JOURNAL STUDY DIGEST

ACUPUNCTURE LESSENS PERCEPTION OF PAIN: Previously, it has been suggested that acupuncture reduces pain, although it has seldom been studied using functional magnetic resonance imaging (fMRI). Now, such a study suggests that acupuncture can affect the experience of pain in two ways. First, it reduces the incoming pain signal itself; and second, it lowers activity in brain areas that govern patients' expectations of pain. (A functional MRI measures the tiny metabolic changes that take place in an active part of the brain, while a patient performs a task or is exposed to a specific external stimulus.) At first, eighteen healthy volunteers underwent fMRI while an electrical pain stimulus was attached to the left ankle. Then, acupuncture needles were placed at three places on the right side: between the toes, below the knee and near the thumb, after which the same electrical pain currents were directed at the left ankle. Researchers compared the fMRI imaging results without acupuncture to those with acupuncture; and detected changes in brain areas linked to both pain expectation and sensation. This study was presented November 30, 2010 at the annual meeting of the Radiological Society of North America in Chicago but has not yet been published in a peer-reviewed journal.

EXTREMELY HIGH LEAD LEVELS IN USED CONSUMER PRODUCTS: A study has discovered a widespread problem with lead in used consumer products at levels that are far beyond even the most conservative safe upper limits. Many recycled, used or older consumer products widely available for sale - such as jewelry, toys, kitchen utensils, window frames, shutters, common dishware, toy teapots, picture frames and home decor items - contain surface lead concentrations more than 700 times higher than the U.S. federal limit. The researchers purchased the items from antique stores, second-hand shops and junk stores, testing for surface lead with a swab before buying. (Similar items are sold at flea markets.) They then used x-ray fluorescence to determine exact lead content, finding high levels in a number of diverse items. The amount of lead ranged from twice the federal limit in a metal ice cream scoop to 714 times the limit in a salt shaker lid. This study appears in the December, 2010 issue of the Journal of Environmental Health. It is available at http://bit.ly/dERJhL for purchase.

BLOOD SATURATION OF VITAMIN C MAY BE NEEDED TO AVOID SEVERE TISSUE DEFICIENCY: A study has determined that when ascorbate (vitamin C) levels in the blood of mice are below the saturation point, some body tissues can still be severely deficient in this

vitamin, including tissues of the liver, kidney and heart. The study compared tissue levels in lab mice with high, but not saturated, blood levels of ascorbate to tissue levels naturally found in "wild-type mice," and found the lab mice tissues deficient. This suggests that even high dietary intakes and high blood levels of ascorbate can result in serious tissue shortages. Also, the study found that consumption of fresh kiwifruit resulted in up to five times more effective delivery of vitamin C to tissues than from ingestion of ascorbate added to water. Although these results may have serious implications for human nutrition, it is important to remember that, so far, this research was conducted only on mice. This just-released study will not be published until a future issue of the American Journal of Clinical Nutrition. However, it is available online now at http://bit.ly/ffRRQO with subscription or fee payment.

POLLUTANTS MAY INCREASE DIABETES AND OBESITY RISK: A study has found that early life exposure to pollutants leads to higher levels of glucose (blood sugar), greater insulin resistance, and increased inflammation – all risk factors for diabetes – and more abdominal fat, a risk factor for cardiovascular disease. At least, that was the finding for mice exposed in early life, five days a week, to pollution seven times greater than ambient air in Columbus, Ohio. (With insulin resistance, insulin does not effectively transfer glucose from the blood into the tissues, where it is used for energy.) The study also found pollution increased blood levels of tumor necrosis factor-alpha, an inflammatory protein. The extra fat produced among mice exposed to pollutants was both abdominal and subcutaneous (under the skin). The fine particulates to which the mice were exposed, mirroring pollution to which humans are exposed, were 2.5 micrometers or less in size, about 1/30th the width of the average human hair, allowing them to reach deep areas of the lungs or other body organs. Human studies are planned. This study is published in the December, 2010 issue of the journal, Arteriosclerosis, Thrombosis, and Vascular Biology. It is available at http://bit.ly/gL4Pa0 without charge.

