



The Vitamin & Herb Stores

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Public release date: 19-Aug-2008

Silver-coated endotracheal tubes appear to reduce risk of pneumonia associated with ventilator use

Among intensive care unit patients who require mechanical ventilation, use of a silver-coated endotracheal tube resulted in reduced incidence of pneumonia associated with ventilators, according to a report in the August 20 issue of JAMA.

Ventilator-associated pneumonia is associated with longer hospital stays, increased health care costs and infection with antibiotic-resistant pathogens, according to background information in the article. It is likely to develop when pathogenic bacteria colonize the aerodigestive tract or when patients breathe out contaminated secretions. "Prevention strategies often focus on modifiable risk factors for colonization and aspiration and can successfully reduce ventilator-associated pneumonia rates, but no single strategy completely eliminates ventilator-associated pneumonia," the authors write. "Adherence to prevention guidelines is variable due to costs and lack of education, resources and leadership."

Silver has displayed antimicrobial activity in the laboratory and has blocked the formation of harmful pathogens on ventilator tubes in animal models. Marin H. Kollef, M.D., of the Washington University School of Medicine, and colleagues in the NASCENT Investigation Group report on a randomized controlled trial involving patients at 54 centers expected to require mechanical ventilation for 24 hours or longer. Between 2002 and 2006, 2,003 patients were randomly assigned to undergo intubation with either a silver-coated tube or a similar tube that was not coated.

Of 1,509 patients who were intubated for 24 hours or longer, 4.8 percent of those with silver-coated tubes developed ventilator-associated pneumonia, compared with 7.5 percent of those with uncoated tubes—**a 35.9 percent relative reduction in risk.** Among

1,932 patients who were on ventilators for any length of time, the silver coating was associated with a 34.2 percent relative reduction in risk of developing pneumonia (3.8 percent of those with silver-coated tubes vs 5.8 percent with uncoated tubes).

In addition, the silver-coated tubes were associated with a delayed occurrence of ventilator-associated pneumonia. No differences were seen between the two groups in median (midpoint) duration of intubation, length of stay in the intensive care unit (ICU) or in the hospital, death rates or frequency and severity of adverse events.

"In conclusion, the results of this large, randomized, multicenter study demonstrated that the silver-coated endotracheal tube significantly reduced the incidence of microbiologically confirmed ventilator-associated pneumonia and had its greatest benefit during the peak time of ventilator-associated pneumonia occurrence, without any notable adverse events," the authors conclude. "The silver-coated endotracheal tube appears to offer a unique approach because it is the first intervention that becomes user-dependent after intubation, requiring no further action by the clinician."

Public release date: 19-Aug-2008

Arsenic exposure could increase diabetes risk

Inorganic arsenic, commonly found in ground water in certain areas, may increase the risk of developing type 2 diabetes, according to a study by researchers at the Johns Hopkins Bloomberg School of Public Health. The study found that individuals with diabetes had higher levels of arsenic in the urine compared to individuals without diabetes. The results are published in the August 20, 2008, issue of JAMA.

"Our findings suggest that low levels of exposure to inorganic arsenic may play a role in diabetes," said Ana Navas-Acien, MD, PhD, lead author of the study and assistant professor with the Bloomberg School's Department of Environmental Health Sciences. "While prospective studies are needed to establish whether this association is causal, these findings add to the existing concerns about the long-term health consequences of low and moderate exposure to inorganic arsenic."

Inorganic arsenic is found naturally in rocks and soils. In the U.S., most exposure to inorganic arsenic comes from contaminated drinking water. Foods such as flour and rice can also provide small quantities of inorganic arsenic, particularly if grown or cooked in areas with arsenic contamination in soil or water. Seafood is a source of organic arsenic compounds that have little or no toxicity.

Researchers examined randomly selected urine samples taken from 788 U.S. adults 20 years or older that participated in a 2003—2004 National Health and Nutrition Examination Survey. The results were adjusted for diabetes risk factors, including body mass index and for organic arsenic compounds found in seafood.

In the U.S., approximately 13 million people live in areas where the concentration of

inorganic arsenic in the public water supply exceeds standards established by the U.S. Environmental Protection Agency, primarily in the West, Midwest and Northeast regions. **Dietary intake of inorganic arsenic in the U.S. ranges from 8.4 to 14 micrograms per day for various age groups.**

The authors concluded that given widespread exposure to inorganic arsenic from drinking water worldwide, clarifying the contribution of arsenic to the diabetes epidemic is a public health research priority with potential implications for the prevention and control of diabetes.

Ralph's Note - I agree with the researchers, this has to be a priority. In addition to arsenic's direct relation to skin cancer increases. It may result on arsenic based pesticides being banned.

Public release date: 19-Aug-2008

Low level cadmium exposure linked to lung disease

ANN ARBOR, Mich.---New research suggests that cadmium is one of the critical ingredients causing emphysema, and even low-level exposure attained through second-hand smoke and other means may also increase the chance of developing lung disease.

The University of Michigan School of Public Health study suggests that higher cadmium levels in the body as much as double the risk of developing a pulmonary disease diagnosis such as emphysema or chronic bronchitis.

Though some studies have linked high levels of cadmium with decreased lung function in occupationally exposed workers, this is only the second known study to show that subjects with even slightly increased levels of cadmium had decreased lung function and the first known study to do so using repeated measures of lung function over time.

"The study suggests that the critical ingredient in smoking that may be causing emphysema is cadmium, a well-known contaminant of cigarette smoke," said Howard Hu, professor at the U-M School of Public Health and principal investigator in the study. "The worry is if you are exposed to this (cadmium) through other sources you can also be at risk for emphysema."

Non-smokers are exposed to cadmium when they eat contaminated foods or inhale second-hand smoke, as well as through a host of occupational exposures. Cadmium is a metal that is difficult for the body to dispel, Hu said, because kidneys tend to retain cadmium, and it recycles into the body.

Cadmium has received its share of media attention, and some consumer groups are concerned about cadmium in sludge and crop fertilizers. It is also widely used in batteries and pigments.

"The big picture is, we keep learning more about the contributions of environmental toxins to the chronic diseases of aging for which we never suspected an environmental cause," said Hu, who is also chair of the School of Public Health Department of Environmental Health Sciences and has an appointment with the Medical School.

The study looked at 96 men randomly selected from within the Normative Aging Study, a project that began in 1961 and includes approximately 2,280 healthy, male volunteers from Boston, Mass.

Researchers tested lung function using three different measures. Subjects with higher levels of urinary cadmium showed evidence of a reduced ability to exhale, irrespective of whether they smoked but with an effect that was greatest and clearest among current and former smokers.

The next step is a much larger, population-based study with more subjects and multiple measurements of cadmium exposure and lung function over time, Hu said.

"With a larger population we will be able to better disentangle the independent effects of cadmium and smoking, and whether dietary cadmium or other non-cigarette sources may also influence lung function," Hu said.

Ralph's Note - I have argued for years that it is the cadmium contamination of tobacco products that is the real culprit in lung disease. We have had studies prior showing non-smoking tobacco workers having the same lung disease as smokers.

Public release date: 20-Aug-2008

79 million US adults have medical bill problems or are paying off medical debt

High cost of care and inadequate insurance leading more adults to delay or avoid getting treatment; working-age Americans spending more of income on out-of-pocket costs

New York, NY, August 20, 2008—The proportion of working-age Americans who have medical bill problems or who are paying off medical debt climbed from 34 percent to 41 percent between 2005 and 2007, bringing the total to 72 million, according to recent survey findings from The Commonwealth Fund. In addition, 7 million adults age 65 and over also had problems paying medical bills, for a total of 79 million adults with medical

bill problems or medical debt.

In a new Commonwealth Fund report about the survey findings, *Losing Ground: How the Loss of Adequate Health Insurance is Burdening Working Families*, the authors describe how working-age adults are becoming more exposed to the rising costs of health care, either because they have lost insurance through their jobs or because they are paying more out of pocket for their health care. This combination of factors, along with sluggish growth in average family incomes, is contributing to problems with medical bills and cost-related delays in getting needed health care.

The report finds that in 2007, nearly two-thirds of U.S. adults under age 65, or 116 million people, had medical bill problems or debt, went without needed care because of cost, were uninsured for a time, or were underinsured—insured but had high out-of-pocket medical expenses or deductibles relative to income.

"We are seeing a perfect storm of negative economic trends threatening working families in the United States," said Sara Collins, Commonwealth Fund Assistant Vice President, and the study's lead author. "While gas and food prices are increasing and home values are declining, the rise in health care costs is surpassing income growth and fewer people have adequate insurance. As a result, working people are struggling to pay their bills and accruing medical debt."

While the increase in problems paying medical bills or carrying unpaid medical bills cuts across income brackets, low and moderate income families are burdened the most. The report finds that more than half of working-age adults earning less than \$40,000 a year reported problems paying medical bills or being in debt due to medical expenses. Medical bill problems included not being able to pay bills, being contacted by a collection agency about an unpaid bill, and changing one's way of life in order to pay medical bills.

Those with medical bills and medical debt are increasingly facing serious financial problems and sometimes facing trade-offs among immediate life necessities. Thirty-nine percent of those with bill problems or debt say they have used up all of their savings to pay their health care bills; **29 percent are unable to pay for basic necessities like food, heat, or rent;** and 30 percent took on credit card debt. Twenty-four percent of adults under age 65 with medical debt owe \$4,000 or more and 12 percent owe \$8,000 or more in unpaid medical expenses.

In a new Commonwealth Fund issue brief which accompanies the report, *Seeing Red: The Growing Problem of Medical Debt and Bills*, the authors explain that uninsured and underinsured adults are more at risk of having medical bill problems and medical debt than those with adequate insurance coverage. Three in five adults who are uninsured or underinsured face these challenges, more than double the rate of those who had adequate insurance all year (26 percent). Notably, adults 65 years and older were far less likely to report medical bill problems or debt than younger adults because they are covered by Medicare and may also have supplemental private coverage, and in the case of low-income individuals, may have Medicaid. Just 19 percent of adults over 65—half the rate

for adults under 65 (41%)—reported any medical bill problems or debt.

"The current economic slowdown makes it even more urgent for a new Administration to make universal and affordable health insurance a high priority in 2009, to ensure that no American suffers financial hardship as a result of serious illness," said Commonwealth Fund President Karen Davis.

The report also finds that more working-age adults are delaying or avoiding needed medical care, such as skipping doses of medication or not filling prescriptions, because of health care costs. Forty-five percent of adults reported problems getting care because of costs in 2007, a dramatic increase from 29 percent in 2001. Increasing numbers of adults are spending high proportions of their income on health care. One-third of U.S. working-age adults spent 10 percent or more of their income on out-of-pocket medical expenses and health insurance premiums in 2007, up from 21 percent in 2001.

