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Are There Fast-Food Choices for End-Stage Renal Disease Patients? A Look at Phosphorus and Potassium Content in Common Fast Foods

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FAST FOOD IS cheap, convenient, and common for the average American; adults consume an average of 11.3% of their daily calories from fast food.[1] Fast food has become routine in most American's lifestyles, including people with end-stage renal disease (ESRD). It is known that most fast foods are high in calories, fat, sugar, and salt because fast-food companies must provide nutritional facts at their stores and online.[2] The phosphorus and potassium concentrations in foods are unfortunately not readily available to most patients or practitioners.

Controlled serum phosphorus and potassium can be extremely challenging in patients with ESRD. Remembering what foods to avoid, which foods to take a binder with, and why controlling a diet is important are continual hurdles in obtaining and maintaining phosphorus and potassium levels in patients. Elevated phosphorus has been implicated as a key risk factor in mortality rate, decreased quality of life, and extraskeletal calcification.[3] Mortality rates for ESRD exceed 20% per year.[4] The National Kidney Foundation Kidney Disease Outcomes Quality Initiative serum phosphorus recommendation for a person on hemodialysis is 3.5 to 5.5 mg/dL.[5] The daily recommendation of phosphorus intake is 800 to 1000 mg/day of phosphorus or 10 to 12 mg of phosphorous per gram of protein.[5] As of August 2013, 30% of dialysis patients have a phosphorus level greater than 5.5 mg/dL.[6]

Potassium control is vital in ESRD, and elevated potassium leads to weakness, cardiac dysrhythmia, and cardiac arrest.[7] The National Kidney Foundation Kidney Disease Outcomes Quality Initiative recommends a serum potassium level of 3.5 to 6.0 mEq/L, with a daily potassium intake of 2 to 3 g/day adjusted to serum levels.[5]

Dietitians push fresh food and home cooking, but in reality patients are going to eat fast food. It is important for registered dietitians to help steer patients to "better" choices that will allow patients to feel less restricted in eating while keeping their phosphorus and potassium in control. Table 1 provides the phosphorus and potassium content of common entrees at 5 fast-food chains that had their nutritional content available through the U.S. Department of Agriculture (USDA) Nutrient Database. Unfortunately, many menu options are not available through the database and are not included in the data.

The calorie, protein, and salt nutrient concentrations were collected from the fast-food company's website, and the phosphorus and potassium concentrations were obtained from the USDA's Nutrient Database. Sarathy and colleagues[8] showed that few fast-food entrees and side dishes are appropriate for a renal diet because of the added phosphorus from phosphorus-containing additives.

USDA uses the recipe provided by the restaurant to calculate the micronutrients; unfortunately, this does not contain preservatives or additives added to the food, meaning that the phosphorus content provided could be less than half of the actual phosphorus consumed for each item.[8] It is unlikely that a McDonald's Big Mac has only 262 mg of phosphorus, and it could potentially have 2 to 3 times that amount.[8]

Understanding that the data provide the minimum amount of phosphorus, it is easy to see how a fast-food meal can quickly exceed the phosphorus and potassium recommendations for the day. Looking at Burger King, McDonald's, and Wendy's, the regular plain hamburger looks like the best choice with the lowest phosphorus and potassium. In general, Taco Bell has few ideal options, with their crunchy and soft tacos as the best options; however, it is rare for people to eat just 1 taco. KFC has a similar issue as Taco Bell, in which someone would almost never eat 1 drumstick or 1 wing so as to meet the recommended nutrient intake.