DID YOU KNOW…?
Red wine may be touted as beneficial for the heart. But in moderation, white wine may be more effective at keeping lung tissues in good working order, according to a study presented May 20, 2002 at the 98th meeting of the American Thoracic Society in Atlanta. The lung benefit most likely stems from the antioxidants in white wine, which counter the creation of harmful molecules called free radicals that wreak havoc on lung tissues. Antioxidant-rich, fresh fruits and vegetables have long been linked to improved lung function.

SURGERIES MAY BE SIGNIFICANT FACTOR IN GLOBAL WARMING: A study has found that the inhalation anesthetic gases administered in surgeries every day have a strong global warming potential, furnishing an Earth-heating effect equivalent to that of a coal-fired power plant or one million passenger cars. And that is just the effect of surgical gases used in the United States alone. All

three of the regularly used anesthetic gases – isoflurane, desflurane and sevoflurane – have atmospheric warming effects that are hundred times greater than carbon dioxide (CO2). However, desflurane is the most harmful gas. One kilogram of desflurane has the same environmental warming effect as 1,620 kilograms of CO2. The amount of gas involved in a single surgical procedure is not high but the total number of surgeries worldwide can have a significant environmental effect. The National Aeronautics and Space Administration (NASA) collaborated with two universities to conduct the study. This study is published in the December, 2010 issue of British Journal of Anaesthesia and is now available online at http://bit.ly/f4jtKi with subscription or access fee.

EARLY PHYSICAL THERAPY FOR BACK PAIN PREVENTS LATER SURGERY, DRUGS: A study has found that those who receive physical therapy in the acute phase following an episode of lower back pain are less likely to require medical services than those who seek physical therapy after a delay. The medical treatments that those receiving early physical therapy were less likely to need included epidural steroid injections, lumbar surgery, or frequent physician office visits. The window for more effective treatment for low back pain appeared to be the acute phase, classed as within four weeks; the sub-acute and chronic phases were classed as four to 12 weeks, and three to 12 months, respectively. The most common back conditions experienced by patients in the study were nonspecific backache, sciatica, degenerative disk disease, and spinal stenosis. Generalist practitioners under-recommend physical therapies, and their treatment practices may need to modified, suggested the researchers, who concluded this would cut overall healthcare costs. Recently released by the journal Spine, this study will be published in a future issue but is accessible online now at http://bit.ly/enAMLZ with subscription or fee.

BEHAVIORAL PROBLEMS LINKED TO PRENATAL CELL PHONE EXPOSURE: A study has found that pregnant women who use mobile phones regularly have a greater risk of having children with behavioral problems; and children who also start using cell phones early themselves slightly increase that risk. Children exposed to cell phone radiation exclusively before birth were found to have a 40 percent higher risk of behavioral problems. Children exposed to cell phones both before birth and up to age seven, were found to have a 50 percent greater chance of behavioral problems. And children who were exposed to cell phones only after birth were found to have a 20 percent higher risk of behavioral problems. This large epidemiological study confirmed the similar findings of earlier research by the same group. Although the influence of various other sociological factors was taken into account, this link is not necessarily one of cause and effect. This study was released December 7, 2010 and will be published in a future issue of the Journal of Epidemiology and Community Health. It is available online now at http://bit.ly/i17Bvk with subscription or access fee.

DID YOU KNOW…?
It's a myth that washing your hands or using an alcohol-based hand rub is largely ineffective against superbugs and antibiotic-resistant bacteria. While superbugs may be resistant to some antibiotic drugs and therefore difficult to treat after infection, they are still susceptible to washing prior to infection and are helpless against good hygiene.

