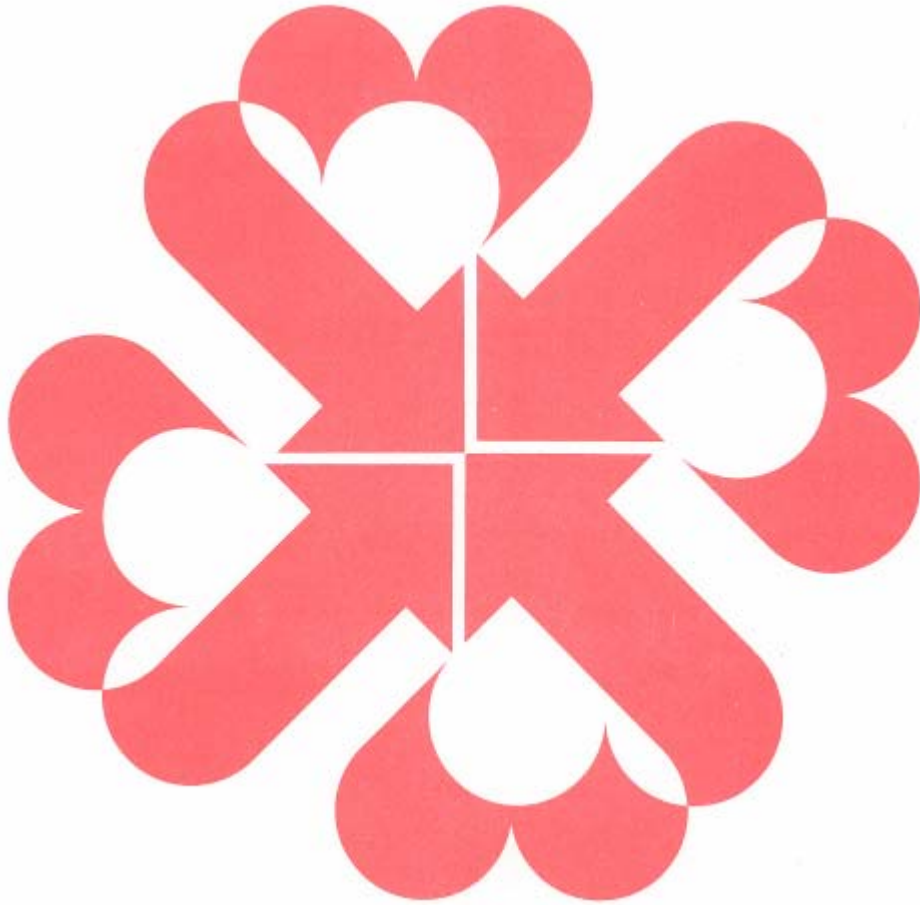


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healthy heart beats



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Healthy Heart Program Updates

April – June 2008

Volume 30, Issue 2

In This Issue

This issue of *Health Heart Beats* notes some new research concerning high pressure. There are also new guidelines from AHA for treating patients with resistant hypertension that defies treatment. Incorporating lifestyle changes and the DASH diet are key approaches to address this major concern. Diuretics are also a drug that should be included with any medication. For the first time, the American Heart Association has issued guidelines to help patients and healthcare providers tackle resistant high blood pressure that seems to defy treatment. Hypertension is called resistant if a person's blood pressure remains above goal despite taking three medications to lower it. High blood pressure that is under control, but requires four or more medications to treat, is also considered resistant to treatment.

The guidelines are published online in *Hypertension: Journal of the American Heart Association*. This is the first consensus statement to define resistant hypertension and recommend an approach for evaluation and treatment.

“Patients need to recognize the importance of blood pressure control and that in most cases they will need a combined approach of lifestyle changes and medication for effective treatment,” said David A. Calhoun, M.D., chair of the guideline writing committee. “Doctors must recognize that resistant hypertension requires special consideration in terms of evaluation and treatment.” For a full news release, go to: <http://americanheart.mediaroom.com/index.php?s=43&item=388>.

