

EFFORTS

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Emphysema Takes Your Breath Away

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LACK OF VITAMIN C LINKED TO RESPIRATORY DISORDERS

A study has found that vitamin C may prevent symptoms associated with airway diseases such as cystic fibrosis, asthma, and chronic obstructive pulmonary disease (COPD). The findings were published in the March 2, 2004, issue of the Proceedings of the [U.S.] National Academy of Sciences.

In the two-year study, researchers discovered that vitamin C supports the normal hydration of airway surfaces, while vitamin C deficiency may lead to dry, sticky mucus membranes lining the airway. Thus, low levels of vitamin C may play a role in the progression of common inflammatory airway diseases by making the airways susceptible to infections. Vitamin C was tested on the function of a cell protein called the cystic fibrosis transmembrane conductance regulator (CFTR). A cystic fibrosis model was also used to examine the role of vitamin C on abnormal CFTR. The findings of cellular testing were confirmed by instilling vitamin C into the nasal passages of healthy human subjects. The results suggest that supplemental vitamin C may improve airway symptoms. A survey by the U.S. Department of Health and Human Services revealed a link between fruit consumption, vitamin C intake, and the risk of asthma. Deficiencies of vitamin C have been reported in the airways of asthmatic patients.

“Vitamin C may prove to be an effective, safe, and low-cost treatment to improve current therapies, including bronchodilators, anti-inflammatory medications, and antibiotics,” noted lead researcher Beate Illek, Ph.D., of the Children’s Hospital & Research Center (Oakland, CA, USA).

.....medinews



RESEARCH AND MARKETS: THE WORLD MARKET FOR ASTHMA/COPD DRUGS, VALUED AT \$13.3 BILLION IN 2003, IS FORECAST TO GROW TO \$19.0 BILLION BY 2009

The world market for asthma/COPD drugs, valued at \$13.3 billion in 2003, is forecast to grow to \$19.0 billion by 2009, driven by the expansion of combination steroid/bronchodilator products into a wider spectrum of patients, and strong growth in COPD specific therapies.

GlaxoSmithKline and Merck remain the indisputable leaders in asthma, with Pfizer steadily building a presence in COPD.

Research and Markets has announced the addition of Commercial Insight: Asthma and COPD - Control is the Goal to their offering

The scope of this report is as follows:

-- Outlook for the asthma/COPD market, including key events impacting combination products, leukotriene antagonists, and anticholinergics

-- Global sales forecasts to 2014, including country-specific forecasts for the US, Japan, France, Germany, Italy, Spain and the UK

-- Review of global and country specific opportunities and threats impacting key brands, including Seretide, Symbicort, Singulair, Spiriva, and Daxas

.....Business Wire



NDA FILED FOR SILDENAFIL TO BE USED IN PAH

Pfizer Inc. filed a New Drug Application with the Food and Drug Administration for sildenafil citrate to be used in the treatment of pulmonary arterial hypertension (PAH). Sildenafil is the active ingredient in Pfizer’s erectile dysfunction drug Viagra, but it will be marketed as Revatio for PAH, if approved.

In October, researchers presented Phase III data demonstrating Revatio’s

Effectiveness in PAH at the annual meeting of the American College of Chest Physicians. The 278-patient study showed Revatio-treated patients had better results than placebo-treated patients on a six-minute walk test after 12 weeks of treatment.

In the trial, Revatio-treated patients had a 46-meter improvement in six-minute walk distance compared to placebo-treated patients, TheStreet.com reported. Actelion Ltd.’s Tracleer (bosentan), the only oral drug approved in the United States for PAH, elicited a 40-meter improvement during its registration study, TheStreet.com said.

Pfizer said Revatio would be marketed in a different dosage, color and shape than Viagra.

.....pharmexec.com



WEIGHT TRAINING AIDS LUNG DISEASE SUFFERERS

Weight training can significantly improve the lives of elderly people with lung disease, researchers said today.

Patients with chronic obstructive pulmonary disease (COPD) are usually advised to use aerobic exercise like walking or cycling as part of their rehabilitation.

But researchers speaking at the British Thoracic Society's winter meeting in London said for some sufferers this type of exercise had a minimal effect on muscle weakness and organ or tissue degeneration.

The team from Glenfield Hospital in Leicester said that individually prescribed strength training exercises led to real improvements in patients.

As part of a seven-week programme patients were given exercises using increasing weights on arms and legs.

On average the load that the patients could lift almost doubled by the end of the programme, from 14.2kg in week one up to 25.8kg in week seven.

.....scotsman.com



ELDERLY WITH ADVANCED CHRONIC DISEASES BURDENED WITH SYMPTOMS

In a study to determine the prevalence of a range of symptoms among older persons living independently with advanced chronic diseases, researchers at Yale have found that the majority experienced multiple moderate or severe symptoms.

"The clinical care of community-dwelling older adults with advanced chronic diseases would be enhanced by identifying and alleviating the range of symptoms they experience," said principal investigator Lisa M. Walke, M.D., assistant professor of internal medicine/geriatrics at Yale School of Medicine.

Published in the November 22 issue of Archives of Internal Medicine, the study was based on in-home interviews with 226 people age 60 and older with a primary diagnosis of advanced cancer, congestive heart failure or chronic obstructive pulmonary disease (COPD). Participants were asked to rate the intensity of 10 symptoms as not present, mild, moderate or severe in the prior 24 hours.

Virtually all participants, 86 percent, experienced at least one symptom rated moderate or severe, and 69 percent experienced two or more symptoms. The most prevalent symptoms reported were limited activity, fatigue and physical discomfort. Participants with COPD reported more moderate or severe symptoms, than those with cancer.

Symptoms are the language used by patients to describe their subjective experience of illness and have been shown to be associated with important health outcomes in hospitalized cancer patients. Little is known regarding the symptoms experienced by adults with a variety of advanced diseases who are not hospitalized or enrolled in hospice.

"Our study suggests that greater attention to the assessment and alleviation of symptoms in this group is greatly needed," said Walke.

.....AIM



IS ORGANIC FOOD BETTER FOR YOU?

The truth about pesticides, nutrition, antibiotics, and hormones in organic produce, organic meat, and organic dairy foods.

Is Organic Food More Nutritious?

The jury's out, but the trickle of research that exists is encouraging. A recent Italian study, for example, found that organically raised plums were higher in vitamin C and beta-carotene; organic tomatoes were richer in vitamin C and other antioxidants than conventional tomatoes, according to a study at the University of California, Davis. "Our research showed more phytonutrients [disease-fighting nutrients concentrated in the skins or outer leaves of many vegetables and fruits] in certain

organically grown vegetables, especially cabbage," says Weiqun Wang, PhD, assistant professor of nutrition at Kansas State University.

Does Organic Food Have Pesticides?

Organically grown produce has significantly fewer synthetic pesticide residues, according to Joseph D. Rosen, PhD, professor of food science at Rutgers University. Buying organic also helps keep pesticides out of our soil and water supply. If you can't find -- or afford -- all organic produce, at least avoid foods known to have high pesticide residues, such as apples, bell peppers, celery, cherries, imported grapes, nectarines, peaches, pears, potatoes, red raspberries, spinach, and strawberries. Conventionally grown asparagus, avocados, bananas, broccoli, cauliflower, corn, kiwi, mangoes, onions, papaya, pineapples, and sweet peas have very low pesticide residues.

Does Organic Meat, Poultry, and Dairy Have Antibiotics and Hormones?

"By buying organic, you're supporting a system that helps reduce antibiotic use," says Stuart B. Levy, MD, a professor of molecular biology and microbiology at Tufts University Medical School. The more antibiotics in use, the more likely bacteria will become resistant to them -- and the more likely you are to contract a hard-to-treat infection. Organically raised animals also receive no hormones, which are typically given to enhance growth and fertility or to boost milk production. But does the extra dose of hormones end up in food?" So far, the scientific evidence does not show that milk-enhancing hormones [the most common is rbST] used in dairy cows pose a risk for human health," says Ruth Zadoks, PhD, a research associate in the Department of Food Science at Cornell University. However, the European Union bans treating animals with rbST or growth hormones, citing potential risks to humans; Canada allows growth hormones for beef cattle, but not for dairy cows.

It's your call: If you don't want products from treated animals, go organic. Note that if a label says antibiotic-free, it doesn't necessarily mean hormone-free. But you can trust the USDA organic seal, which means no antibiotics or hormones.

.....MORE magazine



IT'S THAT TIME OF YEAR AGAIN: JACK FROST

NIPPING at your nose, walking 'round in winter wonderlands (hold that thought!) and visions of sugarplums dancing in kids' heads. Unfortunately, too many modern "sugarplums" dance off holiday party plates onto our waists.

