

EDITOR'S NOTES:

## Hocus-Pocus Packaging

Who can refuse a cookie that is “all natural,” cholesterol- and GMO-free, and comes in a box as old fashioned as something you’d find in the kitchen at *Little House on the Prairie*? Or, how about yogurt that is gluten- and hormone-free, and contains a probiotic called immunitis? What about a cereal with wheat shafts on the box, made with whole grain and flax, and lightly sweetened with pure cane syrup? The problem is the cookie is no better than an Oreo, the yogurt has the sugar equivalent of a candy bar (oh, and that particular brand of probiotic is untested), and the cereal is the equivalent of Cocoa Puffs.

Think you know how to read a food label? Think again. Most people are fooled by label lingo, false assumptions, or mixed messages every time they shop. The first rule of thumb when considering a processed food, is NEVER BELIEVE ANYTHING ON THE FRONT OF THE PACKAGE, BOX, CARTON, OR WRAPPER. All of that is hype and marketing. It’s a world of scams, trickery, and manipulations. Don’t be fooled - Always go to the back of the container and check:

**1. Servings Per Container:** This might seem obvious, but more than one person has picked up a frozen chicken pot pie and thought it was a meal. Make that mistake and you’ve just eaten for two and twice the calories as listed on the label. Or, drink the whole bottle of iced tea or coffee and you’ve wolfed down the calorie-equivalent of an order of hashbrowns. Also, check the serving size, since one brand of cookies might be lower in calories only because there are two, rather than three, per serving. It is easy to over do it on the calories, fat, and sodium if you aren’t vigilant about the portions.

**2. Saturated Fat:** Look for items that are less than 10% of calories from this “bad” fat. That means about 1 gram of saturated fat or less for every 100 calories. A frozen entree that contains 280 calories, for example, should have less than 3 grams of saturated fat.

**3. Sugar:** Labels are not required to distinguish between the added and the naturally occurring sugars, so you must dig a little deeper here. Read the ingredients list. By law, a food’s contents must be listed on the label in descending order from most to least. The nearer to the top of the list, the higher the amount of an ingredient is in the food. Skip any food that contains sugar (or any of its aliases) in the top three ingredients or that contains several mentions of sugar throughout the list. Also, don’t assume “natural sweeteners,” such as honey, pure cane syrup, or concentrated pear, white grape, or apple juice, are better for you. They are merely sugar water in disguise.

**4. Whole Grains:** The whole grain issue is mixed-message hell for most consumers. Unless a bread or cereal says 100% whole grain, such as 100% whole wheat bread, it is probably processed carbs with a dusting of whole grain. Also, check the ingredient list. Only whole grains should be in the top ingredients, such as whole wheat, oats, barley, brown rice, or quinoa (in contrast, pearl barley, couscous, pumpernickel or rye breads, cornmeal, or wheat, enriched, or refined flours are typically refined grains).

**5. Sodium:** Many packaged foods are sodium land mines, supplying half - or perhaps all - of your entire day’s maximum limit for sodium of 2,400 milligrams. Look for items that contain no more than 200 milligrams of sodium for every 100 calories.

Good luck shopping!

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



Elizabeth Somer

## The Underlying Cause of Diabetes?

Why do some overweight people develop type 2 diabetes and others don’t? That is what researchers at the University College Cork in Ireland set out to determine. Blood levels of markers for cardio-metabolic abnormalities were assessed in a group of 2,047 men and women, some obese and some nonobese, between the ages of 45- and 74-years. Results showed that the healthy obese and nonobese people had lower levels of inflammatory markers, such as C-reactive protein and white blood counts. Those people with favorable inflammatory profiles also tended to have healthy metabolic profiles with lower risk for diabetes.

**IN PERSPECTIVE:** *Chronic inflammation is an underlying condition associated with numerous chronic diseases. A diet based on colorful fruits and vegetables, whole grains, foods rich in the omega-3 fats EPA and DHA, and spices such as turmeric help lower inflammation and reduce disease risk.*

*Phillips C, Perry I: Does inflammation determine metabolic health status in obese and nonobese adults? Journal of Clinical Endocrinology and Metabolism 2013;August 26th.*

### INSIDE THIS ISSUE:

Chocolate and brain power .....	2
Diet for your eyes.....	3
The dirty dozen .....	4
Kids' diets.....	5
Supplements for back pain.....	6
Are you right or left brained?.....	7



## Chocolate: The Memory Cure

Seniors who drink two cups of cocoa every day show improved memory, according to a study from Brigham and Women's Hospital in Boston. For one month, 60 people with an average age of 73-years were asked to drink two cups daily of either cocoa rich in flavanols, which is linked to improved blood flow, or cocoa low in flavanol. At the study's start, 18 of the seniors had impaired blood flow in the brain, almost all of them had high blood pressure, and half had diabetes. Results showed that brain blood flow improved by an average of 8% in those participants whose levels were low at the start. These people also performed better on memory tests, improving the time they needed to complete tasks. Better neurovascular coupling also was associated with greater white matter structural integrity.

