



EDITOR'S NOTES:

Nutrition Research: Focus on Consensus, Not Controversy

You must have heard the buzz. The study was a hot item for evening news programs and online newspapers. A recent study from the Ohio State University found an increased risk for prostate cancer in men with high blood levels of omega-3 fats from seafood. The researchers concluded that people should consider the potential risks before taking omega-3 supplements. (*Journal of the National Cancer Institute* 2013;July 10th.)

You have read numerous studies in past and present issues of the *Nutrition Alert* on the health benefits of the omega-3s, especially DHA and EPA. These fats potentially lower risk for cardiovascular disease, cancer, hypertension, vision loss, dementia, inflammation, depression, and arthritis and are critical for perinatal health and cognitive function throughout life. How could something so good for you be so bad?

The answer is - This is a perfect example of research and reporting gone wrong. The study was based on observational data designed to determine the effects of vitamin E and/or selenium supplementation on prostate cancer. Omega-3 fats were not part of the original trial design, subjects were not given omega-3s as part of the study, the study was not designed to specifically look at how omega-3s impact prostate cancer risk, and information was not collected on the men's diets, so it is unclear whether the omega-3s in the blood came from diet or supplements. If the findings were true, then prostate cancer would be rampant in any country where the population regularly eats seafood and, conversely, low consumption would be protective, which is clearly not the case.

The Ohio State study found elevated omega-3 levels in men at high-risk of prostate cancer. In addition, blood levels of these omega-3s reflect very recent intake and are considered a poor biomarker of long-term omega-3 intake. A single serving of salmon temporarily raises blood levels 100%. The study could simply have been measuring a biomarker reflecting recent intake of fish or fish oil supplements in high-risk patients who had been told by their health-care providers or friends to increase EPA and DHA intake. While the researchers were quick to blame dietary supplements, there is no evidence that anybody in this study even took fish oil supplements.

It's amazing this study ever made it into a scientific journal, but it's a newsroom's dream story. I would venture to guess that any diet study that makes it into the evening news is suspect. Research on nutrition and chronic disease is difficult and complex. In all cases, it is important to look at the weight of the evidence, each study being a thread in a tapestry. What does the tapestry say, not the individual threads? Observational data, such as in the Ohio State study, provides at best an association, not a cause and effect, between dietary behaviors and disease. The tapestry of research regarding omega-3 fats and prostate cancer is mixed, with many studies showing these fats protect against, not increase, risk. This study was not only poorly designed with suspicious conclusions, but it is only one tiny thread. Yet, news stations irresponsibly feed on controversy, leaving their viewership once again confused and discouraged. Responsible nutrition reporting that benefits the public would focus on consensus. The bottom line: The American Heart Association, the World Health Organization, the US Institute of Medicine's Food Nutrition Board, and the 2010 Dietary Guidelines all tell us to get more EPA and DHA in our diets. For now, stick with that advice and ignore scary nutrition headlines.

Elizabeth Somer, M.A.,R.D.



Elizabeth Somer

Breasts Love Fatty Fish

The more fatty fish a woman eats, the lower her risk for breast cancer, according to a study from Zhejiang University in China. In this meta-analysis of 21 studies totaling more than 800,000 women and 20,000 cases of breast cancer over the course of up to 20 years, the researchers found that consumption of the omega-3s found in fatty fish, such as salmon, tuna, or sardines, lowered breast cancer risk. Women with a high intake of the omega-3s, EPA and DHA, had a 14% reduction in breast cancer risk. For every 0.1 gram-a-day increase in the intake of these polyunsaturated fats, there was a 5% lower risk of developing breast cancer.

IN PERSPECTIVE: *Other confounding factors could influence the results of this study, including exercise habits or other dietary habits associated with greater omega-3 intake. However, including at least two servings a week of fatty fish in the diet and/or taking supplements of these fats are important habits to lower disease risk, according to this study and a wealth of other research.*

Zheng J, Hu X, Zhao Y, et al: Intake of fish and marine n-3 polyunsaturated fatty acids and risk of breast cancer. *British Medical Journal* 2013;346:f3706.

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The Brainiac Nutrient

What you eat has a lot to do with how well you think, both today and down the road, according to a growing body of research. Researchers at the University of Dundee, UK randomly assigned infants to receive regular formulas or formulas fortified with the omega-3 fat DHA and arachidonic acid for four months. Cognitive tests performed at age 6-years-old showed the infants who had received the fortified formula earlier in life were significantly faster in processing information and making correct responses. The researchers conclude that "...a dietary supply of [omega-3 DHA] in the first months of life may have long-term consequences for development of some cognitive functions in later childhood."

Similar findings were noted in a study from the University of Kansas where 81 children who had participated in a study of omega-3 DHA supplementation as infants were retested on cognitive function at 18 months and monitored every six months until age 6-years-old. Results showed that scores on rule learning and inhibition tasks as part of vocabulary and intelligence tests were significantly higher from ages 3 to 5-years in the children who had received the omega-3 DHA supplements during infancy.

