



DOES GIVING UP SMOKING RAISE YOUR DIABETES RISK?

A US study this week reported that giving up smoking increases the risk of developing Type 2 diabetes. The researchers looked at 10,892 middle-aged adults who were followed for up to 17 years and found the risk of developing Type 2 diabetes was highest in the first three years after giving up smoking.

70 PER CENT INCREASED RISK

The study found quitters had a 70 per cent increased risk of developing Type 2 diabetes in the first six years without cigarettes compared with non-smokers, due to them tending to put on weight.

"If you smoke, give it up. That's the right thing to do. But people have to also watch their weight," said researcher, Dr Jessica Yeh.

NOT AN EXCUSE NOT TO GIVE UP SMOKING

However, stressing the research should not be used as an excuse not to give up smoking Natasha Marsland, Care Advisor Diabetes UK, said:

"The health benefits of giving up smoking far outweigh the risk of developing Type 2 diabetes from modest, short-term weight gain.

"There is every reason you can be successful at both giving up smoking and keeping to a healthy weight if you combine daily physical activity with a diet rich in fruit and vegetables and low in sugar, salt and fat."

<http://tinyurl.com/ya6nhfe> Chandler Medical Center, Lexington. "With smoking cessation, we can slow the rate of future decline in lung function."

There is the rub: COPD is too seldom caught early enough. Spirometry still has not caught on, despite awareness campaigns by high profile pulmonologists like Thomas L. Petty, MD. (Read an article by Thomas L. Petty, MD about COPD Progress and Challenges in 2009.)

"If you don't identify patients until their FEV1 is 50 percent of predicted or lower, they are without maintenance treatment and likely to have had costly exacerbations. There are no cost savings there," declared Dr. Doherty, speaking at NAMDRC '09, in Las Colinas, Texas.

One tried-and-true stalwart of medicine can help in this regard: the patient interview. Patients with undiagnosed COPD are often unaware of a decline in their activity levels, Dr. Doherty said. Physicians must learn to question them more carefully. Do you find yourself resting on a bench after shopping in a few stores? Do you lag behind others when walking, and so on.

SPIROMETRY UNDERUSED

In 2007, a study in CHEST of more than 5,000 COPD patients age 40 and older found that only one-third had received spirometry testing, and only half had received follow-up bronchodilator testing to confirm their COPD diagnosis. A 2008

study in the same journal arrived at similar results, suggesting that spirometry use remains moribund.

"It suggests there are likely a large number of individuals under-diagnosed and misdiagnosed," said lead author Mei Lan Han, MD, a pulmonologist at the University of Michigan, Ann Arbor.

The Agency for Healthcare Research and Quality, the American College of Physicians, and other groups maintain that no randomized clinical trials show that spirometry helps with smoking cessation or even that it helps to determine early airflow obstruction that should be treated.

The National Lung Health Education Program (which Dr. Doherty chaired for eight years), the American Thoracic Society, and other groups solidly oppose that view. "Both see the same studies," Dr. Doherty mused. Why the disparity?

Most experts agree that spirometry should be used to screen symptomatic individuals, Dr. Han said. "The question lies in whether asymptomatic patients with risk factors should be screened. The biggest opponents of mass screening argue that because we have no interventions that modify course of disease, why detect the disease "However, we know that smoking cessation can slow the decline of lung function, and there is some evidence to suggest that if a subject undergoes spirometry, they will be more likely to quit. By knowing a patient's COPD status, we can also better target influenza and pneumococcal vaccines. We also know that inhaler therapy can decrease the frequency of COPD exacerbations."

Cessation, rehabilitation reimbursement

On the plus side, new bills in the Senate and House would require Medicare and Medicaid to include smoking cessation programs as a benefit for COPD patients. Sen. Dick Durbin (D-Ill.), with Sen. Ted Kennedy (D-Mass.) has introduced S 770. In the House of Representatives, Diana DeGette (D-Colo.) and Todd Platts (R-Pa.) have introduced an identical bill, HR 1850. Not only would these bills require Medicare and Medicaid programs to include smoking cessation programs as a benefit, they also would define who could provide smoking cessation counseling.

Much to the chagrin of the rehab community, pulmonary rehab will not resemble anything they expected or wanted if nothing changes before it comes on line as a Medicare benefit on Jan. 1, 2010.

