



EDITOR'S NOTES:

Is 'The Balanced Diet' Optimal?

Anyone worth their weight in nutrition credentials knows that the first place to turn for all of your nutritional needs is wholesome, minimally processed food. Proponents of the "balanced diet" are mostly correct when they say that all nutrients are supplied in optimal amounts as long as a person consumes daily: 6 to 11 servings of whole grains, 8 to 10 servings of richly colored fresh fruits and vegetables (including at least one dark green leafy and one citrus), 2 to 3 nonfat, calcium-rich foods, and 2 to 3 servings of iron- and zinc-rich extra-lean meats or legumes. Then, twice a week everyone should include a serving of fatty fish, such as salmon, mackerel, or herring, to supply the needed omega-3s, EPA and DHA. The trouble is that while up to 90% of people think they are eating well, as few as 1% meet even the minimum standards for dietary adequacy. Even fewer are reaching levels considered optimal.

The discrepancy between what we should and what we are eating is astonishing. Every study using the USDA's Healthy Eating Index to assess American's eating habits has concluded that we score a miserable grade of "D" and in some cases "F." If our children brought home grades like that, we would ground them and get a tutor! For example, as few as 7% of women consume even one dark green leafy vegetable and up to 46% consume no fruit on any four days. This explains why folic acid, vitamin C, and beta carotene intakes often fall well below RDA levels, placing people at increased risk for developing cancer and heart disease, and giving birth to babies with serious birth defects. Up to 24% consume no milk products; consequently, women average less than 600 milligrams of calcium, or less than two-thirds of the recommended amount to prevent osteoporosis. A USDA study reported that 90% of self-selected diets are below the recommended range for chromium. Magnesium, iron, B vitamins, vitamin A, vitamin E, zinc, and many more nutrients also are low in typical American diets. We haven't a clue what Americans are consuming when it comes to the phytonutrients, but since these compounds are in the healthy foods mentioned above, it's clear intakes are woefully low there too.

Even if people ate perfectly, a growing body of research shows that it might not be good enough. Age-old beliefs that "if you can't get it from your diet, you don't need it" have been left in the dust. A tidal wave of scientific research in the past 25 years has put the RDAs on the hot seat and spurred support for nutritional pharmacology, the study of substances in foods that have a pharmacological effect when fed in higher amounts than normally obtained from the diet.

Here are just three examples. 1) Vitamin E might lower dementia risk, but only when daily intake approaches up to 2000IU. To consume this much vitamin E a person must "drink" 25 cups of vegetable oil. 2) Americans would need to triple their current vegetable intake to approach the 60mg of bioflavonoids suspected to lower heart-disease risk. 3) Somewhere between 60% and 90% of Americans are low in vitamin D, and would need to consume at least 10 glasses of milk a day to reach the lower recommended intake.

In short, promoting only the balanced diet isn't working and may not be the best advice. We must take a more aggressive approach to dietary recommendations by combining the balanced diet with nutritional pharmacology to maximize our chances of obtaining optimal amounts of all health-enhancing substances.

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



Elizabeth Somer

I'll Have Whatever They're Having

Peer pressure is a big influence on what and how much we eat, according to a review of the research from the University of Liverpool. Researchers analyzed 15 studies published in 11 different journals, looking at how people's food choices were affected by eating norms. Results showed that people who were told that other people were making low-calorie or high-calorie food choices were much more likely to make the same choices themselves. In addition, people who are told that others are eating large quantities of food are more likely to eat more. This influence is present even if people are not aware of the association or if they are eating all by themselves and think they have no motivation to please other people.

IN PERSPECTIVE: *If everyone in your social circle is weight and health-conscious, you will be more likely to take care of yourself. Of course, the opposite is also true. Makes sense to hang out with healthy eaters and exercisers!*

Robinson E, Thomas J, Aveyard P, et al: What everyone else is eating: A systematic review and meta-analysis of the effect of informational eating norms on eating behavior. Journal of the Academy of Nutrition and Dietetics 2013;December 24th.

INSIDE THIS ISSUE:

- More sugar blues 2
- Antioxidant update..... 3
- Dairy and eye health 4
- DHA and sleep 5
- Mediterranean diet news..... 6
- Fitness and dementia risk 7



Sweet Death

The added sugar in many Americans' diets more than doubles their risk of death from heart disease, says researchers at the Centers for Disease Control and Prevention in Atlanta. The study used data collected from the National Health and

Nutrition Examination Survey (NHANES 1988 through 2010) and included more than 42,000 people. Results showed that added sugar intake increased during that time period from 15.7% to 16.8%, then decreased to 14.9% by 2010. There was a dose-response reaction to sugar intake and heart disease risk. More than 70% of Americans consume more than 10% of calories from added sugar, which was associated with a 20% increased risk for heart-related death. The one in every ten Americans who consumes a quarter or more of their calorie intake as added sugar have a more than doubled risk for heart disease-related death. Approximately 37% of the added sugar in Americans' diets comes from sugar-sweetened beverages, including soda, energy drinks, bottled teas, and fruit-like beverages.