It's easy to indulge in high-calorie meals and snacks at holiday gatherings. Unfortunately, the pounds these extra calories can add increase your risk of cardiovascular disease. It's important to do two things during the season: eat a healthy diet and stay physically active. (That makes "walking 'round in a winter wonderland" a great idea!) To help you make other wise choices, try:

Making the holidays healthy...

Use the holidays to create quality time with family and friends. Turn off the television and go bike riding or sledding with the kids. Gather around the fire to enjoy low-calorie hot chocolate and share favorite holiday memories.

Offer brightly colored green, red and yellow vegetables and encourage small servings of traditional holiday dishes.

Go dancing, whether it's country line dancing, the waltz, the jitterbug or a current craze. Get your pulse moving to the beat of the music. It doesn't matter where you are, in the kitchen or in a ballroom, grab your partner and enjoy the exercise.

Setting the stage for success...

Make celebrating the occasion (not eating) the point of holiday gatherings. Mingle with friends and loved ones instead of hovering around the buffet table.

Before you slip on that holiday outfit, take a walk around the neighborhood or take an extra lap around the mall to help clear your mind. You're likely to eat less and feel more energized at the party.

Don't starve yourself the day of the party so you can fill up on food that evening. If you eat normally throughout the day, you're much less likely to overeat at the party.

Survey the entire buffet before you fill your plate. Then select only the foods you really want.

Choose one thing to avoid at each holiday party, such as eggnog at one and cake at another.

Becoming a health-conscious hostess...

Set out bite-sized, healthy snacks such as popcorn, raisins or almonds in brandy snifters. That way your guests won't be tempted to keep reaching for the snacks; they'll have to pick up the glass and pour a few into their hand. Research shows that choosing foods that are low in saturated fat and cholesterol is an effective way to reduce both total and LDL "bad" cholesterol.

Toast the holiday season with mulled apple cider instead of eggnog. You can toast more often when you replace high-calorie, high-cholesterol eggnog with apple cider sprinkled with nutmeg and cinnamon. Add a lemon slice for extra pizzazz.

Present food in various locations to encourage activities and mingling.

Put desserts in an out-of-the-way location to reduce the temptation to overindulge.

**THE 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. According to the Centers for Disease Control and Prevention, 22 million school days are lost annually in the United States due to the common cold.

In the course of a year, people in the United States suffer 1 billion colds, according to some estimates.

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 2 to 4 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.

CAUSES**The Viruses**

More than 200 different viruses are known to cause the symptoms of the common cold. Some, such as the rhinoviruses, seldom produce serious illnesses. Others, such as parainfluenza and respiratory syncytial virus, produce mild infections in adults but can precipitate severe lower respiratory infections in young children.

Rhinoviruses (from the Greek rhin, meaning "nose") cause an estimated 30 to 35 percent of all adult colds, and are most active in early fall, spring, and summer. More than 110 distinct rhinovirus types have been identified. These agents grow best at temperatures of about 91 degrees Fahrenheit, the temperature inside the human nose.

Scientists think coronaviruses cause a large percentage of all adult colds. They bring on colds primarily in the winter and early spring. Of the more than 30 kinds, three or four infect humans. The importance of coronaviruses as a cause of colds is hard to assess because, unlike rhinoviruses, they are difficult to grow in the laboratory.

Approximately 10 to 15 percent of adult colds are caused by viruses also responsible for other, more severe illnesses: adenoviruses, coxsackieviruses, echoviruses, orthomyxoviruses (including influenza A and B viruses, which cause flu), paramyxoviruses (including several parainfluenza viruses), respiratory syncytial virus, and enteroviruses.

The causes of 30 to 50 percent of adult colds, presumed to be viral, remain unidentified. The same viruses that produce colds in adults appear to cause colds in children. The relative importance of various viruses in pediatric colds, however, is unclear because it's difficult to isolate the precise cause of symptoms in studies of children with colds.

The weather

There is no evidence that you can get a cold from exposure to cold weather or from getting chilled or overheated.

Other factors

There is also no evidence that your chances of getting a cold are related to factors such as exercise, diet, or enlarged tonsils or adenoids. On the other hand, research suggests that psychological stress and allergic diseases affecting your nose or throat may have an impact on your chances of getting infected by cold viruses.

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.

SYMPTOMS

Symptoms of the common cold usually begin 2 to 3 days after infection and often include

- Mucus buildup in your nose
- Difficulty breathing through your nose
- Swelling of your sinuses
- Sneezing
- Sore throat
- Cough
- Headache

Fever is usually slight but can climb to 102 degrees Fahrenheit in infants and young children. Cold symptoms can last from 2 to 14 days, but like most people, you'll probably recover in a week. If symptoms occur often or last much longer than 2 weeks, you might have an allergy rather than a cold.

Colds occasionally can lead to bacterial infections of your middle ear or sinuses, requiring treatment with antibiotics. High fever, significantly swollen glands, severe sinus pain, and a cough that produces mucus, may indicate a complication or more serious illness requiring a visit to your healthcare provider.

TRANSMISSION

You can get infected by cold viruses by either of these methods.

Touching your skin or environmental surfaces, such as telephones and stair rails, that have cold germs on them and then touching your eyes or nose

Inhaling drops of mucus full of cold germs from the air

TREATMENT

There is no cure for the common cold, but you can get relief from your cold symptoms by

- Resting in bed
- Drinking plenty of fluids
- Gargling with warm salt water or using throat sprays or lozenges for a scratchy or sore throat

Using petroleum jelly for a raw nose

Taking aspirin or acetaminophen, Tylenol, for example, for headache or fever

A word of caution: Several studies have linked aspirin use to the development of Reye's syndrome in children recovering from flu or chickenpox. Reye's syndrome is a rare but serious illness that usually occurs in children between the ages of 3 and 12 years. It can affect all organs of the body but most often the brain and liver. While most children who survive an episode of Reye's syndrome do not suffer any lasting consequences, the illness can lead to permanent brain damage or death. The American Academy of Pediatrics recommends children and teenagers not be given aspirin or medicine containing aspirin when they have any viral illness such as the common cold.

Over-the-counter cold medicines

Nonprescription cold remedies, including decongestants and cough suppressants, may relieve some of your cold symptoms but will not prevent or even shorten the length of your cold. Moreover, because most of these medicines have some side effects, such as drowsiness, dizziness, insomnia, or upset stomach, you should take them with care.

Over-the-counter antihistamines

Nonprescription antihistamines may give you some relief from symptoms such as runny nose and watery eyes which are commonly associated with colds.

Antibiotics

Never take antibiotics to treat a cold because antibiotics do not kill viruses. You should use these prescription medicines only if you have a rare bacterial complication, such as sinusitis or ear infections. In addition, you should not use antibiotics "just in case" because they will not prevent bacterial infections.

Steam

Although inhaling steam may temporarily relieve symptoms of congestion, health experts have found that this approach is not an effective treatment.

PREVENTION

There are several ways you can keep yourself from getting a cold or passing one on to others.

Because cold germs on your hands can easily enter through your eyes and nose, keep your hands away from those areas of your body

If possible, avoid being close to people who have colds

If you have a cold, avoid being close to people

If you sneeze or cough, cover your nose or mouth.

Handwashing

Handwashing with soap and water is the simplest and one of the most effective ways to keep from getting colds or giving them to others. During cold season, you should wash your hands often and teach your children to do the same. When water isn't available, CDC recommends using alcohol-based products made for washing hands.

Disinfecting

Rhinoviruses can live up to 3 hours on your skin. They also can survive up to 3 hours on objects such as telephones and stair railings. Cleaning environmental surfaces with a

virus-killing disinfectant might help prevent spread of infection.

Vaccine

Because so many different viruses can cause the common cold, the outlook for developing a vaccine that will prevent transmission of all of them is dim. Scientists, however, continue to search for a solution to this problem.

UNPROVEN PREVENTION METHODS

Echinacea

Echinacea is a dietary herbal supplement that some people use to treat their colds. Researchers, however, have found that while the herb may help treat your colds if taken in the early stages, it will not help prevent them.

One research study funded by the National Center for Complementary and Alternative Medicine, a part of the National Institutes of Health, found that echinacea is not affective at all in treating children aged 2 to 11.

Vitamin C

Many people are convinced that taking large quantities of vitamin C will prevent colds or relieve symptoms. To test this theory, several large-scale, controlled studies involving children and adults have been conducted. To date, no conclusive data has shown that large doses of vitamin C prevent colds. The vitamin may reduce the severity or duration of symptoms, but there is no clear evidence.

