Our Children, Our Nutrition

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2012 Select Publications

Andres, A., Pivik, R.T., Casey, P., Tang, X., Badger, T.M. 2012. Developmental status of one year old infants fed breast-milk, cow's milk formula or soy formula. Pediatrics. 129(6):1134-1140.

Andres, A., Shankar, K., Badger, T.M. 2012. Body fat mass of exclusively breastfed infants born to overweight mothers. Journal of the Academy of Nutrition and Dietetics. 112(7):991-995.

Chen, J., Zhang, J., Lazarenko, O.P., Kang, P., Blackburn, M.L., Ronis, M.J., Badger, T.M., Shankar, K. 2012. Inhibition of fetal bone development through epigenetic down- regulation of HoxA10 in obese rats fed high fat diet. Journal of Federation of American Societies for Experimental Biology. 26(3):1131-1141.

Montales, M.E., Rahal, O., Kang, J., Rogers, T., Prior, R.L., Wu, X., Simmen, R. 2012. Repression of mammosphere formation of human breast cancer cells by soy isoflavone genistein and blueberry polyphenolic acids suggests diet-mediated targeting of cancer stem-like/progenitor cells. Carcinogenesis. 33(3):652-660.

Pivik, R.T., Andres, A., Badger, T.M. 2012. Effects of diet on early stage cortical perception and discrimination of syllables differing in voice-onset time: A longitudinal ERP study in 3 and 6 month old infants. Brain and Language. 120(1):27-41.

Pivik, R.T., Tennal, K., Chapman, S.D., Gu, Y.M. 2012. Eating breakfast enhances the efficiency of neural networks engaged during mental arithmetic in school-aged children. Physiology and Behavior. 106(4):548-555.

Ronis, M.J.J., Baumgardner, J.N., Marecki, J., Badeaux, J., Sharma, N., Blackburn, M.L., Till, R., Tong, Y, Kang, J., Wu, X., Cleves, M.A., Gomez-Acevedo, H., Badger, T.M. Dietary Fat Source Alters Hepatic Gene Expression Profile and Determines the Type of Liver Pathology in Rats Overfed via Total Enteral Nutrition, Physiol. Genomics 44: 1073-1089, 2012.

Ronis, M.J.J., Shankar, K., Gomez-Acevedo, H., Hennings, H., Singhal, R., Blackburn, M.L. and Badger, T.M. Mammary Gland Morphology and Gene Expression Differ in Female Rats Treated with 17 -Estradiol or Fed Soy Protein Isolate, Endocrinology 153: 6021-6032, 2012.

Shankar, K., Zhong, Y., Kang, P., Blackburn, M.L., Soares, M.J., Badger, T.M., Gomez-Acevedo, H. 2012. Rna-seq analysis of the functional compartments within the rat placentation site. Endocrinology. 153(4):1999-2011.

this issue:

Let the Little Ones Lead: Keeping in Tune with Your Body's Feeding Cues

by Christine Alongi, Registered Dietician

"Clean your plate, there are starving kids in Africa", "No dessert if you do not finish your meal", "You need to eat to be big and strong". Sound familiar? Most of us have probably heard and maybe even been guilted into some of these old feeding practices. While usually delivered with good intentions, the outcome results in a nation of adults and children that are out of touch with their own feeding cues. Knowing when your body is truly physiologically hungry and full and honoring those signals is a lost practice in today's lifestyle. If you watch little ones, newborn babies and even toddlers, they eat when they are hungry and stop when they are full. They cry, open their mouth and lean into the spoon when they are hungry. They turn their head, spit out the food, and even throw it on the floor when they are full. They clearly communicate when they are hungry and full. Somehow along the way into adulthood we have lost this trust in our bodies hunger and fullness cues and have overpowered it by eating in the absence of hunger, or even refusing to eat when our stomachs are growling because a fad diet says you must wait a certain amount of time between each meal. Are we listening to the wrong cues?

