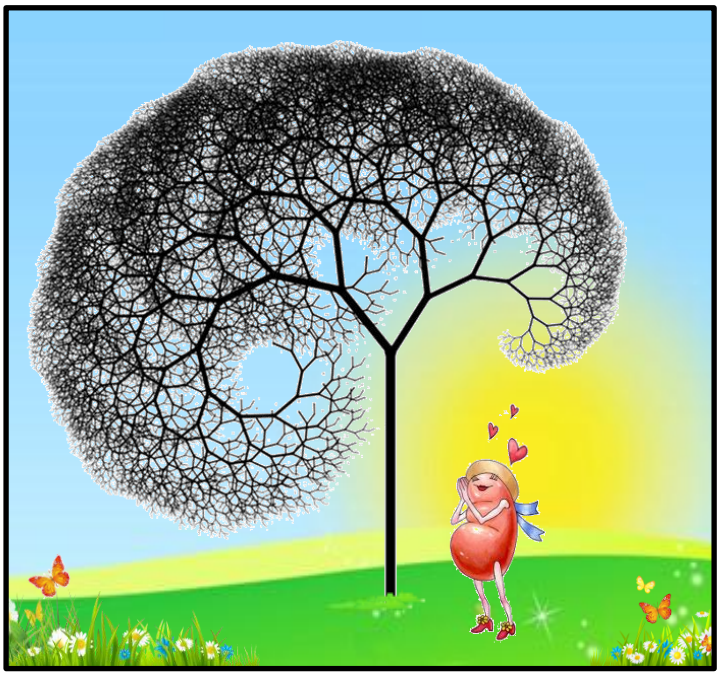
CKiD Newsletter

Volume I, Issue 7 **Spring 2015**

Dear CKiD Participants and Families,

Another year has gone by so quickly and it seems like our first participant just enrolled not too long ago. As you know, we accomplished our recruitment goal in March 2014 with a total of 891 participants having enrolled into the study. THANKS to all our AMAZING CKiD families! We couldn't have done this without your willingness to be a part of this landmark study.

STUDY UPDATE: Over the past 2 years, the study has undergone a few exciting changes! We now perform fitness tests every other year beginning with the 3rd annual visit (Visit 3). In some participants, we also measure the stiffness of their arteries with a pressure sensor and take a picture of the heart with a special camera that uses radio waves, magnets and a computer - also called, a cardiac MRI. We hope these tests will tell us more about how kidney disease affects one's ability to exercise and their level of fitness as well as changes that occur in the heart and blood vessels. We also evaluated which parts of the study have given us enough information needed to answer our research questions. For instance, you no longer have to answer questions on sun exposure or how often you eat certain foods (Food Frequency Questionnaire). Echocardiograms are now done every 4 years and psychology testing will no longer be performed starting at your 10th annual visit (Visit 9). We hope these changes have simplified the visits for everyone involved and we look forward to seeing you at your next study visit!



Sincerely,

Dr. Susan Furth & Dr. Brad Warady
Principal Investigators, East Coast and Mid-West Clinical Coordinating Centers

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Principal Investigators, Data Coordinating Center and Central Laboratory

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Did You Know?

- Exercise not only strengthens your muscles and bones, it also prevents diseases, increases energy, and increases serotonin in the brain, which improves mood and mental clarity.
- Dancing is just as good of a cardiovascular exercise as running.
- Although diet and exercise are both important to staying healthy, exercise is more important to maintaining a healthy weight.

CKiD Fitness Tests

One of the goals of this study is to look at how kidney disease affects a person's strength. This newsletter issue talks about the test we use and how important it is to stay active.

By now, most of you have participated in a CKiD study visit where you performed some fitness tests. At these visits, we ask you to squeeze a device as hard as you can several times with each hand. This Hand-Grip Test was added to the study in late 2012 and is done every other year on the days that you meet with the psychologist. As you squeeze the handle of the device, your mind may wonder, "Why am I doing this? What does this have to do with my kidneys?"

