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Questions and Answers Regarding Vitamin E

The following information is based on the recent article “Meta-Analysis: High-Dosage Vitamin E Supplementation May Increase All-Cause Mortality” (1).

Should vitamin E supplements be taken by healthy adults?

The current recommended dietary allowance for vitamin E is 15 mg per day for both men and women. A report completed in the year 2000 by the Institute of Medicine found that most Americans consume adequate amounts of vitamin E daily, suggesting that supplements are not necessary for the general population. Groups at risk for vitamin E deficiency, who should consider using a supplement, include people consuming extremely low fat diets, persons with rare disorders causing the inability to absorb dietary fat or transport vitamin E, or premature infants.

If Americans consume adequate amounts of vitamin E, why are consumers under the impression that vitamin E supplements can optimize their health?

Oxidative damage contributes to the development of numerous chronic diseases including heart disease, cancer, and stroke. Vitamin E is known to be a potent antioxidant, and in theory, high doses of vitamin E may protect against development of chronic disease. In support of this theory, there is epidemiological evidence suggesting that people who consume high dosage vitamin E supplements have lower rates of cardiovascular disease than the general population.

With this evidence, why aren't National recommendations for vitamin E higher?

Unfortunately, the results of clinical trials investigating pharmacological doses of vitamin E are inconclusive. In an attempt to provide a more concrete answers to this question, researchers involved in this recent study completed a meta-analysis of vitamin E clinical trials, looking at the effects of supplementation on all-cause mortality. In a meta-analysis, data from multiple research investigations are pooled to increase the sample size, thereby increasing statistical power, so that multiple scientific questions can be answered.

What are the disadvantages of a meta-analysis?

Although a meta-analysis can provide useful information, limited conclusions can be drawn from the findings due to the fact that the pooled data used in this type of analysis comes from a variety of different study designs and target populations.

How many clinical trials were included in the analysis?

The researchers identified 2,170 clinical studies using vitamin E; however, references were excluded for a variety of reasons to ensure that the data was of high quality and that the subjects were relatively homogenous. Nineteen of the identified trials were included in the final analysis. Among the studies excluded, three scientifically meaningful trials were omitted from the final analysis for reporting fewer than ten deaths at the final time point.

What were the findings of the meta-analysis?

The results of this investigation suggest that supplemental intakes of vitamin E greater than 150 IU (67.5 mg) may increase risk of mortality.

If I am taking supplemental doses of vitamin E, should I stop immediately?

This paper has sparked quite a bit of controversy in the scientific community. Although the findings should not be disregarded, weaknesses in the study design raise questions about the validity of the results. The Institute of Medicine (IOM) has set the upper tolerable intake (UL) for vitamin E at 1500 IU. This level is substantially greater than the levels found to be detrimental in this meta-analysis. However, using dietary supplements of antioxidants, such as vitamin E, should not be recommended until their effect is proved in clinical trials that directly test their impact on cardiovascular disease (CVD) end points. At this time, the scientific evidence supports a diet high in food sources of antioxidant, and other heart-protecting nutrients, such as fruits, vegetables, whole grains, and nuts instead of antioxidant supplements to reduce risk of CVD (2). As with any decision regarding the use of supplements, consult with your physician before changing your daily supplement regimen.

Reference:

Miller ER, Pastor-Barriuso R, Dalal D, et al. Meta-Analysis: High-Dosage Vitamin E Supplementation May Increase All-Cause Mortality. *Ann Intern Med*; and National Institutes of Health Office of Dietary Supplements report on Vitamin E; January 2005; 142: 37–46.

AHA Scientific Statement. February 2005.

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Dietary Fats, Carbohydrates, and Progression of Coronary Atherosclerosis In Postmenopausal Women

The American Heart Association approximates that more than 500,000 women are struck by cardiovascular disease every year, making heart disease the number one killer of females in the United States. Although women of all ages should be concerned about protecting themselves against this chronic disease, post-menopausal women, who lack protection from estrogen, should be especially interested in limiting their risk.

Epidemiological research has identified several healthy habits that if adopted, may help reduce the risk of developing cardiac complication. These habits include regular exercise,

maintenance of a healthy weight, and consumption of a healthy diet that is high in plant based foods and low in saturated fat. However, the recent appearance of low-carbohydrate diets such as The Atkin's Diet and the South Beach Diet has called into question what constitutes a healthy eating plan.

