



The Vitamin & Herb Stores

**Human Technology Research Synopsis**

**35th Issue Date 22 Jul 08**

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**Public release date: 8-Jul-2008**

## **Androgen deprivation therapy for localized prostate cancer not associated with improved survival**

A therapy that involves depriving the prostate gland the male hormone androgen is not associated with improved survival for elderly men with localized prostate cancer, compared to conservative management of the disease, according to a study in the July 9 issue of JAMA.

Prostate cancer is the most common nonskin cancer and the second most common cause of cancer death among men. "For the majority of men with incident prostate cancer (approximately 85 percent), disease is diagnosed at localized (T1-T2) stages, and standard treatment options include surgery, radiation, or conservative management (i.e., deferral of treatment until necessitated by disease signs or symptoms). Although not standard or sanctioned by major groups or guidelines, an increasing number of clinicians and patients have turned to primary androgen deprivation therapy (PADT) as an alternative to surgery, radiation, or conservative management, especially among older men," the authors write. In a 1999-2001 survey, PADT had become the second most common treatment approach, after surgery, for localized prostate cancer, despite a lack of data regarding PADT's efficacy.

Grace L. Lu-Yao, M.P.H., Ph.D., of the Cancer Institute of New Jersey, UMDNJ-Robert Wood Johnson Medical School, Piscataway, N.J., and colleagues assessed the association between PADT and disease-specific survival and overall survival in 19,271 men with T1-T2 (localized) prostate cancer (diagnosed in 1992 – 2002). The patients, age 66 years or older, did not receive definitive local therapy (i.e., such as prostatectomy) for prostate cancer. Among the patients, 7,867 (41 percent) received PADT, and 11,404 were treated with conservative management, not including PADT. During the follow-up period (through December 2006 for all-cause mortality and through December 2004 for prostate cancer-specific mortality) there were 1,560 prostate cancer deaths and 11,045 deaths from all causes.

The researchers found that use of PADT for localized prostate cancer was associated with lower 10-year prostate cancer-specific survival (80.1 percent vs. 82.6 percent) and no increase in 10-year overall survival compared with conservative management. However, in a prespecified subset analysis, PADT use in men with poorly differentiated cancer was associated with improved 10-year prostate cancer-specific survival (59.8 percent vs. 54.3 percent) but not overall survival (17.3 percent vs. 15.3 percent).

**"The significant adverse effects and costs associated with PADT, along with our finding of a lack of overall survival benefit, suggest that clinicians should carefully consider the rationale for initiating PADT in elderly patients with T1-T2 prostate cancer," the authors conclude.**

**Public release date: 8-Jul-2008**

## **Male cyclists risk sexual problems if they don't choose the right bike**

Men who take up cycling in an effort to stay fit, do their bit for the environment or avoid spiralling motoring costs, could be harming their health if they don't choose the right bicycle. That's the stark warning from consultant urological surgeon Mr Vinod Nargund from St Bartholomew's and Homerton Hospitals, London, in the urology journal BJU International.

He says that the problems to look out for include genital numbness, erection problems and soreness and skin irritations in the groin area.

Men who cycle a lot can also experience changes to their sperm function, because of the excessive heat generated in the pelvic area. No general link between cycling and male infertility has been established, but it is still recognised as a possible side effect and has been noted in a number of male cyclists.

Regular cyclists also run a higher risk of testicular damage and impaired testicular function.

Mountain bikers run a particular risk, says Mr Nargund, as studies have shown that they exhibit higher levels of scrotal abnormalities than on-road cyclists.

"The bicycle saddle is in direct contact with the perineum and its underlying structures" he explains. "It makes contact just behind the scrotum where the nerves and blood vessels enter the back of the scrotum and penis.

"This area is sensitive, with hair follicles and sweat and sebaceous glands, which are all good breeding grounds for infection.

"Abrasions, chafing, damaged hair follicles and bruising are among the most traumatic cycling injuries. Sweating in this area can also cause soreness and skin problems."

He points out that more than 60 per cent of male cyclists who have taken part in research studies have reported genital numbness.

"Numbness is common because the pressure of the saddle can impair the blood supply to this area and put pressure on the nerves in the penis" says Mr Nargund. "This can also affect the man's ability to get an erection.

"There is a greater incidence of numbness and erectile problems in men who cycle regularly and over longer training distances. That is why it is important to rest intermittently during prolonged and vigorous cycling."

Choosing the right bike is essential, stresses Mr Nargund.

"The male cyclist should know his bicycle well and a proper fit is particularly important

for high-performance cycling" he says.

"The level of pedal resistance is also very important, because riding a bike using too much resistance is a major cause of health problems in the groin area.

"Cyclists can also help to ease saddle-related injuries or skin irritations by adjusting the saddle height and fore and aft position.

"Padding in the saddle and shorts are also important if cyclists want to avoid saddle-related problems."

Mr Nargund's comment piece has been published online on the BJU International website in advance of its hard copy publication later this year.

**Public release date: 9-Jul-2008**

## **Aerosol toxins from red tides may cause long-term health threat**

NOAA scientists reported in the current issue of the journal *Environmental Health Perspectives* that an algal toxin commonly inhaled in sea spray, attacks and damages DNA in the lungs of laboratory rats. The findings document how the body's way of disposing the toxin inadvertently converts it to a molecule that damages DNA. Human inhalation of brevetoxins produced by the red tide organism, *Karenia brevis*, is an increasing public health concern.

The scientists, led by John Ramsdell of NOAA's Center for Environmental Health and Biomolecular Research in Charleston, S.C., determined that brevetoxins react with DNA of lung tissue and attach to the DNA-bases that code genetic information. The linkage of chemicals in the environment to DNA is a first step for many cancer causing agents and can lead to mutations in genes that normally prevent the formation of cancers.