Nine risk factors apparent in a person's teens might be tied to early-onset dementia, state researchers at Umea University in Sweden, including alcohol intoxication, stroke, use of anti-psychotic drugs, depression, drug abuse, a father with dementia, short stature, and high blood pressure.

**IN PERSPECTIVE:** *No control group was used in the Boston study, which makes its findings interesting, but questionable. Also, it could be that the caffeine in the cocoa, not the flavanol content, was responsible for better memory function. More research is needed, but in the meantime, it's nice to hope that chocolate (with a high cocoa content) makes your memory better!*

*Sorond F, Hurwitz S, Salat D, et al: Neurovascular coupling, cerebral white matter integrity, and response to cocoa in older people. Neurology 2013;August 7th.*

*Nordstrom P, Norstrom A, Eriksson M, et al: Risk factors in late adolescence for young-onset dementia in men. Journal of the American Medical Association Internal Medicine 2013;August 12th.*

## Not So Sweet Brains

Elevated blood sugar levels might contribute to the risk for dementia, according to a study from the University of Washington in Seattle. Blood sugar and glycated hemoglobin levels were measured in a group of 2,067 people without dementia. During the 6.8-year follow up, 524 of those people developed dementia. Among those without diabetes, a higher average blood glucose level compared to a more normal level (115mg/dl vs 100mg/dl, respectively) within the preceding five years was associated with an 18% increased risk of dementia. In diabetics, a glucose level of 190mg/dl compared to 160mg/dl resulted in a 40% increased risk. The researchers conclude that even in people without diabetes, a higher glucose level may predispose them to dementia.

*Crane P, Walker R, Hubbard R, et al: Glucose levels and risk of dementia. New England Journal of Medicine 2013;369:540-548.*

## Vitamin D: The Brainiac Vitamin

Vitamin D might be the next addition to the diet cocktail to save your brain, according to a study from Shanghai Pudong New Area People's Hospital in China. Vitamin D levels were measured in a group of type 2 diabetics with and without mild cognitive impairment. Results showed that along with elevated fasting blood glucose and fewer years of education, diabetics with low vitamin D were most likely to show signs of cognitive decline. In fact, cognitive decline increased as vitamin D levels decreased in the diabetic patients. The researchers conclude that, "...vitamin D may be a potential protective factor for cognitive impairment in patients with type 2 diabetes."

*Chen R, Zhao X, Gu Z, et al: Serum levels of 25-hydroxyvitamin D are associated with cognitive impairment in type 2 diabetic adults. Endocrine 2013;August 28th.*

## The Arthritis Cure

The omega-3s in fish, EPA and DHA, lower the risk for rheumatoid arthritis in women, according to a study from the Karolinska Institute in Stockholm. Researchers followed 32,232 women born between 1914 and 1948 who were questioned about their seafood intake in 1987 and 1997. The women were divided into five groups based on the amount of fish-derived omega-3s they consumed, ranging from 0.21 grams (the equivalent of eating one serving of salmon a week or four servings a week of lean fish such as cod) or less per day up to at least 0.5 grams a day. Results showed that eating at least one serving of fish a week, compared to less than one weekly serving, lowered risk of developing rheumatoid arthritis by 29%. Women who reported consuming more than 0.21 grams of omega-3s a day had a 52% decreased risk. The researchers conclude that, "...this study is the first to attribute the protective effect of fish against rheumatoid arthritis to its content of omega-3 fatty acids."

**IN PERSPECTIVE:** *Rheumatoid arthritis is an autoimmune disease that causes joint inflammation, deformities, and disability. People with the condition also have higher risks for heart disease, some infections, anxiety, depression, and blood cancers such as leukemia. According to the American College of Rheumatology, between 0.5 and 1% of the US population has rheumatoid arthritis, with women being two to three times more likely than men to develop the disease.*

*Di Giuseppe D, Wallin A, Bottai M, et al: Long-term intake of dietary long-chain n-3 polyunsaturated fatty acids and risk of rheumatoid arthritis. Annals of Rheumatic Disease 2013;August 12th.*

**HOTTOPIC:** The stress hormone, cortisol, increases fat accumulation in the belly (called visceral fat), which is associated with the metabolic syndrome. A study from the University of Southern California found that diets high in sugar aggravate this association, increasing visceral fat accumulation. *Obesity 2013;August 8th.*



## Calm Down with Omega-3s

Low levels of omega-3s EPA and DHA might aggravate anxiety disorders, according to a study from Columbia University in New York City. Blood levels of omega-3s (AA, EPA, and DHA) were assessed in a group of patients (ages 18- to 73-years) with major depressive disorder with and without concurrent anxiety disorders. Results showed that patients with depression had low DHA and EPA levels and higher AA levels compared with healthy volunteers. Low DHA and EPA levels and higher AA to EPA levels distinguished anxious from non-anxious patients with depression. Anxiety severity was inversely related to DHA and EPA and was positively linked to higher AA levels. In other words, anxiety increased as DHA and EPA levels dropped and AA levels rose. Whether supplementation with these omega-3s, which are found only in fatty seafood or foods fortified with algal-based omega 3s, could help lower anxiety requires further research.