The proportion of Americans who are uninsured continues to grow. More than one-quarter (28%) of U.S. adults ages 19 to 64, or an estimated 50 million people, were uninsured for some time in 2007, compared with 24 percent in 2001. But even having insurance coverage does not guarantee protection from medical bill problems and debt. The proportion of those who are underinsured increased from 9 percent to 14 percent, or 25 million people, between 2003 and 2007. Sixty-one percent of those with medical bill problems or accumulated medical debt were insured at the time care was provided.

Other key survey findings include:

Among the medical bill problems reported in the survey: 28 percent are paying off medical bills over time, up from 21 percent in 2005, and 27 percent of adults under age 65 said they had problems paying or were unable to pay their bills in 2007, up from 23 percent in 2005.

More than half (53%) of insured working-age adults who have deductibles that represent 5 percent or more of their income reported medical bill burdens and debt; one-third of adults with lower deductibles face these kinds of difficulties.

While adults in families with incomes under \$20,000 a year report the highest rates of lacking coverage during the year, more adults in moderate income families are going without insurance. In 2007, 41 percent of adults in families earning between \$20,000 and \$40,000 a year reported a time uninsured during the year, up from 28 percent in 2001.

Most people who were uninsured at any point in the last year are in working families. Of the estimated 50 million American adults who were uninsured in the last year, 58% were in families where at least one person was working full-time.

People who are uninsured or underinsured experience inefficient care; nearly half of adults (47%) under age 65 who had gaps in their health insurance or were underinsured reported they had experienced problems such as test results not being available on time, receiving duplicate medical tests, and delays in receiving results of abnormal test results; in contrast just 26 percent of adults who are adequately insured reported these inefficiencies.

Ralph's Note - There needs to be competition in the medical field. There are too few companies that have a disproportionate strangle hold on the world's health. In addition to just having one medical licensing board, and insurance companies which cover only some of the most inefficient costly treatments. In a system, that either we pay out of pocket directly or through taxes. There is absolutely no incentive for this system to change.

Public release date: 20-Aug-2008

How to stop a new type of heart attack

PACEMAKERS are supposed to protect people from heart attacks. But to do that they have to provide digital as well as biological security.

Earlier this year, a team led by William Maisel at Harvard Medical School demonstrated how a commercial radio transmitter could be used to modify wireless communications from a pacemaker (New Scientist, 22 March, p 23). Doctors normally use these signals to monitor and adjust the implanted device, but a malicious hacker could reprogram the pacemaker to give its wearer damaging shocks, or run down its batteries.

Such irresponsible attacks might seem inconceivable, but Tamara Denning, a computer scientist at the University of Washington in Seattle, points out that in 2007 hackers posted flashing images to the Epilepsy Foundation's website, apparently with the aim of triggering attacks in people with photosensitive epilepsy.

Pacemaker users could be similarly targeted, and there are a growing number of other implantable medical devices (IMDs) - such as drug pumps, neural stimulators, swallowable cameras and prosthetics - which could also be undermined by pranksters or even killers. Researchers like Denning believe it's worth being prepared. "We wanted to draw attention not to a prevalent threat, but to a possible future one," she says.

Securing IMDs is problematic, however, because it is difficult to distinguish between malicious and benevolent communications. Some seemingly obvious solutions are unsuitable: for example, encrypting the IMD signals would be risky because doctors might not be able to get hold of the encryption key in an emergency.

Denning and her colleagues have proposed that IMD users wear a "cloaker" device that tells the IMD to ignore any unexpected instructions. When doctors need to talk to the device, they can simply remove the cloaker.

Designing the system poses unique challenges. The cloaker itself has to be resistant to electronic attack, and the system must "fail open" rather than "fail closed", allowing doctors access to the IMD if the cloaker breaks down or is lost. And continual communication with the cloaker will eat into the IMD's battery life.

The researchers have built a PC-based simulation of how a cloaker might work, and suggest that it could be worn like a wristwatch.

Maisel, however, thinks the proposal is unrealistic. In an emergency, the cloaker might be hard for doctors to find - hidden in the patient's clothing, for example. "You're asking hundreds of thousands or millions of people to wear something every day for a theoretical risk."

Ralph's Note - Stay healthy for as loooooooooooooong as you can...

Public release date: 20-Aug-2008

New research suggests diabetes transmitted from parents to children

An unusual form of inheritance may have a role in the rising rate of diabetes, especially in children and young adults, in the United States

A new study in the September issue of the Journal of Lipid Research suggests an unusual form of inheritance may have a role in the rising rate of diabetes, especially in children and young adults, in the United States.

DNA is the primary mechanism of inheritance; kids get half their genes from mom and half from dad. However, scientists are just starting to understand additional kinds of inheritance like metabolic programming, which occurs when an insult during a critical period of development, either in the womb or soon after birth, triggers permanent changes in metabolism.

In this study, the researchers looked at the effects of a diet high in saturated fat on mice and their offspring. As expected, they found that a high-fat diet induced type 2 diabetes in the adult mice and that this effect was reversed by stopping the diet.

However, if female mice continued a high-fat diet during pregnancy and/or suckling, their offspring also had a greater frequency of diabetes development, even though the offspring were given a moderate-fat diet. These mice were then mated with healthy mice, and the next generation offspring (grandchildren of the original high-fat fed generation) could develop diabetes as well.

In effect, exposing a fetal mouse to high levels of saturated fats can cause it and its offspring to acquire diabetes, even if the mouse goes off the high-fat diet and its young are never directly exposed.

The study used mice so it's not time to warn women to eat differently during pregnancy and breastfeeding but earlier research has shown that this kind of inheritance is at work in humans. For example, there is an increased risk of hypertension and cardiovascular disease in children born of malnourished mothers.

Public release date: 21-Aug-2008

Positive thinking may protect against breast cancer

Feelings of happiness and optimism play a positive role against breast cancer. Research published today in the open access journal BMC Cancer suggests that while staying positive has a protective role, adverse life events such as the loss of a parent or close relative, divorce or the loss of a spouse can increase a woman's risk of developing the disease.

Ronit Peled from the Faculty of Health Sciences at Ben-Gurion University of the Negev, Israel, led a team of researchers who questioned 255 women with breast cancer and 367 healthy controls about their life experiences and evaluated their levels of happiness, optimism, anxiety and depression prior to diagnosis. Peled said, "Young women who have been exposed to a number of negative life events should be considered an 'at-risk' group for breast cancer and should be treated accordingly".

The researchers do point out that women were interviewed after their diagnosis, which may colour their recall of their past emotional state somewhat negatively. However, according to Peled, "We can carefully say that experiencing more than one severe and/or mild to moderate life event is a risk factor for breast cancer among young women. On the other hand, a general feeling of happiness and optimism can play a protective role".

The authors point out that, "The mechanism in which the central nervous, hormonal and immune systems interact and how behaviour and external events modulate these three systems is not fully understood". As such, they suggest that "The relationship between happiness and health should be examined in future studies and relevant preventative initiatives should be developed".

Public release date: 21-Aug-2008

Killer carbs -- Monash scientist finds the key to overeating as we age

Monash University scientist has discovered key appetite control cells in the human brain degenerate over time, causing increased hunger and potentially weight-gain as we grow older.

The research by Dr Zane Andrews, a neuroendocrinologist with Monash University's Department of Physiology, has been published in Nature.

Dr Andrews found that appetite-suppressing cells are attacked by free radicals after eating and said the degeneration is more significant following meals rich in carbohydrates and sugars.

"The more carbs and sugars you eat, the more your appetite-control cells are damaged, and potentially you consume more," Dr Andrews said.

Dr Andrews said the attack on appetite suppressing cells creates a cellular imbalance between our need to eat and the message to the brain to stop eating.

"People in the age group of 25 to 50 are most at risk. The neurons that tell people in the crucial age range not to over-eat are being killed-off.

"When the stomach is empty, it triggers the ghrelin hormone that notifies the brain that we are hungry. When we are full, a set of neurons known as POMC's kick in.

"However, free radicals created naturally in the body attack the POMC neurons. This process causes the neurons to degenerate overtime, affecting our judgement as to when our hunger is satisfied," Dr Andrews said.

The free radicals also try to attack the hunger neurons, but these are protected by the uncoupling protein 2 (UCP2).

Dr Andrews said the reduction in the appetite-suppressing cells could be one explanation for the complex condition of adult-onset obesity.

"A diet rich in carbohydrate and sugar that has become more and more prevalent in modern societies over the last 20-30 years has placed so much strain on our bodies that it's leading to premature cell deterioration," Dr Andrews said.

Dr Andrews' next research project will focus on finding if a diet rich in carbohydrates and sugars has other impacts on the brain, such as the increased incidences of neurological conditions like Parkinson's disease.

Public release date: 22-Aug-2008

The big gulp: consumers avoid extremes in soda sizes

As portion sizes have increased, Americans' waistlines have expanded. And as a new study in the Journal of Consumer Research demonstrates, consumers are tricked into drinking more soft drinks when retailers eliminate small drink sizes.

No matter what the volume of the soft drink, customers tend to avoid the largest and smallest options, according to authors Kathryn M. Sharpe, Richard Staelin, and Joel Huber (all Duke University). "Our basic premise is that consumer purchases are altered by the portfolio of drink sizes made available," the authors explain.

Fast-food restaurants, in an attempt to boost profit margins, have eliminated smaller drink sizes and added even larger sizes. The authors believe these policies have led to a 15 percent increase in the consumption of these high-calorie drinks. "Consumers who purchased a 16-ounce drink when a 12-ounce drink was available later chose a 21-ounce drink when the 12-ounce drink option was removed, since now the 16-ounce soda is the smallest option," they write. "This effect also occurred at the large end of the spectrum; people who purchased a 21-ounce drink when the 32-ounce drink was the largest size available moved up to the 32-ounce drink when a 44-ounce drink was added to the range of drink sizes available."

By adding the 44-ounce option, the restaurant is able to shift the demand curve upward, even though the authors believe customers still want 12-ounce drinks.

The researchers go on to simulate policy directions for slimming America's waistlines. Their models show that for flat taxation of soft drinks to reduce consumption by 10 percent, it would need to be 28 cents per drink and would reduce corporate profits by at least 7 percent.

But by simply reversing the trend they started in the first place, retailers could do their part to improve public health. If they eliminated the largest drink size and brought back the smallest, retailers could help curb soft drink consumption with only a slight reduction in profit (less than 2 percent).