The red tide toxin, brevetoxin, has long been recognized as a cause of both neurotoxic poisoning after both consumption of toxic shellfish as well as a respiratory irritation after inhalation of toxic sea spray. Groundbreaking research, leading to this third potential form of poisoning, identified that metabolism produces chemically reactive forms of the toxin. Recognizing the potential of these metabolites to attack DNA, NOAA scientists analyzed the DNA after the toxin was metabolized in the lung. Scientists have not yet determined if brevetoxin damaged DNA accurately repairs itself or if gene mutations result. Brevetoxin has been measured in air during red tide events and human exposure levels have been reported; however, the long-term health risk associated with inhalation of brevetoxins remains to be defined. Individuals are continually exposed to environmental chemicals capable of damaging DNA like carcinogens found in tobacco smoke and air pollution. It is possible that exposure to brevetoxins can add to the cumulative amount of chemically altered DNA in the lungs; an indicator of cancer risk.

"This represents a significant breakthrough in defining the metabolic transformation of brevetoxins and the potential long-term health effects of red tides. It should change perceptions of risk and management of inhalation exposure to harmful algal blooms," notes Ramsdell.

Red tides in the Gulf of Mexico are common, and often persistent, naturally occurring events that release toxins into sea spray aerosols. These aerosols are a particular problem at beaches, as they can cause respiratory distress to lifeguards and beachgoers. Although these shorter-term effects of the airborne toxin are well characterized, potential longer-term effects remain a concern to health officials and coastal communities.

Scientists, in NOAA's Oceans and Human Health Initiative, are studying long term health consequences of harmful algal blooms, to predict how the condition of the coastal waters affect human health and how to reduce or eliminate health risks.

**Public release date: 9-Jul-2008**

## **Scientists learn how food affects the brain**

In addition to helping protect us from heart disease and cancer, a balanced diet and regular exercise can also protect the brain and ward off mental disorders.

"Food is like a pharmaceutical compound that affects the brain," said Fernando Gómez-Pinilla, a UCLA professor of neurosurgery and physiological science who has spent years studying the effects of food, exercise and sleep on the brain. "Diet, exercise and sleep have the potential to alter our brain health and mental function. This raises the exciting possibility that changes in diet are a viable strategy for enhancing cognitive abilities, protecting the brain from damage and counteracting the effects of aging."

Gómez-Pinilla analyzed more than 160 studies about food's affect on the brain; the results of his analysis appear in the July issue of the journal *Nature Reviews Neuroscience* and are available online at [www.nature.com/nrn/journal/v9/n7/abs/nrn2421.html](http://www.nature.com/nrn/journal/v9/n7/abs/nrn2421.html).

Omega-3 fatty acids — found in salmon, walnuts and kiwi fruit — provide many benefits, including improving learning and memory and helping to fight against such mental disorders as depression and mood disorders, schizophrenia, and dementia, said Gómez-Pinilla, a member of UCLA's Brain Research Institute and Brain Injury Research Center.

Synapses in the brain connect neurons and provide critical functions; much learning and memory occurs at the synapses, Gómez-Pinilla said.

"Omega-3 fatty acids support synaptic plasticity and seem to positively affect the expression of several molecules related to learning and memory that are found on synapses," Gómez-Pinilla said. "Omega-3 fatty acids are essential for normal brain function."

"Dietary deficiency of omega-3 fatty acids in humans has been associated with increased risk of several mental disorders, including attention-deficit disorder, dyslexia, dementia, depression, bipolar disorder and schizophrenia," he said. "A deficiency of omega-3 fatty acids in rodents results in impaired learning and memory."

Children who had increased amounts of omega-3 fatty acids performed better in school, in reading and in spelling and had fewer behavioral problems, he said.

Preliminary results from a study in England show that school performance improved among a group of students receiving omega-3 fatty acids. In an Australian study, 396 children between the ages 6 and 12 who were given a drink with omega-3 fatty acids and other nutrients (iron, zinc, folic acid and vitamins A, B6, B12 and C) showed higher scores on tests measuring verbal intelligence and learning and memory after six months and one year than a control group of students who did not receive the nutritional drink. This study was also conducted with 394 children in Indonesia. The results showed higher test scores for boys and girls in Australia, but only for girls in Indonesia.

Getting omega-3 fatty acids from food rather than from capsule supplements can be more beneficial, providing additional nutrients, Gómez-Pinilla said.

Scientists are learning which omega-3 fatty acids seem to be especially important. One is docosahexaenoic acid, or DHA, which is abundant in salmon. DHA, which reduces oxidative stress and enhances synaptic plasticity and learning and memory, is the most abundant omega-3 fatty acid in cell membranes in the brain.

"The brain and the body are deficient in the machinery to make DHA; it has to come through our diet," said Gómez-Pinilla, who was born and raised in salmon-rich Chile and eats salmon three times a week, along with a balanced diet. "Omega-3 fatty acids are essential."

A healthy diet and exercise can also reduce the effect of brain injury and lead to a better recovery, he said.

Recent research also supports the hypothesis that health can be passed down through generations, and a number of innovative studies point to the possibility that the effects of diet on mental health can be transmitted across generations, Gómez-Pinilla said.

A long-term study that included more than 100 years of birth, death, health and genealogical records for 300 Swedish families in an isolated village showed that an individual's risk for diabetes and early death increased if his or her paternal grandparents grew up in times of food abundance rather than food shortage.

"Evidence indicates that what you eat can affect your grandchildren's brain molecules and synapses," Gómez-Pinilla said. "We are trying to find the molecular basis to explain this."

Controlled meal-skipping or intermittent caloric restriction might provide health benefits, he said.

Excess calories can reduce the flexibility of synapses and increase the vulnerability of cells to damage by causing the formation of free radicals. Moderate caloric restriction could protect the brain by reducing oxidative damage to cellular proteins, lipids and nucleic acids, Gómez-Pinilla said.

The brain is highly susceptible to oxidative damage. Blueberries have been shown to have a strong antioxidant capacity, he noted.

In contrast to the healthy effects of diets that are rich in omega-3 fatty acids, diets high in trans fats and saturated fats adversely affect cognition, studies indicate.

Junk food and fast food negatively affect the brain's synapses, said Gómez-Pinilla, who eats fast food less often since conducting this research. Brain synapses and several molecules related to learning and memory are adversely affected by unhealthy diets, he said.

Emerging research indicates that the effects of diet on the brain, combined with the effects of exercise and a good night's sleep, can strengthen synapses and provide other cognitive benefits, he added.