Researchers at Emory University in Atlanta report that limiting added sugar intake to less than 10% of calories increases HDL-cholesterol, thus potentially lowering heart disease risk.

IN PERSPECTIVE: According to the results of the CDC study, all it takes to increase your risk for heart disease is to consume a reasonably healthy diet, but add a daily can of soda pop to it. Or, munch frequently throughout the day on sweetened yogurts, cakes, dairy desserts, and even salad dressing, canned baked beans, and many frozen entrees.

Yang Q, Zhang Z, Greeg E, et al: Added sugar intake and cardiovascular diseases mortality among US adults. JAMA Internal Medicine 2014;February 3rd.

Lee A, Binongo J, Chowdhury R, et al: Consumption of less than 10% total energy from added sugars is associated with increasing HDL in females during adolescence. Journal of the American Heart Association 2014;February 26th.

Guzzling Cancer-Causing Soda

Women who drink lots of soft drinks and other sugary beverages are at high risk for developing endometrial cancer, according to a study from the University of Minnesota's School of Public Health in Minneapolis. Dietary intakes of soft drinks, fruit juice, sugary beverages, pastries, starch, and sugar in 23,039 postmenopausal women were compared to subsequent development of endometrial cancer in the following 24 years. Results showed that those women who drank the most sugar-sweetened beverages had a 78% higher risk for a tumor known as estrogen-dependent type 1 endometrial cancer. The more sugary beverages a woman drank, the higher her risk. No link was noted between sugar-free beverages and cancer risk. Because previous studies have shown an elevated endometrial cancer risk in women who are overweight and because sugary beverages are associated with weight gain, the researchers suspect it is the sugar-induced elevation in estrogen and body fat that increases risk.

People who drink sweetened beverages have lower quality diets overall, state researchers at the University of North Carolina, Chapel Hill.

Inoue-Choi M, Robien K, Mariani A, et al: Sugar-sweetened beverage intake and risk of Type 1 and Type 2 endometrial cancer among postmenopausal women. Cancer Epidemiology, Biomarkers & Prevention 2013;22:2384-2394.

Zheng J, Greenway F, Heymsfield S, et al: Effects of three intense sweeteners on fat storage in the C. Elegans model. Chemico Biological Interactions 2014;March 12th.

Piernas C, Mendex M, Ng S, et al: Low-calorie- and calorie-sweetened beverages. American Journal of Clinical Nutrition 2014;99:567-577.

Salty Teens

Teenagers in the U.S. guzzle as much salt as their parents, far exceeding recommendations for healthy intakes and increasing their risk for obesity and inflammation. A study from the Institute of Public and Preventive Health at Georgia Regents University analyzed week-long eating habits, height and weights, X-rays and MRIs to assess body fat percentages of fatty tissue dispersal in 766 healthy high school teenagers ages 14- to 18-years-old. Results showed 97% of the kids consumed excessive amounts of sodium. The kids averaged more than double the uppermost recommended daily level of 1,500 milligrams sodium, or 3,280 milligrams. In addition, a direct association was found between ingesting high levels of salt and the risk for being overweight or obese, having a larger waist circumference, and having higher body fat and fat mass. Levels of leptin, a hormone involved in the regulation of hunger and metabolism, also increased as salt intake increased. The link between salt intake and obesity appeared to be independent of particular

drinking and eating habits.

In a study from the University of Bonn in Germany, researchers found that diets high in salt and low in fruits and vegetables negatively affect blood pressure in children as young as 4-years-old.

A study from Harvard found that an adolescent's diet is linked to risk for colorectal cancer later in life, with children consuming diets similar to the "Prudent" pattern having the lowest cancer risk as adults.

IN PERSPECTIVE: This Georgia study shows a correlation between salt intake and obesity risk, but is not evidence of cause and effect. However, other studies on animals show a potential independent role of salt intake on fat metabolism and obesity risk.

Zhu H, Pollock N, Kotak I, et al: Dietary sodium, adiposity, and inflammation in healthy adolescents. Pediatrics 2014;133:e635-e642.

Shi L, Krupp D, Remer T: Salt, fruit and vegetable consumption and blood pressure development. British Journal of Nutrition 2014; 111:662-671.

Nimptsch K, Malik V, Fung T, et al: Dietary patterns during high school and risk of colorectal adenoma in a cohort of middle-aged women. International Journal of Cancer 2014;134:2458-2467.



Vitamin E for Fracture-Free Aging

Poor intake of vitamin E might increase the risk for bone fractures in seniors. At Uppsala University in Sweden, consumption of vitamin E and blood levels of vitamin E were compared to fracture risk in a group of 61,433 women and 1,138 men from two cohort studies. Results showed that lower intakes of vitamin E were associated with a higher hip fracture rate in women, with women in the lowest intake category having an 86% higher risk compared to women in the highest vitamin E intake category. Women who took vitamin E supplements had a 22% lower risk for hip fracture. For men, low vitamin E intake increased hip fracture risk more than three-fold. The researchers conclude that, "...low intakes and low serum concentrations of [vitamin E] are associated with an increased rate of fracture in elderly women and men."