Ralph's Note - The authors stress social engineering here, in order to curb behaviors of a population that is not behaving in a way they see fit.

Public release date: 25-Aug-2008

Low cholesterol associated with cancer in diabetics

Low levels of LDL cholesterol as well as high levels are associated with cancer in patients with type 2 diabetes, found a prospective cohort study <http://www.cmaj.ca/press/pg427.pdf> published in CMAJ.

Researchers from the Hong Kong Institute of Diabetes and Obesity, the Li Ka Shing Institute of Health Sciences and The Chinese University of Hong Kong conducted a study of 6107 Chinese patients with type 2 diabetes and found a V-shaped risk relation between LDL cholesterol and cancer in patients not receiving statin therapy.

"LDL cholesterol levels below 2.80 mmol/L and levels of at least 3.90 mmol/L were both associated with markedly elevated risk of cancer among patients who did not use statins," state Dr. Juliana Chan and coauthors.

The study excluded people on statins as statins obscured the association between LDL cholesterol and all-site cancer.

Increasing data suggests an association between type 2 diabetes and an elevated risk of cancer, including breast, colorectal, pancreatic and liver cancers. **An elevated risk of**

cancer in patients with low LDL was linked to cancers of digestive organs and peritoneum, genital and urinary organs, lymphatic and blood tissues as well as other areas. Patients with an LDL cholesterol level above 3.80 mmol/L had heightened risks of oral, digestive, bone, skin, connective tissue, breast and other cancers.

Regarding clinical implications, the authors suggest "the use of these levels as risk markers may help clinicians to assess their patients more fully and thus to prevent premature deaths in patients who have high risk."

They call for re-analysis of data from clinical trials to confirm or refute these findings.

In a related commentary, Drs. Frank Hu and Eric Ding of Harvard School of Public Health (Todd Datz, Public Relations, Harvard School of Public Health, 617-432-3952 for Dr. Frank Hu) say confounding factors such as indication for the use of statins, lifestyle and socioeconomic status must be considered when looking at the association of high levels of LDL cholesterol and the risk of cancer.

"Low serum cholesterol is commonly observed in individuals with ill health (e.g. cancer patients) and those with unhealthy lifestyle characteristics such as smoking and heavy drinking," states Hu.

Ralph's Note - Will they get that re-analysis?

Public release date: 25-Aug-2008

Anti-psychotic drug use in the elderly increases despite drug safety warnings

Three regulatory warnings of serious adverse events slowed the growth of use of atypical antipsychotic drugs among elderly patients with dementia, but they did not reduce the overall prescription rate of these drugs, found a research analysis of prescription drug claims data in Ontario <http://www.cmaj.ca/press/pg438.pdf>. **The rate of use of these drugs actually increased 20% from the month prior to the first warning in September 2002 to the end of the study period in February 2007.**

About 70% of people receiving antipsychotic drugs lived in nursing homes, and approximately 40% were aged 85 or older.

Three new atypical antipsychotic drugs approved for the treatment of schizophrenia and other related psychiatric conditions by Health Canada, however only one of them was approved for short term use to treat symptoms of aggression and psychosis in elderly patients with dementia. Between October 2002 and June 2005 Health Canada released three warning of increased risk of stroke or death in elderly patients with dementia taking these drugs.

Dr. Geoffrey Anderson and coauthors (Dr. Geoffrey Anderson, University of Toronto, 416-946-3770 or 416-480-6852) "found that the 3 warnings about serious adverse events associated with use of atypical antipsychotic agents in elderly people with dementia had a limited effect on the prescription rates of these agents. **We also found that the overall rates of use of these drugs actually increased between the first warning in 2002 and the end of our follow-up in 2007.**"

"This finding highlights the limited impact of warnings and suggests that more effective approaches are needed to protect vulnerable populations from potentially hazardous medications," state the authors.

Some healthcare warnings fail to achieve the desired effect because the warnings have not provided physicians with information about the effectiveness and safety of alternative treatment options, writes Dr. Laurence Katz (Dr. Laurence Katz, University of Manitoba, 204-787-7564, LKatz@exchange.hsc.mb.ca) in a related commentary <http://www.cmaj.ca/press/pg405.pdf>. He states that health care warnings need to provide complete information about the risks and efficacy of the treatment and should identify alternative treatments.

Ralph's Note - What the heck, this is abuse.

Public release date: 25-Aug-2008

New study shows health benefits of probiotic could extend to the entire body

Research supports strains' ability to limit damage from infection-related inflammation

Cork, Ireland – August 25, 2008 – Data from a recent study demonstrate the anti-inflammatory and pathogen protection benefits of **Bifidobacterium infantis 35624** a probiotic bacterial strain of human origin. Gastrointestinal benefits of probiotics have been well-documented, but more and more research is revealing that probiotic benefits extend to the entire body. The report was published in the August issue of the Public Library of Science (PLoS) Pathogens.

The inflammatory response is a key part of the immune system's battle against invaders. The normal response to infection is rapid and effective, however, the immune response may occasionally cause inflammation and damage to healthy tissue.

"Inflammation is a major factor in a number of chronic diseases affecting millions of people and can cause an unwanted impact on healthy tissue," said Dr. Liam O'Mahony, lead investigator. "Past research has shown that the probiotic *Bifidobacterium infantis* 35624 can positively impact the body's immune defense³, and this most recent data suggests that its benefits are not restricted to the gastrointestinal tract."

Inflammation is associated with a wide range of conditions, such as inflammatory bowel

disease, arthritis, bacterial-induced colitis, type I diabetes and organ transplantation. Bifidobacterium infantis 35624 has previously shown ability to modulate the inflammatory response in a clinical trial of patients with irritable bowel syndrome.² The new data suggests additional health benefits of this particular probiotic strain.

The published study examined the effect of Bifidobacterium infantis 35624 administration on immunity to Salmonella (Salmonella typhimurium), harmful bacteria that can cause intestinal infections and trigger the body's inflammatory response. Bifidobacterium infantis 35624, a probiotic strain isolated from healthy human gastrointestinal tissue, was administered to mice in freeze-dried powder at least three weeks prior to salmonella infection. Animals that received Bifidobacterium infantis 35624 showed dramatically increased numbers of certain immune cells that control the immune system response to harmful pathogens, in this case Salmonella.

Additionally, data show increased numbers of T-regulatory (Treg) cells, or cells that suppress inflammatory disease in a wide range of autoimmune diseases. Administration of Bifidobacterium infantis 35624 resulted in the induction of these Treg cells, which protected the host from excessive inflammation during the course of infection. Researchers concluded that the introduction of Bifidobacterium infantis 35624 results in enhanced protection from infection, while limiting pro-inflammatory damage caused by superfluous activation of the innate immune system.

Public release date: 25-Aug-2008

Anti-Cancer Flower Power

Tel Aviv University researchers are combatting cancer with a jasmine-based drug

Prof. Eliezer Flescher

Could a substance from the jasmine flower hold the key to an effective new therapy to treat cancer?

Prof. Eliezer Flescher of The Sackler Faculty of Medicine, Tel Aviv University thinks so. He and his colleagues have developed an anti-cancer drug based on a decade of research into the commercial applications of the compound Jasmonate, a synthetic compound derived from the flower itself. Prof. Flescher began to research the compound about a decade ago, and with his recent development of the drug, his studies have now begun to bear meaningful fruit.

“Acetylsalicylic acid (aspirin) is based on a plant stress hormone,” says Prof. Flescher. “I asked myself, ‘Could there be other plant stress hormones that have clinical efficacy?’ While various studies have suggested that aspirin can prevent cancer, especially colon cancer, I realized that there could be a chance to find a potent plant hormone that could fight cancer even better. I pinpointed jasmonate.”

A Natural Leap to the Drugstore Shelf

Both blood cancers and solid tumors seem to be responsive to the jasmonate compound, known also as methyl jasmonate. Prof. Flescher refers to it as the “jasmonate scaffold,” a basis for developing a series of chemical derivatives. In terms of bioavailability and safety, early first-in-man studies have proven successful, and Prof. Flescher is hopeful that an anti-cancer drug based on jasmonate could be on the shelf in America within four years through the activity of Sepal-Pharma which licensed his research from Ramot, the technology transfer arm of Tel Aviv University.

Normally drug development takes much longer. “The jasmonate compound is used widely in agriculture and in cosmetics,” says Prof. Flescher. “Proven to be non-toxic, it has the same regulatory status as table salt. That and the fact we are working on a natural chemical gives us a good starting point for launching a new drug.”

Optimistic Responses from Peer Researchers

Other research groups are taking notice. Since Prof. Flescher started publishing papers on jasmonate (most recently in the academic journal *Oncogene*), six new research groups around the world have initiated research on the subject.

Peer commentary in *Oncogene* is positive about Prof. Flescher’s promising research. “Methyl jasmonate,” says the commentary, “has already been shown to have selective anticancer activity in preclinical studies, and this finding may stimulate the development of a novel class of small anticancer compounds.”

Prof. Flescher’s research is the foundation of a promising new biotech company, Sepal-Pharma, where Prof. Flescher serves on the scientific advisory board. Sepal-Pharma is developing new compounds based on the Jasmonate Scaffold. Sepal-Pharma has also been actively funding research done at Prof. Flescher’s lab.

Public release date: 25-Aug-2008

Oral Administration of Lactobacillus from Breast Milk May Treat Common Infection in Lactating Mothers

Oral administration of lactobacillus strains found in breast milk may provide an alternative method to antibiotics for effectively treating mastitis, a common infection that occurs in lactating mothers say researchers from Spain. They report their findings in the August 2008 issue of the journal *Applied and Environmental Microbiology*.

Mastitis, inflammation of one or more lobules of the mammary gland, occurs in anywhere from 3 to 33% of lactating mothers and of those incidences 75 to 95% are diagnosed within the first twelve weeks postpartum. While *Staphylococcus aureus* and *Staphylococcus epidermidis* are considered to be the main infectious agents associated with mastitis, increased multi-drug resistance to antibiotics are making such infections

difficult to treat, therefore prompting researchers to explore alternative treatment options.