In a third study from the University of Pittsburgh that compared omega-3 DHA concentrations in breastmilk to cognitive function in offspring found that high DHA content in breastmilk made "a significant contribution to math scores" in children later in life.

Willatts P, Forsyth S, Agostoni C, et al: Effects of long-chain PUFA supplementation in infant formula on cognitive function in later childhood. American Journal of Clinical Nutrition 2013; June 19th.

Colombo J, Carlson S, Cheadam C, et al: Long-term effects of LCPUFA supplementation on childhood cognitive outcomes. American Journal of Clinical Nutrition 2013; June 26th.

Lassek W, Gaulin S: Maternal milk DHA content predicts cognitive performance in a sample of 28 nations. Maternal and Child Nutrition 2013; June 25th.

More Weighty News

Obesity rates are up, with more than one in every three Americans being obese and almost seven out of 10 overweight, according to the Centers for Disease Control and Prevention in Atlanta. The health costs are enormous.

- A 30-year study from the National Heart, Lung, and Blood Institute in Bethesda reports that the risk for heart disease and the degree of disease rises dramatically the longer a person remains overweight.
- A study from Brigham and Women's Hospital in Boston found that people with excessive belly fat have more than a 43% greater risk for heart disease and cancer compared to people who pack on the pounds in their thighs or hips.
- Overweight teenagers had greater hearing loss across all frequencies and were twice as likely to have one-sided, low-frequency hearing loss compared to healthy-weight peers in a study from Columbia University College of Physicians and Surgeons in NYC.
- According to the National Institute of Child Health and Human Development in Bethesda, it is no surprise why America's teens are getting fat: only half of US teens get any physical activity on five or more days a week and fewer than one in three eat fruits and vegetables.

Reis J, Loria C, Lewis C, et al: Association between duration of overall and abdominal obesity beginning in young adulthood and coronary artery calcification in middle age. Journal of the American Medical Association 2013;310:280-288.

Britton K, Massaro J, Murabito J, et al: Body fat distribution, incident cardiovascular disease, cancer, and all-cause mortality. Journal of the American College of Cardiology 2013; July 1st.

Lalwani A, Katz K, Liu Y, et al: Obesity is associated with sensorineural hearing loss in adolescents. Laryngoscope 2013; June 11th.

Iannotti R, Wang J: Patterns of physical activity, sedentary behavior, and diet in US adolescents. Journal of Adolescent Health 2013; 53:280-286.

Give a Woman a Fish

It's never too late to improve heart health, according to a study from Harvard School of Public Health. In monitoring fish consumption patterns in 25,797 men and 53,772 women, the researchers found that if women changed their eating habits in mid- to later life so that they consumed at least two servings of seafood a week, their risk for developing heart disease dropped by 13%. Later life changes in fish consumption did not affect men's risk. Apparently there is something to that famous quote by Maimonides, "Give a [wo]man a fish and you feed [her] for a day; teach a [wo]man to fish and you feed [her] for a lifetime."

Lajous M, Willett W, Robins J, et al: Changes in fish consumption in midlife and the risk of coronary heart disease in men and women. American Journal of Epidemiology 2013; June 27th.

Fish Oil Supplements Reduce Diabetes Risk

People who take fish oil supplements rich in the omega-3 fats, EPA and DHA, show a reduced risk for factors associated with the development of diabetes, according to researchers at Harvard School of Public Health. In this meta-analysis of 14 clinical trials, 682 people took fish oil supplements and 641 people were given placebos. In those taking supplements, levels rose for a hormone called adiponectin that is linked to blood sugar regulation, anti-inflammation, and insulin sensitivity. Higher levels of this hormone in the bloodstream are associated with a lower heart disease and diabetes risk.

Wu J, Cabill L, Mozaffarian D: Effect of fish oil on circulating adiponectin. Journal of Clinical Endocrinology & Metabolism 2013; 98:2451.



They Haven't a Clue

Most people who eat at fast-food restaurants are in serious denial about how many calories they consume, according to a study from Harvard Medical School. In this study, researchers surveyed 1,877 adults, 1,178 teenagers, and 330 school-aged children who ate at fast-food establishments, asking them to estimate the calories they consumed at their meals. The average calorie intake was 836 calories, 756 calories, and 733 calories, respectively. But, that's not what the people estimated. "Teens underestimate the number of calories in their meals by as much as 34%, parents of school-age children by as much as 23%, and adults by as much as 20%," says the lead researcher, Dr. Jason Block.

US Hispanic children watch more than 12 TV commercials for food every day and half of those are for fast food, cereal, or candy, which contributes to their food choices and high rates of obesity, according to a study from Yale University.