Meanwhile, pulmonary rehabilitation, performed either in a hospital or a physician office, is scheduled to come on line as a Medicare benefit in 2010. But the new rule proposed by the Centers for Medicare & Medicaid Services restricts coverage to patients with moderate to severe COPD and limits the amount reimbursed to about \$16 per patient per session. "It doesn't meet any kind of reasonable litmus test," explained Phil Porte, executive director of NAMDRC. "I don't think

anybody in any hospital can deliver any comprehensive clinical service for \$16 an hour."

The rule also would cap the number to 36 one-hour sessions, he said. "You can go for two hours, but you can only bill for one."

Porte recently participated in a one-hour phone conference with members of the American Association of Cardiovascular and Pulmonary Rehabilitation, American Thoracic Society, American Association for Respiratory Care, and the American College of Chest Physicians to address these three main areas of concern and plan a strategy.

"We're not going to roll over," he said. "There are serious flaws in their approach. We are going to be aggressive." Ellen B. Griffith, CMS spokeswoman, responded: "We are encouraging all interested parties to submit (feedback) through the formal comment process."

Drug management

On the pharmaceutical side of COPD management, there is reason for optimism. The 2007 TORCH study (Towards a Revolution in COPD Health) randomized 6,000 mostly severe COPD patients over three years into placebo, single-drug, and combination-drug arms.²

It did not reduce mortality, its primary endpoint, but found that the long-acting beta₂agonist salmeterol, or the inhaled corticosteroid fluticasone propionate, or the two in combination, slowed the rate of lung function decline over time relative to placebo. It is the first trial to show pharmacologic agents can do this, said Dr. Doherty, a TORCH researcher.

Then, in 2008, a four-year study of the drug tiotropium showed sustained improvements in lung function for up to four years - although it did not alter the rate of decline in lung function.³ The study also showed no increase in respiratory, neurologic, or cardiac morbidity or mortality versus usual care, reaffirming the drug's safety profile.

"Tiotropium also led to a 14 percent decrease in exacerbations," for which its manufacturer is now petitioning the Food and Drug Administration to approve it for that indication, said Dr. Doherty, who was involved with the study.

The ultimate question, though, is: Can spirometry, pulmonary rehabilitation, pharmacologic and nonpharmacologic therapies impact COPD mortality? "The jury is still out," he said.

However, within a decade, researchers will identify COPD's differing clinical phenotypes and break the disease down into types and degrees, Dr. Doherty predicted. Perhaps that will lead to therapies that finally loosen COPD's death grip.

<http://tinyurl.com/nct8js>



EFFECTIVENESS OF ASTHMA RELIEF INHALERS--DISCOVERY OPENS NEW AVENUES FOR TREATMENT OF POORLY CONTROLLED ASTHMA

A new study at the University of Leicester is probing why asthma relief inhalers might actually make asthma worse- and what can be done about it. Research led by Professor Peter Bradding, of the Department of Infection, Immunity and Inflammation, is providing new insights into factors influencing effectiveness of certain asthma medicines.

His study is focusing on the preventer and reliever treatments for asthma.

Asthma is characterised by reversible narrowing of airways in the lungs, which makes breathing difficult. An estimated 300 million people suffer from this condition worldwide. There is, to date, no cure for asthma, although the condition can be well managed with proper treatment.

Professor Bradding said, "Asthma treatment can be broadly classified into preventer and reliever treatments. Preventers control swelling and inflammation of lung airways. Their protective effect is not immediate, but develops gradually with time. It is therefore, essential to take preventer medication regularly. Relievers on the other hand have an immediate effect. They help 'relieve' asthma symptoms by relaxing airways, making breathing easier."

Professor Bradding added: "Despite their usefulness in rapidly relieving asthma, relievers may cause asthma to worsen when used too frequently. Moreover, they are not always as effective as predicted. We investigated mechanisms behind this by studying interactions between reliever medicines and the immune system.

"Our immune system uses antibodies (a type of protein found in blood and other body fluids) to identify foreign bacteria and viruses and neutralise their effects. Asthma is commonly associated with allergies, which are caused by antibodies called IgE which react with allergens such as house dust mite and grass.. IgE binds to mast cells in lungs of asthma sufferers. This, in turn, causes mast cells to release chemicals such as histamine, which cause narrowing of lung airways and thus, lead to an asthma attack."

