



GOOD NEWS FOR SENIORS WHO WANT TO QUIT SMOKING

Medicare will now cover tobacco cessation counseling -- the Department of Health and Human Services announced. The new coverage was mandated by the Affordable Care Act (ACA), which contains a number of measures that focus on preventing diseases before they occur, such as paying for cancer screenings, and annual no-cost wellness checkups.

"For too long, many tobacco users with Medicare coverage were denied access to evidence-based tobacco cessation counseling," HHS Secretary Kathleen Sebelius said in a statement announcing the new benefit. "Most Medicare beneficiaries want to quit their tobacco use. Now, older adults and other Medicare beneficiaries can get the help they need to successfully overcome tobacco dependence."

Of the 46 million Americans who smoke, about 4.5 million are Medicare beneficiaries over age 65, and another million receive Medicare benefits because of a disability, according to HHS. Previously, Medicare only covered smoking cessation counseling if a recipient had already been diagnosed with a tobacco-related disease or showed symptoms of such a disease.

<http://tinyurl.com/252pom6>



HEART PATIENTS CHOOSE PILL OVER DARK CHOCOLATE

It sounds like a great prescription, but a new study finds that many heart patients aren't all that sweet on using chocolate as medicine.

Researchers in Australia discovered that patients more often preferred boring pills over antioxidant-rich chocolate to help control their blood pressure.

"Fifty grams of dark chocolate (roughly one average-sized candy bar) containing 70% of cocoa daily was less acceptable than a pill of tomato extract or placebo," said Karin Ried, co-author of a letter appearing Aug. 12 in the *BMJ*.

So, because patients didn't stick with the regimen, "chocolate might not be practical to be recommended as long-term treatment for blood pressure," she added. "However, eating chocolate occasionally or regularly might have health-benefiting properties."

Several trials have found that the antioxidants in dark chocolate can help lower blood pressure, including one that found that even 30 calories of chocolate a day could help (a little more than a Hershey's Kiss).

"We know that flavonoids and polyphenols (both antioxidants) have been able to decrease blood pressure, so we've said that having a square of chocolate that's 70% cocoa (could be) part of a healthy diet," said Dr. Suzanne Steinbaum, a preventive cardiologist with Lenox Hill Hospital in New York City.

In the new trial, originally published in 2009, Ried and colleagues randomized 36 people to receive 50 milligrams of "commercially available" dark chocolate (70 percent cocoa and 750 milligrams of polyphenols), a tomato extract capsule (with 15 milligrams of the antioxidant lycopene), or a placebo daily for eight weeks.

The tomato extract contained levels of antioxidants "equivalent to four or five medium-size tomatoes," Ried said, while the placebo capsules "contained mainly soy oil."

Although the dark chocolate did have a more salutary effect on blood pressure than either the tomato extract or the placebo, many participants just didn't find this treat palatable.

About half of those in the chocolate group "found it hard" to eat this amount of chocolate every day, while 20% "considered it an unacceptable long-term treatment option." Participants had no problem with a daily pill, however.

The findings seem counterintuitive to the growing waistlines seen around the world, but Ried thinks she may have a reason for the reactions.

"There is something about consuming a food item voluntarily or having to eat it on a daily basis over a period of 12 weeks," she said. "In particular, half a block of dark chocolate (50 grams) is not an insignificant amount. Participants in our trial reported strong taste and concerns about fat/sugar content as reasons for unacceptability of chocolate as a long-term treatment option."

Or there may be other reasons and other options. "I can't eat just 30 calories of chocolate, personally," said Marianne Grant, a registered dietician and certified diabetes educator at Texas A&M Health Science Center Coastal Bend Health Education Center, in Corpus Christi. "This does highlight the effect of antioxidants. Maybe if we could put them in other things, that might be better."

"This is another study that says dark chocolate is helpful in reducing blood pressure but really shouldn't be considered a medication," Steinbaum concluded. <http://tinyurl.com/24bayzo>



IRISH INVENTOR, 23, ON DYSON PRIZE SHORTLIST

The Flo2w device invented by University of Limerick student James D'Arcy, which is in contention for the prestigious James Dyson Award.

A University of Limerick student has been short-listed for a prestigious international prize for a revolutionary new oxygen-delivery system.

James D'Arcy is the only Irish entry to make it to the finals of the James Dyson Awards with a device called Flo2w.

The device holds an oxygen tube to a patient's head with an adjustable headpiece that can be clipped on and off.

Mr. D'Arcy (23), from Minane Bridge in Cork, has already beaten more than 500 entries from 21 countries across the

world to make the final 18. He could win the grand prize of £12,000 plus £12,000 for the design department at the University of Limerick, where he has just completed his final year.

Mr. D'Arcy said his invention is a new way of delivering oxygen to a patient and eliminates many problems associated with the current device that supplies oxygen.

"Flo2w eliminates the big, intimidating, one-size-fits-all mask that is currently being used," he said. "The subtle design makes the user feel as if they are not even wearing it. The oxygen is supplied to the patient through nasal tubing.

"The system integrates a new form of regulating oxygen in an innovative and easy way for both the patient and health care professional."

Other inventions to make the global shortlist include an ultraviolet sportspack designed by a Canadian that eliminates bacteria and odor from the user's shoe.

The James Dyson Foundation will announce the global winner on October 5th. <http://tiny.cc/gvj7p>



CALCIUM SUPPLEMENTS: HELPFUL IN MODERATION, HARMFUL IN EXCESS

If you take calcium supplements, it's important that you don't exceed the recommended daily dose. Like other vital nutrients, experts warn that optimal amounts of calcium promote health but excesses come with serious adverse side effects such as heart attack and bone fracture, reports Sade Oguntola.

Calcium is important for strong bones, but taking too much with high-dose supplements can lead to serious health problems, such as high blood pressure, bone loss, heart problems and even kidney failure.

Calcium and vitamin D are the most important nutrients for building bones and in ensuring that they remain strong. The bones serve as a storage site for the body's calcium. They are continuously giving up calcium to the bloodstream and then replacing it as the body's need for calcium changes from day to day. When calcium intake is low or calcium is poorly absorbed, bone breakdown occurs because the body must use the calcium stored in bones to maintain normal biological functions such as nerve and muscle function. Bone loss also occurs as a part of the ageing process.

Individuals that lack calcium are at increased risk of developing osteoporosis, a condition where bones are so weak that they break easily. Osteoporosis, which causes thin, porous, easily broken bones, may occur in women after menopause, but may sometimes occur in elderly men also. Osteoporosis in women past menopause is thought to be caused by a reduced amount of oestrogen, the female hormone.

Although prescription of calcium supplements should be safe when taken at recommended doses, experts warn that an abuse of calcium supplements or too much of calcium in the body could be detrimental to health.

Milk and other dairy products, green leafy vegetables as well as fish with edible bones are sources of calcium. But many older people, particularly women past the menopause, do

not get enough of these nutrients and resort to taking calcium supplements. This is partly because their bodies don't absorb calcium as efficiently as they used to.

Calcium overdose has become more common in recent years, and some take much more than the recommended dose, not realizing that ingesting too much calcium can lead to a potentially serious conditions such as high blood pressure, kidney damage, heart attack and even kidney failure.

In a study by researchers on women that had passed menopause to assess the health risks of excess intake of calcium supplements, which two recent studies published in the British Medical Journal and the American Journal of Clinical Nutrition, researchers pointed out that calcium supplements can cause more trouble as compared to the bad things prevented by them.

The study found out that excess calcium intake can increase a person's risk of developing a heart attack rate as much as 30 per cent. It is therefore, important to take to advice on how alternatives can be sought to prevent osteoporosis.