SALT REDUCTION LOWERS BLOOD PRESSURE IN DIABETICS: A study concludes that substantially limiting salt (sodium) intake for about a week lowers existing high blood pressure in both type 1 and type 2 diabetics, which in turn reduces other diabetic risks, including stroke, heart attack and diabetic kidney disease. This review noted that a daily salt reduction of 8.5 mg resulted in a drop in blood pressure similar to that achieved with blood pressure medications. (Diabetics are more likely to develop high blood pressure.) The study team recommended that diabetics reduce their salt intake to at least 5 to 6 grams a day - which is the current guideline for the general population - and preferably even lower. (Reducing salt intake can be challenging for anyone. Few people are aware that the majority of salt intake comes from processed foods, implying that the focus should be less on the shaker and more on the supermarket and chain restaurant.) This study was published in the December, 2010 issue of The Cochrane Library. It can be read online now at http://bit.ly/gfQxAq with subscription or fee.

THINKING ABOUT EATING A FOOD DECREASES APPETITE FOR IT: A study with significant implications for traditional dieting wisdom has found that imagining the consumption of foods seen as desirable by a dieter reduce eventual consumption of those food items. (Dieters have been advised for decades to distract themselves from thoughts of eating in order to curb cravings.) While some subjects were distracted, others repeatedly imagined eating, in one case, 30 M&M candies one at a time; and still others imagined a non-food topic. The group that visualized eating the 30 M&M candies was found later to consume significantly less of these items than the other groups. In later phases of this study, it was discovered that only imagining actual consumption of a food reduced later intake of that food; simply thinking about a food was insufficient to produce this effect; and imagining the consumption of a food different from the food later consumed also had no significant effect. Other senses may drive the appetite but imagining consumption substitutes for actual consumption, concluded researchers. This study was released in the December 10, 2010 issue of the journal Science. A summary of this study (and others), aimed at the general public, is available now at http://bit.ly/egzh94 in an online podcast.

TWO OMEGA-3 FATS MAY ALLEVIATE DEPRESSION: A study concludes that taking two omega-3 fatty acids together - eicosapentenoic acid (EPA) and docosahexaenoic (DHA) - has an antidepressant effect that has not been recognized before, on those with clinical

depression. (Omega-3s are polyunsaturated fatty acids that are essential to ingest because the body cannot synthesize them. Greatest sources include cold water fatty fish, such as salmon, tuna and halibut, and fish oil supplements.) Taking DHA alone had no effect on depression but taking either EPA alone, or EPA and DHA together, was linked to reduced depression. Also, results showed no effect on mood or attitude in those without clinical depression. Scientists should undertake a larger human trial to study this effect further, suggested the study team leader, who also stressed that patients should always talk to their healthcare providers before taking omega-3 supplements to treat depression. This study was presented in Miami Beach at the American College of Neuropsychopharmacology's annual meeting, which ended December 9, 2010. It has not yet been published and is not yet available online.

DID YOU KNOW…?
Exercising a specific area of the body will not remove flab from that area. Spot reducing is a myth. Exercising your abdominal muscles, for instance, will strengthen and tone the muscles in the abdomen. But those muscles are underneath the subcutaneous (just under the skin) layer of fat you carry on your abdomen. Your muscles may be stronger but the fat hiding those muscles will remain. So how do you drop the excess baggage from wherever you store it? Losing weight is the only way to reduce fat. And although exercise can burn some calories, it will generate hunger and a bigger gain can be made simply by using those muscles to push your body away from the dinner table sooner.

POMEGRANATE JUICE MAY PREVENT CANCER FROM SPREADING WITHIN BODY: In a study on lab-cultured cancer cells, researchers have that found that components in pomegranate juice inhibit the migration of cancer cells within the body, potentially leading to a new treatment down the road. Cancer cells often metastasize - spread - within the body by breaking away from the cancer location. But pomegranate components increased cell adhesion, reducing the breaking away of cells. They also discovered that pomegranate components weaken the natural attraction that prostate cancer cells have to a protein in bone marrow, which is how prostate cancer cells spread to the bone. (The proteins and genes involved in the movement of prostate cancer cells are essentially the same as those involved in the metastasis of other cancers.) The pomegranate components were identified as phenylpropanoids, hydrobenzoic acids, flavones and conjugated fatty acids. Research is still needed to see whether these pomegranate components have the same effect on live subjects as on the lab culture and without side effects. This study was presented in Philadelphia on December 12, 2010 by Canadian researchers at the 50th annual meeting of the American Society for Cell Biology but is not yet published or available online.