Taking vitamin C over long periods of time in large amounts may be harmful. Too much vitamin C can cause severe diarrhea, a particular danger for elderly people and small children.

RESEARCH

Thanks to basic research, scientists know more about the rhinovirus than almost any other virus, and have powerful new tools for developing antiviral drugs. Although the common cold may never be uncommon, further investigations offer the hope of reducing the huge burden of this universal problem.

Research on rhinovirus transmission

Much of the research on the transmission of the common cold has been done with rhinoviruses, which are shed in the highest concentration in nasal secretions. Studies suggest a person is most likely to transmit rhinoviruses in the second to fourth day of infection, when the amount of virus in nasal secretions is highest.

Researchers also have shown that using aspirin to treat colds increases the amount of virus in nasal secretions, possibly making the cold sufferer more of a hazard to others.

Source: NIAID/NIH



TWO NEW STUDIES LINK SMOG TO PREMATURE DEATH A STATEMENT FROM JOHN L. KIRKWOOD, PRESIDENT & CEO AMERICAN LUNG ASSOCIATION

The Journal of the American Medical Association published a landmark new study linking exposure to the most common pollutant in the United States—ozone, or smog—to a significant increase in premature death in cities across the nation. This large and well-designed study examined respiratory and cardiovascular deaths in 95 U.S. cities between 1987 and 2000 and found that increasing levels of ozone air pollution could be

linked to thousands of premature deaths annually. This study follows on the heels of a large European study that found similar effects in 19 of 23 European cities published yesterday in the American Thoracic Society's peer-reviewed American Journal of Respiratory and Critical Care Medicine.

This research shows that ozone may indeed kill people. The researchers estimated that the annual death toll in the 95 cities would be 3,767, including 319 annually in New York City. The researchers note that these numbers probably underestimate the full impact, since they only include short-term exposure to ozone. Early death would join the long litany of harmful effects of ozone exposure: shortness of breath, chest pain, wheezing and coughing and greatly increased risk of respiratory infections, asthma episodes, pulmonary inflammation, and the need for medical treatment and hospitalization for asthma. More may come as new studies are raising the possibility that ozone may cause asthma to develop in children. These studies also show that thirty years after passage of the Clean Air Act, the air in major cities around the nation may be deadly to breathe. Ozone levels remain too high, despite decades of work. Unfortunately, the US Environmental Protection Agency has not done enough to reduce ozone pollution. In April, EPA issued guidance that gave the states and local governments far too much leeway in meeting the current health-based air pollution standards. Earlier this year EPA proposed weak, drawn out measures to clean up coal-fired power plants that contribute significantly to the ozone and particle pollution problems in the eastern United States. In light of these new studies, the American Lung Association again urges EPA to strengthen the Clean Air Interstate Rule, accelerate the critical clean up of these polluters and issue the final version this year.

This study comes at a critical time in the fight against air pollution. Some in Congress and the Administration have expressed the desire to ease the "burden" on polluters by rolling back key provisions of the Clean Air Act and weakening its requirements. This study confirms that the true burdens of air pollution are borne by the millions of Americans who breathe air that not only makes them sick, but may shorten their lives as well. We must do more to protect their lives and their health.

.....ALA



CONSUMER REPORTS

Publishers of the nonprofit magazine yesterday launched an initiative to compare the effectiveness and cost of prescription drugs to help patients navigate in a world of skyrocketing costs, heavy advertising, and occasionally dangerous side effects.

The magazine released the first wave of reports yesterday on three classes of drugs: those treating high cholesterol, heartburn, and arthritis pain. About 20 classes of drugs will be studied, with results posted at: www.CRBestBuyDrugs.org

"It's a good antidote to the \$3 billion worth of direct-to-consumer advertising that patients are barraged with," said Dr. Jerry Avorn, an adviser on the project who is a

Harvard University professor of medicine, a physician at Brigham and Women's Hospital, and author of "Powerful Medicines: The Benefits, Risks and Costs of Prescription Drugs."

"The data on which it's based is not thought up by some Madison Avenue ad man," he said.

.....Boston Globe



WARNING: YOU ARE NOW ENTERING A SMOKE-FREE WORLD (WELL, ALMOST ...)

"Welcome to Norway. The only thing we smoke here is salmon." The poster at Oslo airport - showing two men standing by a river proudly showing off a fish - reminds visitors that the Norwegians have declared war on cigarette fumes.

Six months after Norway became the second country in the world to introduce a total public smoking ban, some Norwegian pub-goers are having a tough time. When the ban was introduced, an enterprising tobacco company distributed free outdoor gas heaters - prominently displaying the sponsor's logo - to many Norwegian bars and cafes.

.....Belfast Telegraph



ALCOHOL REDUCES OCCURRENCE OF 'METABOLIC SYNDROME'

Metabolic syndrome -- the cluster of symptoms such as obesity and high blood pressure that can lead to diabetes and heart disease -- seems to be less frequent among people who consume moderate amounts of alcohol, a new study suggests.

Dr. Matthew S. Freiberg, from Boston Medical Center, and colleagues analyzed data for 8125 subjects in the Third National Health and Nutrition Examination Survey.

The participants were evaluated for their alcohol consumption and for each component of the metabolic syndrome -- that is, having a large waist, high blood pressure, high blood glucose levels, high triglyceride levels and low "good" HDL cholesterol levels.

Overall, 60 percent of the subjects were current drinkers, defined as having at least one alcoholic drink per month. The percentages were higher for men (66 percent) than for women (50 percent), the team reports in the medical journal *Diabetes Care*.

The metabolic syndrome was seen slightly more often among women (23 percent) than among men (22 percent).

Overall, the researchers found that current drinkers had a 43 percent lower likelihood of having the metabolic syndrome than did non-drinkers.

After taking into account "age, sex, race/ethnicity, education, income, tobacco use, physical activity, and diet," the investigators calculated that participants who consumed 1-19 drinks of alcohol per month had a reduction in risk of 35 percent, and those who took more than 20 drinks a month had a 66 percent lower risk of the metabolic syndrome.

However, the benefit seemed to come from drinking beer and wine only, not liquor.

Alcohol consumption seemed to improve three components of the metabolic syndrome in particular: low HDL cholesterol, elevated triglycerides, and high waist circumference.

.....SOURCE: *Diabetes Care*



DIET FOR A DISEASE-PROOF LIFE

Foods you should eat to prevent disease, plus expert advice on supplements and fad diets.

Cancer

Take this fruit and eat it! You'll be doing your heart and your midsection a favor.

Fruits? Veggies? Carbs? Leading nutrition researcher Walter Willett explains what you should fork up (and push aside) to cut your risk of cancer, heart disease, type 2 diabetes, and more.

Our expert, Walter Willett, MD, PhD, is the chairman of the Department of Nutrition at the Harvard School of Public Health. Since 1976, he's directed the Nurses' Health Study dietary investigation, tracking the food, lifestyle diaries, and health records of 121,000 nurses, plus another 116,000 younger nurses who joined the study in 1986. It's the biggest, longest-running national research program, and has yielded dozens of findings, from the link between trans fats and heart disease to the new respect for whole-grain foods. Author of *Eat, Drink, and Be Healthy* (Free Press, 2002), he's taken on the USDA to change the food pyramid and has successfully lobbied food companies to get the trans fats out of your food.

Q. In the nearly 30 years you've been involved with the Nurses' Health Study, what have you learned that we can use to improve our health?

A. What you eat matters. Even more than the number of calories you consume. That's become clear in our data in the Nurses' Health Study in ways I didn't even anticipate at the beginning.

With heart disease, for example, in the late '70s, we were really focused on cholesterol and saturated fat. But it's turned out that these are really a small part of the picture.

Instead, trans fat [the solid, partially hydrogenated fat found in fried foods, some margarines, and baked goods] is a far more important risk factor for heart disease. So is eating an excess of refined carbohydrates and sugar. And, in a twist, eating unsaturated fats, particularly the omega-6 and omega-3 polyunsaturated types, can substantially reduce the risk of heart disease as well as type 2 diabetes.

Q. Are there links between our diets and the kind of cancers we tend to get?

A. The most important nutrition-related factor with cancers is excess weight. That wasn't appreciated or understood 10 years ago. After quitting smoking, weight control is the next most important thing you can do to keep your cancer risk low.

Eating a diet high in fruits and vegetables won't protect you from cancer. But for heart disease, fruits and vegetables do turn out to be beneficial, so it's still good to eat them. There is quite good evidence that eating lots of red meat and,

particularly, processed meat, may boost your risk of colon cancer. Inadequate folic acid is also related to colon cancer and probably breast cancer, particularly in those people who are moderate drinkers.