IN PERSPECTIVE: *These results help explain why the more often a person eats at a fast-food restaurant, the more likely that person is to be overweight and at higher risk for diseases, ranging from heart disease to diabetes. It is interesting that in all cases people underestimated their calorie intake, instead of overestimating.*

Block J, Condon S, Kleinman K, et al: Consumers' estimation of calorie content of fast food restaurants. British Medical Journal 346:f2907.

Fleming-Millicci F, Harris J, Sarda V, et al: Amount of Hispanic youth exposure to food and beverage advertising on Spanish- and English-language television. Journal of the American Medical Association Pediatrics 2013;June 17:1-6.

HOT TOPICS: Increasing intake of vitamin B12 and folic acid might help reduce bone fracture risk by lowering homocysteine levels, state researchers at UV University Medical Center in Amsterdam. *Current Osteoporosis Reports 2013;July 20th.*

Overweight people have high levels of fat in their liver, muscles, and bone marrow, which weakens bones and increases the risk for osteoporosis, state researchers at Massachusetts General Hospital in Boston. *Radiology 2013;July 16th.*

US Dietary Guidelines: Not Good Enough

Follow the US Dietary Guidelines and you could end up eating an awful diet that promotes disease and obesity. That's what researchers at USDA and Penn State found when they put those guidelines to the test. Diets were planned using the recommended quantities from each food group, but without the added criteria of making "nutrient-dense" choices within each group; for example, choosing potatoes instead of broccoli or a whole grain scone instead of a slice of 100% whole wheat bread. Results showed calorie, total fat, saturated fat, and salt exceeded limits in all diets, often by substantial amounts. For example, calories were up to 30% too high.

IN PERSPECTIVE: *Most people don't choose diets that even meet the criteria of the Dietary Guidelines, but schools and other institutions use this guideline when planning meals. It would appear that our nation's dietary advice should come from an educated group that does not have strong ties to meat, dairy, and*

other special interest groups.

Britten P, Cleveland L, Koegel K, et al: Impact of typical rather than nutrient-dense food choices in the US Department of Agriculture food patterns. Journal of the Academy of Nutrition and Dietetics 2012;112:1560-1569.

Hiza H, Casavale K, Guenther P, et al: Diet quality of Americans differs by age, sex, race/ethnicity, income, and education level. Journal of the Academy of Nutrition and Dietetics 2013;113:297-306.

THE US DIETARY GUIDELINES IN A NUTSHELL

1. Balance Calories

- Enjoy your food, but eat less.
- Avoid oversized portions

2. Foods to Increase

- Make half your plate fruits and vegetables
- Switch to fat-free and low-fat milk

3. Foods to Avoid

- Compare sodium in foods, like soups, breads, and packaged meals - and choose the foods with lower numbers
- Drink water instead of sugary drinks

Obesity Starts in the Gut

Keeping your gut healthy could help stave off weight gain, according to an accumulating body of research, including one from the Catholic University of Louvain in Brussels. The researchers present evidence that gut microbes influence gut permeability and contribute to "metabolic endotoxemia" that triggers metabolic inflammation and insulin resistance. Maintaining a healthy environment in the gut by consuming a healthy diet and a mix of beneficial probiotics and prebiotics, such as fructo-oligosaccharides, boosts the immune response and helps prevent metabolic endotoxemia.

IN PERSPECTIVE: *Fructo-oligosaccharides are low-calorie, non-digestible carbohydrates found in chicory, onions, asparagus, wheat, tomatoes and other*

fruits, vegetables and grains. They are prebiotics that promote the growth and balance of beneficial bacteria in the digestive track. FOS also improve food taste and texture while aiding immunity and bone health.

Geurts L, Neyrinck A, Delzenne N, et al: Gut microbiota controls adipose tissue expansion, gut barrier and glucose metabolism. Beneficial Microbes 2013;Jul 25:1-15.

HOT TOPIC: The USDA's school lunch standards have contributed to this nation's growing child obesity epidemic, since schools where the nutritional guidelines exceed those of the USDA's show a significant reduction in obesity rates among their students, according to a study from the University of Illinois at Chicago. *Journal of the American Medical Association Pediatrics 2013;April 8th: 1-8.*



Vitamin D Lowers Blood Pressure

Black Americans who supplement with vitamin D are at lower risk for high blood pressure, according to a study from Brigham and Women's Hospital in Boston. In this study, 283 Blacks were randomly assigned to take daily either placebos or one to three doses of vitamin D (1,000 IUs, 2,000 IUs, or 4,000 IUs). After three months, results showed that those people taking 1,000 IUs of vitamin D a day showed systolic blood pressure drops of 0.7mmHg. Those taking 2,000IUs showed a 3.4mmHg drop and those taking 4,000IUs had a 4.0mmHg decrease. Those participants taking placebos had a 1.7mmHg rise in systolic blood pressure. No changes in diastolic blood pressure were noted.

