



The Vitamin & Herb Stores

Human Technology Research Synopsis

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Editors Top Five: (not enough this week to justify)

In This Issue:

1. **Could senna improve the quality of colonoscopy preparation with magnesium citrate?**
2. **Oral Contraceptives Impair Muscle Gains In Young Women**
3. **New human study reinforces antioxidant benefits of tart cherries**
4. **An herbal extract inhibits the development of pancreatic cancer**
5. **Human lung tumors destroy anti-cancer hormone vitamin D, Pitt researchers find**
6. **Too much sugar is bad, but which sugar is worse: Fructose or glucose?**
7. **Charred meat may increase risk of pancreatic cancer**
8. **Vitamin D levels linked to asthma severity**
9. **Type of vitamin B1 could treat common cause of blindness**
10. **Long-term complications of melamine consumption in children**
11. **Drinking diet soda may reduce the risk of forming kidney stones**
12. **Whiter laundry and a surprising new treatment for kids' eczema**
13. **Are we cherry picking participants for studies of antidepressants?**

Public release date: 16-Apr-2009

Could senna improve the quality of colonoscopy preparation with magnesium citrate?

Inadequate cleansing of the colon has an adverse effect on procedure time, safety, completion rate and diagnostic accuracy. Until now, it has been unclear whether the combination of the stimulant laxative, senna, and the osmotic laxative, magnesium citrate, results in better cleansing outcome and is acceptable and tolerable for the patients.

This question is tested in an original paper to be published in the World Journal of Gastroenterology on April 14, 2009. This study designed by Prof. Dr Barbara Braden at the John Radcliffe Hospital in Oxford, included 342 patients who required colonoscopy.

One hundred and sixty patients received magnesium citrate alone as cleansing regimen and 182 received senna granules in addition to magnesium citrate. The efficacy of the cleansing regimen was assessed by a single, experienced colonoscopist who rated it on a 4-point scale. Each patient's experience of the bowel preparation was recorded prior to the procedure and graded. Other outcomes that were measured include the completion rate as measured by caecal intubation and the requirement for rebooking the procedure.

They found that the combination of magnesium citrate with senna granules lead to a trend for improved completion of colonoscopy as judged by caecal intubation and a reduced need for repeat of the procedure. Eighty one percent of patients who received the combination regimen achieved adequate bowel cleansing as judged by the endoscopist, as compared to 68% in the group receiving magnesium citrate alone. This difference was significant ($P = 0.004$). Polyp detection rates were also superior in the group receiving combined bowel preparation ($P < 0.03$). Side effects were similar in the two groups, apart from abdominal cramps which occurred more often in the group taking magnesium citrate and senna ($P < 0.003$).

It makes sense that a stimulant laxative should add efficacy to a regimen of bowel preparation using an osmotic agent. In fact, it has been shown that the addition of a stimulant laxative to a regimen of polyethylene glycol (PEG), reduces the required volume of PEG, and improves the quality of the cleansing. The addition of senna to magnesium citrate improves the efficacy of a low volume bowel preparation regimen and, although abdominal cramps were more common in the combination group, was found to be an acceptable regimen by patients. Taking into account the improved efficacy cleansing outcome and the reduced need for repeat colonoscopy, the addition of senna has a clear advantage. Adequate bowel preparation is paramount to ensure patient safety and comfort, an acceptable standard of examination and minimal procedure times, in the face of large volumes of procedures.

Public release date: 16-Apr-2009

Oral Contraceptives Impair Muscle Gains In Young Women

New study looks at effect of oral contraceptive use in resistance exercise training

NEW ORLEANS—Many active young women use oral contraceptives (OC) yet its effect on their body composition and exercise performance has not been thoroughly studied. A team of researchers has now examined the effects of OC on female muscle mass, and found that oral contraceptive use impairs muscle gains in young women, and is associated with lower hormone levels.

The findings are contained in a new study entitled Oral Contraceptive Use Impairs Muscle Gains in Young Women. It was conducted by Chang-Woock Lee and Steven E. Riechman, Department of Health and Kinesiology, Texas A&M University, College Station, TX; and Mark A. Newman, Human Energy Research Laboratory, University of Pittsburgh, Pittsburgh, PA. The researchers will present their findings at the 122nd Annual Meeting of the American Physiological Society (APS; www.the-aps.org/press), which is part of the Experimental Biology 2009 scientific conference. The meeting will be held April 18-22, 2009 in New Orleans.

