



MOM

MATTERS OF MOTHERHOOD

A Nutrition Newsletter from K-State Research & Extension

Department of Human Nutrition
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Getting Ready for Pregnancy – What’s a Body to Do?

We spend lots of time preparing for tests in school, training for physical challenges such as running a race or competing in sports, and even priming our physiques for swimsuit season. Shouldn't we spend at least as much time optimizing our bodies prior to pregnancy?

While it makes sense to plan ahead for optimal health during pregnancy, the truth is that most pregnancies are unplanned, and many women are less than ready. Since many birth defects occur during the first six to eight weeks of pregnancy, women may not realize they are pregnant. For this reason, addressing prepregnancy care is vital to the health of both the mom and her child.

The Centers for Disease Control and Prevention (CDC) released Recommendations to Improve Preconception Health and Healthcare in 2005. The report identifies goals of preconception care for all women in the US between ages 15 to 44, whether they will be pregnant with their first child or their third or fourth, or even if they do not intend to become pregnant. The report lists nutrition and weight control as important pre-pregnancy discussion topics, and physical activity is also part of the healthy plan.

For more information and to view the CDC report, go to: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5506a1.htm>

Sources: Ward, E. (2008, December) Prime the body for pregnancy – preconception care and nutrition for moms-to-be. In Today's Dietitian, 10, no. 12, 26. CDC. Recommendations to improve preconception health and healthcare (2005). Accessed at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5506a1.htm> on 4/22/2009.



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Nutrition Matters – Choline

Choline is a vitamin-like organic compound that is often grouped with the B vitamins. Because it can be biosynthesized (made in the human body), choline is not classified as a true vitamin. It has several functions in metabolism. Choline is required for the structural integrity of cell membranes. It also plays a role in memory function, in fetal brain development, and the prevention of heart disease, fatty liver and neural tube defects.

An Adequate Intake (AI) was developed for choline by the National Academy of Sciences in 1998, since data were insufficient to calculate an RDA. It is not yet understood if a dietary supply of choline is needed at all stages of the life cycle.

Recent research has increasingly identified the essential role choline appears to play in healthy fetal development. As a substance that contributes to the myelin sheath, choline insulates nerve fibers and aids in the rapid conduction of electrical impulses. It is an active component of surfactant in the lung. Neonate surfactant deficiency leads to respiratory distress syndrome in premature infants.

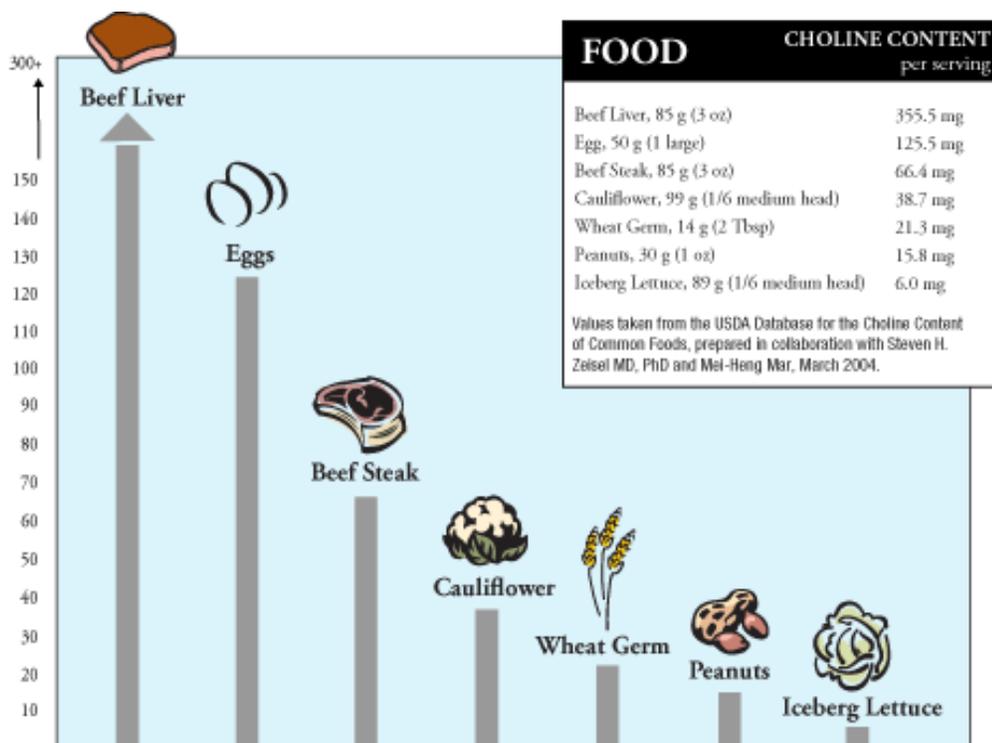
Choline's role is especially important when folate intake is low. It has been shown that methionine (formed from homocysteine when choline functions as a methyl donor) and folic acid together might prevent neural tube defects such as spina bifida.

