

EFFORTS

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Emphysema Takes Your Breath Away

June 2006

NATIONAL COPD AWARENESS PROGRAM AIMS TO HELP AMERICANS LEARN MORE ABOUT COMMON LUNG DISEASE -- COPD

On June 24th, a new COPD awareness campaign will make its first stop on its national tour at the Westfield Parkway Mall in San Diego. Called The Breathing Room, this event will help COPD patients, as well as those experiencing symptoms, learn more about the disease. Featuring disease animation and a 3D interactive lung model, The Breathing Room is also a good opportunity to bring your kids and neighbors, or have them bring you, to an event that will also help them know more about the disease. There will be respiratory therapists and doctors available onsite to assist in any questions. Information on lung health and COPD from the program partners—EFFORTS, COPD Foundation and National Lung Health Education Program— will also be available.

The Breathing Room will be open from 10:30 to 6:30pm on Saturday, June 24.
Help us make this a successful event....Please ask your friends, family and colleagues to attend.
Looking forward to seeing you all there.

Contact: Gary Bain 1efforts@emphysema.net
Further details will be made known when schedule is finalized.

BUG ZAPPER- NOVEL DRUG KILLS RESISTANT BACTERIA

A newly recognized compound can wipe out some of the most troublesome antibiotic-resistant bacteria, laboratory tests show. The drug works by sabotaging a microbe's production of fatty acids. Scientists at Merck Research Laboratories in Rahway, N.J., discovered the compound, which they call platensimycin. The findings are preliminary but impressive, says Eric D. Brown, a microbiologist at McMaster University in Hamilton, Ontario. "This is a really promising story in a field that has had quite a bit of disappointment," he says.

Roughly 90,000 people in the United States acquire fatal infections in hospitals every year, according to data from the Centers for Disease Control and Prevention in Atlanta. Nearly three-fourths of those deaths can be traced to antibiotic-resistant microbes. Most antibiotics were developed at least 50 years ago. Those made more recently are almost all variants of the early drugs and work by attacking the bacterial cell wall or DNA- or protein-synthesis machinery.

Merck chemist Sheo B. Singh and his colleagues screened roughly 250,000 natural compounds in search of potent antibacterials. This approach makes sense, Brown says, because organisms in nature "are constantly in warfare with each other." He notes that natural compounds work well as drugs because they target specific weaknesses in rival organisms. The search led to platensimycin, a small molecule

made by the bacterium *Streptomyces platensis*. That bug normally lives in soil in South Africa.

In the May 18 *Nature*, the researchers report that platensimycin promptly kills lab-dish colonies of staphylococcus and enterococcus bacteria that resist drugs such as vancomycin and methicillin. When the researchers continuously infused mice with the drug in a first test, it killed *Staphylococcus aureus* that wasn't drug resistant. Platensimycin is structurally different from other antibiotics. Unlike most of those drugs, it binds to and neutralizes an enzyme called FabF, which bacteria use to make fatty acids. Platensimycin "preexisted in nature to get this job done," Brown says. "This was pretty good detective work at Merck."

Fatty acids are essential for building and maintaining the membrane that lines the bacterial cell wall. FabF is different from the corresponding enzyme in mammals, suggesting that platensimycin won't inhibit fatty acid synthesis in people, says Charles O. Rock, a biochemist at St. Jude Children's Research Hospital in Memphis, Tenn. This is the fourth natural compound—and by far the most potent—found to target FabF, Rock notes. "Nature is telling us again and again that if you want to go after bacteria, go after this enzyme," he says. "If we look long enough and hard enough, we'll find these [fatty acid] inhibitors," says Steven J. Projan, a microbiologist at Wyeth Pharmaceuticals in Cambridge, Mass. But he cautions that the Merck team found it necessary to continuously infuse

the drug in the mouse tests. That suggests that platenisimycin might be metabolized too quickly in people to make a good drug candidate. Still, the study shows that derailing fatty acid synthesis can kill bacteria, Projan says. The new finding "just goes to show you how marvelously clever nature is at blocking enzyme activity," says Brown.

Despite the heady results, the Merck scientists had no comment on whether the company would pursue further development of platenisimycin. Source: Science News Online



CHEAPER DIURETICS BEST BET FOR PREVENTING HEART FAILURE

Diuretic drugs are the best first step in treating high blood pressure to prevent heart failure, concludes a new U.S. study. For this study, researchers analyzed data on over 33,000 patients with high blood pressure and one or more risk factors for heart disease. The patients were given different types of medicines to treat their hypertension, including calcium channel blockers, ACE inhibitors, or diuretics, which are the least expensive kind of high blood pressure medicines.

As reported in the journal *Circulation*, during the first year, patients who received the calcium channel blocker or ACE inhibitor were 40 percent more likely to be hospitalized or die from heart failure than those who took a diuretic. However, those differences diminished in later years, with patients taking the calcium channel blocker 22 percent more likely to develop serious heart failure than those taking either diuretics or ACE inhibitors.

"Diuretics are better than calcium channel blockers at preventing heart failure, and better, at least in the short term, than ACE inhibitors," study lead author Dr. Barry R. Davis, professor and director of the biostatistics division, University of Texas School of Public Health in Houston, said in a prepared statement.

"One reason diuretics may have an advantage over other drugs is that they are good at decreasing the volume that the heart has to deal with, and the other drugs don't do that. ACE inhibitors remodel the heart, which may have a more long-term effect on preventing heart failure," Davis said. He noted that more than 90 percent of people who develop heart failure first had high blood pressure.

"Although not as well recognized as its effects on stroke and heart attack, one of the benefits of treating high blood pressure is that it helps prevent heart failure," Davis said. "This study provides evidence for the superiority of diuretics over calcium channel blockers and ACE inhibitors as the base of an anti-hypertensive regimen to prevent heart failure," he added. The study received financial support from drug maker Pfizer Inc. and contributions of study medications from Pfizer, AstraZeneca, and Bristol-Myers Squibb.

SOURCE: American Heart Association



FIRST SIGNS OF DEMENTIA MAY BE PHYSICAL

Poor physical function may be a warning sign of increased risk of Alzheimer's disease and other dementias, a new study suggests. "Our point is that you don't want to separate the mind

from the rest of the body," said study co-author Dr. Eric Larson, director of the Group Health Center for Health Studies, in Seattle. "The two are inextricably linked in older people," he added. "Even the mildest degree of physical disability is going to predict a heightened risk for Alzheimer's," added Dr. Gary Kennedy, a geriatric psychiatrist and chairman of the Geriatric Mental Health Foundation at Montefiore Medical Center in New York City. "This adds a little to diagnostic precision when we're looking for who's at risk and who's not, so we can provide interventions that prevent," he said.

While some previous studies have found a relationship between physical function and cognitive ability, they haven't explored how physical performance is linked to the development of dementia or cognitive impairment, which is often a precursor to dementia.

For the new study, which appears in the May 22 issue of the *Archives of Internal Medicine*, investigators looked at 2,288 men and women aged 65 and older who did not have dementia when the study began. Cognitive abilities were assessed and ranked at the beginning of the study. Physical function was assessed, according to several established tests: a timed, 10-foot walk; a "chair-stand test" that timed participants as they stood from a seated position five times; a standing balance assessment; and a measurement of grip strength in the dominant hand. Assessments were updated every other year for an average of six years.

At the beginning of the study, individuals with lower physical-performance scores also had lower cognitive scores. As the study progressed, people with higher physical-performance scores were three times less likely to develop dementia than those with lower scores. The first physical indicators of a risk for dementia in people without cognitive impairment seemed to be problems with walking and balance. And among people with apparent mild cognitive impairment, a weak handgrip suggested they would progress to dementia, the study found.

In other words, balance and walking problems may occur during an earlier stage while a weak handgrip may occur during a later stage.

The good news is that stepping up physical activity levels may also have a stalling effect on dementia. The same research team had earlier found that seniors who engage in some form of minimal exercise at least three days a week can cut their risk of developing Alzheimer's and other forms of dementia by as much as 30 percent to 40 percent. The message from that study, Larson said, was "use it even after you start to lose it."