While studies show that up to 600 milligrams of the omega-3 DHA alone can boost reading skills by up to 50% in children, most children don't get anywhere near enough of this fat from their diets. A study from the University of Wollongong in Australia found that kids average only 3.9 to 5.1 milligrams a day.

*Liu J, Galfaluy H, Cooper T, et al: Omega-3 polyunsaturated fatty acid (PUFA) status in major depressive disorder with comorbid anxiety disorders. Journal of Clinical Psychiatry 2013;74:732-738.*

*Rabmawaty S, Charlton K, Lyons-Wall P, et al: Dietary intake and food sources of EPA, DPA, and DHA in Australian children. Lipids 2013;48:869-877.*

**HOTTOPIC:** A randomized, double-blind study on 120 women from Messina, Italy found that one year of daily intake of the isoflavone genistein improved fasting glucose, fasting insulin, HDL-C, total cholesterol, LDL-C and a number of other endpoints associated with risk for diabetes and heart disease in postmenopausal women with metabolic syndrome. *Journal of Clinical Endocrinology & Metabolism 2013;98:3366-3374.*

## Eye Candy

Do you eat for your eyes? The carotenoids, beta carotene, lutein and zeaxanthin, along with vitamins C and E and the omega-3 fats EPA and DHA protect eyes from vision loss caused by cataracts and macular degeneration, state researchers at Lesley University in Cambridge, Massachusetts. Vision is the most important of the five senses for people between the ages of 45- to 65-years, yet according to this study more than half of those surveyed were unaware of the importance of these nutrients for eye health. In addition, the researchers state that dietary intake for these nutrients is below recommended levels, placing the baby boomer population at high risk for vision loss.

According to researchers at Waterford Institute of Technology in Ireland, lutein and zeaxanthin accumulate at the central retina (macula), where they are collectively referred to as macular pigment

(MP). MP absorbs blue light and the antioxidant activity of MP's carotenoids protects against vision loss. Supplementation with lutein and zeaxanthin enhances MP and visual performance in diseased and non-diseased eyes, and may reduce risk for the development and/or progression of age-related macular degeneration.

A study from the University of Georgia found that as body fat increases, MP and concentrations of lutein and zeaxanthin decrease, even with minor increases in excess body fat, suggesting that being even slightly overweight can affect the nutritional status and health of the eyes.

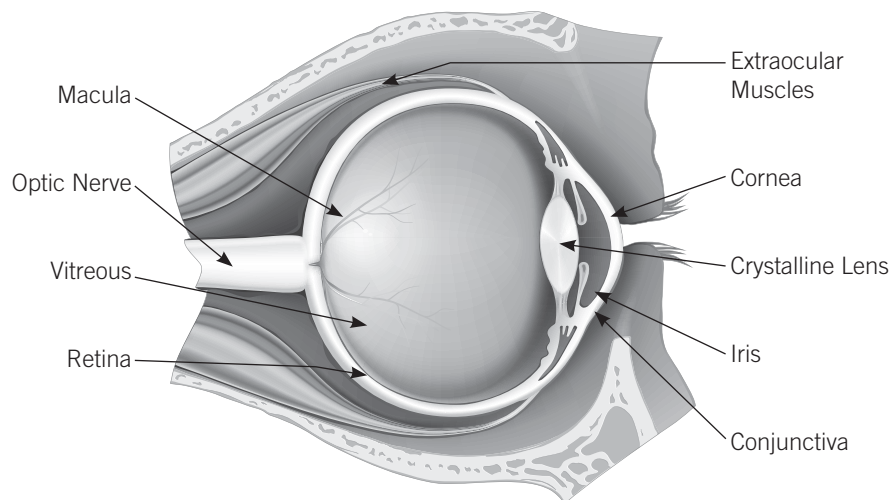
*Rasmussen H, Johnson E: Nutrients for the aging eye. Clinical Interventions in Aging 2013;8:741-748.*

*Loskutova E, Nolan J, Howard A, et al: Macular pigment and its contribution to vision. Nutrients 2013;5:1962-1969.*

*Bovier E, Lewis R, Hammond B: The relationship between lutein and zeaxanthin status and body fat. Nutrients 2013;5:750-755.*

*Cui Y, Jing C, Pan H: Association of blood antioxidants and vitamins with risk of age-related cataract. American Journal of Clinical Nutrition 2013;July 10th.*

### THE ANATOMY OF AN EYEBALL



**HOTTOPIC:** The omega-3 fatty acids may exert their anticancer actions by influencing multiple targets implicated in various stages of cancer development, including cell proliferation, cell survival, angiogenesis, inflammation, metastasis and

epigenetic abnormalities that are crucial to the onset and progression of cancer, state researchers at Chungnam National University in Korea. *Anticancer Agents in Medicinal Chemistry 2013;August 6th.*





## Note to Self: Eat Your Fruits and Vegetables!

People who eat lots of colorful fruits and vegetables live longer than people who don't, state researchers at the Karolinska Institute in Sweden. Fruit and vegetable consumption in a group of 71,706 adults between the ages of 45- and 83-years was compared to deaths in the subsequent follow-up 13 years later. Results showed that people who said they never ate fruits and vegetables had a 53% increased risk of dying early (and died an average of three years sooner) than those who ate at least five daily servings of produce, such as apples, beets, lettuce, cabbage, carrots, and tomatoes. The researchers conclude that, "...fruit and vegetable consumption less than 5 servings a day is associated with progressively shorter survival and higher mortality rates."