LOW-SUGAR CEREALS INCREASE CHILDREN'S FRUIT CONSUMPTION: A study has concluded that when children are served cereals containing low levels of sugar, instead of high levels, they are more likely to add fruit to their cereal. Both sugar and fruit were made

available along with their cereal. Children given low-sugar cereal chose to eat substantially less cereal, more fruit and less sugar. They also increased overall dietary nutrition. Children reported that they liked or loved the cereal they were served, whether they received the high- or low-sugar cereals. Fifty-four percent of children given low-sugar cereal opted for fruit as a topping compared with just eight percent of those given high-sugar cereal. Researchers suggested that despite heavy marketing of sugar-coated cereals at children, children can and will make good nutritional decisions if they are given the chance. This study was released December 13, 2010 by the journal Pediatrics and is now available online at http://bit.ly/dQPyAy without subscription or fee.

WINE WITH RICH MEALS SLOWS DIGESTION: Researchers have concluded that drinking wine with calorie-rich meals retards the digestive process; and wine was not associated with symptoms of indigestion, such as bloating, heartburn or belching. (Slower digestion of a high-calorie meal may help to prevent sudden, and potentially unhealthy, spikes in blood sugar.) On two different occasions, the same twenty participants consumed a meal of cheese fondue along with either black tea or 300 ml of white wine. Each time, established scientific breath tests conducted over a four-hour period after meals supplied data about the effect of wine consumption on digestion. The wine-drinking group showed a fifty percent slower gastric emptying time; also, appetite level was suppressed by a third among this group. A shot of cherry schnapps after the meal reduced appetite, in this case for dessert. However, drinking wine during this heavy meal did not generate any indigestion symptoms. One problem with this study was the inability to hide from participants, whether they were in the tea or wine group. This study was published in the December 14, 2010 online edition of the British Medical Journal and is available online now at http://bit.ly/hZ8KjM without subscription or fee.

OMEGA-3 FATS MAY HELP PREVENT AGE-RELATED MUSCLE LOSS: A study has found that supplementation with omega-3 fatty acids can stimulate muscle synthesis in older adults, possibly preventing or treating sarcopenia - the loss of muscle mass, strength and function that occurs with aging. Sixteen, older, healthy participants received either omega-3 supplements or corn oil for eight weeks. The rate of the manufacture of muscle protein was measured immediately after absorption and again during hyperaminoacidemia-hyperinsulinemia - meaning when amino acids and insulin levels are very high in the blood. Corn oil had no effect on muscle production. The omega-3 oil had no post-absorptive effect on muscle production either but boosted muscle protein synthesis during these other times, when blood levels of amino acids and insulin were high. Researchers concluded that omega-3 fatty acid supplements may offset sarcopenia. This study was small in size and changes in muscle size and strength were not measured; further study would be helpful. This study was released December 15, 2010 but will not appear in print until a

future issue of the American Journal of Clinical Nutrition. It is available online at http://bit.ly/gztTnh with fee payment or subscription.

DID YOU KNOW…?
You should never ignore a fever just because it is not very high. Usually, even a low-grade fever is a sign that your body is fighting an infection and needs rest. And if your fever is accompanied by a cough or a rash or vomiting or diarrhea or a rash, your infection is likely contagious and can be passed easily to others, especially those around you who are elderly or have weakened immune systems. Ideally, you should stay home, isolate yourself and call your healthcare provider for advice if symptoms are worrisome.