These data show that there are options at fast-food restaurants that can fit into the recommended diet for ESRD patients. They also demonstrate that gathering accurate information can be challenging, and finding the true amount of phosphorus and potassium in the foods may not be readily available. Because fast food will be a part of the diets

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Table 1. Fast-Food Comparison Chart

Name	Servings Size (g)	Calories (kcal)	Protein (g)	Sodium (mg)	Potassium (mg)	Phosphorus (mg)
Burger King						
Cheeseburger	111	270	11	630	198	159
Chicken nuggets (6pc)	105	280	13	452	313	204
Croissan'wich (egg, cheese)	121	330	11	620	203	301
Croissan'wich (sausage, egg, cheese)	165	500	19	930	261	228
Double Whopper (cheese)	421	1,070	44	1,780	796	539
Double Whopper (no cheese)	375	900	35	980	718	415
Fish sandwich	198	530	17	1,360	408	230
French fries (medium)	153	410	4	570	715	182
Hamburger	100	230	9	460	217	126
Original chicken sandwich	218	640	2	1,140	453	255
Whopper (cheese)	314	730	26	1,260	534	357
Whopper (no cheese)	290	650	22	910	492	262
KFC						
Biscuit (1)	54	180	4	530	60	305
Extra-crispy chicken—breast	181	490	35	1,140	467	389
Extra-crispy chicken—drumstick	57	160	13	390	135	113
Extra-crispy chicken—thigh	108	370	18	760	292	246
Extra-crispy chicken—whole wing	58	210	12	490	129	111
Extra-crispy tenders (3)	155	380	33	940	470	420
Original Recipe chicken—breast	178	320	36	1,130	484	406
Original Recipe chicken—drumstick	56	120	11	380	156	127
Original Recipe chicken—thigh	110	290	18	850	255	210
Original Recipe chicken—whole wing	52	140	11	450	121	106
McDonalds						
Big Mac	215	550	25	970	396	262
Cheeseburger	114	300	15	680	228	160
Egg McMuffin	135	290	15	740	218	252
Filet-o-Fish	142	390	15	590	312	195
French fries (medium)	117	380	4	270	697	149
Hamburger	100	250	12	480	192	107
McChicken	143	360	14	800	227	182
McNuggets, 6 piece	98	280	13	540	239	258
Quarter Pounder (cheese)	202	520	30	1,100	442	325
Quarter Pounder (no cheese)	171	417	24	730	388	212
Sausage McMuffin with egg	160	440	21	850	274	274
Taco Bell						
Bean burrito	198	370	13	980	483	302
Burrito Supreme (beef)	248	420	17	1,100	492	316
Burrito Supreme (chicken)	248	400	21	1,060	655	404
Burrito Supreme (steak)	248	390	17	1,100	562	325
Crunchy taco (beef, lettuce, cheese)	78	170	8	290	163	139
Nacho Supreme	191	440	12	640	569	292
Nachos	99	330	4	370	358	196
Soft taco (beef, lettuce, cheese)	96	200	10	510	155	160
Fiesta taco salad—beef	463	770	26	1,350	1,060	477
Wendy's						
Crispy chicken sandwich	142	380	15	680	233	229
Double stack with cheese	170	420	27	1,060	377	229
French fries (medium)	142	410	5	440	888	179
Homestyle chicken filet sandwich	247	510	29	1,200	524	370
Jr. cheeseburger	114	290	16	800	203	153
Jr. hamburger	102	250	14	600	205	125
Regular chicken nuggets	90	270	14	520	204	221
Ultimate chicken sandwich	231	370	34	880	511	388

of many ESRD patients, it is vital for registered dietitians to help guide patients to better options. Further research into the phosphorus and potassium contents of served fast-food entrees is needed to have accurate nutrient concentrations on which to base food recommendations.

Nutrient Information Sources

Burger King: http://www.bk.com; 866-394-2493
McDonald's: http://www.mcdonalds.com; 800-244-6227; 2111 McDonald's Drive, Oak Brook, IL 60523

KFC: http://www.kfc.com; 1900 Colonel Sanders Ln., Louisville, KY 40213

Taco Bell: http://www.tacobell.com/nutrition/information; 800-8226-235; 1 Glen Bell Way, Irvine, CA 926185

Wendy's: http://www.wendys.com; 866-624-8140; One Dave Thomas Blvd., Dublin, OH 43017

USDA Nutrient Database: http://ndb.nal.usda.gov/ndb/search/list

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