Although the study concluded that calcium supplementation in healthy postmenopausal women is associated with upward trends in cardiovascular event rates, the study was not certain about the mechanism by which calcium damages the body. But it is assumed that increase in the numbers of heart attacks are caused by the damage of blood vessels of the body.

Higher blood calcium may lead to the deposition of plaques in the blood vessels, which can cause heart attack.

Also, a report from the University of Pennsylvania School of Medicine, Philadelphia, which was published in the Journal of the American Society of Nephrology, warned against exceeding a daily dose of 800 milligrams, though between 1.2 to 1.5 grams a day is still safe.

Calcium supplements are generally well tolerated. For some people, some calcium supplements may cause side effects such as flatulence or constipation. Excessive amounts of calcium in the blood may cause nausea, vomiting, loss of appetite, increased urination, kidney toxicity, confusion, and irregular heart rhythm. In addition, calcium supplements may reduce the absorption of the drugs as tetracycline and iron tablets.

Mr. Adeyinka Ishola, Vice Chairman, Pharmaceutical Society of Nigeria, Oyo State branch, corroborated the importance of calcium supplements in the elderly and declared that it should only be taken when prescribed. According to him, basically, calcium is a major component of the bone and so when given to an elderly person; it is meant to strengthen their bones."

He declared that calcium when in excess in the blood can cause bone perforation. "That will not be in the best interest of the elderly. What can heal their bones can also damage their bones, if taken in excess. That is where moderation comes in. If you are asked to take it for a stipulated period don't exceed it."

According to a recent report from Harvard School of Public Health, the "average daily intake (of calcium) in

countries such as India and Japan is as low as 300 mg and their fracture rates are low” in these countries.

According to the World Health Organization (WHO), in countries with a high fracture incidence, a minimum of between 400 and 500 mg of calcium intake is required to prevent osteoporosis. However, the World Health Organization said that the interaction between calcium intake and physical activity, sun exposure, and intake of other dietary components (e.g. vitamin D, vitamin K, sodium, protein) and protective phytonutrients, needs to be considered before any recommendation is made on increasing calcium intake in countries with low fracture incidence in order to be in line with recommendations for industrialized countries.

Individuals can avoid excess calcium intake by assessing his/her daily calcium intake from diet and supplements. Get out a piece of paper and add up your total daily calcium intake from foods and all nutritional supplements that you take. Individuals must check out the calcium content of foods they take regularly.

For instance, one cup of milk has 300mg of calcium, a cup of calcium fortified orange juice contains 300mg while a low fat yogurt contains between 345 to 400mg. Two servings of yogurt, one of milk and one ounce of cheese contains about 1300 mg of calcium. Moderate daily dietary intake of calcium is the best guideline for deciding if and how much supplemental calcium may (or may not) needed.

<http://tinyurl.com/26mdx16>



COMMON COLD

Overview

Sneezing, scratchy throat, runny nose—everyone knows the first signs of a cold, probably the most common illness known. Although the common cold is usually mild, with symptoms lasting 1 to 2 weeks, it is a leading cause of doctor visits and missed days from school and work. People in the United States suffer 1 billion colds each year, according to some estimates. According to the Centers for Disease Control and Prevention (CDC), 22 million school days are lost annually in the United States due to the common cold.

Children have about 6 to 10 colds a year. One important reason why colds are so common in children is because they are often in close contact with each other in daycare centers and schools. In families with children in school, the number of colds per child can be as high as 12 a year. Adults average about two to four colds a year, although the range varies widely. Women, especially those aged 20 to 30 years, have more colds than men, possibly because of their closer contact with children. On average, people older than 60 have fewer than one cold a year.

The cold season

In the United States, most colds occur during the fall and winter. Beginning in late August or early September, the rate of colds increases slowly for a few weeks and remains high until March or April, when it declines. The seasonal variation may relate to the opening of schools and to cold weather,

which prompt people to spend more time indoors and increase the chances that viruses will spread to you from someone else.

Seasonal changes in relative humidity also may affect the prevalence of colds. The most common cold-causing viruses survive better when humidity is low—the colder months of the year. Cold weather also may make the inside lining of your nose drier and more vulnerable to viral infection.

<http://tinyurl.com/y3oxgo>



DEHYDRATION—WHAT YOU NEED TO KNOW

Topic Overview

Dehydration occurs when your body loses too much fluid. This can happen when you stop drinking water or lose large amounts of fluid through diarrhea, vomiting, sweating, or exercise. Not drinking enough fluids can cause muscle cramps. You may feel faint. Usually your body can reabsorb fluid from your blood and other body tissues. But by the time you become severely dehydrated, you no longer have enough fluid in your body to get blood to your organs, and you may go into shock, which is a life-threatening condition.

Dehydration can occur in anyone of any age, but it is most dangerous for babies, small children, and older adults.

Dehydration in older adults

Older adults have an increased chance of becoming dehydrated because they may:

- Not drink because they do not feel as thirsty as younger people.
- Have kidneys that do not work well.
- Choose not to drink because of the inability to control their bladders (incontinence).

Have physical problems or a disease which makes it:

1. Hard to drink or hold a glass.
2. Painful to get up from a chair.
3. Painful or exhausting to go to the bathroom.
4. Difficult to talk or communicate to someone about their symptoms.
5. Take medicines that increase urine output.
6. Not have enough money to adequately feed themselves.

Watch babies, small children, and older adults closely for the early symptoms of dehydration any time they have illnesses that cause high fever, vomiting, or diarrhea. The early symptoms of dehydration are:

- A dry mouth and sticky saliva.
- Reduced urine output with dark yellow urine.
- Acting listless or easily irritated.

<http://tinyurl.com/18r>



OLD DRUG SULFASALAZINE HOLDS PROMISE AGAINST OPPORTUNISTIC LUNG BUG

A drug to treat inflammation plays a surprising role reducing the level of infection caused by an opportunistic bug that is deadly for AIDS and cancer patients and others with weakened immune systems.

The drug, sulfasalazine, spurs the body to get rid of the fungal evaders by enhancing the body's ability to chew them

up instead of leaving the debris to litter the lungs, where it would continue to provoke an onslaught of harmful inflammation.

Besides opening a new avenue for research on Pneumocystis pneumonia or PCP, caused by the fungus *Pneumocystis jirovecii*, the work with mice also offers the possibility of manipulating immune cells called macrophages to improve treatment of infections.

The findings by scientists at the University of Rochester Medical Center were published August 19 in the journal *PLoS Pathogens*.

During a bout with *Pneumocystis*, the lungs become a battlefield, where the body pits an array of impressive forces against marauding microbes. But even when the body gets the upper hand, the damage is tremendous. Immune cells like neutrophils and macrophages can flood the lungs, literally suffocating the patient. And when the debris from dead microbes fills the lungs, more and more immune cells are called in to clean up the area, making matters worse. It becomes harder and harder to breathe.

"Many people assume that once the microbe is dead, patients usually start to feel better immediately. But with *Pneumocystis*, patients do not always undergo a rapid clinical improvement following antibiotic treatment. Even though the bug has been killed, the debris that is left in the lungs continues to promote inflammation," said corresponding author Terry Wright, Ph.D., an infectious disease specialist and associate. *Pneumocystis* is a common bug that infects nearly everyone at some point; the authors say that more than 80 percent of children have been infected by the age of 2. Most people shake off the infection without consequence, but for people with cancer, AIDS, or other diseases that compromise their immune system, the infection can be deadly. Usually there are few signs that the patient is sick until the infection is well established and the fungus is widespread in the lungs. Among cancer patients, mortality rates as high as 40 percent have been reported.