Including even five servings a day of fruits and vegetables raises antioxidant defenses and lowers oxidative stress, according to a study from Loyola Univer-

sity in Chicago, while a study from the Karolinska Institute in Stockholm found that as fruit consumption increases, risk decreases for abdominal aortic aneurysm, a dangerous vascular condition.

On the flip side, seniors who eat few fruits and vegetables and/or who don't exercise or smoke can expect to be disabled and lose their independence down the road, according to a study from the Center for Research in Epidemiology and Population Health in France.

*Bellavia A, Larsson S, Bottai M, et al: Fruit and vegetable consumption and all-cause mortality. American Journal of Clinical Nutrition 2013;98:454-459.*

*Rink S, Mendola P, Mumford S, et al: Self-report of fruit and vegetable intake that meets the 5-a-day recommendation is associated with reduced levels of oxidative stress biomarkers and increased levels of antioxidant defense in premenopausal women. Journal of the Academy of Nutrition and Dietetics 2013;113:776-785.*

*Stackelberg O, Bjorck M, Larsson S, et al: Fruit and vegetable consumption with risk of abdominal aortic aneurysm. Circulation 2013;128:795-802.*

*Artaud F, Dugravot A, Sabia S, et al: Unhealthy behaviours and disability in older adults. British Medical Journal 2013;347:f4240.*

### THE DIRTY DOZEN

Should you buy organic produce? It depends. Some conventionally grown produce is almost pesticide-free according to the Environmental Working Group, a non-profit organization that protects the public. No need to go organic when it comes to onions, avocados, corn, pineapple, mangoes, sweet peas, asparagus, kiwi, canned peaches, blueberries, cabbage, eggplant, cantaloupe, watermelon, grapefruit, or sweet potatoes. But you might want to spend the extra cash for organic when purchasing these fruits and vegetables:

- |                  |                     |
|------------------|---------------------|
| 1. Celery        | 7. Bell peppers     |
| 2. Fresh peaches | 8. Spinach          |
| 3. Strawberries  | 9. Kale             |
| 4. Raspberries   | 10. Cherries        |
| 5. Apples        | 11. Imported grapes |
| 6. Nectarines    | 12. Pears           |

Even organic produce can contain pesticides, but at one-third the level of conventional produce. To further reduce risk, wash and scrub, peel, and discard outer leaves. Then eat a variety of different produce for a better mix and to reduce pesticide exposure from any one fruit or vegetable. A few studies show that organic produce is higher in phytonutrients, antioxidants, and vitamin C. However, keep in mind, the benefits of eating colorful conventional produce FAR outweigh any tiny, potential risk of pesticides or slight reduction in nutrients, and especially when compared to not eating produce at all.

## Eat Your Veggies!

Women who consume ample amounts of colorful fruits and vegetables every day are at low risk for developing bladder cancer, state researchers at the University of Hawaii, Honolulu. Fruit and vegetable consumption was assessed and compared to bladder cancer risk in 185,885 older adults. A total of 581 invasive bladder cancer cases (429 men and 152 women) were diagnosed over an average follow-up period of 12.5 years. Results showed that women who consumed the most produce had a 35% lower risk for cancer compared to women who consumed the least produce. On an individual basis, high vegetable intake lowered risk by 49%, yellow-orange vegetables by 48%, total fruits by 54%, and citrus fruits by 56%. In addition, women with the highest intakes of vitamins A, C, and E; the carotenoids alpha-carotene, beta-carotene, and beta-cryptoxanthin; and folate had a lower risk of bladder cancer. No protective link was noted for men. The researchers conclude that, "...these results suggest that greater consumption of fruits and vegetables may lower the risk of invasive bladder cancer among women..."

A study from Harvard School of Public Health found that including more fruit in the diet lowered risk of developing type 2 diabetes, while fruit juice increased risk.

*Park S, Ollberding N, Woolcott C, et al: Fruit and vegetable intakes are associated with lower risk of bladder cancer among women in the Multiethnic cohort study. Journal of Nutrition 2013;143:1283-1292.*

*Muraki I, Imamura F, Manson J, et al: Fruit consumption and risk of type 2 diabetes. British Medical Journal 2013;347:f5001.*

**HOT TOPICS:** The amount of fructose in a 12-ounce can of soda is enough to elevate blood triglyceride levels in children and young adults, according to a study from the University of Cincinnati Medical Center. *Diabetes Research and Clinical Practice 2013;100:265-271.*

Young children who drink soda score higher on scales of aggressive behavior than do kids who don't drink carbonated beverages, according to a study from Columbia University in NYC. *Journal of Pediatrics 2013;August 19th.*



## We Are Failing Our Children

Dietary intakes of young people with diabetes is appalling, according to a study from George Washington University in Rockville, Maryland. Dietary intakes were assessed in a group of 699 youth ages 10- to 17-years-old with type 2 dia-

betes. Results showed that dietary intake of saturated fat was consistently higher than recommended levels, averaging approximately 14% of calories instead of the recommended less than 7%. Only 3% of subjects met the recommended intake

for calcium, 11% met the fruit consumption goals, 5% met vegetable consumption goals, and 67% met grain intake goals.