In response to this question, researchers involved in a recent investigation aimed to determine the effects of saturated fat intake on the development of heart disease in post-menopausal women. In the study, 309 healthy women who were not using hormone replacement therapy were recruited from North Carolina and Connecticut. They were asked to complete a food frequency questionnaire and to have a coronary angiography completed upon their enrollment in the study and a follow-up angiography to be completed 3.1 years after the initial procedure.

The results of the study were surprising. After adjustment for a variety of confounding factors, an inverse relationship between saturated fat intake and progression of cardiovascular disease was observed, suggesting that consumption of saturated fat may protect against heart disease. Although these preliminary findings raise more questions about what constitutes a healthy diet, research in a larger, more diverse population must be completed before any firm conclusions can be made.

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about what constitutes a healthy diet, research in a larger, more diverse population must be completed before any firm conclusions can be made.

Comparison of the Atkins, Ornish, Weight Watchers, and Zone Diets for Weight Loss and Heart Disease Risk Reduction

With the arrival of the New Year, weight-loss once again becomes a priority for millions of Americans. There are currently a wide variety of diets on the market, including low-carb, low-fat, and low calorie options. Although this is good news for the diverse American population, made up of individuals who may respond to certain types of diets better than others, to a consumer faced with the challenge of selecting a weight-loss regimen, the endless options can seem overwhelming. It can be extremely difficult to determine which diet is best.

Fortunately, a recent study completed by researchers at Tufts University aimed to answer this question. In this investigation, the Atkins (low-carbohydrate), Zone (balanced macronutrients), Weight Watchers (low-calorie), and Ornish (low-fat) diet plans were compared against one another to determine which diet resulted in the most weight-loss and was the easiest to stay on.

One hundred and sixty people were recruited and randomly assigned to follow one of the four diets for a one-year period. During the first two months of dieting, each participant was asked to attend four classes, delivered by a dietician and physician team that discussed the specifics of the diet and strategies for staying on it.

Statistical analysis showed that all four diets were equally successful at decreasing body weight by about six pounds and equally difficult to stay on for a one year period. Not surprisingly, the key to successful weight-loss in this investigation was to strictly adhere to the diet plan.

The results of this study suggest that no one diet plan is better than the other. When trying to lose weight, the most important factor is to find a diet plan that fits well into your own life style. While the Atkins Diet may work well for a person who loves to eat meat, Weight-Watchers may work better for someone who enjoys eating a wide variety of foods. Working with your physician to find the correct weight-loss plan at the onset of dieting may result in greater success and less frustration in the long run.

Adapted from: Dansinger ML, Gleason JA, Griffith JL, Selker HP, and Schaefer EJ. Comparison of the Atkins, Ornish, Weight Watchers, and Zone Diets for Weight Loss and Heart Disease Risk Reduction: A Randomized Trial. *JAMA*; January 5, 2005; 293:43-53.

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Schools Can Promote Physical Activity, Implement Nutrition Programs to Combat Obesity Epidemic

Since obesity among our nation's children is a multi-factorial problem, it makes sense that a solution cannot rely on only one or two interventions.

Many are working on strategies that can be implemented by primary care professionals who are in a position to identify and educate overweight individuals, or those at risk, and provide (or direct them to) management. There also have been calls to implement solutions through public health venues because broad-scale education is necessary to change the nutritional "environment" as well as increase the opportunities for physical activity.

All of these strategies are necessary. In fact, it likely will be the cumulative effect of many small changes in children and adults' environments that will be necessary to confront the obesity epidemic.

It is in this context that the role of schools should be looked on as one of many essential forums.

How schools contribute to the problem

Some in the educational sector argue that obesity prevention and management are medical, not educational issues; that obesity is something parents must address, not educators. They also contend that the schools' role is minuscule compared to societal problems that predispose children to obesity, such as the role of advertising, the costs and availability of healthy foods, the perception that neighborhoods are inadequately safe to foster physical activity, and the pervasiveness of sedentary distractions for children, most notable television.

To clarify schools' potential role in the solution, it is worthwhile to explain the probable contributions schools make to the prevalence of obesity.

The Centers for Disease Control and Prevention's (CDC's) School Health Policies and Programs Study (SHPPS) in 2000 found that half of all school districts have a soft drink contract. Of these, nearly 80% receive a specified percentage of the sales receipts. Almost two-thirds of schools are given incentives once sales achieve a specified amount.