CHILDLESS COUPLES EAT HEALTHIER DIETS: One study suggests couples with children have poorer diets; and a second found numerous deaths could be prevented or delayed by adherence to dietary guidelines. The first study concluded the presence of children in a household leads to reduced demand for produce and meat, and increased demand for cereals and potatoes. Childless couples consumed two kilograms (4.4 pounds) more produce over two weeks than households with children. The second study concluded five portions of fruit and vegetables daily could prevent 15,000 UK deaths annually - equivalent to 73,000 deaths in the US. Following UK fiber, fat and salt recommendations could prevent 4,000; 7,000; and 7,500 UK deaths, respectively, annually - equivalent to 19,500; 34,000; and 36,500 US deaths respectively. UK recommendations include a minimum 440gm of produce and 18gm of fiber; a maximum one-third of calories from fats, with saturated fats comprising only ten percent of fats; and a maximum 6 gm of salt. These recommendations could save 33,000 UK lives annually - and 160,000 American lives. The first study appeared in the December 2010 issue of the European Review of Agricultural Economics and is available online at http://bit.ly/dP0cDo. The second study, released December 15, 2010, will appear in a future issue of the Journal of Epidemiology and Community Health and is available online at http://bit.ly/g5Mf0q.

BEET JUICE LOWERS BLOOD PRESSURE AND OXYGEN NEEDS: Researchers have concluded that a component of beetroot juice has a two-fold effect on the body that may be especially beneficial to those with heart or lung conditions. Previously, whole beetroot juice caused a stir when it was shown to improve athletic performance by 16 percent. But this new study concludes its benefits are not limited to athletes and that a single component in the juice is entirely responsible for these effects. For six days, some participants consumed regular beetroot juice while others drank juice from which the nitrates had been removed. Those drinking the nitrates-containing juice experienced lower blood pressure and a reduced need for oxygen when performing low-intensity exercises such as walking. Nitrates widen blood vessels, lowering blood pressure, and cause muscle tissues to work on a lower amount of oxygen. The effort required to walk for instance, was 12 percent less and this effect could boost mobility and exercise

ability among the elderly or those with poor heart or lung function. Released early, this study will appear in a future issue of the Journal of Applied Physiology. It is now available online at http://bit.ly/gsyKDF with subscription or access fee.

PHSYICAL ACTIVITY NO GREATER IN DEVELOPING VS DEVELOPED COUNTRIES: A meta-analysis (where the data from many studies are combined into one study) has found no difference between the total energy expenditure (TEE) and physical activity level (PAL) each day of the average person in a developing country and the daily TEE and PAL of the average individual in a developed country. There are major implications for the apparent obesity epidemic in the developed world. Previously, it was assumed that people in more developed areas performed fewer physical tasks, using far fewer calories due to a much smaller amount of exercise, and that this partly explained the wholesale increase in the number of overweight or obese individuals. However, this study suggests that something other than reduced calorie expenditure is at work in developed nations. It may be helpful if researchers focused on cultural, physiological, psychological and dietary differences to explain the obesity challenge. This study was released December 15, 2010 but will not be published until a future issue of the American Journal of Clinical Nutrition. It is now available online at http://bit.ly/i0DlHW with subscription or access fee.

HIGHER OMEGA-3 DOSES STUDIED FOR CARDIOVASCULAR BENEFIT: Previous research has linked the regular nutritional dosage of one gram a day total of two omega-3 fatty acids - eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) - to a lower mortality rate from cardiovascular problems. Some evidence has suggested higher doses may help fight inflammation and have other cardiovascular benefits. Now a study has assessed some effects of a daily dose of 3.4 grams a day of omega-3 on healthy subjects with moderately high triglycerides. Researchers found that, over eight weeks, this pharmaceutical (higher) dosage does not fight inflammation, lower cholesterol, or improve the function of endothelials (cells lining the blood vessel) - but it does reduce triglyceride levels by 27 percent. The lower gram per day dosage did not produce this benefit. This study was released early by the American Journal of Clinical Nutrition but will not appear in print until a future issue; it is available online now at http://bit.ly/haVsRp with subscription or access fee.

DID YOU KNOW…?
Although people often blame a brief illness with nausea on the so-called, 24-hour stomach flu, there is in fact, no such thing. If your stomach and digestive sickness passes in a day, you most likely had a bout of plain-old, food poisoning, suggest the Centers for Disease Control (CDC). The US government agency reported new food poisoning statistics in December 2010 in the journal, Emerging Infectious Diseases, showing that 48 million Americans get sick each year from foodborne diseases, caused by poor food handling at home and especially, in restaurants. Of these, 128,000 are hospitalized and 3,000 eventually die.