Michaëlsson K, Wolk A, Byberg L, et al: Intake and serum concentrations of alpha-tocopherol in relation to fractures in elderly women and men. American Journal of Clinical Nutrition 2014;99:107-114.

Magnesium Lowers Risk for Premature Death

People with a history of heart disease would do themselves a favor by increasing their intake of magnesium-rich foods. Researchers at the University of Barcelona, Spain monitored magnesium intake and mortality risk in a group of 7,216 men and women between the ages of 55- and 80-years who were at high risk for heart disease. Patients were advised to follow a low-fat diet or to eat a Mediterranean-style diet rich in either olive oil or nuts. At the end of almost five years, there had been 323 total deaths, 81 cardiovascular deaths, 130 cancer deaths, and 277 cardiovascular events. People with the highest initial magnesium intakes had a 34% lower risk for dying from any cause compared to people with the lowest magnesium intakes.

Guasch-Ferre M, Bullo M, Estruch R, et al: Dietary magnesium intake is inversely associated with mortality in adults at high cardiovascular disease risk. Journal of Nutrition 2014;144:55-60.

Pro-Lycopene, Anti-Inflammatory

Increasing the daily intake of lycopene-rich foods could help save the life of people with heart failure. Researchers at the University of Kentucky studied 40 patients with heart failure who were randomly assigned to regular care or regular care plus more than 29 milligrams of lycopene in vegetable juice. After 30 days, blood lycopene levels were highest in the women from the treatment group, who also showed a corresponding lower C-reactive



protein (CRP) level, an indicator of reduced inflammation.

IN PERSPECTIVE:

Inflammation is a major contributor to the ongoing disease process of heart failure. Antioxidants, such as lycopene, appear to slow the progression of heart failure by inhibiting damaging inflammatory processes.

Biddle M, Lennie T, Bricker G, et al: Lycopene dietary intervention: A pilot study in patients with heart failure. Journal of Cardiovascular Nursing 2014;Mar 18th.

Stressed Out About Beta Carotene

Chronic stress results in damage to numerous physiological systems, in particular the cardiovascular system. That damage is measured as allostatic load. Researchers at the University of Illinois in Chicago investigated the potential link between blood levels of beta carotene and allostatic load in a group of 3,387 men and women, ages 45- to 64-years-old, who participated in the National Health and Nutrition Examination Survey (NHANES III, 1988-1994). Results showed that blood beta carotene levels were inversely associated with allostatic load. That is, as beta carotene levels decreased, symptoms of allostatic load, such as elevated blood pressure, pulse rate, total cholesterol, glycosylated Hb, waist-to-hip ratio, albumin, and C reactive protein (CRP), increased. Both men and women with the lowest beta carotene levels were almost three times as likely to have high

allostatic loads compared with peers in the highest quartile for beta carotene.

IN PERSPECTIVE: *The allostatic load is essentially "the wear and tear on the body" that develops over time when a person experiences repeated or chronic stress. It represents the physical consequences of chronic exposure to fluctuating or heightened neural or neuroendocrine responses caused by repeated or chronic stress. It is used to explain how frequent activation of the body's stress response damages the body. Allostatic load is typically measured by using a series of indicators of cumulative strain on several organs and tissues, but especially on the cardiovascular system.*

Rosenberg N, Park C, Eldeirawi K: Relationship of serum carotenoid concentrations with allostatic load as a measure of chronic stress among middle-aged adults in the USA. Public Health Nutrition 2014; February 11:1-9.

Antioxidants for Overweight Teens

Overweight kids show greater inflammatory processes that contribute to an elevated disease risk. Researchers at the Institute of Food, Nutrition, and Health in Zurich, Switzerland investigated whether or not antioxidant supplements could curb this inflammatory damage. Supplements of vitamin E (400IU), vitamin C (500 milligrams), and selenium (50 micrograms) were given daily to 44 overweight or obese children between the ages of 11- and 14-years-

old, who were monitored for four months. Results showed that the antioxidant supplements did not curb inflammatory markers, but there was a significant benefit in improving liver function and antioxidant-oxidant balance in the children.

Murer S, Aeberli I, Braegger C, et al: Antioxidant supplements reduced oxidative stress and stabilized liver function tests but did not reduce inflammation in a randomized controlled trial in obese children and adolescents. Journal of Nutrition 2014;144:193-201.



