



The Vitamin & Herb Stores

#74

Human Technology Research Synopsis

74th Issue Date 19 JAN 10

Compiled By Ralph Turchiano

www.vit.bz

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Public release date: 6-Jan-2010

AP IMPACT: Toxic metal in kids' jewelry from China

The original article, not the re-edited softened version

By JUSTIN PRITCHARD Associated Press Writer

Barred from using lead in children's jewelry because of its toxicity, some Chinese manufacturers have been substituting the more dangerous heavy metal cadmium in sparkling charm bracelets and shiny pendants being sold throughout the United States, an Associated Press investigation shows.

The most contaminated piece analyzed in lab testing performed for the AP contained a startling 91 percent cadmium by weight. The cadmium content of other contaminated trinkets, all purchased at national and regional chains or franchises, tested at 89 percent, 86 percent and 84 percent by weight. The testing also showed that some items easily shed the heavy metal, raising additional concerns about the levels of exposure to children.

A spokesman for the U.S. Consumer Product Safety Commission, which regulates children's products, said

Sunday that the agency "is opening an investigation" and "will take action as quickly as possible to protect the safety of children."

Cadmium is a known carcinogen. Like lead, it can hinder brain development in the very young, according to recent research.

Children don't have to swallow an item to be exposed - they can get persistent, low-level doses by regularly sucking or biting jewelry with a high cadmium content.

To gauge cadmium's prevalence in children's jewelry, the AP organized lab testing of 103 items bought in New York, Ohio, Texas and California. All but one were purchased in November or December.

The results: 12 percent of the pieces of jewelry contained at least 10 percent cadmium.

Some of the most troubling test results were for bracelet charms sold at Walmart, at the jewelry chain Claire's and at a dollar store. High amounts of cadmium also were detected in "The Princess and The Frog" movie-themed pendants.

"There's nothing positive that you can say about this metal. It's a poison," said Bruce A. Fowler, a cadmium specialist and toxicologist with the U.S. Centers for Disease Control and Prevention. On the CDC's priority list of 275 most hazardous substances in the environment, cadmium ranks No. 7.

Jewelry industry veterans in China say cadmium has been used in domestic products there for years. Zinc, the metal most cited as a replacement for lead in imported jewelry being sold in the United States, is a much safer and nontoxic alternative. But the jewelry tests conducted for AP, along with test findings showing a growing presence of cadmium in other children's products, demonstrate that the safety threat from cadmium is being exported.

A patchwork of federal consumer protection regulations does nothing to keep these nuggets of cadmium from U.S. store shelves. If the products were painted toys, they would face a recall. If they were industrial garbage, they could qualify as hazardous waste. But since there are no cadmium restrictions on jewelry, such items are sold legally.

The CPSC has cracked down on the dangers posed by lead and products known to have killed children, such as cribs, it has never recalled an item for cadmium - even though it has received scattered complaints based on private test results for at least the past two years.

There is no definitive explanation for why children's jewelry manufacturers, virtually all from China in the items tested, are turning to cadmium. But a reasonable double whammy looms: With lead heavily regulated under the Consumer Product Safety Improvement Act of 2008, factories scrambled for substitutes, just as cadmium prices plummeted.

That law set a new, stringent standard for lead in children's products: Only the very smallest amount is permissible - no more than 0.03 percent of the total content. The statute has led manufacturers to drastically reduce lead in toys and jewelry.

The law also contained the first explicit regulation of cadmium, though the standards are significantly less strict than lead and apply only to painted toys, not jewelry.

To determine how much cadmium a child could be exposed to, items are bathed in a solution that mimics stomach acid to see how much of the toxin would leach out after being swallowed.

The jewelry testing for AP was conducted by chemistry professor Jeff Weidenhamer of Ashland University in Ohio, who over the past few years has provided the CPSC with results showing high lead content in products that were later recalled. His lab work for AP assessed how much cadmium was in each item. Overall, 12 of the 103 items each contained at least 10 percent cadmium. Two others contained lower

amounts, while the other 89 were clean.

Ten of the items with the highest cadmium content were then run through the stomach acid test to see how much would escape. Although that test is used only in regulation of toys, AP used it to see what hazard an item could pose because unlike the regulations, a child's body doesn't distinguish between cadmium leached from jewelry and cadmium leached from a toy.

"Clearly it seems like for a metal as toxic as cadmium, somebody ought to be watching out to make sure there aren't high levels in items that could end up in the hands of kids," said Weidenhamer.

