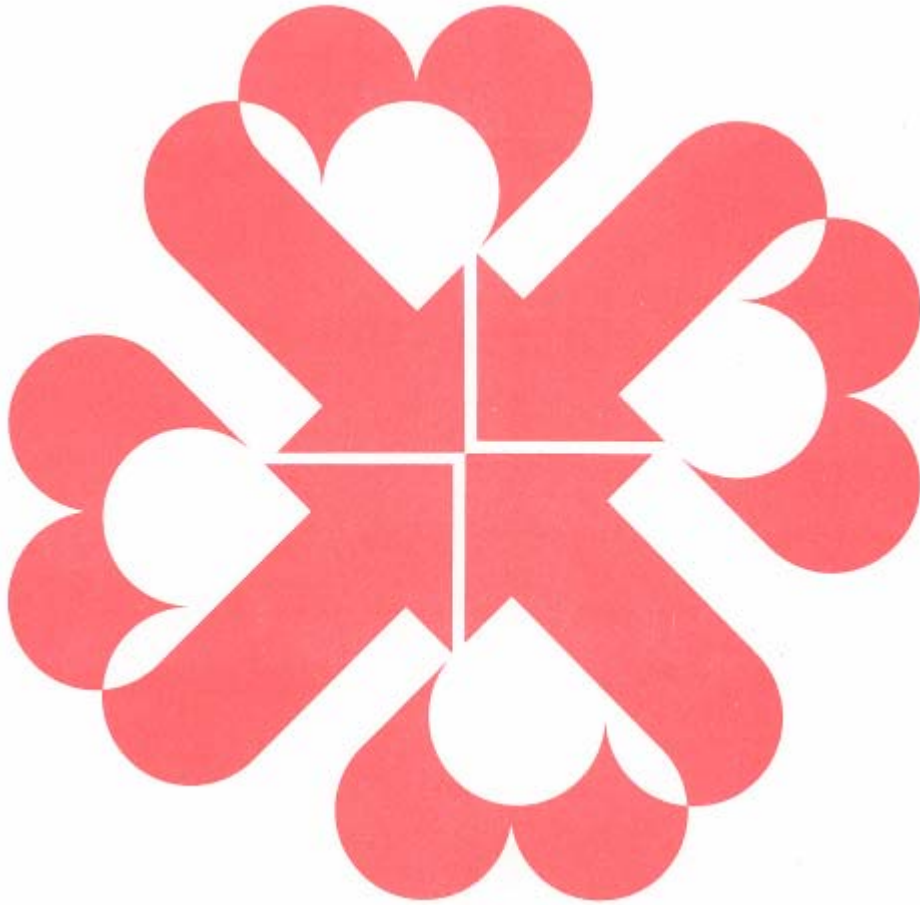


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# healthy heart beats



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# Healthy Heart Program Updates

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## *In This Issue*

**T**he start of a new year is a time to reflect on the months ahead and what we can do to take charge of our health. In this issue we have provided some of the latest research on whole grains and the never ending benefits we can realize by switching to whole grain choices, making sure half of the breads, cereals and grains we eat are whole grain.

The first article refers to C-reactive protein (CRP) which is a marker of inflammation within the walls of the arteries where it may precipitate plaque instability leading to a heart attack. Though you may not have thought of cardiovascular disease (CVD) as an inflammatory disease, people with increased serum CRP are at increased risk of CVD. This increased risk appears to be independent of their serum cholesterol and LDL cholesterol levels. Whole grains appear to reduce CRP which provides another benefit to resolve to add whole grains to your diet in 2008. As I write this, I have just been reading in the *Journal of the American Dietetic Association* (JADA) from the Evidence Analysis Library and summary articles from a very large and most comprehensive report on diet and heart disease. Evidence continues to mount on the relationship between diet, nutrients and blood lipid levels, blood pressure and coronary heart disease.

The FDA has just acted on the misleading information on nutrition labels for the health claims for omega-3 fatty acids requiring that such claims be stopped until reviewed and a standard is written. There is only a dietary recommendation for ALA, but not for DHA or EPA. We have reviewed in this issue the

often confusing world of omega-3 fatty acids! Confusion stems from the fact that while ALA can be converted to EPA, the conversion occurs in very small amounts. Only 2 - 5% of ALA can be converted to EPA, according to the report in JADA, and less than 1% converted to DHA.