The AGE-ing Brain

The typical Western diet contains compounds that increase the risk for Alzheimer's disease, state researchers at Mount Sinai School of Medicine in New York. These compounds, called advanced glycation end products or AGEs, are found in fried, grilled, or broiled meats. They also are found in pasteurized or sterilized dairy products. When the researchers added AGEs to the diets of mice, the animals developed greater amounts of beta-amyloid in their brains, a component of the plaque associated with Alzheimer's disease. In addition, the animals' movements and memory were significantly impaired as they aged, compared to mice not fed

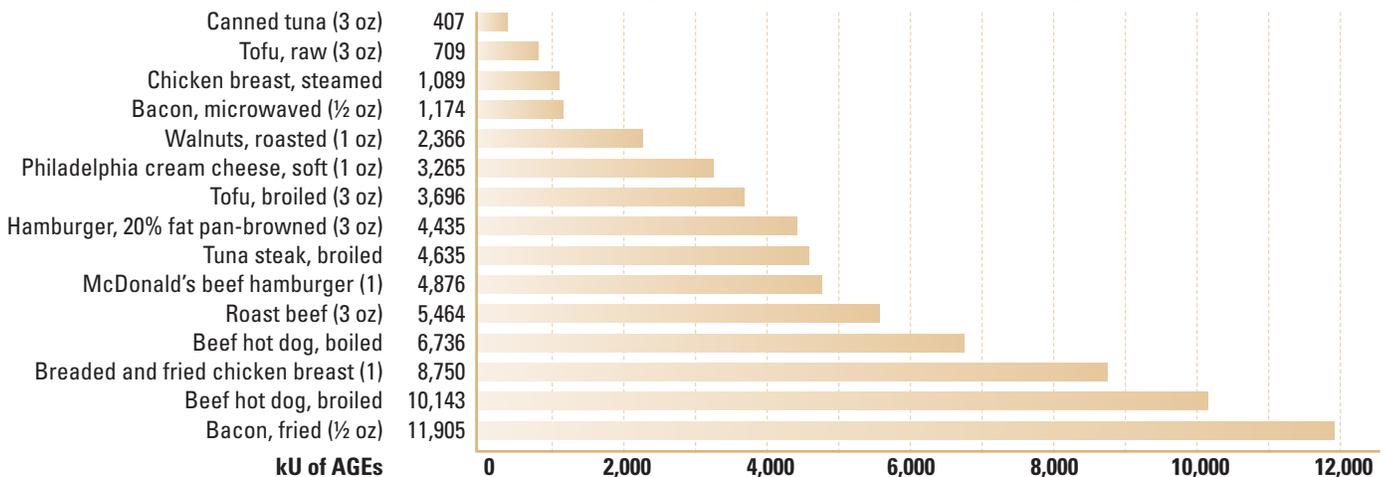
these compounds. The researchers also followed 93 seniors aged 60-years-old and older who gave blood samples and completed standard questionnaires. They found that people with high AGE levels also showed a greater drop in cognition during the following nine months. AGEs promote chronic inflammation, which might be one of the reasons for their damaging effects on brain tissue. To lower Alzheimer's risk, the researchers conclude that people should, "...pay attention to what you eat and how you prepare it."

IN PERSPECTIVE: It is estimated that more than five million people have

Alzheimer's in the United States. That number is expected to increase to almost 16 million by 2050, according to the Alzheimer's Association. Eliminating, or at least lowering, foods cooked at high and dry heat, along with increasing intake of the omega-3 fats, DHA and EPA, lowering blood pressure and cholesterol, not smoking, exercising daily, and maintaining a healthy lean weight are all considered protective against the development of Alzheimer's disease.

Cai W, Uribarri J, Zhu L, et al: Oral glycotoxins are a modifiable cause of dementia and the metabolic syndrome in mice and humans. Proceedings of the National Academy of Sciences 2014;February 24th.

How Much AGEs (Advanced Glycation End Products) Are You Eating?



Dairy Eyes

People who consume few calcium-rich milk products are at risk for vision problems, according to a study from the University of Sydney, Australia. Researchers investigated the association between consumption of total, regular, and low-fat dairy foods, as well as total calcium intake, with the risk for vascular problems of the retina. Dietary intakes were gathered on people who were 50-years-old or older and compared to photographs of retinal vascular calibrations. Results showed that people who consumed the least amount of dairy foods compared to those who consumed the most had significantly

more vascular damage in retinal tissue. Damage was most pronounced in those who consumed the least amount of low-fat milk products. Low calcium intake also was associated with more damage to blood vessels in retinal tissue.

IN PERSPECTIVE: Retinal vascular disorders refer to a range of eye diseases that affect the blood vessels in the eye. These conditions are linked to existing vascular diseases, such as high blood pressure and atherosclerosis (thickening of the artery walls). These conditions were adjusted for in this study, so did not play a role in the results. The most common retinal

vascular disorders include: hypertensive retinopathy, retinal vein occlusion, central retinal artery occlusion, and diabetic retinopathy. Any of these can lead to serious vision problems, including blindness.

Gopinath B, Flood V, Wang J, et al: Lower dairy products and calcium intake is associated with adverse retinal vascular changes in older adults. Nutrition, Metabolism, and Cardiovascular Disease 2014;24:155-161.

HOTTOPIC: Ginger really does aid with nausea, according to a review of studies from researchers at Stellenbosch University in South Africa. *Nutrition Journal* 2014;13:20.



Do They or Don't They?