The CPSC reacted swiftly to the AP story. Agency spokesman Scott Wolfson said: "CPSC will open an investigation into the products tested by Professor Weidenhamer, who we have worked closely with before." He said CPSC would study Weidenhamer's results, attempt to buy the contaminated products content and "take appropriate action as quickly as possible."

Weidenhamer's test results include:

- Three flip flop bracelet charms sold at Walmart contained between 84 and 86 percent cadmium. The charms fared the worst of any item on the stomach acid test; one shed more cadmium in 24 hours than what World Health Organization guidelines deem a safe exposure over 60 weeks for a 33-pound child.

The bracelet was purchased in August 2008. The company that imported them, Florida-based Sulyn Industries, stopped selling the item to Wal-Mart Corp. in November 2008, the firm's president said. Wal-Mart would not comment on whether the charms are still on store shelves, or how many have been sold.

Sulyn's president, Harry Dickens, said the charms were subjected to testing standards imposed by both Wal-Mart and federal regulation - but were not tested for cadmium.

In separate written statements, Dickens and Wal-Mart said they consider safety a very high priority. "We consistently seek to sell only those products that meet safety and regulatory standards," Wal-Mart said. "Currently there is no required cadmium standard for children's jewelry."

As was the case with every importer or retailer that responded to AP's request for comment on the tests, neither Sulyn nor Wal-Mart would address whether the results concerned them or if the products should be recalled.

- Four charms from two "Rudolph the Red-Nosed Reindeer" bracelets sold at a Dollar N More store in Rochester, N.Y., were measured at between 82 and 91 percent cadmium. The charms also fared poorly on the stomach acid test. Two other charms from the same bracelets were subjected to a leaching test which recreates how much cadmium would be released in a landfill and ultimately contaminate groundwater. Based on those results, if the charms were waste from manufacturing, they would have had to be specially handled and disposed of under U.S. environmental law. The company that imported the Rudolph charms, Buy-Rite Designs, Inc. of Freehold, N.J., has gone out of business.

- Two charms on a "Best Friends" bracelet bought at Claire's, a jewelry chain with nearly 3,000 stores in North America and Europe, consisted of 89 and 91 percent cadmium. The charms also leached alarming amounts in the simulated stomach test. Informed of the results, Claire's issued a statement pointing out that children's jewelry is not required to pass a cadmium leaching test.

"Claire's has its products tested by independent accredited third-party laboratories approved by the Consumer Product Safety Commission in compliance with the commission's standards, and has passing test results for the bracelet using these standards," the statement said. Those standards scrutinize lead content, not cadmium.

- Pendants from four "The Princess and The Frog" necklaces bought at Walmart ranged between 25 and 35 percent cadmium, though none failed the stomach acid test nor the landfill leaching test. The Walt Disney

Co., which produced the popular animated movie, said in a statement that test results provided by the manufacturer, Rhode Island-based FAF Inc., showed the item complied with all applicable safety standards.

An official at FAF's headquarters did not respond to multiple requests for comment when informed of Weidenhamer's results; a woman at the company's office in southern China who would not give her name said FAF products "might naturally contain some very small amounts of cadmium. We measure it in parts per million because the content is so small, for instance one part per million." However, the tests conducted for AP showed the pendants contained between 246,000 and 346,000 parts per million of cadmium.

"It comes down to the following: Cadmium causes cancer. How much cadmium do you want your child eating?" said Michael R. Harbut, a doctor who has treated adult victims of cadmium poisoning and is director of the environmental cancer program at the Karmanos Cancer Institute in Detroit. "In my view, the answer should be none."

Xu Hongli, a cadmium specialist with the Beijing office of Asian Metal Ltd., a market research and consultancy firm, said test results showing high cadmium levels in some Chinese-made metal jewelry did not surprise her. Using cadmium alloys has been "a relatively common practice" among manufacturers in the eastern cities of Yiwu and Qingdao and the southern province of Sichuan, Xu said.

"Some of their products contain 90 percent cadmium or higher," she acknowledged. "Usually, though, they are more careful with export products."

She said she thought that manufacturers were becoming aware of cadmium's dangers, and are using it less, "But it will still take a while for them to completely shift away from using it."

The CPSC has received dozens of incident reports of cadmium in products over the past few years, said Gib Mullan, the agency's director of compliance and field operations. Though the CPSC has authority to go after a product deemed a public danger under the Federal Hazardous Substances Act - the law used in lead-related recalls several years ago - there have been no enforcement actions.