In Okinawa, an island in Japan where people frequently eat fish and exercise, the lifespan is one of the world's longest, and the population has a very low rate of mental disorders, Gómez-Pinilla noted.

Folic acid is found in various foods, including spinach, orange juice and yeast. Adequate levels of folic acid are essential for brain function, and folate deficiency can lead to neurological disorders such as depression and cognitive impairment. Folate supplementation, either by itself or in conjunction with other B vitamins, has been shown to be effective in preventing cognitive decline and dementia during aging and enhancing the effects of antidepressants. The results of a recent randomized clinical trial indicate that a three-year folic acid supplementation can help reduce the age-related decline in cognitive function.

In patients with major depression and schizophrenia, levels of a signaling molecule known as brain-derived neurotrophic factor, or BDNF, are reduced. Antidepressants elevate BDNF levels, and most treatments for depression and schizophrenia stimulate BDNF. Here, too, omega-3 fatty acids are beneficial, as is the curry spice curcumin, which has been shown to reduce memory deficits in animal models of Alzheimer's disease and brain trauma. BDNF is most abundant in the hippocampus and the hypothalamus — brain areas associated with cognitive and metabolic regulation.

The high consumption of curcumin in India may contribute to the low prevalence of Alzheimer's disease on the subcontinent.

In humans, a mutation in a BDNF receptor has been linked to obesity and impairments in learning and memory.

"BDNF is reduced in the hippocampus, in various cortical areas and in the serum of patients with schizophrenia," Gómez-Pinilla said. "BDNF levels are reduced in the plasma of patients with major depression."

Smaller food portions with the appropriate nutrients seem to be beneficial for the brain's molecules, such as BDNF, he said.

Gómez-Pinilla showed in 1995 that exercise can have an effect on the brain by elevating levels of BDNF.

He noted that while some people have extremely good genes, most of us are not so lucky and need a balanced diet, regular exercise and a good night's sleep.

**Public release date: 10-Jul-2008**

## **Risk of gall bladder disease with HRT patches lower than with HRT pills**

Gall bladder disease and use of transdermal versus oral hormone replacement therapy in postmenopausal women: Prospective cohort study

Use of hormone replacement therapy (HRT) increases the risk of gallbladder disease but the effects are less with HRT given in skin patches or gels compared with HRT given orally, according to a study published on BMJ.com today.

HRT is regularly prescribed to women suffering from the effects of the menopause. Approximately 1 million UK women were taking HRT in 2005 and the majority were taking it orally.

Gallbladder disease is common in post-menopausal women and it is well known that use of HRT increases the risk. But until now there has been no assessment of whether this risk varies according to the method of administration or type of HRT a woman is taking, such as skin patches or gels compared to oral treatment.

Dr Bette Liu and colleagues from the University of Oxford reviewed data from the Million Women Study involving over 1.3 million UK women aged 50-64 years. They report that after following the women for an average of 6 years, 19 889 women were admitted to hospital with gallbladder disease and 17 190 (86%) had to have their gallbladder removed (cholecystectomy).

They found that compared to women who had never taken HRT, all women using HRT had an increased risk of developing gallbladder disease. Importantly, they also found that women taking the HRT in a patch or gel form were substantially less likely to be

admitted to hospital for gallbladder disease and less likely to have their gallbladder removed than the women taking HRT in the form of tablets.

Hospital admission rates per 100 women over five years for cholecystectomy were 1.1 for women who had never used HRT, 1.3 for users of the patch or gel form of HRT, and 2.0 for the oral form of HRT.

The increased risk of gallbladder disease gradually decreased after use of HRT stopped. However, 10 years after stopping, the risk remained greater than in women who had never used HRT.

The authors suggest that the reason for the difference in risk of developing gallbladder disease between oral and transdermal HRT might be due to the different way oestrogen is absorbed. When taken orally, much of the oestrogen is broken down by the liver before entering the circulation. In contrast, when given in patch form oestrogens are given in lower doses and are absorbed directly through the skin and into the circulation. This, say the authors, may explain the lower risk of gallbladder disease associated with the patch form of HRT.

"For women who choose to use hormone replacement therapy, one cholecystectomy could be avoided for every 140 users of transdermal therapy rather than oral therapy over a five year period", they conclude.

**Public release date: 14-Jul-2008**

## **89 percent of children's food products provide poor nutritional quality**

But 62 percent of them still make health claims on the packaging  
Nine out of ten regular food items aimed specifically at children have a poor nutritional content – because of high levels of sugar, fat or sodium - according to a detailed study of 367 products published in the July issue of the UK-based journal *Obesity Reviews*.

Just under 70 per cent of the products studied - which specifically excluded confectionery, soft drinks and bakery items - derived a high proportion of calories from sugar. Approximately one in five (23 per cent) had high fat levels and 17 per cent had high sodium levels. Despite this, 62 per cent of the foods with poor nutritional quality (PNQ) made positive claims about their nutritional value on the front of the packet.

"Children's foods can now be found in virtually every section of the supermarket and are available for every eating experience" says Professor Charlene Elliott from the University of Calgary, Canada, and a Trustee of the Canadian Council of Food and Nutrition.

"Parents may have questions about which packaged foods are good for their children. Yet certain nutritional claims may add to the confusion, as they can mislead people into thinking the whole product is nutritious."

Only 11 per cent of the products Professor Elliott and her colleagues evaluated provided good nutritional value in line with the criteria laid down by the US-based Center for Science in the Public Interest (CSPI), a non-profit agency that received the Food and Drug Administration's highest honour in 2007.

The CSPI nutritional standards state that healthy food should not derive more than 35 per cent of its calories from fat (excluding nuts and seed and nut butters) and should have no more than 35 per cent added sugar by weight. They also provide guidance on sodium levels, ranging from 230mg per portion for snacks through to 770mg per portion for pre-prepared meals.

CSPI's standards are adapted from those developed by the National Alliance for Nutrition and Activity, a coalition of some 300 health and nutrition organisations in the USA. The organisation states that its standards represent a compromise approach. They allow for the marketing of products that may not be nutritionally ideal, but that provide some positive nutritional benefits that could help children meet the US Government's Dietary Guidelines for Americans.