In prior studies researchers collected lactobacillus strains from the breast milk of healthy mothers and found the probiotic potential of *Lactobacillus gasseri* and *Lactobacillus salivarius* to be comparable to strains currently used in commercial probiotic products. Here the researchers randomly divided twenty women diagnosed with staphylococcal mastitis into two groups, a probiotic group and a control. The probiotic group received the same daily dosage of *L. salivarius* and *L. gasseri* for four weeks, both of which were originally isolated from breast milk. Results showed that on day zero staphylococcal counts in both groups were similar. **At day fourteen women in the probiotic group were displaying no clinical signs of mastitis, but infection in the control group persisted. Finally, on day thirty the staphylococcal count was lower in the probiotic group and *L. salivarius* and *L. gasseri* were detected in milk samples from six of the ten women.**

"In conclusion, *L. salivarius* CECT5713 and *L. gasseri* CECT5714 appear to be an efficient alternative for the treatment of lactational infectious mastitis during lactation," say the researchers.

(E. Jimenez, L. Fernandez, A. Maldonado, R. Martin, M. Olivares, J. Xaus, J.M. Rodriguez. 2008. Oral administration of *Lactobacillus* strains isolated from breast milk as an alternative for the treatment of infectious mastitis during lactation. *Applied and Environmental Microbiology*, 74. 15: 4650-4655.)

Public release date: 25-Aug-2008

Scientists discover leptin can also aid type 1 diabetics

DALLAS — Aug. 25, 2008 — Terminally ill rodents with type 1 diabetes have been restored to full health with a single injection of a substance other than insulin by scientists at

UT Southwestern Medical Center.

Since the discovery of insulin in 1922, type 1 diabetes (insulin-dependent diabetes) in humans has been treated by injecting insulin to lower high blood sugar levels and prevent diabetic coma. New findings by UT Southwestern researchers, which appear online and in a future issue of the *Proceedings of the National Academy of Sciences*, suggest that insulin isn't the only agent that is effective. **Leptin, a hormone produced by the body's fat cells, also lowers blood glucose levels and maintains them in a normal range for extended periods, they found.**

“The fact that these animals don't die and are restored to normal health

despite a total lack of insulin is hard for many researchers and clinicians to believe,” said Dr. Roger Unger, professor of internal medicine and senior author of the study. “Many scientists, including us, thought it would be a waste of time to give leptin in the absence of insulin. We’ve been brainwashed into thinking that insulin is the only substance that can correct the consequences of insulin deficiency.”

Research led by Dr. Roger Unger, professor of internal medicine, has shown in rodents that leptin, a hormone produced by the body’s fat cells, lowers blood glucose levels. The discovery may lead to a treatment option other than insulin for humans with type 1 diabetes.

The mechanism of leptin’s glucose-lowering action appears to involve the suppression of glucagon, a hormone produced by the pancreas that raises glucose levels. Normally, glucagon is released when the glucose, or sugar, level in the blood is low. In insulin deficiency, however, glucagon levels are inappropriately high and cause the liver to release excessive amounts of glucose into the bloodstream. This action is opposed by insulin, which tells the body’s cells to remove sugar from the bloodstream.

In type 1 diabetes, which affects about 1 million people in the U.S., the pancreatic islet cells that produce insulin are destroyed. Type 1 diabetics must take insulin multiple times a day to metabolize blood glucose and regiment their diets. In comparison, patients with non-insulin dependent, or type 2, diabetes make insulin, but their bodies don’t respond well to it. Type 2 diabetes affects between 18 million and 20 million people in this country.

In the current study, researchers tested for the first time whether a single injection of the leptin gene given to insulin-deficient mice and rats on the verge of death from diabetic coma could reverse the severe condition and prevent the animals from dying. The animals that received the leptin gene began producing excessive amounts of leptin, which reversed all the measurable consequences of type 1 diabetes including weight loss, hyperglycemia and ketoacidosis, a potentially fatal condition that develops when the body doesn’t have enough insulin to meet basic metabolic requirements. Much of the effect was mediated by complete suppression of the high glucagon levels, said Dr. Xinxin Yu, assistant instructor of internal medicine and lead author of the study.

“These animals were actually dying,” Dr. Yu said. “But if we gave them the leptin gene, within two weeks, the terminally ill rodents were restored to full health without any other treatment.”

Dr. Unger said it’s too premature to know whether leptin might someday replace insulin as a treatment for diabetic patients, but this study demonstrates that leptin could at least handle some of insulin’s job requirements and do it for longer periods of time. Injected insulin is biologically active for only three to four hours.

“My hope is that you could give leptin for one type of action – glucagon’s suppression, for example – and insulin for another. Or perhaps give a substance other than insulin

entirely,” Dr. Unger said. “What would be a tremendous advance would be the ability to give an oral agent that suppresses glucagon without injections.”

Dr. Yu said the research team hypothesizes that leptin combats diabetes not only by suppressing glucagon’s action on the liver, but also by boosting the insulin-like actions of IGF-1 (insulin-like growth factor-1), a hormone that promotes growth and mimics insulin.

“One of the things that happens when a child gets type 1 diabetes is their growth is stunted until they’re given insulin,” Dr. Unger said. “The same is true with these mice. **However, we found that if you take a diabetic rat that’s not receiving insulin and make it hyperleptinemic, it almost catches up growthwise.**”

While the treated animals’ blood glucose levels inched back up over time, their hyperglycemia (high blood sugar) consistently remained well below the elevated pre-treatment levels. The untreated rodents, on the other hand, died within two or three days. The researchers tracked the treated rodents for 25 weeks.

The next step is to study other potential glucagon suppressants and begin leptin clinical trials within the next year.

Other UT Southwestern researchers involved in the study were Dr. May-Yun Wang, assistant professor of internal medicine; Dr. Zhao Wang, postdoctoral researcher in internal medicine; and former postdoctoral fellow Dr. Byung-Hyun Park.

The work was supported by the National Institute of Diabetes and Digestive and Kidney Diseases, the Department of Veterans Affairs, and the Juvenile Diabetes Research Foundation.

Ralph’s Note - I would be a great service to speed up the research on this.

Public release date: 26-Aug-2008

Flu shot does not cut risk of death in elderly

While influenza vaccination does provide protection against catching the flu, it does not have a major impact on death in the elderly, contrary to what some studies have suggested, a new study suggests.

In prior studies, an impressive 50 percent reduction in death from any cause had been noted in elderly people who got a flu shot, but some researchers were skeptical of this degree of benefit, suggesting that it may have been the result of the "healthy user effect." The new study supports this line of thinking.

The study included more than 700 elderly people, half of whom had gotten a flu shot and

half of whom had not. After controlling for a variety of factors that were largely not considered or simply not available in previous studies, the researchers concluded that any death benefit "if present at all, was very small and statistically non-significant and may simply be a healthy-user artifact that they were unable to identify."

"The healthy-user effect," study chief Dr. Sumit Majumdar of the University of Alberta in Edmonton, Canada explained in a statement, "is seen in what doctors often refer to as their 'good' patients -- patients who are well-informed about their health, who exercise regularly, do not smoke or have quit, drink only in moderation, watch what they eat, come in regularly for health maintenance visits and disease screenings, take their medications exactly as prescribed -- and quite religiously get vaccinated each year so as to stay healthy. Such attributes are almost impossible to capture in large scale studies using administrative databases."

"Over the last two decades in the United States, even while (flu) vaccination rates among the elderly have increased from 15 to 65 percent, there has been no commensurate decrease in hospital admissions or all-cause mortality," added co-investigator Dr. Dean T. Eurich, who is also with the University of Alberta.

"Further, only about 10 percent of winter-time deaths in the United States are attributable to influenza, thus to suggest that the vaccine can reduce 50 percent of deaths from all causes is implausible in our opinion," he added.

The study involved 352 patients given the vaccine and 352 matched control subjects. Overall, 85 percent of patients were over 64 years of age. Severe pneumonia was seen in 29 percent of patients and 12 percent of the patients died.

Flu vaccination was, in fact, associated with reduced mortality of about 50 percent (8 percent vs. 15 percent mortality in the vaccinated and unvaccinated groups, respectively), and this finding did not change after accounting for age, gender, or co-existing illnesses.

However, after adjusting for other potential confounders, including functional and socioeconomic status, the mortality reduction was weakened and no longer statistically significant.

"Previous studies were likely measuring a benefit not directly attributable to the vaccine itself, but something specific to the individuals who were vaccinated -- a healthy-user benefit or frailty bias," Eurich concluded in a statement.

SOURCE: American Journal of Respiratory and Critical Care Medicine, September 2008.

Public release date: 26-Aug-2008

Researchers find high levels of toxic metals in herbal medicine products sold online

Boston, MA--Researchers at Boston University School of Medicine (BUSM) have found that one fifth of both U.S.-manufactured and Indian-manufactured Ayurvedic medicines purchased via the Internet contain lead, mercury or arsenic. These findings appear in the August 27th issue of the Journal of the American Medical Association (JAMA).

Ayurveda is a form of medicine that originated in India more than 2,000 years ago and relies heavily on herbal products. In India, an estimated 80 percent of the population practices Ayurveda. In the United States, Ayurvedic remedies have increased in popularity and are available from South Asian markets, health food stores, and on the Internet. Ayurvedic medicines are divided into two major types: herbal only and rasa shastra. Rasa shastra is an ancient practice of deliberately combining herbs with metals, minerals and gems. Ayurvedic experts in India believe that if Rasa Shastra medicines made with metals such as lead and mercury are properly prepared and administered, they will be safe and therapeutic.

Using an Internet search, the researchers identified 25 Web sites featuring 673 Ayurvedic medicines. They randomly selected and purchased 193 products made by 37 different manufacturers for analyses. **Overall, 20.7 percent of Ayurvedic medicines contained detectable lead, mercury and/or arsenic. U.S. and Indian manufactured products were equally likely to contain toxic metals.** Rasa shastra compared with non-rasa shastra medicines were more than twice as likely to contain metals and had higher concentrations of lead and mercury. **Among products containing metals, 95 percent were sold by U.S. Web sites and 75 percent claimed Good Manufacturing Practices or testing for heavy metals. All metal-containing products exceeded one or more standards for acceptable daily intake of toxic metals.**

"This study highlights the need for Congress to revisit the way dietary supplements are regulated in the U.S.," said lead author Robert Saper, MD, MPH, Director of Integrative Medicine in the Family Medicine Department at BUSM. Saper first published on this topic in December, 2004 (JAMA). **In that study he and his colleagues found 20% of Ayurvedic medicines produced in South Asia only and available in Boston area stores contained potentially harmful levels of lead, mercury, and/or arsenic.** "Our first priority must be the safety of the public. Herbs and supplements with high levels of lead, mercury, and arsenic should not be available for sale on the Internet or elsewhere," he said.

Saper adds, "We suggest strictly enforced, government mandated daily dose limits for toxic metals in all dietary supplements and requirements that all manufacturers demonstrate compliance through independent third-party testing."