"We are a small agency so we can't do everything we think would be a good idea. We have to try to pick our spots," Mullan said. At most, the agency can investigate 10 percent of the tens of thousands of reports filed by the public each year, he said.

With the help of an outside firm, the CPSC has started a scientific literature review of cadmium and other heavy metals, including how the substances fare in leaching tests, according to spokesman Wolfson. "If there has been a shift in manufacturing to the use of cadmium, CPSC will take appropriate action."

Meanwhile, the CPSC's Mullan cites "a trend upward" in cadmium reports the agency has received - and private-sector testing AP reviewed shows cadmium is showing up more frequently.

Two outfits that analyze more than a thousand children's products each year checked their data at AP's request. Both said their findings of cadmium above 300 parts per million in an item - the current federal limit for lead - increased from about 0.5 percent of tests in 2007 to about 2.2 percent of tests in 2009. Those tests were conducted using a technology called XRF, a handheld gun that bounces X-rays off an item to estimate how much lead, cadmium or other elements it contains. While the results are not as exact as lab testing, the CPSC regularly uses XRF in its product screening.

Much of the increase found by the Michigan-based HealthyStuff.org came in toys with polyvinyl chloride plastic, according to Jeff Gearhart, the group's research director. Both lead and cadmium can be used to fortify PVC against the sun's rays. Data collected by a Washington-based company called Essco Safety Check led its president, Seth Goldberg, to suspect that substitution of cadmium for lead partly explains the increase he's seen.

Rick Locker, general counsel for the Toy Industry Association of America, and Sheila A. Millar, a lawyer representing the Fashion Jewelry Trade Association, said their industries make products that are safe and

insisted cadmium is not widely used.

Millar said jewelry makers often opt for zinc these days. "While FJTA can only speak to the experience of its members," Millar wrote in an e-mail, "widespread substitution of cadmium is not something they see."

Public release date: 6-Jan-2010

Incidence of type 1 diabetes doubles in 20 years, continues rising at 3 percent per year -- but why?

Book investigates leading scientific hypotheses to explain mysterious increase

NEW YORK--The incidence of type 1 diabetes is now twice as high among children as it was in the 1980s, and 10 to 20 times more common than 100 years ago, according to peer-reviewed research uncovered in a new book from Kaplan Publishing.

While rising levels of type 2 diabetes are well known (and typically linked to increasing obesity), the corresponding rise in type 1, or "juvenile," diabetes has rarely if ever been described in the news media, despite a substantial body of scientific evidence. While widely accepted by leading diabetes researchers, the increase in type 1 has as yet received scant attention from leading diabetes advocacy organizations.

Now veteran medical journalist Dan Hurley has gathered the evidence from published studies and investigative reporting in *DIABETES RISING: How A Rare Disease Became A Modern Pandemic, And What To Do About It*. Hurley, an award-winning reporter who has written often for the "Science Times" section of The New York Times, cites studies and analysis by some of the top researchers in the field documenting the long-term and ongoing rise.

Diagnosed with type 1 diabetes in 1975, when he was an 18-year-old college freshman, Hurley knew nobody else at the time with the disease, which was then remarkably rare. "Now I know three other people with the disease who live in my own neighborhood," Hurley says. "As both a person with type 1 diabetes and a reporter who has specialized in medical journalism for more than 20 years, I was shocked to learn in the course of researching this book that type 1 appears to be rising just as fast as type 2. I think the media has given so little coverage to the rise of type 1 because it simply doesn't fit with the conventional wisdom that it's supposed to be a super-rare disease caused by a genetic predisposition. Obviously, genes haven't changed, so something in our environment or lifestyle has."

Seeking to explain the mysterious rise in type 1, the book examines five leading scientific hypotheses that offer an explanation:

- The "accelerator hypothesis," which asserts that the rising weight and height of children over the past century has "accelerated" their tendency to develop type 1 by putting the insulin-producing beta cells in their pancreases under stress.
- The "sunshine hypothesis," which holds that the increased time spent indoors is reducing children's exposure to sunlight, which in turn reduces their level of vitamin D (the "sunshine vitamin"). Reduced levels of vitamin D, and reduced exposure to sunshine, have each been linked to an increased risk of type 1 diabetes.
- The "hygiene hypothesis," which holds that lack of exposure to once-prevalent pathogens results in autoimmune hypersensitivity, leading to destruction of the body's insulin-producing beta cells by rogue white blood cells.