HIGH-PROTEIN DIET MAY CAUSE HIGH BLOOD PRESSURE: A study suggests that a high-protein diet may boost blood pressure substantially, as well as cause kidney damage. Researchers placed baby rats on diets with high, medium or low levels of protein and when they had matured to 5 to 12 weeks of age, also put them on a high salt diet. Those fed the high-protein diet developed much higher blood pressure levels, as well as greater urine albumin-to-creatinine ratios. (A high albumin-to-creatinine ratio is an indicator of possible kidney disease.) Also, immune factors known as infiltrating T lymphocytes began to accumulate in the kidneys of the rats on high-protein diets; and these T lymphocytes diminished when an immune suppressing agent was administered. The study team concluded that excessive protein may damage the kidneys of rats; and that both high-salt and high-protein diets result in high blood pressure. Further research would help translate these findings to humans but this study raises concerns about the high-protein Western diet and the prevalence of high blood pressure. This study was released December 20, 2010 and will be published in a future issue of the journal, Hypertension. It is available online now at http://bit.ly/gOPEmq with fee or subscription.

BLUE-GREEN ALGAE MAY HELP FIGHT ALS: A study has found preliminary evidence that supplementing with spirulina may protect dying motor neurons in mice with amyotrophic lateral sclerosis (ALS), also known as Lou Gehrig's disease. This may translate into clinical benefits for humans. (Motor neurons are nerve cells that control muscles. Spirulina are nutrient-rich blue-green algae.) Earlier research suggests spirulina exerts dual protection, reducing both oxidation and inflammation. Current ALS treatments help relieve symptoms but previous studies by this group and others, suggested the causes of ALS might be treated by plant antioxidants, such as those in blueberries and ginkgo. Spirulina contains several types of a potent antioxidant group known as phycocyanins, as well as large amounts of beta-carotene. In the mouse study, spirulina reduced the death of motor neurons, lessened indicators of inflammation, and delayed the onset of ALS symptoms. Research on actual human motor neuron counts, and on whether spirulina supplementation extends the lifespan of human ALS patients, will determine its effectiveness as an ALS therapy, the team concluded. This study was published in the current issue of the Open Tissue Engineering and Regenerative Medicine Journal. It is available online now at http://bit.ly/hG8vWV without subscription or cost.

FRIED FISH LINKED TO RISK OF STROKE: A study has concluded that the racial and geographical differences in the incidence of strokes may be linked to the frying of fish. African-Americans, as well as people living in the so-called stroke belt – an area of the United States that reports a much higher rate of strokes – have a much higher consumption of fried fish than Caucasians living outside of the stroke belt. This may explain, in part,

their greater risk of stroke, researchers suggest. (The stroke belt includes the states of North Carolina, South Carolina, Georgia, Alabama, Mississippi, Tennessee, Arkansas, and Louisiana. People living in the stroke belt are more likely to die from a stroke than people living in other parts of the country.) African-Americans were more than three-and-a-half times more likely to eat two or more servings of fried fish per week than Caucasians. Studies have shown that the beneficial omega-3 fatty acids in fish, especially in fatty fish, may reduce the risk of stroke; but research also has shown that frying fish leads to the loss of the natural fatty acids. This study was released December 22, 2010 but will not be published until a future issue of the journal, Neurology. It is available online now at http://bit.ly/dOU4KQ with subscription or access fee.

VEGETARIAN DIET CUTS ADVERSE EFFECTS OF KIDNEY DISEASE: A study has found that the source of protein is important in the diets of kidney disease patients and that a vegetarian diet can reduce the phosphorus-caused risk of heart disease and death in these patients. The systems of people with kidney disease cannot adequately get rid of phosphorus, a mineral found in dietary proteins and also used as a food additive. As a result, kidney patients must struggle to navigate low-phosphorus diets to avoid developing toxic levels of this mineral. Phosphorus levels were measured in kidney disease patients during a vegetarian diet and during a meat-based diet. Protein and phosphorus intakes were equal in each diet; but blood and urine levels of phosphorus in patients on vegetarian diets were lower than when they were on a meat-based diet. The reason for the reduction was not clear but researchers concluded that it may prove beneficial to advise kidney disease patients to consume grain-based vegetarian sources of protein instead of meat. This study was released December 23, 2010 but will not be published until a future issue of the Clinical Journal of the American Society Nephrology. It is available online now at http://bit.ly/qL9Chn with subscription or access fee.