One-third of schools allow soft drink advertising in their buildings, and between 56% and 93% of schools (depending on elementary or secondary) allow students to purchase such beverages in vending machines, school stores, canteens, or snack bars. It is difficult to avoid the contribution of schools to the 41% increase per capita in soft drink consumption in the first five years of the 1990s.

Although soft drinks may be the biggest culprit, their consumption in schools is not the sole problem.

The US Department of Agriculture (USDA) guidelines discourage sales of "foods of minimal nutritional value" and foods at the tip of the Food Guide Pyramid (typically

snack foods with added sugars and/or fats, far beyond what is found in foods in their natural state). Yet, 70% of schools allow students to buy these items during the lunch period.

Insufficient vigorous activity is the most significant risk factor for having a high body mass index in adolescent boys and girls.

Yet, only 6% to 8% of schools provide daily physical education or its equivalent to their student populations (SHPPS data from the CDC), despite recommendations to do so by numerous professional organizations, including the American Academy of Pediatrics.

Reversing the obesity trend

The first step schools can take to combat the obesity epidemic is to implement programs that have been shown through research to work or be promising. For example, physical education should be optimally aerobic with students spending minimal time standing idly waiting for their turn. Physical education curricula and staff development programs have been designed to do just this.

Similar progress in “what works” has been made for school nutrition programs. A coordinated school health program will provide healthier choices for foods, price them competitively and display them prominently. Healthier offerings in schools cafeterias, vending machines, snack bars, and at celebratory and fund-raising events have been shown to be preferably purchased and consumed when they are in forms that are most acceptable to the cultural preferences of the student population, when families are involved in their promotion, and when they are enhanced by complementary classroom nutrition educational curricula. Staff development curricula on nutrition are also available.

Schools are excellent focal points in the community for other societal changes related to the prevention and management of obesity. There are excellent models throughout the nation in which schools have joined with community partners to arrange for safer bicycle and walking routes to and from school and after-school programs that promote physical activity. Schools have hosted community gardens, kept their playgrounds open on weekends and hosted media events to advertise their healthy programs.

Schools can set an excellent example on the importance of selecting a healthier diet and engaging in physical activity not only for students and families but also for corporations, small businesses and even health professionals.

Source: Taras, Howard L., M.D., FAAP, and the AP Task Force on Obesity; AAP News; 25 (5); November 2004; p. 264.

Resources Related to Schools and Obesity

A Coordinated Approach to Child Health: This school-based program of comprehensive physical activity and nutrition increases the proportion of class time spent in physical activity, gets the family involved, and improves foods delivered in schools cafeterias. Purchase materials at Flaghouse Inc., 601 Flaghouse Drive, Hasbrouck Heights, NJ 07604; phone: (800) 793-7900; Web site: www.flaghouse.com.

SPARK and M-SPAN: These school-based programs improve quality of teaching and level of physical activity in class without interfering with academic achievement as well as address student nutrition. Information at www.sparkpe.org/index.jsp.

Planet Health: A physical activity and nutrition curriculum for middle schools that includes components to reduce sedentary behavior. It has been shown to reduce obesity in girls. Information at www.hsph.harvard.edu/prc/proj_planet.html.

School Health Index for Physical Activity and Healthy Eating: A Self-Assessment and Planning Guide: A tool to assist schools that want to implement programs that promote physical activity and lifelong healthy eating. Tools are available in elementary and middle/high school versions. Call (770) 488-3168 or download from www.cdc.gov/nccdphp/dash.

Food Guide Pyramids: Visit www.nal.usda.gov/fnic/Fpyr/pyramid.html.

Fit, Healthy and Ready to Learn: A School Health Policy Guide: This was developed by the National Association of State Boards of Education (NASBE) and provides direction on establishing an overall policy framework for school health programs, including specific policies on physical activity and healthy eating. Call (800) 220-5183 or visit www.nasbe.org/healthyschools/fitthealthy.mgi.

School Health Policies and Programs (SHPPS): Study can be viewed at www.cdc.gov/shpps.

AAP Policy Statement Physical Fitness and Activity in Schools:
aappolicy.aappublications.org/cgi/content/full/pediatrics;105/5/1156.

AAP Policy Statement Preventions of Pediatric Overweight and Obesity:
aappolicy.aappublications.org/cgi/content/full/pediatrics;112/2/424.