Just to prove once again that nutrition is not a black-and-white subject, two studies just released found that the omega-3s do not help reduce heart disease risk. One study from the University of Cambridge found that people who take fish oil did not show any lower risk for coronary events. A second study reviewing the use of omega-3s for eye health, also looked at whether or not supplements would help prevent heart attack, stroke, or heart failure. That study also found no effect. Does this mean we should stop eating salmon or taking our fish oil capsules? Probably not.

The results of these two studies contradict a wealth of previous research showing the omega-3s in fatty fish are helpful in lowering cardiovascular disease, evidence so strong that recommendations to increase these fats come from reputable groups, including numerous government, academic, nutritional, and medical organizations and experts. The first study was conducted on people with existing cardiovascular disease and elevated risk factors at baseline. It also pooled data from studies using anywhere from 0.3 to 6.0 grams of omega-3s/day, which easily could have diluted the effects and potentially contributed to the lack of statistical significance. The second study began supplementation later in life to people who very well could have had existing risk factors for heart disease. It also required drug-like criteria to reach statistical significance. In other words, the researchers acknowledged that given the sample size they started with, they would have had to see a 25% risk reduction to find significance. This is realistic for testing medications, but not for testing nutritional supplements. Once again, these studies are a reminder to look at the tapestry of studies on any one nutritional topic, and to never take action based on one, or even a handful, of studies.

Bonds et al: Effect of long-chain omega-3 fatty acids and lutein + zeaxanthin supplements on cardiovascular outcomes. JAMA Internal Medicine 2014;March 17th.

Chowdhury R, et al: Association of dietary, circulating, and supplement fatty acids with coronary risk. Annals of Internal Medicine 2014; March 17th.

Fishing for Lower Blood Pressure

If you're at risk for high blood pressure, then adding a few servings every week of fatty fish could help keep that risk at bay. Researchers at the Center for Epidemiology in Chicago conducted a comprehensive meta-analysis of 70 randomized, controlled trials on adults who consumed the omega-3 fats, EPA and DHA, from seafood, fortified foods, or dietary supplements. The study included trials with people who had high blood pressure but were not taking medications and those who had normal blood pressures. Results showed that systolic



blood pressures were 4.51mmHg and diastolic pressures were 3.05mmHg lower in adults with existing high blood pressure who consumed these omega-3 fats. Blood pressures also dropped in people with normal blood pressures when omega-3 intake was increased. The researchers conclude that, "...provision of EPA and DHA reduces systolic blood pressure, while provision of [at least 2 grams or more] reduces diastolic blood pressure."

A study from the Centers for Disease Control and Prevention found that the more seafood people ate (including tuna, salmon, and other fish), the higher their blood levels of the toxic metal mercury. This is another reason to get your omega-3s primarily from supplements.

Miller P, Van Elswyk M, Alexander D: Long-chain omega-3 fatty acids eicosapentaenoic acid and docosahexaenoic acid and blood pressure. American Journal of Hypertension 2014;March 6th.

Nielsen S, Kit B, Aoki Y, et al: Seafood consumption and blood mercury concentrations in adults aged ≥ 20y, 2007-2010. American Journal of Clinical Nutrition 2014;February 12th.

What Can You Do to Lower Blood Pressure?

If you....	Expect this reduction in systolic blood pressure...
Consume EPA and DHA	4.51 mmHg
Reduce dietary sodium	3.6 mmHg
Increased physical activity	4.6 mmHg
Decrease alcohol intake	3.8 mmHg

An Alternative to Goodnight Moon?

Sleep problems are associated with poor school performance, but now researchers at the University of Oxford, U.K., might have a solution to that problem. They measured blood levels of the omega-3 fats and compared that to sleep habits in a group of 395 healthy children aged 7- to 9-years-old who struggled with reading in school. In 40% of the sample, scores on the Child Sleep Habits Questionnaire showed clinical-level sleep problems. In addition, poor total sleep scores were linked to lower blood levels of the omega-3 fat DHA. The children were supplemented daily with 600 milligrams of algal DHA for 16 weeks. Results showed

supplementation was associated with, on average, seven fewer wake episodes and 58 minutes more sleep per night. The researchers conclude that "...higher blood levels of docosahexaenoic acid [DHA] may be related to better child sleep."

Montgomery P, Burton J, Sewell R, et al: Fatty acids and sleep in UK children. Journal of Sleep Research 2014;March 8th.

HOTTOPIC: The greater the muscle mass as a person ages, the longer he or she is likely to live, says researchers at the University of California, Los Angeles. *American Journal of Medicine 2014;March 13th.*



IN THE NEWS

- People deficient in vitamin C might be at greater risk for bleeding in the brain, also called hemorrhagic stroke, according to a study reported at the American Academy of Neurology in Philadelphia.
- Researchers at the University of Alabama dispelled several myths, including these: Drinking water won't aid weight loss, ice-cold water doesn't burn extra calories, the 8-glasses of water rule is a myth, and coffee is one way to rehydrate.
- Food labels are under the microscope and being reviewed for major changes in the future. Under consideration are requests to place calorie counts in bold print and to separate added sugars from natural sugars. Serving sizes also should reflect typical intakes that more accurately reflect the way people eat. Final decisions are expected next year and companies will have two years to update their packaging.

