

EFFORTS



Emphysema Foundation For Our Right To Survive

Emphysema Takes Your Breath Away

November 2008

LIMITLESS OPPORTUNITIES

"Only those who will risk going too far," T.S. Eliot wrote, "can possibly find out how far one can go."

For chronic obstructive pulmonary disease patients (one of whom was Eliot who died of emphysema in Not long ago, heeding the medical advice of the day, COPD patients took to their beds to await the end. Today, many test the outermost boundaries of their disease, daring it to stop them from performing physical feats even people with two healthy, taken-for-granted lungs cannot match.

Timely diagnosis, new drug regimens, portable oxygen systems, lung volume reduction/lung transplantation surgery, and the undeniable benefits of pulmonary rehabilitation (now covered by Medicare) are enabling COPD patients to soften the prognosis of COPD from imminent death sentence to a chronic but manageable, even partially reversible, disease.

But the good news about COPD has yet to penetrate the collective consciousness of the general public. Many still do not know what the acronym stands for, even though COPD afflicts an estimated 210 million people worldwide.

When people hear the term "emphysema" they imagine patients "who can't get out of bed," observed David Ingbar, MD, immediate past president of the American Thoracic Society. "The public is not aware that COPD patients can be helped. We need to get around this image of end-stage hopelessness."

WHAT DO WE KNOW?

Many COPD patients today are responding to a new message: Remain as physically active as possible - and then some. Stay upbeat and positive. Do not beat yourself up for having smoked; that road leads downhill to depression and physical degradation.

More and more, patients are becoming partners in their own care. A prime example is Grace Anne Dorney Koppel, an attorney and the wife of journalist Ted Koppel. She suffered a double-whammy a few years back: a diagnosis of advanced COPD followed by a diagnosis of lung cancer in 2005, for which she had a lobe removed. Thanks to compassionate doctors and a mix of exercise and yogic breathing, Koppel is now cancer-free and has an FEV1 of 60 percent to 65 percent predicted. "Why have I done well when so many others in my situation have died?" she asked pulmonologists as ATS 2008's keynote speaker.

Her answer: "I don't know. And neither does anyone else." None of you, Koppel told her audience, "is the definitive source of knowledge about COPD. Patients and doctors must collaborate." Not all that long ago, she reminded them, physicians recommended only bed rest, not supplemental

oxygen and exercise. "Now we know that's wrong," she said.

Likewise, FEV1 was once the sole measure of COPD severity. Today, the BODE index and improved awareness of COPD's co-morbidities allow for more comprehensive and effective treatment, making COPD "partially reversible," according to Koppel. "The orthodox view that COPD can't be treated must be fought," she said. "The rest of you will be judged by the worst among you."

EARLY DIAGNOSIS KEY

Timely diagnosis remains critical to successfully managing smoker's disease. Even today, though, half of all those who have it do not know it, experts say. That means COPD is progressing to potentially untreatable stages in millions of people.

"One problem with COPD is it tends to sneak up on people," noted Edward Warren, MD, who directs the division of pulmonary, critical care, and sleep medicine at MetroHealth Medical Center in Cleveland.

When COPD's primary patient population first develops dyspnea, "they often attribute it to getting old," Dr. Warren pointed out. "And they also change their lifestyles, avoiding activities that make them short of breath. It's amazing how some patients will delay seeking medical evaluation until they find they can't do the things they need to do or want to do. You find their shortness of breath began years before - though they initially say it began only months ago."

COPD's disease process "is subtle and extends over many years," agreed Deane Hillsman, MD, a retired pulmonologist and a founding member of NAMDRC. "As such, it is more easily ignored or rationalized, as patients adapt to their worsening lung condition. By the time the problem becomes obvious, typically with the onset of an otherwise routine chest cold, precipitating a bronchitic exacerbation, the disease process is usually significantly advanced. The minor nuisance, morning smoker's cough is, in fact, "a major pathologic signal," he continued. "Likewise, while it is normal to have age-related exertion dyspnea, if one is having what seems to be disproportionate dyspnea in comparison to one's peers, this may also be a warning signal."

SPIROMETRY SCREENING: PRO AND CON

Heightened awareness of COPD by general practitioners, including routine use of spirometry, is imperative, according to Dr. Warren. "Spirometry is significantly underused in evaluating dyspnea and diagnosing COPD," he said. "About a third of patients with a diagnosis of COPD never have had PFTs done, research shows." He advocates spirometry screening for "patients at risk," such as those past 40 who have smoked for 10 or 20 years or longer, or have other exposures.

Koppel agreed that all smokers older than 40 should have spirometry, otherwise "we risk diagnosing past the point where we can successfully intervene." She added, though, that her viewpoint was "not shared by all of you."

Indeed, Dr. Ingbar cautioned that routine spirometry use among smokers has the potential to do more harm than good. While massive screening of smokers sounds appealing, "if patients don't have COPD they might be tempted to continue smoking, even though they are also putting themselves at risk for heart disease and lung cancer," he warned.

Dr. Hillsman, however, emphatically favors screening. "Everyone should have a routine spirogram on their 40th birthday and every decade thereafter," he declared.

VICIOUS CYCLE

Another key to enhancing the quality of life of COPD patients is successfully managing their co-morbidities, which are numerous. COPD rarely exists in a vacuum. "One reason is smoking, a common denominator for many diseases," Dr. Warren said. "But COPD itself is a risk factor for cardiovascular disease, chronic inflammation, weight loss, and osteoporosis. And it's a major cause of depression and anxiety." A vicious cycle can develop, he said, when dyspnea encourages a more sedentary lifestyle. It leads to muscle atrophy and further disability and shortness of breath. At the same time, COPD (particularly with recurrent exacerbations) has systemic effects that affect nutritional status, cardiovascular health, muscle function, etc., all adversely affecting quality of life and often causing depression and anxiety. Managing COPD, he concluded, means "combating the sedentary lifestyle, paying attention to their diets to avoid malnutrition, and trying to limit exacerbations that fuel the vicious cycle."