How Schools Work and How to Work with Schools: A Primer for Professionals: This report from the National Association of State Boards of Education is for health professionals and others who seek to serve children and youth in school settings: www.nasbe.org/Educational_Issues?Safe_Healthy.html.

Source: Taras, Howard L., M.D., FAAP, and the AAP Task Force on Obesity; AAP News; 25 (5); November 2004; p. 264.

Dieting Teens Often Adopt Risky Practices

Sixty percent of teens in one Los Angeles area public school reported dieting at some point in their lives, and many used unhealthy methods to control their weight, according to a survey of 146 10th-graders.

Studies have shown that a large proportion of adolescents have dieted. In addition, dieting may lead to growth and nutrient deficiencies and may be a risk factor for eating disorders.

This study looked at the patterns and frequency of dieting behaviors among high school students in a metropolitan area. Students in health classes filled out surveys that included questions about height, weight and dieting practices.

The mean age of students was 14.1 years; 48% were Hispanic, 27.4% were Asian/Pacific Islander, 8.2% were white and 4.1% were African-American. Nearly 27% of students had a body mass index (BMI) over 25.

Survey results showed.

- 15% of the teens who had dieted did so before they turned 11 years old, and 84% had attempted dieting by the time they were 14;
- a higher percentage of females within a normal BMI range reported dieting than those at risk of overweight (67% vs. 25%);
- common dieting techniques included limiting portion size and counting calories or grams of fat;
- 44% of teens said they skipped meals to lose weight; and
- 20% of males and 18% of females said they had vomited after a meal at least once, and 13% said they had used over-the-counter diet aid.

The authors concluded that nutrition education regarding healthy eating and lifestyle habits, including safe and unsafe dieting practices, should begin by seventh grade.

Source: Calderon LL, et al. AAP News; 26(1); January 2005; pg. 2.

Young Adults Who Maintain Their Weight, Even If Overweight, Have Lower Risk Factor Levels for Heart Disease In Early Middle Age

Young adults who maintain their weight over time, even if they are overweight, have lower risk factor levels for heart disease and are less likely to develop metabolic syndrome in middle age than those whose weight increases, according to the results of a large multi-center study funded by the National Heart, Lung, and Blood Institute of the National Institutes of Health and presented at the annual meeting of the American Heart Association.

Metabolic syndrome is a clustering of risk factors that increases a person's risk of heart disease. After 15 years, only 3.6 percent of the study participants who had maintained

their weight had developed metabolic syndrome, compared to 18 percent of those whose weight had increased.

"Young US adults have a major problem with weight gain during these years. The minimum goal for every young adult is to try to prevent weight gain, even if he or she is overweight," said NHLBI Acting Director Barbara Alving, M.D.

The Coronary Artery Risk Development in Young Adults (CARDIA) study followed over 5,000 men and women for 15 years. Selection of study participants who were initially aged 18 to 30 was balanced for sex, race, and education. CARDIA evaluated participants at four clinical centers — in Birmingham, AL, Chicago, IL, Minneapolis, MN and Oakland, CA. This study included data for 2,475 adults who attended every exam but excluded those who were underweight or very obese at the start of the study.

The study examined the relationship over time between weight and several cardiovascular disease risk factors: high blood pressure, high glucose (sugar) levels, which can indicate risk for diabetes, high triglyceride levels, low levels of good cholesterol, and a large waist. Metabolic syndrome is defined as having at least 3 of these risk factors.

Investigators found that on average, as body mass index, an indicator of obesity, increased, adverse changes in these cardiovascular disease risk factors occurred. Over the 15 years of the study, these changes produced substantial differences in risk factor levels.

Normal-weight men who maintained their weight had only a 1 mg/dL rise per year in triglycerides (harmful fat in the blood) compared to a 4 mg/dL per year increase in those who had gained weight. After 15 years, that translates into a total increase in triglycerides of 60 versus 15 mg/dL in those who gained compared with those who maintained stable weight. Normal weight women showed almost no increase in triglyceride levels when they maintained their weight, compared to an almost 2 mg/dL rise per year for those whose weight had increased.

Of the adults studied, more than 80 percent had gained weight over the years and had negative changes in heart disease risk factors, compared to 18 percent who had maintained their current weight and showed no significant change in risk factors for heart disease.

