

# Our Children, Our Nutrition



A publication of Arkansas Children's Nutrition Center

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Changing Science. Changing Lives



Over the past year we have begun a new clinical research study with expectant moms called *GLOWING*. This study is important for us because unlike our past research, which has begun after birth, *GLOWING* allows us to work with mothers throughout their pregnancy. Part of the study will also investigate the placenta which will allow our researchers to link findings collected during pregnancy to both the placenta and the child.

In the *GLOWING* study, we plan to enroll 320 women and work with these mothers throughout the duration of their pregnancy and until their child is two years old. It is important for us to begin our assessments while mom is still in her first few weeks of pregnancy. For this reason, women who are less than 8-weeks pregnant or are even planning a pregnancy are potential participants for this study.

The goal of this study is to help us better understand how a mother's health during pregnancy may influence her child's growth and development. Preliminary data suggests a child's metabolism may be set during pregnancy, so one area we are exploring is certain maternal traits and the effects they have on the child's metabolism. The ACNC supports breastfeeding and believes 'breast is best'.

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## Pregnancy and Food Safety

Food safety is always important, but it is especially important during pregnancy when both mom's and baby's immune systems are low. This makes them more susceptible to foodborne illness, commonly called food poisoning. In those who are pregnant, foodborne illness could lead to exhaustion, dehydration, miscarriage, premature delivery, or even death. There are steps that can be taken to prevent foodborne illness: wash your hands and cooking surfaces often, avoid cross contamination, cook foods to proper temperatures, refrigerate foods promptly, and watch expiration dates. An example of avoiding cross contamination would be using separate cutting boards for raw chicken and fresh broccoli. Investing in a food thermometer would also be a great idea! Keep your foods out of the "Danger Zone" of 40°F-140°F. Cold foods should be kept cold, and hot foods need to be hot. To ensure meat is cooked thoroughly, heat to an internal temperature of 165°F. Prepared foods and leftovers should be refrigerated within two hours to help prevent illness.

Two very important areas of food safety, particularly with pregnant woman and their babies, are Listeria and Methymercury Intoxication. Some foods that could be contaminated with Listeria

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*Our Children, Our Nutrition* is published for the participants, friends and partners of Arkansas Children's Nutrition Center, 15 Children's Way, Little Rock, Arkansas, 72202; (501)364-3309, (866)423-1311 toll-free.

[www.arkansaschildrensnutritioncenter.com](http://www.arkansaschildrensnutritioncenter.com)

Editor: Rebecca Carter

Contributors:

Aline Andres, Ph.D.

Kayla Fuller, M.S., R.D.

Karin Pennington, R.D., L.D.,

Amanda Garner

Arkansas Children's Nutrition Center is an intramural research program of the U.S. Department of Agriculture's Agricultural Research Service. It is housed on the campus of one of the ten largest children's hospitals in the United States, Arkansas Children's Hospital. ACH, the Arkansas Children's Hospital Research Institute and the University of Arkansas for Medical Sciences are partners with the Arkansas Children's Nutrition Center.



**Our vision,  
Our research,  
Our families,  
Our team,  
Our facility,  
Our ACNC...**



Jill joined the staff as Nutrition Studies Coordinator in 2009. With a B.S. in Dietetics from the University of Central Arkansas, Jill has a background in research as a registered quality assurance professional. She is also a Certified Research Specialist. Jill says she came to ACNC because her "love of children

Meet our Staff:

Jill and Amy

and working in research made it a great fit." One of Jill's favorite things about her job is being able to watch all the babies grow up. "It is so awesome to see them at each visit and see how much they have grown since the last time we saw them!"



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Amy has been a part of the ACNC team

since June 2009. She has a B.A. in psychology and a M.S. in psychology both from Arkansas Tech University. Amy brought her experience of testing and therapy with children in private practice and developmental centers to our research team. She says what she really enjoys is working with the children and getting to know the families of ACNC. "I enjoy working with the kids, they keep you on your toes and are always full of joy and surprises."

Food continued from pg 1

are lunch meats, hot dogs, soft cheeses, uncooked meat, unpasteurized milk, or vegetables that are contaminated from the soil or fertilizer. A mom may not feel sick with Listeriosis, but it can be passed onto her baby early in pregnancy and could lead to extremely serious complications. When Listeriosis is passed on to the baby during later stages of pregnancy, the child may develop a variety of major health problems.

Methylmercury Intoxication is caused by overexposure to the chemical methylmercury. An easy way to help prevent Methylmercury intoxication is to avoid eating more than 12oz of fish low in mercury per week. Shrimp, canned light tuna, salmon, and catfish are some commonly eaten fish that are low in mercury. Larger fish, like shark and swordfish, have high levels of mercury and should be avoided altogether. Mom may not show symptoms of methylmercury intoxication, but it may harm an unborn baby's developing nervous system. Pregnancy is a special time, and taking preventative steps can make it a safer one.



The doctor of the future will no longer treat the human frame with drugs, but rather will cure and prevent disease with nutrition.

-Thomas Edison

**"Break The Fast" with Breakfast**

Breakfast can be a difficult meal to work into our busy schedules. Research shows, though, that breakfast may be one of the most important meals to eat. For all people, those who eat breakfast tend to be at a healthier weight. One reason this may be true is that skipping meals causes overeating at later meals, and those later meals tend to include less nutritious food choices. Breakfast also serves to break the night fast and therefore increases our metabolism for the day's activities. Children have improved concentration and attention spans when they eat breakfast.