- The "cow's milk hypothesis," which holds that exposure to cow's milk in infant formula during the first six months of life wreaks havoc on the immune system and increases the risk to later develop type 1.

- The "POP hypothesis," which holds that exposure to persistent organic pollutants increases the risk of both types of diabetes. "

The book cites recent studies which show that back in 1890, the reported annual death rate from diabetes for children under the age of 15 was 1.3 per 100,000 children in the United States. "Because any death due to diabetes in those days had to be caused by what we now call type 1, researchers consider the 1.3 per 100,000 figure to be a rough estimate of the yearly incidence of new cases at that time," Hurley writes. "In Denmark, the rate was fairly similar, about 2 per 100,000 at the beginning of the 20th century. From that baseline, things took off. By the mid-1980s, the yearly incidence of new cases of type 1 had jumped to 14.8 per 100,000 children in Colorado. By the opening years of the 21st century, the incidence rate in six geographic areas of the United States, as measured in a new study run by the CDC, had climbed to 23.6 per 100,000 among non-Hispanic white children. The rates were 68 percent higher than those reported in Colorado in the 1980s, and more than twice as high as reported in Philadelphia in the 1990s."

The book quotes Dr. Pina Imperatore, chief epidemiologist in the diabetes division at the Centers for Disease Control and Prevention, as noting that it's important to recognize that reported rates in the past are subject to uncertainties. But, she said, "It seems the trend we're seeing in the United States today is similar to what has been reported in Europe and worldwide, about a 3 percent increase annually in the incidence of type 1."

While the CDC is now tracking the incidence of type 1 diabetes in six communities around the country, no national study is tracking rates as they occur elsewhere, Hurley notes. He cites a 2007 editorial in the *Journal of the American Medical Association* which called for "a coordinated approach for childhood diabetes surveillance (i.e. mandated case-reporting). Only then can society respond effectively to the serious and increasing challenge of diabetes in youth."

Public release date: 6-Jan-2010

STUDY REVEALS HOW ONE FORM OF NATURAL VITAMIN E PROTECTS BRAIN AFTER STROKE

COLUMBUS, Ohio – Blocking the function of an enzyme in the brain with a specific kind of vitamin E can prevent nerve cells from dying after a stroke, new research suggests.

In a study using mouse brain cells, scientists found that the tocotrienol form of vitamin E, an alternative to the popular drugstore supplement, stopped the enzyme from releasing fatty acids that eventually kill neurons.

The Ohio State University researchers have been studying how this form of vitamin E protects the brain in animal and cell models for a decade, and intend to pursue tests of its potential to both prevent and treat strokes in humans.

“Our research suggests that the different forms of natural vitamin E have distinct functions. The relatively poorly studied tocotrienol form of natural vitamin E targets specific pathways to protect against neural cell death and rescues the brain after stroke injury,” said Chandan Sen, professor and vice chair for research in Ohio State’s Department of Surgery and senior author of the study.

“Here, we identify a novel target for tocotrienol that explains how neural cells are protected.”

The research appears online and is scheduled for later print publication in the Journal of Neurochemistry.

Vitamin E occurs naturally in eight different forms. The best-known form of vitamin E belongs to a variety called tocopherols. The form of vitamin E in this study, tocotrienol or TCT, is not abundant in the American diet but is available as a nutritional supplement. It is a common component of a typical Southeast Asian diet.

Sen's lab discovered tocotrienol vitamin E's ability to protect the brain 10 years ago. But this current study offers the most specific details about how that protection works, said Sen, who is also a deputy director of Ohio State's Heart and Lung Research Institute.

"We have studied an enzyme that is present all the time, but one that is activated after a stroke in a way that causes neurodegeneration. We found that it can be put in check by very low levels of tocotrienol," he said. "So what we have here is a naturally derived nutrient, rather than a drug, that provides this beneficial impact."

Sen and colleagues had linked TCT's effects to various substances that are activated in the brain after a stroke before they concluded that this enzyme could serve as an important therapeutic target. The enzyme is called cystolic calcium-dependent phospholipase A2, or cPLA2.

Following the trauma of blocked blood flow associated with a stroke, an excessive amount of glutamate is released in the brain. Glutamate is a neurotransmitter that, in tiny amounts, has important roles in learning and memory. Too much of it triggers a sequence of reactions that lead to the death of brain cells, or neurons – the most damaging effects of a stroke.

Sen and colleagues used cells from the hippocampus region of developing mouse brains for the study. They introduced excess glutamate to the cells to mimic the brain's environment after a stroke.