Remember to use the CSU Extension Fact sheets on the DASH diet and the ones on hypertension control.

Springtime is also the time when lifestyle changes that include more activity are easier – gardening is a great activity, and the blossoms make walking a very pleasant activity. With higher food prices the meal planning section will be a good reference for you and your clients as you teach the shopping basics.



I also want to recommend attending the annual Lillian Fountain Smith Conference held this year at the Marriott Hotel in Fort Collins on June 12 and 13, 2008. Go to: <http://www.fshn.cahs.colostate.edu/LFSC/index.asp>.

This is the 30th year we have been offering this conference that always endeavors to address very current and key issues in nutrition. This year promises to be another excellent conference with cancer, obesity and organic foods the topics of the sessions. Come and join us!

Taking charge of your heart and your health means incorporating lifestyle changes you can live with and enjoy each day. Enjoy eating and activities in the warmer months of spring and summer. Use your grill to eat low-fat, quick and simple meals that follow the guidelines we address in these newsletters. Pile the veggies on the grill too and eat the DASH way!

We look forward to seeing you next month at the Lillian Fountain Smith on conference.

Jennifer Anderson, Ph.D., R.D.
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Table of Contents

Nutrition and Research Updates

Avoid Saturated and Trans Fats for Heart Health	3
Low-Fat Dairy Products, Calcium and Vitamin D Linked to Hypertension.....	3
DASH-Style Diet Lowers Risk for Cardiovascular Disease	3
Childhood Obesity Linked to Dietary Pattern.....	4
Abdominal Obesity and Cardiovascular Disease Mortality	4
Significant Others Role in Dietary Changes	4

Resources

Web Sites for Women’s Health Research Information	5
Diet Quality of Americans	5
Eat Smart. Play Hard.™ Web Site for Educators.....	6
Health Calendar Observances and More	6
Modified MyPyramid for Older Adults.....	7

Did You Know . . . ?

I have heard a lot about antioxidants in the news. Are they good for me and should I take them in pill form or increase my fruit and vegetable intake?	8
--	---

Spotlight

Melissa Wdowik, Ph.D., R.D.	9
----------------------------------	---

Dining a la Health

Meal Planning – Good for Your Health and Your Wallet	10
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Nutrition and Research Updates

Avoid Saturated and Trans Fats for Heart Health

With the release of the 2005 Dietary Guidelines for Americans came recommendations for intake of *trans* fat as a result of research published by the Agricultural Research Service (ARS). For a 6-week period, 58 volunteers ate 4 controlled diets that were either moderately high in *trans* fat, high in *trans* fat, high in saturated fat, or high in oleic acid considered to be heart healthy. LDL cholesterol was measured after each feeding period. The results showed an increase in LDL cholesterol after consuming all the diets except the oleic acid diet. The ARS research scientists emphasized the importance of minimizing saturated fat as well as *trans* fat intake.

Source: <http://www.ars.usda.gov/is/AR/archive/mar08/fats0308.htm> (March, 2008)

Low-Fat Dairy Products, Calcium and Vitamin D Linked to Hypertension

In a study of 28,886 U.S. women 45 years of age or older, the intake of dairy products, calcium and vitamin D were assessed from food frequency questionnaires with annual follow up for 10 years. This study found that intakes of low-fat dairy products, calcium, and vitamin D were each inversely associated with risk of hypertension in middle-aged and older women. The researchers concluded that these study findings may offer additional support to the 2005 Dietary Guidelines for Americans, which recommend that the majority of Americans increase their intake of milk and milk products to three servings per day.

The women in the study with the highest average intakes of low-fat dairy (between two and nearly ten servings per day) were 11 per cent less likely to develop hypertension, compared to women with the lowest average intake. “It remains unclear why benefits are observed for low-fat dairy products but not for high-fat dairy products. A similar phenomenon has been observed for type-2 diabetes and coronary heart disease,” wrote the researchers.