The 367 products included in the study were bought from a national supermarket chain stocking 50,000 food and non-food items in December 2005. Each had to meet very specific criteria.

"We included food products and packaging that were presented in such a way that children were the clear target audience" explains Professor Elliott, whose research was funded by the Canadian Institutes of Health Research. "They included products that promoted fun and play, had a cartoon image on the front of the box or were linked to children's films, TV programmes and merchandise."

Each product was subjected to a 36-point analysis that included the nutritional content and how the packaging was designed to appeal to children and their parents.

Key findings included:

63 per cent of all the products surveyed made some sort of nutritional claim, including 62 per cent of the products that could be classed as poorly nutritious, due to high levels of sugar or fat or sodium. A low percentage (eight per cent) carried some kind of nutrition mark or seal. Other claims included that products were low fat, a source of calcium, contained no artificial flavours or colours or provided a number of essential nutrients.

**Products with high sugar levels accounted for 70 per cent of the goods with PNQ. Despite this, 68 per cent included some sort of nutritional claim on the package, such as a source of whole grains, source of iron or low in fat. Cereals and fruit snacks were particularly likely to make nutritional claims and have high levels of sugar.**

Just under 23 per cent of the products had PNQ because of their high fat content. Yet 37 per cent had some sort of nutritional claim on the package. For example peanut butter mixed with chocolate claimed to be a "source of six essential nutrients" and a pizza product claimed to be a "source of calcium".

High sodium levels meant that 17 per cent of the products analysed were classified as being of PNQ. Despite this, almost 34 per cent made some sort of nutritional claim on the package. Crackers and pizza products were among the worst offenders.

**A fifth of the products featured a cartoon image engaged in some sort of healthy physical activity on the front and a quarter showed these on the back or side of the box. Activities included skateboarding, basketball and biking.**

"Assessing the levels of sugar in the selected food products was a methodological challenge, because milk sugars and fruit sugars occur naturally in foods" says Professor Elliott. "The Nutrition Facts label only displays total sugars and the quantity of added sugars is not always provided by the manufacturer.

"This means that the percentage of foods categorised as poorly nutritious due to high levels of sugar is higher than it would have been if information on naturally occurring sugars had been available."

The problem of accurately separating figures for quantities of natural and added sugars in manufactured products has also been encountered by other researchers and acknowledged as an issue by CSPI, so it is not unique to this study.

"Despite this, the findings still give us cause for concern" says Professor Elliott. "While caregivers are likely to purchase products that they hope their children will like, it clearly can result in a less nutritious diet than they may realise. Having a healthy diet is especially important given the current rates of childhood obesity."

Excess body weight affects up to 35 per cent of children across Canada, the United States and Europe and is linked to a range of health problems including type 2 diabetes, high blood pressure, heart disease and some forms of cancer. Overweight children can also suffer from psychological and social consequences because of their weight.

Professor Elliott believes that policy attention needs to be directed towards the nutritional claims made by products aimed at children and the images they use to sell the products.

"If a parent sees a product that makes specific nutritional claims, they may assume that the whole product is nutritious and our study has shown that that is definitely not true in the vast majority of cases" concludes Professor Elliott. "Using cartoon characters

engaged in sport can also create the illusion of a healthy product."

**Public release date: 15-Jul-2008**

## **Stomach bug appears to protect kids from asthma, says NYU study**

H. pylori may strengthen the immune system

NEW YORK, July 15, 2008 – A long-time microbial inhabitant of the human stomach may protect children from developing asthma, according to a new study among more than 7,000 subjects led by NYU Langone Medical Center researchers. Helicobacter pylori, a bacterium that has co-existed with humans for at least 50,000 years, may lead to peptic ulcers and stomach cancer. **Yet, kids between the ages of 3 and 13 are nearly 59 percent less likely to have asthma if they carry the bug**, the researchers report. The study appears in the July 15, 2008, online issue of The Journal of Infectious Diseases.

"Our findings suggest that absence of H. pylori may be one explanation for the increased risk of childhood asthma," says Yu Chen, Ph.D., assistant professor of epidemiology at New York University School of Medicine and a co-author of the study. **"Among teens and children ages 3 to 19 years, carriers of H. pylori were 25 percent less likely to have asthma."**

The impact was even more potent among children ages 3 to 13: they were 59 percent less likely to have asthma if they carried the bacterium, the researchers report. **H. pylori carriers in teens and children were also 40 percent less likely to have hay fever and associated allergies such as eczema or rash.**

These results, which follow on from similar findings in adults published by the same authors last year, are based on an analysis of data gathered from 7,412 participants in the fourth National Health and Nutrition Survey (NHANES IV) conducted from 1999 to 2000 by the National Center for Health Statistics.

Dr. Chen collaborated on the survey with Martin J. Blaser, M.D., the Frederick H. King Professor of Internal Medicine, chair of the department of medicine, and professor of microbiology at NYU Langone Medical Center. Dr. Blaser has studied H. pylori for more than two decades.

Asthma has been rising steadily for the past half-century. Meanwhile H. pylori, once nearly universal in humans, has been slowly disappearing from developed countries over the past century due to increased antibiotic use, which kills off the bacteria, and cleaner water and homes, explains Dr. Blaser. Data from NHANES IV showed that only 5.4 percent of children born in the 1990s were positive for H. pylori, and that 11.3 percent of the participants under 10 had received an antibiotic in the month prior to the survey.

The rise in asthma over the past decades, Dr. Blaser says, could stem from the fact that a

stomach harboring *H. pylori* has a different immunological status from one lacking the bug. When *H. pylori* is present, the stomach is lined with immune cells called regulatory T cells that control the body's response to invaders. Without these cells, a child can be more sensitive to allergens.

"Our hypothesis is that if you have *Helicobacter* you have a greater population of regulatory T-cells that are setting a higher threshold for sensitization," Dr. Blaser explains. "For example, if a child doesn't have *Helicobacter* and has contact with two or three cockroaches, he may get sensitized to them. But if *Helicobacter* is directing the immune response, then even if a child comes into contact with many cockroaches he may not get sensitized because his immune system is more tolerant."