"The medicines which are supposed to cure sickness should not promote another illness due to the presence of toxic materials such as lead," said co-author Venkatesh Thuppil, PhD, Director of the National Referral Centre for Lead Poisoning in India, as well as a Professor at St. John's Medical College in India.

Ralph's Note - These Online Internet companies, must have the same accountability

of law abiding brick and mortar U.S. companies. The average consumer does not have a clue how bad the contamination and, counterfeiting truly is in the mail order world. Almost totally void of accountability and ethics.

Public release date: 26-Aug-2008

Caesarean babies more likely to develop diabetes

Babies delivered by Caesarean section have a 20 percent higher risk than normal deliveries of developing the most common type of diabetes in childhood, according to a study led by Queen's University Belfast

Babies delivered by Caesarean section have a 20 per cent higher risk than normal deliveries of developing the most common type of diabetes in childhood, according to a study led by Queen's University Belfast.

The team, led by Dr Chris Cardwell and Dr Chris Patterson, examined 20 published studies from 16 countries including around 10,000 children with Type 1 diabetes and over a million control children.

They found a 20 per cent increase in the risk of children born by Caesarean section developing the disease. The increase could not be explained by factors such as birth weight, the age of the mother, order of birth, gestational diabetes and whether the baby was breast-fed or not, all factors associated with childhood diabetes in previous studies.

Dr Cardwell, from the School of Medicine, Dentistry and Biomedical Sciences, said: "This study revealed a consistent 20 per cent increase in the risk of Type 1 diabetes. It is important to stress that the reason for this is still not understood. It is possible that children born by Caesarean section differ from other children with respect to some unknown characteristic which consequently increases their risk of diabetes, but it is also possible that Caesarean section itself is responsible.

"Type 1 diabetes occurs when the immune system destroys the insulin producing cells in the pancreas, and one theory suggests that being born by Caesarean section may affect the development of the immune system because babies are first exposed to bacteria originating from the hospital environment rather than to maternal bacteria."

Dr Chris Patterson said: "The study findings are interesting, but unless a biological mechanism is established it would be unwise to read too much into this association between Caesarean section delivery and diabetes.

"Fortunately figures from the Northern Ireland Type 1 diabetes register indicate that only around two per 1,000 children will develop diabetes by their 15th birthday so a 20 per cent increase is on quite a low baseline risk."

Diabetes is a serious condition that, if not managed, can lead to fatal complications including heart disease, stroke, kidney failure and amputations. There are 2.3 million people in the UK diagnosed with diabetes and 250,000 with Type 1 diabetes. In Northern Ireland over 62,000 people have diabetes, 6,000 of them with Type 1 diabetes.

Around one in four babies in Northern Ireland are delivered by Caesarean section, which is significantly higher than the World Health Organisation's recommended rate of 15 per cent.

Iain Foster, Director of Diabetes UK Northern Ireland, said: "Not all women have the choice of whether to have a Caesarean section or not, but those who do may wish to take this risk into consideration before choosing to give birth this way.

"We already know that genetics and childhood infections play a vital role in the development of Type 1 diabetes in children, but the findings of this study indicate that the way a baby is delivered could affect how likely it is to develop this condition later in life. Diabetes UK Northern Ireland would welcome more research in this area."

Public release date: 26-Aug-2008

Olive leaf extract can help tackle high blood pressure and cholesterol

Taking 1000mg of a specific olive leaf extract (EFLA®943) can lower cholesterol and lower blood pressure in patients with mild hypertension (high blood pressure). These findings came from a 'Twins' trial, in which different treatments were given to identical twins. By doing this, researchers could increase the power of their data by eliminating some of the uncertainties caused by genetic variations between individual people.

The research is published in the latest edition of *Phytotherapy Research*.

Hypertension is one of the most common and important disease risk factors imposed by the modern lifestyle. Many people would therefore benefit from finding ways of reducing blood pressure. Experiments in rats had previously indicated that olive leaf extract could be one way of achieving this goal.

To test this in humans, researchers from Switzerland and Germany conducted a pilot trial with 20 identical (monozygotic) twin pairs who had an increased blood pressure. Individuals were either given placebo capsules or capsules containing doses of 500mg or 1000mg of olive leaf extract EFLA®943. Pairs of twins were assigned to different treatments. After the subjects had taken the extract for eight weeks researchers measured blood pressures as well as collecting data about aspects of life-style.

"The study confirmed that olive leaf extract EFLA®943 has antihypertensive properties in humans," says one of the co-authors, Cem Aydogan, General Manager, Frutarom

Health.

"This works showed that taking a 1000mg dose has substantial effects in people with borderline hypertension," says Aydogan.

Public release date: 26-Aug-2008

Why do eyelids sag with age? UCLA study answers mystery

Many theories have sought to explain what causes the baggy lower eyelids that come with aging, but UCLA researchers have now found that fat expansion in the eye socket is the primary culprit.

As a result, researchers say, fat excision should be a component of treatment for patients seeking to address this common complaint.

The study, published in the September issue of the peer-reviewed *Journal of Plastic and Reconstructive Surgery*, is the first to examine the anatomy of multiple subjects to determine what happens to the lower eyelid with age. It is also the first to measure what happens to the face with age using high-resolution magnetic resonance imaging (MRI).

"A common treatment performed in the past and present is surgical excision of fat to treat a 'herniation of fat' — meaning that the amount of fat in the eye socket does not change but the cover that holds the fat in place, the orbital septum, is weakened or broken and fat slips out," said lead author Dr. Sean Darcy, a research associate in the division of plastic and reconstructive surgery at the David Geffen School of Medicine at UCLA and a plastic surgery resident at the University of California, Irvine. "This orbital septum weakening or herniation-of-fat theory is what most plastic surgeons have been taught.

"However, our study showed there is actually an increase in fat with age, and it is more likely that the fat increase causes the baggy eyelids rather than a weakened ligament," Darcy said. "There have been no studies to show that the orbital septum weakens."

The study looked at MRIs of 40 subjects (17 males and 23 females) between the ages of 12 and 80. The findings showed that the lower eyelid tissue increased with age and that the largest contributor to this size increase was fat increase.

According to a recent report by the American Society of Plastic Surgeons, nearly 241,000 Americans underwent eyelid surgery in 2007, making it one of the top four surgical cosmetic procedures performed.

Currently, many plastic surgeons performing procedures to treat baggy eyelids do not remove any fat at all. They reposition the fat or conduct more invasive tightening of the muscle that surrounds the eye, or they tighten the actual ligament that holds the eyeball in place. These procedures are performed despite there being no data indicating that these structures change with age.

"Our findings may change the way some plastic surgeons treat baggy eyes," said study co-author Dr. Timothy Miller, professor and chief of plastic surgery at the Geffen School. "Our study showed that a component of a patient's blepharoplasty procedure should almost routinely involve fat excision rather than these procedures."

Blepharoplasty refers to surgical rejuvenation of the upper or lower eyelids, or both,

depending on the extent of aging or disease. The procedure is usually performed on the lower eyelid because the most common complaint patients have is that their eyes appear tired, puffy or baggy. The surgeon makes external incisions along the natural skin lines of the eyelid to remove the excess fat and improve the contour of the lower eyelid.

"Although baggy lower eyelids are a significant result of aging and fat expansion, there are other factors that can contribute too," Miller said. "We recommend that surgeons evaluate each component and address them accordingly in an individualized approach to blepharoplasty."

The next phase of research will be to perform MRIs of people with baggy eyelids.

Public release date: 27-Aug-2008

New evidence on addiction to medicines Diazepam has effect on nerve cells in the brain reward system

Addictions to medicines and drugs are thought to develop over a relatively long period of time. The process involves both structural and functional changes in brain nerve cells that are still poorly understood. **However, a single drug or alcohol dose is sufficient to generate an initial stage of addiction.** Recent research conducted under the umbrella of the Academy of Finland Research Programme on Neuroscience (NEURO) has discovered the same phenomenon in the dosage of benzodiazepine diazepam.

Benzodiazepines are highly effective medicines that are widely used in the treatment of anxiety, insomnia, pains, panic attacks and other symptoms. However, over time patients may develop an increased tolerance towards these medicines and an unhealthy dependence.

"Previously, addiction to benzodiazepines has been explained by reference to negative rather than positive reinforcement. In other words, the thinking has been that the reason people continue to use the medicine is that it helps to alleviate their distressing withdrawal symptoms and general discomfort, rather than because it provides a sense of reward," says Professor Esa Korpi, who has been in charge of the research project at the University of Helsinki.

However, according to the latest research it seems that diazepam causes a similar change in the brain's reward-inducing dopamine cells as a dose of alcohol, morphine, amphetamine or cocaine. **Furthermore, neural message transmission in the dopamine cells is reinforced for up to 72 hours after ingestion of diazepam. "Our studies have shown that diazepam also affects the dopamine system, which adds a new positive reinforcement mechanism of reward learning to the theory of benzodiazepine addiction,"** Korpi explains.

Public release date: 27-Aug-2008

Study examines use of opioids

Boston, MA—Researchers from Boston University's Slone Epidemiology Center have found that in a given week, over 10 million Americans are taking opioids, and more than 4 million are taking them regularly (at least five days per week, for at least four weeks). These findings appear in the August 31 issue of the journal Pain.

Opioids are commonly administered for the treatment of moderate to severe pain and are among the most widely prescribed drugs in the United States. While these drugs have an essential role in pain management, there are concerns about potential abuse. Despite these concerns, characteristics of opioid use within the non-institutionalized US population are not well known, particularly for recent years.

The researchers conducted a telephone survey of randomly selected U.S. households; there were 19,150 subjects aged 18 years or older interviewed from February 1998 through September 2006. Information was gathered on all prescription and non-prescription medications taken during the preceding seven days. For each recorded medication, information was obtained on reason for use, type of administration, number of days taken in the week before the interview, and total duration of the current use.

The researchers found opioids were used 'regularly' by 2 percent of those surveyed. An additional 2.9 percent used opioids less frequently. Regular opioid use increased with age, decreased with education level, and was more common in females and in non-Hispanic whites. The prevalence of regular opioid use increased over time and was highest in the South Central region of the country. Among regular users, almost half had been taking opioids for two or more years and nearly one-fifth had been taking opioids for five years or longer. There was also a much higher prevalence of other medication use among regular opioid users compared to nonusers.

According to the researchers, given the large number of individuals affected, the recent increase in public health concern for safe and effective pain management is appropriate. "From this nationally representative telephone survey, we estimate that more than 4.3 million U.S. adults are taking opioids regularly in any given week," said lead author Judith Parsells Kelly of the Slone Epidemiology Center. "The extent and characteristics of opioid use among U.S. adults reflected in this study reinforces the need to strike a rational balance between opioid misuse and effective control of chronic pain," she added.