But the top line is weight: We see that the risk and death rates of breast cancer in the U.S. could be roughly cut in half if women didn't gain weight during midlife.

Obesity, Weight Loss, and Carbs

Q. Is obesity truly a health crisis among middle-aged women?

A. I prefer phrasing it as a healthy weight-control issue rather than an obesity issue. The word obesity tends to stigmatize the extremely overweight person. And it's not just the extremely overweight person who's at high risk; it's the average person in the United States, who tends to be just a few pounds overweight, who is fueling the increasing level of adverse health outcomes.

As a country, we need to find a healthier way to live than we have now, where weight gain starts in childhood and continues through our entire life. It's better to start early, but you can still benefit by losing a few pounds at age 50 or 60 or even 70.

Q. So it's absolutely not acceptable to gain weight as you age?

A. That's my point. What we consider to be the typical increase with age, that gradual pound-or-two-a-year creep, can add up to a substantial health risk in a relatively short period of time.

The period between 20 and 55 is when many people put on most of their weight. Being obese can shorten your life by up to eight years. You need to pay increasing attention to physical activity and your diet as you get older. Fitting into your college jeans is a good standard, but even if you can't get into them, staying as close to that size as you can is a good goal.

Q. Is dieting the answer? Which diets really work?

A. Every diet works in the short run. The real challenge is to find a way of eating that is satisfying and sustainable over the long term. Aiming for a weight loss you can maintain is much better than going on a plan that loses you lots of pounds quickly. For most people a diet in the middle of the road, one that's neither extremely low-fat nor extremely low-carbohydrate, is probably optimal. The South Beach Diet is moderate in the way I'm talking about, but the Atkins Diet has been moving in that direction, too. We've seen a lot of evolution in the Atkins Diet from its original "eat all the butter, sausage, and red meat you like." The latest book backed away from that and toward healthier sources of protein and fat, as well as allowing more vegetables.

But one thing the original Atkins did do quite successfully is make people aware of adverse consequences of overeating carbohydrates, what nutritionists technically call a high-glycemic load. By cutting back on the carbohydrates, particularly refined ones, many dieters have found it easier to control their weight, reducing their heart disease risk and type 2 diabetes risk, too.

Q. Should we all be counting our carbs?

A. It doesn't make sense for a woman to be adding up grams of carbohydrates or even grams of fat on a daily basis. The important thing is to look at the quality of the carbohydrates and fats you're eating, keep an eye on the scales, and adjust up or down accordingly.

If weight control is a problem, many people find that controlling their intake of carbohydrates allows them to control their caloric intake easily, so they can lose the extra weight.

Q. But carbohydrates make up the whole base of the USDA food pyramid. What's your feeling on the pyramid?

A. It's too simple a visual and doesn't promote a healthy diet. The current pyramid, suggesting eight to 11 servings a day of bread, cereal, pasta, and rice at the bottom, with "sparing" consumption of fats at the apex, just isn't healthy.

But rather than blaming the USDA for the pyramid, my No. 1 criticism is directed at the inertia in the mainstream nutrition community. There has been such strong, almost religious, belief in the idea that fat is bad and carbohydrates are good. That is just not correct.

Calcium and Other Supplements

Q. With all the talk about carbs, both good and bad, it's easy to forget that our diets supply vital minerals and vitamins. But what's the most reliable source -- foods or supplements?

A. It really depends on the nutrient. As you age, vitamin B12 from food is less well absorbed by the body, so supplementation makes sense. If you don't eat lots of fortified foods (like Total cereal), you should take a multivitamin to ensure that you get adequate folic acid. Vitamin D is also difficult to get from your diet alone. Newer studies suggest that the majority of Americans would benefit from vitamin D, and this will mainly need to come from supplements. The RDA for vitamin D of 400 IU is almost certainly too low; 800 or 1,000 IU would be better for those over 40, and it is possible that even more might be helpful. But for now, until further studies are done, I would not suggest taking more than 1,000 IU as a regular supplement.

Q. Of course, we need to take a daily calcium supplement, right?

A. Not necessarily. You do need some calcium, but the exact amount is not clear. The United Kingdom recently reviewed their RDAs for this mineral, and they came up with 700 mg per day for everybody over 19, which is very different from the US RDA, which goes up to 1,200 mg for women over 50.

As a rough estimate, an average healthy diet gives you about 300 mg of calcium. Add one serving of dairy, like a glass of milk, and you get about another 400 mg, for a daily total of 700 mg. That's probably most of the benefit there is to be gained from calcium.

Women should not feel obligated to drink milk if they don't like it. And if they're not taking in any dairy foods, it's reasonable for them to take a calcium supplement to add maybe 500 to 1,000 mg, which would have no downside.

Q. But doesn't calcium help to prevent bone fractures?

A. Reducing the rate of fractures is the main justification given for high dairy consumption or high calcium supplement intake. But the evidence to support this doesn't exist. And, in fact, all the large studies that have looked at this topic have shown no benefit in terms of fracture reduction. And there are possible adverse consequences of high dairy consumption that are not yet totally proven, but are worrisome. We have seen some evidence of elevated risks of ovarian cancer and prostate cancer in several studies now. This area is one of the most unsettled scientifically; we are actively engaged in researching this.

But for now, if you really want to lower your fracture risk, I recommend taking more vitamin D -- it's likely to do more than calcium, because it helps your body absorb and use calcium. A large percentage of the U.S. population is already short on it. In addition to supplements, regular exercise, both cardio and strength training, is also key to building and maintaining bone strength. We have really strong evidence there.

Q. The headlines on vitamin E have been both for and against supplements. Where do you stand?

A. Taking a vitamin E supplement is prudent, since it's very inexpensive and, from what we can see, safe. For most people in midlife, it is reasonable to take 400 IU a day. In terms of protection against heart disease and Alzheimer's, there is a very good possibility of benefit, but no clear evidence as yet. But there doesn't seem to be any harm to taking it, either.

.....MORE magazine

GENDER DOES NOT INFLUENCE THE RESPONSE TO THE COMBINATION OF SALMETEROL AND FLUTICASONE PROPIONATE IN COPD

The prevalence of chronic obstructive pulmonary disease (COPD) in women is increasing worldwide. Women may have greater susceptibility to COPD progression than men, and differences in efficacy and safety of respiratory medications by gender are largely unexplored. We aimed to determine whether the response to treatment in women with COPD differed from men in a large, 1-year double-blind trial ('TRISTAN'). In a sensitivity analysis, we compared 539 male and 180 female COPD patients, who were randomized to the salmeterol/fluticasone combination 50/500 mcg bid or placebo for 12 months. Combination therapy improved pre-treatment FEV1 significantly more than placebo in women by 152 ml (95% confidence interval 95-208) and in men by 127 ml (94-159). Similarly, a reduction in COPD exacerbation rates of 31% in women (9-48%) and of 23% in men (8-35%) was observed. Combination therapy reduced COPD exacerbations requiring treatment with oral corticosteroids by 36% in women and by 41% in men. Finally, combination treatment produced a better improvement in health status than placebo with a decrease in the SGRQ scores in women by -2.3 (-4.6 - 0.1) and in men by -2.1 (-3.5 to -0.8). No gender interaction was found for any outcome. Treatments were well tolerated with no difference in the frequency of adverse events in women and men. In this trial, therapy with the salmeterol/fluticasone combination produced significant improvements compared to

placebo on all main endpoints and the magnitude of these improvements was similar for both men and women.

.....medlinks

By law, a "calorie-free" food could contain a few calories as long as there are fewer than 5 calories per serving. A "fat-free" food could contain small amounts of fat (and limitless calories) as long as there is less than half a gram of fat and less than half a gram of trans fatty acids per serving. So think twice before eating a whole box of "fat-free" cookies.

HOW MUCH YOU EAT MATTERS

If you want to lose weight, your best bet might be to control not just what, but how much you eat, say researchers in Akron. In a study of 300 obese and overweight adults in a weight-loss program, the researchers found that portion control had the greatest impact on weight loss.

As part of the weight-loss program, all participants were counseled in exercise, increasing the level of physical activity in their daily lives, cutting fat in their diets, eating more fruits and vegetables, and trimming portion sizes.

After 2 years, 38 percent of those who practiced portion control lost 5 percent or more of their body weight. On the other hand, 33 percent of those who did not practice portion control gained 5 percent or more of their body weight.

The other methods of weight loss--physical activity and dietary fine-tuning--were effective, but portion control gave the participants the biggest boost in weight loss.

