola	220	18	8	170	17	N/A	150	600
Chocolate Coconut	230	23	10	95	19	N/A	200	300
Chocolate Decadence	220	26	10	80	17	N/A	200	250
Chocolate Mocha Crunch	220	24	9	105	19	N/A	250	350
Golden Oats Granola	210	18	8	150	17	N/A	150	600
Pralines 'n Cream	270	21	12	100	19	N/A	200	500
Atkins Morning Start								
Melville, NY: www.atkins.com								
Strawberry Crisp Breakfast Bar	160	14	9	95	12	N/A	N/A	400
Cranberry Almond	160	13	7	105	11	N/A	N/A	250
Mixed Berry	150	13	5	105	12	N/A	N/A	250
Apple Crisp	180	14	9	80	11	N/A	N/A	400
Chocolate Chip Crisp	160	15	7	100	13	N/A	N/A	200
Creamy Cinnamon Bun	150	15	7	60	12	N/A	N/A	350
Apple Cinnamon Fruit and Grain	100	20	2	75	5	N/A	N/A	250
Strawberry Fruit and Grain	100	20	2	70	5	N/A	N/A	350
Balance Bar								
Tarrytown, NY: www.balance.com								
Almond Brownie	200	22	6	180	15	85	150	100
Chocolate	200	23	6	115	14	220	150	100
Chocolate Raspberry	200	22	6	180	14	180	150	100
Cookie Dough	200	22	6	90	14	170	150	100
Honey Peanut	200	24	6	180	14	115	150	100
Mocha Chip	200	23	6	125	14	70	150	100
Peanut Butter	200	22	6	230	14	130	150	100
Yogurt Honey Peanut	200	22	6	190	15	150	150	100
Balance Gold								
Tarrytown, NY: www.balance.com								
Caramel Nut Blast	210	22	7	140	15	120	150	100
Chewy Chocolate Chip	210	23	7	85	15	100	100	80
Chocolate Peanut Butter	210	22	7	125	15	125	150	100

Table 1. Nutrition Information of Various Protein Bars (Cont'd)

Product	Calories	CHO (gm)	Fat (gm)	Sodium (mg)	Protein (gm)	Potassium (mg)	Phosphorus (mg)	Calcium (mg)
Triple Chocolate Chaos	200	22	6	85	15	90	150	100
Rocky Road	210	22	7	80	15	140	150	100
Balance Bar Trail Mix Tarrytown, NY: www.balance.com								
Chocolate Chip	210	22	7	310	14	170	150	100
Cinnamon Oats and Honey	210	23	7	230	15	140	150	100
Fruit and Nut	210	23	7	240	15	120	150	100
Balance Gold Crunch Tarrytown, NY: www.balance.com								
Chocolate!Chocolate!	210	23	6	140	14	120	150	100
Chocolate Mint Cookie	210	23	6	150	14	100	150	100
Cookies and Crème	210	23	6	190	15	135	150	100
S'Mores	210	23	6	150	15	100	150	100
Balance CarbWell Tarrytown, NY: www.balance.com								
Caramel 'n Chocolate	190	23	7	200	14	50	100	100
Chocolate Fudge	190	23	6	190	14	95	100	100
Chocolate Peanut Butter	200	22	8	190	14	75	100	100
Genisoy Tulsa, OK: www.genisoy.com								
Café Mocha Fudge	230	34	4	150	14	200	200	200
Cookies & Cream	240	35	4.5	250	14	170	250	250
Crispy Chocolate Mint	240	37	4.5	150	14	290	250	200
Creamy Peanut Yogurt	250	36	6	160	14	200	200	200
Hershey's Smart Zone Hershey, PA: www.hersheys.com								
Crunchy Chocolate Caramel	210	23	7	200	14	N/A	N/A	200
Crunchy Chocolate Brownie	200	21	7	250	15	N/A	N/A	200
Crunchy Peanut Butter	200	21	7	290	16	N/A	N/A	200
Kashi GOLEAN La Jolla, CA: www.kashi.com								
Chocolate Almond Toffee	290	45	6	250	13	250	N/A	80
Cookies 'n Cream	290	50	6	200	13	250	N/A	80
Malted Chocolate Crisp	290	49	6	200	13	270	N/A	80
Oatmeal Raisin Cookie	280	49	5	140	13	250	N/A	100
Peanut Butter and Chocolate	290	48	6	280	13	240	N/A	80
Luna Bars for Women Berkeley, CA: www.clifbar.com								
Caramel Nut Brownie	190	27	6	125	9	180	350	350
Chai Tea	180	27	4	125	10	115	350	350
Cherry Covered Chocolate	180	28	5	150	9	140	350	350
Chocolate Pecan Pie	180	25	5	190	10	130	350	350
Chocolate Peppermint Stick	180	27	5	130	9	135	350	350
Cookies 'n Cream Delight	180	27	4.5	130	10	170	350	350
Dulce de Leche	180	28	3	160	10	160	350	350
Iced Oatmeal Raisin	180	28	4	170	10	190	350	350
Key Lime Pie	180	26	4	120	10	105	350	350
Lemon Zest	180	26	4	125	10	115	350	350
Nutz Over Chocolate	180	24	4.5	200	10	105	350	350
Peanut Butter Cookie	180	25	6	120	10	170	350	350
S'Mores	180	26	5	125	10	125	350	350
Toasted Nuts 'n Cranberry	170	26	4	130	10	100	350	350
Marathon Protein Performance Bar Hackettstown, NJ: www.snickersmarathon.com								
Caramel Nut Rush	290	41	8	180	20	240	300	500
Chocolate Nut Burst	290	36	7	260	26	300	350	500