Public release date: 27-Aug-2008

Heart attack patients who stop statin risk death, say McGill researchers

Study finds doubled mortality risk if treatment is discontinued

Patients discontinuing statin medication following an acute myocardial infarction (AMI)

increase their risk of dying over the next year, say researchers at McGill University and the McGill University Health Centre (MUHC). Their study was published in a recent issue of the European Heart Journal.

Using data on British patients who survived an AMI and were still alive three months later, **Dr. Stella Daskalopoulou and colleagues found that those who discontinued their statin medication were 88% more likely to die during the following year compared to those who had never been on the medication.**

"Statins were found to be beneficial drugs," said Dr. Daskalopoulou, of McGill's Faculty of Medicine and the Department of Medicine and the Division of Clinical Epidemiology at the MUHC. "Patients who used statins before an AMI and continued to take them after were 16% less likely to die over the next year than those who never used them. So even if it appears that the statins failed to prevent your AMI, it is beneficial to continue taking them and potentially quite harmful to stop."

The large, population-based cohort study was conducted using UK data to take advantage of the medical records kept in the General Practice Research Database (GPRD), which collects information on the health of more than three million patients across the UK.

"In the general population the statin discontinuation rate within the first year of prescription is 30 percent. That's very high," Dr. Daskalopoulou continued. "Because statins are preventative drugs, patients may not feel the immediate benefit of taking them and sometimes stop. However, it looks like this might be quite a dangerous practice after an AMI."

The harmful effects of statin discontinuation may be the result of many different mechanisms, including individual patient characteristics, the researchers explained. "Regardless of the mechanism or explanation, physicians should be careful when assessing each patient's medication needs," Dr. Daskalopoulou said. "Patients also need to take their medications exactly as prescribed after an AMI. Statins in particular should only be withdrawn after an AMI under close clinical supervision."

Public release date: 28-Aug-2008

All types of antipsychotic drugs increase the risk of stroke

All drugs used to treat psychosis are linked to an increased risk of stroke, and dementia sufferers are at double the risk, according to a study published on bmj.com today.

Previous research has shown that second generation (atypical) antipsychotic drugs can increase the chances of patients having a stroke. But the risk of stroke associated with first generation (typical) antipsychotics, and whether the risk differs in people with and without dementia, is not known.

Concerns about an increased risk of stroke among people taking atypical antipsychotic

drugs were first raised in 2002, particularly in people with dementia. In 2004, the UK's Committee on Safety of Medicines recommended that these drugs should not be used in people with dementia, despite a lack of clear evidence.

A team of researchers from the London School of Hygiene and Tropical Medicine, examined data from the General Practice Research Database (GPRD), which contains the clinical information of more than six million patients registered at over 400 general practices in the UK.

They assessed the effect of exposure to antipsychotic medication on the incidence of stroke in 6 790 patients with a recorded incident of stroke and at least one prescription of any antipsychotic between January 1988 and the end of 2002.

The authors found that during periods when patients were receiving an antipsychotic drug they were 1.7 times more likely to have a stroke, whereas people with dementia were 3.5 times more likely to have a stroke whilst taking any antipsychotic.

The likelihood of having a stroke was slightly higher for people taking atypical antipsychotics than people taking typical antipsychotics.

The study did not look at the specific mechanisms linking antipsychotics and stroke or why the risk is greater with atypical antipsychotics.

Previously, the risk of stroke associated with typical antipsychotics was unclear, say the researchers, but "we have established that all types of antipsychotics carry an increased risk, although the risk might be somewhat higher with the atypical drugs."

They conclude: "We reaffirm that the risks associated with antipsychotic use in patients with dementia generally outweigh the potential benefits, and in this patient group, use of antipsychotic drugs should be avoided wherever possible."

Public release date: 28-Aug-2008

Class of diabetes drugs carries significant cardiovascular risks

WINSTON-SALEM, N.C. –**A class of oral drugs used to treat type 2 diabetes may make heart failure worse, according to an editorial published online in Heart Wednesday by two Wake Forest University School of Medicine faculty members.**

"We strongly recommend restrictions in the use of thiazolidinediones (the class of drugs) and question the rationale for leaving rosiglitazone on the market," write Sonal Singh, M.D., M.P.H., assistant professor of internal medicine, and Curt D. Furberg, M.D., Ph.D., professor of public health sciences. Rosiglitazone and pioglitazone are the two major thiazolidinediones.

In the editorial Singh and Furberg say, "At this time, justification for use of thiazolidinediones is very weak to non-existent."

Oral drugs are given to control diabetes by lowering blood sugar.

But diabetics also experience elevated rates of high blood pressure and high levels of cholesterol and triglyceride, which "further compound their already increased risk of developing ischemic heart disease," Singh and Furberg say. Heart disease and high blood pressure "represent conditions that are major precursors of congestive heart failure."

About 22 percent of diabetics have heart disease. Among elderly patients with diabetes, more than half will develop congestive heart failure over a 10-year period, the editorial says.

The thiazolidinediones were approved for use based on the ability to reduce blood sugar.

In contrast, "we reported [in the journal Diabetes Care] in June 2007 that thiazolidinediones doubled the risk of congestive heart failure in patients with type 2 diabetes," is says. "The increased heart failure appears to be a class effect."

Singh and Furberg reported in The Journal of the American Medical Association in 2007 after an analysis of four long-term trials that use of rosiglitazone was associated both with increased heart attacks and a doubling of heart failure.

They said that results from three large randomized clinical trials published this past June all failed to demonstrate that intensive control of blood sugar reduces mortality or events from cardiovascular disease in patients with type 2 diabetes.

The three trials were ACCORD, ADVANCE, and the Veterans Affairs Diabetes study. In ACCORD, the patients who received intensive treatment to control blood sugar actually had more cardiovascular disease mortality than patients receiving standard treatment.

In ADVANCE, intensive control of blood sugar produced no benefit; there was no effect on cardiovascular events or deaths from cardiovascular causes compared to standard oral diabetes agents.

In the VA Diabetes trial, when intensive blood sugar control produced levels of blood sugar that were too low and led to loss of consciousness, that was a strong predictor of future cardiovascular events.

"The unfavorable findings from the three trials have not been fully realized by the medical community," Singh and Furberg say.

They say that at a recent U.S. Food and Drug Administration advisory committee meeting, there was "overwhelming support for requiring reductions" of heart disease and heart failure "before approval of new oral hypoglycemic agents."

Singh said in an interview, "**Safer, cheaper and more effective treatment alternatives are available that do not carry these negative cardiovascular risks in patients with diabetes. The rationale for the use of the thiazolidinediones is unclear.**"

Public release date: 31-Aug-2008

National Study Shows Magnesium Sulfate Reduces Risk of Cerebral Palsy in Premature Births

Northwestern Memorial Hospital one of 18 centers involved in 10-year study

CHICAGO – Results of a 10-year study published in the August 28 issue of the New England Journal of Medicine found that magnesium sulfate administered to women delivering before 32 weeks of gestation reduced the risk of cerebral palsy by 50 percent. The Beneficial Effects of Antenatal Magnesium Sulfate (BEAM) trial was conducted in 18 centers in the U.S., including Northwestern Memorial, and is the first prenatal intervention ever found to reduce the instance of cerebral palsy related to premature birth.

Magnesium sulfate is traditionally used in obstetrics to stop premature labor and prevent seizures in women with hypertension. The BEAM trial studied the link between magnesium sulfate and cerebral palsy by identifying 2,240 women who were likely to give birth more than two months premature. Half of the women intravenously received magnesium sulfate while the other half received a placebo. Children born to the women in the study were examined at two-years-old, and results found that the children in the magnesium group were 50 percent less likely to develop cerebral palsy compared to children in the placebo group.

“This is a substantial breakthrough in maternal fetal medicine that could positively impact the health of thousands of babies,” said Alan Peaceman, MD, chair of the Division of Maternal Fetal Medicine at Northwestern Memorial Hospital, professor of Obstetrics and Gynecology at the Northwestern University Feinberg School of Medicine, and an investigator in the study. “After 10 years of studying the effects of magnesium sulfate, it has proven to be a successful method of reducing the outcome of cerebral palsy

in premature births.”

Cerebral palsy is a group of neurological disorders that appears in infancy or early childhood and permanently affects body movement and muscle coordination. In the U.S., two to three children in 1,000 are affected with cerebral palsy, and about 800,000 children and adults of all ages have the disorder, which is caused by damage in parts of the brain that control muscle movements.

The most common form of cerebral palsy is congenital, resulting from intra-uterine brain injury and accounting for approximately 70 percent of cases. Although there is no direct cause of the disorder, risk factors including premature birth and low birth weight are directly correlated to instances of cerebral palsy.

“Based on results of the study, in the future it is possible that women at risk of prematurely giving birth could proactively receive magnesium sulfate to reduce their child’s chances of developing cerebral palsy,” adds Dr. Peaceman. “With additional research, it is possible that in the next few years this will be a standard of care.”

Public release date: 31-Aug-2008

Sex hormones link to heart risk

New research led by University of Leicester into why men are more prone to heart disease

Men are more prone to – and likely to die of - heart disease compared with women of a similar age – and sex hormones are to blame, according to a new University of Leicester led study

The findings of a study by Dr Maciej Tomaszewski, New Blood Lecturer in Cardiovascular Medicine in the Department of Cardiovascular Sciences at the University of Leicester, suggest that this "male disadvantage" may be related to the sex-specific effects of naturally occurring sex hormones.

The research by Dr Tomaszewski and his colleagues, which has been published on line in the journal *Atherosclerosis*, involved 933 men aged, on average, 19 years, from the Young Men Cardiovascular Association study. The researchers looked at ways that the sex hormones - estradiol, estrone, testosterone and androstenedione - interacted with three major risk factors of heart disease (cholesterol, blood pressure and weight).

They found that two of these sex hormones (estradiol and estrone, called together estrogens) are linked to increased levels of bad cholesterol (LDL-cholesterol) and low levels of good cholesterol (HDL-cholesterol) in men.

This suggests that certain sex hormones may be important risk factors of heart disease in men, even before they present symptoms of coronary artery disease or stroke.

Dr Tomaszewski commented: "We hypothesised that circulating concentrations of sex hormones were associated with cardiovascular disease risk factors in men long before any apparent manifestations of cardiovascular disease such as stroke or myocardial infarction".