Since the body's immune response is central to how *Pneumocystis* kills patients, doctors use two different types of drugs in tandem to treat patients - an antibiotic to kill the bug, and steroids or another type of drug to reduce the consequent inflammation.

Central to the study were mice in which the disease progresses in a manner very similar to AIDS patients. The remarkable strides in AIDS therapy in recent years have come with a down side for many patients, thanks to *Pneumocystis*: When anti-retroviral therapy kicks in, a patient's immune system often becomes stronger very quickly - and if the fungus is present, the immune system attacks it vigorously, causing a potentially deadly form of pneumonia.

Wright's team looked at the effects in mice of sulfasalazine, an anti-inflammatory drug that has proven useful in treating conditions like Crohn's disease and rheumatoid arthritis. The team found that *Pneumocystis*-infected mice treated with sulfasalazine developed much less severe disease than untreated mice. The sulfasalazine-treated mice had better

lung function, less weight loss, and were generally healthier than untreated animals.

While some of the benefit was due to the drug's anti-inflammatory properties and was expected, the result included a big surprise: The drug also spurs the body to remove the bug more aggressively by boosting the activity of immune cells called macrophages.

"This was unexpected," said first author Jing Wang, Ph.D., research assistant professor in Pediatrics. "Since we reduced the response of the immune system, you would think the mice would get sicker. But instead, the mice treated with sulfasalazine were healthier. At first we thought it was due solely to the anti-inflammatory activity of the compound, but it turns out that sulfasalazine actually results in a reduced fungal burden. The drug helps the body clear the infection.

"We initially thought we had done something wrong, and so we repeated the experiment again and again. Then, when new technology was developed, we were able to document that the body cleared the infection more readily with sulfasalazine," added Wang.

Scientists have long known that the body's immune T cells are central to the body's response to fight off the infection. The Rochester team showed that the body's T cells spur macrophages to attack the fungus - to engulf its particles and chew them up in a process known as phagocytosis.

While scientists have long suspected that role for macrophages, the Rochester team relied on a new technology to gather the first direct evidence of macrophages engulfing fungal particles. The scientists worked closely with Timothy Bushnell, Ph.D., and others at Rochester's Flow Cytometry Resources Core, investigating new ways to use lasers to capture images of molecular events. Bushnell's team ultimately connected the team with scientists at Amnis. Together the group developed a new way to capture macrophage phagocytosis in single cells from mice infected with *Pneumocystis*. The technology enabled the team to capture more than 40,000 such events, compared to just a handful when using conventional microscopy.

The team showed that as macrophage activity increased, the animals' health improved and levels of fungus decreased. For example, 17 days after infection, mice treated with sulfasalazine had nine times as many macrophages that had engulfed fungal particles compared to mice that had not been treated with the compound.

"This marks a new direction in which to look for new therapies to treat *Pneumocystis* as well as other inflammatory diseases. Identifying modulators that can increase or decrease the action of our immune system in a precise manner is a growing area of research," said Wright. Recently researchers have come to realize that there are different kinds of macrophages, and Wright noted that the type whose activity is triggered by sulfasalazine does not contribute to inflammation.

<http://tinyurl.com/2w3tv9s>



COATING KILLS MRSA GERMS: NEW COATING 100% EFFECTIVE

How Much Do You Know About This 'Superbug'?

In tests, 100% of MRSA bacteria were killed within 20 minutes of contact with a surface painted with latex paint laced with the coating, the researchers say. The coating is made with lysostaphin, a naturally occurring enzyme, combined with carbon nanotubes.

"We're building on nature," Jonathan S. Dordick, PhD, director of Rensselaer's Center for Biotechnology and Interdisciplinary Studies, says in a news release. "Here we have a system where the surface contains an enzyme that is safe to handle, doesn't appear to lead to resistance, doesn't leach into the environment, and doesn't clog up with cell debris." When the superbugs came in contact with a painted surface, "they're killed," he says.

How It Works

Lysostaphin works by attaching itself to the bacterial cell wall, slicing it open, but is not toxic to human cells, Dordick says.

Researcher Ravi S. Kane, PhD, says the enzyme is attached to the carbon nanotube with a short, flexible polymer link, improving its ability to reach the MRSA bacteria.

"The more the lysostaphin is able to move around, the more it is able to function," Dordick says.

Kane and Dordick worked With Dennis W. Metzger, PhD, and Ravi Pangule, a graduate student in chemical engineering, at Albany Medical College, where Metzger maintains strains of MRSA.

"At the end of the day, we have a very selective agent that can be used in a wide range of environments —paints, coating, medical instruments, doorknobs, surgical masks—and it's active and it's stable," Kane says. "It's ready to use when you're ready to use it."

Superior Method

They say their approach will likely prove superior to previous attempts at creating antimicrobial agents, some of which release biocides, which can lose effectiveness over time due to leaching into the environment and may have harmful side effects, the researchers say.

"We spent quite a bit of time demonstrating that the enzyme did not come out of the paint during antibacterial experiments," he says. "Indeed, it was surprising that the enzyme worked as well as it did while remaining embedded near the surface of the paint."

It's unlikely, Kane says, that MRSA superbugs will develop resistance to a naturally occurring enzyme, which has "evolved over hundreds of millions of years to be very difficult for *Staphylococcus aureus* to resist."

They also say their new coating can be washed repeatedly without losing effectiveness and that it has a dry storage shelf life of up to six months.

MRSA can infect the bloodstream, the lungs, and the urinary tract, and people can carry it without being sickened. Killing it on surfaces is important because MRSA is spread by contact and can be carried by people who touch infected

objects.

<http://tinyurl.com/25tav8>



OZONE AND NICOTINE A BAD COMBO FOR ASTHMA—STUDY

The practice of using ozone to remove the smell of tobacco smoke from indoor environments, including hotel rooms and the interiors of vehicles, is probably a bad idea, says a new study.

The research showed that ozone can react with the nicotine in secondhand tobacco smoke to form ultrafine particles that may become a bigger threat to asthma sufferers than nicotine itself.

Researchers with the Lawrence Berkeley National Laboratory (Berkeley Lab) found that these ultra fine particles also become major components of thirdhand smoke—the residue from tobacco smoke that persists long after a cigarette or cigar has been extinguished.

"Our study reveals that nicotine can react with ozone to form secondary organic aerosols that are less than 100 nanometers in diameter and become a source of thirdhand smoke," said Mohamad Sleiman, who led this research.

"Because of their size and high surface area to volume ratio, ultra fine particles have the capacity to carry and deposit potentially harmful organic chemicals deep into the lower respiratory tract where they promote oxidative stress," Sleiman said.

"Not only did we find that nicotine from secondhand smoke reacts with ozone to make ultra fine particles—a new and stunning development—but we also found that several oxidized products of ozone and nicotine have higher values on the asthma hazard index than nicotine itself," said co-author Lara Gundel.

"The tunable VUV light of Beamline 9.0.2's custom-built VUV aerosol mass spectrometer minimized the fragmentation of organic molecules and enabled us to chemically characterize the secondhand smoke and identify individual constituents of secondary organic aerosols," said Sleiman.

"The identification of multi functional compounds, such as carbonyls and amines, present in the ultra fine particles, made it possible for us to estimate the Asthma Hazard Index for these compounds," he said.