Table 1. Nutrition Information of Various Protein Bars (Cont'd)

Product	Calories	CHO (gm)	Fat (gm)	Sodium (mg)	Protein (gm)	Potassium (mg)	Phosphorus (mg)	Calcium (mg)
Marathon Low Carb Bar								
Hackettstown, NJ:								
www.snickersmarathon.com								
Peanut Butter	160	18	6	260	14	160	250	500
Chocolate Fudge Brownie	170	19	7	240	14	160	250	500
PowerBar Performance								
Berkeley, CA: www.powerbar.com								
Apple Cinnamon	230	45	2.5	100	9	125	350	300
Banana	230	45	2.5	100	9	190	350	300
Cappucino	230	45	2	110	10	110	350	300
Chocolate	230	45	2	95	10	200	350	300
Chocolate Peanut Butter	240	45	3	95	10	170	350	300
Cookies and Cream	240	45	3.5	120	9	170	350	300
Malt Nut	230	45	2.5	90	9	110	350	300
Oatmeal Raisin	230	45	2.5	110	10	160	350	300
Peanut Butter	240	45	3.5	120	10	130	350	300
Raspberries and Cream	230	45	2	100	9	105	350	300
Vanilla Crisp	230	45	2.5	90	9	90	350	300
Wild Berry	230	45	2.5	95	9	110	350	300
PowerBar Protein Plus								
Berkeley, CA: www.powerbar.com								
Chocolate Crisp	290	37	6	190	23	N/A	350	450
Chocolate Peanut Butter	300	39	6	210	23	N/A	350	400
Cookies and Cream	300	38	6	170	23	N/A	350	400
Vanilla Yogurt	300	38	6	150	23	N/A	350	450
PowerBar Protein Plus Carb Select								
Berkeley, CA: www.powerbar.com								
Chocolate Caramel Crunch	270	32	11	170	20	N/A	200	200
Chocolate Peanut Butter	270	30	9	290	22	N/A	100	200
Double Chocolate	260	30	7	190	22	N/A	150	200
Peanut Caramel	270	32	11	290	20	N/A	200	200
PowerBar Harvest								
Berkeley, CA: www.powerbar.com								
Dipped - Double Chocolate Crisp	250	42	5	140	10	N/A	200	400
Dipped - Oatmeal Raisin Cookie	250	42	5	140	10	N/A	200	400
Dipped - Toffee Chocolate Crisp	250	42	5	140	10	N/A	200	400
Heart Healthy - Apple Cinnamon Crisp	240	42	4	140	10	N/A	200	400
Heart Healthy - Chunky Cherry Crunch	240	42	4	140	10	N/A	200	400
Heart Healthy - Peanut Butter Chocolate Chip	240	42	4.5	140	10	N/A	200	400
Heart Healthy - Strawberry Crunch	240	42	4	140	10	N/A	200	400
PowerBar Nut Naturals								
Berkeley, CA: www.powerbar.com								
Fruit and Nuts	210	20	10	180	10	N/A	100	150
Mixed Nuts	210	19	10	200	10	N/A	100	150
Trail Mix	210	20	10	200	10	N/A	150	150
PowerBar Triple Threat								
Berkeley, CA: www.powerbar.com								
Caramel Peanut Fusion	230	30	8	190	10	N/A	150	150
Chocolate Caramel Fusion	230	30	8	150	10	N/A	150	150
Caramel Peanut Crisp	220	32	5	210	11	N/A	150	150
Chocolate Peanut Butter Crisp	220	32	5	180	11	N/A	150	150