The Study

Seventy-three generally healthy women between the ages of 18-31 were assigned to two groups and completed a 10-week whole-body resistance exercise training (RET). Group 1 consisted of 34 women who used oral contraceptives (OC). Group 2 consisted of 39 women who did not take birth control pills (non-OC). The women were encouraged to consume at least 0.5 grams of protein per pound of body weight per day (a third more than is called for by the U.S. government nutritional guidelines) to make sure they consumed enough calories and protein to promote muscle growth.

The participants exercised three times per week for ten weeks under the supervision of exercise physiologists. They performed a variety of exercises to include chest press, lat pull down, leg extension, triceps extension, arm curl and abdominal crunch. Exercise was done using standard exercise machines and each volunteer performed three sets of 6-10 repetitions per exercise at 75 percent of their maximum strength. Body composition was determined using hydrostatic weighing.

Blood samples were taken before and after the training and assessed to measure anabolic (muscle building) and catabolic (muscle breaking) hormone levels in blood. Resting and fasting blood concentrations were measured for three anabolic hormones: DHEA, DHEAS and IGF1.

Findings

The researchers found that:

there were significant differences in lean mass gains (OC: $2.1 \pm 2.1\%$ vs. non-OC: $3.5 \pm 3.2\%$ / OC: $1.0 \pm 1.0\text{kg}$ vs. non-OC: $1.6 \pm 1.4\text{kg}$, $p < 0.05$). However, other muscle responses such as strength gains and arm/leg circumferences were similar between the OC and non-OC users.

resting/fasting blood concentrations of the anabolic hormones were significantly lower in women taking OC vs. non-OC users throughout the study period. At the same time, plasma concentrations of cortisol (catabolic hormone) were elevated.

those OC users had reduced DHEA hormone at the end of the training period. By contrast, the other participants' levels did not change.

Conclusion

According to the researchers, **“We were surprised at the magnitude of differences in muscle gains between the two groups, with the non-OC women gaining more than 60% greater muscle mass than their OC counterpart.”** They added that even though the study has observed negative effects of oral contraceptive use on muscle gain in the context of resistance exercise training, “future studies are needed to help explain the reasons behind the results.”

Public release date: 19-Apr-2009

New human study reinforces antioxidant benefits of tart cherries

Scientists discover eating cherries may elevate antioxidant activity in the body

April 19, 2009, NEW ORLEANS --- Eating just one and a half servings of tart cherries could significantly boost antioxidant activity in the body, according to new University of Michigan research reported at the 2009 Experimental Biology meeting in New Orleans. In the study, healthy adults who ate a cup and a half of frozen cherries had increased levels of antioxidants, specifically five different anthocyanins – the natural antioxidants that give cherries their red color.

Twelve healthy adults, aged 18 to 25 years, were randomly assigned to eat either one and

a half cup or three cups of frozen tart cherries. Researchers analyzed participants' blood and urine at regular intervals after they ate the cherries and found increased antioxidant activity for up to 12 hours after eating cherries.

"This study documents for the first time that the antioxidants in tart cherries do make it into the human bloodstream and is coupled with increased antioxidant activity that could have a positive impact," said Sara L. Warber, MD, Co-Director of University of Michigan Integrative Medicine and principal investigator of the study. "And, while more research is needed, what's really great is that a reasonable amount of cherries could potentially deliver benefits, like reducing risk factors for heart disease and inflammation."

Previous animal studies have linked cherries and cherry compounds to important benefits, including helping to lower risk factors for heart disease and impacting inflammation. Dr. Warber's colleagues at the **University of Michigan have previously shown in animals that cherry-enriched diets can lower blood cholesterol levels and reduce triglycerides, an unhealthy type of blood fat.**² **Other benefits of cherries found in animal studies include a 14 percent lower body weight and less "belly fat," the type linked with increased heart disease risk and type 2 diabetes.**³

"It's encouraging when research like ours finds that great-tasting fruit can lead to real-life benefits, continuing to underscore the importance of whole foods in the diet," said Dr. Warber.