IN PERSPECTIVE: *The proportion of Americans reporting they have hypertension rose almost 10% from 2005 to 2009, according to the Centers for Disease Control and Prevention (CDC), with almost three out of every 10 Americans having hypertension today. Elevated blood pressure is the leading cause of stroke, heart attack, heart failure, kidney failure, and premature cardiovascular death. It appears from this study that vitamin D supplementation should be one factor in the prevention and treatment of this disorder, along with reduced calories and sodium, and increased fruits, vegetables, whole grains, and daily aerobic exercise.*

Forman J, Scott J, Ng K, et al: *Effect of vitamin D supplementation on blood pressure in blacks. Hypertension* 2013;61:779-785.

CDC report in *Morbidity and Mortality Weekly Report*. 2013;April 5th.

[Http://newsroom.heart.org/news/alternative-therapies-may-help-lower-blood-pressure](http://newsroom.heart.org/news/alternative-therapies-may-help-lower-blood-pressure)

HOTTOPIC: Supplementing the diet of rats with the Amazonian fruit, camu camu, lowered body weight, glucose, cholesterol, triglycerides, and LDL-cholesterol in a study from the Federal University of the Amazonas in Brasil. *Anais da Academia Brasileira de Ciencias* 2013;85:355-363.

The Most Important Meal of the Day

Are you one of the 25% of Americans that skips breakfast? If so, big mistake. According to a study from Harvard School of Public Health, that one little diet faux pax could cost you your life. Breakfast habits were assessed in a group of 26,902 men between the ages of 45- and 82 years. During the following 16 years, 1,527 cases of heart disease were diagnosed. Results showed that men who skipped breakfast were 27% more likely to suffer a heart attack or develop heart disease compared to those who ate breakfast. Breakfast skippers were 15% more apt to gain weight, 21% more apt to develop diabetes, and to have high blood pressure and cholesterol levels. The study also found a 55% increased risk for heart disease in men who indulged in late-night snacking.

Cabill L, Chiuve S, Mekary R, et al: *Prospective study of breakfast eating and incident coronary heart disease in a cohort of male US health professionals. Circulation* 2013;128:337-343.

The Healthy Heart Pill

You can't get to heart health by diet and exercise alone, according to a study from University Sapienza in Rome, Italy. For six months, 40 men and 40 women followed a balanced diet and physical activity program, with half randomly assigned to take a supplement containing the omega-3s, policosanol, resveratrol, L-carnitine, co-enzyme Q10, and vitamins B6 and B12. Results showed that both groups showed reductions in total cholesterol, but only the supplemented group showed additional lowering of triglycerides and LDL-cholesterol and increases in HDL-cholesterol. Thus, it would appear from this study that the combination of a healthy diet, daily exercise, and supplementation is the best combination for lowering heart disease risk.

Lombardo F, Lunghi R, Pallotti F, et al: *Effects of a dietary supplement on cholesterol in subjects with moderate hypercholesterolemia. Le Clinica Terapeutica* 2013;164:e147-e150.

The Benefits of Beans

When we know how good beans are for us, it's surprising we eat so few. Daily consumption is less than 5 grams a day in some regions, according to a review of the research from the University of Oran, Algeria. Most legumes, from dried beans and peas to lentils and peanuts, are rich sources of protein and fiber, and contain phytochemicals that are enzyme inhibitors, phytoestrogens, saponins and phenolic compounds that lower the risk for numerous diseases, from heart disease and diabetes to high blood pressure and inflammation, and possibly certain cancers.

Bouchenak M, Lamri-Senbadji M: *Nutritional quality of legumes and their role in cardiometabolic risk prevention. Journal of Medicinal Foods* 2013;16:185-198.

BEAN IT UP!

Use...

1. black beans in dishes, such as Cuban rice and beans, soups, tacos, stews, and casseroles.
2. cannellini or white kidney beans in Italian side dishes, salads, soups, and stews.
3. chickpeas (garbanzo beans) in hummus dips, couscous, and stews.
4. pinto beans in Mexican rice dishes, refried beans, stews and soups.
5. tofu for salad dressings, stir fries, side dishes, in scrambled eggs, and smoothies.
6. mixed-beans in salads, chili, soups, and stews.
7. lentils and split peas in soups and stews.

HOTTOPIC: A topical application of resveratrol, green tea polyphenols, and caffeine reduced facial redness in all subjects in a study from St. Luke's-Roosevelt Hospital Center in New York. *Journal of Drugs in Dermatology* 2013;12:770-774.