Of special interest is the need for choline during pregnancy and lactation when serum choline levels are low. Demand for choline by the fetus could put the mother and fetus at risk for choline deficiency. For this reason, pregnant women are advised to consume 450 mg/day. Choline is also necessary for milk production, so the recommended daily intake for breastfeeding women is 550 mg/day.

While some choline is made in the body, humans obtain most choline through dietary sources. Choline is widely distributed in fat, existing mainly in the form of lecithin in eggs, liver, soybeans, beef, milk and peanuts. Free choline is present in liver, oatmeal, soybeans, iceberg lettuce, cauliflower, kale and cabbage. Lecithin, a substance commonly added to processed foods as an emulsifying agent, is estimated to increase the average daily per capita consumption of phosphatidylcholine (lecithin) by 1.5 mg/kg of body weight for adults.

For more information, including a downloadable Choline Tool Kit with patient/client education pieces, go to: <http://www.cholineinfo.org/index.asp>

For a brochure discussing choline needs in pregnancy and lactation, go to: http://www.enc-online.org/publications/brochures/Could_This_Baby_Choline.pdf



Sources: Mahan, LK and Escott-Stump, S (2004). Krause's food, nutrition & diet therapy (11th ed), pp. 115 – 116
 Egg Nutrition Center. Nutrition close up special report: Choline: The "new" essential nutrient. Accessed at: http://www.enc-online.org/publications/closeup_specialreport/CholineRpt.pdf on 4/21/09.
 Otten JJ, Hellwig JP, & Meyers, LD (Eds). (2006). Choline . In Dietary Reference Intakes (pp. 219 – 223). Washington, DC: The National Academies Press.

Resources You Can Use –

Here are two very child feeding good resources you may want to add to or update your educational materials. Both are free and contain great information for moms and other child care providers.

An Easy Guide to Breastfeeding – U.S.

Department of Health and Human Services, Office on Women's Health. This 24-page booklet is dedicated as a "guide for all women and their families. It is a supportive tool for all women who choose to breastfeed." Color pictures, a friendly question-answer format and easy-to-read pages make this a helpful piece that's available in both English and Spanish at no charge. To view the booklet, go to: <http://www.womenshealth.gov/pub/BF.General.pdf> To order, call: 1-800-994-9662

Also available: **An Easy Guide to Breastfeeding for African American Women**, and **An Easy Guide to Breastfeeding for American Indian and Alaska Native Families**. See the entire list at: <http://www.womenshealth.gov/breastfeeding/> Go to the box in the lower right corner of the screen and follow the links.

Childcare Corner

In response to agent request, MOM Newsletter presents "Childcare Corner." This feature will share resources, research and recent releases of interest to childcare providers and those who provide programming for them.

In issue #1 of MOM, we highlighted Better Kid Care, an electronic newsletter from Penn State University. If you haven't visited their website, you are missing a great resource! You can view the current issue at: <http://www.betterkidcare.psu.edu/ENewsletters/>

This issue we are focusing on a super feature of Better Kid Care – 101+ Snack Time Ideas. The resource was authored by Madeleine Sigman-Grant, now an Extension Specialist in Nutrition with the University of Nevada. The downloadable booklet not only has lots of child-friendly recipes, but also provides great ideas for developmentally-appropriate activities and nutrition-based programming.

Need a recipe for Triceratop Pops? This is the website for you! <http://www.betterkidcare.psu.edu/101snacksWeb.pdf>

Ask MOM "Is fruit juice a contributor to child overweight?"

This question concerns parents, physicians and nutrition educators alike. Though many have wondered about the question, there is much research examining the relationship between fruit juice and child overweight. A 2008 review in *The American Journal of Lifestyle Medicine* by O'Neil and Nicklas looked at 21 recent studies to determine if 100% fruit juice consumption was related to child overweight. The authors reported these conclusions:

- Fruit juice is a significant source of vitamins and minerals in children's diets, and contributes to a nutrient-dense diet;
- 100% fruit juice drinkers have better diets overall than those children and adolescents who do not drink juice;
- 100% fruit juice is an important way for children and adolescents to get part of the daily recommended fruit servings; and
- Juice consumption is not associated with child overweight

The American Academy of Pediatrics' recommendations for juice intake provide practical guideline for parents. Children 1 to 6 years of age should be limited to 4 to 6 ounces of juice per day. The AAP recommends that children 7 to 18 years should be limited to 8 to 12 ounces of juice per day. For more information, see the AAP website "The Use and Misuse of Fruit Juice in Pediatrics" at <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;107/5/1210>