As for pharmacological management, recent trials have led experts like Bartolome Celli, MD, to advise a long-acting antimuscarinic agent such as tiotropium or long-acting beta-agonists (LABAs) twice daily once symptoms become persistent. When a patient reaches an FEV1 of 60 percent predicted, and continues to be symptomatic, a combination of inhaled corticosteroids and LABAs should be added, according to Dr. Celli.

Some COPD medications may have side effects, but they are generally well-tolerated and safe, even in the elderly, Dr. Warren said. Beta-agonists may cause palpitations or tremors, but no evidence links them to significant cardiac events. Inhaled anti-cholinergics are safe but, in rare cases, can increase intraocular pressure in the eyes of a patient with glaucoma. High-dose inhaled steroids may contribute to osteoporosis (though this is controversial) and may cause hoarseness and oropharyngeal candidiasis, which can be minimized by the use of a spacer.

COUNTERACTING PATIENT GUILT

Anyone who treats COPD faces another daunting problem: Patients are often consumed with guilt for having smoked. Guilt can lead to depression and depression to physical decline. Counteracting patient guilt "is a big problem," Dr. Warren admitted. "It's very common that patients will feel guilty. It's a hard thing to combat. It's often accompanied by a feeling of resignation: I've done this to myself; there's no point in quitting

smoking now because I already have COPD. It is essential they understand that if they can quit, they can still have a huge influence on the course of the disease and their quality of life. "Physicians must encourage them not only to stop smoking but to also take an active role in managing their disease. Tools and medications can help them stop smoking but, ultimately, it is up to the patient."

Janet Smith, 75, a patient at Temple University Hospital with moderate-to-severe chronic bronchitis, complicated by asthma, said she is "ashamed to say" that she began smoking at age 17 and continued for 33 years until making up her mind to quit in 1984.

"I had an antibiotic; it cleared it up," Smith said. "I took it and still continued to smoke afterwards, and it came back again and again. The antibiotic kept clearing it up. I walked and walked and walked until I was normal, like everyone else. Then I went back to work in 1995 and worked for five years; I missed only one day of work in those five years."

Only 10 percent to 20 percent of people who smoke develop COPD, implying that some other factor, probably a genetic predisposition, is at work. That is worth pointing out to patients. No one should feel guilty about their genetic makeup. It is beyond their control.

"We don't blame patients for diabetes, even though poor diet is a contributing factor in that disease," Dr. Ingbar said.

"Why do we for COPD?"

POSITIVE ATTITUDE

Hand-in-glove with overcoming patients' guilt is nudging them toward more positive thinking. Dr. Warren has seen numerous COPD patients thrive once they accept the reality of their conditions and are determined to fight it with all the tools in the medical armamentarium.

"Some patients have positive responses upon learning their diagnosis, and this facilitates their treatment," he said. "Avoiding exacerbations and changing their sedentary lifestyles is the goal. We encourage them to participate in more activities. Many patients who complete our pulmonary rehab program have remarkable transformations in their outlook, leading to a much-improved quality of life."

Pulmonary rehab, he added, "is the best way to get them active. Once they realize they can improve their exercise tolerance, it motivates them even further."

The other essential piece is education. "Patients who are interested in their disease, who read about it and understand it better, tend to be more successful," Dr. Warren noted. "They know when to seek help, how to self-manage. Some patients truly alter their lifestyles. Once they see they have some control over their disease, their entire outlook changes."

<http://tinyurl.com/4fdyg4a>



WHEN YOU CHANGE YOUR CLOCK BACK TO STANDARD TIME ON NOVEMBER 2ND, REMEMBER TO CHANGE THE BATTERIES IN YOUR SMOKE ALARMS AND CARBON MONOXIDE DETECTORS, TOO.



DEPRESSION MAY INCREASE EXACERBATIONS,

HOSPITALIZATIONS IN COPD

It is well known that patients with chronic obstructive pulmonary disease (COPD) frequently suffer from depression and anxiety, but according to new research, depression and anxiety may actually cause increased hospitalizations and exacerbations.

"This is an important and revealing finding, indicating that for COPD patients, depression and anxiety must be treated as potential clinically important risk factors, rather than simple comorbidities that are caused by COPD," said principle investigator of the paper, Jean Bourbeau, M.D., director of the Respiratory Epidemiology and Clinical Research Unit of McGill University, in Montreal.

The research, published in the first issue for November of the American Thoracic Society's clinical research journal, the American Journal of Respiratory and Critical Care Medicine, is the first study to indicate a causal relationship between depression and exacerbations and hospitalizations for COPD.

To determine whether depression and anxiety were independent risk factors for COPD exacerbations and hospitalizations, the researchers prospectively recruited nearly 500 patients with stable COPD from ten hospitals in Beijing. Each patient was assessed at baseline for anxiety and depression as well as disease severity. They were contacted monthly by telephone for one year to determine whether they had experienced any exacerbations or hospitalizations.

"Almost a quarter of the patients we monitored were suspected of having depression at baseline (13.8 percent possible and 9 percent probable cases), and nearly one in ten were suspected of having anxiety (4.5 percent possible and 5.1 percent probable cases)," said Dr. Bourbeau.

Depressed patients had a higher proportion of concurrent anxiety than non-depressed patients. They also had higher mortality, more symptom- and event-based exacerbations and hospitalizations and longer hospital stays than non-depressed patients. They were also more likely to have had past exacerbations and hospitalizations. Hospital stays were nearly two and a half times as long for depressed patients, although the association did not reach statistical significance.