Additionally, we've included more information on nuts. Walnuts are a good source of ALA. Enjoy making whole grain muffins with nuts and bananas or apple sauce for added flavor and nutrients. Check out *A Complete Guide to High Altitude Baking* from the Extension Resource Center for great recipes -- <http://cerc.colostate.edu/titles/CE42.html>.

You also can read more about omega-3 fatty acids and CRP in the January-February 2005 issue of *Healthy Heart Beats*, <http://www.ext.colostate.edu/pubs/healthyheart/0501-02c.html>.

We trust that 2008 will be a year of good health for you. To that end, be active, eat well and take steps to handle the stress in our lives.

Best wishes!

*Jennifer Anderson, Ph.D., R.D.*  
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# Nutrition and Research Updates

## Effects of Whole Grains on Cardiovascular Disease Risk Factors

The rate of Americans with metabolic syndrome is on the rise and is linked with a greater risk of type 2 diabetes and cardiovascular disease (CVD). Researchers from the University of Pennsylvania sought to discover whether including whole-grain foods in a hypocaloric (low calorie) diet enhances weight loss and improves CVD risk factors for people with metabolic syndrome. A group of 47 obese adults (23 women and 24 men) with metabolic syndrome underwent randomized grouping in which they received dietary advice either to avoid whole-grain foods or to obtain all of their grain servings each day from whole-grain foods for 12 weeks.

The study found that body weight decreased significantly in both the whole-grain and refined-grain groups over the 12 weeks. Waist circumference and percent body fat decreased significantly in both groups as well. However, the decrease in percent body fat in the abdominal region was significantly greater in the whole-grain group than in the refined-grain group. C-reactive protein (CRP), an important independent predictor of CVD events, decreased in the whole-grain group, but no significant change was seen in CRP in the refined-grain group.



There were no significant changes in the other measured inflammatory markers. The cause of reduction seen in CRP is unclear. Participants in both diet groups significantly improved their diet quality by reducing their intakes of saturated fat, cholesterol, sodium, and added sugar. Future studies examining larger cohorts for longer periods are needed to determine the long-term health benefits of whole-grains.

You also can read more about omega-3 fatty acids and CRP in the January-February 2005 issue of *Healthy Heart Beats*, <http://www.ext.colostate.edu/pubs/healthyheart/0501-02c.html>.

Source: *American Journal of Clinical Nutrition*, 2008, 87(1): 79-90 (January)

## Whole Grains May Lower Risk for Chronic Disease

This cross-sectional study which included participants in the Baltimore Longitudinal Study of Aging, concluded that higher intakes of whole grains and cereals were independently inversely associated with body mass index (BMI), weight, waist circumference, total cholesterol, LDL cholesterol and 2-hour fasting glucose. Dietary intakes were determined with 7-day dietary records. The results of this study suggest that higher intakes of whole grains and cereal fiber may lower risk factors associated with chronic disease. The authors do suggest that longitudinal studies are needed to reproduce these findings.



Source: *American Journal of Clinical Nutrition*, 2007, 86(6): 1745-1753 (December)

## FDA Proposes Limiting Omega-3 Claims for Products without Suitable Nutrient Level

The Food and Drug Administration (FDA) has prepared a new docket entitled 'Food Labeling: Nutrient Content Claims; Alpha-Linolenic Acid, Eicosapentaenoic Acid and Docosahexaenoic Acid Omega-3 Fatty Acids', which would prohibit the nutrient content claims for DHA, EPA and ALA, based on three notifications submitted to the agency, because they are not based on an authoritative statement that identifies a nutrient level to which the claims refer. The FDA proposes to issue this rule finding that certain nutrient content claims for foods, including conventional foods and dietary supplements, that contain omega-3 fatty acids, do not meet the requirements of the Federal Food, Drug, and Cosmetic Act and may not appear in food labeling.



Source: <http://snipurl.com/luaxr>

## Dietary Intake and the Development of the Metabolic Syndrome

A study using prospective data from 9,514 participants provided data which allowed the authors to conclude that adults of middle-age (ages 45-64 at baseline) whose regular diet consists of fast food may be increasing their risk of metabolic syndrome by 25% compared to those who limit red meat to two servings a week. But eating healthy doesn't reduce the odds of developing metabolic syndrome, said Lyn M. Steffen, Ph.D., M.P.H., R.D., of the University of Minnesota. Analysis of individual food groups showed that meat, fried foods, and diet soda were adversely affiliated with development of metabolic syndrome. Dairy consumption, especially yogurt and low-fat milk, was shown to be beneficial while intakes of whole grains, refined grains, fruits and vegetables, nuts, coffee and sweetened beverages showed no association.