A recent study conducted at Arkansas Children's Nutrition Center studied the effects of eating breakfast in 8-10 year old children. Half of the children received breakfast while the other half skipped breakfast. The breakfast eaters

processed information more efficiently, had a perceived ability to learn more and to learn faster, and had an increased heart rate which is normal for our body's natural rhythms. The heart rates remained slower in the fasting group. Dr. Terry Pivik, who conducted the study,

**Children have improved concentration and attention spans when they eat breakfast.**

plan their breakfast the night before. Then in the morning, meal planning is one less thing to think about. When

possible, eat breakfast together. Role modeling is important: parents who eat breakfast will raise children who will eat breakfast.

Below are some food ideas to help add this important meal into your routine. When used in combination, these foods can help create a nutritious breakfast.

- Fresh fruit. It only takes a minute to wash and they can be eaten almost anywhere.
- Granola bars or cereal bars. These are easily transportable and are simple for kids and adults to eat in the car, if breakfast at home is not possible.
- Hard-boiled egg. These can be made the night before and they make a quick grab and go item if you want to add more protein into your mornings.

A new clinical report was published by the committee on Nutrition of the American Academy of Pediatrics on Probiotics and Prebiotics in pediatrics. Probiotics are foods or supplements which contain viable “good” microorganisms (bacteria) which can help your microflora and potentially affect your health. Your microflora is a very important part of your body and your health. It represents all of the bacteria in your intestinal track. As adults we all have 10 times more bacteria than we have human cells in our body... thankfully most of them are here to help!

**L**actobacillus Rhamnosus and Bifidobacterium Lactis are examples of probiotics. They are used in yogurt and other dairy products, and they inhibit growth of harmful bacteria in the intestine. Prebiotics are different. They are the non-digestible food ingredients such as oligosaccharides, polysaccharides, or

free nucleotides, and are often referred to as dietary fibers. Their presence in the digestive track selectively enhances the spread or growth of certain probiotics.

**T**he report concludes that these are generally safe for infants. Research studies have demonstrated modest effects of probiotics in prevention of acute infectious diarrhea, treatment of acute viral gastroenteritis, and prevention of antibiotic associated diarrhea in healthy children. There is also a body of evidence in preventing necrotiz-

From the Clinical Studies Director

Aline Andres, Ph.D.



**...the best way to provide probiotics and prebiotics is by eating foods that contain them such as yogurt.**

ing enterocolitis, the death of intestinal tissue, in very low birth weight infants (preterm infants). Prebiotics have been shown to have possible effects on atopic eczema (skin irritations) and common infections in healthy children. However, further research is warranted in all areas to confirm these results.

**R**emember that the best way to provide probiotics and prebiotics is by eating foods that contain them such as yogurt. Yogurt is a symbiotic, meaning that it contains both probiotics and prebiotics. Symbiotics work together to enhance your microflora.

*Wishing You a Very Happy and Healthy 2011!*



Clinical Staff

(back row) Rachel, Elizabeth, Amy, Jill, Tonja, Carrie, Karin; (front row) Rebecca, Kayla, Amanda, Deanna, Dr. Andres

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However, breast feeding is not always possible, so this study is specifically designed for the women who plan and decide to feed their baby a milk-based formula during the first year of life. This will help us monitor food intake accurately and make sure all participants are receiving as close to the same nutrition as possible.

If you are interested in learning more about *GLOWING*, you can visit our website at [www.arkansaschildrensnutritioncenter.com](http://www.arkansaschildrensnutritioncenter.com) or give us a call at (501)364-3309.



This study is for women who are thinking about becoming pregnant or are currently less than 8-weeks pregnant and plan to feed their baby milk-based formula for the first year of life. Participants receive nutrition education and support, monetary compensation, and all the formula they need. Additional information may be found by visiting our website or by calling (501)364-3309.

# Study Participation Opportunities

## fMRI

This is a short-term study designed to look at how the food kids ate as babies affects how they think today. Participants attend up to three study visits on the campus of Arkansas Children's Hospital.

Children participating in this study must be healthy, between the ages of 7½ and 8½ and have been fed mostly breast milk, milk-based formula or soy-based formula from birth until their first birthday.

Those completing each visit will receive monetary compensation in the form of a VISA card. A bonus card will be given to families completing all visits. Partially completed visits may be partially compensated.

## Beginnings

This is a long-term, observational study for healthy babies. It is designed to look at how babies fed either breast milk, milk-based formula or soy-based formula grow and develop over the first six years of life.

Babies must be healthy, full-term and weigh at least six pounds at birth. Babies are accepted into the study until 2 months of age and must be fed mostly breast milk, milk-based formula or soy-based formula.

Participants will be offered diapers or formula for the first year of participation. Following that, monetary compensation will be provided. Additional compensation may be provided for completion of each visit.

## Glowing

This is a long-term study for pregnant women. It is designed to look at how the health of women at conception affects the health of their child at birth. Families are followed through pregnancy until the child is 2.

Women must be less than 8-weeks pregnant or thinking of becoming pregnant. Moms must be healthy at conception and meet specific entry criteria.

Nutrition education and monetary compensation are provided through pregnancy. Formula is provided through the child's 1st birthday. Additional compensation is provided from 1-2 years of age.

Interested in learning more about a study being conducted at ACNC? Think you may qualify to participate? All research studies require potential participants to be screened. This process is simple and conducted via telephone in approximately 5-15 minutes. During that time, the study can be explained in more depth and any questions you have may be answered. Screening is done as a way to learn more about you and your baby or child. Typical questions center around the child's diet, your pregnancy and any other pertinent information that relates to the study being conducted. To be screened or learn more, please contact the ACNC Recruitment Line at 501-364-3309 or toll-free at 866-423-1311. For certain studies, pregnant moms may be placed on a waiting list.



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Little Rock, Arkansas 72202

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