Anxiety was also associated with a greater risk of exacerbations and longer hospital stays. Overall, among patients with anxiety who had at least one exacerbation, the exacerbation lasted nearly twice as long as those without anxiety, but there was no support for previous findings that hospitalizations were affected by anxiety in length or frequency.

Because these effects were evident after adjustments for all known confounding factors using a causal diagram, and because the outcomes were measured after psychological exposures, the researchers assert that not only is depression linked to greater risk of more and lengthier COPD exacerbations and hospitalizations, but that their findings suggest a causal relationship.

"To our knowledge this is the first report of the possible causal association between depressive symptoms and exacerbations and hospitalizations in stable COPD. However, people have to realize that the causal relationship is a complicated issue and will require further evaluation as part of other properly designed longitudinal studies," wrote Dr. Bourbeau.

While they acknowledge that there may have been a

differential loss of depressed/non-depressed patients in follow up, because patients who withdrew earlier had more severe COPD and were more depressed than those who completed follow-up, it is likely that the association was underestimated than anything. "Similarly, the association between anxiety and exacerbations may have been underestimated due to the differential attrition," said Dr. Bourbeau.

The researchers proposed a number of possible explanations for their findings—that depression itself may effect changes in the immune system; that depression affects patients' ability to adapt to chronic symptoms, thereby making them more likely to make frequent visits to the doctor and receive pharmacological treatment; or depression may decrease self-confidence and increase feelings of hopelessness, resulting in poorer self-care and poorer medication compliance.

"The results of this study can guide researchers and clinicians to evaluate in COPD patients with depression the effectiveness of antidepressants and psychotherapies on reducing exacerbations and related complications such as hospital admissions," concluded Dr. Bourbeau. <http://tinyurl.com/6ldxjz>

RESEARCH: KEY COMPONENT OF DEBILITATING LUNG DISEASE IDENTIFIED

For the first time, researchers have demonstrated a close correlation between the decline in a key component of the lung's antioxidant defense system and the progression of chronic obstructive pulmonary disease in humans. COPD is a degenerative condition that decreases the flow of air through the lungs as the lung's air sacs are damaged.

A study of lung tissue samples from COPD patients by scientists at the Johns Hopkins Bloomberg School of Public Health found that expression of the regulating gene NRF2 was significantly decreased in smokers with advanced COPD compared to smokers without COPD. The study is published in the Sept. 15 edition of the American Journal of Respiratory and Critical Care Medicine.

The study team was led by Shyam Biswal, an associate professor in the Bloomberg School's Department of Environmental Health Sciences and in the Division of Pulmonary and Critical Care Medicine at the Johns Hopkins School of Medicine. According to Biswal, NRF2 works as a "master gene" to turn on numerous antioxidant and pollutant-detoxifying genes to protect the lungs from environmental pollutants, such as cigarette smoke. Biswal previously identified that disruption of NRF2 expression in mice caused early onset and severe emphysema, which is a major component of COPD in humans. However, the status of this critical pathway in humans with COPD was unclear.

"This work clearly demonstrates that decline in our antioxidant system is involved in progression of COPD, which could also be the case for other environmental diseases," Biswal said. "There is no treatment of COPD, but NRF2 could be a novel target for the development of new drug therapies."

Rubin Tudor, a co-author of the study now on the faculty of the University of Colorado, added, "As we learn how the protective actions of NRF2 are decreased in the course of a lifetime of exposure to cigarette smoke, it opens new venues for

the development of novel drugs fitted for individual patients in specific stages of the disease."

The research was supported by the National Institutes of Health through an investigator-initiated grant, as well as by the Specialized Center for Clinically Oriented Research at the Johns Hopkins School of Medicine. Lung specimens were provided by the Lung Tissue Research Consortium, which is supported by the National Heart, Lung and Blood Institute.

"COPD affects more than 16 million Americans and is the fourth highest cause of death in the United States," said Robert Wise, professor at the School of Medicine and director of the Johns Hopkins SCCOR initiative. "It is the only disease among the top 10 causes of death with a rising mortality rate in the United States. It is predicted to be the third largest cause of death by 2020 and has already reached worldwide epidemic proportions."

<http://tinyurl.com/59xndr>

BROCCOLI MAY BE ESPECIALLY GOOD FOR COPD PATIENTS

People who suffer with the chronic breathing disorder known as COPD may benefit from a second helping of broccoli at dinner, research published today suggests.

COPD, which stands for "chronic obstructive pulmonary disease," is a progressive lung condition that is mostly seen in smokers and former smokers. It is characterized by emphysema and chronic bronchitis, which obstructs air flow to the lungs.

Dr. Shyam Biswal from The Johns Hopkins School of Medicine in Baltimore and colleagues have found a correlation between more severe COPD and a decrease in lung concentrations of a specific protein called NRF2, which defends the lung against inflammation-related injury. Broccoli contains a compound that helps stabilize NRF2 levels in the lung.

Biswal and colleagues analyzed tissue samples from the lungs of smokers and former smoker with or without COPD. When compared with healthy lung tissue, COPD lung tissue showed a marked decline in the activity and concentrations of NRF2-dependent, inflammation-fighting antioxidants.

This defect seen in the COPD lung appears to be associated with reduction in another protein called DJ-1, whose main function is to stabilize NRF2 and prevent its degradation. Clear signs of cell-damaging oxidative stress in the COPD lungs were also evident.

In the lab, the broccoli compound sulforaphane was able to restore the antioxidant imbalance in COPD lung tissue, the researchers found.