Source: *Hypertension*, 2008, 51(4): 1073-1079 (April)

DASH-Style Diet Lowers Risk for Cardiovascular Disease

The Dietary Approaches to Stop Hypertension (DASH) diet is known to lower blood pressure. The DASH diet promotes the consumption of fruits, vegetables, whole grains, low-fat milk and plant-based protein. This study looked at the potential link of a DASH-style diet to coronary heart disease (CHD) in more than 88,000 women, aged 34 to 59 years, whose health had been followed with food frequency, lifestyle and medical questionnaires for 24 years. Additionally, the study participants did not have a family history of diabetes or CHD. After adjustment for risk factors such as age and smoking the study’s authors found that adhering to a DASH-style diet does lower the risk of CHD and stroke among middle-aged women. Those women who followed the DASH-style diet were 24 percent less likely to have a heart attack and 18 percent less likely to have a stroke.

Source: *Archives of Internal Medicine*, 2008, 168(7): 713-720 (April)

Childhood Obesity Linked to Dietary Pattern



Previously, the composition of diets consumed by obese children has been uncertain. This study attempted to identify a dietary pattern characterized by three risk factors for obesity: energy density, fiber density and percent of calories from fat. Over 500 children between the ages of 5 and 7 years used 3-day diet diaries completed by parents. At age 9 years body fatness was measured. Reduced rank regression was used to derive a dietary pattern score and body fat was measured. The authors concluded that an energy-dense, low-fiber, high fat diet can be correlated to higher body fat mass increasing the likelihood of childhood obesity.

Source: *American Journal of Clinical Nutrition*, 2008, 87(4): 846-854 (April)

Abdominal Obesity and Cardiovascular Disease Mortality

Numerous studies have shown a positive correlation between abdominal adiposity and cardiovascular disease (CVD) risk independent of overall adiposity. This study further explored that premise and sought to find a correlation between abdominal adiposity and premature death resulting from CVD. This prospective study collected data from the 44,636 women in the Nurses' Health Study cohort over the course of 16 years. During that time, 3,507 deaths were identified, including 751 cardiovascular deaths and 1,748 cancer deaths.

Relative risk was calculated after adjusting for body mass index (BMI) and potential confounders. Abdominal adiposity was significantly associated with elevated CVD mortality among normal-weight women (BMI 18.5 to 25 kg/m²). Relative risk of CVD mortality associated with a waist circumference greater than 88 cm (34.6 in) was 3.02, and a waist-to-hip ratio of greater than 0.88 indicated a relative risk of 3.45. Hip circumference was significantly and inversely associated with CVD mortality after adjustment for waist circumference. This study adds to the growing body of evidence that abdominal adiposity increases both risk of CVD and CVD mortality, even among normal weight women.

Source: *Circulation*, 2008, 117(13): 1658-67 (April)

Significant Others Role in Dietary Changes

Making dietary changes to improve health can be difficult. The significant others response could help or hinder the outcome of attempted dietary changes. A recent qualitative study involving 21 pairs examined how significant others respond to their partner's ("the changers") dietary changes. The majority of significant others described making "minor dietary changes." This included making slight adjustments to their typical diet in order to better match their partner's, and maintaining their regular diet in the absence of the changer. Most significant others also reported cooperating with the changer by assisting with meal planning, preparation, and food shopping. Not surprisingly the supportiveness of significant others was associated with how strong they reported their relationship to be. Interviews showed that complex relationship dynamics are embedded within each partner's behaviors. For instance, one significant other reported having only minor dietary changes because his wife (the changer) made efforts to keep his meals familiar. Eating together is an integral part of relationships. It reinforces partner's roles and supports a sense of normalcy for both people in the relationship. This study reveals that relationship dynamics should be considered by dietary professionals when developing strategies for dietary interventions.

Source: *Journal of Nutrition Education and Behavior*, 2008, 40(2): 80-88 (March)

Resources

Web Sites for Women's Health Research Information

Consumers can check for the latest information regarding women's health research published in scientific journals and other peer-reviewed sources on Web sites through the National Library of Medicine (NLM). By creating this one-stop on-line resource for women's health research at the NLM, consumers, health care providers, and researchers will be able to more quickly access the latest information available on scientific developments for important issues related to women.