The study was published in the Sept. 9, 2004 issue of Obesity Research.

SCIENTISTS HAIL THE POLYMEAL: THE RECIPE FOR A LONG AND HEALTHY LIFE

NEW scientific research has concluded there is life-extending truth in the old saying that "a little of what you fancy does you good".

Daily consumption of food stuffs such as dark chocolate, garlic, wine and fish can dramatically increase life-expectancy and cut the risk of heart disease by up to 76 per cent.

Eaten in the right combination - to make what scientists have labelled a "polymeal" - several popular food types have been given the medical seal of approval for lowering cholesterol levels and blood pressure and reducing heart disease.

According to the research, published in the Christmas issue of the British Medical Journal, the combined effects of these different types of foods produces a potent mix in the body which can produce remarkable health protection benefits in adults.

The Rotterdam-based team of experts responsible for the research suggested that dining on the polymeal on a daily basis could cut the risk of heart disease by 76 per cent.

They said the effect was most dramatic in men, meaning they would live on average 6.6 years longer than those not eating the meal.

They would also live for nine years longer without suffering from heart disease, while those who did succumb would suffer for less of their lives.

In women, the polymeal increased life expectancy by nearly five years, the researchers suggested.

They said it would also delay the onset of heart disease for eight years longer.

The researchers said they wanted to find a "safer, non-pharmacological and tastier" alternative to the "polypill".

Research last year highlighted the advantages of the polypill - a combination of drugs taken in one dose - in reducing heart disease by more than 80 per cent.

To be at its most effective, the polymeal should include wine, fish, dark chocolate, fruit and vegetables, almonds and garlic.

The researchers, from the University Medical Centre Rotterdam in the Netherlands, looked at the literature about the beneficial effects of different food types.

For example, daily consumption of 150ml of wine reduces heart disease by 32 per cent, while fish eaten four times a week cuts heart disease by 14 per cent. A daily dose of dark chocolate was also found to reduce blood pressure.

The researchers estimated that the polymeal diet would cost around £15 a week.

In the BMJ the researchers concluded: "The polymeal is an effective, natural, probably safer, and tastier alternative to the polypill to reduce cardiovascular disease and increase life expectancy in the general population."

In a light-hearted aside, the team said an adverse effect of the garlic part of the meal could include "malodorous breath and body odour".

But they added: "As garlic is destined for mass treatment, few people will still notice this after a while."

The team went on: "Considering the disturbing adverse effects of garlic, we do not recommend taking the polymeal before a romantic rendezvous, unless the partner also complies with the polymeal."

The researchers said that for people earnestly seeking to prevent heart disease, the polypill could be combined with the polymeal.

"The fortification of flour with polypill ingredients (a statin, two hypertensive drugs instead of three, folic acid, and aspirin) certainly merits further study.

"Redundant cardiologists could be retained as polymeal chefs and wine advisers."

Raymond Blanc, the top chef, has also created a recipe for a three-course dinner using the findings of the polymeal research, including watercress soup, grilled fillet of mackerel and chocolate mousse.

He said the mackerel was "a most underrated fish, both delicious and nutritionally very valuable; containing a great source of the omega 3 essential fatty acids".

Of his chocolate mousse, the French chef said: "This is

undoubtedly the world's best chocolate mousse. I have eaten, no better anywhere else. A bit tricky, but it is worth persevering."

So the health-conscious can follow Mr Blanc's recommendation to have the dessert daily.

.....news.scotsman.com

SLEEP AND THE COPD PATIENT

Patients with COPD seem to have a higher prevalence of insomnia, excessive daytime sleepiness, and nightmares than the general population.

Although theophylline or beta-agonists could be implicated in the insomnia, studies with these agents have failed to demonstrate any adverse effects on sleep staging or sleep efficiency. Maximization of drug therapy to prevent coughing and shortness of breath from disrupting sleep at night may help in coping with insomnia. If the patient is severely desaturating in rapid eye movement (REM) sleep, supplemental oxygen may help as well. The use of hypnotics is controversial. One recent study on the use of low doses of short-acting hypnotics has shown that such agents can be safely tolerated without significant worsening of oxygen saturation. These agents should be used with caution, however, especially in patients with CO₂ retention.

Daytime sleepiness may stem from disrupted sleep due to pulmonary symptoms, but coexistent obstructive sleep apnea (OSA) should also be considered. One night of sleep deprivation has been shown to lead to small but statistically significant falls in both FVC and FEV₁.

Oxygen Desaturation during Sleep

Oxygen desaturation during sleep, especially REM sleep, has been long recognized in patients with COPD. Clinical parameters that have been associated with the presence of nocturnal desaturation include daytime hypoxemia, blunted chemosensitivity while awake, severe dysfunction on pulmonary function testing, and chronic CO₂ retention. None of these characteristics has been useful in predicting individual REM desaturators; in fact, patients have been observed to desaturate with a daytime PO₂ above 60 mm Hg. One mechanism leading to hypoxemia is reduced ventilation in sleep, especially in REM sleep. It has also been postulated that the hypoxemia may be related to ventilation perfusion imbalance, although this has been difficult to prove.

Hemodynamics and Long-term Effects

REM-associated drops in SaO₂ are associated with increases in pulmonary artery pressures. It is not clear if isolated increases in pulmonary artery pressures during sleep can lead to sustained pulmonary hypertension. However, recent studies of patients with COPD with nocturnal desaturation and daytime PO₂ levels over 60 mm Hg have demonstrated higher daytime resulting and exercise-induced pulmonary artery pressures in these patients than in a similar group of patients who did not desaturate at night.

Patients with COPD have increased premature ventricular contractions during sleep, which may decrease in frequency when these patients are given supplemental oxygen.

The effect of nocturnal oxygen saturation on survival in 97 patients with COPD has recently been reported. Both the mean nocturnal SaO₂ and the SaO₂ nadir during sleep were significantly related to survival. However, neither measure improved the prediction of survival over measurements of vital capacity or awake SaO₂. Measurement of nocturnal SaO₂ during sleep therefore cannot be recommended in the routine clinical management of patients with COPD. Other groups found that survival was reduced in patients with COPD with PaO₂ >60 mm Hg but <80 mm Hg, suggesting that there is a subgroup of patients with COPD in whom it may be worthwhile to determine the extent of nocturnal oxygen desaturation. However, this group could not demonstrate a reduction in mortality with nocturnal oxygen supplementation.

The role of sleep studies is controversial. The major sequelae of nocturnal oxygen desaturation, including pulmonary hypertension and an increase in mortality, can usually be predicted from the measurement of daytime gas exchange and pulmonary function. At the same time, it is difficult to recommend routine measurement of nocturnal SaO₂ in patients with COPD with daytime PO₂ over 60 mm Hg.

Relation of COPD to Obstructive Sleep Apnea

Several studies have demonstrated that COPD and OSA can coexist, but there is no evidence that this coexistence is more common than would be expected from the relative frequencies of the two conditions. The significance of the association seems to be that patients with both disorders seem more likely to develop pulmonary hypertension and right-sided heart failure than do patients who have either condition alone. However, full polysomnography would be beneficial in those patients with COPD with symptoms suggestive of coexistent OSA.

Research should be undertaken to determine if treatment with supplemental oxygen of isolated falls in nocturnal SaO₂, in the absence of severe daytime hypoxemia, prevents morbidity and mortality in patients with COPD. If it does, guidelines need to be established to help identify those patients with daytime PO₂ over 60 mm Hg who should undergo nocturnal SaO₂ monitoring.

Guidelines

Nocturnal oxygen should be used in patients who have been demonstrated to have significant ($\leq 88\%$) desaturation during sleep. This can generally be predicted from daytime hypoxia (PaO₂ <55 mm Hg). Measurement of nocturnal oxygen saturation in patients with COPD with daytime PaO₂ >60 mm Hg is not recommended, except in patients with unexplained polycythemia or cor pulmonale.

Full polysomnography should be performed in those patients with COPD symptoms suggestive of coexistent obstructive sleep apnea.

.....epocnet.com

THE PATHOLOGY OF COPD

Cigarette smoke is an inflammatory and carcinogenic stimulus that causes a spectrum of smoking related lung diseases including Chronic Obstructive Pulmonary Disease (COPD). Its pathology involves four regions of the lung:

1. Chronic bronchitis (Syn. mucus-hypersecretion) is

defined clinically on the basis of chronic cough and production of sputum. Histologically, it is characterized by enlargement (referred to as hypertrophy) of submucosal mucus-secreting glands and an increase in the numbers (i.e., hyperplasia) of epithelial goblet cells. These being detected in the large or proximal (central) airways. Even in a stable phase of the disease, there is inflammation of the airway wall and infiltration by inflammatory cells, predominantly of mononuclear cells including lymphocytes, cells of the monocyte/macrophage lineage and also mast cells.