"Regardless of whether you are overweight or normal weight in young adulthood, it's really important, at a minimum, not to gain any more weight. That's a critical part of the message," said Donald Lloyd-Jones, M.D., Sc.M. CARDIA investigator and assistant professor of preventive medicine and of medicine at Northwestern University Feinberg School of Medicine. "Weight stabilization may be easier to achieve than significant weight loss for many people, and there are clear benefits to maintaining stable weight," he concluded. Lloyd-Jones presented the results at the AHA's annual conference.

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"The best approach for maintaining weight is to ensure that one's physical activity level is high enough to balance the number of calories consumed," said Catherine Loria, Ph.D., a nutritionist and epidemiologist with NHLBI.

For more information and tips on maintaining weight:

Aim for a Healthy Weight Website:

http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/patmats.htm.

Source: NHLBI Press Release; November 8, 2004.

Eating Well for Older People

The FDA has recently issued a new booklet that offers suggestions for older people who may have trouble eating well, providing practical solutions for potential barriers. Here are some specific problems and ways to solve them, and there are plenty of others in the booklet, available at www.fda.gov/opacom/lowlit/eatage.html.

Problem: can't shop

- Ask the local food store to bring groceries to your home. Some stores deliver free. Sometimes there is a charge.
- Ask your church or synagogue for volunteer help or sign up for help with a local volunteer center.
- Ask a family member or neighbor to shop for you or pay someone to do it. Some companies let you hire home health workers for a few hours a week. These workers may shop for you, among other things. Look for these companies in the Yellow Pages of the telephone book under "Home Health Services."

Problem: can't cook

- Use a microwave oven to cook TV dinners, other frozen foods, and foods made ahead of time by the store.
- Take part in group meal programs offered through senior citizen programs or have meals brought to your home.
- Move to a place where someone else will cook, such as a family member's home or a home for senior citizens.

Problem: short on money

- Buy low-cost foods, such as dried beans and peas, rice, and pasta or buy foods that contain these items, such as split pea soup and canned beans and rice.
- Use coupons for money off foods you like.
- Buy foods on sale. Also buy store-brand foods. They often cost less.
- Find out if your local church or synagogue offers free or low-cost meals.
- Take part in group meal programs offered through senior citizen programs or have meals brought to your home.
- Get food stamps. Call the food stamp office listed under your county government in the blue pages of the telephone book.

Study Associates Alcohol Use Patterns With Body Mass Index

The body mass index (BMI) of individuals who drink alcohol may be related to how much, and how often, they drink, according to a new study by researchers at the National Institutes of Health's National Institute on Alcohol Abuse and Alcoholism (NIAAA). In an analysis of data collected from more than 37,000 people who had never smoked, researchers found that BMI was associated with the number of drinks individuals consumed on the days they drank. Calculated as an individual's weight in kilograms divided by height in meters squared, BMI measures whether or not a person is at a healthy weight — low BMI values generally indicate leanness and higher BMI values indicate being overweight.

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“In our study, men and women who drank the smallest quantity of alcohol — one drink per drinking day — with the greatest frequency — three to seven days per week — had the lowest BMI's,” said first author Rosalind A. Breslow, Ph.D., “while those who infrequently consumed the greatest quantity had the highest BMIs.” A report of the study by Dr. Breslow, an epidemiologist in NIAAA's Division of Epidemiology and Prevention Research and colleague Barbara A. Smothers, Ph.D., appears in the February 15, 2005, issue of the American Journal of Epidemiology.

“This is an important issue,” said NIAAA Director Ting-Kai Li, M.D. “Obesity is prevalent in the United States and is a risk factor for numerous chronic illnesses and early death. Since alcohol use also is prevalent in this country, it is important to examine the relationship of quantity and frequency of consumption to body weight.”

The researchers examined data collected from 1997 through 2001 in the National Health Interview Survey (NHIS), a nationally representative survey of the U.S. population conducted each year by the National Center for Health Statistics. Drs. Breslow and Smothers compared survey respondents' alcohol drinking patterns with their BMI scores. Since previous studies have shown that smoking and drinking interact to influence body weight, the current study looked only at current drinkers who had never smoked.

Results of previous examinations of the relationship between drinking alcohol and body weight have been inconsistent. The authors noted that one possible reason for this is that prior studies used a different way of assessing alcohol consumption than did the current study.