Table 1. Nutrition Information of Various Protein Bars (Cont'd)

Product	Calories	CHO (gm)	Fat (gm)	Sodium (mg)	Protein (gm)	Potassium (mg)	Phosphorus (mg)	Calcium (mg)
PowerBar Pria								
Berkeley, CA: www.powerbar.com								
Chocolate Peanut Crunch	110	16	3.5	85	5	N/A	150	300
Crème Caramel Crisp	110	17	3	90	5	N/A	150	300
Double Chocolate Cookie	110	16	3	100	5	N/A	150	300
French Vanilla Crisp	110	17	3	80	5	N/A	150	300
Mint Chocolate Cookie	110	15	3.5	90	5	N/A	150	300
PowerBar Pria Carb Select								
Berkeley, CA: www.powerbar.com								
Caramel Nut Brownie	170	21	8	90	10	N/A	150	300
Chocolate Mocha Crisp	130	16	6	115	8	N/A	200	300
Chocolate Peanut Butter Crisp	130	16	6	140	8	N/A	200	300
Cookies and Caramel	170	22	7	90	10	N/A	150	300
Peanut Butter Caramel Nut	170	21	8	160	10	N/A	150	300
PowerBar Pria Complete Nutrition Bar								
Berkeley, CA: www.powerbar.com								
Chocolate Mint Crisp	170	22	6	190	11	N/A	250	400
Chocolate Peanut Butter Crisp	170	22	6	200	11	N/A	250	400
French Vanilla Crisp	170	22	5	190	11	N/A	250	400
Slimfast Optima Meal Replacement Bar								
West Palm Beach, FL: www.slimfast.com								
Chocolately Cookie Dough	230	32	6	275	12	397	250	270
Milk Chocolately Peanut	234	33	6	270	12	380	250	250
Oatmeal Raisin	234	33	6	260	12	385	250	290
Rich Chocolately Brownie	230	32	6	260	12	390	250	250
South Beach Diet High Protein Cereal Bar								
Tarrytown, NY: www.southbeachdiet.com								
Chocolate	140	15	5	150	10	N/A	N/A	150
Cinnamon Raisin	140	15	5	150	10	N/A	N/A	150
Cranberry Almond	140	15	5	135	10	N/A	N/A	150
Maple Nut	140	15	5	160	10	N/A	N/A	150
Peanut Butter	140	15	5	160	10	N/A	N/A	150
South Beach Diet Meal Replacement Bar								
Tarrytown, NY: www.southbeachdiet.com								
Caramel Peanut Crisp	210	26	6	350	19	N/A	N/A	100
Vanilla Crème	210	26	6	340	19	N/A	N/A	100
Chocolate Crisp	210	26	6	360	19	N/A	N/A	100
Chocolate Peanut Butter	210	26	7	350	19	N/A	N/A	100
Cinnamon and Crème	220	26	7	360	19	N/A	N/A	100
ZonePerfect								
Columbus, OH: www.zoneperfect.com								
Apple Cinnamon	210	21	7	280	15	70	150	100
Chocolate Almond Biscotti	210	22	7	240	15	140	150	100
Chocolate Almond Raisin	210	21	7	290	15	150	150	150
Chocolate Caramel Cluster	210	21	7	300	16	60	150	100
Chocolate Coconut Crunch	210	23	6	240	15	60	150	100
Chocolate Mint	210	21	7	260	16	70	150	100
Chocolate Peanut Butter	210	21	7	330	16	110	150	100

Table 1. Nutrition Information of Various Protein Bars (Cont'd)

Product	Calories	CHO (gm)	Fat (gm)	Sodium (mg)	Protein (gm)	Potassium (mg)	Phosphorus (mg)	Calcium (mg)
Chocolate Raspberry	210	21	7	260	15	110	150	100
Cinnamon Roll	210	22	7	270	15	55	150	100
Double Chocolate	210	21	7	260	16	140	150	100
Fudge Graham	210	21	7	270	16	80	150	100
Mango Orange Delight	200	22	6	250	15	70	150	100
Orange Cranberry Crunch	210	22	7	230	15	40	150	100
Peach Apricot Parfait	210	23	6	220	15	40	150	100
Peanut Toffee	210	24	6	230	15	50	150	100
Strawberry Yogurt	210	21	7	260	15	80	150	100