Mast cells need a chemical known as stem cell factor to survive and function and this chemical is present in asthmatic lungs. Professor Bradding's research shows that when lung mast cells are exposed to reliever drugs, in the presence of both IgE and stem cell factor, relievers lose their ability to prevent chemical release from mast cells. Interestingly, under these circumstances, relievers may actually cause mast cells to release more chemicals, causing asthma to worsen.

Professor Bradding says, "This research might explain why reliever drugs are not always as effective as predicted, why they might worsen and destabilise asthma." This research has important consequences for individuals with poorly controlled asthma and for those who rely too heavily on relievers, whilst not using their preventer medication regularly. Professor Bradding adds, "If we can inhibit the function of stem cell factor in the lungs of asthmatic patients, reliever drugs such as salbutamol, might be more effective."

If future research reinforces these findings, then this work could lead to the development of new treatment strategies that could benefit thousands of people. The research is funded by Asthma UK.

Dr Elaine Vickers, Research Relations Manager at Asthma UK says: "Millions of people around the world use reliever inhalers that contain medicines such as salbutamol and these devices play a crucial role in relieving asthma symptoms. Professor Bradding aims to understand why it is that people who use their reliever inhalers too often, without using a

preventer inhaler, are putting themselves at risk of worse asthma symptoms.

"We hope that the results of Professor Bradding's work will lead to the development of drugs that overcome the problems associated with over-use of reliever inhalers but in the meantime we would urge anyone who needs to use their reliever inhaler three or more times a week to visit their doctor or asthma nurse to have their symptoms reviewed. We would also urge people with asthma to use their preventer inhalers as prescribed. This should not only control symptoms, but also guard against any harmful effects of frequent reliever use."

<http://tinyurl.com/yc2mnjv>



CALCIUM: THE "MIRACLE" MINERAL

For years, women have been told to bone up on calcium to prevent osteoporosis, a gradual thinning of the bones, but now this so-called miracle mineral is also being touted for its potential to promote weight loss, relieve depression and anxiety associated with premenstrual syndrome, control high blood pressure, and ward off strokes.

As new evidence points to the elevated role of calcium in preventing disease, it makes sense to get enough of this vital nutrient each day, especially as mid-life approaches. Experts say there is literally no body system that doesn't benefit from a healthy dose. Here's how it stacks up:

Calcium and Weight Loss:

When Dr. Robert Heaney, a calcium expert at Creighton University in Omaha, recently examined the health records of 575 women, he was astonished at the results. "We were looking at mid-life weight gain and found that women with the highest calcium intakes didn't gain weight and those with the lowest did," Dr. Heaney said.

Similarly, at the University of Tennessee, Michael Zemel, Ph.D., reported that because calcium plays a key role in metabolic disorders linked to obesity and insulin resistance, a diet low in calcium literally stockpiles fat cells while higher calcium diets depletes them. Dr. Zemel discovered that a high calcium diet released a hormone which sends signals that are read by the body's fat cells to lose weight.

A two-year Purdue University study in West Lafayette, Ind. that involved 54 women ages 18 to 31, found that women with a daily intake of at least 780 milligrams of calcium showed no increase in body fat or lost body fat mass during a two-year period. Women who averaged less than 780 milligrams of calcium gained weight during the same period.

Both exercisers and couch potatoes seemed to benefit unless they consumed more than 1,900 calories daily. All researchers said that dining on calcium-rich dairy products such as milk, cheese and yogurt achieved greater weight loss than leafy green vegetables, nuts, beans and supplements.

Calcium and Premenstrual Syndrome:

Susan Thys-Jacobs, an endocrinologist at St. Luke-Roosevelt Hospital's, has found that calcium supplementation can relieve the physical and emotional toll of PMS by almost 50%. At least half of the 497 women she studied who took 1,200 mg. of calcium supplements experienced fewer mood swings,

depression/sadness, anxiety/nervousness; breast tenderness, bloating and other aches and pains. The U.S. Department of Agriculture's Human Nutrition Research Center in Grand Forks, N.D. reported similar results after studying 10 women with PMS who spent half the study period on a daily diet containing 600 mg. of calcium, the other half upped to 1300 mg. Women on the high calcium diet were less irritable, weepy, and depressed and averted backaches, cramping, and bloating.

