

To Our CRIC Participants

CRIC Phase III is well underway as we approach the end of the first year of follow-up and recruitment of CRIC Study participants. We are deeply appreciative of those CRIC participants who continue to participate in Phase III as well as those who are new to CRIC. As displayed in the figure to the left, 77% of participants from CRIC Phase II have already re-enrolled in CRIC Phase III. Over the past 11 years, the information we have collected from CRIC study participants has resulted in publication of more than 60 scientific papers. These papers have informed the medical community of new findings about chronic kidney disease and are helping to shape our understanding of how best to diagnose and treat people with kidney disease. We have summarized one of these important papers in this newsletter.

In this issue, we are also happy to highlight the importance of managing calcium and phosphate in your diet and provide a recipe for healthier eating. Also included is a recent photo of several members of the CRIC team of investigators and study coordinators. While the CRIC team includes many others who are not in the photo, you may see one or two familiar faces. We have also provided a few useful website links with resources for people with chronic kidney disease.

As always, we appreciate your continued participation in this important study. The success of the CRIC Study comes principally from your longstanding commitment and participation. If you have any questions or comments about CRIC or about this newsletter, please feel free to contact the investigators and staff at the CRIC Center where you are followed.

Wishing you and your families a safe and enjoyable summer.

Warm regards,



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Chair, CRIC Steering Committee

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On the Web...

<http://www.cristudy.org>

<http://www.kidney.org>

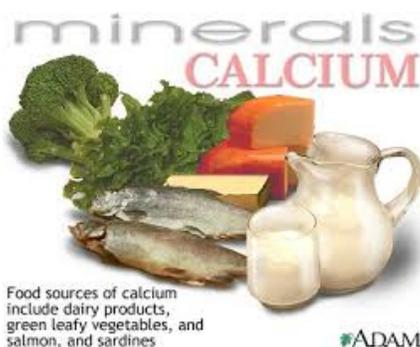
We'd Love to Hear from You!

Do you have a question about the CRIC study or about kidney or heart disease? If so, please let your local CRIC staff know by writing or calling:

The Importance of Calcium and Phosphorus

Our kidneys do so much more than just regulate our blood pressure and filter our blood of toxins and poisons. Other responsibilities of the kidneys include signaling our bone marrow to make red blood cells, and synthesizing Vitamin D. In addition, the kidneys regulate fluids and minerals, such as keeping our calcium and phosphorus levels balanced.

Normal calcium and phosphorus levels in our bodies are very important to good health. Calcium is the most abundant mineral found in our bodies, with most found in bones and teeth and 1% found in blood and soft tissues. Calcium has many jobs. It helps to regulate cells, helps blood to clot, assists with nerve impulses and muscle contraction/relaxation, and is it necessary for strong bones and teeth. Most of the calcium we need is obtained from the food we eat and calcium supplements. Vitamin D and a hormone called PTH (parathyroid hormone) work together to help regulate the amount of calcium our body needs and how much we excrete through our kidneys in our urine. If our calcium level is low, our body automatically "borrows" calcium from our bones. Normal calcium intake for anyone with kidney issues, according to the KDOQI (Kidney Disease Outcomes Quality Initiative) guidelines, should be a daily total of 2000mg from diet and supplements combined. Calcium rich foods include dairy,



Food sources of calcium include dairy products, green leafy vegetables, and salmon, and sardines

sardines, and dark leafy greens like spinach and kale. Some fortified cereals (like Total and Raisin Bran) and fortified orange juice as well as soybeans and

enriched breads contain extra calcium as well. Low blood levels of calcium can cause symptoms such as muscle weakness and nerve problems. Over time, low calcium levels can also cause bones to become brittle and weak.

Phosphate in our blood contains the mineral phosphorus. Similar to the jobs of calcium, the body

needs phosphorus to build and repair bones and teeth, make muscles contract, and help with nerve function. Our kidneys help to regulate the amount of phosphorus in our body. If there is excess, it is typically filtered out by the kidneys. The majority of phosphorus in our bodies is also stored in our bones. Vitamin D is necessary for our bodies to absorb phosphorus. For people with kidney issues, the necessary daily diet intake of phosphorus is 1000-1200mg. As with calcium, we obtain most of our phosphorus from our diet. Foods high in phosphorus include cheese, fish such as salmon, pumpkin seeds, shellfish including scallops and clams, tofu, nuts, pork, beef and veal.

Calcium and phosphorus act oppositely. When one rises above normal levels, the other typically goes below normal levels. When kidneys don't function as they should, the levels of calcium and phosphorus are altered. Often times with kidney disease, or a decline in kidney function, people tend to have low calcium levels which cause elevated phosphorus levels. Low calcium could be caused by many things including the kidney's inability to produce Vitamin D. Without Vitamin D, calcium can't be absorbed from our diet. In addition, the kidneys are responsible for excreting excess phosphate and when kidneys do not work well, extra phosphate stays in the body.