Public release date: 19-Apr-2009

An herbal extract inhibits the development of pancreatic cancer

(PHILADELPHIA) **An herb recently found to kill pancreatic cancer cells also appears to inhibit development of pancreatic cancer as a result of its anti-inflammatory properties,** according to researchers from the Kimmel Cancer Center at Jefferson. The data were presented at the AACR 100th Annual Meeting 2009 in Denver. (Abstract #494)

Thymoquinone, the major constituent of the oil extract from a Middle Eastern herbal seed called Nigella sativa, exhibited anti-inflammatory properties that reduced the release of inflammatory mediators in pancreatic cancer cells, according to Hwya Arafat, M.D., Ph.D., associate professor of Surgery at the Jefferson Medical College of Thomas Jefferson University and a member of the Jefferson Pancreatic, Biliary & Related Cancers Center.

Nigella sativa seeds and oil are used in traditional medicine by many Middle Eastern and Asian countries. It helps treat a broad array of diseases, including some immune and inflammatory disorders, Dr. Arafat said. Previous studies have also shown it to have anti-cancer effects on prostate and colon cancers.

Based upon their previously published findings that thymoquinone inhibits histone

deacetylases (HDACs), Dr. Arafat and her colleagues compared the anti-inflammatory properties of thymoquinone and trichostatin A, an HDAC inhibitor that has previously shown to ameliorate inflammation-associated cancers.

The researchers used pancreatic ductal adenocarcinoma (PDA) cells, some of which were pretreated with the cytokine TNF-alpha to induce inflammation. Thymoquinone almost completely abolished the expression of several inflammatory cytokines, including TNF-alpha, interleukin-1beta, interleukin-8, Cox-2 and MCP-1, an effect that was more superior to the effect of trichostatin A.

The herb also inhibited the activation and synthesis of NF-kappaB, a transcription factor that has been implicated in inflammation-associated cancer. Activation of NF-kappaB has been observed in pancreatic cancer and may be a factor in pancreatic cancer's resistance to chemotherapeutic agents. When animal models of pancreatic cancer were treated with thymoquinone, 67 percent of the tumors were significantly shrunken, and the levels of proinflammatory cytokines in the tumors were significantly reduced.

Inflammation has been implicated in the development of several solid tumor malignancies. Chronic pancreatitis, both hereditary and sporadic, is associated with the risk of developing pancreatic cancer.

"These are very exciting and novel results," Dr. Arafat said. "Not only patients with chronic pancreatitis could benefit from this, but also several other groups with risk of development or recurrence of pancreatic cancer, such as high-risk family members and post-surgical patients. These potent effects show promise for the herb as a potential preventive and therapeutic strategy for pancreatic cancer. **More importantly, the herb and oil are safe when used moderately, and have been used for thousands of years without reported toxic effects.**"

Public release date: 20-Apr-2009

Human lung tumors destroy anti-cancer hormone vitamin D, Pitt researchers find

DENVER, Colo., April 20 – Human lung tumors have the ability to eliminate Vitamin D, a hormone with anti-cancer activity, a new study from the University of Pittsburgh Cancer Institute (UPCI) suggests. Results of the study, Abstract Number 2402, are being presented at the 100th annual meeting of the American Association for Cancer Research (AACR), April 18 to 22, in Denver.

"High levels of Vitamin D help the body produce proteins with anti-tumor activity," explained principal investigator Pamela Hershberger, Ph.D., a research assistant professor in UPCI's Department of Pharmacology and Chemical Biology. "We've discovered that lung cancer cells make an enzyme called CYP24, which counteracts the positive effects of Vitamin D. To better study it, we developed the first radioactive-free assay that measures the amount of Vitamin D in tissues and blood."

According to Dr. Hershberger, this test is sensitive enough to have clinical potential. "We hope this new assay will help identify the best approaches to maintain therapeutic levels of Vitamin D in tissues," she said.

Lung cancer is the leading cause of cancer death in the United States in both men and women, killing 160,000 people annually, and remains one of the most difficult cancers to treat. The five-year survival rate remains low, and better treatments are much needed. According to Dr. Hershberger, **it is possible that one day Vitamin D could be used as a chemopreventive agent to improve patient outcomes.**

Ralph's Note - What wrong with now?