The results of the survey were published in the journal *Atmospheric Environment*. <http://tinyurl.com/18r>



SPONTANEOUS PNEMOMEDASTINUM IN ACUTE SEVERE ASTHMA

Abstract

Spontaneous mediastinal emphysema, as a complication of acute severe asthma, is an uncommon entity. It usually runs a benign course and resolves spontaneously without any surgical intervention. Recognition of this complication is critical, as it has to be differentiated from other life threatening ones including esophageal rupture, Boerhave's syndrome, acute coronary syndrome and pulmonary embolism. This case is being presented to emphasize its recognition in the differential

diagnosis of complications arising from acute severe asthma and to present its management strategy in detail.

Introduction

Substernal chest pain during an asthma attack, subcutaneous emphysema in the neck and over the chest and the Hamman's sign on auscultation should raise the suspicion of a spontaneous pneumomediastinum. Air lucency in the soft tissues of the neck, along the cardiac silhouette on CXRPA view and in front of the heart on lateral view confirms the diagnosis. This condition usually gets resolved spontaneously and requires only close observation and management of the asthma. 100% oxygen, cervical mediastinotomy and tracheotomy are required only in cases of cardiopulmonary distress. Spontaneous pneumomediastinum is defined as the presence of free air in the mediastinal structures without an apparent precipitating cause. Its occurrence ratio is approximately one case per 10,000 hospital admissions, and thus, it may not be very familiar to most of the physicians. Asthma alone accounts for 22-50% spontaneous pneumomediastinum cases, as mentioned in various studies. There are several studies published recently about pneumomediastinum in acute severe asthma. Asthma is very commonly encountered in clinical practice but mediastinal emphysema as its complication is an infrequent problem. Review of literature reveals that less than 100 cases have been published till now. We report a case of spontaneous pneumomediastinum complicating acute severe asthma in an adult male.

<http://tinyurl.com/23mojs4>



PHENOTYPES ARE THE FUTURE OF COPD

Physicians must look at the bigger picture when it comes to understanding COPD, delegates heard

Mary Anne Kenny reports from the COPD7 International Conference in Birmingham, where experts stressed the need for tailored approaches to COPD

Respiratory experts from all over the world gathered in Birmingham, UK, recently for the COPD7 International Conference on chronic obstructive pulmonary disease (COPD).

The international, multi-disciplinary conference, which ran from 30 June to 2 July, heard from speakers from all over Europe and from the US, Canada and Australia. In the opening plenary session, Prof Bart Celli spoke on 'FEV1 independent-clinical phenotypes'. According to Prof Celli, Professor of Medicine at Tufts University and Chief of the Division of Pulmonary and Critical Care at St Elizabeth's Medical Center in Boston, understanding COPD phenotypes is the future of the condition and of finding ways to treat it.

He said significant heterogeneity of clinical presentation and disease progression exists within COPD. "Although FEV1 doesn't properly describe this heterogeneity, we don't actually have a clear alternative."

The goal of phenotyping is to identify patient groups with unique prognostic or therapeutic characteristics, he continued, "but significant variation and confusion surrounds our use of the term 'phenotype' in COPD".

The term, in general, refers to any observable characteristic of an organism. Until now, multiple disease characteristics have been termed phenotypes for COPD patients. "I'd like to propose a different definition: 'a single or combination of disease attributes that describe differences between individuals with COPD as they relate to clinically meaningful outcomes (symptoms, exacerbations, response to therapy, rate of disease progression or death)'," said Prof Celli.

This more focused definition, he said, allows for classification of patients into distinct prognostic and therapeutic subgroups, for both clinical and research purposes. Patients who share a unique phenotype would also, ideally, ultimately be determined to have a similar underlying biologic or physiologic mechanism to guide the development of therapy, where possible.

"Of course, then, any proposed phenotype—whether defined by symptoms, radiography, physiology, cellular or molecular fingerprint—will require a validation process, in which 'candidate' phenotypes are identified before their relevance to clinical outcome is determined," said Prof Celli.

He acknowledged, however, that this represents an ideal construct, and that "any phenotype may be etiologically heterogeneous". Also, any one patient may have multiple phenotypes. "We have a lot to learn, but the first step is establishing a common language for future research, which will help our understanding and management of this complex disease," Prof Celli concluded.

Tailoring approaches

In the 'Nycomed Symposium: Thinking Differently in COPD', Prof Robert Stockley spoke on 'Different types of patients, different approaches'. Prof Stockley, Professor of Respiratory Medicine at the Lung Resource Center, University Hospital Birmingham, built on the concept of meeting individual patient needs, rather than adapting a one-size-fits-all treatment approach.

"Current anti-inflammatory medications used to treat COPD, such as inhaled corticosteroids [ICS], don't reduce the neutrophil-mediated inflammation seen in COPD. This is the primary unmet need in our patients," he said.

The pathogenesis of COPD is complex and airway inflammation plays an important role. "The inflammation that we see in COPD is obviously different from what we find in asthma, with a predominantly neutrophilic rather than eosinophilic bronchitis." The lung is a primary target for neutrophil recruitment and activation and the neutrophil is a primary mediator of inflammation in COPD.

"What I want to stress is that we mustn't put patients in a single box. This is especially true in COPD. We must learn to assess what we see, not just what we think." He added that COPD is actually an umbrella term for a group of respiratory-tract diseases that are characterized by airflow obstruction or limitation. It covers an 'irreversible' aspect of chronic bronchitis, emphysema and asthma. "If a patient has emphysema, aerosol deflation becomes patchy. If we give systemic drugs, we can get to the connective tissue substrate. This can be of help in emphysema."

In another example of different approaches for different types of patients, he said that if a patient has a chronic bronchitis phenotype, they are more likely to have exacerbations than patients who just have obstruction. "This all needs to be borne in mind when treating patients."

Prof Stockley said that the current thinking on COPD suggests that it is a systemic disorder. This is why appropriating drugs to treat COPD from other chronic respiratory conditions, such as asthma, is no longer adequate. He concluded with just some of the types that doctors must consider when treating COPD patients. These include:

- Airways versus alveolar;
- Bronchitis versus absence of bronchitis;
- Colonised or not;
- Bronchiectasis;
- Exacerbating phenotypes; and
- Systemic phenotypes.

Need for new treatments

Prof Klaus F Rabe, Leiden University Hospital, the Netherlands, addressed delegates on 'COPD treatments: building blocks for a different future'. He said that there remain some major unmet clinical needs in the treatment of COPD. These include more effective diagnosis and disease prevention, better symptom control, prevention of exacerbations, slowing and possible prevention of disease progression, reduction of disease-related mortality, and identification and reduction of systemic disease secondary to COPD and co-morbidities.

"We ultimately would like to change mortality, so we need new treatments," said Prof Rabe. "Our current therapeutic options are mainly limited to symptomatic treatment, and there's increasing attention being paid to the inflammatory component of COPD in the airways and lung parenchyma," he continued.

"The underlying chronic inflammation plays a central role in the progression of the disease. We need a better understanding of this COPD-specific inflammation." Prof Rabe said that there has been a "certain lack of creativity" when it comes to drug therapies for COPD. "Targeting the function of macrophages isn't done. We've just been taking anti-inflammatory drugs from asthma and applying them to COPD."

He went on to speak about roflumilast. This new proprietary selective phosphodiesterase 4 (PDE4) enzyme inhibitor has been indicated for maintenance treatment of severe COPD (FEV1 post-bronchodilator less than 50 per cent predicted) associated with chronic bronchitis in patients with a history of frequent exacerbations.

It is intended to be used as an add-on to bronchodilator treatment. Roflumilast is the first new class of treatment for COPD in more than a decade and is the first to utilise phenotype targeting, he said.