And that message may be equally applicable here. "If you notice physical function declining, it's arguably a good idea to rehab yourself or have a strong physical exercise program early on," Larson said. "I'm very excited about this," he said. "Something as simple as regular walking may lessen the rate of dementia." Kennedy added: "If you think the person has very subtle decrements in motor performance, it might be worthwhile to get them up and out and more physically active. It's never too late to start exercise."

.....Source: HealthDay News

INABILITY TO COMPLETE QUARTER-MILE WALK IS SIGNIFICANT PREDICTOR OF DEATH AND POOR HEALTH IN ELDERLY

Walking fitness makes a significant difference in predicting the likelihood of future disability in the elderly, according to a study published today in the *Journal of the American Medical Association*. Researchers at the University of Pittsburgh Graduate School of Public Health (GSPH) and their collaborators found that the ability to walk 400-meters, or about a quarter mile, was an important determinant not only of whether elderly participants would be alive six years later but also how much illness and disability they would experience within that time frame.

"The ability to complete this walk was a powerful predictor of health outcomes. In fact, we found that the people who could not complete the walk were at an extremely high risk of later disability and death," said lead author, Anne B. Newman, M.D., M.P.H., professor of epidemiology at GSPH and professor of medicine in the department of medicine, University of Pittsburgh School of Medicine.

Dr. Newman and her co-workers, collaborating with researchers at five other institutions, asked a group of almost 2,700 community-dwelling white and African-American men and women aged 70 to 79 to complete, as quickly as they could--without running--and at a consistent pace, ten 40-meter laps in a corridor. All of the participants previously had reported no difficulty walking a quarter of a mile, climbing one flight of stairs without resting or performing basic activities of daily living. Participants were excluded from attempting the walk if they had an abnormal electrocardiogram, elevated blood pressure or resting heart rate or recently had a procedure for, or symptoms of, heart disease. Those participants who qualified for the quarter-mile walk were told to stop if they experienced any signs of fatigue or persistent rapid heart rate.

Of the 2,680 elderly people eligible for the test, 2,324 (86 percent) completed the full 400-meters, while 356 (13 percent) did not complete the test. The investigators followed the medical histories of all participants--whether they completed the walk or not--for about six years.

Among those excluded from or who stopped the walk, death rates were significantly higher six years later than those who completed the walk. In addition, of the more than 2,200 participants who did not have a clinical diagnosis of cardiovascular disease at the time of the test, those who did not complete the walk had significantly more heart-related incidents six years later compared to those who did. The former group also had a significantly higher risk of persistent limitations in their mobility and related disabilities than did those who completed the full 400-meters.

"A significant portion of people in the study could not complete the walk, even though they believed they were in fairly good health. Moreover, there was a big gap in health outcomes between people who could complete the longer walk and people who could not, with the latter being at an extremely high risk of becoming disabled or dying. What was really

surprising is that these people were not aware of how limited they actually were," explained Dr. Newman, who also is a collaborator with the University of Pittsburgh Institute on Aging.

Even among those who completed the walk, those in the slowest 25 percent for walk time had a three- to four-fold higher risk of death than those in the fastest 25 percent for walk time. Those in the slowest 25 percent of walk time also had a higher risk of cardiovascular disease-related complications and limitation in their mobility and mobility-related disabilities than those in the fastest 25 percent.

Based on these results, Dr. Newman and her collaborators believe the 400-meter long-distance corridor walk offers a relatively simple but powerful way to discriminate levels of function, particularly among the elderly with normal performances on lower extremity tests or on short walking tests. More importantly, it can point out who needs intervention.

"Our study found that many people who performed well on lower extremity tests or short walking tests did not perform well on the 400-meter walking test. Although quite simple, the 400-meter walk appears to be a highly accurate way to predict whether or not someone may be experiencing early problems and needs an immediate referral into an intervention program to help them increase their activity and physical stamina," she explained.

Unfortunately, many communities have structural barriers that prevent the elderly from maintaining physical fitness, so these findings have public policy as well as public health implications, said the authors. According to Dr. Newman, it is difficult for many older people to find safe places to walk, and many can't afford indoor exercise equipment, such as treadmills. As a result, the elderly tend to become more and more sedentary as they grow older, setting them up for major problems as they age.

"Individuals who remain physically active into their 70s have a big advantage in their 80s in terms of living longer and reducing their risk of cardiovascular disease and disability. So, we really need to focus on developing programs in the community that will help the elderly stay active and healthier longer," she said.Source: medicalnewstoday.com

INSPIRATORY MUSCLE TRAINING IMPROVES SYMPTOMS IN COPD PATIENTS

High intensity inspiratory muscle training can improve muscle function in COPD patients and reduce dyspnea and fatigue, according to a report in the June issue of the *European Respiratory Journal*. Still, used alone, such training is unlikely to yield clinically relevant improvements in exercise capacity.

IMT "may be of particular benefit to COPD patients who report dyspnea during activities of daily living and/or fatigue, but are unable to effectively participate in whole-body exercise training because of comorbid conditions, such as musculoskeletal impairments," note Dr. P. R. Eastwood, from the Sir Charles Gairnder Hospital in Nedlands, Western Australia, and colleagues. The study involved 33 COPD patients who were randomized to receive high-intensity IMT or sham IMT three times a week for 8 weeks. Lung function,

maximum inspiratory pressure, maximum threshold pressure, dyspnea, and quality of life were assessed before and after the training interventions.

During each 21-minute IMT session, subjects completed seven 2-minute cycles of breathing with an inspiratory threshold loading device. High-intensity IMT was performed at the maximum load tolerable, whereas sham IMT was performed at 10% of baseline maximum peak inspiratory mouth pressure. High-intensity IMT was associated with significant improvements compared with sham IMT, including a 29% increase in maximum inspiratory pressure, a 56% rise in maximum threshold pressure, an increase in 6-minute walk distance of 27 m, and reductions in dyspnea and fatigue.

"Further study is required to investigate the effects of combination high-intensity inspiratory muscle training and whole-body exercise training on dyspnea during activities of daily living and fatigue," the authors state.

..Source: Eur Respir J 2006;27:1119-1128.



INTRANASAL CORTICOSTEROIDS CAN CAUSE serious adverse effects, as well as serious adverse interactions with other medications. For these reasons, a Joint Task Force for the American Academy of Allergy, Asthma and Immunology and the American College of Allergy, Asthma and Immunology has issued a position statement, warning of the dangers of over-the-counter access to intranasal corticosteroids.

The Joint Task Force reviewed the literature to assess the frequency and severity of adverse events related to the use of intranasal corticosteroids. Task Force members concentrated their search on the effects on growth, effects on bone, ocular effects, effect on the hypothalamic-pituitary-adrenal axis and local adverse effects. The position statement is published in the April issue of the Annals of Allergy, Asthma and Immunology.

The risks are significant and include bone resorption, growth suppression and an increase in intraocular pressure, which could be a serious problem in a patient with glaucoma, the Task Force concludes.

Task Force chairman Dr. Leonard Bielory of University of Medicine and Dentistry of New Jersey, Newark and colleagues point out that individuals often exceed the recommended dose of over-the-counter medications. This could pose a significant problem with intranasal corticosteroids, which can have significant adverse effects, even at recommended doses.

The Task Force stresses that patients using these drugs should be under the direct, close supervision of a physician. Adverse effects of intranasal corticosteroids can be insidious, only becoming evident many years later, Dr. Bielory warns. Intranasal corticosteroids, used in conjunction with corticosteroids administered through other routes, increase the significant adverse events associated with these drugs.

Based on their findings, the Task Force urges the Food and Drug Administration not to approve over-the-counter access to intranasal corticosteroids. "These drugs should remain a prescription-only entity," they write. ...Source: NYTimes



CORTICOSTEROID DRUGS MAY BOOST CARDIAC ARRHYTHMIA RISK

High doses of corticosteroid drugs used to fight common illnesses such as asthma or arthritis may increase the risk for an irregular heartbeat called atrial fibrillation, Dutch researchers report.