“Alcohol consumption consists of two components,” explained Dr. Breslow, “the amount consumed on drinking days (quantity), and how often drinking days occur (frequency). Previous studies generally examined drinking based only on average volume consumed over time. However, average volume provides a limited description of alcohol consumption as it does not account for drinking patterns. For example, an average volume of 7 drinks per week could be achieved by consuming 1 drink each day or 7 drinks on a single day. Average volume may not fully explain important relations between quantity and frequency of drinking and health outcomes such as obesity.”

The authors suggested several possible reasons for the observed associations of both quantity and frequency of alcohol use with BMI.

“Alcohol is a significant source of calories, and drinking may stimulate eating, particularly in social settings,” said Dr. Breslow. “However, calories in liquids may fail to trigger the physiologic mechanism that produces the feeling of fullness. It is possible that, in the long-term, frequent drinkers may compensate for energy derived from alcohol by eating less, but even infrequent alcohol-related overeating could lead to weight gain over time.”

Dr. Breslow cautioned against inferring cause-and-effect relationships regarding drinking frequency, quantity and body weight from this study. The study points to the need for prospectively designed studies to determine whether certain drinking patterns constitute risk factors for overweight and obesity.

The National Institute on Alcohol Abuse and Alcoholism, a component of the National Institutes of Health, U.S. Department of Health and Human Services, conducts and supports approximately 90 percent of the U.S. research on the causes, consequences, prevention, and treatment of alcohol abuse, alcoholism, and alcohol problems and disseminates research findings to general, professional, and academic audiences. Additional alcohol research information and publications are available at www.niaaa.nih.gov.

Source: National Institute on Alcohol Abuse and Alcoholism (NIAAA) Press Release. Tuesday, February 15, 2005. <http://www.niaaa.nih.gov/>

FDA, Alliance Work to Improve Health Information Access

Did you know that among all American with high blood pressure, Mexican-Americans are less likely than whites or African-Americans to know that they have it? Or that one-third of Hispanics with diabetes are undiagnosed?

Those statistics, prepared by the US Department of Health and Human Services Office of Minority Health, highlight the need to reinforce the commitment to improve consumer access to health information, especially to Hispanic communities, according to Dr. Lester M. Crawford, Acting FDA Commissioner.

Crawford and Jane Delgado, Ph.D., president and CEO of the National Alliance for Hispanic Health, are working together to provide timely, accurate, and scientifically based health information to Hispanics to help them take active steps to prevent disease and stay healthy.

As part of that effort, the FDA and the Alliance promoted the National Hispanic Heritage Month, Sept. 15 through Oct. 15, 2004. The outreach effort promoted two sources of consumer health information:

The FDA web site at www.fda.gov/oc/Spanish/ provides a wealth of consumer-friendly health information in Spanish and English on topics ranging from medicine and children to mammograms and breast cancer.

Su Familia, a toll-free National Hispanic Family Health Helpline, offers free, reliable and confidential health information in Spanish and English. The Helpline – (866) SU-FAMILIA is a program of the National Alliance for Hispanic Health and is made possible by the support from HHS.

Source: FDA Consumer; 38(5); September-October 2004; p. 7.

Lowdown on “Low-Carb” Labeling

Whether it’s carb-smart, carb-wise, carb-fit, or just plain low-carb, no federal regulation defines these marketing terms used to sell the flood of new reduced-carbohydrate food products. In the absence of an official definition, “low-carb” can be interpreted in many ways. It may mean that the product has fewer carbohydrates than a comparable product or it may mean that the product has fewer carbohydrates than a comparable product or it may mean that it contains a specific amount of carbohydrates per serving. Even the labels of some foods that are naturally low in carbohydrates may be using label terms that call out to carb-conscious consumers.

To confuse matters further, some food labels refer to “net carbs” or “effective carbs.” Again, no government or generally agreed-upon definition exists for this terminology but the terminology is typically used as the result when fiber and certain sweeteners, such as sugar alcohols and glycerin, are subtracted from the total carbohydrate content.

How do they do it? Reducing the Carbs in Traditional Foods

A variety of foods have been modified to meet the growing demands of low-carb consumers including bread, pasta, cereals, cookies, cakes, juice, soft drinks, and candy. The manufacturers of these traditionally carbohydrate-rich foods are using a variety of methods to reduce the net carbohydrate content per serving. The methods include:

Increasing the amount of animal or vegetable protein, such as replacing wheat or corn flour with soy flour. Examples include soy-based chips, pasta, and breads.