Hunger and fullness cues are the body's way to guide proper growth and development and maintain a healthy bodyweight. When you are in tune with your own cues you allow yourself unconditional permission to eat because you have a trust in what your body is signaling to you. You have a snack no matter what time it is or when the last meal took place. You also eat when you are physiologically hungry, not when angry, bored, or for any other emotional reason or simply because food is present. There are a few tricks to practice to get in tune with your feeding cues. Next time you want to eat ask yourself "Am I truly hungry? What cues do I feel or notice right now that is letting me know I am hungry?" "Are there any other emotions I am feeling right now such as stress, anger, or boredom that may influence how I perceive hunger?" Common hunger cues include headache or lightheadedness, growling or cramping stomach, lack of focus or concentration and irritability or feeling on the edge. While you are eating, keep in mind your state of fullness and decide when you are full from your fullness cues. Common fullness cues include not feeling hungry anymore, and feeling light, energized, and satisfied. Cues of eating past fullness or overeating include bloated or distended stomach, feeling uncomfortable or lethargic, and pain. If you overate ask yourself "why". Did you eat simply because the food was present? Did you overeat due to guilt of cleaning your plate from your younger years' teachings? Or was it because you allowed yourself to get too hungry then overate as a result? It will help you understand how to better manage your meals. Relearning our hunger and fullness cues will take practice and will take more than a few tries. But in the long run, staying in tune with your body's own needs will be a rewarding experience.

Honoring your own personal feeding cues will allow you to be at peace with food once and for all. If we let the little ones lead we will maintain, and allow them to maintain, that trusting respectful communication with our body and maintain a healthy weight and relationship with food.

Arkansas Children's Nutrition Center
15 Children's Way Little Rock Arkansas 72202

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www.arkansaschildrensnutritioncenter.com

Editor:
Amanda Garner, B.S.
Contributors:
Christine Alongi, M.S.
Elizabeth Hayes, B.S.

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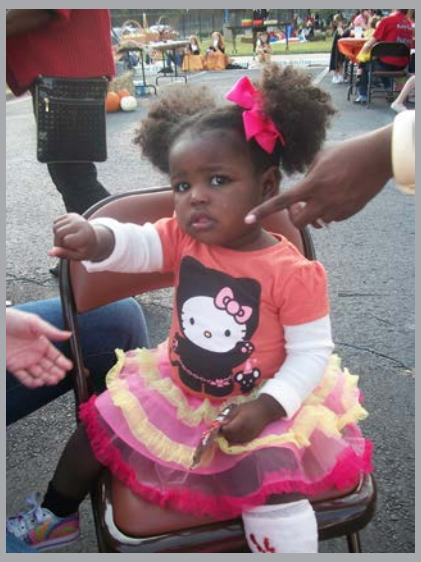
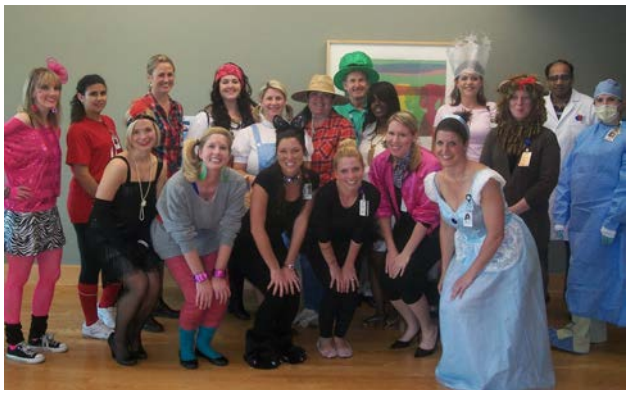