"We examined associations of circulating estrogens (estradiol and estrone) as well as androgens (testosterone and androstenedione) with major cardiovascular risk factors (lipids, blood pressure, body mass) in 933 young (median age – 19 years), apparently healthy men.

"Our studies showed that one of the sex hormones - estradiol - was associated positively with total cholesterol and negatively with HDL-cholesterol. Circulating concentrations of another sex hormone - estrone - showed strong positive associations with both total cholesterol and LDL-cholesterol.

"Thus, men with the highest concentrations of estrone and estradiol may have the highest level of cardiovascular risk as their levels of detrimental LDL-cholesterol are high whilst their cardio-protective HDL-cholesterol is low.

"Most importantly, the demonstrated associations between cholesterol and estrogens were independent of other sex hormones (testosterone and androstenedione), age, body weight, blood pressure and other potential confounding factors.

"Our data suggest that higher levels of estrogens may have negative influence on lipid profile in men early in life, before the apparent onset of cardiovascular disease.

"Why natural endogenous estrogens that are generally seen as cardio-protective in women increase cardiovascular risk in men remains to be elucidated. Future prospective studies are needed to confirm that higher levels of endogenous estrogens in youth increase the risk of heart disease later in man's life.

"A number of other investigations on sex-specific aspects of cardiovascular disease are in progress in our Department and I am sure that we will be able to continue providing information in this area of research in the future."

Public release date: 1-Sep-2008

Large-scale Survey Links "Burnout" to Suicidal Thoughts in Med Students

Tip sheet for Sept. 2, 2008, issue of Annals of Internal Medicine

Death by suicide is a major occupational hazard for physicians. Male and female physicians have a 40 percent and 130 percent higher suicide

rate, respectively, than the general population.

This survey of 4,287 students at seven medical schools revealed that many U.S. medical students think about suicide, suggesting that physicians' increased risk for suicide may begin in medical school. Both personal distress and professional distress, or "burnout" were linked to thinking about suicide. While the relationship between depression and suicide is well-recognized, the association between burnout and thinking about suicide has not been previously reported. Burnout is common among medical students, and is associated with a two- to three-fold increased risk of thinking about suicide. In the study, 26 percent of burned out students recovered within the following year, indicating that burnout is reversible. Their risk for suicidal thoughts returned to normal.

Public release date: 1-Sep-2008

New evidence on folic acid in the diet and colon cancer

Journal of Proteome Research

"The Response of Human Colonocytes to Folate Deficiency in Vitro: Functional and Proteomic Analyses

Researchers in the United Kingdom and Texas are reporting a new, more detailed explanation for the link between low folate intake and an increased risk for colon cancer, the second leading cause of cancer death in the United States. Their study, which reinforces the importance of folate in a healthy diet, is scheduled for the current (August) issue of ACS' monthly Journal of Proteome Research.

Susan Duthie and colleagues note that researchers have known for years that a deficiency of folate, one of the B vitamins commonly called folic acid, increases the risk of birth defects. As a result, manufacturers enrich some foods with folate. Scientists also have found that low folate in the diet increases the risk of developing colon cancer in adults. However, scientists lack an adequate explanation of how folate depletion affects the genes, proteins, and cells involved in cancer.

In this new research, scientists grew human colon cells in folate-depleted and folate-enriched tissue culture. They found that folate depletion caused increased DNA damage and a cascade of other biological changes linked to an increased cancer risk.

Public release date: 1-Sep-2008

Survey: 'Tanorexia' common among university students

PHILADELPHIA (Sept. 2, 2008) -- A new study conducted at a large university finds more than 25 percent of those surveyed reported symptoms of tanning dependence, including symptoms similar to alcohol and drug-addicted individuals. Suggestively, the study also found those with a tanning dependence tend to be more likely to be thin and

smoke cigarettes than others. The study by researchers at Fox Chase Cancer Center is published in the September/October issue of the *American Journal of Health Behavior*.

Heckman adds: "We were surprised to find that 27 percent of those we surveyed were classified as tanning dependent. The finding that almost 40 percent of those surveyed had used tanning booths and that the mean age when tanning booths were first used was 17 is also alarming."

Interestingly, sun tanning appeared to be more closely related to tanning dependence than indoor tanning, though use of indoor tanning during warm weather also signaled tanning dependence.

Finally, the researchers say that those addicted to tanning were more likely to be thin and smoke cigarettes than others, suggesting meaningful avenues for further research into possible links among risky behaviors.

"Our ultimate goal is to find out more about the motivations for tanning so that we can develop interventions that would reduce tanning and hopefully skin cancer," Heckman concludes.

Public release date: 2-Sep-2008

Post-marketing studies finding adverse events in drugs used in children

DURHAM, NC -- The Food and Drug Administration Modernization Act (FDAMA, 1997), designed to stimulate more drug safety studies in children, has resulted in more than 130 label changes since its inception nearly six years ago, according to researchers at Duke Children's Hospital.

Their analysis appears in the September issue of *Pediatrics*.

Under this and subsequent renewal of this legislation, pharmaceutical companies were given a six-month extension of their exclusive marketing rights on a drug if they performed clinical trials requested by the FDA to determine the drugs' safety, dosing, and efficacy in children.

According to P. Brian Smith, MD, an assistant professor in Duke's department of pediatrics, many safety concerns cannot be detected until after the introduction of a product to a larger and more diverse population. The Best Pharmaceuticals for Children Act (2002) required the FDA to review and report to a public expert panel the adverse events occurring after granting pediatric exclusivity. That effort was needed because pediatric clinical trials are notoriously small, making it more likely that some safety concerns would not be detected until after the drug is used in a larger pediatric population.

Using MedWatch, the FDA's computerized information database for collecting reports of

adverse events, the FDA's Pediatric Advisory Committee reviewed 67 drugs granted the extension. "This is a voluntary, cost-effective reporting system that can identify adverse events that may never have been seen in a clinical trial," Smith said.

"Just because a drug goes through testing and clinical trials does not mean its entire safety profile is known," says Danny Benjamin, MD, a co-author of the study and pediatrician at Duke Children's Hospital. "Before this incentive, there was no systematic, focused pediatric review of the data provided to the FDA's adverse event reporting system. Now, field experts in pediatrics are evaluating the data. That's what's so unique about this effort."

The majority of the 67 drugs studied (65.7 percent) did not appear to cause enough adverse events to require continued pediatric monitoring. However, nearly one in five drugs studied required label changes consisting of additional warnings and cautions for use in children, and several of the adverse events revealed during this process were considered life threatening. Some of those labeling changes included:

Black Box warning and development of patient information for selective serotonin reuptake inhibitors (SSRIs) regarding potential for suicidality and neonatal toxicity/withdrawal syndrome.

Box warning for transdermal opioid analgesis (Duragesic) alerting that inappropriate use may result in serious adverse reactions, including death.

Labeling change for methylphenidate (Concerta) to address the potential for psychiatric events.

The Duke researchers say their findings support the approach that pediatric post-marketing surveillance is crucial, and that physicians, nurses, parents and others should take the job of reporting adverse effects seriously. **Very rare serious adverse events are seldom defined during a study of a few hundred children and learning about these events is often dependent on the reporting of them from caretakers and parents.**

"Unfortunately, few clinicians and patients know this reporting system exists," says Smith. "In the Duke Neonatal Intensive Care Unit, the pharmacist reports adverse drug events to MedWatch. But I'm not sure that happens at every hospital. **A lot of physicians don't know it's available.** This publication is somewhat of an advertisement that this program is available."

Smith urges parents to report adverse reactions they see. The FDA does not release any confidential information provided. Nor do the parents have to be certain that a drug exposure was the cause. It's the FDA's job to further investigate these events and any possible relationships to therapy, Smith said.

Ralph's Note - It seems odd that physicians know you can report adverse reactions to vitamins to the FDA, yet they don't know one exists for pharmaceuticals.

Public release date: 2-Sep-2008

Most vaccine-allergic children can still be safely vaccinated, Hopkins experts say

With close monitoring and a few standard precautions, nearly all children with known or suspected vaccine allergies can be safely immunized, according to a team of vaccine safety experts led by the **Johns Hopkins Children's Center**. Writing in the September issue of *Pediatrics*, the multicenter research team offers pediatricians a step-by-step tool for quickly identifying children with allergic reactions to vaccines, and a much-needed guide, they say, to safely immunize those who are allergic.

*******Serious allergic reactions to vaccines are extremely rare - one or two per million vaccinations, according to some estimates (READ NEXT ARTICLE)-** but when they happen, such episodes can be serious, even life-threatening, making it critical for pediatricians to instantly spot true allergic reactions and differentiate them from more benign nonallergic responses, investigators say. It is also crucial that pediatricians design a safe immunization plan for children with confirmed vaccine allergies. Children who have had one allergic reaction are believed to be at a higher risk for future reactions, typically more serious than the first.

"We cannot reiterate enough that the vaccines used today are extremely safe, but in a handful of children certain vaccine ingredients can trigger serious allergic reactions," says Robert Wood, M.D., lead author on the paper and chief of pediatric Allergy and Immunology at Hopkins Children's. "For the most part, even children with known allergies can be safely vaccinated."

Given recent outbreaks of vaccine-preventable infections like measles, mumps and whooping cough in the United States, and measles and polio overseas, it is essential to safely vaccinate as many children as possible, investigators say.

Combing through available evidence on vaccine safety and allergies, the Hopkins-led team developed a sequence of instructions - an algorithm - that prompts physicians one step at a time on how to evaluate and immunize children with known or suspected vaccine allergies.

The guidelines are intended for doctors and parents who are uncertain about vaccine safety in children who have already had or are at high risk for having allergic reactions to vaccines.

In such cases, the Hopkins-led group advises a workup by an allergist, including skin prick testing-a prick on the skin or an injection under the skin with a small dose of

vaccine or the suspected allergen from the vaccine-or blood tests that would detect the presence of characteristic antibodies that patients develop to allergens, such as antibodies to gelatin or egg proteins used in several common vaccines.

In many cases, allergic children can be vaccinated using alternative forms of a vaccine that are free of the allergen. Even if allergen-free formulations are unavailable, many children can still be vaccinated and remain under physician supervision for several hours after vaccination. Another option is testing the child to check for immunity. If blood tests show the child has already developed protective antibodies, it may be OK, at least temporarily, to withhold further doses of the vaccine, researchers write.

"Vaccines save lives, and parents should know that children who have had allergic reactions after a vaccine are likely to have developed protection against infection as a result of the vaccination," says investigator Neal Halsey, M.D., an infectious disease specialist at Hopkins Children's, and professor of International Health at the Johns Hopkins University Bloomberg School of Public Health.