DID YOU KNOW…?
Exercise is not a miracle weight-loss solution. People assume exercising drops pounds quickly by burning up calories but in fact, very few calories are burned. For instance, running a mile will use up about 100 calories but just sitting on the sofa for the same length of time will burn about 60 calories. But if you say no to just one buttered bagel, you save yourself 495 calories. That does not mean dieters should skip exercise because it helps ensure that more of the calories you lose will be in the form of fat instead of lean tissue. Also, exercise reduces the risk of diabetes by increasing the ability of insulin to enter cells; and exercise lowers the risk of heart disease by improving blood clotting mechanisms and lowering triglycerides.

GREEN LEAFIES AND OLIVE OIL REDUCE CARDIOVASCULAR RISK: Researchers have found that higher consumption of leafy vegetables and olive oil may reduce the risk of cardiovascular disease. Only women participated in the eight-year study, which was designed to rule out any interference in the outcome from

specific other factors, such as alcohol consumption, smoking, high blood pressure, education, menopause, physical activity, and body type. Cardiovascular events were reduced by almost half, among women who consumed the greatest amount of leafy vegetables, as well as among those who consumed the most olive oil. A higher fruit intake showed no effect on cardiovascular risk. Recently released, this study will be published in a future issue of the American Journal of Clinical Nutrition. It is available online now at http://bit.ly/fKsJrN with subscription or payment of an article access fee.

VITAMIN E AND SELENIUM SUFFICIENCY INHIBITS ESOPHAGEAL CANCER: A new study on rats shows that supplementation that treats vitamin E and selenium deficiencies can inhibit a specific type of esophageal cancer and increase survival rates, if started before late stages. This echoes the results of a previous trial on humans, reporting fewer deaths from esophageal squamous cell carcinoma, or ESCC, among younger patients who received vitamin E and selenium supplementation but not among older patients. In the rat study, some subjects were deprived of adequate dietary selenium and vitamin E. Then, ESCC was inhibited in various ways by maintaining regular levels of vitamin E and selenium during early disease stages. The multiplication of esophageal cancer cells decreased; the creation of new blood vessels to feed esophageal tumors was reduced; and the activities of various enzymes associated with inflammation and tumor creation were lowered. It is important to note that this effect stemmed from supplementation of vitamin E and selenium to maintain normal levels and not from mega-dosages. This study was released December 24, 2010 and will be published in a future issue of the journal, Carcinogenesis. It can be accessed online now at http://bit.ly/eOjtLn with subscription or fee payment.

VITAMIN D DEFICIENCY IN NEWBORNS LINKED TO RESPIRATORY INFECTIONS: Babies born with a vitamin D deficiency have a greater risk of developing respiratory infections during infancy, and experiencing wheezing during early childhood, a new study suggests. Previous studies found that the infants of mothers who took vitamin D supplements during pregnancy were less likely to experience wheezing during childhood but this would not predict accurately, the actual blood levels of newborns. (Wheezing can be a symptom of many respiratory infections and not just asthma.) The new study examined actual blood levels of vitamin D in newborns by testing umbilical cord blood samples. Researchers found a reduced wheezing incidence among infants whose umbilical cord showed sufficient vitamin D levels. Vitamin D has been associated traditionally with bone development but newer research suggests a role for this sunshine vitamin in the immune system. This study was posted online at http://bit.ly/dMoFA0 on December 27, 2010 by the journal, Pediatrics, but will not be published until a future print issue. Online access requires subscription or fee payment.