With that extra glutamate present, the cPLA2 enzyme releases a fatty acid called arachidonic acid into the brain. Under normal conditions, this fatty acid is housed within lipids that help maintain cell membrane stability.

But when it is free-roaming, arachidonic acid undergoes an enzymatic chemical reaction that makes it toxic – the final step before brain cells are poisoned in this environment and start to die. Activation of the cPLA2 enzyme is required to release the damaging fatty acid in response to insult caused by high levels of glutamate.

Sen and colleagues introduced the tocotrienol vitamin E to the cells that had already been exposed to excess glutamate. The presence of the vitamin decreased the release of fatty acids by 60 percent when compared to cells exposed to glutamate alone.

Brain cells exposed to excess glutamate followed by tocotrienol fared much better, too, compared to those exposed to only the damaging levels of glutamate. Cells treated with TCT were almost four times more likely to survive than were cells exposed to glutamate alone.

Though cPLA2 exists naturally in the body, blocking excessive function of this enzyme is not harmful, Sen explained. Scientists have already determined that mice genetically altered so they cannot activate the enzyme achieve their normal life expectancy and carry a lower risk for stroke.

Sen also noted that the amount of tocotrienol needed to achieve these effects is quite small – just 250 nanomolar, a concentration about 10 times lower than the average amount of tocotrienol circulating in humans who consume the vitamin regularly.

"So you don't have to gobble up a lot of the nutrient to see these effects," he said.

The National Institutes of Health supported this work.

Public release date: 11-Jan-2010

Mango effective in preventing, stopping certain colon, breast cancer cells

COLLEGE STATION - Mango. If you know little about this fruit, understand this: It's been found to prevent or stop certain colon and breast cancer cells in the lab.

That's according to a new study by Texas AgriLife Research food scientists, who examined the five varieties most common in the U.S.: Kent, Francine, Ataulfo, Tommy/Atkins and Haden.

Though the mango is an ancient fruit heavily consumed in many parts of the world, little has been known about its health aspects. The National Mango Board commissioned a variety of studies with several U.S. researchers to help determine its nutritional value.

"If you look at what people currently perceive as a superfood, people think of high antioxidant capacity, and mango is not quite there," said Dr. Susanne Talcott, who with her husband, Dr. Steve Talcott, conducted the study on cancer cells. "In comparison with antioxidants in blueberry, acai and pomegranate, it's not even close."

But the team checked mango against cancer cells anyway, and found it prevented or stopped cancer growth in certain breast and colon cell lines, Susanne Talcott noted.

"It has about four to five times less antioxidant capacity than an average wine grape, and it still holds up fairly well in anticancer activity. If you look at it from the physiological and nutritional standpoint, taking everything together, it would be a high-ranking super food," she said. "It would be good to include mangoes as part of the regular diet."

The Talcotts tested mango polyphenol extracts in vitro on colon, breast, lung, leukemia and prostate cancers. Polyphenols are natural substances in plants and are associated with a variety of compounds known to promote good health.

Mango showed some impact on lung, leukemia and prostate cancers but was most effective on the most common breast and colon cancers.

"What we found is that not all cell lines are sensitive to the same extent to an anticancer agent," she said. "But the breast and colon cancer lines underwent apoptosis, or programmed cell death. Additionally, we found that when we tested normal colon cells side by side with the colon cancer cells, that the mango polyphenolics did not harm the normal cells."

The duo did further tests on the colon cancer lines because a mango contains both small molecules that are readily absorbed and larger molecules that would not be absorbed and thus remain present in a colon.

"We found the normal cells weren't killed, so mango is not expected to be damaging in the body," she said. "That is a general observation for any natural agent, that they target cancer cells and leave the healthy cells alone, in reasonable concentrations at least."

The Talcotts evaluated polyphenolics, and more specifically gallotannins as being the class of bioactive compounds (responsible for preventing or stopping cancer cells). Tannins are polyphenols that are often bitter or drying and found in such common foods as grape seed, wine and tea.

The study found that the cell cycle, which is the division cells go through, was interrupted. This is crucial information, Suzanne Talcott said, because it indicates a possible mechanism for how the cancer cells are

prevented or stopped.

"For cells that may be on the verge of mutating or being damaged, mango polyphenolics prevent this kind of damage," she said.

The Talcotts hope to do a small clinical trial with individuals who have increased inflammation in their intestines with a higher risk for cancer.

"From there, if there is any proven efficacy, then we would do a larger trial to see if there is any clinical relevance," she said.