Red Meat Will Kill Ya'

It seems like all the research is out to get the All-American steak and potatoes. A study from the American Cancer Society found that people who eat red and processed meats before being diagnosed with colon cancer are the ones most likely to die during the next eight years. Of the 184,000 healthy people who did not have cancer at the start of the study and who were periodically asked about what they ate, 2,315 of them developed colorectal cancer during the subsequent 17 years and 966 of them died within 18 years. Almost 43% of those people who ate 10 servings of red or processed meat a week at the start of the study died during the follow-up period compared to 37% of the 576 people who ate about two servings a week.

In a study of about 149,000 men and women who were followed for 12 to 16 years, researchers at Harvard School of Public Health found that those who ate red meat had a 48% higher risk of developing type 2 diabetes, while eating less red meat lowered risk by 14%.

McCullough M, Gapstur S, Shab R, et al: Association between red and processed meat intake and mortality among colorectal cancer survivors. Journal of Clinical Oncology 2013; July 1st.

Pan A, Sun Q, Bernstein A, et al: Changes in red meat consumption and subsequent risk of type 2 diabetes mellitus. Journal of the American Medical Association Internal Medicine 2013; 173:1328-1335.

HOT TOPIC: A Kent State University study found that cell phone use in college students is associated with a reduction in physical activity and fitness levels and an increase in body fat. *International Journal of Behavioral Nutrition and Physical Activity 2013; 10: 79.*

Vegetarians Low in Vitamin B12

A literature review by researchers at East Carolina University in Greenville, NC found that many vegetarians are low in vitamin B12. Rates were calculated using 18 articles that reported vitamin B12 deficiencies. Results showed that 62% of pregnant vegetarian women, between 25% and 86% of children, 21% and 41% of adolescents, and up to 90% of seniors are deficient in this vitamin. The highest rates were observed in vegans and among people who had adhered to a vegetarian diet since birth. The researchers conclude that, "...vegetarians develop B12 depletion or deficiency regardless of demographic characteristics, place of residency, age, or type of vegetarian diet." They recommend supplements to ensure optimal intake

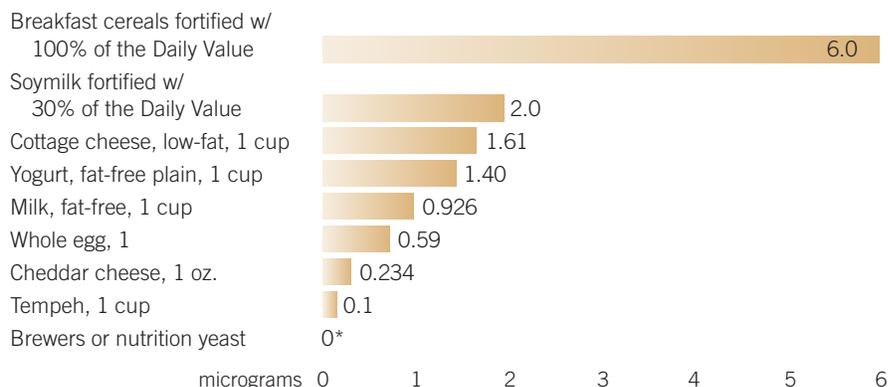
of this vitamin.

Researchers from The United Graduate School of Agricultural Sciences of Tottori University and the Department of Nutrition of the Junior College of Tokyo in Japan reviewed nearly 100 scientific studies analyzing vitamin B12 and found that vegetarian sources of the vitamin, such as blue-green algae and certain edible shellfish, contain an inactive form of vitamin B12 that cannot be used by the body.

Paulak R, Parrott S, Raj S, et al: How prevalent is vitamin B12 deficiency among vegetarians? Nutrition Reviews 2013; 71:110-117.

Watanabe F, Yabuta Y, Tanioka Y, et al: Biologically active vitamin B12 compounds in foods for preventing deficiency among vegetarians and elderly subjects. Journal of Agriculture and Food Chemistry 2013; 61:6769-6775.

WHERE CAN VEGETARIANS GET VITAMIN B12?



*Vitamin B12 is made only by bacteria, not yeast. Unless a yeast product is fortified, it will not be a source of vitamin B12.

It Pays to Go Vegetarian

Vegetarians live longer and healthier compared to their meat-eating friends, according to a study from Loma Linda University in California. Dietary habits and mortality rates were compared in a group of 73,308 people followed for up to seven years. Fewer people who were vegetarian died of any causes during that time period compared to the meat eaters. Vegans had a 15% lower risk, lacto-ovo

vegetarians had a 9% lower risk, pescovegetarians had a 19% lower risk, and semi-vegetarians had an 8% lower risk of dying during the follow-up. Vegetarian diets were especially beneficial in lowering the risk for heart disease, renal mortality, and endocrine mortality. Men appear to benefit even more than do women by following vegetarian diets.

IN PERSPECTIVE: *Keep in mind*

the vegetarians also were more highly educated, less likely to smoke, exercised more, and were healthier in general compared to the meat eaters, so it may have been the cluster of habits that lead to longer and healthier lives, not just the avoidance of meat.