These observations point to the potential of using drugs to boost NRF2-regulated antioxidant defenses in the lung in patients with COPD, Biswal and colleagues conclude in a report in the latest issue of the American Journal of Respiratory and Critical Care Medicine.

"Future studies should target NRF2 as a novel strategy to increase antioxidant protection in the lungs and test its ability to decrease exacerbations and improve lung function in patients with COPD," Biswal said.

Increasing NRF2 "may also restore important detoxifying enzymes to counteract other effects of tobacco smoke," Dr. Peter Barnes of the National Heart and Lung Institute in London, writes

in a commentary published with the study. This was been achieved in animals by isothiocyanate compounds, such as sulforaphane, which occurs naturally in broccoli, he explains.

In a written statement, Dr. John Heffner, past president of the American Thoracic Society, commented that "mounting evidence over several decades underscores the importance of oxidant-mediated damage for the development of COPD in addition to other lung diseases."

"This study adds greater precision to our understanding of the specific antioxidants that may protect the lung against (COPD) to allow clinical trials based on valid pathophysiologic principles," Heffner added.

SOURCE: Am Jour Res & Crit Care Med, Sept 2008.



WORLD COPD DAY 2008: WHERE HAVE WE BEEN AND WHERE ARE WE HEADED?

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) is one of the leading causes of morbidity and mortality in both the industrialized and the developing world. 19 November 2008 marks the seventh anniversary of World COPD Day, which seeks to improve awareness of COPD and improve care for our patients.

The World Health Organization's Global Burden of Disease and Risk Factors Project estimated that in 2001 (prior to the first World COPD Day in 2002) COPD was the fifth leading cause of death in high income countries, accounting for 3.8% of total deaths, and the sixth leading cause of death in low-and middle income countries, accounting for 4.9% of total deaths.

What progress have we made over the past seven years? What can we expect as we look into the future? Since 2002 we now have much better estimates of the prevalence of disease, with the publications of the PLATINO and Burden of Obstructive Lung Disease Initiative (BOLD) studies, which used a standardized methodology to estimate disease prevalence in different countries.

Looking into the future, there may well be further refinements in how we define and classify disease. Natural history studies such as Evaluation of COPD Longitudinally to Identify Predictive Surrogate End-points (ECLIPSE) and Coronary Artery Risk Development in Young Adults (CARDIA) have the capacity to change how we view disease and may also result in some changes to our current strategy for classifying disease. In addition, better phenotypic characterization and further refinements of multidimensional classification schemes may provide us with better options to appropriately treat our patients.

Another change we have observed is the potential for disease modification. In 2002, the only confirmed disease modifying interventions were oxygen therapy in severe disease with hypoxemia and smoking cessation.

There is now some evidence that pharmacologic interventions may also influence the natural history of disease, with additional studies anticipated in the next 2-3 years.

Although exacerbations have long been known to be important in COPD, our understanding of how these events affect our patients has increased dramatically in recent years. There is now evidence to suggest that antibiotic interventions during

exacerbations may both increase the time to a subsequent exacerbation and reduce mortality.

Over the next few years we will see the results from several studies that look at periodic antibiotic therapy as a means of reducing exacerbation frequency and severity.

Finally, although we have known for years that COPD shares risk factors (predominantly smoking) with other chronic diseases, we have paid much more attention to this topic in recent years. We now know that COPD is associated with other comorbid diseases such as cardiovascular disease, depression, and diabetes, although intervening factors, such as state of persistent inflammation, may be important in these findings.

The 2008 edition of World COPD Day provides both promise and challenge. We have made some advances since 2002, but we clearly have a great way to go. While our primary focus should remain on primary prevention of disease, there are still opportunities for secondary and tertiary prevention that will result in better lives for our patients. David M. Mannino, MD

<http://tinyurl.com/3hxg6b>



STUDY FINDS ANTIOXIDANT DEFICIENCY LINKED TO PULMONARY HYPERTENSION

A recent study shows that a loss of antioxidants in the endothelial cells that line blood vessels in the lungs contributes to the loss of vasodilator effects and, ultimately, to the development of pulmonary hypertension. The findings appear in *Clinical and Translational Science*.

The study, led by Serpil Erzurum of the Cleveland Clinic, evaluated antioxidant activities in patients with idiopathic pulmonary arterial hypertension (IPAH), a fatal disease characterized by progressive increase in pulmonary artery pressure and vascular resistance.

Erzurum's study found that the inactivation of these oxidants inside the cell is achieved mainly by the cell's own line of defense against oxidants. Additionally, the researchers determined that this process may contribute to low levels of nitric oxide, identified in IPAH and a fundamental component in the pathogenesis of pulmonary hypertension.

According to Dr. Erzurum, there is a potential long-term benefit to the care of patients with IPAH due to the study's findings. "Antioxidant augmentation in patients might be used to increase nitric oxide vasodilator effects, reduce pulmonary artery pressures and potentially improve clinical outcomes," she said.

<http://tinyurl.com/3ozjav>



VITAMIN D A KEY PLAYER IN OVERALL HEALTH OF SEVERAL BODY ORGANS

Essential for life in higher animals, vitamin D, once linked to only bone diseases such as rickets and osteoporosis, is now recognized as a major player in contributing to overall human health, emphasizes UC Riverside's Anthony Norman, an international expert on vitamin D.

In a paper published in the August issue of the *American Journal of Clinical Nutrition*, Norman identifies vitamin D's

potential for contributions to good health in the adaptive and innate immune systems, the secretion and regulation of insulin by the pancreas, the heart and blood pressure regulation, muscle strength and brain activity. In addition, access to adequate amounts of vitamin D is believed to be beneficial towards reducing the risk of cancer.

Norman also lists 36 organ tissues in the body whose cells respond biologically to vitamin D. The list includes bone marrow, breast, colon, intestine, kidney, lung, prostate, retina, skin, stomach and the uterus.