The Hand-Grip Test (HGT) measures "maximal isometric force" using a "dynamometer". Said in another way, the HGT is looking at muscle strength with a device that measures force (*dynamo-* means "force" and *–meter* means "measuring device"). You may have heard the term "isometric" before; it's used to describe static (not-moving) exercises in strength training. When you are squeezing the dynamometer, you reach a point where you can't squeeze it any harder. At this point, there is no change in the position of your hand, and the force you are exerting is equal to the force being exerted by the machine. This is the point of "maximal isometric grip force". Research has shown that grip strength is related to overall total muscle strength, making the HGT a simple and popular way to estimate muscle strength instead of performing various tests on different muscle groups.

It has been demonstrated that children and adults with end-stage renal disease (who are on dialysis or have had a kidney transplant) tend to have a weaker grip than those without kidney problems and it seems to be related to how well their kidneys are working. We don't know if this is also true for children and young adults with milder kidney problems, like the patients enrolled in the CKiD study.

So that's why we're doing this fitness test. Currently about 300 participants have completed a grip test. Once enough tests have been performed, we're going to look at how everyone did and see if we can answer any of those questions that scientists often wonder about. Scientific research is an exciting tool for discovery, and you are helping improve the care we give, one study visit at a time!

Fitness Test Fun Facts

There are about 650 – 800 skeletal muscles in the human body (depending on how broadly you define "muscles"). How many do you think are related to your hand grip?

➔ There are about 10 skeletal muscles related to hand grip.

Kidney Friendly Recipes

Eating well and exercising are extremely important for keeping your kidneys and the rest of your body healthy. Here are some kidney friendly recipes to try, but since everyone is different, make sure to always follow your kidney doctor's or nutritionist's advice.

Greek Lamb Patties with Mint Sauce

Servings: 4 ▪ Serving size: 1 patty

Mint Sauce

- 2 tablespoons mint jelly
- 2 tablespoons applesauce
- 2 teaspoons lime juice

Patties

- ½ cup soft white bread crumbs
- 2 cloves chopped garlic
- 1 teaspoon dried rosemary
- 1 pound ground lamb
- ¼ cup ginger ale
- Cooking spray

Directions

1. Pre-heat broiler
2. Place soft bread crumbs, garlic, and rosemary in a bowl and mix
3. Add ground lamb and ginger ale to bread crumbs. Mix to moisten. Set aside 10 minutes to allow bread crumbs to absorb moisture
4. Spray broiler pan with cooking spray. Form meat mixture into four patties and place on broiler rack. Broil five minutes on each side until done.
5. Place jelly, applesauce and lime juice in a small saucepan and bring to a boil. Top patties with mint sauce and serve.

Calories: 309 ▪ Protein: 22 g ▪ Carbohydrates: 11 g ▪ Cholesterol: 83 mg
Fat: 17 g ▪ Sodium: 102 mg ▪ Potassium: 326 mg ▪ Phosphorus: 180 mg

Crunchy Couscous Salad

Servings: 6 ▪ Serving size: ½ cup

Ingredients

- 1 medium cucumber
- ½ cup red bell pepper
- ¼ cup sweet onion
- 2 tablespoons black olives
- ¼ cup flat-leaf parsley
- ½ cup couscous, uncooked
- ¾ cup water

Dressing

- 2 tablespoons olive oil
- 2 tablespoons unseasoned rice vinegar
- 2 tablespoons feta cheese
- 1 and ½ teaspoon dried basil
- ¼ teaspoon salt
- ¼ teaspoon black pepper

Directions

1. Thinly slice and quarter cucumbers. Chop bell pepper, onion, olives and parsley
2. Prepare couscous according to package directions
3. Add cucumber, bell pepper, onion, olives and parsley
4. Combine olive oil, vinegar, feta cheese, basil, salt, and pepper to make dressing. Mix with the couscous salad
5. Refrigerate at least one hour and serve chilled