Fish Oils and Cancer

The association between fish oils and endometrial cancer took an unexpected turn in a study from the Ohio State University College of Medicine. Researchers studied 22,494 women between the ages of 50- and 76-years-old and their self-reported intake of the omega-3s, DHA and EPA, from seafood or supplements. After nine years, there were 263 cases of endometrial cancer. Women who consumed the most omega-3s showed a 79% increased risk for cancer compared to women who consumed the least omega-3s. However, when the women were stratified by body mass index (BMI), this increased association was found only in those who were overweight or obese. Healthy weight women who consumed omega-3-rich diets showed a significant reduction in endometrial cancer risk.

Brasky T, Neuhauser M, Cohn D, et al: Association of long-chain omega-3 fatty acids and fish intake with endometrial cancer risk in the VITamins and Lifestyle cohort. American Journal of Clinical Nutrition 2014;99:599-608.

Mediterranean Diet Lowers Diabetes Risk

Following the traditional Mediterranean diet can lower diabetes risk even if a person doesn't lose weight, restrict calories, or exercise, report researchers in Spain including the University of Barcelona. Men and women without diabetes (3,541 people, ages 55- to 80-years-old) at risk for heart disease were assigned to one of three groups: 1) a Mediterranean diet with extra-virgin olive oil (about 3 tablespoons a day), 2) a Mediterranean diet supplemented with mixed nuts (1 ounce a day), or 3) a low-fat diet. They did not receive any special information on losing weight or increasing their physical activity. After four years, the olive oil group had reduced their diabetes risk by about 40% compared to the low-fat diet, while the group that included nuts in their diet reduced their diabetes risk by 18%.

The Perelman School of Medicine in Philadelphia summarized the current dietary recommendations to lower diabetes risk, including: maintain a healthy body weight, engage in daily physical activity, and choose a diet that is low-carbohydrate, low-fat, low-glycemic index, or a Mediterranean diet.

Researchers at Simmons College in Boston report that adherence to a Mediterranean-like diet lowers all-cause mortality in people with heart disease.

The Mediterranean diet also improves cognitive function associated with aging, state researchers at the St. Louis University School of Medicine.

IN PERSPECTIVE: *The results of the Spanish study add further credence to the benefits of following a diet rich in fruits, vegetables, whole grains, and fish, besides olive oil and nuts. People should not take these results as an excuse not to exercise or lose weight, since maintaining a healthy weight and engaging in daily exercise would further reduce disease risk.*

Salas-Salvado J, Bullo M, Estruch R, et al: Prevention of diabetes with Mediterranean Diets. Annals of Internal Medicine 2014;160:1-10.

Vetter M, Amaro A, Volger S: Nutritional management of type 2 diabetes mellitus and obesity and pharmacologic therapies to facilitate weight loss. Postgraduate Medicine 2014;126:139-152.

Lopez-Garcia E, Rodriguez-Artalejo F, Li T, et al: The Mediterranean-style dietary pattern and mortality among men and women with cardiovascular disease. American Journal of Clinical Nutrition 2014;99:172-180.

Morley J: Cognition and nutrition. Current Opinions in Clinical Nutrition & Metabolic Care 2014;17:1-4.

More Than Just a Bone Builder

Drinking more milk, and in particular including more milk protein, might help decrease body fat and maintain a healthier body weight, according to a study from the University of South Australia. After analyzing the diets of 720 overweight adults, the researchers found that overweight adults who consumed more milk and milk products, and consequently had more calcium and protein from dairy in their diets, tended to weigh less and have less body fat compared to those who consumed few milk products. Yogurt consumption was associated with lower percent body fat, abdominal fat, and waist circumference, while reduced-fat milk intake was inversely linked to BMI, waist circumference, and percent body fat. The researchers conclude that, "...consumption of dairy products, dairy

protein, and calcium was associated with more favourable body composition."

Contrary to web-based gossip, dairy foods, calcium, and vitamin D are not associated with an increased risk for pancreatic cancer, state researchers at Columbia University in New York, while researchers at Harvard School of Public Health report that low calcium intake increases the risk for colorectal cancer.

Murphy K, Crichton G, Dyer K, et al: Dairy foods and dairy protein consumption is inversely related to markers of adiposity in obese men and women. Nutrients 2013;5:4665-4684.

Genkinger J, Wang M, Li R, et al: Dairy products and pancreatic cancer risk. Annals of Oncology 2014;March 14th.

Massa J, Cho E, Orav E, et al: Total calcium intake and colorectal adenoma in young women. Cancer Causes and Control 2014;25:451-460.



HOT TOPICS

1 A University of California, San Francisco study found that being overweight increases the chances of developing kidney disease. *American Journal of Kidney Disease* 2013;November 29th.

2 Turn down the thermostat and you'll burn more calories, thus helping with weight loss, state researchers at the Maastricht University Medical Center in The Netherlands. *Annals of Medicine* 2014;February 13th.