The 2008 "National Institutes of Health (NIH) Research Priorities for Women's Health" were used to identify overarching themes, specific health topics, and research initiatives in women's health. Within each section of the Web site are topics with links to relevant and authoritative resources and research initiatives for women's health. The NLM of the NIH has partnered with the NIH Office of Research on Women's Health (ORWH) to make this resource available.

Dr. Vivian W. Pinn, M.D., Director of the ORWH, noted, "There has long been a need for a reliable and user-friendly source of current scientific information about women's health, sex/gender issues, and clinical research on women's health topics. We are delighted that the NLM has developed just such a resource that will be of great value to researchers, clinicians and anyone with an interest in the many aspects of women's health and diseases."

Women's Health Resources from the NLM Web site can be found at:

<http://sis.nlm.nih.gov/outreach/womenshealthoverview.html>

Women's Health Resources from the ORWH Web site can be found at:

http://orwh.od.nih.gov/nat_lib_med.html

Diet Quality of Americans



Healthy Eating Index 2005 scores for Americans have been released by the USDA Center for Nutrition Policy and Promotion. They are available at: <http://www.cnpp.usda.gov/HealthyEatingIndex.htm>. The scores measure the diet quality of Americans in terms of how food intakes compare with recommendations from the 2005 Dietary Guidelines for Americans. This Report presents baseline scores for the years 1994-96 and 2001-02.

Eat Smart. Play Hard.™ Web Site for Educators

The Eat Smart. Play Hard.™ Campaign was launched by USDA's Food and Nutrition Service (FNS) in 2000. The updated [Eat Smart. Play Hard.™ for Educators](#) is about encouraging and teaching kids and adults to eat healthy and be physically active every day. It offers resources and tools to convey and reinforce healthy eating and lifestyle behaviors that are consistent with the Dietary Guidelines for Americans and the MyPyramid Food Guidance System. It is now easier than ever to find updated and new resources, ideas on how to use them, and ready-to-go tools to use in conjunction with Power Panther visits. The Campaign spokesperson, Power Panther, and his nephew, Slurp, are used to communicate the behavior messages.

The Eat Smart. Play Hard.™ materials support the nutrition and physical activity component of School Wellness, add a new twist to WIC education and counseling, and reach Food Stamps, Commodity Supplemental Food Programs, Food Distribution on Indian Reservations participants as well as child, after school, and summer programs.

The image shows a screenshot of the 'Eat Smart. Play Hard.™ for educators!' website. The page features a search bar, a navigation menu, and several content sections. Three callout boxes highlight specific features:

- Get Involved!**: "Get Involved!" lets you access Campaign guidelines, "Bright Ideas" and more.
- Power Panther Corner**: "Power Panther Corner" has new downloadable images and scripts, a photo gallery of Power Panther in action and updated guidelines.
- Find Materials**: "Find Materials" lets you search materials by topic, format, target audience, or language. You'll get results with thumbnail images for easy browsing, descriptions of the material, and ideas for using them.

Health Calendar Observances and More

If you're writing an article or newsletter and want to focus on a timely topic, check out the 'Health Calendar' sponsored by Food and Health Communications:
<http://www.foodandhealth.com/calendar/index.php?m=4&y=2008>.

At their Web site you can all view the list of other free resources that are available including BMI and calorie calculators, recipes, handouts for nutrition education and more.