"It has been shown to improve lung function and reduce exacerbations. We've a large number of patients who remain symptomatic and have frequent exacerbations, despite existing treatments," said Prof Rabe. "For that more severe end of the spectrum, we need new therapeutic options. Roflumilast's

main additional benefit, on top of what's already achieved with bronchodilators, is to reduce the number of exacerbations."

He examined the results from Phase III trials of roflumilast in the treatment of symptomatic COPD. In two 12-month, placebo-controlled studies involving a total of over 3,000 patients with COPD, roflumilast demonstrated statistically significant improvements on both co-primary endpoints: moderate-to-severe exacerbations and pre-bronchodilator FEV1. The effect was independent of concomitant use of long-acting beta2-agonist (LABA).

Roflumilast also demonstrated a statistically significant improvement compared to placebo on lung function, in two supportive studies over a six-month period when added to the long-acting bronchodilators, tiotropium or salmeterol. Prof Kabe added that in the four trials, the most common adverse effects associated with the drug were diarrhoea, nausea and weight decrease (2kg mean loss). He said that more studies were needed to assess its use in combination with corticosteroids. "However, it may also have a cardioprotective side-effect, but more studies are needed in this regard, too," he concluded.

Treatment aims and methods

Prof Neil Barnes, Professor of Respiratory Medicine at Barts and the London Hospital, concluded the Nycomed Symposium with a presentation called, 'The Holy Grail: how far forward are we?' He said that what clinicians have tried to achieve in COPD patients over the years has changed.

"In the 1980s, the aim was to reduce the rate of FEV1 decline, but we've failed to show any convincing evidence for this. One 'Holy Grail' that's within our grasp, however, is prevention. The biggest factor in this regard is smoking cessation." Prof Barnes cited a study on the effects of England's smoke-free legislation on hospital admissions: "There were 1,200 fewer emergency admissions for myocardial infarction—1,600, including readmissions—in the first year after the legislation was introduced on 1 July, 2007. It's hoped that this positive effect will follow through to reducing COPD instance." Today's main treatment aims, he said, are:

- Relieve symptoms;
- Prevent disease progress;
- Improve exercise tolerance; and
- Reduce mortality.

"When it comes to relieving symptoms, we have bronchodilators, pulmonary rehabilitation and smoking cessation. To prevent exacerbations, we advocate the flu vaccine and use long-acting inhaled anticholinergics. In terms of reducing mortality, there's the option of lung-volume reduction surgery in very selected patients, smoking cessation of course, and long-term oxygen therapy in hypoxic patients," said Prof Barnes.

Investigating

Echoing earlier speakers, he said physicians must look at the bigger picture when it comes to understanding COPD. This involves tailoring treatment when the condition develops, but also investigating why it occurs in the first instance and focusing on prevention.

“We know there are different factors determining lung function. A person’s maximum FEV1 may be affected by early life events and severe childhood respiratory infections. The rate of decline of FEV1 is affected by the number of smoking pack-years, the age of smoking onset, frequent inflammatory exacerbations, tuberculosis, systemic inflammation and bronchial hyper reactivity.”

To slow this rate of decline, smoking cessation must be undertaken early in COPD development and, possibly, inhaled steroids could be started, Prof Barnes said. A LABA/ICS combination should also be used, but tiotropium will not be of benefit.

“Reduction in inflammation is the probable mechanism behind a reduced rate of decline of lung function. Looking to the future, PDE4 inhibitors such as cilomast and roflumilast affect inflammation in COPD,” he continued, “and the pattern of inflammation reduction is different to combination therapy.

“We must learn from cardiologists – they start patients on different drugs at the same time. In COPD, we also need to get away from thinking about individual drugs and start combining therapies.”

Prof Barnes concluded by saying that COPD is at a turning point: “Reducing mortality and limiting disease progression is now the ‘Holy Grail’ in COPD. This is a very exciting time, as we’re beginning to get drugs for these in combination.”

<http://tinyurl.com/29ues3g>



COPD PATIENTS CAN SING THEIR WAY TO BETTER HEALTH

Because it requires control of breathing and posture, singing lessons can improve quality of life measures and decrease anxiety in COPD patients, according to a study in the current issue of BMC Pulmonary Medicine.

In a randomized controlled trial and qualitative evaluation, investigators recruited 28 COPD patients and compared a 6-week course of twice weekly singing classes to usual care. Those in the singing group saw an improvement in the physical component score of the SF-36, along with a significant fall in HAD anxiety score.

Singing did not improve single breath counting, breath hold time, or shuttle walk distance, but positive effects on physical sensation, general well-being, community/social support, and achievement/efficacy were seen among patients, with 81% of attendees indicating a "marked physical difference" after the workshop.

<http://tinyurl.com/2f2khyd>



TRYING LITTLE-KNOWN OPTION TO SEAL A LEAKY LUNG

The final straw came when Guy Vance's chest, neck and face ballooned, little air bubbles in his skin crackling to the touch — all because of a leak somewhere in his lung.

Air was seeping into his chest cavity and under his skin, seeking another escape route. Two earlier surgeries had failed to seal the leak. A drainage tube implanted in the 63-year-old's chest offered only a temporary, painful solution.

So Dr. Keith Mortman snaked a tiny, umbrella-shaped valve into Vance's lung in hopes of finally plugging the leak — by redirecting how air can flow in that part of the lung.

"Enough of this frequent-flyer stuff in the hospital. Let's get you home," Mortman, director of minimally invasive thoracic surgery at Washington Hospital Center, told Vance last week.

Lots of problems —lung diseases, chest trauma, thoracic surgery — can cause an air leak in the lung's delicate lining, in turn making the lung partially collapse. Fortunately, the vast majority of leaks seal themselves in about a week. But a fraction of those people, like Vance, suffer prolonged air leaks that just won't heal, triggering repeated, expensive hospitalizations and complications like infections from chest tubes.

Enter endobronchial valves, a little-known option to treat persistent leaky lungs without further surgery — they're slid in through the windpipe. And they soon might be used for more than those rare prolonged leaks: Experiments are under way to see if the valves also could help advanced emphysema.

But wedging these valves into just the right spot can be tricky. Minutes after Mortman snaked a camera into the top of Vance's right lung came the discovery that his airways don't form the normal three-way branch, but a narrowed, two-way tunnel.

"As much as I like this gentleman, we knew he wasn't going to make it easy for us," sighed Mortman, who just a month earlier had hopped a plane to Redmond, Wash., to learn the procedure from valve maker Spiration Inc.

Vance's odyssey began with lung cancer in 2004. Radiation left his right lung particularly fragile, vulnerable to leaking. Last fall, doctors slid a flap of muscle into Vance's chest cavity to help seal off a persistent leak that left him breathless, but it didn't work. They operated again in early spring, unsuccessfully. Vance was in and out of the hospital for months, his worst episode that scary swelling called subcutaneous emphysema.

"It would blow up my body," said Vance, pausing for breaths. Prepped for the procedure, he told Mortman, "Doc, I'm pretty much ready to go."

The idea: Blocking air from entering the bad section of his lung decreases pressure on the leak and might help it heal. Spiration's IBV valve looks like a metal umbrella and acts like a one-way plug, blocking new air from flowing past but letting stale air or mucus escape.

"We're doing this for quality of life, to get the tube out of his chest and prevent him from being readmitted to the hospital," said Mortman, who navigates Vance's radiation-scarred bronchial tubes with the slightest motion of the tube in his trachea.

Angle, move up a millimeter, reposition, measure. Finally Mortman picks a spot. An assistant gently moves a plunger to unfold the valve — but it springs out of place. The airway was too tight a squeeze. Mortman pulls out the valve and finds a better position.