Regular soda, which the study's authors said was expected to increase risk of metabolic syndrome, was not associated with increased risk. However, they did conclude that the diet soda association was not hypothesized and deserves further study. Dr. Steffen, one of the researchers, said the soda findings might reflect poorer glycemic control, which has been reported in other studies of diet sodas. Moreover, she said a study in rats suggested that the consumption of artificial sweeteners "impairs the body's ability to predict the caloric content of foods, and may lead to increased intake and body weight."



An unexpected finding was that consuming a prudent diet (i.e. one that had a high concentration of fruits, vegetables, whole grains) and low-fat dairy products did not reduce the risk of metabolic syndrome. "We had expected to see a benefit because we have seen a beneficial relationship in other studies," she said.

The researchers noted that their study was limited by its use of a questionnaire to calculate food intake, which may have allowed for reporting bias as well as misclassification of some foods. For example, the questionnaire was "not designed to differentiate whole grain from refined grain items in the food list," they wrote.

Source: <http://circ.ahajournals.org/cgi/content/abstract/CIRCULATIONAHA.107.716159v1>

# Resources

## “Focus on Health, Not Weight”

Follow this link <http://www.uwyo.edu/winwyoming/projects.html> to a new handout titled, “The ABCs of Health-Focused Well-Being,” which is based, in part, on findings from the WIN the Rockies project. Click on the title on the right side of the page. (Note: This 8-page handout with color photos is a large file – 9 MB – which may require extra downloading time.)

The handout is the fourth publication in a series entitled “Focus on Health, Not Weight.” The overall objective of this new publication is to increase awareness of and appreciation for a health-focused vs. a weight-focused approach to well-being. The format is appealing and easy to read. Most of the content is conveyed through definitions of 38 wide-ranging terms and concepts from A through Z. For example: Actions and behaviors, BMI and Consumerism start off the list.



Comments and questions may be forwarded to Suzanne Pelican, MS, RD, Food and Nutrition Specialist & WIN Wyoming Coordinator at [pelican@uwyo.edu](mailto:pelican@uwyo.edu).

## MyPyramid

The *Journal of Education and Nutrition Behavior* has now made available open access to the November-December 2006 Supplement which contains numerous articles pertaining to the development of MyPyramid. Of particular interest to those working with consumers are the following articles:

- MyPyramid.gov Provides Consumers with Practical Nutrition Information at Their Fingertips
- MyPyramid Tracker Assesses Food Consumption, Physical Activity, and Energy Balance Status Interactively
- Designing *MyPyramid for Kids* Materials to Help Children Eat Right, Exercise, Have Fun

You can access this free supplement at [Development of the MyPyramid Food Guidance System Supplement](#).

## Community Health Resources

CDC's newest online resource, the Community Health Resources Web site, [www.cdc.gov/communityhealthresources](http://www.cdc.gov/communityhealthresources), navigates you to CDC's best resources to plan, implement and evaluate community health initiatives. Site visitors can search or browse the Community Health Resources database for links to hundreds of useful tools, guides, handbooks, fact sheets and other information. The site is a collaboration of many CDC divisions and programs, including the Division of Nutrition, Physical Activity, and Obesity and the Division of Adult and Community Health.

## Overweight and Obesity in Children

The special issue of *The Annals*, the official journal of The American Academy of Political and Social Science, is entitled “Overweight and Obesity in America’s Children: Causes, Consequences, Solutions,” and is available at no charge for a limited time at <http://ann.sagepub.com/content/vol615/issue1/>.



Several articles worth noting are:

- Children, Television Viewing, and Weight Status: Summary and Recommendations from an Expert Panel Meeting
- Calories for Sale: Food Marketing to Children in the Twenty-First Century

## Health and Nutrition Indicators

An updated web resource that provides a snapshot of state and national health and nutrition indicators has been launched by Agricultural Research Service (ARS) scientists. The resource, called the Community Nutrition Map (CNMap), Version 2, can be found at <http://www.ars.usda.gov/Services/docs.htm?docid=15656>.

The Community Nutrition Map includes easy-to-read customized tables and color-coded maps. Indicators include data on estimated nutrient intakes, eating patterns, physical activity, body weight, demographics and food security. Food security is defined as an individual's ability to access enough food to lead an active, healthy life.

