Why Reducing Dietary Phosphorus is so important!
Phosphorus is an important mineral for your body. Phosphorus works with calcium to form strong bones and teeth. As kidney function declines your kidneys cannot remove phosphorus from your body and phosphorus begins to build up in your bloodstream. This build up can damage your heart and weaken your bones. The dialysis machine is not able to remove all the phosphorus in your blood, so it is vital for you to avoid high phosphorus foods in your diet and take your phosphate binding pills.

Reducing Phosphorus can be challenging, but it is possible!
It is not always easy to know which foods contain phosphorus because manufacturers often do not list phosphorus on food labels. As well, manufacturers are using phosphorus additives to enhance flavour of many common foods. These additives are almost 100% absorbed by the body compared to natural occurring phosphorus which is only approximately 60% absorbed.

Hidden Sources of Phosphorus - What to Look for?
Many beverages, cereals, meats, instant products (pudding and sauces), refrigerated baking products and processed cheeses and meats are known to contain phosphate additives.

Beverages like Coca - cola® (all varieties), Dr. Pepper®, Nestea COOL® (all varieties), and Pepsi® (all varieties) contain phosphate additives.

Protein
All protein foods contain phosphorus. It is very important to ensure you eat adequate amounts of protein. Your dietitian will tell you how much you can have per day. Choose fresh meats more often, as processed meats are higher in phosphorus and sodium.

Note: Organ Meats (e.g. liver) should be limited to no more than once a month.

Enhanced Meats
Enhanced meats are fresh or frozen meats that are injected with water, salt, sodium phosphate solution, and other flavourings to make the meat more tender and flavourful. Phosphorus content is not required on food labels therefore it is impossible to know how much is added to theses foods. Some examples of these enhanced meats include: chicken nuggets, hot dogs, seasoned meats and seasoned chicken.

Read Food Labels
Avoid products that say “This product contains up to 10% in solution containing water, salt, and sodium phosphate.” Or “Enhanced or processed with chicken broth solution” As well, products that are “seasoned”, “instant” or “restructured” tend to be higher in phosphorus.

Check food labels for ingredients with the word “phosphate”, such as: disodium phosphate, monosodium phosphate, potassium tripolyphosphate.

Adapted from: Hidden Sources of Phosphorus 1,2,3

To be used in conjunction with advice from a Registered Dietitian.
Phosphorus in Your Diet

July 2011

**Milk & Dairy Foods**

Dairy foods are limited in the renal diet because they are high in phosphorus and potassium. If you reduce and limit your intake of cheese, milk, yogurt, pudding, and ice cream you will help to decrease the phosphorus in your diet.

A 1/2 cup (125 ml) of milk products is permitted daily.

<table>
<thead>
<tr>
<th>Choose only one of the following per day (limit to 1/2 cup/day):</th>
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<tbody>
<tr>
<td>• Milk</td>
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<tr>
<td>• Chocolate milk</td>
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<tr>
<td>• Soy milk</td>
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<tr>
<td>• Yogurt</td>
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<tr>
<td>• Pudding</td>
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<td>• Ice cream</td>
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<tr>
<td>• Cream</td>
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<tr>
<td>• Hot chocolate</td>
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<tr>
<td>• Cream soup (salt free)</td>
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</tbody>
</table>

Cheese should be limited to 1 oz piece 3 x/week. (1 oz piece = 1” x 1”)

**Milk Substitutes:**

Coffee Rich® is a coffee whitener that can be used as a milk /cream substitute. It is lower in protein, phosphorus, potassium, and sodium. As well it can provide extra calories if needed. It is available in the frozen section of most grocery stores and can be refrigerated for three weeks or kept frozen for up to 1 year.

Rice Dream® is a rice based product that can be used as a milk substitute. It is shelf stable and can be stored unopened for up to one year. Refrigerate once opened. It is a good alternative, if you are watching your cholesterol, as it is lower in fat. Choose the original rice dream® rather than enriched, as the enriched is higher in phosphorus.

**Other foods high in phosphorus:**

Chocolate, all nuts, bran, 100% whole wheat bread, whole wheat pasta, brown rice, pumpernickel bread, dark rye bread, cereals made with bran & nuts, premixed pancakes/waffles/biscuits, dried lentils & beans (kidney, baked, black, garbanzo, lima, pinto, navy, & refried beans).
Other ways you can reduce Phosphorus!

1. **Boil** fresh beef and chicken in water for 30 minutes reduces the amount of phosphorus in meat. Discard the cooking water.

2. When eating out, **Avoid** foods that are high in phosphorus.

   **FOR EXAMPLE:**
   - avoid foods that say “au gratin”, “creamed”, or “scalloped”.
   - avoid foods containing nuts and beans.
   - ask for burgers and sandwiches without cheese.

3. Egg yolks are higher in phosphorus than egg whites. Use only 1 whole egg with extra egg whites when making an omelette.

4. Adjust your favourite recipes by using low phosphorus foods to replace high phosphorus foods.

5. Limit dairy foods. Use Rice Dream ® or Coffee Rich ® as substitutes for milk in your coffee/tea and recipes.

6. **Dessert Time!** Use, Cool Whip®, rather than whipping cream. Cool whip is a non-dairy product that is lower in phosphorus and potassium.

7. Use fresh ingredients and cook meals from scratch more often so you know what is in your food.

8. Limit processed foods.

9. Keep your phosphorus food list handy when shopping and cooking.

10. Talk to your dietitian if you are not sure about a food or if you need help with reading food labels.
Phosphorus in Your Diet

Most renal diets allow only 800-1200mg of phosphorus per day. Below is a sample of a meal day that provides approximately 1200mg phosphorus per day.

**Breakfast**
- 1 cup Special K
- ½ cup milk
- 1 egg, large
- ½ cup drained pears
- 1 cup coffee black

**Lunch**
- Salmon salad sandwich
- 1/2 cup sliced cucumbers
- 1 cup homemade soup
- ½ cup blueberries
- ½ cup 7up

**Supper**
- 3 oz Roast chicken
- ½ cup white rice
- Tossed Salad with Lt Italian Dressing
- 1 piece Apple pie
- 1/2 cup coffee black

**Snack**
- ½ sandwich- 2 oz left over chicken
- ½ cup water

Phosphate Binders

Symptoms of high phosphorus can include:
- Itchy skin
- Painful joints
- Burning eyes

To keep your bones and blood vessels healthy you will need to limit high phosphorus foods. Diet alone is not always enough to keep you phosphate levels good. If you have been prescribed phosphate binders (Tums®, calcium, Renagel®), remember to take them with meals and snacks as instructed by your doctor, pharmacist or dietitian.

**Helpful Hints** to remembering to take your phosphate binders:

1) Place the bottle on your dining room table or where you normally eat your meals.
2) When away from home keep a few pills at work, in your car, jacket, or purse/backpack.
3) Tell your family about your medications, so they can help to remind you.
4) Refill your prescription a week in advance of running out so you always have a supply.
5) Wear a watch with an alarm to remind you of your medications.

Adapted from: Renal Nutrition Update Northern Alberta Renal Program