In other words, the presence of the bacteria in the stomach may influence how a child's immune system develops: if a child does not encounter *Helicobacter* early on, the immune system may not learn how to regulate a response to allergens. Therefore, the child may be more likely to mount the kinds of inflammatory responses that trigger asthma.

"There's a growing body of data that says that early life use of antibiotics increases risk of asthma, and parents and doctors are using antibiotics like water," Dr. Blaser says. "The reality is that *Helicobacter* is disappearing extremely rapidly. In the NHANES IV study, less than six percent of U.S. children had *Helicobacter*, and probably two generations ago it was 70 percent. So, this is a huge change in human micro-ecology. The disappearance of an organism that's been in the stomach forever and is dominant is likely to have consequences. The consequences may be both good—less likelihood of gastric cancer and ulcers later in life—and bad: more asthma early in life."

**Public release date: 15-Jul-2008**

## **Consumption of nut products during pregnancy linked to increased asthma in children**

Expectant mothers who eat nuts or nut products like peanut butter daily during pregnancy increase their children's risk of developing asthma by more than 50 percent over women who rarely or never consume nut products during pregnancy, according to new research from the Netherlands.

"We were pretty surprised to see the adverse associations between daily versus rare nut product consumption during pregnancy and symptoms of asthma in children, because we haven't seen this in similar previous studies," said the study's lead author, Saskia M. Willers, M.Sc.

The study appeared in the second issue for July of the American Thoracic Society's *American Journal of Respiratory and Critical Care Medicine*.

While noting that it is "too early to make recommendations of avoidance," Ms. Willers

also points out that "it's important for pregnant women to eat healthily, and what is true for many foods is that too much is never good."

Maternal consumption of allergenic foods during pregnancy may increase the risk that the fetuses they carry would become sensitized to certain allergens. Research on the topic, however, has been contradictory and inconclusive

Nearly 4,000 expectant mothers from the Prevention and Incidence of Asthma and Mite Allergy study conducted by the Dutch government completed a dietary questionnaire that asked how often they consumed vegetables, fresh fruit, fish, eggs, milk, milk products, nuts and nut products during the last month. Their children's diets were also assessed at two years of age, and their asthma and allergy symptoms were assessed yearly until eight years of age. By the end of the eight years, the researchers had complete data for 2,832 children and their mothers.

"The only consistent association between the maternal intake of the investigated food groups during pregnancy and childhood asthma symptoms until eight years of age that we found was with nut products," said Ms. Willers. "Daily versus rare consumption of nut products—which we assumed was largely peanut butter—was consistently and positively associated with childhood asthma symptoms, including wheeze, dyspnea, doctor diagnosed asthma and asthma-associated steroid use."

The association remained even after controlling for the child's diet.

Additionally, the authors noted, there was a small effect of daily maternal fruit consumption during pregnancy on reducing the risk of wheeze in children, but other factors such as health-consciousness and consumption of prenatal vitamins may have been contributing factors in ways that were undetectable in this study's design.

"These findings emphasize the critical important of additional investigations into the environmental exposures for both mother and child that underlie the pathogenesis of asthma," says John E. Heffner, M.D., past president of the American Thoracic Society. "It is important, however, to emphasize that such associations do not confirm a causative linkage."

While a strict low-allergen diet is not recommended for most expectant mothers because it risks both maternal and fetal malnutrition, Ms. Willers notes that peanuts may be the exception to that general recommendation. "Peanut is a potent allergen, and peanut allergy is associated with anaphylactic shock and is less likely to be outgrown than other allergies."

"Future studies need to unravel if effects of maternal diet during pregnancy can be attributed to specific nutrients, specific foods or that consumption of certain foods is part of a dietary pattern indicative of a healthier lifestyle in general," concluded Ms. Willers.

**Public release date: 15-Jul-2008**

## **Environmental pollutant has sex-skewing effect**

Women exposed to high levels of PCBs (polychlorinated biphenyls – a group of banned environmental pollutants) are less likely to give birth to male children. A study published today in BioMed Central's open access journal Environmental Health found that among women from the San Francisco Bay Area, those exposed to higher levels of PCBs during the 50s and 60s, were significantly more likely to give birth to female children.

Similar exposure is thought to have occurred in Wales, after a quarry on the edge of Groesfaen village near Cardiff was used as a toxic dumping ground from 1965 to 1972.

PCBs are persistent organic pollutants identified worldwide as human blood and breast milk contaminants. They were widely used in industry as cooling and insulating fluids for electrical equipment, as well as in construction and domestic products such as varnishes and caulks. PCBs were banned in the 1970s because of their general toxicity and persistence. They are associated with effects on immune, reproductive, nervous, and endocrine systems. Given the high quality measurements, this research provides the strongest evidence to date that PCBs affect sex ratio in human children.

Irva Hertz-Picciotto, the lead author of the study, explains how marked the effect was, **"The women most exposed to PCBs were 33% less likely to give birth to male children than the women least exposed"**. The researchers measured the levels of PCBs in blood taken from pregnant women during a Bay Area study in the 1960s. When they compared these levels to the children's sex, **they found that for every one microgram of PCBs per litre of serum, the chance of having a male child fell by 7%.**

As Hertz-Picciotto states, "These findings suggest that high maternal PCB concentrations may either favour fertilization by female sperm or result in greater male embryonic or fetal losses. The association could be due to contaminants, PCB metabolites or the PCBs themselves".

This investigation will be useful for assessing problems likely to be faced by populations currently exposed to high levels of PCBs, such as those that rely on fish from contaminated lakes or who live near former manufacturing facilities. Furthermore, other chemicals with a similar structure to PCBs, such as the flame-retardants PBDEs (polybrominated diphenyl ethers), are currently widely used in plastic casings and foam products. According to the authors, "PBDEs share many of the biochemical and toxicologic properties of PCBs. As levels of these substances rise in wildlife and human populations, studies like ours provide an indication of the potential effects of these newer compounds".