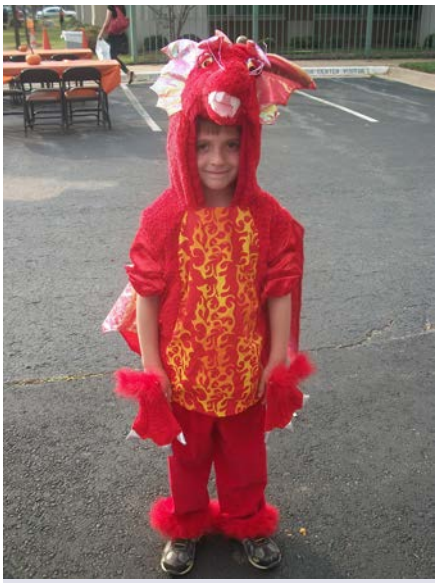
**Our families,
Our research,
Our vision,
Our team,
Our ACNC...**

Meet the Staff: Jenni Beauford

Jenni joined the ACNC last June as a Clinical Research Assistant. She has a Bachelor of Science degree in Biology from the University of Arkansas at Little Rock, and a Bachelor of Science in Nuclear Medicine Imaging Sciences from the University of Arkansas for Medical Sciences. Although her working background is primarily in consumer electronics and medical device sales support, Jenni now works primarily with families in the Glowing study. "I really enjoy working with all of our moms and babies. I feel so special knowing that moms have allowed us to be part of their families' lives during such a special time."



ACNC Annual Fall Festival



We would like to say Thank You to all of our participants and families who came out for the Fall Festival on October 25. We took a chance with mother nature and decided to hold the festivities outside of the Center this year- and we are so glad we did! Activities and games this year included favorites from last year like the Mad Scientist and Goin' Fishin', and we added on a few new games like Fitness Dice and a Bounce House. We had such a great time seeing all of the kiddo's dressed up and having fun. We want to give a special thank you to our sponsors- Wal-Mart, Kroger, Vino's, Larry's Pizza and US Foods- for all of their generous donations to help make the event extra special. We hope to see you all again next year!

How to Prevent Osteoporosis

by Elizabeth Hayes, Nutritionist

This is the first of a new four-part series designed to inform you about how to lower your risk of certain diseases, specifically through nutrition. Future topics in the series include Diabetes, Hypertension, and Cardiovascular disease.

Taking your bones for granted can be easy to do until you break one or are diagnosed with osteoporosis. Osteoporosis is a disease in which the bones become weak and are more likely to break. The National Institute for Arthritis and Musculoskeletal and Skin Diseases states that in the United States, more than 40 million people either already have osteoporosis or have a high risk for developing it. Although osteoporosis is a disease diagnosed later in life, there are many factors that can influence its development and progression very early on. Some factors, such as being female, being over the age of 50, and a family history of osteoporosis, cannot be controlled. However there are factors that you can control. These include calcium and vitamin D intake, and physical activity.

Let's focus on the things you can control. Why is calcium important for preventing osteoporosis? Not getting enough of this important mineral can cause your body to break down bone tissue to replenish the calcium needed and can result in a loss in bone mass. The Institute of Medicine proposes specific Recommended Dietary Allowances (RDA) of calcium for infants, children, and adults.

Life Stage	RDA Calcium (mg/day)
Infants 0-6 months	200*
Infants 6-12 months	260*
1-3 years old	700
4-8 years old	1,000
9-18 years old	1,300
19-50 years old	1,000

* adequate intake

Certain foods can provide beneficial amounts of calcium. The chart below shows some excellent food sources of calcium.

Food (1 cup)	Calcium (mg)
Low fat yogurt	419
Calcium fortified orange juice	350
Broccoli	178
Turnip Greens	198
Brussels Sprouts	56

Vegetables can provide beneficial amounts of calcium. Give bright green broccoli florets a quick rinse and enjoy raw or steamed. Turnip greens are best when they have green leaves that are unblemished. Clean turnip leaves as you would spinach and prepare sautéed or cooked southern style with beans and cornbread. Try choosing brussels sprouts with small solid sprouts and green leaves, free of blemishes. Cooked brussels sprouts pair well sautéed in olive oil with walnuts and black pepper. Vitamin D is a fat-soluble vitamin, and is vital for calcium absorption in bones and muscle strength. You can find vitamin D in milk, but you can also meet your daily requirements of vitamin D simply by getting ten minutes per day of sun exposure.