Public release date: 20-Apr-2009

Too much sugar is bad, but which sugar is worse: Fructose or glucose?

In 2005, the average American consumed 64kg (141 lbs) of added sugar, a sizeable proportion of which came through drinking soft drinks. Now, in a 10-week study, Peter Havel and colleagues, at the University of California at Davis, Davis, have provided evidence that human consumption of fructose-sweetened but not glucose-sweetened beverages can adversely affect both sensitivity to the hormone insulin and how the body handles fats, creating medical conditions that increase susceptibility to heart attack and stroke.

In the study, overweight and obese individuals consumed glucose- or fructose-sweetened beverages that provided 25% of their energy requirements for 10 weeks. During this period, individuals in both groups put on about the same amount of weight, but only those consuming fructose-sweetened beverages exhibited an increase in intraabdominal fat. Further, only these individuals became less sensitive to the hormone insulin (which controls glucose levels in the blood) and showed signs of dyslipidemia (increased levels of fat-soluble molecules known as lipids in the blood). As discussed in an accompanying commentary by Susanna Hofmann and Matthias Tschöp, although these are signs of the metabolic syndrome, which increases an individual's risk of heart attack, the long-term affects of fructose over-consumption on susceptibility to heart attack remain unknown.

Public release date: 21-Apr-2009

Antioxidant found in berries, other foods prevents UV skin damage that leads to wrinkles

Using a topical application of the antioxidant ellagic acid, researchers at Hallym University in the Republic of Korea markedly prevented collagen destruction and

inflammatory response – major causes of wrinkles -- in both human skin cells and the sensitive skin of hairless mice following continuing exposure to UV-B, the sun's skin-damaging ultraviolet radioactive rays.

Ji-Young Bae, a graduate student in the laboratory of Dr. Young-Hee Kang, presented results of the two-part study on Tuesday, April 21, at the Experimental Biology 2009 meeting in New Orleans. The presentation was part of the scientific program of the American Society for Nutrition.

Ellagic acid is an antioxidant found in numerous fruits, vegetables and nuts, especially raspberries, strawberries, cranberries and pomegranates. Earlier studies have suggested it has a photoprotective effect.

But how? The Kang laboratory found that, in human skin cells, ellagic acid worked to protect against UV damage by blocking production of MMP (matrix metalloproteinase enzymes that break down collagen in damaged skin cells) and by reducing the expression of ICAM (a molecule involved in inflammation).

The scientists then turned to young (four weeks), male, hairless mice - genetically bred types of mice often used in dermatology studies because of the physiological similarities of their skin to that of humans. For eight weeks, the 12 mice were exposed to increasing ultraviolet radiation, such as that found in sunlight, three times a week, beginning at a level sufficient to cause redness or sunburn and increasing to a level that would have definitely caused minor skin damage to human skin.

During these eight weeks, half of the exposed mice were given daily 10 microM topical applications of ellagic acid on their skin surface, even on the days in which they did not receive UV exposure. The other mice, also exposed to UV light, did not receive ellagic acid. (Another six mice served as controls, with neither UV exposure nor ellagic acid.)

What happened? First, as expected, the mice exposed to UV radiation without the ellagic acid treatment developed wrinkles and thickening of the skin.

Second, as hypothesized, the exposed mice that received topical application of ellagic acid showed reduced wrinkle formation.

Third, as suggested in the study of human cells, the ellagic acid reduced inflammatory response and MMP secretion due to protection from the degradation of collagen. The ellagic acid also helped prevent an increase of epidermal thickness

The researchers say the results demonstrate that ellagic acid works to prevent wrinkle formation and photo-aging caused by UV destruction of collagen and inflammatory response.

Public release date: 21-Apr-2009

Charred meat may increase risk of pancreatic cancer

DENVER – Meat cooked at high temperatures to the point of burning and charring may increase the risk of pancreatic cancer, according to data presented at the American Association for Cancer Research 100th Annual Meeting 2009.

Kristin Anderson, Ph.D., associate professor at the University of Minnesota School of Public Health, said the finding was linked to consumption of well and very well done meats cooked by frying, grilling or barbecuing. Cooking in this way can form carcinogens, which do not form when meat is baked or stewed.