Atrial fibrillation occurs when muscles of the heart's two upper chambers contract irregularly. It is the most common type of irregular heartbeat and affects about 4 percent of people over age 60.

People with atrial fibrillation are at four to five times the risk of stroke compared with people who do not have the condition. In addition, they may also be at higher risk for other cardiovascular complications. "Our findings suggest that patients receiving high-dose corticosteroid therapy are at increased risk of developing atrial fibrillation," concluded a team led by Dr. Cornelis S. van der Hoof, of Erasmus University Medical Center, Rotterdam. Corticosteroids are anti-inflammatory medications often prescribed for asthma and other lung diseases, arthritis, allergies and blood cancer.

But experts at the American Heart Association and elsewhere stress that the findings, while interesting, are far from definitive, and that patients taking corticosteroids should not discontinue use of the drugs. "If you are currently taking corticosteroids for any reason, do not immediately stop taking them," Kenneth Ellenbogen, M.D., a spokesperson for the American Heart Association and Kontos professor of Cardiology at the Virginia Commonwealth University in Richmond, said in a prepared statement. "Stopping corticosteroids suddenly can lead to serious side effects and, in some cases, sudden withdrawal from corticosteroids can be life threatening. It is imperative that patients speak to their doctor before making any changes in a medical regimen that includes corticosteroids," he said. The report appears in the May 8 issue of the Archives of Internal Medicine.

In their study, van der Hoof's team collected data on nearly 8,000 adults age 55 or older. The participants were followed from 1990 to 2000, or until they developed atrial fibrillation or died.

During the study period, 435 people developed atrial fibrillation. Of these, 385 were analyzed. The researchers found that people who started taking high-dose corticosteroids within one month of the start of the study had six times the risk of developing atrial fibrillation compared with those who had never taken the medication.

Just how corticosteroids might affect heart function remains unclear. The researchers speculated that the medications may affect the balance of potassium in heart muscle cells, which may cause the muscle to contract irregularly. Corticosteroids also result in salt- and fluid retention, which can lead to high blood pressure, congestive heart failure or enlarged atria (heart chambers), which are all risk factors for atrial fibrillation. "Therefore, careful monitoring of these patients by clinical examination and by performing an electrocardiogram before and after high-dose (pulse) therapy could increase the chance to diagnose and treat this serious arrhythmia as early as possible," the researchers advised.

However, one U.S. expert believes the study has its flaws. "The problem is whether you can link this as cause-and-effect -- that the steroids are what caused the atrial fibrillation," said Dr. Byron K. Lee, an assistant professor of medicine in the Cardiac Electrophysiology Service at the University of California, San Francisco. "I really have my doubts," he said. Lee noted that patients treated with steroids typically have some sort of underlying disease that is already a risk factor for atrial fibrillation. "Stress can [also] trigger atrial fibrillation," he said. "So, I would be very suspicious of these results. In fact, I doubt they're true."

The AHA's Ellenbogen was also cautious about the findings. "The present study is a retrospective analysis of a large population study, and these findings will need further confirmation before definite recommendations about steroid use can be made," he said. The bottom line: Patients who are taking corticosteroids shouldn't worry any more or less based on these findings, Lee said. "Atrial fibrillation is a worry for them, with or without steroids," he said. "People with lung disease are at greater risk for atrial fibrillation," he added. "But the evidence isn't strong that the steroids are causing the atrial fibrillation. It's more likely the underlying disease is what is increasing their risk for atrial fibrillation."

In addition, the age of the patients in the study plays a role, Lee said. "Atrial fibrillation is a disease that is much more frequent as we get older."Source: Health Day News

MANY GENERIC MEDICATIONS FACE PROBLEMS WITH MARKET ENTRY

The Knight Ridder/Kansas City Star examined how a "generic drug's path to the retail market is often long and contentious." According to consulting firm Bain, patents are scheduled to expire on 75 brand name drugs over the next two years -- which a recent study conducted by the Pharmaceutical Care Management Association found could provide consumer and health plan savings of more than \$26.4 billion over the next five years. However, "protracted legal battles" over the patent expirations "are inevitable, ... which means consumers will face many delays before they can save on the coming wave of generic alternatives," according to the Knight Ridder/Star. It is "equally unsettling for consumers ... that drug companies are again paying generic companies to drop patent challenges" that could make generics available before the patents on brand name drugs expire, the Knight Ridder/Star reports. Meanwhile, a backlog of 800 generic drug applications at FDA could further slow access to lower-cost alternative medications. However, "despite the delays, the savings from generics are worth waiting for," because "generics will help hold down monthly insurance premiums, out-of-pocket drug costs and drug spending for Medicare and Medicaid," according to the Knight Ridder/Star. Medicare is expected to save as much as \$8.2 billion in 2007 on statins alone. In addition, because brand-name medications already have established safety records, their generic equivalents pose a small risk of complications. In related news, the Boston Globe on Sunday examined how "generic drugs account for more than half of prescriptions written, and, with the advent of the

Medicare prescription drug benefit, members of Congress want to tap generics' savings potential".

.....Source: medicalnewstoday.com

RAPID LUNG FUNCTION DECLINE RAISES RISK OF DEATH AND HOSPITALIZATION

Rapid lung function decline significantly increases the risk of death and hospitalization for individuals with chronic obstructive pulmonary disease (COPD). These findings appear in the May issue of the American Journal of Respiratory and Critical Care Medicine, published by the American Thoracic Society.

David Mannino, M.D., of the University of Kentucky Medical Center, and two associates found that patients with advanced COPD and rapid lung function decline are 10 times more likely to die than individuals with normal lung function.

COPD, an important cause of hospitalization and death, results from persistent obstruction of the airways associated with either severe emphysema or chronic bronchitis. In emphysema, the tiny air sacs of the lung (alveoli) become enlarged and their walls are destroyed. In chronic bronchitis, the bronchial glands enlarge, causing chronic cough and excess mucus. Ten to 15 percent of all smokers develop COPD as a result of irritants in tobacco that causes inflammation of the alveoli.

Over the course of three years, the investigators analyzed 13,756 middle-aged adults, all of whom participated in the 1986 Atherosclerosis Risk in the Communities Study and provided baseline information on respiratory symptoms and diseases. The researchers tested the participants' lung function twice--once at the start of the study and during a follow-up three years later.

The authors classified patients with the worst lung function as "rapid decliners." Twenty-five percent of the entire study population (3,437 individuals) fell into this high-mortality category. Of the 720 subjects who died during the study, 273 (38 percent) were considered "rapid decliners."

In addition, patients in advanced stages of COPD who were also "rapid decliners" were hospitalized at rate 40 times higher than those with normal lung function at baseline who had no rapid lung decline over the three-year period.

"Mean annual loss of lung function in the overall cohort was 62 ml," said Dr. Mannino. "The mean loss of lung function (FEV1) as a percentage of the baseline value was 1.5 percent annually. Participants in the most rapidly declining quartile of FEV1 had a mean annual loss of 171 ml, which was 4.7 percent of the baseline level per year."

The authors noted that the average annual loss of 62 ml in lung function was higher than that shown in other similar studies, including the Honolulu Heart Cohort at 26 ml, the Busselton Health Study at 30 to 40 ml, the Nottingham Study at 38 ml, and the Copenhagen City Heart Study at 22 to 38 ml.

The authors acknowledged the limitations of their analysis. For example, they only measured lung function twice during the three-year investigation. "It is possible that people may have had a really good day or really bad day at either the baseline or follow-up examination, influencing our results," said Dr. Mannino.

He noted that the group in which rapid decline in FEV1 showed the greatest predictive value for death and hospitalization was also the one least like to be affected by any source of error. Although 461 "rapid decliners" were classified as having respiratory symptoms, none had either a lung abnormality or lung disease.