Orlich M, Singh P, Sabate J, et al: Vegetarian dietary patterns and mortality in Adventist Health Study 2. Journal of the American Medical Association 2013; 173:1230-1238.



IN THE NEWS

- Taking high doses of iodine and kelp supplements can lead to thyroid dysfunction, warns the American Thyroid Association in a news release.
- For the third year in a row, Minneapolis ranks #1 as the fittest city in America, according to the American College of Sports Medicine's annual rankings, which takes into account city policies, community resources, health care access, local prevalence of chronic disease, and preventive health behaviors in 50 metro areas across the country. Washington, D.C. ranked #2, Portland, Oregon ranked #3, San Francisco ranked #4, and Denver was #5. Oklahoma City was dead last.
- According to a CDC report, people who live in the South, especially Mississippi, have the lowest healthy life expectancy at age 65 years, while the highest healthy life expectancy is in Hawaii.
- You can reduce your risk for having a stroke by up to 60% if you follow the American Heart Association's Life's Simple 7 Health Factors: 1) be active, 2) control cholesterol, 3) eat a healthy diet, 4) manage blood pressure, 5) maintain a healthy weight, 6) control blood sugar, and 7) don't smoke.
- Researchers at the University of California, Los Angeles report that people who stay vigorously active throughout life have significantly more gray matter in parts of the brain critical for memory and thinking and therefore, a lower risk for dementia as they age.

HOT TOPIC: Seniors consuming the traditional Mediterranean diet have longer telomeres on their DNA, which is a sign of increased longevity and improved health status, according to a study from the Second University of Naples, Italy, while a study from Radboud University in the Netherlands found this diet also protects against dementia. *PLoS One* 2013;8:e62781/
American Journal of Clinical Nutrition 2013;97:1411.

The Anti-Aging Vitamin

Vitamin D might be the new anti-aging vitamin, according to several studies, including ones from VU University Medical Center in Amsterdam and the University of Washington in Seattle. In the first study of more than 1,300 seniors who were followed for six years, results showed that those people with the lowest blood vitamin D levels were 70% more likely to have at least one physical limitation, such as difficulty dressing or climbing stairs, and were more likely to develop additional physical limitations over time compared to those with high vitamin D status. They also were more likely to be admitted to nursing homes and face higher risks of mortality.

In the second study of 6,436 healthy individuals followed for more than eight years, those with low vitamin D status were at higher risk of developing heart disease down the road. Whites and Chinese individuals were most affected by a vitamin D deficiency with White people showing a 26% increased risk for every 10ng/mL drop in vitamin D levels and Chinese people showing a 67% increased risk for the same drop. Blacks and Hispanics did not show any affect. The researchers conclude that, "...this study brings up some interesting ideas about vitamin D and heart disease, and how it may differ in different populations."

A study from the University of Califor-

Lycopene and Prostates

Prostates love lycopene, at least according to a review of studies from researchers at Sichuan University in China. In this meta-analysis of 17 studies, the researchers found that men who ate the most lycopene-rich foods were 19% less likely to develop prostate cancer compared to men who ate few of these foods, such as tomatoes, watermelon, and guava. High versus low serum lycopene levels was associated with a mild reduction in prostate cancer risk.

Chen J, Song Y, Zhang L: Lycopene/tomato consumption and risk of prostate cancer. Journal of Nutritional Science and Vitamins 2013;59:213-223.

nia, Davis found that menopausal women who supplemented with vitamin D (400 IUs/day) and calcium (1,000mg/day) had a 40% reduced risk for hip fractures compared to women who took placebos. The combination of hormone replacement therapy and supplements lowered fracture risk by 57%.

Sobl E, van Schoor N, de Jongh R, et al: Vitamin D status is associated with functional limitations and functional decline in older individuals. Journal of Clinical Endocrinology and Metabolism 2013;July 17th.

Robinson-Cohen C, Hoofnagle A, Ix J, et al: Racial differences in the association of serum 25-hydroxyvitamin D concentration with coronary heart disease events. Journal of the American Medical Association 2013;310:179-188.

Robbins J, Aragaki A, Crandall C, et al: Women's Health Initiative clinical trials: Interaction of calcium and vitamin D with hormone therapy. Menopause 2013;June 24th.

Ironing Out Pregnancy Problems

Women who take iron supplements during pregnancy have lower risks for anemia and low-birth-weight babies, according to a study from Harvard School of Public Health. In a review of 90 studies that included almost two million pregnant women, the researchers found that women who took iron supplements were at significantly lower risk for anemia. In contrast, anemia during the first two trimesters was associated with a higher risk for low-birth-weight infants and preterm births. For every 10 milligram increase in iron supplementation each day (up to 66 milligrams), there was a 12% lower risk of anemia, birth weight increased by 15 grams, and the risk of low-birth-weight fell by 3%.