Immunohistology of the mucosa obtained by endobronchial biopsy of smokers with mild to moderately severe COPD demonstrate the predominance of CD8+ T-lymphocytes and CD68+ macrophages, a pattern of inflammation that contrasts with that seen in mild atopic asthma. In severe COPD or when there is an exacerbation, neutrophils infiltrate the mucosa. Exacerbations of bronchitis appear to be associated with a mucosal eosinophilia. Deeper in the airway wall, neutrophils, macrophages, mast cells and especially plasma cells predominate in the submucosal glands of smokers with chronic bronchitis as compared with asymptomatic smoker controls.

2. **Obstructive bronchiolitis** (Syn. small airways disease) in smokers is also an inflammatory condition affecting peripheral or small airways less than 2 mm in diameter; these located mainly beyond the 8th generation of branching. It is difficult to diagnose clinically. These small bronchi and bronchioles have little or no supportive cartilage respectively and, normally, few or no mucus-secreting elements. In COPD, epithelial goblet cells appear and increase in number (a change known as mucous metaplasia). There is inflammation present throughout the full thickness of the airway wall, with a similar pattern of inflammatory cell infiltration as that described in the large airway mucosa. The sites of attachment of surrounding alveolar walls to the airway adventitia are affected with their resultant destruction and loss. There are increased amounts of bronchiolar smooth muscle and collagen (i.e., fibrosis). Such structural alterations, inappropriate to the maintenance of normal function, are referred to as airway wall remodeling.

3. **Emphysema** is classically defined pathologically by permanent, destructive enlargement of airspaces distal to the terminal bronchioli, in the absence of obvious fibrosis. The mechanisms responsible for destruction of the lung parenchyma are still debated. It is also an inflammatory condition of the lung parenchyma in which there are increased numbers of tissue inflammatory cells including T-lymphocytes, neutrophils, and macrophages and of alveolar macrophages in the air spaces. It is thought that the inflammation is associated with the release of excessive amounts of proteolytic enzymes such as neutrophil elastase (NE) and matrix metalloproteases (MMPs) that overwhelm the antiprotease protective screen hence leading to tissue proteolysis. The destruction associated with smoking is usually centered around the airways (i.e., it is centroacinar) and is worst in the upper regions of each lung lobe.

4. **Pulmonary vascular changes** in COPD begin early in the course of COPD and are seen as intimal thickening,

followed by smooth muscle hypertrophy. There is an inflammatory infiltrate, again characterized by an increase in the numbers of CD8+ cells, especially of the adventitia. Pulmonary hypertension may develop and there may be destruction of the capillary bed. We are beginning now to appreciate how the pathology of COPD relates to abnormalities of lung function and how these relate to the images visualized on computerized tomography (CT). This understanding and advances in imaging are encouraging in respect of the early detection and treatment of emphysema.

HIGH BLOOD GLUCOSE CAN AFFECT YOUR THINKING

Here's another reason to keep your blood glucose in check: When it gets too high, it can affect your mood and your ability to think, say researchers in Edinburgh, UK.

The researchers studied 20 adults with type 2 who had diabetes for an average of 6 years. During two lab sessions, the researchers gave the participants intravenous glucose either to keep blood glucose normal, at around 80 mg/dl, or to raise it to about 297 mg/dl, which is high. The participants did not know when their blood glucose was normal or high.

The researchers tested the participants' memories, attention levels, moods, and ability to process information at each blood glucose level. Overall, the researchers found that high blood glucose impaired memory, shortened attention span, and slowed the rate at which the participants processed information. Moreover, when the participants had high blood glucose, they were more likely to feel agitated, anxious, or tired--so much so that the researchers classified the change in the participants' moods as "profound."

The study was published in the October 2004 issue of Diabetes Care.

BHUTAN BECOMES FIRST NATION TO BAN TOBACCO SALES

The small Himalayan kingdom of Bhutan became the first nation in the world to ban the sale of tobacco.

The prime minister, Yeshey Zimba, in a symbolic gesture, set fire to a small pile of cigarettes at the end of a cultural programme to celebrate national day in the capital Thimphu.

Public announcements reminded thousands of people gathered for the celebrations at the sports stadium of the prohibition.

'It sends a very clear message from the government on our stand on tobacco sales,' says the trade ministry's director general, Achyut Bandhari.

'People can continue to chew and smoke tobacco as long as they buy it from outside the country and pay the taxes.'

For weeks leading up to the launch of the ban, the trade ministry made repeated announcements in the media explaining the move and asking for support for the tobacco-free initiative.

Consumers can import cigarettes when they return from travel overseas. Taxes have been raised to 200 per cent - 100 per cent sales tax and a 100 percent customs duty on tobacco

products. People bringing in cigarettes from India will pay only the sales tax.

Penalties are steep for shops found selling tobacco - with fines equivalent to 223 dollars.

Thimphu became the last of 20 districts to observe the ban on tobacco sales. Samdrup Jongkhar, a south-eastern district, launched its ban on November 11.

The prohibition-passed by parliament in July-is widely seen as a response to mounting international pressure against tobacco smoking. The World Health Organisation has been advocating the tobacco initiative in Bhutan for many years.

Many Bhutanese believe tobacco should be discouraged because it is an intoxicant that dulls the mind, a teaching of the majority religion Buddhism.

.....Source: daily New Age

VEGGIES LOVE FAT!

Feeling proud of your commitment to fat-free salad dressing? Reconsider. New research has found that none of the lycopene or alpha-or beta-carotene that fight cancer and heart disease is absorbed from salads with fat-free dressing. Only slightly more is absorbed with reduced-fat dressing; the most is absorbed with full-fat dressing. In the 12-week study at Iowa State University, seven people ate salads of leafy greens, cherry tomatoes, and carrots, topped with Italian dressings containing 2 tablespoons of canola oil, 1 teaspoon or none. Blood samples collected every 60 minutes for 12 hours documented nutrient absorption.

Exception: Choose fat-free dressings if you top salads with fatty cheese, bacon bits, egg yolk, or avocados, which all aid nutrient absorption.

VINEGAR AS A SWEET SOLUTION?

On Dec. 7, Health and Human Services Secretary Tommy G. Thompson unveiled a national plan to combat the growing incidence of type 2 diabetes. It's the most common form of this disease, characterized by a growing resistance to the normal effects of the hormone insulin. A primary goal of the new federal program is to increase people's awareness of what they can do to prevent or manage this disorder, which costs the United States some \$132 billion a year.

Research by nutritionist Carol S. Johnston of Arizona State University East in Mesa suggests one easy measure that might have a notable impact: Consume more vinegar.

Her studies indicate that 2 tablespoons of vinegar before a meal—perhaps, as part of a vinaigrette salad dressing—will dramatically reduce the spike in blood concentrations of insulin and glucose that come after a meal. In people with type 2 diabetes, these spikes can be excessive and can foster complications, including heart disease.

In Johnston's initial study, about one-third of the 29 volunteers had been diagnosed with type 2 diabetes, another third had signs that they could become diabetic, and the rest were healthy. The scientists gave each participant the vinegar dose or a placebo to drink immediately before they ate a



A few tablespoons of vinegar prior to a meal—such as part of an oil-and-vinegar salad dressing—could benefit people with diabetes or at high risk of developing the disease

high-carbohydrate breakfast consisting of orange juice, a bagel, and butter. A week later, each volunteer came back for the opposite pre-meal treatment and then the same breakfast. After both meals, the researchers sampled blood from the participants.

Once ingested, carbohydrates—sugars and starches—can quickly break down into glucose that builds up in a person's blood. That's why people with diabetes frequently have to severely curb their carb intake. High-carbohydrate meals also prompt hunger to return earlier than low-carb meals do. Indeed, such observations spawned the low-carb diet craze.

Although all three groups in the study had better blood readings after meals begun with vinegar cocktails, the people with signs of future diabetes—prediabetic symptoms—reaped the biggest gains. For instance, vinegar cut their blood-glucose rise in the first hour after a meal by about half, compared with readings after a placebo premeal drink. In contrast, blood-glucose concentrations were only about 25 percent better after people with diabetes drank vinegar. In addition, people with prediabetic symptoms ended up with lower blood glucose than even healthy volunteers, after both groups drank vinegar.