3 Men between the ages of 20- and 50-years showed improved attention and responsiveness when given a moderate-dose multivitamin supplement for 16 weeks, in a study from Swinburne University in Melbourne. *Human Psychopharmacology* 2014;29:73-82.

4 At the University of Messina in Italy, researchers found that supplements of the omega-3 fat DHA in animals with spinal cord injuries reduced inflammation and tissue injury associated with the trauma. *Journal of Neuroinflammation* 2014;11:6.

5 Frequent consumption of chocolate containing at least 70% cocoa powder increased HDL-cholesterol and lowered inflammation in a study from the University of Tor Vergata in Rome. *European Review for Medical and Pharmacological Sciences* 2013;17:2257-2266.

6 Hand washing and taking zinc supplements appear to be the two most effective treatments for preventing colds, claim researchers at the University of Alberta in Canada. *Canadian Medical Association Journal* 2014;January 27th.

7 In a small sample of Alzheimer's patients, researchers at Rutgers-Robert Wood Johnson Medical School in New Jersey found almost four-fold higher blood levels of the pesticides DDE and DDT compared with healthy controls, suggesting these pesticides increase amyloid protein plaque formation and raise disease risk. *Journal of the American Medical Association: Neurology* 2014;January 27th.

8 Grocery coupons might slim your food budget, but not your waistline, state researchers at the University of California, San Francisco who found most coupons are for junk foods, such as sugary drinks, deserts, chips, and crackers. *Preventing Chronic Disease* 2014;11:130211.

9 Several commonly used pesticides increase the risk for Parkinson's disease by blocking enzymes that would otherwise deactivate aldehydes. As a result, aldehydes remain elevated and are highly toxic to brain cells that produce the neurotransmitter dopamine, state researchers at the University of California, Los Angeles. *Neurology* 2014;82:419-426.

10 How far can denial go? Researchers at the University of Nebraska report that one in every two parents of an overweight or obese child doesn't think their child has a weight problem, while one in every seven parents of a normal-weight child worried their child was too skinny. *Pediatrics* 2014;133:e689-e703.

11 Large doses of intravenous vitamin C helped boost chemotherapy's ability to kill cancer cells in a study from the University of Kansas Medical Center. *Science Translational Medicine* 2014;February 5th.

12 Adding low-fat, plain yogurt to the daily diet could cut diabetes risk by up to 28%, say researchers at the medical Research Council at the University of Cambridge. *Diabetologia* 2014;February 8th.

13 You already know that people who sit too much are at higher risk for heart failure and early death, now a study from Northwestern University in Chicago reports that seniors who exercise moderately to vigorously, but then sit much of the day are likely to end up disabled. *Journal of Physical Activity & Health* 2014;February 4th.

14 Feeding patients with amyotrophic lateral sclerosis, ALS or Lou Gehrig's disease, a high-calorie, high-carbohydrate diet helps slow the progression of the disease, state researchers at Harvard Medical School. *Lancet* 2014;February 27th.

15 The DASH diet (Dietary Approaches to Stop Hypertension) not only lowers the risk for high blood pressure, but researchers at New York University School of Medicine found it also might be effective for preventing kidney stones, while being less restrictive than previous dietary recommendations for stone formers. *American Journal of Kidney Disease* 2014;63:456-463.

16 People who consume high-protein diets in middle age show a four-fold increased risk for dying from cancer or heart disease and a two-fold increased risk for premature death from any cause compared to people on lower-protein diets, according to a study from the University of Southern California. *Cell Metabolism* 2014;19:407-417.

17 Middle-aged people who are not physically fit have a four-fold increased risk for developing dementia later in life, says study from the University of Jyväskylä in Finland. *Journal of Internal Medicine* 2014; January 20th.

18 Being overweight increases the risk for ovarian cancer, according to a study conducted by researchers from the Mayo Clinic, Harvard, and Rutgers Cancer Institute. *Cancer Research* 2014;74:852-861.

19 Obese teenage girls do worse in school compared to their leaner contemporaries, says a study from the University of Strathclyde and the University of Dundee. *International Journal of Obesity* 2014; March 11th.

20 Researchers at the National Institute for Public Health and the Environment in The Netherlands found that reducing the salt in processed foods would cut heart attack rates by 4.8%, congestive heart failure cases by 1.7%, and stroke incidence by 5.8%, while extending life expectancies. *American Journal of Clinical Nutrition* 2013;99:446-453.



The Low Pressure Vegetarian Diet

Switching to a vegetarian diet could help lower blood pressure, according to a study from the National Cerebral and Cardiovascular Center in Osaka, Japan. In this meta-analysis of 39 studies that included close to 22,000 people, the researchers found that vegetarians had significantly lower blood pressure compared to meat eaters. On average, the vegetarians's blood pressures were lower by 5 to 7 mmHg for systolic blood pressure and 2 to 5 mmHg for diastolic blood pressure. The researchers say that even these modest reductions in blood pressure are enough to lower heart attack risk by 9% and the risk for stroke by 14%. The type of vegetarian diet did not seem to matter and could include ones that emphasized vegetables, whole grains, legumes, and/or fruits or even ones that included eggs, milk products, and seafood (although technically fish inclusion would not be a vegetarian diet).