"The impact of rapid decline in FEV1 was stronger in adults with normal or near-normal lung function at baseline and suggests that this group of people may need more frequent screening and interventions beyond what is recommended," said Dr. Mannino.Source: medicalnewstoday.com

EXPERT PANELS SAYS VITAMIN SUPPLEMENTS ARE SAFE

An independent panel of university faculty, medical researchers, and physicians experienced in nutritional therapeutics says that vitamin supplements are exceptionally safe for the public. A new report by the expert Vitamin Safety Review Panel rebuts a recent US National Institutes of Health report that attempted to cast doubt on food supplement safety. "Over half of all Americans take vitamins every day," said Andrew Saul, Assistant Editor of the Journal of Orthomolecular Medicine. "One cannot help but ask, where are the bodies? The NIH panel ignored pharmaceutical drug dangers, while concentrating on unfounded concerns over your daily multivitamins. This indicates bias."

According to statistics compiled annually by the American Association of Poison Control Centers, multivitamins kill no one. Gross overdose of iron (not a vitamin) has been associated with perhaps two deaths per year. On the other hand, in 2003, there were 59 deaths from aspirin alone. That is a death rate nearly thirty times higher than that attributed to iron supplements. There were still more deaths from aspirin in combination with other pharmaceutical products. In 2003, two people died from caffeine. Three people died from dishwashing detergent. There was also a death from "Cream/lotion/makeup," a death from granular laundry detergent, and one death from table salt. On the other hand, says the Vitamin Safety Review Panel, there is not one death per year from any vitamin in the alphabet. Not from A, B's, C, D or E. Michael Janson, MD, said, "In decades of people taking a wide variety of dietary supplements, few adverse effects have been noted, and zero deaths as a result of the dietary supplements. There is far more risk to public health from people stopping their vitamin supplements than from people taking them."

Another Vitamin Safety Review panelist is Abram Hoffer, MD, who also has a PhD in nutritional biochemistry. Dr Hoffer said, "Vitamin supplements are extraordinarily safe and effective. This is based on fifty years of clinical experience without seeing any life-threatening side effects and no deaths. It is pharmaceutical drugs that are dangerous. Perhaps the US Food and Drug Administration is getting tired of all the bad news about drugs, so instead they are going after nutritional supplements."

Carolyn Dean, ND, MD, agrees. "784,000 people are dying annually, prematurely, due to modern medicine," she

said. "These are statistics from peer-reviewed journals and government databases."

"Focusing on so-called 'vitamin overload risks' is lot of prattle," commented consumer Nancy Watson Dean of Rochester, NY. "What is risky is not taking vitamins. I take lots of supplements every day, and absolutely no prescriptions at all. I have no ailments, and I will be 91 next month."

....Source: Orthomolecular Medicine News Service

UNLIKELY RECEPTOR PAIR KEY TO FAILED ASTHMA TREATMENTS

During an asthma attack, a group of drugs known as beta2 agonists can activate the beta2-adrenergic receptor (beta2AR) present on airway smooth muscle cells, causing the airways to relax and the attack to subside. These receptors often exist in identical pairs called homodimers. More recently it has been revealed that some receptor types can exist in a pair with a different receptor, resulting in a heterodimer. In a study appearing in the May issue of the Journal of Clinical Investigation, Stephen Liggett and colleagues from the University of Maryland show that beta2AR can pair with another receptor on airway smooth muscle cells known as EP1R. Activation of this heterodimer causes beta2AR to become uncoupled from its normal signaling pathway, thereby reducing the ability of beta2 agonists to bring about airway relaxation during an asthma attack. This may be why some beta2AR -activating drugs are not effective in some asthmatics.

Activation of EP1R by the hormone prostaglandin E2 (PGE2) causes airway smooth muscle cell constriction. In their current study, Liggett and colleagues found that PGE2 promotes the pairing or "dimerization" of EP1R with beta2AR, uncoupling b2AR from its signaling cascade, and reducing its ability to cause muscle relaxation in response to beta2-AR-activating drugs. This may explain why in individuals with severe asthma whose PGE2 levels are elevated, some beta2-AR-activating drugs are not effective.

In an accompanying commentary, Peter Barnes from Imperial College London reinforces how important the functional consequence of such receptor interactions can be. He muses about "the possibility of finding unexpected drug interactions or novel therapeutic agents that selectively activate certain heterodimer pairs" as well as the possibility of developing more selective drugs in the future for the treatment of asthma in individuals for whom current therapies have proven ineffective.Source: medicalnewstoday.com

LIGHT THERAPY AND FLUOXETINE ARE EQUALLY EFFECTIVE SAD (WINTER DEPRESSION)

Bright artificial light and the antidepressant fluoxetine are both effective treatments for the winter form of seasonal affective disorder (SAD). A head-to-head comparison conducted in four Canadian cities over three winters is reported in an article in the May issue of The American Journal of Psychiatry (AJP), the official journal of the American Psychiatric Association (APA).

The findings are presented in the article, "The CAN-SAD

Study: Randomized Controlled Trial of the Effectiveness of Light Therapy and Fluoxetine in Patients With Winter Seasonal Affective Disorder” by Raymond W. Lam, M.D., and colleagues of the Mood Disorder Centre at Vancouver Coastal Health Research Institute and the University of British Columbia. The rates of remission were 50 percent and 54 percent of enrolled patients for bright light and fluoxetine, respectively.

Although light therapy and antidepressants are each more effective than placebo, there have been few direct comparisons of them. In addition, this study was double-blind—all participants received light and a capsule each day. One group received low-intensity “placebo” light in addition to fluoxetine. The other group received a placebo capsule and were exposed to 10,000-lux white fluorescent light for 30 minutes a day. Patients judged to have serious risk of suicide were excluded from the study. “This study gives patients with a common, but significantly debilitating mood disorder a choice between two effective treatments,” said Robert Freedman, M.D., AJP editor-in-chief.

Light therapy showed two advantages over fluoxetine. It worked faster, having a greater effect at one week. It also produced less agitation and less sleep disturbance. However, the overall dropout rate and the dropout rate due to side effects did not differ between treatments.

Winter depression is the most common type of seasonal mood disorder. Epidemiological studies show prevalence rates as high as 2.7 percent in higher latitudes. The symptoms may begin in the fall and include profound lack of energy, excessive sleeping, and overeating, in addition to depressed mood. Impaired occupational or social functioning is common.

.....Source: medicalnewstoday.com

FDA REJECTS GREEN TEA HEALTH CLAIMS

No credible evidence that drinking it reduces heart disease risk

There is no credible scientific evidence that drinking green tea reduces the risk of heart disease, federal regulators said Tuesday in rejecting a petition that sought to allow tea labels to make that claim. The Food and Drug Administration said it reviewed 105 articles and other publications submitted as part of the petition but could find no evidence to support claims of the beverage’s health benefits. “FDA concludes there is no credible evidence to support qualified health claims for green tea or green tea extract and a reduction of a number of risk factors associated with CVD” or cardiovascular disease, Barbara O. Schneeman, director of the agency’s Office of Nutritional Products, Labeling and Dietary Supplements, wrote in a letter denying the petition. The FDA posted the letter to its Web site Tuesday.

Ito En Ltd., a Japanese company that bills itself as the world’s largest green tea company, and its U.S. subsidiary, Ito En (North America) Inc., petitioned the FDA in June 2005, seeking to make the claim that drinking at least five ounces of green tea a day may reduce the risk of heart disease. A message left for a spokesman for Ito En (North America) Inc.

was not immediately returned late Tuesday. A message left for the AAC Consulting Group, a Rockville, Md. company that filed the actual petition, also was not immediately returned.

Green tea is brewed from the leaves of *Camellia sinensis*, also known as *Thea sinensis*. Unlike black and oolong tea, green tea is made from unfermented tea leaves. The FDA previously has said that green tea likely does not reduce breast, prostate or any other type of cancer risk. Nonetheless, the belief that drinking green tea confers health benefits has driven its popularity over the last decade, the Tea Association of the United States has said. A health claim, in the language of the FDA, characterizes the relationship between a substance and a reduction in the risk of contracting a particular disease.

.....Source: MSNBC.com

HERE'S HOW TO CREATE YOUR OWN PERSONAL STAGE 2 SMOG ALERT— BUY AN INDOOR AIR PURIFIER.