Modified MyPyramid for Older Adults

Tufts University has modified their 1999 food pyramid graphic for older adults to make it more user-friendly and to emphasize the special dietary needs of individuals older than 70. It emphasizes making nutritious choices with fewer calories since older people have a slower metabolic rate but still require good nutrition. The new print graphic does not require use of the Internet upon which the original revised 2005 MyPyramid is based. It includes more pictures promoting specific foods, physical activity, hydration, and nutrients including packaged, frozen, and fresh fruits and vegetables. Single-serve options for this age group are useful since older individuals often live alone. A flag at the top reminds older adults to get calcium, Vitamin D and Vitamin B 12 in their diet. One row of graphics at the bottom of the Modified MyPyramid for Older Adults promotes hydration. Lead author Alice H. Lichtenstein, DSc, director of the Cardiovascular Nutrition Laboratory at Tufts' Jean Mayer USDA Human Nutrition Research Center on Aging says, "As we age there can be a disassociation between how hydrated our bodies feel." Below the glasses is a row of icons stressing physical activity. "Regular physical activity is linked to reduced risk of chronic disease and lower body weights. Government statistics indicate that obesity in adults 70 years and older has been increasing. Physical activity is one way to avoid weight gain in later years and its adverse consequences. In addition, regular physical activity can improve quality of life for older adults," says Lichtenstein.



Visit their Web site for a printable color copy of the pyramid for older adults:
http://nutrition.tufts.edu/1174562918285/Nutrition-Page-nl2w_1203674431946.html.

To learn more, click on <http://jn.nutrition.org/cgi/content/abstract/138/1/5> in the *Journal of Nutrition*, January 2008.

Did You Know . . . ?

Q. I have heard a lot about antioxidants in the news. Are they good for me and should I take them in pill form or increase my fruit and vegetable intake?

A. Antioxidants have been making headlines for their role in protecting our cells from potentially damaging molecules called free radicals. Cell damage from overexposure to free radicals is associated with the aging process, cancer, cardiovascular disease, and hypertension. Free radicals exist both in our environment and in our bodies. We are environmentally exposed to them through ozone, air pollution, radiation, and cigarette smoke. The immune system is the main body system that utilizes free radicals.

The typical calorie-rich, nutrient-poor American diet produces an overabundance of free radicals which puts us at risk. Fruits and vegetables are a rich source of nutrients that act as antioxidants, including beta carotene and vitamins A and C. Is it a good idea to pop a pill instead? Media has popularized supplements as a quick and easy way to ingest a large level of antioxidants. Despite the popularity of these supplements, they are not recommended by nutrition professionals. There is no solid evidence to show that antioxidant pills are effective at reducing health risks. A recent article published in the *Mayo Clinic Proceedings* showed that across twelve clinical trials, antioxidant use did not diminish incidence of cancer and mortality from cancer, and beta carotene increased these risks among smokers.

Additionally, there are serious health consequences to overdosing on supplements. Vitamins A and E are fat soluble and an excessive intake can cause a large amount to accumulate in fat with the possibility of toxicity. Too much vitamin A over time (upper limit is 3000 micrograms or 10,000 IU per day) can cause toxicity with the following symptoms: liver abnormalities, nerve damage, and birth defects. Overdosing on vitamin E (upper limit is 1000 milligrams or 1500 IU per day) can cause increased risk of bleeding. While Vitamin C is water soluble, overdosing (upper limit is 2000 mg per day) can damage the kidneys since they have to work overtime to excrete it. Remember, free radicals do perform important functions in our bodies. Rather than “purge” our system of antioxidants, we should protect ourselves from overexposure to free radicals by consuming a diet rich in fruits and vegetables.

Want more reasons to eat fruits and vegetables? The exact ways that antioxidants protect our bodies is still being researched, but fruits and vegetables contain many other compounds and nutrients which may help to make antioxidants more available to you. These compounds are not present in supplements, possibly making supplements less effective than eating fruits and vegetables. The DASH (Dietary Approaches to Stop Hypertension) diet calls for four to five servings *each* of fruits and vegetables as the antioxidant properties help to lower blood pressure. Additionally, generous consumption of fruits and vegetables contributes to an overall lower fat and lower calorie diet. The answer to your question is to enjoy the flavors of a variety of colorful fruits and vegetables--try new ones, add more to your recipes, and snack on them to get the maximum benefits of antioxidants. Don't waste your money on antioxidant supplements.

Source: *Mayo Clinic Proceedings*, 2008, 83(1): 23-34 (January)

Spotlight

Melissa Wdowik, Ph.D., R.D.