According to Norman, deficiency of vitamin D can impact all 36 organs. Already, vitamin D deficiency is associated with muscle strength decrease, high risk for falls, and increased risk for colorectal, prostate and breast and other major cancers.

"It is becoming increasingly clear to researchers in the field that vitamin D is strongly linked to several diseases," said Norman, a distinguished professor emeritus of biochemistry and of biomedical sciences who has worked on vitamin D for more than 45 years. "Its biological sphere of influence is much broader than we originally thought. The nutritional guidelines for vitamin D intake must be carefully reevaluated to determine the adequate intake, balancing sunlight exposure with dietary intake, to achieve good health by involving all 36 target organs."

Vitamin D is synthesized in the body in a series of steps. First, sunlight's ultraviolet rays act on a precursor compound in skin. When skin is exposed to sunlight, a sterol present in dermal tissue is converted to vitamin D, which, in turn, is metabolized in the liver and kidneys to form a hormone. It was Norman's laboratory that discovered, in 1967, that vitamin D is converted into a steroid hormone by the body.

The recommended daily intake of vitamin D is 200 international units (IU) for people up to 50 years old. The recommended daily intake of vitamin D is 400 IU for people 51 to 70 years old and 600 IU for people over 70 years old. Norman's recommendation for all adults is to have an average daily intake of at least 2000 IU.

"To optimize good health you must have enough vitamin D," he said. "Vitamin D deficiency is also especially of concern in third world countries that have poor nutritional practices and religious customs that require the body to be covered from head to toe. Ideally, to achieve the widest frequency of good health by population, we need to have 90 percent of the people with adequate amounts of vitamin D."

About half of the elderly in North America and two-thirds of the rest of the world are not getting enough vitamin D to maintain healthy bone density, lower their risks for fracture and improve tooth attachment.

"There needs to be a sea change by various governmental agencies in terms of the advice they present to citizens about how much vitamin D should be taken," Norman said. "The tendencies of people to live in cities where tall buildings block adequate sunlight from reaching the ground, to spend most of their time indoors, to use synthetic sunscreens that block ultraviolet rays, and to live in geographical regions of the world that do not receive adequate sunlight all contribute to the inability of the skin to biosynthesize sufficient amounts of

vitamin D."

Found in minute amounts in food, vitamins are organic substances that higher forms of animals need to grow and sustain normal health. Vitamins, however, are not synthesized in sufficient amounts to meet bodily needs. Therefore, the body must acquire them through diet or in the form of supplements.

Because it is found in very few foods naturally, milk and other foods (often orange juice) are fortified with vitamin D.

While deficiency of vitamin D impacts health negatively, ingestion of extremely high doses of vitamin D can cause hypercalcemia, a condition in which the blood's calcium level is above normal. The highest daily 'safe' dose of vitamin D is 10,000 IU.

"More than ever we need to increase the amount of research on vitamin D, with more funding from government agencies and pharmaceutical companies, to meet the challenge of preserving or improving the health of everyone on the planet," Norman said. <http://tinyurl.com/4olw4g>

DIET CONTRIBUTES TO SLEEP PROBLEMS

A new study finds many people with severe obstructive sleep apnea have an unhealthy diet. Researchers say this may be contributing to more cardiovascular problems in these patients.

Obstructive sleep apnea is a sleep disordered breathing condition in which the person has repetitive episodes of complete or partial airway obstruction during sleep. It's estimated 18 million Americans suffer from obstructive sleep apnea.

Researchers from Harvard Medical School conducted the study. They included 320 participants who underwent sleep testing and had their dietary habits analyzed. "We found that persons who had severe obstructive sleep apnea ate a diet that was unhealthy with increased intake of cholesterol, fat and saturated fatty acids," Stuart Quan, MD, division of sleep medicine at Harvard Medical School, was quoted as saying. This was most evident in women.

Study authors say those with the most severe sleep apnea also had a greater consumption of cholesterol, protein and trans-fatty acids. Researchers say while it is well known that obese people tend to consume diets high in fat and cholesterol, these results suggest severe sleep apnea has an independent effect on dietary intake. They suggest sleep apnea may impact levels of an appetite-regulating hormone and increase a person's desire for fatty foods. <http://tinyurl.com/6m56j3>

BEE GEES HIT COULD SAVE YOUR LIFE

US medics have found the Bee Gees' 1977 hit Stayin' Alive is an ideal beat to follow to perform chest compressions on a victim of a cardiac arrest. Research says it contains 103 beats per minute, close to the recommended rate of 100 chest compressions per minute.

An author of the study said many people were put off performing cardiopulmonary resuscitation (CPR) as they were not sure about keeping the correct rhythm. He said CPR could triple cardiac arrest survival rates when performed properly.

The study by the University of Illinois College of Medicine saw 15 doctors and students performing CPR (cardiopulmonary

resuscitation) on mannequins while listening to Stayin' Alive. They were asked to time their chest compressions with the beat.

Five weeks later, they did the same drill without the music, but were told to think of the song while doing compressions.

The average number of compressions the first time was 109 per minute; the second time it was 113 - more than recommended by the American Heart Association, but better than too few, according to Dr Matlock.

"It drove them and motivated them to keep up the rate, which is the most important thing," he told the Associated Press.

A spokesman for the American Heart Association, Dr Vinay Nadkarni, said it had been using Stayin' Alive as a training tip for CPR instructors for about two years, although it was not aware of any previous studies that tested the song.