**Public release date: 15-Jul-2008**

## **Possible link found between x-rays and prostate cancer**

Researchers at The University of Nottingham have shown an association between certain past diagnostic radiation procedures and an increased risk of young-onset prostate cancer — a rare form of prostate cancer which affects about 10 per cent of all men diagnosed with the disease.

The study, the first of its kind to report the relationship between low dose ionising radiation from diagnostic procedures and the risk of prostate cancer, was funded by the Prostate Cancer Research Foundation (PCRF) and is part of the UK Genetic Prostate Cancer Study (UKGPCS). The results of the study have been published online in the British Journal of Cancer.

**The study showed that men who had a hip or pelvic X-ray or barium enema 10 years previously were two and a half times** more likely to develop prostate cancer than the general population. And the link appeared to be stronger in men who had a family history of the disease

**Public release date: 15-Jul-2008**

## **Study: Regular walking nearly halves elderly disability risk**

Athens, Ga. – **Older adults can decrease their risk of disability and increase their likelihood of maintaining independence by 41 percent by participating in a walking exercise program**, according to a new University of Georgia study.

The study, which appears in the current issue of the Journal of Geriatric Physical Therapy, also found that walking program participants increased their peak aerobic capacity by 19 percent when compared to a control group and increased their physical function by 25 percent.

“In the past decade, researchers have focused on the benefits of strength training in maintaining independence, but until now we didn’t have good evidence using an objective performance measure that a walking program would improve physical functioning,” said study co-author M. Elaine Cress, professor of kinesiology and researcher in the UGA Institute of Gerontology. “Our study found that walking offers tremendous health benefits that can help older adults stay independent.”

The researchers randomly assigned 26 low-income adults aged 60 and older to either a walking exercise group, which met three times a week for four months, or a nutrition education control group. Initially, the group would walk for 10 minutes continually. As the weeks progressed, they increased their walking time to 40 continuous minutes. Each session began with a 10-minute warm-up and ended with a 10-minute cool-down that included balance and flexibility exercises.

Trudy Moore-Harrison, the lead author of the study and a former UGA doctoral student, explained that the researchers focused their study on low-income individuals because people with fewer financial resources are less likely to be physically active and are more likely to have chronic health conditions and lack health care coverage. Moore-Harrison added that walking doesn't require any special equipment other than a pair of comfortable shoes, which makes it a simple and low-cost way for people to become active. Moore-Harrison supervised the group, but the researchers said that motivated community members could lead similar groups across the country.

Getting people to stick with exercise programs can be notoriously difficult, but the researchers found that every single member of the group stayed with the program for its four-month duration. "People really enjoyed the program," said Moore-Harrison, now a post-doctoral fellow at the University of North Carolina Charlotte. "It gave them an opportunity to make new friends and get to know their neighbors."

The researchers measured the aerobic capacity of the participants using a treadmill test and found that while the control group saw an 9 percent decline in aerobic capacity over the four-month study period, the aerobic capacity of the walking group increased by 19 percent over the same time period.

"Aerobic capacity is really the engine that we draw upon for doing the things we want to do, whether it's cleaning up around the house or running a marathon," Cress said. "By increasing their aerobic capacity, the walking group was better able to perform their daily tasks and had more energy left over for recreational activities, like going out dancing."

The researchers assessed health status and bodily pain through questionnaires and examined disability by measuring performance on factors such as balance and walking. Physical functioning was measured through both questionnaires and through tests that measured how well the volunteers performed daily activities such as climbing a flight of stairs and putting on and removing a jacket.

The researchers found that physical function increased by 25 percent in the walking exercise group, compared to a decrease of 1 percent in the control group. And while the control group saw their risk of disability increase over the four-month period, the walking exercise group saw their disability risk go from 66 percent to 25 percent – a decrease of 41 percent in just four months.

"We know that walking is good for you, but too many people still aren't doing it," Moore-Harrison said. "This study shows that just walking on a regular basis can make a huge impact on quality of life."

The research was supported by the UGA Institute of Gerontology Seed Grant, the Northeast Georgia Area Agency on Aging and the Georgia Gerontology Consortium Seed Grant. The research was done in cooperation with the Athens Housing Authority.

**Public release date: 15-Jul-2008**

## **The epigenetics of increasing weight through the generations**

**Overweight mothers give birth to offspring who become even heavier, resulting in amplification of obesity across generations, said Baylor College of Medicine researchers in Houston who found that chemical changes in the ways genes are expressed – a phenomenon called epigenetics -- could affect successive generations of mice.**

"There is an obesity epidemic in the United States and it's increasingly recognized as a worldwide phenomenon," said Dr. Robert A. Waterland, assistant professor of pediatrics – nutrition at BCM and lead author of the study that appears in the International Journal of Obesity. "Why is everyone getting heavier and heavier? One hypothesis is that maternal obesity before and during pregnancy affects the establishment of body weight regulatory mechanisms in her baby. Maternal obesity could promote obesity in the next generation."

Waterland and his colleagues studied the effect of maternal obesity in three generations of genetically identical mice, all with the same genetic tendency to overeat. One group of mice received a standard diet; the other a diet supplemented with the nutrients folic acid, vitamin B12, betaine and choline. The special 'methyl supplemented' diet enhances DNA methylation, a chemical reaction that silences genes.

"We wanted to know if, even among genetically identical mice, maternal obesity would promote obesity in her offspring, and if the methyl supplemented diet would affect this process," said Waterland. "Indeed, those on the regular diet got fatter and fatter with each generation. Those in the supplemented group, however, did not."

"We think DNA methylation may play an important role in the development of the hypothalamus (the region of the brain that regulates appetite)," said Waterland.

"Twenty years ago, it was proposed that just as genetic mutations can cause cancer, so too might aberrant epigenetic marks – so called 'epimutations.' That idea is now largely accepted and the field of cancer epigenetics is very active. I would make the same statement for obesity. We are on the cusp of understanding that," he said.

**Public release date: 15-Jul-2008**

## **Removing ovaries during hysterectomy: Effects remain unknown**

During hysterectomy operations, surgeons often remove a woman's ovaries as well as her uterus. Cochrane Researchers now say there is no evidence that removing the ovaries provides any additional benefit and warn surgeons to consider the procedure carefully.