Try No. 2 doesn't unfold correctly. A Spiration representative, watching in case Mortman seeks advice, will send it back to company engineers to see why.

Mortman's third try hooks into place. Swinging the catheter into an adjoining airway, Mortman then hooks in another valve to seal off that direction, too. It will take a few weeks to tell if the leak finally heals, but Vance goes home the next day, breathing OK.

How often do these valves succeed? That's not yet clear. The Food and Drug Administration approved "humanitarian use" of the IBV valve for prolonged surgical air leaks — an option that lets promising novel options for rare conditions sell, with some profit restrictions, before large effectiveness studies are done. With a shorter hospital stay, it's cheaper than air-leak surgery, yet prominent IBV researcher Dr. Robert Cerfolio of the University of Alabama at Birmingham said few doctors know about the option.

Temple University researchers last fall published outcomes of 40 patients implanted with a similar but still experimental valve now owned by competitor Pulmonx Inc., and found nearly 48 percent had their leak completely sealed and most of the rest improved.

But both companies have a bigger aim: To treat advanced emphysema by redirecting air from scarred lung spots and into healthier areas of the lung. Spiration's emphysema study is ongoing; Pulmonx has clearance to sell its valve in parts of Europe and is preparing for a U.S. study.

<http://tinyurl.com/2uqupxp>



THE TRUTH ABOUT TONING SHOES?

Can a pair of shoes help you burn more calories, tone your butt, banish cottage cheese thighs, and curb joint pain?

Rocker sole shoes started as more of a specialty shoe for people with diabetes or ankle problems, but they are increasingly marketed as toning shoes. Masai Group International has sold the Masai Barefoot Technology (MBT) brand for years. Now, many shoe companies are getting in on the game. Sketchers has an ever-expanding arsenal of Shape-Ups shoes including a pair made especially for gym workouts and another for running 5Ks or 10Ks. Reebok has EasyTone shoes. There are some technical and design differences between shoe brands, but the basic principles remain the same.

These shoes have an unstable, strongly curved sole. Walking in them is akin to exercising on a balance or wobble board in the gym or barefoot along a sandy beach. Advocates say that this instability forces you to use muscles that you otherwise would not—namely those in your feet, legs, butt, and abs—which could lead to weight loss. The shoes can also change your posture and gait and take pressure off of achy, overused joints.

But do they actually do any of the above, and if so, is that a good thing?

Podiatrist's View

Cary M. Golub, DPM, a podiatrist in Long Beach, NY, says toning or rocker-bottom shoes have a place in certain people's shoe collection.

For starters, these shoes may help relieve pain among people with heel pain, he says. "They take the pressure off of the heel and give more support to the ankle," he says. "These shoes put the strain on your hamstrings and glutes, so if you are not athletic or a seasoned walker, they may hurt the muscles that they are supposed to help," Golub says. "If you are not used to firing these muscles, the shoes may hurt."

Golub's advice: "Break them in slowly for an hour or so. Don't start walking 2 or 3 miles in them."

Doctor's View

Najia Shakoor, MD, an associate professor of internal medicine at Rush Medical College and an attending physician at Rush University Medical Center in Chicago, spends a lot of time in her lab studying shoes and determining which types are best for people with arthritis.

Her verdict on toning shoes for people with arthritis: **Thumbs down.** "I don't think there is any evidence to suggest that they do anything beneficial for arthritis," Shakoor says. Her research shows that flat, flexible shoes are more joint-friendly. "This is the complete opposite of the rocker bottom," she says.

Shakoor is not sold on the role that these shoes play in improving fitness levels of people without arthritis, either.

Yes, "your posture improves because you are wearing an unstable shoe, so you have to balance yourself by standing up straight," Shakoor says. But "more research is needed to see who they are appropriate for."

Trainers' Views

"The concept is definitely relevant," says Fabio Comana, an exercise physiologist at the American Council on Exercise in San Diego. "They adjust your posture and encourage more activation of your gluteal muscles."

But Comana says they are not for every person or every activity. "It's not a good idea to run in these shoes, especially if you are at all deconditioned," he says. "They are fine to stand around in," he says. However, he cautions that people with balance problems and elderly people should not wear these shoes as instability may increase risk of falling and fractures.

Toning shoes are great for walking outdoors, but not on treadmills, says Margaret Schwarz, a personal trainer at New York's Equinox health club. "The benefit of the shoe comes from propelling one's body weight through space, something that does not happen on the treadmill," she says.

Schwarz also doesn't recommend the shoes for running, or for her clients who are new to weight training.

"I prefer the novice client to have stability at their foot/ankle during weight training," Schwarz says. "With more experience, one could wear the shoes during lower body movements to incorporate balance training."

Shoe Companies React

Shoe makers predict bigger roles for these shoes and stand behind their products.

"It's not a trend, it's a movement," says Jen Weiderman, the general manager of Sketchers Fitness Group, based in Los Angeles. "These shoes can help if you want to get a little more fit, but there are also shoes for the hard-core athlete," she says of Sketchers new line of toning shoes.

MBTs are not toning shoes, although they do provide this as an added benefit, stresses Molly Heaney, MBT's director of marketing, who is based in Portsmouth, N.H. "They are more of a medical shoe or physiological footwear," she says. "A residual effect of strengthening your muscles and improving your posture is looking better but, our goal is to make you feel better," Heaney says, noting that their shoes are certified as medical devices in Europe. But not in the U.S.; medical devices require FDA approval.

Heaney says the shoes may not be appropriate for people with balance issues, due to the instability, but there are no hard and fast rules about how and when to wear them. "Listen to your body," she says.

Bill McInnis, the head of advanced innovation for Reebok, based in Canton, Mass., created the technology used in Reebok's EasyTone line. "We looked at stability balls from the gym and incorporated that same thinking into a shoe," he says. "The idea was that introducing soft, micro-instability in the shoe would cause you to have to rebalance a bit with every single step and cause your muscles to work a little harder all day long," he says. <http://tinyurl.com/22pazqj>



WHY IS PANIC DISORDER A PSYCHIATRIC CONDITION?

Why is panic disorder classified as just a psychiatric condition when there are so many physical symptoms (some painful) that arise during the attack? They would occur whether in good/bad mood, or even asleep.

Expert Answer

This is a great question that cuts right to the heart of mind-body medicine. Panic attacks are a great example of how our false dichotomies between emotional and physical issues really don't stand up to the way the world really is. Panic attacks are so physical, in fact, that they are often first diagnosed when a person goes to the emergency room absolutely convinced that he or she is having a heart attack.

Let me ask you some questions in return. Why do people with major depression tend to have increased heart rate and blood pressure, and why do they have increased inflammation, just like people who are sick? Why does stress early in life greatly increase a person's risk for developing heart disease, diabetes and dementia later in life? Why do the bodies of people with schizophrenia seem to have a metabolism that puts them at risk for diabetes? Why—back in the old days before modern medications—did nearly 5 percent of all people admitted to psychiatric hospitals drop dead from their psychiatric diseases, usually after developing fevers as high as 110° F and becoming stiff as boards?

You get my point. Because the mind and body cannot be separated (except perhaps by the guillotine!), mental processes affect the functioning of the body. And bodily processes affect the functioning of the brain. These days, this is one of the hottest areas of scientific research in medicine.

So that is one answer to your question. The other answer is that historically, illnesses are psychiatric until a clear cause for them is found, and then they tend to migrate over to other medical disciplines. The classic example of this is the insanity that often accompanies syphilis in its advanced stages. A century ago, syphilitic patients filled psychiatric wards. Then, antibiotics were discovered and the responsibility for preventing syphilis-related insanity became the province of infectious disease doctors.