Using a popular process called ionization, the air cleaners can actually generate ozone levels in a room that exceed the worst smog days in Los Angeles, a new study finds.

The devices are popular in urban areas. They are touted as getting rid of dust, pollen and other airborne particles.

Ionic air purifiers, one type of these devices, are said to work by charging airborne particles and then attracting them to metal electrodes. They emit ozone as a byproduct of this ionization process.

In a small and poorly ventilated room, the ozone adds to existing ozone and creates potentially unhealthy concentrations.

"People operating air purifiers indoors are more prone to being exposed to ozone levels in excess of public health standards," said study leader Sergey Nizkorodov, a chemistry professor the University of California, Irvine.

The research, funded in part by the National Science Foundation, was announced today and is detailed in the Journal of the Air & Waste Management Association.

Ozone high in the atmosphere protects Earth from damaging ultraviolet radiation. Down here, it is called smog. Ozone can damage the lungs and cause shortness of breath and throat irritation, and it can also exacerbate asthma.

Nizkorodov and colleagues tested various air purifiers in homes, offices and cars. In many cases, ozone levels inside climbed above 90 parts per billion, exceeding California's basic safety threshold. In some cases, ozone soared higher than 350 parts per billion, which if measured outside would trigger a Stage 2 Smog Alert, an event that hasn't occurred in the Southern California coastal air basin since 1988.

California lawmakers are considering legislation to reduce emissions from indoor air purifiers. Meanwhile, both the state and the U.S. Environmental Protection Agency have issued advisories discouraging their use.

"These machines are insidious," said Barbara Riordan, acting chairperson of the California Air Resources Board (ARB), in a warning last year. "Marketed as a strong defense against indoor air pollution, they emit ozone, the same chemical

that the ARB and ... U.S. Environmental Protection Agency have been trying to eliminate from our air for decades. More chilling is that some people susceptible to the ill effects of ozone will eagerly bring these Trojan horses home."

Science does not even suggest the things do what they're purported to do. An EPA fact sheet has this to say about air purifiers: "Available scientific evidence shows that at concentrations that do not exceed public health standards, ozone has little potential to remove indoor air contaminants. Some manufacturers or vendors suggest that ozone will render almost every chemical contaminant harmless by producing a chemical reaction whose only by-products are carbon dioxide, oxygen and water. This is misleading."

.....Source: MSN today.



DIVE IN FOR A WATER WORKOUT

Aquatic fitness isn't just for grannies anymore

If you'd like to try something new to get in shape this summer, consider Pilates, kickboxing or personal training — in the pool. Water workouts aren't just for grannies in swim caps anymore. "Most pools today look like a three-ring circus with all kind of programs going on," says John Spannuth, president of the U.S. Water Fitness Association in Boynton Beach, Fla., which certifies instructors.

Though exercising in the water was once widely considered a lightweight form of fitness — mainly for seniors with aching joints — today's participants are a diverse group of young and old, male and female, beginners and professional athletes alike, says Spannuth. "In the past five years, the perception has changed a lot," says Heather Cook, a spokesperson for the Cleveland County Family YMCA in Norman, Okla. Cook says more younger members at her facility are becoming interested in pool workouts. Among them are athletes and serious fitness buffs who are seeking an edge. They dive into the pool as part of a cross-conditioning program or because they're training for a triathlon or other sporting event.

Beyond swim lessons

Her facility offers the old standbys — swim lessons, water walking and classes geared toward seniors, such as ones for those with arthritis. But beyond that, women and men of all ages take yoga and Pilates in the pool. Several high-intensity classes in deep and shallow water aim to condition, sculpt and strengthen. A class called "TNT" targets the tummies and thighs. "Baby" is just for pregnant women and new moms, while "Singin' Splash" is a song-and-game class for parents and kids ages 6 months to 5 years.

Tiffany Wood, 27, has been taking water classes at the Y for the last year and a half, mostly deep-water sessions that focus on interval training and muscle-building. And she's been surprised at how well she's firmed up. "You burn a lot of

calories and you tone," says Wood, a graduate student at the University of Oklahoma. She also finds the water energizing. "You come out of the water feeling rejuvenated instead of feeling like you've just sweated your butt off at the gym," she says.

Across the country, a variety of land activities, including kickboxing and other martial arts, are being adapted to the water, says Julia See, president of the Aquatic Exercise Association in Nokomis, Fla., another certifying body. Over the past four years, the AEA has seen a 15 percent to 20 percent increase in the number of water fitness classes offered. Statistics show that about 6 million Americans exercise in the pool, and participation has increased 7 percent over the past two years, according to the AEA. See says baby boomers, who are looking for exercise that's easier on their banged-up knees and ankles, are a driving force. But increasingly, aquatic fitness is attracting an even younger following, with the average age of participants now at 40. She expects more kids and young adults to get involved because of the epidemic of obesity; water activity makes it easier to move around.

Cook says overweight individuals and many beginners at the Y are increasingly taking advantage of one of the newest trends in water fitness — aquatic personal training. Usually the training is one-on-one. But some aquatic trainers offer small group personal training, with three to five clients at a time. And some even make house calls for people with private pools who seek personalized attention.

A real workout

So just how tough of a workout can you get in the pool? That depends on the activity, but Spannuth cautions that people who overdo it at first can end up very sore the next day, just like with a land workout. Participants in water fitness classes use a range of equipment, including flotation belts, special water weights, foam noodles and webbed gloves to help them perform their moves in the water and increase the challenge. "We have 12 to 14 times more resistance in water than we have in air, and the

resistance equipment will increase that," says Spannuth. Aquatic classes work the cardiovascular system, and can strengthen and tone, though probably not as much as with pumping iron. "The body builder may not be challenged but the average person will get some great strength gains," says See.

Still, professional and recreational athletes, including football and baseball players, have found other benefits from the water, notes Spannuth. Some basketball players use the pool to improve their vertical jump. Sprinters run in the shallow end to boost explosiveness, while distance runners take to the deep end to work on endurance. But you don't have to go to a pool to work out in the water this summer. Popular water sports such as kayaking, surfing and even boogie boarding can help you get

WATER WORKOUT TIPS

- Drink up (from a plastic bottle). You're still sweating, even if you don't feel it.
- If outdoors, don't forget to wear sunscreen and re-apply regularly.
- Wear water fitness shoes (or a pair of pool-only sneakers) to protect your feet.
- Don't overdo it. Gradually increase the exertion with time.
- Make sure there is a lifeguard on duty. Never swim alone.

fit, cool off and have fun. And of course, you can always take a swim in the ocean or go jump in a lake — just make sure a lifeguard is on duty.

....Source: MSNBC.com

UC DAVIS RESEARCHERS REVEAL APPLES' PROTECTIVE WAYS

Molecular Mechanism Of Flavonoid-rich Fruit Discovered

Doctors have long been encouraging Americans to add more fruits and vegetables to their daily diets. Now, UC Davis researchers have discovered one way in which flavonoid-rich apples inhibit the kinds of cellular activity that leads to the development of chronic diseases, including heart disease and age-related cancers. "We've known for a long time that it's the flavonoids in fruits that are protecting the body. We just haven't known exactly how. Now, at least in the case of apples, we have a good idea about what's going on," said Eric Gershwin, professor of allergy, rheumatology and immunology at the UC Davis School of Medicine.

Gershwin and his colleagues found that apple extract was able to protect cells from damage and death by interfering with communication between cells. The current findings appear in the latest issue of *Experimental Biology and Medicine*. Earlier studies have shown that flavonoids--which are found in chocolate and green tea, as well as other fruits and vegetables--behave as anti-oxidants, taking up free oxygen radicals that can damage precious DNA. The UC Davis study takes that research further by looking beyond the antioxidant effects of apple flavonoids.