<http://tinyurl.com/6mp4qa>

LARGE TRIAL OF DRUG THERAPY FOR COPD PATIENTS OFFERS NEW HOPE

For the first time, a drug therapy appears to reduce lung function loss in patients with moderate to severe chronic obstructive pulmonary disease (COPD), the fourth leading cause of death in the U.S., which is primarily diagnosed in older people. It did not abolish the accelerated decline in lung function but did make substantial improvement

In a randomized, double-blind, placebo-controlled trial in 42 countries, the Toward a Revolution in COPD Health (TORCH) study investigated the effects of combined salmeterol, a β_2 -agonist, and fluticasone propionate, an inhaled corticosteroid, either alone or in combination.

Note: Salmeterol is a long-acting beta2-adrenergic receptor agonist drug that is currently prescribed for the treatment of asthma and chronic obstructive pulmonary disease (COPD). It is currently available as a metered-dose inhaler (MDI) or a proprietary "disk-styled" inhaler that releases a powdered form of the drug.

Fluticasone nasal spray is used to treat the symptoms of seasonal (occurs only at certain times of year), and perennial (occurs all year round) allergic rhinitis and perennial nonallergic rhinitis. These symptoms include sneezing and stuffy, runny, or itchy nose. Fluticasone is in a class of medications called corticosteroids. It works by preventing and decreasing inflammation (swelling that can cause other symptoms) in the nose.

The tests were run on

- > mortality,
- > exacerbations (making condition worse),
- > health-related quality of life and
 - > rate of decline in lung function as measure by forced expiratory volume in one second (FEV1) in patients with COPD.

The results are published in the second issue for August of the American Journal of Respiratory and Critical Care Medicine, published by the American Thoracic Society.

"Pharmacotherapy with salmeterol plus fluticasone propionate, or the components, reduces the rate of decline on FEV1 in patients with moderate to severe COPD, thus slowing

disease progression," wrote Bartolome R. Celli, M.D., lead author of the study and professor at Tufts University School of Medicine.

"To date, smoking cessation is the only intervention that has conclusively been shown to alter the rate of decline in FEV1," remarked Dr. Celli. This is the first demonstration of an effective pharmacotherapy (the use of drugs to treat condition) in COPD.

The TORCH study randomized more than 6,000 patients with moderate to severe COPD from 42 countries to g), fluticasone propionate (FP; 500mcg) or salmeterol (SAL; 50 g), or placebo. After baseline, the two in combination (SFC; 50/500mcg) FEV1 was recorded, patients were re-evaluated every 24 weeks to determine the rate of decline in FEV1.

"The rate of decline in FEV1 was slowest in patients on SFC and fastest in those randomized to the placebo arm," wrote Dr. Celli. "From week 24 onward, the adjusted rate of decline in FEV1 was 39ml/year for SFC, 42 ml/year for both SAL and FP and 55 ml/year for placebo."

Although the study was not formally powered to detect differences in rate of decline of FEV1, the results were highly significant ($p < 0.001$.) The rate of decline in treatment groups was similar across a number of variables, including sex, age, ethnicity and body mass index. Furthermore, the slower rate of decline in FEV1 appeared to be associated with a lower risk of exacerbation.

"Although treatment did not abolish the accelerated decline in lung function [that occurs with COPD], it did ameliorate it substantially," wrote Dr. Celli, while noting that "the mechanism responsible for the effect on rate of decline is not clear, as all treatments have potentially significant nonbronchodilator effects."

Clarifying those mechanisms is the goal of the next phase of the research, with the comparison between a long-acting bronchodilator drug and placebo with respect to FEV1 decline.

In the meantime, "the TORCH study brings some clarity to the treatment picture and provides some hopeful signs for patients with COPD," wrote Samy Suissa, Ph.D., of McGill University, in the accompanying editorial. "This study also demonstrates that no treatment [placebo] is not an option for patients with moderate to severe COPD."

<http://tinyurl.com/6gf897>

MUSHROOMS: THE UNDERESTIMATED SUPER FOOD

Mushrooms have been used for thousands of years by traditional eastern healers but only recently by western healers in advanced medicine. Mushrooms are often classified as a vegetable or an herb, but they are actually fungi.

Mushrooms provide our bodies with the nutrients, proteins, minerals, and vitamins it needs to generate energy and repair cells. They are one of the most remarkable elements for a healthy immune system. They have been used to cure or improve eyesight, hearing, circulation, impotency, stop migraine headaches, tumors, influenza, and even cancer.

Mushrooms are low in carbohydrates, calories, and sodium and are cholesterol and fat free. High in fiber and protein,

mushrooms are also rich in B vitamins to help maintain a healthy metabolism.

Mushrooms are an excellent source of potassium, a mineral that helps lower elevated blood pressure and reduces the risk of stroke. One medium portabella mushroom has even more potassium than a banana or a glass of orange juice.

Mushrooms are a rich source of riboflavin, niacin, and selenium. Selenium is an antioxidant that works with vitamin E to protect cells from the damaging effects of free radicals. Male health professionals who consumed twice the recommended daily intake of selenium cut their risk of prostate cancer by 65 percent.

Regular ingestion of mushrooms over long periods of time has been proven to decrease the amount of cancerous cells in the body. They not only fight and reduce cancerous cells and tumors, but they help prevent more of those cells from forming in the body.

Types of Mushrooms and their Therapeutic Value:

Oyster - Oyster mushrooms are used to strengthen veins and relax tendons. "Tendon-easing powder" is an effective treatment for numbed limbs as well as tendon and blood vessel discomfort. Dried Oyster Mushrooms are high in iron which makes them a good blood builder.

Portabella - Portabellas contain a wide variety of B complex vitamins. They are also a great source of riboflavin, Pantothenic acid, niacin and a good source of thiamine, vitamin B6, folate, selenium, lysine, protein, zinc, copper, manganese, and iron.