In these tests, vinegar had an effect on volunteers' blood comparable to what might be expected from antidiabetes drugs, such as metformin, the researchers reported last January in *Diabetes Care*. A follow-up study has now turned up an added—and totally unexpected—benefit from vinegar: moderate weight loss.

Both findings should come as welcome news during this season when sweet and caloric treats taunt diabetics, who face true health risks from indulging in too many carbs.

In a pickle

Why vinegar? A nutritionist, Johnston was looking for possible diet modifications that would make meals less risky for people with diabetes. While reviewing research published earlier by others, she ran across reports from about 2 decades ago that suggesting that vinegar limits glucose and insulin spikes in a person's blood after a meal.

A few research groups had conducted limited follow-up trials. For instance, Johnston points to a 2001 paper in which researchers at Lund University in Sweden evaluated pickles—cucumbers preserved in vinegar—as a dietary supplement to lower the blood-sugar rise in healthy people after a meal. The Swedish team, led by Elin M. Östman, reported that pickles dramatically blunted the blood-sugar spike after a high-carb breakfast. Fresh cukes didn't.

"I became really intrigued," Johnston says, because adding vinegar to the diet would be simple "and wouldn't require counting how many carbs you ate." At first, she attempted to replicate findings by others, focusing specifically on people with diabetes or prediabetic symptoms.

When these individuals showed clear benefits from vinegar after a single meal, Johnston's group initiated a trial to evaluate longer-term effects. It also explored vinegar's effect on cholesterol concentrations in blood. The Arizona State scientists had hypothesized that by preventing digestion of carbs in the stomach, vinegar might cause carbohydrate molecules to instead ferment in the colon, a process that signals the liver to synthesize less cholesterol.

So, in one trial, Johnston had half of the volunteers take a 2-tablespoon dose of vinegar prior to each of two meals daily for 4 weeks. The others were told to avoid vinegar. All were weighed before and after the trial.

As it turns out, cholesterol values didn't change in either group. To Johnston's surprise, however, "here was actually about a 2-pound weight loss, on average, over the 4 weeks in the vinegar group." In fact, unlike the control group, none in the vinegar cohort gained any weight, and a few people lost up to 4 pounds. Average weight remained constant in the group not drinking vinegar.

Johnston would now like to repeat the trial in a larger group of individuals to confirm the finding, but that study is currently on hold.

Why? To no one's astonishment, the study volunteers didn't like drinking vinegar straight—even flavored, apple-cider vinegar. Indeed, Johnston says, "I would prefer eating pickled foods or getting . . . vinegar in a salad dressing."

Now, the scientists are developing a less objectionable, encapsulated form of vinegar and testing its efficacy. Although there are commercially available vinegar dietary supplements, Johnston notes that they "don't appear to contain acetic acid," and based on studies by others, she suspects that's the antidiabetic ingredient in the vinegar.

.....Science News Online

ASTHMA, EMPHYSEMA DRUG MAY WEAKEN BONES

Bone Loss Seen After 1 Year of Inhaled Steroid

Long-term use of a drug commonly used to treat asthma and emphysema may lead to the bone-thinning disease osteoporosis.

Researchers found that after three years of using an inhaled steroid, emphysema patients had a significant loss in bone density.

The results may add fuel to an already controversial matter. Previous studies examining the link between inhaled steroids and bone density loss have offered conflicting results. Some studies have shown little to no bone loss after years of use. But others have shown that long-term use of inhaled steroids can weaken bones and possibly increase the chance of breaking a bone.

Inhaled steroids are the best treatment for people with moderate to severe asthma. They help calm the airway inflammation seen in asthma and decrease the risk of having an asthma attack. They are also frequently used to treat the lung disease emphysema, which usually occurs after many years of smoking.

Examples of inhaled steroids include:

- Advair
- Aerobid
- Azmacort
- Flovent
- Pulmicort

In this new study, researchers looked at patients taking Azmacort. The findings appear in today's issue of the American Journal of Respiratory and Critical Care Medicine. Lead researcher Paul Scanlon, MD, of the Mayo Clinic in Rochester, Minn., studied 412 current smokers or recent quitters. They all had mild to moderate emphysema. Each person took either Azmacort--six puffs twice a day of the 100 microgram dose--or a placebo.

The patients underwent bone mineral density scans of the hip and lumbar spine at the start of the study and again after three months, one year, and three years. This is the most common test to determine osteoporosis risk.

Bone Loss Seen After 1 Year

No bone loss was seen at three months, but some bone loss was evident after one year. After three years, the Azmacort patients had lost significantly more bone mineral density in the spine than the placebo patients. Women had more bone loss in the spine than men. A loss in bone mineral density can lead to osteoporosis. Many emphysema patients already have risk factors for osteoporosis, including smoking, a sedentary lifestyle, older age, and bad diets. The researchers did not find an increase in fractures during the three-year study.

It's unclear if the bone loss would continue after three years. However, continued bone loss would very possibly lead to fractures.

In light of their findings, Scanlon and colleagues emphasize that the benefits of inhaled steroids for emphysema patients must be carefully weighed against the potential risk of osteoporosis. They also suggest that bone-building medications should be considered.

Preventing Bone Loss

In addition to bone-building medications, there are several things you can do to maintain or build bone.

- Exercise. Weight-bearing exercise such as jogging, playing tennis, and weight lifting makes bones and muscles stronger and helps prevent bone loss.
- High-calcium foods. Getting enough calcium throughout your life helps build and keep strong bones. Excellent sources of calcium are milk and dairy products (low-fat versions are recommended); a variety of seafood, such as canned fish with bones like salmon and sardines; dark green leafy vegetables such as kale, collards, and broccoli; calcium-fortified orange juice; and breads made with calcium-fortified flour.
- Calcium supplements. People that don't like dairy or other high-calcium foods may need to take calcium supplements. Check with your doctor to see how much you may need.
- Vitamin D. Your body uses vitamin D to absorb calcium. Being out in the sun for 20 minutes every day helps most people's bodies make enough vitamin D. You can also get

vitamin D from eggs, fatty fish like salmon, cereal, and milk fortified with vitamin D, as well as from supplements.

.....WebMD Medical News

NEW ACRC STUDY LOOKS AT ASTHMA AND REFLUX

This fall, the American Lung Association Asthma Clinical Research Centers (ACRC) network began enrolling patients for its fifth study: Study of Acid Reflux and Asthma (SARA), funded by the National Institutes of Health. The study will examine whether there is a connection between asthma and gastroesophageal reflux disease (GERD) and whether treatment for GERD will decrease asthma flare-ups in adults.

GERD is the term used to describe a backflow of acid from the stomach into the esophagus, or "swallowing tube." The most common symptom is heartburn, usually after a meal. In some people, GERD is frequent or severe enough to cause more significant problems and to be considered a disease. Between 50-80% of people with asthma have GERD, although many of them don't experience bothersome symptoms, says Robert Wise, M.D., Director of the American Lung Association-American Thoracic Society/Merck Asthma Clinical Research Data Coordinating Center, which collects and analyzes data for the ACRC network.

A study of the connection between asthma and GERD is important because there is widespread disagreement about the indications and usefulness of anti-reflux medication in patients with asthma, Dr. Wise says. "People with poorly controlled asthma are often treated for GERD with powerful medications to treat reflux, but these drugs can be expensive if used for long periods of time. There are no evidence-based guidelines for physicians to decide which patients with asthma should be prescribed anti-reflux medications," he notes. "Therefore it's important to understand whether this is a useful treatment for patients with otherwise poorly controlled asthma."

While the connection between asthma and GERD is not known, there are some theories, Dr. Wise explains. "Either GERD may make asthma worse, or asthma may make GERD worse, or both," he says. "When acid comes back into the esophagus, small amounts of acid can be breathed into the lungs and cause inflammation and airway narrowing," he says. "And asthma can cause the lungs to become overinflated, which can affect the protective valve at the lower end of the esophagus, leading to reflux."

The study will enroll approximately 400 patients, ages 18-60, whose asthma is inadequately controlled on their current treatment regimen. Half the patients will randomly be assigned to the treatment group, and will receive esomeprazole (Nexium) twice daily. The other half of the patients will take a placebo pill twice daily. The study will be conducted at the 20 ACRC sites around the country.

Both groups will be followed for six months to determine if their asthma control improves, and all patients will be tested for the presence of GERD. "Some people believe the treatment is effective even in people with infrequent or mild GERD," Dr. Wise notes. "The results will be important for guiding

asthma treatment whether or not we show the treatment is beneficial in controlling asthma."

.....American Lung Assn.