Yokoyama Y, Nishimura K, Barnard N, et al: *Vegetarian diets and blood pressure. JAMA Internal Medicine* 2014;February 24th.

NUTRITION ALERT

Copyright 2014 Nutrition Communications. As provided by US copyright law, no part of this publication may be reproduced, displayed, or transmitted in any form or by any means, electronic or mechanical, including photocopying or by an information storage or retrieval system, without prior written consent.

Elizabeth Somer, M.A.,R.D..... *Editor-in-Chief*
 Kelly Fitzjarrell *Managing Editor*
 Ideas to Inks..... *Design/Art Production*

Published bi-monthly by Nutrition Communications. Send subscription inquiries and editorial communications to: Nutrition Communications, 4742 Liberty Road S., PMB 148, Salem, OR 97302

Subscriptions: \$15/year in the United States, \$20 (US) in Canada. Group rates and back issues available upon request.

ABOUT THE EDITOR: Elizabeth Somer, M.A.,R.D. appears regularly on national television and is author of several books including her latest book, *Eat Your Way to Sexy*. For more information, follow Elizabeth on Facebook (Elizabeth Somer, nutritionist) and her on-going journal of how a nutrition pro stays on track with a healthy diet (Born Fit), Twitter, her blog and visit her website - www.ElizabethSomer.com

REVIEW

Lycopene: An Update

Lycopene is one of more than 600 carotenoids in food, beta carotene being the most famous. Lycopene is the red pigment in red fruits and vegetables. Watermelon is the richest source of lycopene, but other good sources include tomatoes, papaya, pink grapefruit, and guava (strawberries are red, but they get their color from another compound other than lycopene). Like beta carotene, lycopene is an antioxidant but has twice the antioxidant capabilities of beta carotene. That biological function is one of the reasons lycopene lowers heart disease risk. A Harvard School of Public Health study, where researchers analyzed blood samples from more than 28,000 women, found that over the following 4.8 years women with the highest blood levels of lycopene had up to a 50% lower risk for developing heart disease. Their blood levels of lycopene reflected their dietary intake. The antioxidant capability of lycopene also might explain why diets rich in this carotenoid are associated with lower risks for all sorts of cancers, especially cancers of the prostate, cervix, skin, bladder, breast, lung and digestive tract. Eating lycopene-rich foods also might help protect skin from sun damage.

No one knows how much lycopene is needed, but studies show that people who include anywhere from 7 to 10 servings a week of lycopene-rich foods have the lowest risk for heart disease. Blood levels of this heart-healthy compound decrease with age, so the older we are, the more we need. Women with the lowest heart-disease risk in one study averaged about 10 milligrams or more of lycopene a day. That's the equivalent of about a 1/2 cup of tomato sauce or a cup of cubed watermelon daily. The average American gets only 3.6 milligrams, or slightly more than a third of that.

Lycopene Content of Selected Foods

Food	Content (mcg/100grams)	Range
Tomato sauce, canned	6205	
Tomato paste, canned	6500	5400-15,000
Guava, raw	5400	
Watermelon, fresh	4100	2300-7200
Grapefruit, raw	3362	
Tomato, fresh	2937	
Papaya, fresh	2000-5300	
Apricot, dried	864	
Apricot, fresh	5	

Lycopene is best absorbed and most helpful to the body when it comes from cooked and processed foods. Fresh tomatoes also supply lycopene, each one adding about 4 to 5 milligrams of lycopene to the diet. Studies show that people who include seven or more fresh tomatoes into their weekly diet have up to a 60% reduction in cancer. Choose deep-red tomatoes, since they have more lycopene than pale red, yellow, or green tomatoes. Vine-ripened tomatoes have more than those picked green and allowed to ripen later; those grown outdoors in the summer have more lycopene than those grown in greenhouses. Watermelon is richest in lycopene if allowed to ripen on the counter, instead of in the refrigerator. Also, the redder the watermelon, the greater the lycopene. You need a little fat to boost absorption of lycopene, so drizzle olive oil over a salad with tomatoes or make a salsa with avocado and watermelon.

Tomatoes pack a nutritious bang for each bite, but keep in mind that lycopene is only one of thousands of phytochemicals in fruits and vegetables that help lower your risk for heart disease, and all other age-related diseases, and might even help slow the aging process.

Gloria N, Soares N, Brand C, et al: *Lycopene and beta carotene induce cell cycle arrest and apoptosis in human breast cancer cell lines. Anticancer Research* 2014;34:1377-1386./Wang X: *Lycopene metabolism and its biological significance. American Journal of Clinical Nutrition* 2012;96:1214S-1222S./Stahl W, Sies H: *Beta carotene and other carotenoids in protection from sunlight. American Journal of Clinical Nutrition* 2012;96:1179S-1184S.