In a study from the University of Pittsburgh, researchers report that children with type 2 diabetes are less physically active and spend more time being sedentary than their healthier classmates of the same age.

While calorie intake has dropped somewhat since 2004, researchers at the University of North Carolina, Chapel Hill found that the major contributors to calories in children are sugar-sweetened beverages, pizza, grain-based desserts, breads, pasta and savory snacks. Intakes of vegetables have dropped in the past few years, while calories from sweet snacks, candies, and tortilla-based dishes have increased.

**IN PERSPECTIVE:** *It is likely even in the young diabetics in the Maryland study who consumed fruit and/or vegetables that the choices were anything but pristine. The most commonly eaten vegetable in the United States is potato, followed by iceberg lettuce, while the most common fruit is apple juice. It also is likely that some of that saturated fat is coming from the grain-based foods these children are eating. Honestly, what are these parents thinking?!*

*Delabanty L, Kriska A, Edelstein S, et al: Self-reported dietary intake of youth with recent onset of type 2 diabetes. Journal of the Academy of Nutrition and Dietetics 2013;113:431-439.*

*Kriska A, Delabanty L, Edelstein S, et al: Sedentary behavior and physical activity in youth with recent onset of type 2 diabetes. Pediatrics 2013;131:e850-e856.*

*Slining M, Mathias K, Popkin B: Trends in food and beverages sources among US children and adolescents: 1989-2010. Journal of the Academy of Nutrition and Dietetics 2013;August 2nd.*

### Soda on the Hot Seat, Again!

Preschool kids who regularly drink sugary beverages pack on more pounds than other children, according to researchers at the University of Virginia. Soda consumption and body weight were compared in a group of 9,600 children between 2- and 5-years-old. Results showed that soda consumption was linked to higher BMIs (Body mass index) in the 4- and 5-year-olds. In addition, 2-year-olds who drank at least one sugary drink a day gained more weight during the subsequent few years than did their leaner friends.

Researchers at Harvard Medical School found in a review of studies that sugary beverages are strongly linked to weight gain in both children and adults.

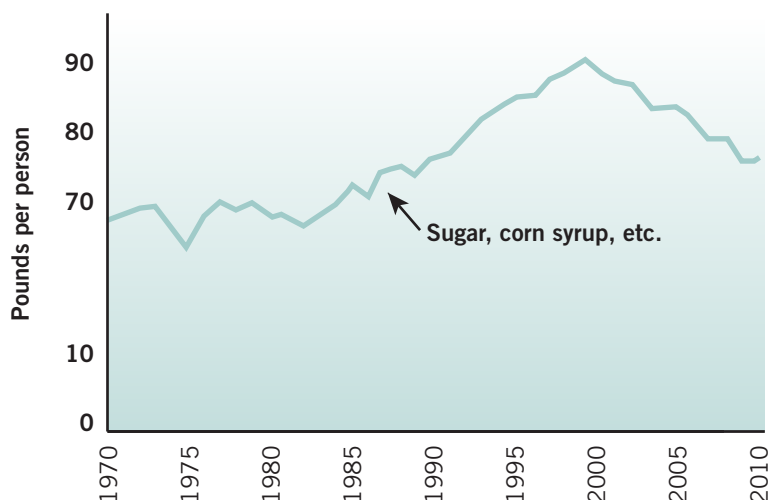
**IN PERSPECTIVE:** *While many factors contribute to excessive weight gain at any age, it is obvious that eliminating a junk food with no nutritional value, such as sugary beverages, is an easy way to cut calories. According to Federal government statistics, U.S. children could cut 235 calories a day from their diets if they swapped sugary drinks for water. That totals 85,775 calories a year, or the calories in 24.5 pounds of body fat.*

*Deboer M, Scharf R, Demmer R: Sugar-sweetened beverages and weight gain in 2- to 5-year-old children. Pediatrics 2013;August 5th.*

*Malik V, Pan A, Willett W, et al: Sugar-sweetened beverages and weight gain in children and adults. American Journal of Clinical Nutrition 2013;August 21st.*

### AMERICA'S SWEET TOOTH

Added sugar consumption is down slightly from a high of 89 pounds per person, per year in 1999. Today, we average closer to 78 pounds of added sugar and high-fructose corn syrup, which is still off-the-charts too high. A big chunk of that added sugar comes from sodas and other sugary beverages, which are linked to diabetes, heart disease, memory loss, and obesity.