In the current study, Gershwin and his colleagues exposed human endothelial cells to an extract of an apple mash made from different apple varieties. The researchers then challenged these cells by exposing them to tumor necrosis factor (TNF), a compound that usually triggers cell death and promotes inflammation via a mechanism called the "nuclear factor (NF) kappa B pathway." This pathway involves chemical signaling between cells. The apple extract was able to protect the cells from the normal lethal effects of TNF. "Our study showed that the flavonoids in apples and apple juice can inhibit signals in this pathway that would otherwise damage or kill cells in the body," Gershwin explained.

The method by which apple extract protects cells is different than that reported for other flavonoid-rich foods. Grape seed extracts, for example, do not affect the NF kappa B pathway, the authors wrote. In addition, they said, other studies indicate that it is not just the flavonoids in the apple extract that are important in protecting cells from genetic damage. "The differences are likely due to the other biologically active ingredients found in the different fruits," Gershwin said. "We need to know more about how fruits like apples are able to protect us from disease."

.....Source: medicalnewstoday.com

MORE REASONS TO CUT BACK ON SATURATED FATS

They affect not only cholesterol, but can also raise risk of cancer, diabetes

Recent studies remind us that the goal of eating less fat should focus on saturated fat. In the past, experts warned against saturated fat because of its direct relationship to LDL ("bad") blood cholesterol and heart disease risk. Now research suggests that too much saturated fat may be problematic, even if your cholesterol isn't high, because of its possible effects on insulin functions, potentially raising the risk of diabetes, cancer, ovarian disorders and other health problems.

Surveys suggest that American adults consume on average about 12 percent of their calories from saturated fat. However, the Advisory Committee for the 2005 Dietary Guidelines for Americans recommended a maximum target of 10 percent of calories for most adults. This target translates to 20 grams (g) per day for the average adult, which you can calculate by adding grams of saturated fat listed on food labels. People who are smaller, less active, or trying to lose weight, would have an 18 g daily limit, while those with higher calorie needs could eat 24 or 25 g per day.

The traditional way of seeing whether these suggested limits reduce a person's saturated fat intake enough has been by measuring LDL blood cholesterol levels. Each percentage-point drop in saturated fat consumption generally reduces LDL by one to two percent. Cutting saturated fat from the current average to 10 percent would lower blood cholesterol by two to four percent. People whose blood cholesterol levels remain high even while meeting this goal may need to reduce their saturated fat intake even further, which would mean a maximum of 12 to 18 g per day.

Insulin problems

One of the new studies that links saturated fat consumption with problems in proper functioning of insulin suggests that initially too much saturated fat might decrease the pancreas's secretion of insulin. Less insulin might then cause a chain of events that leads to over-production of insulin, resistance to its functioning and ultimately to the most common form of diabetes.

When high insulin levels become established, a host of other problems seem to develop. One problem is polycystic ovarian syndrome (PCOS), which can cause fertility problems, irregular menstrual cycles and skin problems. An estimated 6 to 10 percent of all women have PCOS. Other problems include an increased risk of some cancers and possibly increased cognitive problems similar to Alzheimer's disease. Although these consequences could make you afraid to eat any saturated fat, studies seem to show that the cancer risk relates mainly to very high levels of saturated fat. For now, you should simply aim for amounts that keep your blood cholesterol healthy.

To reach the recommended levels of saturated fat, on average Americans need to cut 5 to 10 grams of it from their daily food choices. There are many ways to achieve this reduction. Each time you exchange a deck-of-cards-sized portion of a higher-fat red meat for lean red meat, seafood or skinless chicken, you cut at least 5 grams of saturated fat. If

your meat portions are larger than a deck of cards, reducing them to this size will eliminate even more. For each ounce of regular cheddar or other high-fat cheese you replace with lowfat cheeses, you slash saturated fat by 5 grams. A cup of 1 percent or skim milk instead of whole milk will save you 3 to 5 grams. Two teaspoons of soft margarine or olive oil instead of butter will get rid of more than 3 grams. These small changes may give you far more than better blood cholesterol. You may find yourself enjoying better overall health.

.....Source: MSNBC.com



REEVALUATING EGGS' CHOLESTEROL RISKS

Adults are continually bombarded with messages about how eating foods rich in cholesterol can elevate an individual's risks of atherosclerosis and heart attacks. Many such warnings have focused on eggs because their yolks are a major dietary source of cholesterol.

MORE THAN ONE? A new study finds that people susceptible to blood-cholesterol spikes after eating eggs manage this extra cholesterol in a way that limits damage to their hearts.



However, eggs may be getting a bum rap, suggest the findings of a study of middle-aged and elderly volunteers. Researchers from the University of Connecticut reported the work in early April at the Experimental Biology 2006 meeting in San Francisco.

Cholesterol moves through blood within capsulelike structures known as lipoproteins. Yes, ingestion of several eggs a day does tend to increase blood concentrations of cholesterol, particularly the amount circulating in low-density lipoproteins (LDLs)—the so-called bad cholesterol. However, the new study showed, eating eggs can also increase the amount of cholesterol in high-density lipoproteins (HDLs)—the good cholesterol.

Moreover, the new study showed that when people ate three or more eggs per day their bodies made bigger LDL- and HDL-lipoprotein particles than when they ate no eggs. That's important because other recent studies have suggested that larger LDLs are less likely than small ones to enter artery walls and contribute their cholesterol load to artery-clogging plaque. Similarly, larger HDLs are more robust than smaller ones at hauling cholesterol out of the bloodstream and, ultimately, out of the body, notes the lead researcher for the new study, Christine M. Greene.

In fact, she notes, her team's accumulating data indicate that most people's bodies handle the cholesterol from eggs in a way that is least likely to harm the heart.

Cholesterol warnings have especially scared elderly people away from eggs, says Greene. And that's a shame, she adds, because eggs are an affordable and easy-to-eat source of high-quality protein for this population. The new findings, Greene says, contribute to a growing body of data suggesting

that eggs shouldn't be construed "as a dietary evil."

Cholesterol: It's not all bad

Cholesterol, a soft, waxy substance, isn't found only in the blood but also in all cell membranes and the material that sheathes nerves. It also plays an integral role in the production of steroid hormones, such as estrogen, and of bile acids that take part in fat digestion in the gut.

In most cases, the body can synthesize all the cholesterol it needs. Any dietary contribution of cholesterol is unwelcome, says the American Heart Association, since an excess in the blood will foster the development of the fatty plaques that can eventually clog arteries and provoke a heart attack.

"In order to keep your LDL and your risk for heart disease low," the National Heart, Lung, and Blood Institute (NHLBI) argues, "you should start on [a] heart-healthy diet" that includes fewer than 300 milligrams (mg) of cholesterol per day from all sources. Because the yolk of a single large egg contains slightly more than 200 mg of cholesterol, the institute's Web site recommends that a heart-healthy diet should strive to limit intake to "no more than 4 yolks per week [including] the egg yolks in baked goods and processed foods." Egg whites are cholesterol-free, so NHLBI recommends substituting the whites from two eggs for a single whole egg in breakfast items and baked foods.

The American Heart Association acknowledges that it's possible "to fit an egg a day into a healthy diet," but only by limiting dietary cholesterol from other sources, including baked goods. Moreover, the group cautions, for people with existing "coronary heart disease, diabetes, high-LDL cholesterol or other cardiovascular disease, your daily cholesterol limit is less than 200 mg."

Greene says that such recommendations make sense, because excess LDLs are bad, but she points out that guidelines to date have considered all LDLs the same, while research is revealing differences. Indeed, a number of studies have shown that especially small, dense LDLs confer the greatest risk (SN: 9/21/96, p. 182). Several recent studies have shown that people with diabetes or heart disease tend to package relatively more of their cholesterol in these tiny LDLs than do healthier people. Last year, a group of Korean researchers argued that the differential effects of small and large LDL lipoprotein particles are already established well enough that LDL size "could be used as a marker for coronary heart disease risk."

Egged on

Not all people respond similarly to cholesterol. Studies by Greene's group and others have shown that 30 to 40 percent of any given population is made up of "hyperresponders." In these people, blood-cholesterol concentrations spike disproportionately in response to dietary cholesterol. Her team decided to investigate whether such people put an egg's cholesterol into different-sized lipoproteins than most other people do.