Morels - Morels contain protein, vitamin D and B, riboflavin, niacin, and thiamine that help the body maintain a healthy metabolism. They also have copper, selenium, and potassium. They are low in carbohydrates, very low in calories and are fat free, not to mention, they contain very little sodium.

Maitake - Maitake may best be known for its cancer-fighting properties. The evidence confirming maitake's therapeutic value is impressive. Laboratory studies have shown that maitake extract can block the growth of cancer tumors and boost the immune function of mice with cancer. Maitake mushroom was found effective against leukemia and stomach and bone cancers. In addition, many doctors in Japan use maitake mushroom to lower blood pressure and blood lipids. This mushroom has also been reported to aid digestion by regulating the stomach and intestines, and helps eliminate food stagnation.

Porcini - Just like Morels, Porcini mushrooms contain copper, selenium, potassium, and protein.

Research has shown that Shiitake lowers cholesterol. Shiitake also appears to be effective against some of the more serious viruses we face today: HIV and hepatitis B and appears to be a formidable cancer fighter.

Reishi - Reishi mushroom is particularly beneficial for individuals with asthma and other respiratory complaints. Reishi is good for respiratory strength and for coughing. At least one population study confirms this claim.

Scientific Research:

Several scientists addressed the health benefits of mushrooms in a session in July 2008 at the Institute of Food Technologists Annual Meeting and Food Expo in New

Orleans.

Mushrooms are low in calories, cholesterol and sodium, and they provide plenty of fiber and flavor when cooked. But the big news is that they are high in antioxidants, selenium, riboflavin and other healthful substances that protect the immune system and fight cancer.

Mushrooms contain high amounts of beta-glucans, compounds that occur in the bran of cereal grains and in yeast. These substances help to keep immune cells in a state of vigilance, guarding against disease, said Lana Zivanovic, Ph.D., with the University of Tennessee's Department of Food Science and Technology.

Mushrooms also contain cancer-fighting substances, said Shuan Chen, Ph.D., director of surgical research at the Beckman Research Institute in Duarte, Calif. Chen's lab experiments show that mushrooms' cells contain mechanisms that suppress breast and prostate cancer cells. He is following up his lab work with clinical trials funded by the Mushroom Council. Results should be out in a year, he said.

Research is showing that mushrooms contain ergothioneine, an antioxidant that contributes to immune support and protection of the eyes, skin, liver, kidneys and bone marrow.

Scientists have unearthed other mushroom benefits including robust amounts of selenium, vitamin D and potassium. "White button mushrooms have more protein, potassium, copper and selenium than oyster or shiitake mushrooms", said Robert Beelman, Ph.D., at Pennsylvania State University's Department of Food Science. Whether mushrooms will be consumed more as foods or in supplements and extractions is yet to be seen. "But a rich opportunity exists in the marketplace", said Zivanovic.

<http://tinyurl.com/5ez5jx>

GET EXCITED ABOUT FALL PRODUCE!

It's that time of year, new vegetables are coming into season - turnips, sweet potatoes, pumpkin and more. I've started to see pumpkins in the markets already, and friends are talking about heading out to a pumpkin patch soon to pick our very own for fall decorations (and hopefully eating too!). As mentioned in this feature article on our site, pumpkins aren't just for decorations, they are prime for good eating too!

Pumpkins are full of beta-carotene, an antioxidant that is thought to reduce the risk of heart disease and cancer, plus vitamins C and A, potassium and magnesium. Sweet potatoes are also high in antioxidants and vitamin C. Turnips are high in dietary fiber, vitamin C, manganese, vitamin B6, folate, calcium, potassium and copper.

I think you can see where I am heading with this... fall vegetables are packed with nutrients to keep you happy and healthy as the season starts to change. Head out to your nearest farmers market today to stock up!



SALMON WITH DILL

This is a simple stick it in the oven and wait type of dish. It goes well with boiled potatoes (you could make a little extra of the sauce to put on them).

- 1 lb Salmon Fillets
- 2 T Unsalted Margarine, Melted
- 1 t Dill Weed
- 1 t Onion Powder
- 1/2 t Black Pepper

Mix together margarine and spices. Place salmon in a 9x13 baking dish that has been sprayed with non-stick vegetable oil spray. Brush mixture on fish, using all of it. Bake at 400 until fish flakes easily, about 20 minutes.

Yield: 4 Servings

Per Serving: 261 Calories; 23 g Protein; 18 g Total Fat (4 g Saturated Fat, 6 g Polyunsaturated Fat, 7 g Monounsaturated Fat); 1 g Carbohydrates; 0.1 g Fiber; 68 mg Sodium; 429 mg Potassium; 67 mg Cholesterol www.lowsodiumcooking.com



CLOSE TO HOME

BY JOHN MCPHERSON



SOUP -- QUICK, CHEAP, HEALTHY

Soups can be nourishing, but avoid cream soups if cholesterol and fat are concerns.

As we ease into fall, it's time to make the next seasonal diet move: Soup. Make it a mealtime staple now through winter. Why? Because it's low in calories and high in water content. It fills you up before you fill out.

Soup is also a good-tasting vehicle for vegetables and other fiber-full ingredients. Many, if not most, varieties of soup score well on the nutritional balance sheet. Soup tends to be a good source of vitamins and minerals. With the exception of cream-based soups, it's also low in saturated fat and cholesterol.

And it's cheap.

Basic ingredients of soup -- water, herbs, spices, vegetables and beans -- are inexpensive. Soup is even more economical if you add leftovers -- odd bits of vegetables, rice, pasta or pasta sauce -- to a pot.

Soup is also a convenient, quick meal. It requires little stovetop supervision, and you can even make it in a slow cooker. It's easy to make from scratch. Follow a basic recipe if you care to, but a little more of this ingredient or less of that is nothing to be concerned about. Soup is forgiving.