Calcium and Blood Pressure:

In some people, an increase in calcium consumption can help control blood pressure without anti-hypertensive medication. A 13-year study by James Dwyer at the University of Southern California School of Medicine found that consuming 1300 milligrams of calcium a day reduced hypertension risk by 12 percent compared to only 300 mg. a day, while subjects under age 40 reduced their risk by up to 25 percent. Dr. Lawrence Resnick, a professor of medicine at Cornell University Medical Center Hypertension Center, emphasizes that the benefits are most pronounced in hypertensives who are salt-sensitive, such as African Americans.

Calcium and Cholesterol:

Dr. Margo Denke, associate professor of internal medicine at the Center for Human Nutrition at the University of Texas Southwestern Medical Center in Dallas found that a high-calcium regimen reduced levels of total cholesterol by six percent and slashed "bad" LDL cholesterol by 11 percent. So-called "good" HDL cholesterol levels remained unchanged.

Calcium and Stroke Prevention:

A 1999 Harvard study reported that calcium supplementation protects against stroke in middle-aged women. In the ongoing Nurses' Health Study, 85,764 women, ages 35 to 59, reported that the mineral was tied to a 32% lower risk of stroke among those with the highest intake of the mineral. Women taking at least 400 mg of calcium supplements had a 12% lower risk of ischemic stroke (the type caused by plaque buildup in blood vessel walls). Dietary calcium, especially in dairy foods, reportedly reduced stroke risk, as did potassium.

Calcium and Osteoporosis:

Osteoporosis strikes more than seven million Americans, mostly women, with another 17 million at serious risk of developing fragile bones that easily collapse, a crippling curving of the spine, and hip fractures. Research shows that boosting calcium intake can halt bone loss, especially when combined with vitamin D, which enhances its absorption.

Calcium and Colon Cancer:

Calcium may protect against growths that become malignant in those prone to colorectal cancer. Dr. Martin Lipkin, a professor of medicine at Cornell University, who first discovered the link between calcium and colorectal cancer, stresses that both calcium-rich foods and calcium supplements will produce the same beneficial effects.

<http://tinyurl.com/q5np5f>



DIABETES AND HEART ATTACK

People with diabetes are highly susceptible to having heart attacks and therefore sudden death. They have about a four fold higher risk of having a heart attack than people without diabetes. This risk of sudden death is greater in women with diabetes especially those that have attained menopause.

A heart attack occurs when blood flow to a section of the heart is blocked, this leads to lack of oxygen supply to that part of the heart muscle which then dies. Whether the individual that suffers the heart attack will live or die depends on the amount of heart muscle damaged by the event and how soon medical intervention is obtained. Measures to prevent heart attacks are available, and people living with diabetes must be aware of them.

The factors that make people with diabetes so highly vulnerable to heart attacks have been clearly identified and includes a poorly controlled blood sugar level, poorly controlled blood pressure, high blood cholesterol levels, obesity, cigarette smoking and chronic lack of exercise, amongst other factors. The afore-stated factors when not properly taken care of will lead to damage of and a relentlessly progressive narrowing of the vessels that carry blood to the heart itself, thereby depriving this vital organ of the critically needed blood supply.

People with diabetes are also particularly endangered because they may be having a heart attack but may not experience the most prominent symptom of heart attack which is chest pain. This is because as the course of diabetes progresses, it may lead to damage of nerves in the body which are very essential for feeling sensation of pain and other sensations in the body; hence they may just drop dead without any prior warning of impending disaster.

This fact is very well recognized and to guard against this to a certain extent, people with diabetes as part of their annual check-up should have an electrocardiogram done. This test checks the electrical activity of the heart and also shows if the heart is not being properly supplied with blood or if certain parts of the heart muscle are dead and no longer functioning.

In those with diabetes with intact nerves that are still able to perceive sensations, the symptoms of an ongoing heart attack includes severe central chest pain or discomfort that may manifest as uncomfortable pressure in the chest, a sensation of squeezing in the chest and difficulty with breathing.

Chest pain that occurs on walking may be a sign of critically reduced blood supply to the heart and an impending heart attack. When the chest pain occurs while the individual is at rest, the situation is grave indeed.

These sensations may be off and on. Other symptoms are discomfort in one or both upper arms, the neck, the back, the teeth and the jaw. There may be associated nausea, vomiting, dizziness and sweating. Prompt recognition of these symptoms and call for help can be life saving. Delays are almost always fatal.