**HOTTOPIC:** The consumption of diets fortified with lycopene-rich tomatoes, compared to cucumbers, increased the heart-healthy HDL-cholesterol in a group of men and women with initially low HDL levels, according to researchers at the National Institute of Ciencias Medicas in Mexico. *Diabetes, Metabolic Syndrome, and Obesity 2013;6:263-273.*



## A Diet Link to Panic Attacks

Low levels of vitamin B6 and iron might contribute to panic attacks, according to a study from Atago Hospital in Japan. Serum levels of iron and vitamins B2, B6, and B12 were measured in healthy volunteers and in patients admitted to the hospital for panic attacks and hyperventilation attacks. Results showed that both vitamin B6 and iron levels were significantly lower in the patients than in the volunteers. No difference in levels of vitamins B2 and B12 were found. Serotonin levels often are a contributing factor in these disorders and both vitamin B6 and iron play important roles as cofactors in the body's production of this neurotransmitter. The researchers conclude that low serum levels of these nutrients might be involved in panic attacks and hyperventilation attacks by altering serotonin synthesis.

*Mikawa Y, Mizobuchi S, Egi M, et al: Low serum concentrations of vitamin B6 and iron are related to panic attack and hyperventilation attack. Acta Medica Okayama 2013;67:99-104.*

*Shabbir F, Patel A, Mattison C, et al: Effect of diet on serotonergic neurotransmission in depression. Neurochemistry International 2013;62:324-329.*

## IN THE NEWS

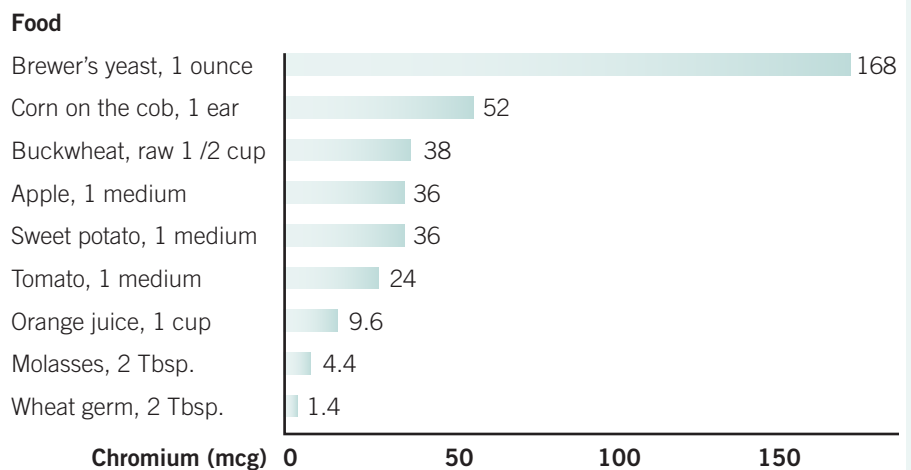
- Researchers at the John Ochsner Heart and Vascular Institute in New Orleans report that people who drink four or more cups of coffee a day are more likely to die early compared to others.
- Babies that are breastfed have a lower chance of being obese as they grow up compared to babies who are bottled fed, according to a report published in the journal JAMA Pediatrics.
- Children born to overweight mothers are likely to die earlier than those born to healthy-weight mothers, according from a report from Scotland.
- A healthy diet and moderate alcohol consumption could help type 2 diabetics reduce their risk for kidney disease, or at least slow the progression, according to a study reported in JAMA Internal Medicine.

## Bingeing on Chromium

Chromium has shown promise in improving mood, appetite, and glucose control, so researchers at the University of North Carolina at Chapel Hill set out to see if this mineral could help with binge eating disorders. In this six-month, double-blind, placebo-controlled trial, 24 overweight people with binge eating disorders were given daily either placebos or 1,000 micrograms of chromium picolinate. Results showed fasting glucose was reduced in the supplemented group who also had significantly reduced episodes of binge frequency, weight, and symptoms of depression. Fasting blood glucose decreased as the chromium dose increased. The researchers conclude that, "...chromium supplementation may provide a useful, low-cost alternative to or augmentation strategy for selective serotonin reuptake inhibitor [medications]..." in the treatment of binge eating disorders.

*Brownley K, Von Holle A, Hamer R, et al: A double-blind, randomized pilot trial of chromium picolinate for binge eating disorder. Journal of Psychosomatic Research 2013;75:36-42.*

### CHROMIUM-RICH FOODS



## Back Pain Be Gone

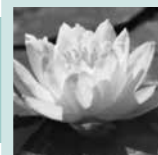
Supplements of alpha lipoic acid (ALA) and superoxide dismutase (SOD) reduced the need for pain killers in a group of patients suffering from lower back pain. At the University of Siena in Italy, researchers gave 98 patients with chronic lower back pain daily supplements of alpha lipoic acid (600 milligrams) and SOD (140IU). While three-quarters of the patients had used analgesics prior to the study, by the end of the 60-day study, only 8% of the supplementers still used those pain killers. There was a significant improvement in perceived pain and functional disabilities. The researchers conclude that, "...ALA and SOD improve functionality and reduce the

use of analgesics in chronic lower back pain patients."

