PATIENT EDUCATION

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Phosphorus and Potassium Handouts, Quizzes, and Puzzle

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As renal dietitians, we spend a major portion of our time counseling patients on phosphorus and potassium. Over time, it becomes difficult to find new ways to present the same information. Because patients need to be continuously re-educated, having the same information presented to them in new and fun ways is both motivating and necessary. Not only were the following handouts developed as basic educational pieces, but they were also used as a tool for educational contests at our dialysis center. We held a phosphorus contest at our unit and recorded all the patients’ phosphorus levels from that month. To promote the event, we told all the patients about the contest and provided a written handout outlining all the details. Patients who lowered their phosphorus level in 1 month or who achieved the desired phosphorus level won a prize. In addition, the patient on each shift who lowered his or her phosphorus the most won a gift certificate to a local food store. Each week during the contest the patients were given a handout, a quiz, or a puzzle. Week 1, the patients were given a packet called “Steps Toward Good Phosphorus Control.” An introduction page on the impact of excess phosphorus on the body, a handout on phosphorus in the diet, and a question-and-answer page about phosphorus binders were provided. This packet was put together to explain the contest and to provide patients the needed tools to lower their phosphorus levels. Week 2, the patients were given a 10-question multiple-choice quiz on phosphorus. Assistance was provided for any patients that needed help reading or answering the quiz. In many instances, spontaneous and fun discussions would occur between patients as well as between patient and dietitian regarding the contest and quiz. Patients who obtained correct answers would explain to other patients (under the guidance of the dietitian) why certain answers were correct. For the other patients who preferred to take the quiz independently, quizzes were collected and “graded” with the correct answers provided. The quizzes were given back to the patients, sparking excellent conversation. Week 3, the patients were given a high phosphorus word search to reinforce the need to limit high-phosphorus foods in a fun and memorable way. The patients at my unit especially enjoyed this type of activity because many of them do word searches during their dialysis treatment. By the conclusion of the contest, 71% of the patients had lowered their phosphorus level or maintained it within the healthy range. Moreover, there was a 20% increase in number of patients obtaining a calcium-phosphorus product of ≤55. Fifty-one of the 80 patients received prizes, and 6 additional patients received food market gift certificates. The contest was indeed a success. The handouts, quizzes, and puzzle on the following pages were developed to teach and reinforce the renal diet in a fun and interesting way. It is my hope that other dietitians will find these materials and contest ideas helpful and that their patients will benefit in a similar way, just as mine did.
STEPS TOWARD LOWERING YOUR POTASSIUM LEVEL

Potassium is a mineral that is needed for your muscles to work properly. Your heart is a major muscle and too much potassium can affect your heart and cause it to stop beating.

Fruits and vegetables are a major source of potassium. To control your potassium level, limit your intake of combined fruit and vegetable servings to 5 per day. Serving size is important. 1 serving is usually \( \frac{1}{2} \) cup or 1 small piece.

**LIMIT THE FOLLOWING HIGH POTASSIUM FRUITS:**
- **MELONS:** honeydew, cantaloupe, watermelon
- **DRIED FRUITS:** figs, apricots, dates, prunes, raisins
- **CITRUS FRUITS:** orange, orange juice, tangelo, nectarine
- **PASSION FRUITS:** kiwi, mango, papaya, guava, casaba, coconut
- **MISCELLANEOUS:** bananas, avocados

**LIMIT THE FOLLOWING HIGH POTASSIUM VEGETABLES:**
- **POTATOES:** baked, mashed, sweet, white, french fries, chips
- **TOMATOES:** juice, soup, spaghetti sauce, salsa
- **SQUASH:** winter, acorn, hubbard, butternut, spaghetti, pumpkin
- **DRIED BEANS:** lima, red, garbanzo, navy, white, pinto, kidney, black
- **DRIED PEAS:** chickpeas, black-eyed, split peas, cowpeas, lentils
- **MISCELLANEOUS:** artichoke, baked beans, kohlrabi, spinach, parsnip, swiss chard, beet greens, rutabaga
EATING OUT WITH POTASSIUM:
What Should You Do?

You and a friend decide to go out to a restaurant for lunch. The following foods are listed on the menu:

- Hamburger on a Bun
- Tuna Salad on White Bread
- Roast Beef Sandwich
- Grilled Chicken Sandwich on a roll
- Spaghetti with Tomato Sauce
- Cottage Cheese and Fresh Fruit
- French Fries
- Baked Potato with Melted Cheese
- Mashed Potatoes with Gravy
- Macaroni Salad
- Applesauce
- Tossed Salad with Oil and Vinegar
- Apple Pie
- Fruit Cup
- Cheesecake
- Gelatin with Whipped Topping

If your Potassium Level was 5.3 mg/dl at your last laboratory report,

1. Is this level of Potassium high, low or acceptable?
2. Circle any food items that would be high sources of Potassium.
3. What questions could you ask the waitperson concerning the preparation of these foods in order to insure they are acceptable with your diet?
DIET AND PHOSPHORUS
ACHIEVING THE BALANCE

Phosphorus is a mineral that is found in many foods you eat. When your kidneys are not working right, phosphorus builds up in the blood and causes many problems, including bone disease. Symptoms of a high phosphorus level include: itching, bone pain, weakness, joint pain, and broken bones. Eating right and taking your phosphate binders with your meals and snacks will help prevent bone disease.

LIMIT THE FOLLOWING HIGH PHOSPHORUS FOODS:

DAIRY PRODUCTS: milk, cheese, ice cream, yogurt, pudding, custard, ice milk, cream soup
DRIED BEANS: black, garbanzo, great northern, kidney, lima, navy, pinto, red, soy, white
DRIED PEAS: black-eyed, green black-eyed, chickpeas, cowpeas, crowder, lentils, split peas
CHOCOLATE and COCOA
ALL NUTS and PEANUT BUTTER
PORK and BEANS
BROWN and WILD RICE
ORGAN MEATS: brain, liver (beef and calf), liver sausage, liverwurst
SEEDS: sunflower, squash, pumpkin
SODA POP: Pepsi, Coke, RC Cola, Dr. Pepper, Mr. Pibb, and all diet and caffeine-free varieties of these colas
EATING OUT WITH PHOSPHORUS:
What Should You Do?

You arrive at a friend's house for dinner and the following foods are available for you to select from:

Split Pea Soup
Crackers with Peanut Butter
Chicken Wings
Beef Barbecue on a roll
Macaroni and Cheese
Three-bean salad (green, wax/yellow, kidney)
Potato Salad
Pretzels
Peanuts
Iced Tea
Cola
Fruit Cup (peaches, pears, pineapple, apple)

If your Phosphorus Level was 6.1 mg/dl at your last laboratory report,
1. Is your phosphorus level high, low or acceptable?
2. Circle the food items that are sources high in phosphorus.
3. List a food item(s) that would be an acceptable replacement(s) for those foods listed above that are high in phosphorus.

____________________for____________________
____________________for____________________
____________________for____________________
____________________for____________________
____________________for____________________
____________________for____________________
____________________for____________________
High Phosphorus Word Search

The items listed in this word search include many of the high and moderately high phosphorus foods. See your dietitian for a more complete listing.

Almonds  Colas  Macadamias  Pork and Beans
Beer  Cream Soup  Milk  Pudding
Bran  Custard  Nuts  Seeds
Caramel  Goose  Peanut Butter  Soybeans
Cashews  Ice Cream  Peanuts  Split Peas
Cheese  Kidney Beans  Pecans  Walnuts
Chocolate  Lentils  Pistachios  Wild Rice
Cocoa  Liver  Pizza  Yogurt