So, the team recruited 29 postmenopausal women and 13 elderly men to take part in a dietary trial. None was taking cholesterol-lowering medicine at the time of the study, Greene notes, which means that for a population of

middle-aged-to-elderly people, the group was relatively heart healthy.

For 30 days, each volunteer received a liquid-egg product or a fat-and-cholesterol-free, protein-rich egg substitute in portions comparable to three large eggs per day. The real-egg ration delivered some 640 mg of cholesterol; the egg substitute contained no cholesterol. None of the participants knew which food he or she was getting until the end of the study. The researchers also supplied recipes for items such as drinks and vegetable frittatas that volunteers could turn to if they got bored with scrambled eggs—the easiest dish to prepare from the products.

Using liquid eggs instead of eggs in their shells made it possible for the researchers to present products that looked and handled identically, Greene explains. Being homogenized and pasteurized, these products could also be used without cooking—for instance as a protein boost to a fruit shake. At least as important, using a commercially prepared product ensured that each daily egg dose contained precisely the average cholesterol content of three large eggs. That's not a trivial issue, since eggs vary in their actual cholesterol content according to their size and the laying chicken's diet (see *Cholesterol Medicine for Eggs?*).

After a month on the first diet, all volunteers took a 3-week breather and then resumed participation. For the second phase, each person received the alternative to the product he or she had initially received: real eggs or the cholesterol-free egg substitute. At the beginning and end of each phase of the trial, Greene's group took blood samples from each participant to measure lipoproteins and more.

Throughout both phases of the trial, the amount of both HDL and LDL lipoproteins remained unchanged. However, the 15 hyperresponders among the volunteers had much higher amounts of cholesterol circulating with their lipoprotein particles while they were eating real eggs. Greene told *Science News Online* that "all of the increase went into large [lipoprotein] particles."

In contrast, among normal responders, only small increases in blood cholesterol occurred during the egg diet, and the size of LDL- and HDL-cholesterol particles covered the full range of lipoprotein sizes.

Not only did the two groups handle the eggs' cholesterol differently, Greene notes, but the hyperresponders handled the excess that showed up in their blood "in the most anti-atherogenic way"—by depositing it in the largest lipoproteins. The take-home message, Greene concludes, is that an LDL-cholesterol reading that ignores lipoprotein size may exaggerate the heart risks posed by eggs' cholesterol.

Greene's team also looked at blood concentrations of two beneficial blood components derived from food: lutein and zeaxanthin. Diets rich in these yellow-orange pigments, which are responsible for much of an egg yolk's color, appear to diminish an individual's risk of macular degeneration. That disease is the leading cause of blindness in people over age 65. Moreover, lutein appears to inhibit processes that jumpstart the development of atherosclerosis.

During the egg phase of the new study, blood concentrations of both the pigments, which are types of carotenoids, increased. In the egg-substitute phase, concentrations of another yellow carotenoid—beta-carotene—increased in the participants' blood, Greene notes. This pigment had been used to mimic the yolks' color.

How much the lutein and zeaxanthin increased during egg supplementation varied between individuals, Greene says, but generally reflected the proportionate increase in the size of a volunteer's LDL and HDL lipoproteins. That makes sense, she adds, because these carotenoids tend to be carried on the surface of lipoproteins in blood: As the particles got bigger, so did their surface area that was available to carotenoids.

Indeed, a group of Greene's University of Connecticut colleagues, headed by Richard M. Clark, reported data in the *March Journal of Nutrition* indicating a similar relationship between carotenoids and people's response to cholesterol. "The bottom line," Clark says, is that this might be "a good-news/bad-news type of story." Although few people would wish for the genes that render them hyper-responders to dietary cholesterol, that trait "may decrease your risk for blindness from macular degeneration" by increasing lutein's circulation in blood.

Altogether, the findings should please the American Egg Board, which funded Greene's study. However, until studies independent of industry financing confirm the new data, the jury is still out on how many eggs most people can safely eat.

The new study's findings do dovetail with large studies by other groups having no industrial financing. For instance, in 1999, Frank B. Hu of the Harvard School of Public Health and his colleagues reported no increased risk of coronary heart disease or stroke in men or women who ate more than one egg per day. The analysis compared diet and cardiovascular risk among nearly 38,000 participants of two long-running epidemiologic studies.

A Michigan State University analysis, reported a year later, analyzed the diets and blood-cholesterol data for more than 27,000 people—a representative cross-section of the U.S. population. It found that cholesterol was lower in people who ate more than four eggs per week than among people who eschewed eggs. However, the researchers cautioned, "this study should not be used as a basis for recommending higher egg consumption for regulation of serum cholesterol."

.....Source: *Science News Online*



CUT YOUR CALORIES WITHOUT FEELING HUNGRY *'Energy density' of food key to satisfying cravings and weight-loss*

When people manage to cut calories substantially at one meal, often they offset that reduction by overeating later that day or the next day. But now, new research at Pennsylvania State University has identified two strategies you can use to significantly lower your calorie intake for two days without feeling hungry.

In the first part of the Pennsylvania State study, 24 young

women were served “standard portions” of food that provided much more than their calorie needs. The women ate less than two-thirds of those portions, but that amount was still substantially more than they needed. This result is no surprise. Studies consistently show that when more food is available, people eat more.

The Penn State researchers then cut the women’s portions by 25 percent. Although the women ate a greater proportion of what they were served, overall they ate about 250 calories less per day without reporting any increase in hunger.

If these women would have sustained such a sizeable drop in calories long-term, they should have weight loss of about half a pound a week.

However, in this short study, the women did not lose weight, since their calories were only reduced enough for weight maintenance. Although the women easily ate 25 percent less, we don’t know if they could cut their calories more to produce weight loss without eating more filling, fiber-rich, low-calorie foods to keep their hunger satisfied.

A second calorie-cutting strategy you might want to try relates to “energy density,” or how concentrated in calories foods are. You can lower the concentration of calories in dishes in several ways.

You can change ingredients, substituting reduced-fat cheese or lower-fat meat for higher-fat alternatives. You can add less fat or sugar when cooking. You can also change the proportion of ingredients so that the same amount of food has more vegetables and fruits, which are filling and low in calories.

Less fat, more veggies

In the second half of the Penn State study, when portion sizes were kept the same and subtle changes were made to the foods so that they were 25 percent lower in calories, the women ate virtually the same portion as before. Since they did not eat more food to compensate for the lower calorie content, their calorie consumption dropped by 24 percent, or about 575 calories a day. The women’s calorie intakes were slightly below what they needed to maintain their weight. If they continued eating this way for a longer period, they could expect to see weight loss of about one pound a week.

Of course, we don’t have to choose just one of these strategies. In this study, when portions and the energy density of foods were both reduced by 25 percent at the same time, the women’s calorie totals dropped by 32 percent, or about 812 calories daily. They were consuming about 1,675 calories a day, despite the availability of food with more than 2,400 calories.

Using more than one strategy is probably best. When you prepare your own meals and snacks, it’s easy to make them less concentrated in calories by substituting ingredients with less fat or calories and increasing the proportion of vegetables and fruits. However, when you eat foods prepared by others, it’s harder to judge the number of calories.

In these studies, despite dramatic differences in calorie content, the women thought the foods were equal in calories. Although they could usually tell when foods were lower in fat,

lowfat foods are not always low-calorie. When you do eat foods prepared by others, watch your portions and choose plenty of vegetables and fruits.Source: MSNBC.com

PROCESSED TOMATOES AND THE FIGHT AGAINST HEART DISEASE

What do pizzas, spaghetti Bolognese and chilli con carne have in common? They all contain a vital ingredient that could help in the fight against cardiovascular disease - cooked tomatoes.

Cardiovascular disease (CVD) is one the UK's biggest killers, accounting for one in three deaths in the country every year. Now scientists from Liverpool John Moores University's Nutraceutical Research Group (NRG) have been awarded over €420,000 by the European Union to investigate the health giving properties of cooked tomatoes. The funding is part of a major EU-initiative, involving experts from 15 institutions in six different European countries. LJMU is the only institution in the UK involved in the €5.2 million (Euros) research programme.