How then can the risk of heart attacks be reduced in people living with diabetes? By keeping blood sugar levels within normal limits, the risk of heart attacks is reduced by about twenty percent. In the same vein, keeping blood pressure and blood cholesterol levels within normal limits also help in

reducing the risk of having a heart attack. Similarly, making exercising for at least thirty minutes a day part of one's daily routine helps in reducing the risk of heart attacks. Eating a diet that is heart healthy has also been found to be helpful, hence reduce fried foods and fatty meat, reduce palm oil, use more of olive oil, soya bean oil and sunflower oil, eat more of fish than meat, limit pastries, stop smoking, if you must take alcohol then it should be red wine in minimal amounts, eat fruits and vegetables.

Certain drugs that are known to reduce the risks of heart attacks may also be prescribed by your physician. This includes low dose aspirin in those that can tolerate it and drugs of the statin genre. Periodic visits to your physician and an annual comprehensive check up are quite invaluable in reducing the risk of a heart attack. <http://tinyurl.com/llrxqz>



UPTAKE MEDICAL ANNOUNCES FIRST PATIENTS TREATED IN CLINICAL TRIAL FOR PATIENTS WITH HETEROGENEOUS EMPHYSEMA (THE VAPOR TRIAL)

Uptake Medical Corp., a developer of medical technologies for the non-surgical treatment of lung diseases including emphysema, announced today that the first patients were treated in its Bronchoscopic Thermal Vapor Ablation (BTVA) for Lung Volume Reduction in Patients Diagnosed with Heterogeneous Emphysema with Upper Lobe Predominance (VAPOR) trial.

The successful treatment of the first two patients in the VAPOR trial occurred on December 17th, 2009 at the Alfred Hospital in Melbourne, Australia. The procedure was performed by Dr. Gregory Snell, Dr. Trevor Williams and the Alfred Hospital team and attended by Founder and CTO Robert Barry. "We continue to be impressed not only with the ease and simplicity of the procedure, but the excellence of the sites participating in this study. The Alfred team continues to lead the way in clinical studies aimed at helping emphysema sufferers," Barry said.

The VAPOR trial is a multi-national study designed to collect data to support CE Mark approval. It is being conducted at sites in Australia and Europe.

"We are happy to be starting off this trial since we continue to view BTVA as a potential option for patients suffering with severe emphysema based on our experience with earlier BTVA trials. BTVA holds the promise of a safe, simple and effective bronchoscopic approach to lung volume reduction for many patients who have limited treatment options," stated Gregory Snell, MD.

The VAPOR trial is based on the company's earlier trial that showed the potential of the BTVA technology to improve the lives of patients suffering with emphysema. In the preceding trial, patients who responded to the treatment demonstrated a clinically meaningful improvement in FEV1 an important pulmonary function measure. Additionally, the average improvement in quality of life as measured by the St.

Georges Respiratory Questionnaire was more than double the 4 point clinically meaningful improvement standard. The subjects completed the 6-month follow-up with an acceptable safety profile.

Bronchoscopic Thermal Vapor Ablation (BTVA) is a non-surgical bronchoscopic procedure that helps patients with emphysema breathe easier. BTVA achieves lung volume reduction by delivering thermal vapor through a catheter which causes the diseased portion of the lung to gradually reduce in volume. This non-surgical lung volume reduction allows the remaining healthy lung to expand more fully and function more normally.

"We are looking forward to initiating enrollment in all centers and generating a significant pool of clinical data upon which to build our CE Mark submission. We are working with leading centers in Australia and Europe and hope to conclude enrollment early in 2010," said King Nelson, President and CEO.

Uptake Medical is also initiating Phase I clinical trials in the United States with enrollment commencing in early 2010.

About Uptake Medical

Uptake Medical™ Corp. is a developer of medical technologies for the treatment of lung diseases including emphysema. The core technology is a simple, minimally invasive, non-implant interventional pulmonary approach designed to measurably improve lung function and patient quality of life. Emphysema afflicts over 4 million people in the United States. For more information and a list of participating clinical trial sites, please visit www.uptakemedical.com.

<http://tinyurl.com/yegnzpp> & <http://tinyurl.com/ybbfvx>



TIOTROPIUM ASSOCIATED WITH REDUCED MORTALITY IN PATIENTS WITH COPD

New research suggests that tiotropium, a long-acting anticholinergic used in patients with COPD, may be associated with a reduction in all-cause mortality, cardiovascular mortality, and cardiovascular events.