**IN PERSPECTIVE:** According to the Linus Pauling Institute's Micronutrient Information Center in Corvallis, Oregon, ALA occurs naturally in foods where the amino acid lysine is structurally bound to protein. Such foods include organ meats (i.e., heart, liver and kidneys), and vegetables such as broccoli and spinach. ALA is also present in yeast, particularly brewer's yeast. Lesser amounts of ALA occur naturally in Brussels sprouts, peas and tomatoes.

*Battisti E, Albanese A, Guerra L, et al: Alpha lipoic acid and superoxide dismutase in the treatment of chronic low back pain. European Journal of Physical and Rehabilitation Medicine 2013;July 9th.*





## HOT TOPICS

**1** Exposure to perfluorinated chemicals (PFCs) used in fabrics, carpets, cosmetics, and paper coatings can increase the risk for thyroid dysfunction, according to a study from National Taiwan University Hospital in Taipei. *Journal of Clinical Endocrinology and Metabolism* 2013;July 17th.

**2** 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.

**3** Brain activity in young adults showed a strong association between cravings for sweets and an increased risk for binge drinking in a study from Indiana University School of Medicine in Indianapolis. *Alcoholism: Clinical & Experimental Research* 2013;July 10th.

**4** Supplements of D-limonene, a phytochemical in citrus fruit, lowered triglycerides, fasting blood glucose levels, and LDL-cholesterol and increased HDL-cholesterol in a study on mice at Southwest University in China. *European Journal of Pharmacology* 2013;July 6th.

**5** In a study from McMaster University in Ontario where researchers assessed how many in a sample of 7,519 people with heart disease followed three healthy lifestyle habit (i.e., a good diet, frequent exercise, and not smoking), only 4.3% of the group, regardless of income, followed all three behaviors. *Journal of the American Medical Association* 2013;309:1613-1621.

**6** Overweight children consume more calories than parents/doctors realize, state researchers at the US National Institute of Diabetes and Digestive and Kidney Diseases. For a normal-weight 5-year-old girl to become 22 pounds overweight by the age of 10 years, she must eat 400 extra calories a day, not the previously thought 40 extra calories a day. *Lancet Diabetes & Endocrinology* 2013;July 30th.

**7** People with high levels of happiness associated with a deep sense of meaning and purpose in life also have low inflammatory gene expression and increased immune function, while high levels of happiness from immediate self-gratification shows just the opposite (elevated inflammatory expression and low antiviral and antibody gene expression), according to a study from the University of California, Los Angeles. *Proceedings of the National Academy of Sciences* 2013;July 29th.

**8** Supplementing the diet with EPA and DHA raised levels of these omega-3s in the brain, increased activity of the antioxidant enzyme superoxide dismutase (SOD) and decreased lipid peroxidation associated otherwise with cognitive decline, in a study on animals at the University of Belgrade in Serbia. *Hippokratia* 2013;16:241-245.

**9** Blood vitamin D levels in the range of 20 to 36ng/mL were associated with the lowest risk for mortality and heart disease in a study from the Hebrew University of Jerusalem. *Journal of Clinical Endocrinology and Metabolism* 2013;98:2160-2167.

**10** In a potentially ground-breaking study from the University of Utah, researchers challenge the theory that people are predominately either right- or left-brained (i.e., analytical or artistic). In this study, personality and cognition were determined more by a neuron connection-by-connection than by a predominate brain region. *PLoS One* 2013;August 14th.

**11** Blood cell levels of the omega-3 fats, ALA, EPA, and DHA, were lower in patients with rheumatoid arthritis than in healthy controls, in a study from Hanyang University in Seoul, South Korea. *Annals of Nutrition & Metabolism* 2013;63:88-95.

**12** A vitamin D receptor protein has been identified in a study from Stanford University School of Medicine that acts as a "toggle switch" to control fat cells and whether they convert to the brown energy-burning type or the white energy-storing type of adipose tissue. *Molecular Endocrinology* 2013; August 1st.

**13** Overweight and obese college adults who consumed a soy fiber fortified biscuit at breakfast for 12 weeks saw significant improvements in BMI and LDL-cholesterol, in a study from Zhejiang University in China. *Molecular Nutrition & Food Research* 2013;July 23rd.

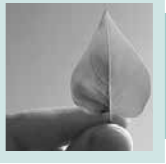
**14** Infants fed lots of fruits, vegetables, and home-prepared foods and few packaged foods are at lowest risk for developing allergies, state researchers at the University of Southampton Faculty of Medicine, UK. *Journal of Allergy and Clinical Immunology* 2013;July 23rd.

**15** Supplements of anthocyanins, such as are found in blueberries and black rice, improved vascular repair and helped prevent atherosclerosis in a study on mice at Sun Yat-sen University in China. *Journal of Nutrition* 2013;143:1248-1253.

**16** Even healthy people benefit from supplements of the omega-3s EPA and DHA with improved mental health scores, according to a study from Medicus Research LLC in Northridge, California. *Nutrition Journal* 2013;12:112.