The potential health-giving properties of tomatoes relates to the lycopene they contain and its role as an antioxidant.

Dr Gordon Lowe, the biochemical scientist leading the LJMU research, explains: “Cholesterol is vital to a healthy body but a high level in the blood is a major risk factor for coronary heart disease. Cholesterol is transported around the human blood by special carriers called lipoproteins. There are several kinds of these, but low-density lipoprotein (LDL) and high-density lipoprotein (HDL) are the most important.

“If you have too much LDL cholesterol in your blood, it can slowly build up in the walls of the arteries feeding your heart and brain. Together with other substances it can form a thick, hard deposit that can clog these arteries and this condition is known as atherosclerosis. We believe that lycopene could play a vital role in preventing atherosclerosis by stopping the lipoproteins from becoming oxidised. The oxidation of low-density lipoproteins can lead to ‘fatty steaks’ being deposited in the arteries.”

However, for the lycopene to become available to the human body, tomatoes must be cooked, preferably in some form of oil. That's why as part of his research, Dr Lowe will be assessing different ways of cooking tomatoes to see which method maximises the lycopene availability. Smoking is another major risk factor associated with heart disease and Dr Lowe will also be examining how smoking affects the body's ability to harness the health-giving benefits of lycopene.

Dr Lowe continued: “Hardening of the arteries is a common condition affecting smokers and can lead to premature death. Liverpool has one of the country's highest proportions of smoking-related deaths in people over 35. Obviously the best way to reduce your risk is to quit smoking or not start at all. But diet can also play a key role. We all know that we should be eating five servings of fruit and vegetables a day but what we're now saying is that one of these should be processed tomatoes rather than raw ones in salads. This research is about educating the public and giving them useful information on how to create

healthy, realistic meal plans.”

Liverpool John Moores University's Nutraceutical Research Group (NRG) is involved in the investigation of the role of Nutraceuticals in the prevention of chronic diseases. They have previously researched the health giving properties of garlic and green tea.Source: medicalnewstoday.com



IS LYCOPENE GREEN?

Frying 'Maters - Southern Method

Frying 'maters is really quite simple. Slice green 'maters 1/4 to 3/8 inch thick. Coat them with cornmeal and fry in hot bacon drippings. Salt and pepper to taste.

If you want to be bold and daring, try coating your 'maters with nacho cheese or other sauce of your choice.

Frying 'Maters - Yankee Method

To use this method begin with tomatoes that are almost ripe, with a touch of red, yet still firm. Slice 1/4 to 3/8 inch in thickness. Mr. 'Mater prefers them on the thin side, they are crunchier! Make a mixture of 1/2 flour and 1/2 cornmeal. Add dried basil, dried oregano and a touch of garlic powder. Stir the mixture to blend and place tomato slices in the mixture. Let slices remain in the flour mixture until a nice layer of flour will remain on the 'mater. Heat about 1/4 inch of olive oil in an iron skillet until it's good and hot. Place coated slices in the hot oil and fry till golden brown - both sides. Salt and pepper to taste.

Variations on a Theme

- Some folks in these parts like to coat their 'mater slices in olive oil, add a touch of oregano and grill them on a charcoal grill. Low calorie and delicious.
- Cut your 'mater slices at least 3/4 of an inch thick, or simply slice a smaller one in half. Add a touch of garlic salt. Cover the 'mater with mozzarella cheese and sprinkle on some oregano and basil. Broil in the oven until the cheese bubbles and just starts to turn brown. Makes a meal!

.....Courtesy Rutledge Tomato Wars



SOYBEAN SUCCOTASH

Yield 4 servings

Green, shelled soybeans taste a lot like lima beans in this new version of an old standby It's easy to make a good way to start using soybeans.

Ingredients:

4 Cups (800 grams) Frozen or fresh corn kernels (niblets)
1-1/2 cups (300 grams) soybeans (fresh or frozen shelled beans, often called 'edamame')
1/2 cup (100 grams) red pepper, chopped

Directions:

Combine all ingredients in a saucepan with 1/2 cup (120 ml) water. Bring to a boil and cook over medium heat for 5 minutes.

Serve as a side dish with just about anything!

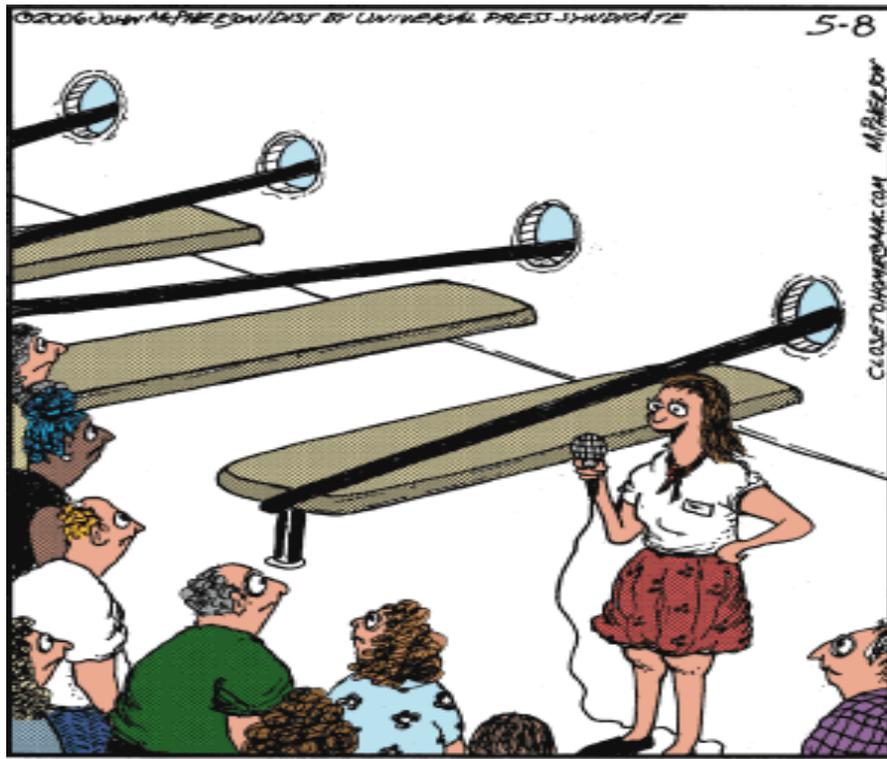


IDEAS FROM THE MEDICARE RIGHTS CENTER NEWSLETTER....

If you are having difficulty affording the cost of your medications through a Medicare drug plan-even with Extra Help-there are some things you can try to help lower your costs:

- * Ask your doctor about generics (or if there isn't a generic version of your drug available, asking for samples provides a temporary solution). Generic drugs are almost always less expensive than brand-name drugs.
- * Find out if your state has a pharmaceutical assistance program that will wrap around your Medicare drug plan to help lower your costs. The income limits for these programs are usually higher than those of the Extra Help program.
- * Find out if your drug plan has a mail-order option. You may be able to get a 90-day supply of your prescription for the same amount as a one-month supply. (Keep in mind that with mail order, it will take longer to fill your prescriptions so plan ahead.)
- * Some pharmacies and hospitals will lower copayments for people with low incomes.
- * Ask your hospital about a Charity Care Policy that can reduce your drug copayments if you cannot afford them. Your final copayment will be based on a sliding scale (based on your income). The hospital's income eligibility may be higher than those for Extra Help. To get this help, you need to have the prescription written by a doctor in the hospital and then have that prescription filled in the same hospital's pharmacy.

Note: Check with the hospital's pharmacy to see if it is part of your Medicare private drug plan's pharmacy network. If it is not, the prescriptions that you fill there will not count toward the \$3,600 in out-of-pocket costs you must spend before you get to catastrophic coverage.



"Good morning, and welcome to Sunshine Cruise Line's 14-day weight-loss cruise."

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Suite D
239 NE US HWY 69
Claycomo, Mo. 64119