Researchers from Caritas-St. Elizabeth Medical Center in Boston, MA, reviewed the outcomes of 30 completed clinical trials in the tiotropium project database. Within the trials, 10,846 patients were treated with tiotropium and 8,699 patients received a placebo.

Results indicated that patients treated with tiotropium had lower incidence rates (IR) of all-cause mortality, cardiovascular mortality, and cardiovascular events (IR = 3.44, .91, and 2.15 per 100 patients, respectively), compared with placebo (IR = 4.10, 1.24, and 2.67, respectively). Within the tiotropium group, the overall risk for serious or fatal lower respiratory events also was reduced.

The mechanism by which tiotropium may reduce cardiovascular mortality is unclear, but researchers speculate that there may be an association with the reduction in respiratory events.

The article is published in the January issue of Chest, the peer-reviewed journal of the American College of Chest Physicians.

<http://tinyurl.com/yga57wj>

IPRATROPIUM BROMIDE MAY INCREASE RISK FOR CARDIOVASCULAR EVENTS

Patients taking ipratropium bromide, an anticholinergic used in the treatment of COPD, may be at an increased risk for cardiovascular events (CVE), including heart failure.

Researchers from the University of Washington in Seattle, WA, and Hines VA Hospital in Hines, IL, conducted a cohort study on 82,717 US veterans with a new diagnosis of COPD between 1999 and 2002. Of the patients, 44 percent were exposed to anticholinergics (mainly ipratropium) at some time during the study.

Patients were followed until they had their first hospitalization for a CVE, until they died, or until September 30, 2004. Within the cohort, 6,234 CVE were identified (44 percent heart failure, 28 percent acute coronary syndrome, and 28 percent dysrhythmias).

Results showed that any exposure to anticholinergics within the past 6 months was associated with an increased risk of CVE. However, among patients who received anticholinergics more than 6 months prior, an elevated risk of CVE was not seen.

Researchers note that their findings are consistent with previous concerns raised about the cardiovascular safety of ipratropium bromide.

This study is published in the January issue of Chest, the peer-reviewed journal of the American College of Chest Physicians.

<http://tinyurl.com/ye6hx5f>



NUTRITION HAS A DIRECT INFLUENCE ON THE IMMUNE SYSTEM

Bonn researchers have discovered an elementary mechanism which regulates vital immune functions in healthy people. In situations of hunger which mean stress for the body's cells, the body releases more antimicrobial peptides in order to protect itself. The scientists will publish their results in the journal Nature.

T cells, B cells, antibodies are known as the 'SWAT team' of our immune system that intervenes when viruses and bacteria make us ill. With 'heavy molecular artillery' they wipe out intruders effectively. However, at the same time the defence systems cause collateral damage in the body's own tissue, which has to be repaired first.

In order for the immune system not to be consistently in a state of red alert and possibly cause chronic inflammation this way, there is a second defence system switched in series between body and outside world. This is absolutely necessary because on the barrier tissue such as lungs and skin there are trillions of bacteria. The majority of these microorganisms have been living with our body's cells as good neighbours for millions of years. There's more to come: the complex symbiosis of very different microorganisms supplies us with important natural substances such as vitamin B12.

Good germs, bad germs

At the same time there are always a few mischief-makers among the numerous peaceful bacteria which can make us sick. In this situation, even before the pathogenic germs invade our body, a mechanism is set in motion which acts completely independently of the classic immune defence systems. The biomedical researchers from the LIMES Institute at the University of Bonn have been able to show in fruit flies but also in human tissue that this natural immune defence system is linked directly to the metabolic status via the insulin signalling pathway.

If we have not eaten for a while or have to climb many stairs, the energy level of our cells drops and with it the level of insulin. The researchers from Bonn have now discovered that in the case of a low insulin level the FOXO transcription factor is activated. A transcription factor can switch genes on and off. FOXO switches genes for immune defence proteins on when energy is needed. These antimicrobial peptides (AMP) -- not to be confused with antibodies -- are subsequently jettisoned by the body's cells. They destroy possible pathogens by dissolving their cell walls.

'This happens every minute every day,' the director of studies Prof. Michael Hoch from the LIMES Institute explains. 'What is fascinating about this is that a function of the immune system directly depends on how much and what we eat.' In situations of hunger which mean stress for the body cells, the body releases antimicrobial peptides as a precaution in order to protect itself. 'The barrier between body and outside world is apparently fortified in a potentially dangerous situation in which we have too little energy,' Professor Hoch presumes.