**17** People who consume ample potassium-rich foods have a 39% lower risk for developing the metabolic syndrome, according to a study from Jangseong Public Health Center in South Korea. *Atherosclerosis* 2013;230:80-85.

**18** Using Twitter as a way to record "real time" food and beverage consumption, researchers at the University of Arizona found that socializing, cost, and convenience were the three guiding factors in food choices in a group of 50 adults. *Journal of Medical Internet Research* 2013;15:e125.



## Garlic For the Heart

Adding garlic to the diet really does lower heart disease risk, according to a study from the University of Adelaide, Australia. In this meta-analysis of 39 primary trials using garlic preparations to alter total cholesterol, LDL-cholesterol, triglycerides, and HDL-cholesterol, the researchers found that daily garlic ingestion for at least two months lowered total cholesterol by 17mg/dL and LDL-cholesterol by 9mg/dL in people with elevated total cholesterol levels about 200mg/dL. HDL-cholesterol improved only slightly and triglycerides were unaffected by garlic intake. These results are significant, since an 8% reduction in total cholesterol is associated with a 38% reduction in risk of coronary events in people who are at least 50-years-old.

Ried K, Toben C, Fakler P. *Effect of garlic on serum lipids. Nutrition Review 2013;71:282-299.*

**HOT TOPIC:** Replacing one serving a day of red meat with one serving of poultry or fish lowers the risk for rectal adenomas and advanced adenomas by up to 41%, according to a study from Harvard Medical School. *American Journal of Epidemiology 2013;178:172-183.*

## NUTRITIONAL ALERT

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## REVIEW

### Heart Disease: The 5 Factors to Control

Each year more than one million Americans have a heart attack and about 800,000 die from heart disease, according to the American Heart Association. That is 2,192 deaths a day or three people every two seconds. Most of those deaths are entirely preventable if people take charge of their health and risk factors.

**Risk Factor #1:** Are you at a healthy weight? Most people recognize that being overweight increases their risk for just about all age-related diseases, with heart disease and diabetes leading the pack. The more over-fat a person is, the higher the risk. Even people who are at an "ideal" body weight are at risk if they are not fit or carry extra body fat around the middle, called visceral fat. A heart-healthy weight is:

- **Body Mass Index:** A BMI of 24 or less. A BMI of 25 is overweight and 30+ is obese. For example, a 5'4" woman weighing at least 145 pounds, or a 5'10" man who weighs at least 174 pounds is overweight.
- **The waist-to-hip ratio (WHR):** For women, a ratio less than 0.8 and for men a ratio of less than 1.0 is healthy. Wrap a measuring tape around your waist at its narrowest point. Measure your hips at the widest point. Then divide the waist measurement by the hip measurement. For example, a woman with a waist of 32 and a hip measurement of 38 has a waist-to-hip ratio of 0.84 - too fat.
- **Tape Measure:** Less than 35 inches around the waist for a woman and less than 40 inches for a man is healthy.
- **The mirror test:** Strip in front of a full-length mirror. Take a good look at yourself. Then, jump up and down. Anything that jiggles is excess body fat.

**Risk Factor #2:** What are your lipid numbers? Your total cholesterol should be under 200mg/dL, LDL-cholesterol (the "bad" cholesterol) should be 100mg/dL or less, HDL-cholesterol (the "good" cholesterol) should be 60mg/dL or higher, and triglycerides should be 150mg/dL or less.

**Risk Factor #3:** What is your blood pressure? Optimal blood pressure should consistently be between 120 to 100/80 to 65mm/Hg.

**Risk Factor #4:** What is the level of inflammation? Chronic inflammation is an underlying cause of atherosclerosis and heart disease. At least occasionally, have these values checked: Low risk is associated with values of less than 1.0 mg/L for C reactive protein (CRP), and less than 15mm/L for homocysteine.

**Risk Factor #5:** How healthy is your blood flow? A healthy heart and body require free-flowing blood unrestricted by clogged arteries or the potential for unwanted blood clots. While this is a difficult risk factor to monitor, you can stack the deck in favor of healthy blood flow by exercising daily and eating a heart-healthy diet. Also, certain foods and components of foods aid in blood flow by naturally increasing nitric oxide or by supporting normal blood platelet function. Watermelon and an extract of tomatoes (added to foods and supplements as "Fruitflow") help with healthy blood flow.

*Journal of Managed Care in Pharmacy 2013;19:139-149/Experiments in Clinical Cardiology 2013;18:89-92/American Heart Journal 2006;151:100/Current Atherosclerosis Report 2013;15:308/American Journal of Clinical Nutrition 2006;84:561-569 & 570-590.*

**HOT TOPIC:** Oxidative stress and DNA damage are elevated in patients with multiple myeloma while supplementation with antioxidants, such as glutathione, vitamins C and E, and antioxidant enzymes, alleviates this damage, according to a study from the University of Baghdad, Iraq. *Asian Pacific Journal of Cancer Prevention 2013;14:3663-3667.*