For these reasons, it is beneficial to always "know your numbers." In addition to knowing your blood results for your sodium, potassium, glucose and creatinine, it is very important to be aware of your calcium and phosphorus results as well. Your doctor may prescribe medications to raise or lower your calcium or phosphorus depending on your blood results. A dietician can be very helpful in assisting with a diet that will suit your lifestyle and mineral needs. If you have a decline in your kidney function, it is wise to speak to your doctor about what kind of calcium supplement to take and how much to take. Even though calcium supplements are over-the-counter, your doctor may want you to take a specific kind and amount. Working together with your doctor will keep your levels in good ranges and keep you happy and healthy.

Retinopathy and Chronic Kidney Function in CRIC

Juan E. Grunwald, Judith Alexander, Gui-Shuang Ying, Maureen Maguire, Ebenezer Daniel, Revell Whittock-Martin, Candace Parker, Kathleen McWilliams, Joan C. Lo, Alan Go, Raymond Townsend, Crystal A. Gadegbeku, James P. Lash, Jeffrey C. Fink, Mahboob Rahman, Harold Feldman, John W. Kusek, Dawei Xie, Bernard G. Jaar, the CRIC Study Group. Arch Ophthalmol. 2012 Sep 1;130(9):1136-1144.

Diabetes, high blood pressure, and other conditions can damage the blood vessels of the retina and lead to vision loss or blindness. This condition is called retinopathy. Using special photographs of the eyes, doctors can look at the blood vessels at the back of the eye and determine if an individual has retinopathy. The purpose of the CRIC ancillary study, Retinopathy in Chronic Renal Insufficiency Study (RCRIC), was to study the association between retinopathy and chronic kidney disease (CKD).

A total of 1936 RCRIC participants had digital photographs taken of both eyes using a special camera.

The photographs were reviewed at a central photograph reading center by trained graders and a retinal specialist. They had no other information about the participants. The graders looked for signs of retinopathy and degree of severity.

The investigators examined these result as well as participants' estimated Glomerular Filtration Rate (eGFR). eGFR is a test that measures how well the kidneys are working. When eGFR values are lower than the normal range, it may indicate decreased kidney function. Investigators found that reduced eGFR and the presence of retinopathy go hand-in-hand. They also found that participants without retinopathy had the highest eGFR values, and those with the most severe retinopathy had the lowest eGFR values.

This study demonstrates that a strong association exists between retinopathy and decreased kidney function, highlighting the need for eye exams in patients with CKD.

Human Body Word Scramble

SCRAMBLES	ANSWERS
1. MAR	1.
2. OEBN	2.
3. GNUL	3.
4. ERTHA	4.
5. EINYDK	5.
6. RAIH	6.
7. EEY	7.
8. DBOLO	8.
9. EEHTE	9.
10. VLRIE	10.

SCRAMBLES	ANSWERS
11. BIR	11.
12. UMLSCE	12.
13. OETNSKEL	13.
14. ENOS	14.
15. TFEE	15.
16. REFNGI	16.
17. AINBR	17.
18. NEKE	18.
19. ENIPS	19.
20. ULDSEHOR	20.

The CRIC Team



For general information about kidney disease and good nutrition for people with kidney disease, please visit the National Kidney Foundation at www.kidney.org (or call 800-622-9010) and www.davita.com.

Word Scramble answers: 1.Arm 2.Bone 3.Lung 4.Heart 5.Kidney 6.Hair 7.Eye 8.Blood 9.Teeth 10.Liver 11.Rib 12.Muscle 13.Skeleton 14.Nose 15. Feet 16.Finger 17.Brain 18.Knee 19.Spine 20.Shoulder

Recipe for the Summer: Blueberry Cream Cones

Ingredients:

4 ounces cream cheese or blueberry flavored cream cheese
 1 cup whipped non-dairy topping
 1-1/4 cup fresh blueberries – washed and drained
 1/4 cup blueberry jam or preserve
 12 small ice cream cones

Preparation:

1. Soften cream cheese then place in a bowl and beat on high until smooth and fluffy.
2. Fold in whipped topping, fruit and jam.
3. Fill cones, and chill further, if needed.

Renal and renal diabetic food choices

1/2 starch
 1/2 fruit, low potassium
 2 fat
 1/2 high calorie

Carbohydrate choices

1-1/2



Helpful hints

Use sugar-free or fat-free dessert topping, low fat cream cheese and sugar-free jelly to reduce sugar and fat.

Ice cream cones used are 4.5 ounce Comet® cones. If sugar cones or wafer cones are used, the calories, carbohydrate and sodium may be higher.

Change the flavor of the cones by using a different type of berry and jam, such as raspberries.

Nutrients per serving (1 cone)

Calories 181
Protein 2 g
Carbohydrates 23 g
Fat 9 g
Cholesterol 21 mg
Sodium 75 mg
Potassium 61 mg
Phosphorus 34 mg
Calcium 24 mg
Fiber 1.2 g