Ancient defence mechanism helps us to get old?

FOXO and the antimicrobial peptide genes which it switches on occur in almost all groups of animals. That is why the researchers believe that the direct link between the food supply and the immunological defence probably developed during the early stage of evolution of metazoan organisms.

The research of the Bonn biologists could also be clinically relevant. For a number of common diseases such as type II diabetes or obesity (adiposity) are the result of an increased intake of calories. Furthermore, such diseases are accompanied by increased inflammation of the barrier tissue, a disturbed immune system and an overall reduced life span. 'Our results present new starting points for understanding of these diseases,' Professor Joachim Schultze from the LIMES Institute, who also is involved in the research project, says.

The scientists at LIMES will concentrate next on the relationship between calorie intake and life span. Examinations of nematodes, fruit flies and mice have shown that a reduced calorie intake can increase life span. Professor Hoch says: 'We now want to find out whether this is due to an foxo-dependent improvement of the barrier functions of the natural immune system.'

Source: ScienceDaily (Jan. 20, 2010)



PEROXIDE CURES WHAT ???!

Hydrogen peroxide – known to most of us from the dark brown bottles in our bathroom, medicine cabinets – is a naturally occurring substance made up of two parts hydrogen and two parts oxygen. Found in rainwater and snow, hydrogen peroxide is a natural disinfectant that helps to keep lakes and streams healthy and clean. Because it is an unstable compound, hydrogen peroxide eventually casts off one of its oxygen molecules, breaking down into plain water, or H₂O. In nature, hydrogen peroxide is usually found diluted in water, and is both harmless and beneficial. In its purest form, created in labs, though, it becomes a volatile substance that is even used by NASA as a component in rocket fuel!

The peroxide we buy in stores is only about 3% H₂O₂, diluted in water. The brown bottles keep the light from breaking it down into pure water. While many of us grew up cleaning out our cuts and scrapes with hydrogen peroxide, for the last several years, medical professionals, including those at the Mayo Clinic, have cautioned against its use. Though hydrogen peroxide is effective at killing off harmful bacteria, it can also kill the healthy new cells our bodies produce during healing.

That doesn't mean you need to toss those brown bottles in the trash, though. Hydrogen peroxide still has many handy uses:

- Revive your plants: As hydrogen peroxide breaks down, it releases oxygen that can help a plant's root development, reverse root rot, and even deter pests. Mix 1 oz. hydrogen peroxide into 1 quart of water for regular watering and misting.
- Starting seeds: Soak seeds overnight in a solution of 1 oz. hydrogen peroxide and 1 pint of water.
- Deodorizer: As hydrogen peroxide oxidizes (breaks down) it can also help to break down natural odors, such as fish or rotten food, more quickly. Mix it with baking soda and place it in areas, such as refrigerators or dishwashing machines, where odors have accumulated. To remove skunk spray odor from skin, fur, or fabric, mix peroxide and baking soda into a tick paste, and add a small amount of hand soap. Reapply and scrub off this mixture until the smell is gone.
- Emetic: If your dog or cat swallows something harmful, like chocolate, you can induce vomiting by having them drink a small amount of hydrogen peroxide.
- Kitchen cleaner: Keep a spray bottle of hydrogen peroxide in the kitchen to clean and disinfect counter tops, cutting boards, utensils, and appliances.
- Facial cleanser: Hydrogen peroxide can reduce facial oils and even treat mild acne. Rub a peroxide-soaked cotton ball over the face after washing with normal soap. Be careful to keep the peroxide out of your eyes and eyebrows.
- Fruit and vegetable cleaner: Spray fruits and vegetables with hydrogen peroxide. Let them stand for a few minutes, then rinse and dry, to battle e-coli and other bacterial invaders.
- Toothpaste: Make natural toothpaste from baking soda and hydrogen peroxide. Add peroxide to the baking soda until it sticks together as a paste, then brush as normal. Peroxide

dissolves plaque, promotes healthy gums, whitens teeth, and can eliminate bad breath.