MEDITERRANEAN DIET MAY SLOW COGNITIVE DECLINE: New research suggests that older adults who adhere most closely to the so-called Mediterranean diet may experience a slower rate of age-associated cognitive decline. Subjects were classified according to their adherence to the Mediterranean diet (MD) and to the Healthy Eating Index-2005 (HEI-2005). (The MD is a dietary pattern abundant in olive oil, vegetables, fruits and legumes; moderate in poultry, dairy and fish; and low in red meat and animal fat. The HEI-2005 is a measure of diet quality used to assess compliance with the US Dietary Guidelines for Americans.) Researchers noted that black participants scored higher in adherence to the HEI-2005, while whites scored higher in adherence to the MD. Adjustments were made to eliminate the influence of potentially confounding factors, such as age, sex, race, education, and participation in cognitive activities. Over a 7.6 year period, those who most closely followed the MD showed slower rates of cognitive decline. However, adherence to the HEI-2005 showed no link to cognitive decline. This study was released early by the American Journal of Clinical Nutrition and will not be published until a future issue. It can be read online now at http://bit.ly/fGFEfH with subscription or fee payment

FISH CONSUMPTION MAY REDUCE STROKE RISK: A new study has helped resolve the apparent contradictions in previous research on the link between increased consumption of fish and the risk of stroke. Researchers found that the overall incidence of stroke was lower among women who consumed the greatest amount of lean fish. The women were free of any indications of cardiovascular risk or cancer at the outset of the study. Fatty cold-water fish are known for their high content of omega-3 fatty acids, which are linked to cardiovascular benefits; but this study found an overall protection against stroke only with lean fish. The total risk of stroke was reduced about 15 percent among those who ate more than three servings of lean fish per week, although the risks of two types of stroke – hemorrhagic stroke and cerebral infarction – were not lowered. This study was released December 29, 2010 by the American Journal of Clinical Nutrition and will be published in a future issue. It can be read online now at http://bit.ly/gagulw with subscription or fee payment.

DID YOU KNOW…?

Allergies are less common in children exposed during infancy to farm animals and bacteria. In fact, children of mothers who were exposed during pregnancy to cats or farm animals are born with an immune system protection against atopic dermatitis, reports a study released November 26, 2010 by the Journal of Allergy & Clinical Immunology. (Atopic dermatitis is an itchy and painful skin rash caused by an inherited hypersensitivity to allergens.) These facts reinforce the well-accepted hygiene hypothesis, which suggests that the modern-day obsession with sanitized environments, and early-life protection against bacteria, deprives a child's immature and still-developing immune system from experiencing an appropriate level of bacterial exposure. This may cause immune system over-reactions, or autoimmune disorders, throughout life.

FIVE FOODS ACCOUNT FOR A THIRD OF SODIUM INTAKE: A large analysis of the sodium content of foods purchased has found that five food categories taken together account for over a third of all sodium consumption. The study assessed 44, 372 food products purchased by 21,108 UK households to determine the key sodium contributors. Bacon, bread, milk, cheese and sauces account for a total 37 percent of sodium intake. Table salt and processed meats contribute 23 and 18 percent of sodium consumption, respectively. Bread and bakery products account for a significant 13 percent, while dairy products contribute 12 percent. Sauces and spreads alone represent 11 percent of sodium intake. The researchers concluded that targeting sodium reduction in a small number of foods would lead to large decreases in the sodium available for consumption. This study, along with a chart of the sodium content of the main contributing foods, has been made available online at http://bit.ly/i0egpd by the American Journal of Clinical Nutrition, although the study will not appear in print until a future issue of the journal.

DID YOU KNOW…?
Drinking too much water in a short period of time can cause hyponatremia, which can be fatal, especially if it occurs within 48 hours after heavy exercise. Some marathon runners have died after downing very large amounts of water immediately after a race. Hyponatremia involves low sodium levels and water-induced swelling of cells; while most body cells can withstand this, brain cells cannot. Symptoms of hyponatremia include vomiting, loss of appetite, headache, restless fatigue, abnormal mental status (such as hallucinations or confusion), muscle weakness and even convulsions. Often people are advised simply to consume lots of water or specific volumes per day; however, research shows thirst is your best guide to how much to drink; and water intake after heavy exercise and sweating should be moderate.