Public release date: 12-Jan-2010

Study shows pine bark naturally relieves symptoms of acute hemorrhoids

Research reveals Pycnogenol is effective in reducing severe symptoms, including bleeding

(Jan. 12, 2009) – HOBOKEN, NJ – According to the National Digestive Diseases Information Clearinghouse, about half of the U.S. population will have hemorrhoids by the age of 50. While the most common prescription to treat hemorrhoids is over-the-counter remedies, most patients do not report symptoms of acute hemorrhoidal attacks to their doctor until they are in severe distress, including bleeding. A study published in a recent issue of *Phytotherapy Research* reveals Pycnogenol® (pic-noj-en-all), an antioxidant plant extract from the bark of the French maritime pine tree, has important anti-inflammatory and anti-thrombotic properties that may be beneficial in patients with hemorrhoids, both for acute and chronic treatment, and in preventing new attacks.

"Topical medications, lifestyle changes and careful hygiene are all that is needed for most patients to control symptoms of hemorrhoids," said Professor Peter Rohdewald, a co-author of the study. "In this study, both topical and oral Pycnogenol® treatment reduced the intensity and duration of hemorrhoidal pain and bleeding. Pycnogenol® even reduced the number of procedures and hospital admissions caused by severe cases."

The randomized, controlled study conducted by G D'Annunzio University in Italy investigated 84 patients suffering from an acute episode of external hemorrhoids, lasting 24 to 48 hours prior to inclusion in the study. The most frequently observed signs and symptoms, including hemorrhoidal bleedings, severe perineal pain and intravascular thrombus, were evaluated during the study period of two weeks. Patients were randomly allocated to one of three treatment groups, as follows: Treatment of Group 1 consisted of initial 300 mg of Pycnogenol® tablets daily for four days, followed by 150 mg per day for the following three days; Group 2 received the same treatment as Group 1, plus 0.5% Pycnogenol® topical cream; and Group 3 was a placebo treatment group. Symptoms of hemorrhoidal attacks were assessed, and duration of peak pain was observed and recorded, from the initial signs and symptoms to the disappearance of severe, incapacitating pain.

Results were measured by monitoring the following: variation in signs and symptoms (bleeding severity, acute intravascular thrombus, severe perineal pain, tenderness); quality of life parameters (impairment in walking, standing, sitting, embarrassment or social withdrawal); duration of peak pain time, and the costs associated with lost working days.

The complication of hemorrhoidal bleedings was completely absent in the Pycnogenol® groups after seven days and thereafter, while it was still observed in the placebo group during two weeks of follow up. Results for quality of life parameters confirmed a significant improvement in social functions by using Pycnogenol® orally, with the important added benefit of a topical application of Pycnogenol®. Results also confirmed the duration of peak pain was significantly lower in the combined oral plus topical Pycnogenol®

group. Finally, there was a decrease in the number of lost working days, as well as a decrease in the recurrence of complications and overall treatment costs the month following in both Pycnogenol® groups.

Results showed that Pycnogenol® significantly lowered acute peri-anal pain using a grading scale ranging from 0 to maximum 4 from an average 3.2 at baseline to 0.8 in Group 1, an average 3.3 at baseline to 0.3 in Group 2, and an average 3.4 at baseline to 1.2 in Group 3. The scores progressively decreased in all groups during the two-week observation period. The decrease in symptoms was significantly higher in the Pycnogenol® groups as compared to the control group showing the efficacy of Pycnogenol® in relieving the signs and symptoms of acute external hemorrhoids.

"This study clearly indicates that Pycnogenol® is an effective, natural solution in controlling this common, disabling problem and may contribute to relieve hemorrhoidal attacks and offer pain relief," said Professor Rohdewald. "Individuals never affected by hemorrhoids cannot imagine what people go through. Hemorrhoids can affect every aspect of your daily routine; it represents a tragedy most people don't realize. Our study suggests that Pycnogenol® may help with all major symptoms. Further studies with Pycnogenol® are in progress investigating preventative effects for new attacks and in the general management of hemorrhoids."

Public release date: 12-Jan-2010

Green tea could modify the effect of cigarette smoking on lung cancer risk

CORONADO, Calif. — Drinking green tea could modulate the effect of smoking on lung cancer. Results of this hospital-based, randomized study conducted in Taiwan were presented at the AACR-IASLC Joint Conference on Molecular Origins of Lung Cancer, held here from Jan. 11-14, 2010.