As a psychiatrist, it is kind of discouraging that if we researchers do our job right, there may be no "psychiatric" illnesses left in 100 years. They may all be understood, and as a result will have been farmed out to every other medical discipline, as appropriate. <http://tinyurl.com/25lmcrcd>



SENSITIVITY OF NEURONS THAT MAKE ONE FEEL FULL

There is now another good reason to exercise. Besides burning calories, exercise restores the sensitivity of neurons involved in the control of satiety (feeling full), which in turn contributes to reduced food intake and consequently weight loss. This is the conclusion of a study led by Brazilian researchers at the University of Campinas, and the findings will be published in the online, open access journal PLoS Biology. This disclosure may bring hope to over 40% of the population that suffers from weight problems and obesity around the world.

The increase in obesity has become one of the most important clinical-epidemiological phenomena. Factors such as changing eating habits and a sedentary lifestyle both have a role in the pathogenesis of this disease. It is postulated that excessive consumption of fat creates failures in the signal transmitted by neurons controlling satiety in a region of the brain called the hypothalamus. These failures can lead to uncontrollable food intake and, consequently, obesity.

The group led by José Barreto C. Carnevali demonstrated that exercising obese rodents showed signals of restored satiety in hypothalamic neurons and decreased food intake. "In obese animals, exercise increased IL-6 and IL-10 protein levels in the hypothalamus, and these molecules were crucial for increasing the sensitivity of the most important hormones, insulin and leptin, which control appetite," Carnevali explained. Physical activity contributes to the prevention and treatment of obesity, not only by increasing energy expenditure but also by modulating the signals of satiety and reducing food intake.

Physical activity has always been considered a cornerstone in the treatment of obesity, however, only now have the effects of exercise on the control of body weight been understood. Thus, these findings, besides reinforcing the necessity for

regular exercise also change the current paradigm established between physical activity and weight loss. <http://tiny.cc/7wwtr>



EXERCISES FOR ARTHRITIS

Here are four types of exercises that can reduce pain, say experts

Experts claim that people with arthritis who exercise have less pain, more energy, improved sleep, and better day-to-day function. Still, they tend to avoid exercising. "People with arthritis avoid exercise for a number of reasons," explained Donna Everix of the Association of Rheumatology Health Professionals.

"Some avoid it due to fear of pain or injury, and others avoid it for the same reason many people without arthritis do - not wanting to make a lifestyle change."

Inactivity, in addition to arthritis related problems, can result in a variety of health risks, including Type II diabetes and cardiovascular disease. In addition, decreased pain tolerance, weak muscles, stiff joints and poor balance common to many forms of arthritis can be made worse by inactivity.

Following are the four types of exercises that can have a positive effect on reducing pain related to arthritis and other rheumatic diseases:

Flexibility

Flexibility exercises help to maintain or improve the flexibility in affected joints and surrounding muscles. Benefits include better posture, reduced risk of injuries and improved function. When focusing on flexibility exercises, range of motion exercises should be performed five to 10 times on a daily basis while stretching exercises can be performed at least three days a week with each stretch being held for 30 seconds.

Strengthening

Strengthening exercises are designed to work muscles. Strong muscles improve function and help to reduce bone loss related to inactivity. For people with arthritis, one set of eight to 10 exercises for the major muscle groups of the body two to three times a week is recommended. However, older individuals may find that 10-15 repetitions with less resistance are more effective. The resistance or weight should challenge the muscles without increasing joint pain.

Aerobic

Aerobic exercises include activities that use the large muscles of the body in a repetitive and rhythmic manner. Aerobic exercise improves heart, lung and muscle function. For people with arthritis, this type of exercise has benefits for weight control, mood, sleep and general health. Safe forms of aerobic exercise include walking, aerobic dance, aquatic exercise, bicycling or exercising on equipment such as stationary bikes, treadmills or elliptical trainers. Current recommendations for aerobic activity are 150 minutes of moderate intensity exercise a week, preferably spread out over several days.

Body awareness

Body awareness exercises include activities to improve posture, balance, joint position sense, coordination and relaxation. Tai chi and yoga are examples of recreational

exercises that incorporate elements of body awareness and can be a very useful part of an arthritis exercise plan.

<http://tinyurl.com/2d76k7f>



STUDY BACKS HEART-HEALTHY EFFECT OF DAIRY FAT *Eating dairy foods could help protect your heart, new research from Sweden suggests.*

Dairy foods are a major source of saturated fat in the diet, which has been associated with heart disease. However, there's some evidence that dairy foods could actually benefit heart health, for example by lowering blood pressure or reducing cholesterol levels, Dr. Eva Warensjo of Uppsala University and her colleagues note in the American Journal of Clinical Nutrition.

To get a clearer sense of people's intake of fat from dairy and heart disease risk, Warensjo and her team measured blood levels of two biomarkers of milk fat in 444 heart attack patients and 556 healthy controls. The substances, pentadecanoic acid and heptadecanoic acid, indicate how much dairy fat a person has been eating.

The researchers found that people with the highest levels of milk fat biomarkers, suggesting they consumed the most dairy fat, were actually at lower risk of heart attack; for women, the risk was reduced by 26 percent, while for men risk was 9 percent lower.

Based on the American Heart Association's Heart Attack Risk Calculator, a normal-weight 60-year-old man with no risk factors for heart disease (such as smoking or diabetes) has a 6 percent risk of dying over the next 10 years; the current study suggests, therefore, that if this hypothetical man ate lots of dairy food, he would reduce his risk by about half a percent. For a woman, or someone at higher risk of a heart attack, the benefit would be larger.

Dairy foods contain a number of potentially beneficial substances, such as calcium, vitamin D, and potassium, Warensjo and her team note. They have also been shown to increase people's levels of "good" HDL cholesterol. "The exact mechanism behind these associations cannot be deduced from the present study, but the range of bioactive components present in the food matrix of milk products as well as associated lifestyle factors may all have contributed to the observed associations," the researchers conclude.

<http://tinyurl.com/2eby2eo>



FRESHLY CRUSHED GARLIC BETTER FOR THE HEART THAN PROCESSED

A new study reports what scientists term the first scientific evidence that freshly crushed garlic has more potent heart-healthy effects than dried garlic. Scheduled for the Aug. 12 issue of the Journal of Agricultural and Food Chemistry, it also challenges the widespread belief that most of garlic's benefits are due to its rich array of antioxidants. Instead, garlic's heart-healthy effects seem to result mainly from hydrogen sulfide, a chemical signaling substance that forms after garlic is cut or crushed and relaxes blood vessels when eaten.

In the study, Dipak K. Das and colleagues point out that raw, crushed garlic generates hydrogen sulfide through a chemical reaction. Although best known as the stuff that gives rotten eggs their distinctive odor, hydrogen sulfide also acts as a chemical messenger in the body, relaxing blood vessels and allowing more blood to pass through. Processed and cooked garlic, however, loses its ability to generate hydrogen sulfide.

The scientists gave freshly crushed garlic and processed garlic to two groups of lab rats, and then studied how well the animals' hearts recovered from simulated heart attacks. "Both crushed and processed garlic reduced damage from lack of oxygen, but the fresh garlic group had a significantly greater effect on restoring good blood flow in the aorta and increased pressure in the left ventricle of the heart," Das said.

<http://tinyurl.com/psm9xf>



TAKING CANNED SOUP TO A NEW LEVEL

Got soup in your pantry? I usually do. Tonight I had to make dinner quickly, so I grabbed a couple cans of chicken & vegetable soup (low sodium of course). But somehow just opening the can and heating up the soup didn't seem appealing on this cold and rainy night. So I decided to embellish the soup a bit with items I had in my kitchen.