Increasing the amount of fiber. Examples include adding fiber, such as cellulose, to candy products, cereals, bread, and pasta.

Using sugar substitutes or sugar alcohols in place of traditional sweeteners. Examples include soft drinks, fruit drinks, baked goods, and frozen desserts.

Using smaller portions. Examples include baked goods, such as breads.

A word of caution: When food manufacturers make lower-carbohydrate products by replacing some of the sugar with sugar alcohols, (sorbitol, manitol, and maltitol are examples), a laxative effect may result. When these sugar alcohols are consumed in very large quantities they can cause cramping, diarrhea, or other digestive discomfort in sensitive individuals. Thus, foods that are likely to be eaten in amounts that could produce such effects must bear the statement, “Excess consumption may have a laxative effect.”

Source: Food Insight; November/December 2004; pp. 3, 5.

Panel Reports Adverse Event Monitoring Program For Dietary Supplements

The Life Sciences Research Office (LSRO) has completed a new report entitled, “Recommendations for Adverse Event Monitoring Programs for Dietary Supplements.” Currently, there is no federal guidance or mandate for the collection, documentation, or evaluation of consumer health complaints associated with the use of dietary supplements. The LSRO convened an ad-hoc independent expert advisory panel to compare and review individual data records associated with the use of dietary supplements and evaluation of their usefulness for generating signals of potential product problems

Additionally, the panel will also review post-marketing surveillance programs described in scientific literature and recommend the design and implementation of an effective system for monitoring and responding to health complaints associated with the use of dietary supplements. The members of the ad-hoc expert panel included Nutrition Today editorial Advisory Board Member Janet Greger, PhD.

Source: Nutrition Today; 39 (5); September/October 2004; p. 192-193.

New Dietary Guidelines Will Help Americans Make Better Food Choices, Live Healthier Lives

The Department of Health and Human Services (HHS) Secretary Tommy G. Thompson and Agriculture Secretary Ann M. Veneman recently announced the release of the Dietary Guidelines for Americans 2005, the federal government's science-based advice to promote health and reduce risk of chronic diseases through nutrition and physical activity.

The sixth edition of Dietary Guidelines for Americans places stronger emphasis on reducing calorie consumption and increasing physical activity. This joint project of the HHS and Department of Agriculture is the latest of the five-year reviews required by federal law. It is the basis of federal food programs and nutrition education programs and supports the nutrition and physical fitness pillars of President Bush's Healthier US Initiative.

"These new Dietary Guidelines represent our best science-based advice to help Americans live healthier and longer lives," Secretary Thompson said. "The report gives action steps to reach achievable goals in weight control, stronger muscles and bones, and balanced nutrition to help prevent chronic diseases such as heart disease, diabetes and some cancers. Promoting good dietary habits is key to reducing the growing problems of obesity and physical inactivity, and to gaining the health benefits that come from a nutritionally balanced diet."

"The new Dietary Guidelines highlight the principle that Americans should keep their weight within healthful limits and engage in ample physical activity," said Secretary Veneman. "The process we used to develop these recommendations was more rigorous and more transparent than ever before. Taken together, the recommendations will help consumers make smart choices from every food group, get the most nutrition out of the calories consumed and find a balance between eating and physical activity."

Eating a healthy balance of nutritious foods continues as a central point in the Dietary Guidelines, but balancing nutrients is not enough for health. Total calories also count, especially as more Americans are gaining weight. Because almost two-thirds of Americans are overweight or obese, and more than half get too little physical activity, the 2005 Dietary Guidelines place a stronger emphasis on calorie control and physical activity.

The Dietary Guidelines, based on the latest scientific information including medical knowledge, provides authoritative advice for people two years and older about how proper dietary habits can promote health and reduce risk for major chronic diseases. The 2005 Dietary Guidelines were prepared in three stages. In the first, a 13-member Dietary Guidelines Advisory Committee prepared a report based on the best available science. In the second stage, government scientists and officials developed the Dietary Guidelines after reviewing the advisory committee's report and agency and public comments. In the

third stage, experts worked to translate the Dietary Guidelines into meaningful messages for the public and educators.