"Until more reliable research is available, removal of the ovaries at the time of hysterectomy should be approached with caution," says lead researcher, Dr. Leonardo Orozco of the OBGYN Women's Hospital San José in Costa Rica.

Of those women who undergo hysterectomies aged 40 or above, around half also have their ovaries removed. This amounts to more than 300,000 women a year in the US alone. The reason most commonly given for carrying out an oophorectomy at the same time is that it prevents ovarian cancer. However the ovaries produce not only estrogen, but also important hormones such as androgens that may have important clinical effects which have yet to be identified.

The researchers say there is little evidence to support the idea that removing the ovaries during a hysterectomy provides an overall health benefit. They identified only one controlled trial, involving 362 women. This compared hysterectomies with oophorectomies to hysterectomies without oophorectomies. Although this trial showed a very slight positive effect on psychological well-being when oophorectomies were performed, the team say much more data is required before any conclusions can be drawn.

**"There could be a real benefit or harm associated with oophorectomy, but it has not been identified, more research of higher methodological quality is needed."** says Dr. Orozco.

Ralph's Note - Than why do it?

**Public release date: 21-Jul-2008**

## **Cranberry juice creates energy barrier that keeps bacteria away from cells, study shows**

WORCESTER, Mass. – For generations, people have consumed cranberry juice, convinced of its power to ward off urinary tract infections, though the exact mechanism of its action has not been well understood. **A new study by researchers at Worcester Polytechnic Institute (WPI) reveals that the juice changes the thermodynamic properties of bacteria in the urinary tract, creating an energy barrier that prevents the microorganisms from getting close enough to latch onto cells and initiate an infection.**

The study, published in the journal *Colloids and Surfaces: B*, was conducted by Terri Camesano, associate professor of chemical engineering at WPI, and a team of graduate students, including PhD candidate Yatao Liu. They exposed two varieties of *E. coli* bacteria, one with hair-like projections known as fimbriae and one without, to different concentrations of cranberry juice. Fimbriae are present on a number of virulent bacteria, including those that cause urinary tract infections, and are believed to be used by bacteria

to form strong bonds with cells.

For the fimbriaed bacteria, they found that even at low concentrations, cranberry juice altered two properties that serve as indicators of the ability of bacteria to attach to cells. The first factor is called Gibbs free energy of attachment, which is a measure of the amount of energy that must be expended before a bacterium can attach to a cell. Without cranberry juice, this value was a negative number, indicating that energy would be released and attachment was highly likely. With cranberry juice the number was positive and it grew steadily as the concentration of juice increased, making attachment to urinary tract cells increasingly unlikely.

Surface free energy also rose, suggesting that the presence of cranberry juice creates an energy barrier that repels the bacteria. The researchers also placed the bacteria and urinary tract cells together in solution. Without cranberry juice, the fimbriaed bacteria attached readily to the cells. As increasing concentrations of cranberry juice were added to the solution, fewer and fewer attachments were observed.

Cranberry juice had no discernible effect on *E. coli* bacteria without fimbriae, suggesting that compounds in the juice may act directly on the molecular structure of the fimbriae themselves. This reinforces previous work by the WPI team that showed that exposure to cranberry juice alters the shape of the fimbriae, causing them to become compressed. Using an atomic force microscope as a minute strain gauge, the team also showed that the adhesive force exerted by bacteria on urinary tract cells declined in direct proportion to the concentration of cranberry juice in the solution.

**"Our results show that, at least for urinary tract infections, cranberry juice targets the right bacteria—those that cause disease—but has no effect on non-pathogenic organisms, suggesting that cranberry juice will not disrupt bacteria that are part of the normal flora in the gut,"** Camesano says. "We have also shown that this effect occurs at concentrations of cranberry juice that are comparable to levels we would expect to find in the urinary tract."

Camesano notes that unpublished work has shown that while cranberry juice has potent effects on disease-causing bacteria, those effects are transitory. "When we takes *E. coli* bacteria that have been treated with cranberry juice and place them in normal growth media, they regain the ability to adhere to urinary tract cells," she says. "This suggests that to realize the antibacterial benefits of cranberry, one must consume cranberry juice regularly—perhaps daily."

For those watching calories, Camesano says other recent work in her lab has shown that the effects of regular cranberry juice cocktail and diet (sugar-free) cranberry juice are identical. "That's good news for people who do not like to consume a lot of sugary juice," she says

**Public release date: 21-Jul-2008**

## Scientists identify how gastric reflux may trigger asthma

DURHAM, N.C. – Researchers at Duke University Medical Center appear to have solved at least a piece of a puzzle that has mystified physicians for years: why so many patients with asthma also suffer from GERD, or gastroesophageal reflux disease.

Clinicians first noted a relationship between the two diseases in the mid-1970s. Since then, studies have shown that anywhere from 50 to 90 percent of patients with asthma experience some aspect of GERD. But can GERD cause asthma, or, is it the other way around? Perhaps there is some shared mechanism at the root of both disorders causing them to arise together. Physicians could make a case for each scenario, but until now, the exact nature of the relationship was not clear.

Working in laboratory experiments with mice, Dr. Shu Lin, an assistant professor of surgery and immunology at Duke, discovered that inhaling tiny amounts of stomach fluid that back up into the esophagus – a hallmark of GERD – produces changes in the immune system that can drive the development of asthma.

In the experiments, researchers inserted miniscule amounts of gastric fluid into the lungs of mice (mimicking the human process of micro-aspiration, or breathing in tiny amounts) over a period of eight weeks. They compared these animals' immune systems with those of mice that were exposed to allergens but not the gastric fluid.

The immune systems of the two sets of mice responded very differently. Those that had the gastric fluid in their lungs developed what researchers call a T-helper type 2 response, a type of immune system reaction characteristic of asthma. The other mice responded in a more balanced manner, mounting an immune reaction consisting of both T-helper type 1 and T-helper type 2 responses.