I'm a big fan of matzo balls and I usually have a packet or two of matzo ball mix in my pantry. So I whipped up a batch of matzo balls for tonight's soup. I used Manischewitz Matzo Ball Mix, but of course I didn't follow the directions. I added egg substitute instead of 2 eggs and used canola oil for the "vegetable oil" called for. After letting the dough chill in the refrigerator for 15 minutes, I formed it into about 12 balls. I started to bring 2 cans of chicken & vegetable soup plus 3 cups of low sodium chicken broth to a boil in a large saucepan. I then added a cup and a half of chopped vegetables that I had on hand. You can also use beans, carrots, celery and/or frozen edamame.

Once the chicken soup mixture came to a boil, I dropped all the matzo balls in. I covered the saucepan tightly, reduced the heat, and let it simmer for 20 minutes. Now I had about three to four bowls worth of new and improved chicken soup!

If you want to jazz up canned chicken soup with something other than matzo balls, along with the extra vegetables or beans you can add in some fresh pasta or frozen tortellini. Just watch the sodium content of any additions.

While it isn't the same as homemade, it is quick and easy. And on a cold rainy night, canned soup never tasted so good.

<http://tinyurl.com/yfackbs>



ATTENTION, INSOMNIACS: DRINK CHERRY JUICE FOR BETTER ZZZS

There are lots of drinks that are marketed to do something healthy for you. Drink orange juice if you've got a cold. Cranberry juice to keep your urinary tract healthy. Pomegranate juice for a dose of age-defying antioxidants. Milk with calcium to build strong bones. And that doesn't include the multitude of vitamin waters, drink mixes and others.

But what about a daily drink to help you sleep? Something made from fruit? And something other than the mythological "night cap" that entails sleep-disrupting alcohol?

Tart cherry juice might be the answer, according to a new study by a team from the University of Pennsylvania, University of Rochester, and VA Center of Canandaigua.

The researchers looked at the sleep habits of 15 older adults who drank 8 ounces of tart cherry juice in the morning and evening for two weeks. Then they drank a comparable matched drink with no tart cherry juice for another two-week period. The results? A significant reduction in reported insomnia severity during the weeks when they drank the cherry juice. The adults saved about 17 minutes of wake time after going to sleep, on average, when drinking cherry juice daily compared to when they were drinking the other non-cherry beverage.

So what's the magic in cherry juice? Cherries contain melatonin, a natural antioxidant with a well-documented history of helping to regulate the sleep-wake cycle. Produced naturally by the body in small amounts, melatonin plays a role in inducing sleepiness at night and wakefulness during the day. Though melatonin is marketed as a supplement to help people fall asleep, I'm not a big advocate of going this route without a doctor's supervision. But getting natural melatonin from whole foods like cherries is clearly another story. Our body is likely to use that very natural ingredient from a fruit in a much different way than it would via a pill.

After all, we need solutions for better sleep: More than 40 million adults and another 20 million experience occasional sleep disruptions, putting their health and well-being at risk.

Americans spend more than \$84 million on over-the-counter sleep aids each year. If a glass or two of tart cherry juice (assuming you enjoy the flavor) does in fact help reduce insomnia, then this study is good news for insomnia sufferers. Drink up!

<http://tinyurl.com/274ef3p>



GREENS AND BEANS

Prep Time: 5 min Cook Time: 15 min

Level: Easy Serves: 3 to 4

Ingredients:

2 tablespoons olive oil
1 chopped onion
2 cloves garlic, sliced
1/4 teaspoon red pepper flakes
Salt and freshly ground black pepper
2 cups kale, washed, stems trimmed and chopped
1 (15- ounce) can cannellini beans, drained
3/4 cup chicken stock

Directions

Heat olive oil over medium heat in a large Dutch oven. Add onion and garlic slices. Saute until tender about 3 minutes. Add the red pepper flakes and salt and pepper; stir until fragrant. Add the kale and let saute until it cooks down slightly. Add the beans and the chicken stock. Cover and let cook for 10 minutes.

<http://tinyurl.com/ntbwle>

MEATLOAF MAKEOVER

In these high-stress times, meatloaf is right up there with apple pie as one of America's favorite comfort foods. But it has all the makings of cardiac arrest if it's packed with fat: Some recipes tally more than 900 calories a serving and an entire day's worth of saturated fat! Chances are, the family recipe could stand the chef's equivalent of liposuction. Here are seven ways to give your meatloaf a makeover without sacrificing flavor:

- Use extra-lean ground beef (aim for 5% fat). Then, add just enough liquid -- about 1/4 cup of tomato juice, wine, or broth per pound -- to keep your meatloaf rich and juicy.
- Mix extra-lean meat with ground turkey breast (not fatty dark meat).
- Use soft breadcrumbs instead of dry ones for a moister loaf.
- Add 1 part diced onions, diced green peppers, and/or grated potato, zucchini, or carrots to 3 parts ground meat.
- Use egg substitute in place of whole eggs to keep the cholesterol down.
- Don't overmix. Too much handling squeezes moisture out, producing a heavy, dry loaf.
- Bake loaf on a rack set in a roasting pan so the fat drains off. When it's done, let it sit for 10 to 15 minutes before serving so that the juices can redistribute, which keeps the loaf tender throughout.

Mini Meatloaves with Fresh Thyme

Serves 4

For fun (and instant portion control), try baking meatloaf as mini loaves or in large muffin tins, as nutritionist Elizabeth Somer, RD, author of *The Food & Mood Cookbook*, does with this flavorful thyme-infused meatloaf. It is moist and tender and has about half as much fat and cholesterol as traditional meatloaf.

Cooking spray

1 teaspoon olive oil

½ cup onions, diced

½ cup red bell pepper, diced

2 cloves garlic, minced

1 pound extra-lean ground beef (7% or less fat)

1/4 cup ketchup

1 teaspoon Dijon mustard

1 teaspoon Worcestershire sauce

1/3 cup breadcrumbs

1/3 cup liquid egg substitute

½ teaspoon salt

1/4 teaspoon fresh-ground black pepper

1 tablespoon fresh thyme leaves

1/4 cup fresh parsley, chopped

1. Preheat oven to 350 degrees Fahrenheit.
2. In nonstick skillet, warm oil over medium heat. Add onions, red pepper, and garlic; saute for 4 minutes or until onion is transparent. Remove from heat.

3. In large mixing bowl, combine all remaining ingredients. Add onion mixture and mix with hands just until ingredients are well combined -- don't overmix.

4. Divide mixture into quarters and form into small, oval loaves. Spray rack of roasting pan with cooking spray. Place loaves on rack in roasting pan and bake for 25 to 30 minutes or until meat thermometer reads 160 degrees Fahrenheit.

5. Remove from oven and let sit for 5 minutes to allow juices to redistribute. <http://tinyurl.com/meuvv2>



TIMELY VEGETABLE TIPS

Boil water now or later?

Ever wonder if you should boil the water before or after you add vegetables to the pot. Here's a simple way to remember:

- Vegetables that grow underground (beets, carrots, potatoes) should start off in cold water.
- Vegetables that grow aboveground (corn, peas, greens) should be placed in boiling water.

Keep Tomatoes Fresh Longer

- Store tomatoes stem side down and they'll last longer.



"He started acting like this about a week after beginning fish oil supplements."

Information in this newsletter is for educational purposes only. Always consult with your doctor first about your specific condition, treatment options and other health concerns you may have.



"Eli the Elephant Trainer."

EFFORTS
PO BOX 20241
KANSAS CITY MO 64195-0241