The Nutrition Center @ Colorado State University (CSU) proudly opened its doors in January, 2008. An outreach service of the Department of Food Science and Human Nutrition, The Nutrition Center promotes scholarship in nutrition teaching, training, and research while providing nutrition outreach to the Larimer County community. The concept for the center arose out of both student input and best practices of nutrition and public health programs throughout the country, which indicate the need for hands-on learning and application of concepts taught in the classroom.

The center is directed by Melissa Wdowik, PhD, RD. She received her PhD at CSU in 1998. Melissa has an extensive background in nutrition counseling and behavior change, including experience with weight loss, diabetes, hypertension, worksite wellness, eating disorders, and sports nutrition and has published a guidebook for college students with diabetes. She has also been a college instructor for the past 10 years, teaching at the University of North Carolina at Charlotte before returning to CSU in 2006.

Melissa currently teaches a graduate nutrition counseling class and a nutrition practicum, in which students participate in planning and implementing activities at The Nutrition Center.

Services within the center include both individual sessions and group programs which are open to the general public. Individual nutrition counseling sessions comprise body composition and disease risk assessment, dietary analysis, medical nutrition therapy, meal and snack planning, guidance in buying and preparing food, restaurant comparisons, physical activity guidelines, and behavior change planning. Group programs consist of cooking demonstrations, supermarket and farmer's market tours, weight loss classes, and workshops on a variety of topics including (but not limited to) chronic disease prevention and management, eating on a budget, setting and keeping goals, Mediterranean and Okinawa eating patterns, sports nutrition, and organic foods. Participants are educated via an assortment of visual aids, measurement tools and handouts.

On a personal level Melissa is married with two children, ages 10 and 12 years. Her family enjoys a healthy lifestyle of outdoor activities, music, and cooking together when time allows. They also have a large dog they have to walk daily!

The Nutrition Center @ CSU is located on the CSU campus in room 213 of the Gifford Building. Additional information can be found at: <http://www.fshn.cahs.colostate.edu/nutritioncenter.asp>.



Dining a la Health

Meal Planning – Good for Your Health and Your Wallet

Meal planning may seem like an old fashioned idea – something your grandmother would do when she didn't have access to a grocery store or needed to do to use up all the extra produce from her garden. In our fast-paced society it's easy to fall into a rut of ordering take-out, making quick trips to the grocery store for a few items, or just going out to eat. However, meal planning has its own advantages.



Eat healthier. Convenience foods and restaurant meals are often packed with extra fat, calories, and sodium. Taking the time to plan your menu will allow you to choose your favorite flavorful recipes without all the extra fat and calories. Planning will also add variety to your menu.

Save time. Knowing which ingredients and foods you need for the week allows you to make fewer trips to the grocery store and to shop quickly. You can also save time by preparing extra servings of certain meals for lunches, snacks and leftovers.

Save money. Dining in restaurants and ordering take-out food can really add up if you do it week after week. You can also waste a lot of money on unused food if you go to the grocery store without a well thought out list.



Here are some tips to help you get started:

- Schedule a time each week when you will plan your meals for the following week, make a shopping list, and go to the store.
- Make a list of your favorite easy recipes and consider including some new ones, too. Choose several to make for the following week. Try to choose a few recipes that can share some ingredients to cut down on shopping time and save money.
- Before you go to the store, make a list of all the ingredients required for your recipes that are not currently in your pantry. Add any additional items you will need for the week for breakfasts, lunches, or snacks. Avoid the temptation to impulse buy and stick to your shopping list.
- Double the recipes to plan to make extra servings which could be used for other meals or snacks.
- Make a list of your favorite snacks. You can prepare these ahead of time for grab-and-go snacks when you are in a rush. Cut up extra veggies when you are preparing dinner and put them in zip lock bags. Mix assorted nuts and dried fruit together and divide into individual portions.
- Consider preparing a large recipe one day per week when you have extra time. A big pot of chili or a hearty soup can be eaten throughout the week. Save individual portions in the freezer for when you are in a time pinch.

At first, planning your meals ahead can seem overwhelming, but after some practice you'll see that meal planning makes healthful eating a breeze and saves time and money, too.