To make soup in the simplest way possible, try these tips:

Start with a base of broth. Make your own by simmering vegetable scraps and seasonings in water, or take a shortcut. I like to start with two 32-ounce shelf-stable containers of vegetable broth (such as Trader Joe's or Pacific Natural Foods brand) or add low-sodium vegetable bouillon to water.

Add to it. Dump in some split peas, lentils or dried beans and cook until tender. The soup can be ready sooner if you use rinsed, canned beans such as garbanzo or kidney beans. Add frozen or fresh chopped onions, bell peppers, and celery, minced garlic or stewed tomatoes or whatever you have on hand that you'd like to use up.

Season it. I like to add lots of cracked black pepper, basil and oregano. Leave out the artery-clogging bacon grease and animal fats, though. Add flavor with fresh or dried herbs and spices. Hot pepper sauce or vinegar gives soup some kick and can compensate for less added salt.

Add some more. For variety, add barley, rice or bits of pasta. Kids like alphabet-shaped pasta.

The biggest drawback to soup tends to be its sodium content.

You have a lot more control when soup is homemade rather than from a can. When you make soup from scratch, cut the sodium level by using reduced-sodium tomatoes, rinsing canned beans and limiting added table salt. You can also dilute the sodium load of soup by ensuring that the rest of the meal is low in sodium. For example, serve soup with crusty bread and fresh fruit salad, sliced, fresh vegetables or a mixed green salad tossed with vinegar and oil.

Soup often thickens overnight. If it does, add more broth before reheating, or serve leftover soup over cooked rice or couscous.

Make what you need for a couple of days and freeze the rest for another day. Take soup to school or the office for lunch and save money on meals away from home.

I like to use two-cup glass Pyrex bowls with tight-fitting

plastic lids for reheating in a microwave (I found mine at Kohl's). Japanese-style Bento boxes or a thermos are other options.

Plan to get into the soup habit this fall. It's one of the simplest -- and most pleasant -- seasonal strategies for a healthy diet.

**RUSTIC ITALIAN TOMATO SOUP**

Serves 4; 1 cup per serving

1 16-ounce package frozen mixed bell pepper strips (may be labeled

stir-fry mix)

1 14.5-ounce can no-salt-added diced tomatoes, undrained

1 14- or 14.5-ounce can fat-free, low-sodium chicken broth

1/2 15.5-ounce can no-salt-added navy beans, rinsed and drained

3 tablespoons chopped fresh basil leaves

2 tablespoons snipped fresh parsley

1 tablespoon balsamic vinegar

1/2 teaspoon dried oregano, crumbled

1 medium garlic clove, minced

1/8 to 1/4 teaspoon crushed red pepper flakes

1 tablespoon olive oil (extra-virgin preferred)

1/4 teaspoon salt

In a food processor or blender, process the bell peppers, undrained tomatoes, broth, beans, basil, parsley, vinegar, oregano, garlic, and red pepper flakes until slightly chunky or smooth. Pour into a large saucepan. Bring to a boil over high heat. Reduce the heat and simmer, covered, for 20 minutes, or until the flavors are blended. Remove from the heat. Stir in the oil and salt. Ladle into soup bowls.

<http://tinyurl.com/3qw2mg>



This is from a friend who watches what she cooks ever since her husband had a heart attack. I think she covered all the bases with those ingredients!!

BROCCOLI AND GRAPE SALAD

1 lb. crisp crumbled bacon (I use Turkey Bacon)

1 head broccoli (bite size)

6 green onions, sliced

2 c. chopped celery

2 c. sliced almonds

2 c. red seedless grapes

1 c. raisins

DRESSING:

1 c. mayonnaise (I use Miracle Whip Lite)

1 tbsp. rice vinegar

3 tbsp. sugar (I used Splenda)

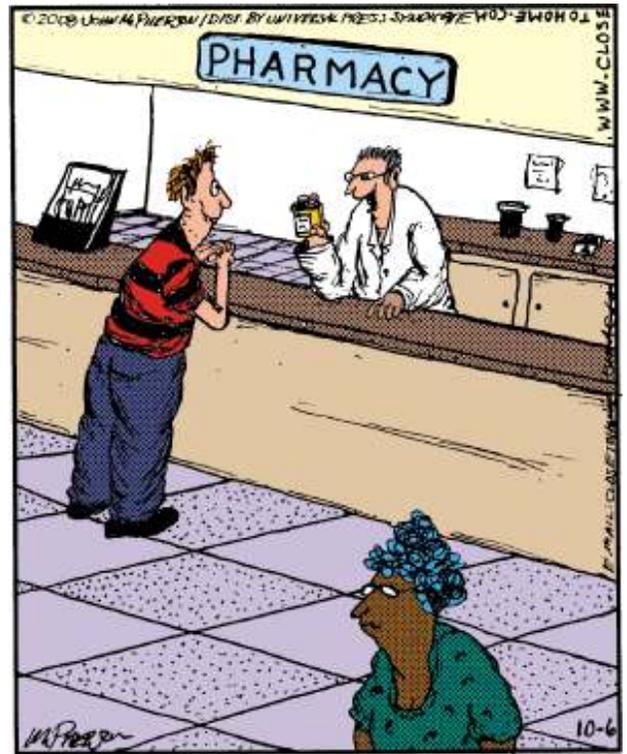
1/4 c. milk (I use 2%)

Pour dressing over salad and toss. Chill at least 6 hours.

Keeps 3 to 5 days. Serves 18 to 20.



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.



"Now, these AREN'T covered by your insurance, and they do cost \$700. But they will COMPLETELY cure you of being too gullible."

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