The report identifies 41 key recommendations, of which 23 are for the general public and 18 for special populations. They are grouped into nine general topics:

- * Adequate Nutrients Within Calorie Needs
- * Weight Management
- * Physical Activity
- * Food Groups to Encourage
- * Fats
- * Carbohydrates
- * Sodium and Potassium
- * Alcoholic Beverages
- * Food Safety

The Dietary Guidelines provide health education experts, such as doctors and nutritionists, with a compilation of the latest science-based recommendations. Consumer-friendly materials such as brochures and Web sites will assist the general public in understanding the scientific language of the 2005 Dietary Guidelines and the key points that they can apply in their lives. To highlight those points, a consumer-oriented brochure accompanies the 2005 Dietary Guidelines. USDA's Food Guidance System also will serve as a tool to educate consumers on the Dietary Guidelines for Americans. The Food Guidance System, currently called the Food Guide Pyramid, is undergoing revision and will be released in the spring of 2005.

The 2005 Dietary Guidelines and consumer brochure are available at www.healthierus.gov/dietaryguidelines.

Following is a list of key recommendations from the Dietary Guidelines.

- Adequate Nutrients Within Calorie Needs
- Weight Management
- Physical Activity
- Food Groups to Encourage
- Fats
- Carbohydrates
- Sodium and Potassium
- Alcoholic Beverages
- Food Safety

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Source: HHS Press Release; January 12, 2005.

Leptin May Help Thin Women

A new study has found that leptin may play a role in women's reproductive and neuroendocrine health and suggests a future for the hormone in treating several conditions, including exercise-induced bone loss, eating disorders, and some cases of infertility (1). The study published in the *New England Journal of Medicine*, examined 3 groups of women; the largest group, extremely thin women who are dealing with problems of infertility; the second group, competitive athletes and dancers whose thin frames put them at risk for developing osteoporosis and suffering bone fractures; and the smallest, but most extreme, group of women who are battling eating disorders, such as anorexia nervosa. The common thread among all the women is that their conditions are characterized by extremely low levels of body fat.

Leptin is probably best recognized as an appetite and weight regulation hormone, but leptin also functions to signal the brain and other organs about dangerous states of low energy availability. The researchers think that leptin may regulate several key physiological functions that depend on adequate energy balance, including reproduction, metabolism, and bone formation.

Within 3 months, the women given leptin therapy showed an increase in reproductive hormones, and women's menstrual periods and normal ovarian functioning were restored. In addition, significant improvements of serum markers (reflecting bone density) were found among the treated women. The control group showed no change in their condition.

These findings not only are important for women dealing with disease states related to negative energy balance but also have important implications for normal reproductive development, suggesting that leptin may be the impetus necessary for the onset of puberty in adolescent girls.

Source: *Nutrition Today*; 39 (5); September/October 2004; p. 191.

Reference:

Welt CK, Chan JL, Bullen J, et al. Recombinant human leptin in women with hypothalamic amenorrhea. *N Engl J Med*; 2004; 351:987-997.

Resources:

DVDs On Obesity Prevention

Two new DVDs – one for parents and kids, the other for clinicians – can help educate about obesity prevention.

“Max’s Magical Delivery: Fit for Kids” and “Childhood Obesity: Combating the Epidemic” from the US Department of Health and Human Services and the Agency for Healthcare Research and Quality (AHRQ), were developed in partnership with the Discovery Networks, US.

The kids’ DVD lasts 30 minutes and encourages 5- to 9-year-olds to eat five fruits and vegetables every day and find fun ways to be physically active. A parents’ section presents small, achievable steps to encourage healthy habits.

The clinicians’ DVD was produced with Discovery health Channel for pediatricians and others to help assess and treat childhood overweight and obesity. The 55-minute program includes a panel discussion of experts and highlights tools such as body mass index measurement and tips for initiating and sustaining behavior change in children. Free, continuing medical education credits are available. Visit www.discoveryhealthcme.com for more information.

To order a copy of each DVD at no charge, call the AHRQ clearinghouse at (800) 358-9295 or visit www.ahrq.gov/child/. Preview the DVDs at www.ahrq.gov/child/dvdobesity.htm.

Source: AAP News; 25(6); December 2004; pg. 316.

Updated AAP Brochures for Teens

Eating Disorders: Anorexia and Bulimia (R-HE50192) covers some of the possible causes, symptoms and treatment options. The list of resources has been updated; binge eating is discussed; and the brochure also mentions that boys can be anorexic or bulimic.

Source: AAP News; 25 (5); November 2004; p. 256.

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