Haider B, Olofin I, Wang M, et al: Anaemia, prenatal iron use, and risk of adverse pregnancy outcomes. British Medical Journal 2013; 346:f3443.

HOT TOPIC: Fertility in women might improve with supplements of folic acid; vitamins B6, C, D, and E; the minerals iron, selenium, and iodine; and the omega-3 fat DHA, according to a review of the research at Hamburg Medical Clinic in Germany. *Current Opinion in Obstetrics and Gynecology* 2013;25:173-180.



HOT TOPICS

1 Save your money and avoid evening primrose oil and borage oil, since a review of 27 studies by researchers at the University of Minnesota Medical School found no evidence that they are any better at improving symptoms of eczema than are placebos. *Cochrane Database System Review 2013;April 30:4: CD004416.*

2 Researchers at the University Medical Center Groningen, The Netherlands found that as urinary excretion of magnesium increased, risk for hypertension decreased. Urinary excretion of magnesium is a good indicator of dietary intake (as intake goes up so do excretion levels). *Hypertension 2013;61:1161-1167.*

3 Diets rich in the omega-3 fats, EPA and DHA, lowered blood pressure and reduced inflammation in a study on mice at the University of California, Davis. *Journal of Cardiovascular Pharmacology 2013;May 14th.*

4 Daily exercise and healthier eating might be the trick for successfully treating sleep apnea, according to a report from Oivauni Sleep Clinic in Kuopio, Finland. *Journal of the American Medical Association: Internal Medicine 2013;April 15:1-2/American Journal of Epidemiology 2013;April 14th.*

5 Optimal calcium intake lowers the risk for stroke, state researchers at the Karolinska Institute in Sweden. *American Journal of Clinical Nutrition 2013;97:951-957.*

6 Ginkgo biloba, an herb touted to improve memory and concentration, causes cancer in laboratory animals, according to a study from the National Toxicology Program of the National Institutes of Health. *National Toxicology Program 2013;March:(578):1-184.*

7 Data from 13 trials on almost 50,000 people who took an average of 2,000 micrograms of folic acid a day concludes there is no risk of cancer from these high intakes, as previously suspected. *Lancet 2013;381:1029.*

8 About 40% of third-trimester woman have low serum ferritin levels indicative of iron deficiency and 21% are anemic, according to a study from the Scientific Institute of Public Health in Brussels. *Journal of the Academy of Nutrition and Dietetics 2013;113:659-666.*

9 Supplemental folic acid reduced the risk for non-aggressive prostate cancer in a study from the Danish Cancer Society Research Center in Copenhagen. *Cancer Causes & Control 2013;24:1129-1135.*

10 Women and teenagers on the birth control pill could be low in several nutrients, such as folic acid, magnesium, selenium, zinc, and vitamins B2, B6, B12, C, and E, state researchers at Sapienza University in Rome, who recommend that dietary supplements should be considered as a first-like approach. *European Review for Medical and Pharmacological Sciences 2013;17:1804-1813.*

11 Branch-chain amino acid (BCAA) supplements reduced the incidence of liver cancer in hepatitis-C infected patients, in a study from Ogaki Municipal Hospital in Japan. *Hepatology Research 2013;March 29th.*

12 Supplements of citrulline, an amino acid found naturally in watermelon, might improve cognitive function, according to a study from Tohoku University in Japan. *Brain Research 2013;May 15th.*

13 Researchers at the Centers for Disease Control and Prevention found that kids are consuming about 68 fewer calories a day from sugary beverages, such as regular soda, fruit drinks, energy drinks, sports drinks, and sugar-sweetened coffees or teas, than they did ten years ago, with soda consumption down and sports and energy drinks up. *American Journal of Clinical Nutrition 2013;98:180-188.*

14 Adding flaxseed to children's diets did not improve their risk factors for heart disease and there was some suggestion that it lowered the good cholesterol, HDL, according to a study from The Hospital for Sick Children in Toronto, Canada. *Journal of the American Medical Association Pediatrics 2013;June 3;1-5.*

15 People on severe calorie-restricted diets that provide only about 500 calories a day are at increased risk for gallstones, according to a study from the Karolinska Institute in Sweden. *International Journal of Obesity 2013;May 22nd.*

16 The herbal supplement, NeuroAiD, touted to protect against stroke was no more effective than placebo in a study from the National University of Singapore. *Stroke 2013;44:2093-2100.*

17 People who drink two to three cups of coffee a day have a 45% lower risk and those who drink four or more cups a day have a 53% lower risk of suicide compared to those who drink less than one cup a day, state researchers at Harvard School of Public Health. *World Journal of Biological Psychiatry 2013;July 2nd.*

18 Drinking lots of water might help some people lose weight either because it increases metabolism or helps with satiety, according to a review of studies by researchers at Charite' University Medical Center in Berlin. *American Journal of Clinical Nutrition 2013;98:282-299.*