"Lung cancer is the leading cause of all cancer deaths in Taiwan," said I-Hsin Lin, M.S., a student at Chung Shan Medical University in Taiwan. "Tea, particularly green tea, has received a great deal of attention because tea polyphenols are strong antioxidants, and tea preparations have shown inhibitory activity against tumorigenesis."

However, previous studies of green tea have been inhibited by the flaws of the epidemiologic model with its inherent biases.

Lin and colleagues enrolled 170 patients with lung cancer and 340 healthy patients as controls. The researchers administered questionnaires to obtain demographic characteristics, cigarette smoking habits, green tea consumption, dietary intake of fruits and vegetables, cooking practices and family history of lung cancer. They also performed genotyping on insulin-like growth factors as polymorphisms on the following insulin-like growth factors: IGF1, IGF2 and IGF3, which have all been reported to be associated with cancer risk.

Among smokers and non-smokers, those who did not drink green tea had a 5.16-fold increased risk of lung cancer compared with those who drank at least one cup of green tea per day. Among smokers, those who did not drink green tea at all had a 12.71-fold increased risk of lung cancer compared with those who drank at least one cup of green tea per day.

Lin and colleagues suspect genetics may play a role in this risk differential. Green tea drinkers with non-susceptible IGF1 (CA)19/(CA)19 and (CA)19/X genotypes reported a 66 percent reduction in lung cancer risk as compared with green tea drinkers carrying the IGF1 X/X genotype.

Heavy smokers carrying susceptible IGF1, IGF2 and IGFBP3 genotypes also had a higher risk of lung cancer compared with nonsmokers carrying non-susceptible IGF1, IGF2 and IGFBP3 genotypes.

"Our study may represent a clue that in the case of lung cancer, smoking-induced carcinogenesis could be modulated by green tea consumption and the growth factor environment," said Lin.

Monitoring of high-risk medications unchanged despite FDA warnings

PORTLAND, Ore. – A new study concludes that many doctors appear to have largely ignored a Food and Drug Administration warning to screen users of new antipsychotic drugs for high blood sugar and cholesterol, which poses risks to their health and raises questions about the efficacy of warning protocols in general.

The research analyzed about 109,000 Medicaid patients taking "second generation" antipsychotic drugs, which can cause increases in blood sugar, cholesterol and significant weight gain, as well as other symptoms – significantly raising the risk of diabetes. It was done by health researchers from Oregon, Colorado, Georgia and Missouri, and just published in the Archives of General Psychiatry.

It found that most doctors never changed their level of baseline screening for blood sugar and cholesterol, despite a warning in 2003 from the FDA and two other organizations that these antipsychotic drugs could raise the risk of diabetes in a patient population that already was at higher risk for this disease.

"The existing baseline screening and ongoing monitoring of glucose and lipid levels in these patients was already pretty low, and the FDA warning really had no impact in changing that," said Daniel Hartung, an assistant professor of pharmacy instruction in the College of Pharmacy at Oregon State University.

"The side effects that can be caused by these new types of antipsychotic medications, some of which were first approved in the 1990s, are not trivial," Hartung said. "Increases in blood sugar, cholesterol and body weight can lead to diabetes in some cases, and this patient group already has a problem with diabetes that's almost twice that of the general population."

By 2003, Hartung said, enough evidence of these problems had accumulated that the FDA, along with the American Diabetes Association and the American Psychiatric Association, issued formal statements and warnings about the issue, and recommended baseline metabolic testing and ongoing monitoring for anyone beginning these medications.

In this study group – that examined more than 100,000 patients in California, Missouri and Oregon – it never happened.

There were no significant changes in the level of baseline testing for blood sugar and cholesterol. There was some movement toward one drug that posed less metabolic risk, the study found, but much of that could have been caused by the elimination in California, around the same time, of required prior authorization for that drug.

Second-generation antipsychotic drugs, such as olanzapine, aripiprazole and others, are very powerful medications and were originally developed for treatment of schizophrenia, Hartung said. They were largely prescribed at first only by psychiatrists, but their use has now expanded widely into treatment for problems such as bipolar disorder and less serious mental health problems such as depression, and they are often administered by general practitioners.

The study noted that individuals with serious mental illness often have a higher risk of diabetes and cardiovascular disease, and as such are already a vulnerable population. Since the new drugs can significantly increase those risks, monitoring blood sugar and cholesterol is very important, experts say.