Calories: 121 ▪ Protein: 3 g ▪ Carbohydrates: 14 g ▪ Fat: 6 g ▪ Cholesterol: 4 mg
Sodium: 167 mg ▪ Potassium: 105 mg ▪ Phosphorus: 51 mg ▪ Calcium: 47 mg ▪ Fiber:

Lemon Squares

Servings: 17 ▪ Serving size: 2 squares

Ingredients

- 1 cup powdered sugar
- ¼ teaspoon salt
- 1 cup all-purpose flour
- ½ cup unsalted butter
- 1 cup granulated sugar
- ½ teaspoon baking powder
- 2 eggs slightly beaten
- 4 tablespoons lemon juice
- 1 tablespoon unsalted butter, softened
- 1 tablespoon lemon rind, grated

Crust

1. Mix together ¼ cup powdered sugar, 1/8 teaspoon salt and ½ cup butter. Pour into ungreased 8" square pan and bake at 350° F for 15 minutes. Remove from oven.

Filling

1. Mix together granulated sugar, baking powder, 1/8 teaspoon salt, beaten eggs, 2 tablespoons lemon juice and grated lemon rind. Pour over crust and spread evenly

2. Return to oven and bake 20 minutes longer at 350° F. Remove from oven and cool.

Icing

1. Mix together remaining 2 tablespoons of lemon juice, ¾ cup powdered sugar and 1 tablespoon softened butter.

2. When crust and filling layers are completely cool, spread icing over the top. Refrigerate, cut into 36 squares and serve

Calories: 146 ▪ Protein: 2 g ▪ Carbohydrates: 22 g ▪ Fat: 6 g
Cholesterol: 39 mg ▪ Sodium: 45 mg ▪ Potassium: 22 mg
Calcium: 16 mg ▪ Phosphorus: 32 mg ▪ Fiber: 0.2 g

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We're on the web!

http://www.statepi.jhsph.edu/ckid

Articles published from the CKiD study about cardiovascular risk factors:

- Furth SL, Abraham AG, Jerry-Fluker J, Schwartz GJ, Benfield M, Kaskel F, Wong C, Mak RH, Moxey-Mims M, Warady BA. Metabolic abnormalities, cardiovascular disease risk factors, and GFR decline in children with chronic kidney disease. Clin J Am Soc Nephrol 2011;6:2132-2140. PMCID: PMC3358991
- Wilson AC, Schneider MF, Cox C, Greenbaum LA, Saland J, White CT, Furth S, Warady BA, Mitsnefes MM. Prevalence and correlates of multiple cardiovascular risk factors in children with chronic kidney disease. Clin J Am Soc Nephrol 2011;6:2759-65. PMCID: PMC3255369
- For a complete list of study publications, visit our website (link below) and click on the "Publications" tab

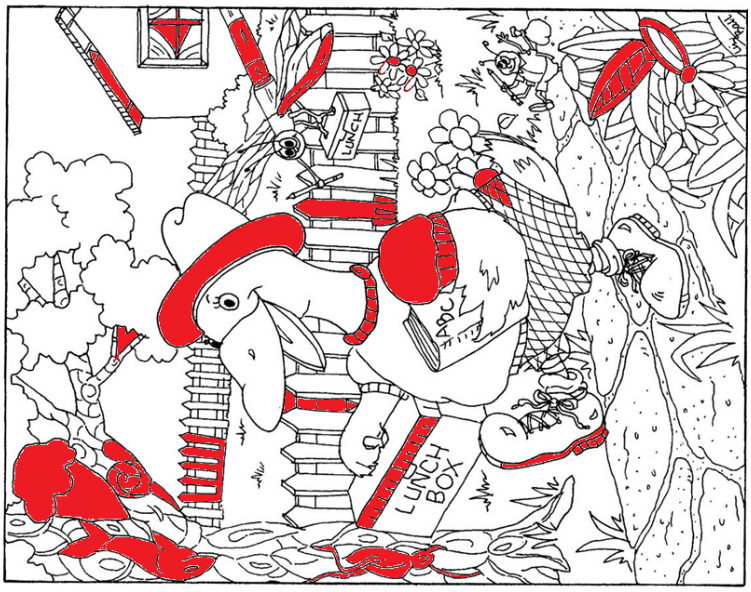
CKiD Study Press Release:

Study results published in the National Kidney Foundation's American Journal of Kidney Diseases provide new insights into why a child's chronic kidney disease (CKD) may worsen to kidney failure. Among nearly 500 children and adolescents with mild to moderate CKD, researchers identified factors, such as high blood pressure, protein loss from the kidneys, and anemia, that predicted disease worsening but that could be treated to ideally change the course of the disease. Pediatric nephrologist Bradley Warady, MD, of Children's Mercy Kansas City is a co-Principal Investigator of the NIH-funded Chronic Kidney Disease in Children (CKiD) study, the largest study of its kind ever conducted in North America.

"These are exciting results because we identified several treatable risk factors in these patients with kidney disease," said Dr. Warady. "By intervening, we might change the long-term course of the disease by preventing kidney failure and delaying or avoiding the need for dialysis or kidney transplantation."

The multi-center, observational CKiD study has been under way for more than 10 years and has generated important results on a variety of clinical issues, including an improved means of measuring kidney function in children, blood pressure management, cardiovascular disease risk factors and health related quality of life. The rigorous study design and long-term follow-up were critical to the present results, which will aid clinical decision making and help measure the impact of future interventions.

Link to the article: http://www.kansascity.com/news/local/article15392309.html



Kids' Corner!

How to Make Unpoppable Bubbles!