19 Mercury exposure in utero (as a result of the mother eating lots of seafood during pregnancy) does not appear to increase the risk for autism, according to a study from the University of Rochester School of Medicine, NY. *Epidemiology 2013;July 18th.*

20 Being cheerful, energetic, relaxed, and satisfied with life reduced the risk of heart attack, sudden cardiac death, and other serious heart problems by as much as 50% in a study of more than 7,400 people at Johns Hopkins University School of Medicine in Baltimore. *American Journal of Cardiology 2013;June 28th.*



Fat Heads

Is that cheeseburger really worth losing your mind over? A study from Wake Forest School of Medicine compared diets and chemical analysis of cerebral spinal fluid in 20 healthy seniors and 27 seniors with beginning Alzheimer's disease. They found that diets high in saturated fat rob the brain of an important chemical, called apolipoprotein E (ApoE) that helps clear amyloid beta proteins from the brain and protect against Alzheimer's disease. Left unchecked, those amyloids form plaques that interfere with neuron function and are characteristic of Alzheimer's. In their study, the researchers also found that people who ate diets high in saturated fat had higher levels of amyloid beta in their spinal fluid, while people on low-saturated fat diets had significantly lower levels of these harmful substances. Switching to a low-saturated-fat diet for even one month helped drop amyloid levels in cerebrospinal fluid.

Hanson A, Bayer-Carter J, Green P, et al: *Effect of apolipoprotein E genotype and diet on apolipoprotein E lipidation and amyloid peptides. Journal of the American Medical Association Neurology* 2013; June 17th.

NUTRITIONAL ALERT

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REVIEW

The Latest on Diet and Cognition

Can what we eat really make a difference in how smart we are and how well we remember? Absolutely! Today we know that up to 66% of brain aging is within our control and diet plays a huge part in that (social connectedness, challenging your brain, and staying physically fit are the other 3 brain-health factors). Eat and live right and at any age we can grow new brain cells, increase connections between cells, and even expand the memory center - the hippocampus.

The Greek Diet: People who eat the traditional Mediterranean diet think more clearly, have better memories, and are at lower risk for dementia, even Alzheimer's. Of course, we aren't talking about the gyro sandwiches at most Americanized restaurants. The traditional Mediterranean diet is packed with produce, nuts, olive oil, some seafood, and a little red wine.

Fish Food: The brain is more than 60% fat. That fat makes up cell membranes that surround each cell and the insulation sheath around neurons. The more fluid and flexible those membranes, the faster reaction times, the better memory, and sharper cognition. The most fluid fats are the omega-3s, with DHA accounting for up to 97% of the omega-3s in the brain. An accumulating body of research shows that children, adolescents, young adults, and seniors think better, perform better on tests, and react faster when their diets are optimal in DHA.

Antioxidant Arsenal: The brain consumes more oxygen than any other tissue and that oxygen cocktail is loaded with little oxygen fragments called free radicals or oxidants. Left unchecked, these oxidants pierce the delicate membranes of the 100 billion brain cells contributing to memory loss and dementia. Antioxidant-rich colorful produce protects against this damage and lowers the risk of memory loss. Aim for no less than 8 servings a day of the most colorful fruits and vegetables.

Breakfast Rules: People who take 5 minutes to eat a healthy breakfast perform better at school and work, think more clearly throughout the day, and are less mentally fatigued compared to their breakfast-skipping counterparts.

Coffee Smarts: Most people know they are more creative, quicker to react, and have more mental energy after a cup of coffee or tea. But, this is a double-edged sword; too much caffeine can interfere with clear thinking. A few studies also show that seniors who have a cup of coffee every day also think more clearly.

What NOT to Do: What is good and bad for the heart is good and bad for the brain. Saturated fats in red meat, fatty dairy products, and processed foods are associated with clogged thinking and mental fatigue. Cut back on beef, butter, sour cream, whole milk, cheese (the #1 source of saturated fat in the diet), and foods that contain palm oil or hydrogenated vegetable oils. In addition, being overweight in middle-age triples a person's risk for dementia later in life. According to a study from Northwestern University in Chicago, memory decreases for every one point increase in a middle-aged woman's body mass index (BMI), a measurement of body fat. The bottom line is that the brains of overweight people appear 16 years older and are considerably smaller than the brains of lean, fit people.

American Journal of Clinical Nutrition 2013;97:1411/Nutrients 2013;5:2777-2810/*Journal of Aging Research* 2013;2013:951786/*Frontiers in Human Neuroscience* 2013;7:97.

HOT TOPIC: Low folic acid status is a contributing factor to depression in Alzheimer's patients and researchers at Women's University in India report that administering this B vitamin by nasal spray is an effective way to get the vitamin into the brain. *Current Drug Discovery Technology* 2013; July 3rd.