"This is the first experimental evidence in a controlled, laboratory setting linking these two very common conditions in humans," says Lin, the senior author of the study published online in the European Journal of Clinical Investigation. **"These data suggest that chronic micro-aspiration of gastric fluid can drive the immune system toward an asthmatic response."**

"This does not mean that everyone with GERD is going to develop asthma, by any means," says William Parker, an assistant professor of surgery at Duke and a co-author of the study. "But it may mean that people with GERD may be more likely to develop asthma. If there is an upside to this, it is that developing GERD is something we can pretty much treat and control."

Parker says poor diet, a lack of exercise and obesity all contribute to the development of GERD, and that rising rates of reflux disease are part of a "perfect storm" of environmental and behavioral factors driving escalating rates of asthma, particularly in Western cultures. "People should avoid the risk factors for GERD. **We strongly believe that the rise in asthma, particularly among adults in the country, is in large measure**

**due to lifestyle choices that can be changed."**

Lin and Parker agree that much more work needs to be done to fully understand the cellular and molecular mechanisms involved in the relationship between reflux disease and asthma, but both feel their study offers new directions for developing additional treatment options for both problems.

Lin says patients who already have GERD can minimize gastric reflux – and thereby lessen their chances of developing asthma – by following a few simple guidelines: Eat smaller meals and eat several hours before going to bed; raise the head of the bed a few inches; maintain a healthy weight; and limit fatty goods, coffee, tea, caffeine and alcohol – they can relax the esophageal sphincter and make reflux more likely.

**Public release date: 21-Jul-2008**

**Schering-Plough, Merck's Vytorin misses study goal**

In the latest disappointment for cholesterol pill Vytorin, a major European study in patients with heart valve disease found the drug didn't prevent worsening of the disease or lower the need for valve surgery, sending its makers' stock plunging.

Results of a preliminary analysis of the just-completed study showed Vytorin, marketed jointly by Merck & Co. and Schering-Plough Corp., **was no better than placebo at lowering the risk of major cardiovascular events — including heart attack, stroke, heart surgery and death — in patients with aortic stenosis.**

The sometimes deadly condition, which is becoming increasingly common in elderly people, involves partial blockage and stiffening of the aortic valve, which sends oxygen-rich blood through the aorta and throughout the body. More than 5 million Americans have the disease to some extent, and it's the No. 2 cause of heart surgery.

Researchers at 173 hospitals and other sites in Europe were hoping the study, called SEAS, would show that Vytorin offers a nonsurgical way to treat aortic stenosis by reducing bad cholesterol and plaque buildup.

That wasn't the case, although Vytorin did cut cholesterol levels about 60 percent.

But Vytorin, which combines Merck's Zocor — now available as a cheap generic — with Schering-Plough's Zetia, didn't do anything to protect patients' heart valves and raised fears, apparently unfounded, that it increased risk of cancer.

"You don't help that (valve) disease, but you do help the patients" by protecting other heart blood vessels and reducing heart attacks and the need for bypass surgery or artery-clearing angioplasty, Sir Richard Peto, an Oxford University statistician and cancer

expert who analyzed the data, told The Associated Press in an interview.

The 1,873-patient study, just ended in March, did find that secondary benefit, but it's already well-documented that some cholesterol-lowering drugs reduce the risk of heart attack and stroke.

The cholesterol-lowering and reduced heart complications are consistent with what's been shown with Zocor alone, said Cleveland Clinic cardiologist Dr. Steven Nissen, who recommends that Vytorin and Zetia not be used as first-line drugs.

"We are left with just as many questions about the efficacy of Vytorin (as before), and we have new questions about the safety," he said, referring to the excess cancer cases and deaths in Vytorin users.

**When data analysis began, the researchers were startled to see about 50 percent more new cancer cases and cancer deaths in patients who received Vytorin, compared with those who took a placebo.**

Peto, who is co-director of Oxford's clinical trial service unit, then rushed to crunch data from the new study with patient data from two much-larger, ongoing Vytorin studies.

Peto and other researchers, speaking on a hastily organized, trans-Atlantic teleconference with reporters, said combining data from all three trials showed there was no elevated risk of cancer. In addition, they noted that if Vytorin were somehow triggering cancer, new cases would first become more common after several years and would be concentrated on one type of cancer, rather than many. Neither was the case.

"This absolutely excludes the idea of a 50-percent increase in risk," Peto said of the multi-study analysis.

Dr. Harlan Krumholz, a Yale University cardiologist, said he doubts Vytorin causes cancer.

"If I'm a patient considering taking it, it still bothers me," he said, adding that until the other Vytorin studies are finished in a few years, it will remain unclear whether and how the drug benefits patients beyond what Zocor and other statins do.

The drug's makers deemed the results important enough to take the highly unusual step of releasing their quarterly earnings reports Monday after the stock market closed, rather than first thing in the morning as scheduled. Wall Street worries about what the study might show sent shares of both companies down sharply.

Earlier this year, a long-delayed study called ENHANCE found pricey Vytorin was no better at reducing plaque buildup than generic Zocor, which has been on sale for two

years.

Two congressional committees have been probing whether the companies deliberately delayed releasing that data to prop up sales of Vytorin, which the companies denied. But after more details from the ENHANCED study were released in March, prominent cardiologists urged doctors to go back to older, well-proven treatments for high cholesterol.

Many apparently did. Last week, Schering-Plough reported the number of U.S. prescriptions filled for Vytorin and Zetia had both fallen by just over 25 percent from January to June, when total cholesterol drug sales were down about 5 percent. Vytorin prescriptions alone dropped from 1.84 million in January to 1.33 million in June.

Shares of Kenilworth, N.J.-based Schering-Plough finished Monday down \$2.49, or 11.6 percent, to \$18.95, while shares of Whitehouse Station, N.J.-based Merck were down \$2.35, or 6.2 percent, to \$35.33.

**Ralph's Note - What I find criminally disturbing, is that the absolute case of denial in this drug is not helping people. Yes it lowers cholesterol, but somehow it triggers a whole slew of other complications. Yet it lowers cholesterol, therefore they say it is good and must be prescribed. Yes there are other less harmful prescriptions, but take this one it lowers cholesterol better. Yes you may die sooner, but you will have lower cholesterol and benefit our investors. No, nothing unethical going on here.**

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**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.**