CHRISTMAS TREE BARK MAY FIGHT ARTHRITIS *Chemical in Bark Could Cut Inflammation, Easing Arthritis Pain*

A popular type of Christmas tree, the Scotch pine, may have a gift for people with arthritis. A chemical in its bark fights inflammation, which could ease arthritis pain.

The news comes from a country close to Santa's North Pole home--Finland. Finnish scientists studied Scotch pine bark, reporting their findings in the Dec. 15 issue of the Journal of Agricultural and Food Chemistry.

Scotch pine bark's potential healing powers have been tapped before. A Scotch pine bark extract is concocted for traditional folk medicine and is still used as a dietary supplement in Europe, say the researchers.

The study doesn't say why people take the extract, but the pine bark is loaded with potent antioxidants. That made it irresistible to researchers including Maarit Karonen of the University of Turku's environmental chemistry department, who were hunting for plant chemicals with functional uses.

Karonen and colleagues brewed their own Scotch pine bark extracts in a lab. They examined the extracts in extreme detail, looking for key ingredients.

They identified 28 compounds, zeroing in on eight that looked particularly promising. All of the chemicals had been noted before, but not much was known about them.

Next, the researchers pitted the extracts against inflammatory cells called macrophages from mice. They tested several versions of the extracts. The most purified brew drastically reduced the cells' ability to produce chemicals that trigger inflammation.

One of the chemicals that was blocked, called Cox-2, is the same chemical blocked by a group of prescription medications, such as Bextra and Celebrex, that fight inflammation and ease pain.

However, it's too soon to know if Scotch pine bark will inspire new drugs for arthritis and other conditions involving inflammation. So far, the extracts haven't even been tested on living mice, let alone humans.

Still, the possibilities are worth exploring, say the researchers. Meanwhile, don't try to brew your own Scotch pine bark extract at home, they caution.

.....WebMD Medical News

LOW-DOSAGE ORAL MORPHINE RELIEVES REFRACTORY DYSPNEA

Between 50 and 70 percent of patients requiring palliative care suffer from distressing dyspnea caused by a combination of physiologic and psychologic factors. As the underlying disease progresses, deconditioning, cachexia, panic, depression, and insomnia can exacerbate breathlessness. Because opioids are associated with respiratory depression and hypercapnia, they

rarely are used to treat dyspnea. Nevertheless, some physicians have found them effective, and Australian consensus guidelines for palliative care indicate that opioids contribute to the management of refractory dyspnea. Abernethy and colleagues evaluated the use of sustained-release oral morphine in the management of refractory dyspnea.

They studied 48 patients attending hospital clinics for respiratory, cardiac, general, or palliative medicine in Australia. These patients had refractory dyspnea at rest despite optimal medical treatment but had not been treated previously with long-term opioids. Patients were required to have creatinine levels within twice the normal range; to have stable needs for medication and oxygen; and to be free of confusion, substance abuse, or contraindications to opioids. After data were gathered, including activity levels, patients were assigned randomly to receive 20 mg of oral sustained-release morphine or an identical placebo for four days. Patients then were switched to the alternative treatment. All patients were prescribed anticonstipation medication for the eight days of the study. The primary outcome was patient perception of dyspnea recorded on a visual analog scale. Other outcomes included the level of morning dyspnea, exercise tolerance, respiratory rate, pulse, oxygen saturation, insomnia, nausea, confusion, constipation, appetite, somnolence, and well-being.

Five patients withdrew during the placebo treatment, and five withdrew during the opioid therapy. About one half of the withdrawals were attributed to opioid therapy, mainly because of nausea, but one patient requested morphine therapy for pain during the placebo period. The 38 patients who completed the study were mainly elderly men who used supplemental oxygen for chronic obstructive pulmonary disease (COPD). More than 70 percent were unable to carry out any work activities. After four days, patients taking morphine reported a highly significant improvement in dyspnea on visual analog scales and improvement in sleep. Exertional performance and overall sense of well-being were not significantly different during morphine therapy. Respiratory rates, sedation, vomiting, confusion, and anorexia were similar during the morphine treatment compared with the placebo therapy. Side effects generally were mild and transient. Constipation, the most common side effect, often began to resolve by the fourth day.

The authors conclude that oral sustained-release morphine can benefit patients with intractable breathlessness who already receive optimal conventional therapy. No evidence of respiratory depression was found, and side effects were predictable and controllable. The authors call for larger studies to evaluate the safety of morphine therapy and to clarify the side effects, but stress that oral sustained-release morphine could provide significant relief to severely ill patients with COPD.

The authors are careful to point out that until safety is confirmed and other studies are done, the message of this study is not that opiates are fine to use in patients with COPD, but that they might have a role as an adjunctive therapy in selected situations. The opportunity to relieve breathlessness and the fear of suffocation in very ill patients is compelling, and these

patients were willing to risk side effects and respiratory depression for the chance to relieve dyspnea. The study makes one wonder how many other potentially beneficial treatments we withhold or do not consider because of principles ingrained during our training. While the principles remain true, perhaps we apply them too rigorously and do not spend sufficient effort in calculating the risks and benefits of all available therapies for individual patients.-A.D.W.

Abernethy AP, et al. Randomised, double blind, placebo controlled crossover trial of sustained release morphine for the management of refractory dyspnoea. *BMJ* September 6, 2003;327:523-6.

.....American Family Physician

ASTHMA INHALER MAY REDUCE SPREAD OF DISEASE

Treatment decreases viruses, bacteria being exhaled, study finds

Inhaling a salt-water aerosol, a treatment often used for asthma, may also reduce the spread of germs that can spread disease, according to a new report.

People suffering from a variety of illnesses exhale bacteria and viruses which can spread disease to others.

A small study involving 11 people found that about half of them exhaled much larger amounts of germs than the others. For those people the salt-water treatment reduced the viruses or bacteria being exhaled for six hours.

The study is reported in this week's issue of Proceedings of the National Academy of Sciences.

"Roughly half our subjects exhaled tens of (germ) particles per liter, while the other half exhaled thousands of these particles. The number of exhaled particles varied dramatically over time and among subjects, ranging from a low of one particle per liter to a high of more than 10,000," lead researcher David A. Edwards of Harvard University said in a statement.

Those producing 500 or more particles per liter of air were considered high-producers.

The patients were given a six-minute inhalation of aerosol salt-water solution, a treatment often used for asthma patients.

Tests during the following six hours showed a sharp reduction in the number of particles exhaled by the high-producing individuals.

The researchers concluded that the treatment increased surface tension among fluids lining human airways, producing larger droplets that are less likely to remain airborne and exit through the mouth.

"Administration of nebulized saline to individuals with viral or bacterial illnesses could dramatically reduce spread of these pathogens without interfering with any other treatments," Edwards said.

More research needed

But it was a small study with just six individuals in the high-producer category, and the researchers noted that much more study is needed on the topic.

While the saline treatment resulted in a 72 percent drop in the number of viruses or bacteria exhaled by the high-producing group, there was an increase in the germs exhaled by the low

producers, though none jumped into the high-producing category.

Diseases that can spread through exhaled particles include measles, influenza, foot and mouth disease, chicken pox, bronchitis, smallpox and tuberculosis.

Funding for the research was provided by the biotechnology firm Pulmatrix and the Technical Support Working Group, a federal office that coordinates research for combating terrorism.

.....MSNBC

MEDICARE TO ADD HELP FOR SMOKERS

The Bush administration said that Medicare would soon pay for counseling to help beneficiaries stop smoking, a major expansion of the services covered by the program.

Medicare provides health insurance for 41 million people. Gary R. Karr, a spokesman for the federal Medicare agency, estimated that 4 million of them would be eligible for the new coverage and that 440,000 would take advantage of it next year.

Dr. Mark B. McClellan, administrator of the Centers for Medicare and Medicaid Services, said: "Millions of our beneficiaries have smoked for many years and are now experiencing heart problems, lung problems and other diseases that smoking can cause. Just about all of them will be eligible for the new coverage. You're never too old to quit smoking and to get benefits of quitting."

The new coverage will be available to Medicare beneficiaries who have illnesses caused or complicated by smoking. These include heart disease, stroke, lung cancer, emphysema, weak bones, blood clots and cataracts, which together account for the bulk of Medicare spending.

Medicare will also cover counseling services for beneficiaries who take any of the drugs whose effectiveness can be compromised by the use of tobacco. These medications include insulin and drugs for high blood pressure, seizures and depression.

The new benefit will be available by the end of March, Dr. McClellan said.

The plan to cover smoking cessation programs comes in response to a petition by the Partnership for Prevention, a coalition that includes consumer groups, state and local health departments, drug companies and insurers.

....NYTimes

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