You can also control your amount of physical activity. There are three types of exercises that can specifically help to prevent osteoporosis. Weight bearing exercises such as walking and hiking are great because your feet and legs are supporting your body's weight. Resistance exercises such as free weights, weight machines, and resistance tubing that allow you to work against the weight of another object can help to strengthen muscle and build bone. Flexibility exercises such as yoga and regular stretching helps promote flexible joints along with decreasing your risk of falling.

Understanding how your diet and physical activity can affect your bones can help you take steps to build strong and healthy bones. Make it a point to get your daily calcium and vitamin D. Also, include weight bearing, resistance, and flexibility exercises in your daily activities. Incorporating these tips into your family's lifestyle can help build and maintain strong and healthy bones for you and your children.

What is a DXA scan?

DXA stands for Dual-energy X-ray Absorptiometry. This piece of technology allows researchers at the ACNC to measure bone density and the amount of bone, fat, and muscle in the body. A DXA scan is often used in other clinical settings as a test for osteoporosis. In general, the lower the density of a bone the higher the risk of fractures. A DXA scan, along with a patient's medical history, is a useful aid in evaluating the probability of a fracture and whether any preventative treatment is needed.

Oven-Roasted Brussels Sprouts

Ingredients:

- 1 lb Brussels sprouts, trimmed and halved lengthwise
- 2 tablespoons extra-virgin olive oil
- 1/2 teaspoon sea salt
- 1/4 teaspoon ground black pepper

Method:

Preheat oven to 400°F. Toss Brussels sprouts with oil, salt and pepper on a rimmed baking sheet and roast, stirring once or twice, until deep golden brown, crisp outside and tender inside, 30 to 35 minutes. The leaves that are loose will be especially brown and crispy. Transfer to a bowl and serve.

Three twists:

Cranberry Pecan Brussels Sprouts
During the last 5 minutes of roasting, add 1 cup dried cranberries and 1/4 cup pecan pieces. Stir well and continue roasting until Brussels sprouts are tender.

Rosemary Parmesan Brussels Sprouts
Add 1 tablespoon chopped fresh rosemary to Brussels sprouts before roasting. During the last 5 minutes of roasting, add 1/4 cup nuts. Stir well and continue roasting until Brussels sprouts are tender. Before serving, toss with 1/4 cup shredded Parmesan cheese.

Brussels Sprouts and Kale Salad
After roasting, allow Brussels sprouts to cool to room temperature. Toss with 4 cups baby kale mix, 1/4 cup crumbled goat cheese and 1/4 cup balsamic vinaigrette.

ACNC has gone Social!

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Text RESEARCH to 772937
Receive information about clinical trials currently enrolling at ACH

Currently Enrolling:

Glowing Study

The purpose of this study is to learn how the health of a mom at conception affects the health of her child. Families are followed through pregnancy and until the child is 2 years old.

Qualifications

Women must be less than 10-weeks pregnant or planning to become pregnant with their second child. Moms must be healthy at conception and meet specific entry criteria.

Compensation

Monetary compensation is provided, as well as diapers for one year.

Brain Function

Now enrolling for short-term studies exploring some of the important questions about how body composition relates to brain function in childhood. Participants attend two study visits on the campus of Arkansas Children's Hospital.

Qualifications

Children participating in these studies must be healthy and between 8 – 10 years of age.

Compensation

Monetary compensation is provided for completion of each visit.

To learn more: 501-364-3309
email: acncstudies@uams.edu

Changing Science, Changing Lives

15 Children's Way
Little Rock, Arkansas 72202