“Part of the problem may be that simply sending doctors a letter about these issues, which come up every now and then with medications, is just not getting the job done,” Hartung said. “With this group of medications, at least, it clearly wasn’t effective, and it does raise questions about whether new approaches are needed. Part of the problem may also be people moving from one doctor to another, and inaccurate assumptions about testing being made.”

“Also, changes in behavior are always slow,” he said.

Anyone taking these medications, Hartung said, may wish to discuss with their physicians what type of metabolic screening they’ve had, and consider glucose and lipid testing if it has not already been done. If there are problems with high blood sugar, cholesterol or body weight, it may need to be considered by the physician in choosing the best treatment, he said.

Researchers involved on this study, which was funded by Pfizer, Inc., were from OSU, the Colorado School of Public Health, University of Colorado, Emory University, Peak Statistical Services, and the Washington University School of Medicine.

Public release date: 18-Jan-2010

Fish oil not snake oil

A randomised controlled trial of fish oil given intravenously to patients in intensive care has found that it improves gas exchange, reduces inflammatory chemicals and results in a shorter length of hospital stay. Researchers writing in BioMed Central's open access journal Critical Care investigated the effects of including fish oil in the normal nutrient solution for patients with sepsis, finding a significant series of benefits.

Philip Calder, from the University of Southampton, UK, worked with a team of researchers to carry out the study in 23 patients with systemic inflammatory response syndrome or sepsis in the Hospital Padre Américo, Portugal. He said, "Recently there has been increased interest in the fat and oil component of vein-delivered nutrition, with the realization that it not only supplies energy and essential building blocks, but may also provide bioactive fatty acids. Traditional solutions use soybean oil, which does not contain the omega-3 fatty acids contained in fish oil that act to reduce inflammatory responses. In fact, soybean oil is rich in omega-6 acids that may actually promote inflammation in an excessive or unbalanced supply".

Calder and his colleagues found that the 13 patients in the fish oil group had lower levels of inflammatory

agents in their blood, were able to achieve better lung function and left hospital earlier than the 10 patients who received traditional nutrition. According to Calder, "This is the first study of this particular fish oil solution in septic patients in the ICU. The positive results are important since they indicate that the use of such an emulsion in this group of patients will improve clinical outcomes, in comparison with the standard mix".

Public release date: 19-Jan-2010

Prenatal exposure to flame-retardant compounds affects neurodevelopment of young children

January 19, 2010 -- Prenatal exposure to ambient levels of flame retardant compounds called polybrominated diphenyl ethers (PBDEs) is associated with adverse neurodevelopmental effects in young children, according to researchers at the Columbia Center for Children's Environmental Health (CCCEH) at Columbia University's Mailman School of Public Health.

The study is online in Environmental Health Perspectives and will be released in the April 2010 print issue.

PBDEs are endocrine-disrupting chemicals and widely used flame-retardant compounds that are applied to a broad array of textiles and consumer products, including mattresses, upholstery, building materials, and electronic equipment. Because the compounds are additives rather than chemically bound to consumer products, they can be released into the environment. Human exposure may occur through dietary ingestion or through inhalation of dust containing PBDEs.

The researchers found that children with higher concentrations of PBDEs in their umbilical cord blood at birth scored lower on tests of mental and physical development between the ages of one and six. Developmental effects were particularly evident at four years of age, when verbal and full IQ scores were reduced 5.5 to 8.0 points for those with the highest prenatal exposures.

"The neurodevelopmental effects of prenatal exposure to PBDEs have not previously been studied among children in North America, where levels are typically higher than in Europe or Asia," said Julie Herbstman, PhD, first author on the paper and a research scientist in Environmental Health Sciences at the Mailman School of Public Health. "The findings are consistent with effects observed in animal studies and, if replicated in other North American populations, they could have important public health implications."

Frederica Perera, DrPh, professor of Environmental Health Sciences at the Mailman School, CCCEH Director, and coauthor added, "These findings are of potential concern, because IQ is a predictor of future educational performance; and the observed reductions in IQ scores are in the range seen with low level lead exposure." This research underscores the need for preventive policies to reduce toxic exposures occurring in utero."

The investigators controlled for factors that have previously been linked to neurodevelopment in other studies, including ethnicity, mother's IQ, child's sex, gestational age at birth, maternal age, prenatal exposure to environmental tobacco smoke, maternal education, material hardship, and breast feeding.

The study is part of a broader project examining the effects of chemicals released by the World Trade Center's destruction on pregnant women and their children. However, residential proximity to the World Trade Center site did not affect levels of PBDE exposure.

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.**