The Map Gallery provides percentages of individuals, state-by-state, who meet MyPyramid.gov food group recommendations, which include specified amounts of vegetables, grains, fruits, meats and dairy. Users can also look up percentages of individuals, state-by-state, who are at risk of nutrient inadequacy, or excess, for specific nutrients from food sources.

## New Data Analysis from What We Eat in America, NHANES 2003-2004

New data analysis from *What We Eat in America*, NHANES 2003-2004, has been released on the Food Surveys Research Group website. Data tables on mean nutrient intakes from foods for 21 gender/age groups by race/ethnicity and family income can be found at <http://www.ars.usda.gov/Services/docs.htm?docid=14958>. Reports from past USDA food surveys and studies dating back to the 1930s can be found by clicking <http://www.ars.usda.gov/Services/docs.htm?docid=14392>.

## Trends in the Health of Americans

*Health, United States, 2007* with Chartbook on the Trends in the Health of Americans can be found at <http://www.cdc.gov/nchs/data/hus/hus07.pdf>. This publication provides an annual picture of the health of Americans and could be relevant to program planning.

## Did You Know . . . ?

**Q.** I know nuts have a lot of fat in them, but I read they are recommended for good heart health. I thought too much fat was bad for my heart. I am confused. Can you please help me?

**A.** It is true that too much fat can be detrimental to your heart, but what is also important to note is what type of fat you are consuming. There are different types of fats that affect cholesterol levels, and a high level of cholesterol in the blood is a major risk factor for coronary heart disease, which leads to heart attack and also increases the risk of stroke. The major types of fats that are consumed in the diet include monounsaturated, polyunsaturated, saturated, and *trans* fatty acids. Saturated fats and *trans* fats raise blood cholesterol. According to the American Heart Association (AHA), polyunsaturated fats tend to help your body get rid of newly formed cholesterol. Due to this, the blood cholesterol level is kept down and reduces cholesterol deposits in artery walls. Recent research has shown that monounsaturated fats may also help reduce blood cholesterol as long as the diet is also very low in saturated fat.

It is also true that nuts do contain high amounts of fat, but they contain “good fats” which are unsaturated fats that do not raise blood cholesterol. Nuts do not contain any cholesterol, and are considered a good source of protein, according to the AHA. However, it is stressed that the potential benefits of nuts may be negated if they are added rather than substituted for other foods in the diet. Since nuts are very high in fat and calories, they are generally not recommended for people who need to restrict calories. Most of the fat in nuts are polyunsaturated or monounsaturated. Some examples of nuts that contain higher amounts of polyunsaturated or monounsaturated fats include almonds, pecans, and walnuts.

Fats that Raise Cholesterol	Sources	Examples
Dietary cholesterol	foods from animals	meats, egg yolks, dairy products, organ meats (heart, etc.), fish and poultry
Saturated fats	foods from animals	whole milk, cream, ice cream, whole-milk cheeses, butter, lard and meats
	certain plant oils	palm, palm kernel and coconut oils, cocoa butter
Trans fats	partially hydrogenated vegetable oils	cookies, crackers, cakes, French fries, fried onion rings, donuts
Fats that Lower Cholesterol	Sources	Examples
Polyunsaturated fats	certain plant oils	safflower, sesame, soy, corn and sunflower-seed oils, nuts and seeds
Monounsaturated fats	certain plant oils	olive, canola and peanut oils, avocados

Source: American Heart Association

# Spotlight

## **Katie Rogers, M.S., R.D.**

**K**atie Rogers, M.S., R.D., joined the Department of Food Science and Human Nutrition in December 2006 as a Research Associate for the Expanded Food and Nutrition Education Program (EFNEP). Currently, EFNEP state staff is working on a variety of projects. The most recent project written in conjunction with California EFNEP reflects a new, innovative nutrition education curriculum for use in teaching EFNEP adult participants. The curriculum is set to be released for use in early 2008 by many EFNEP programs across the country.

EFNEP state staff is also involved in two separate multi-state research projects: Healthy Toddlers and Healthy Baby, Healthy Me. The intervention for Healthy Toddlers is focused on educating parents to teach their toddlers healthy eating habits such as consuming healthy foods and beverages, eating a variety of foods, eating appropriate portion sizes and using mealtimes as opportunities for families to be together.