"Most children who have had an allergic reaction after a vaccine can still be vaccinated against other diseases safely and some can receive additional doses of vaccines they might have reacted to," Halsey adds.

Many children with known vaccine allergies who have low levels of protective antibodies and require more doses can be vaccinated safely under the guidelines. In some cases, children with known allergies can be given antiallergy medications, such as antihistamines and corticosteroids, before vaccination to help ward off or lessen the allergic reaction. For a step-by-step guide to vaccine administration in children with known or suspected vaccine allergy, see the full text of the article at <http://pediatrics.aappublications.org/future/122.3.shtml>.

Immunizations of children with known vaccine allergies should always be administered under medical supervision in a clinic equipped to treat life-threatening allergic reactions or in a hospital intensive-care unit. Patients can usually go home after an hour or two if they have no adverse reactions.

True allergies typically cause immediate reactions, involving the immune system as a whole that occur within a few minutes to a few hours of vaccination. By contrast, delayed reactions, which occur within days, even weeks after vaccination, are generally benign and are rarely, if ever, dangerous.

Symptoms of immediate allergic reactions include hives, swelling, wheezing, coughing, low blood pressure, vomiting, diarrhea, and can lead to full-blown anaphylaxis, a life-threatening allergic reaction.

Ralph's Note - I find the recommendations from **Johns Hopkins Children's Center** on the Verge of Criminal. The Formula should be simple. **IF RISK OF DEATH IS**

GREATER THAN ANY BENEFIT YIELDED FROM VACCINATING, THEN DON'T. Johns Hopkins Children's Center did not do that comparison, instead they pushed the fold of propaganda to the point of criminal insanity.

Public Release: 1-Sep-2008

Higher anaphylaxis rates after HPV vaccination: CMAJ study

OTTAWA, ONTARIO, CANADA – The estimated rate of anaphylaxis in young women after human papillomavirus (HPV) vaccination was significantly higher – 5 to 20 fold – than that identified in comparable school-based vaccination programs, according to a study published in CMAJ http://www.cmaj.ca/press/179_6_525.pdf. However, the overall rates of anaphylaxis were low with no associated serious lasting effects.

In a study of 114,000 women, a team of Australian researchers found 12 suspected of anaphylaxis, and confirmed 8 of these, in a 2007 vaccination program in New South Wales, Australia. Symptoms included difficulty breathing, nausea and rashes.

Dr. Julia Brotherton and colleagues postulate that reasons for an increased rate of anaphylaxis may include possible allergic reaction to the vaccine components, enhanced adverse event surveillance, higher rates of anaphylaxis in women from midadolescence compared with men, and an apparent increase in incidence of anaphylaxis in Australia.

The estimated rate of anaphylaxis following HPV vaccination was 2.6 per 100,000 doses administered compared with a rate 0.1 per 100 000 doses administered in a 2003 school-based meningococcal C vaccination program.

HPV vaccination programs will begin this fall in the United Kingdom and other European countries as well as in parts of Canada and the United States.

Dr. Brotherton stresses "the importance of good training for staff administering vaccines in school or other settings in the recognition and management of suspected anaphylaxis and its reporting." They conclude that anaphylaxis following the HPV vaccine is rare and vaccine programs should continue.

Anaphylaxis is a rare but serious adverse event and highlights the importance of vaccine safety studies after vaccine licensing and careful management of reactions in immunization clinics, says Dr. Neal Halsey, Institute of Vaccine Safety, Johns Hopkins Bloomberg School of Public Health in a related commentary http://www.cmaj.ca/press/179_6_509.pdf. He states "before concluding that the HPV vaccine is associated with higher rates of anaphylaxis than other vaccines everywhere, cases in other populations should be reviewed....As of July 21, 2008, 11 cases have been reported [in the US] in 2008. Over 13 million doses of this vaccine have been distributed as of the end of 2007."

A CMAJ editorial http://www.cmaj.ca/press/179_6_503.pdf states that this study indicates the HPV vaccine is "remarkably safe." The study provides an excellent opportunity for Canada's public health community "to restart public discussions about the safety of the HPV vaccine, the precautions taken to mitigate risks if anaphylaxis occurs, and the care taken in surveillance for adverse events following vaccination," write Drs. Noni MacDonald, Matthew Stanbrook and Paul Hebert.

Ralph's Note- With an up to 1 in 12000 chance, as compare to the 1 to 2 per million vaccinations as stated by John Hopkins Children's Center. In combination with the lack of adequate reporting of side effects. There has to be a non bias risk benefit analysis conducted, by those with no financial or other benefit. We are talking the lives of innocent children who are going to those they trust will do them no intentional harm.

Public release date: 2-Sep-2008

Safety of antithrombotic treatment in acute coronary syndromes

The management of acute coronary syndromes (with or without ST segment elevation) requires the use of anticoagulants, antiplatelet agents (aspirin, clopidogrel and/or glycoprotein (GP) IIb/IIIa inhibitors), beta-blockers, thrombolytics in some cases, and revascularization / reperfusion.

The appropriate management of ACS has been shown over the last few decades to result in a significant improvement in outcome in the short and long term. **However, the combined use of these therapies, particularly antithrombotic therapies (which include anticoagulants, antiplatelet agents and thrombolytics) may result in an excess of bleeding. Until the recent past, bleeding was not considered to be a serious complication, but over the last five years, bleeding complications have in fact emerged as a major contributor to overall risk, with a significant increase in the rate of death, myocardial infarction and stroke in patients who suffer bleeding complications during the initial phase of ACS, as compared to those who do not. In addition, blood transfusion has been shown to result in a higher risk of death, and is suspected to have deleterious effects in selected groups of patients.**

The risk factors for bleeding have been well identified. Older age, female sex and low body weight have been identified as markers of the risk of bleeding. A past history of bleeding, the presence of renal failure, the use of an early invasive approach, excess dose of antithrombotic agents, and use of GP IIb/IIIa inhibitors have also been identified as strong predictors of the risk of bleeding.

Conversely, careful selection of drugs, giving precedence to drugs with less potential for

bleeding, use of a radial versus femoral approach for invasive strategy, and systematic use of proton pump inhibitors to avoid gastro-intestinal bleeding during the initial phase, are all measures that have the potential to reduce the bleeding risk.

In this context, some anticoagulants have been shown to carry a lower risk of bleeding, such as fondaparinux and bivalirudin, as compared to low molecular weight heparins or unfractionated heparin. It would also appear that more consistent inhibition of platelet aggregation leads to better clinical outcome, albeit with an increased risk of bleeding.

In all, bleeding and possibly also blood transfusion have emerged as major contributors to worse outcome in patients with ACS. Proper management of patients, with appropriate selection of doses, drugs, and arterial approach, combined with systematic evaluation of the bleeding risk prior to starting therapy may help prevent bleeding and improve patient outcome.

Public release date: 2-Sep-2008

Study finds B-vitamin deficiency may cause vascular cognitive impairment

deficiency of B-vitamins may cause vascular cognitive impairment, according to a new study. Researchers at the Jean Mayer USDA Human Nutrition Research Center on Aging (HNRCA) at Tufts University used an experimental model to examine the metabolic, cognitive, and microvascular effects of dietary B-vitamin deficiency. Their findings appear in the August 26, 2008 issue of Proceedings of the National Academy of Sciences (PNAS).

"Metabolic impairments induced by a diet deficient in three B-vitamins -folate, B12 and B6- caused cognitive dysfunction and reductions in brain capillary length and density in our mouse model," says Aron Troen, PhD, the study's lead author. "The vascular changes occurred in the absence of neurotoxic or degenerative changes."

Troen, who is an assistant professor at Tufts University's Friedman School of Nutrition Science and Policy, explains, "Mice fed a diet deficient in folate and vitamins B12 and B6 demonstrated significant deficits in spatial learning and memory compared with normal mice." Troen and colleagues observed similar but less pronounced differences between normal mice and a third group of mice that were fed a diet enriched with methionine.

"The B-vitamin-deficient mice also developed plasma homocysteine concentrations that were seven-fold higher than the concentrations observed in mice fed a normal diet," adds Troen. Homocysteine is produced by the breakdown of a dietary protein called methionine. B-vitamins, including folate, vitamin B12, and vitamin B6, are required to convert homocysteine back to methionine, thereby reducing the blood concentration of homocysteine.

Studies have linked elevations in plasma homocysteine with an increased risk for cognitive impairment. "However," Troen says, "it has not been determined that homocysteine is directly responsible. Based on the findings of our study, we theorize that a deficiency of B-vitamins induces a metabolic disorder that manifests with high homocysteine, as well as cerebral microvascular dysfunction."

Troen and colleagues divided their study mice into three groups and fed each group a different diet for 10 weeks. While the control (comparison) group was fed a normal diet containing methionine and B-vitamins, the other two diets were designed to induce high homocysteine levels but through different metabolic mechanisms. One was methionine-enriched, and the other was deficient in B vitamins. Researchers measured blood concentrations of B-vitamins and homocysteine and assessed the brain anatomy and vasculature. They also evaluated psychomotor function by a battery of age-sensitive tests, such as holding on to a wire and walking a beam, and assessed spatial learning and memory with the Morris water maze, a well-validated and sensitive test of rodent cognitive function.

"It took longer, on average, for the B-vitamin-deficient mice to maneuver the water maze, compared with controls," says Troen. "Longer latencies were associated with higher plasma homocysteine levels and shorter capillaries, particularly in the brain region called the hippocampus." Troen adds, "Despite the vascular changes, the brain anatomy appeared normal, and there was no evidence of a cellular proliferation process called gliosis, which typically accompanies neurodegeneration."

Irwin Rosenberg, MD, director of the Nutrition and Neurocognition Laboratory at the HNRCA, notes, "The elevated levels of homocysteine that were associated with vascular cognitive impairment in the mice in our study are comparable to the levels that are associated in older adults with an increased risk for Alzheimer's disease and cerebrovascular disease, the latter of which manifests with conditions such as stroke and atherosclerosis. These findings may indicate that microvascular changes mediate the association between high homocysteine levels and human age-related cognitive decline."

Troen and colleagues write that their study helps to "...define more precisely the mechanisms underlying cerebral microvascular disease, independent of or prior to the onset of irreversible neurodegeneration." According to Troen, this work, which was funded by the U.S. Department of Agriculture, "may provide a model system in which to study the role of the brain's microvascular circulation in cognitive function."

These reports are done with the appreciation of all the Doctors, Scientist, and other Medical Researchers who sacrificed their time and effort. In order to give people the ability to empower themselves. Without the base aspirations for fame, or fortune.

Just honorable people, doing honorable things.