- Oral rinse: To treat canker sores, injured gums, and other mouth wounds, rinse with hydrogen peroxide twice daily.
- Laundry and stain removal: Add one cup of peroxide to your laundry instead of bleach. For tough organic stains, such as blood or grass, pour peroxide directly onto the stain before it sets in, then wash as normal. Be careful, though, Peroxide can bleach out colors.
- Remove ear wax: Use an eyedropper to place a few drops of hydrogen peroxide into your ear canal twice a day two days. On the third day, gently squirt warm water into your ear canal, using a rubber-bulb syringe, to flush out the wax. If the wax remains, repeat the process over another three-day period.

<http://tinyurl.com/ydlqyfh>



SCIENTISTS HELP EXPLAIN EFFECTS OF ANCIENT CHINESE HERBAL FORMULAS ON HEART HEALTH

New research at The University of Texas Health Science Center at Houston suggests that ancient Chinese herbal formulas used primarily for cardiovascular indications including heart disease may produce large amounts of artery-widening nitric oxide. Findings of the preclinical study by scientists in the university's Brown Foundation Institute of Molecular Medicine for the Prevention of Human Diseases (IMM) appear in the Sept. 15 print issue of the journal *Free Radical Biology & Medicine*.

Nitric oxide is crucial to the cardiovascular system because it signals the inner walls of blood vessels to relax, which facilitates the flow of blood through the heart and circulatory system. The messenger molecule also eliminates dangerous clots, lowers high blood pressure and reduces artery-clogging plaque formation.

The results from this study reveal that ancient Chinese herbal formulas "have profound nitric oxide bioactivity primarily through the enhancement of nitric oxide in the inner walls of blood vessels, but also through their ability to convert nitrite and nitrate into nitric oxide," said Nathan S. Bryan, Ph.D., the study's senior author and an IMM assistant professor.

Herbal formulas are a major component of traditional Chinese medicines (TCMs), which also include acupuncture and massage. "TCMs have provided leads to safe medications in cancer, cardiovascular disease and diabetes," said C. Thomas Caskey, M.D., IMM director and CEO. "The opportunity for Dr. Bryan's work is outstanding given that cardiac disease is the No. 1 cause of death in the United States."

In the study, researchers performed laboratory tests on DanShen, GuaLou and other herbs purchased at a Houston store to assess their ability to produce nitric oxide. Ancient Chinese herbal formulas used primarily for cardiovascular indications are made up of three to 25 herbs. The formulas can be administered as tablets, elixirs, soups and teas.

Most Chinese herbal formulas marketed in the United States are not considered drugs by the U.S. Food and Drug Administration, said Yong-Jian Geng, M.D., Ph.D., study co-author and cardiology professor at The University of Texas

Medical School at Houston. They are considered dietary supplements and are not regulated as strictly as drugs.

Scientists also tested the capacity of the store-bought TCMs to widen blood vessels in an animal model. "Each of the TCMs tested in the assays relaxed vessels to various degrees," the authors stated.

"Further studies should be considered in humans, particularly those with cardiac indications," Geng said. "Hopefully, we will have more data to report in the near future."

While fully integrated into the healthcare systems in some parts of Asia, ancient Chinese herbal formulas are often considered alternative medicines in Western nations. Part of the reason, according to Bryan, may be that until recently little was known about how they work.

"The next step is to identify the active components of the TCMs that are responsible for producing the NO. We are currently trying to isolate and identify the active component or components," Bryan said. <http://tinyurl.com/n6w7r4>



INDIAN HERBAL EXTRACT REGULATES BLOOD SUGAR, CHOLESTEROL

An Indian herbal extract has been found to help people maintain blood sugar and cholesterol levels.

Gymnema sylvestre grows in the Indian subcontinent and has been used as a natural folk medicine for maintaining optimal health since 6000 BC. Several Indian tribes have used its leaves for centuries as a folk remedy.

It has been clinically proven that the extract helps maintain blood sugar and cholesterol levels. No side effects have been reported, according to a statement from Ayurveda International, one of the firms preparing the extract from the herb.

The firm's CEO Arun K. Chatterji said: "This brings a truly unique health solution to millions of people worldwide." <http://tinyurl.com/qz94km>



Safety Tip: Change the battery in your smoke detectors!



Daylight Savings Time Begins Sunday, 3/14/2010 at 2:00 a.m.

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.



**“Ask your doctor about new Zaprin for headaches.
Side effects may include the blahs, hissy fits,
conniptions or the heebie-jeebies.”**

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