Researchers for the Healthy Baby, Healthy Me project utilize the EFNEP model to teach pregnant women important information and behaviors regarding food safety during pregnancy. Pregnant women are at higher risk of getting food borne illness which can then be passed along to the baby possibly causing congenital defects and even involuntary abortion. The goal of this intervention is to reduce these risks for the EFNEP population. EFNEP staff is also in the beginning stages of a research project which examines the effect of omega-3 fats taken during pregnancy on baby's neurological development.



Katie received a Master's of Science from the Department of Food Science and Human Nutrition at Colorado State University (CSU) in the summer of 2006. Her graduate work involved reviewing various adult EFNEP curricula used around the country that had been updated with the 2005 Dietary Guidelines and MyPyramid for possible future use in the Colorado EFNEP program. It was this research that spawned EFNEP in California and Colorado to write a new curriculum. Katie's primary interest is nutrition education for limited resource adults and youth. She also is concerned with the impact of food and nutrition on the environment. Later this year Katie will officially begin her Ph.D. graduate program at CSU.

A native of Loveland, Colorado, Katie enjoys outdoor activities such as camping, hiking, boating, skiing and snowshoeing. She loves the mountains and is grateful that she has found a job that allows her to stay in the beautiful state of Colorado.

# Dining a la Health

## Omega-3 Claims May Be Confusing

If you're a conscientious shopper who reads labels you may be among those who feel confused about the different kinds of omega-3 fatty acids: docosahexaenoic acid (DHA), eicosapentaenoic acid (EPA), and alpha-linolenic acid (ALA). Omega-3 fatty acids are important polyunsaturated fatty acid (PUFAs) and they play a crucial role in brain function, reduce inflammation and help prevent risk factors associated with heart disease and cancer. The only dietary essential omega-3 fatty acid is ALA. Dietary DHA and EPA are beneficial but not essential since they can be made from ALA. Some groups think it is advisable to consume 400-600 mg per day of EPA + DHA. The Institute of Medicine (IOM) Dietary Reference Intake bases their Adequate Intake (AI) on ALA intakes. While they recognize that dietary DHA and EPA can meet some of the AI, their recommendation is based on dietary ALA. The AI for ALA is 1.1 to 1.6 g/day for women and men, respectively.

DHA and EPA, long chain omega-3 fats, can be found in cold water fish, such as salmon, tuna, and halibut. The American Heart Association recommends eating fish (particularly fatty fish) at least twice a week. ALA is found in flaxseeds, flaxseed oil, canola (rapeseed) oil, soybeans, soybean oil, pumpkin seeds, pumpkin seed oil, walnuts, and walnut oil.



If a product contains EPA, DHA or ALA, the label can claim that it's a source of "omega-3." EPA and DHA are 20- and 22 carbon fatty acids. ALA, the shorter long-chain (18 carbons) omega-3 fatty acid, is a precursor to both EPA and DHA, and has to be converted by the body into EPA and DHA. However, the conversion is inefficient.



Many consumers may be misled into thinking they are getting adequate omega-3's by including these manufactured foods in their diet with the omega-3 health claim on the label. Many labels do not indicate how much omega-3 is present, nor do they indicate the form of omega-3. Most of the time it's safe to assume that any omega-3 claim refers to ALA. Unless the label specifically lists EPA and DHA (which should be listed in the ingredient label as fish or fish oil) or DHA (derived from algae), strive to include at least one rich source of omega-3 fatty acids in your diet every day. Rather than depending on manufactured foods with omega-3 claims consider including a serving of fatty fish (such as salmon), a tablespoon of canola or soybean oil in salad dressing or in cooking, or a handful of walnuts or ground flaxseed mixed into your breakfast cereal.

All food sources of omega-3 fats are not created equal. Here are the amounts of DHA and EPA, the omega-3 fats backed by the most promising studies, in some foods:

<i>Food</i>	<i>DHA+EPA (mg)</i>
Atlantic salmon, farmed (6 oz. cooked) .....	3,650
Coho salmon, farmed (6 oz. cooked) .....	2,180
Swordfish (6 oz. cooked) .....	1,390
Bumblebee salmon (Red, Pink or Blueback, 3 oz.).....	1,200
Sardines in vegetable oil, drained (3 oz.) .....	840
Fish sticks (6) .....	680
Smart Balance Omega Plus Buttery Spread (1 tbsp.).....	160
Land O Lakes Omega-3 Eggs (1).....	150
Breyers Smart DHA Omega-3 yogurt (6 oz.).....	30
Horizon Organic DHA Omega-3 milk (1 cup).....	30
Silk Plus Omega-3 DHA Soy Milk (1 cup).....	30