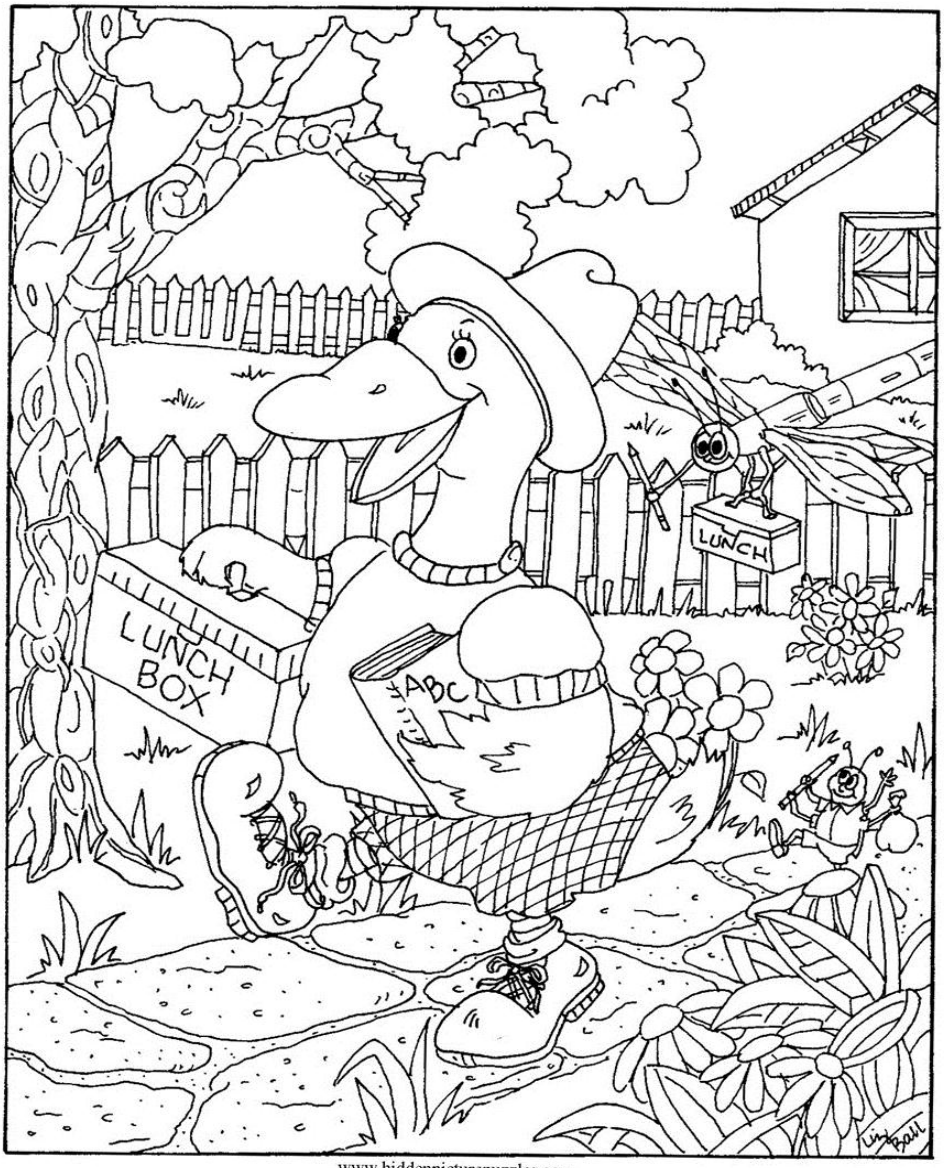
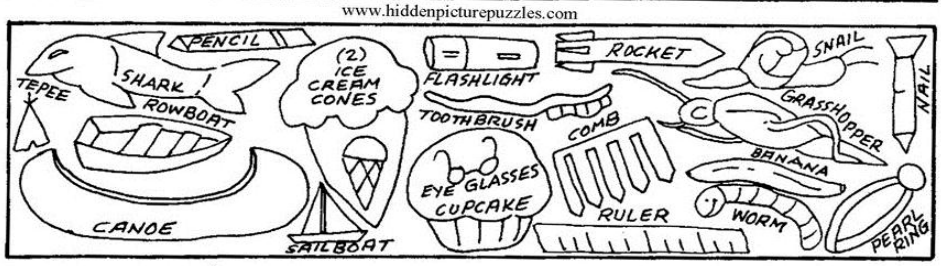
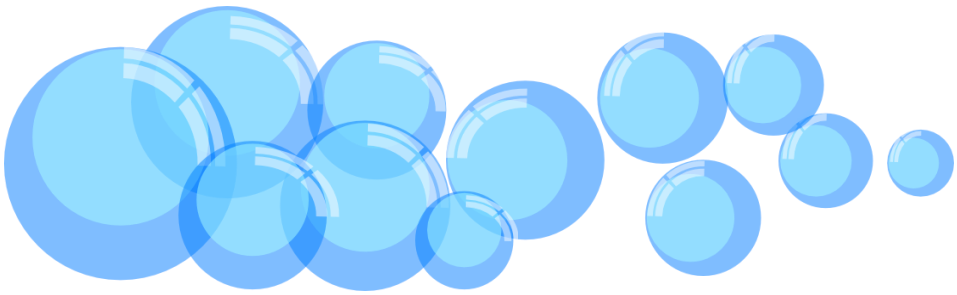
Want to make bubbles that won't pop when you catch them in your hands?

Ask your parents to help you mix together these three ingredients in a big bowl or bucket:

- 6 cups water
- 1 cup corn syrup
- 2 cups liquid dish soap

Next you need a bubble wand. You can use one you already have, or you can ask your parents to bend a wire or pipe cleaners into a circle with a stem for a handle. You can also look around your house for other things to use, like a fly swatter, a funnel, or 6-pack rings. The bigger the bubble wand you use, the bigger your bubbles will be! These bubbles are sticky, so make sure to go outside first. Dip your bubble wand in the soap mixture then just wave the wand through the air to make bubbles. It's a great way to get outside and enjoy the weather, and a fun way to be active and get exercise too!

Can you find all the items at the bottom hidden in this picture?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