Anderson and colleagues conducted a prospective analysis that included 62,581 participants. "My research has been focused on pancreatic cancer for some time, and we want to identify ways to prevent this cancer because treatments are very limited and the cancer is often rapidly fatal," she said.

Anderson and colleagues used information from surveys that were a part of the PLCO (Prostate, Lung, Colorectal and Ovarian) Multi-center Screening Trial. Participants provided information about their meat intake, preferred cooking methods and doneness preferences.

Over the course of nine years, researchers identified 208 cases of pancreatic cancer. Preferences for high temperature cooked meat were generally linked with an increased risk; **subjects who preferred very well done steak were almost 60 percent as likely to get pancreatic cancer as compared to those who ate steak less well done or did not eat steak.** When overall consumption and doneness preferences were used to estimate the meat-derived carcinogen intake for subjects, those with highest intake had 70 percent higher risk than those with the lowest intake.

"We cannot say with absolute certainty that the risk is increased due to carcinogens formed in burned meat," said Anderson. "However, those who enjoy either fried or barbecued meat should consider turning down the heat or cutting off burned portions when it's finished; cook meat sufficiently to kill bacteria without excess charring. In addition, the precursors of cancer-causing compounds can be reduced by microwaving the meat for a few minutes and pouring off the juices before cooking it on the grill."

Public release date: 23-Apr-2009

Vitamin D levels linked to asthma severity

New research provides evidence for a link between vitamin D insufficiency and asthma severity.

Serum levels of vitamin D in more than 600 Costa Rican children were inversely linked to several indicators of allergy and asthma severity, including hospitalizations for asthma, use of inhaled steroids and total IgE levels, according to a study that will appear in the

first issue for May of the American Journal of Respiratory and Critical Care Medicine.

While previous in vitro studies have suggested that vitamin D may affect how airway cells respond to treatment with inhaled steroids, this is the first in vivo study of vitamin D and disease severity in children with asthma.

Juan Celedón, M.D., Dr. P.H. and Augusto Litonjua, M.D., M.P.H. of Harvard Medical School and colleagues recruited 616 children with asthma living in the Central Valley of Costa Rica, a country known to have a high prevalence of asthma. Each child was assessed for allergic markers, including both allergen-specific and general sensitivity tests, and assessed for lung function and circulating vitamin D levels. Children whose forced expiratory volume in one second (FEV1) exceeded 65 percent of the predicted value were also tested for airway reactivity.

They found that children with lower vitamin D levels were significantly more likely to have been hospitalized for asthma in the previous year, tended to have airways with increased hyperreactivity and were likely to have used more inhaled corticosteroids, all signifying higher asthma severity. These children were also significantly more likely to have several markers of allergy, including dust-mite sensitivity.

"To our knowledge this is the first study to demonstrate an inverse association between circulating levels of vitamin D and markers of asthma severity and allergy," wrote Drs. Celedón and Litonjua "While it is difficult to establish causation in a cross-sectional study such as this, the results were robust even after controlling for markers of baseline asthma severity."

"This study suggests that there may be added health benefits to vitamin D supplementation" said Dr. Celedón. Current recommendations for optimal vitamin D levels geared toward preserving bone health, such as preventing rickets in children and osteoporosis in adults.

"This study also provides epidemiological support for a growing body of in vitro evidence that vitamin D insufficiency may worsen asthma severity, and we suspect that giving vitamin D supplements to asthma patients who are deficient may help with their asthma control" wrote Drs. Celedón and Litonjua, noting that a clinical trial should be the next step in this research. "Whether vitamin D supplementation can prevent the development of asthma in very young children is a separate question, which will be answered by clinical trials that are getting under way," he said.

A complication is that vitamin D, unlike most other nutrients, is primarily synthesized in the body rather than consumed. Because about 90 percent of circulating vitamin D is produced by the body in response to sun exposure, deficiency is often related to behavioral issues rather than an inadequate dietary intake. Increased time spent indoors, increased use of sunscreen and sun-protective clothing all lead to decreased levels of vitamin D. Dietary sources of vitamin D, primarily fortified foods and fatty fish or fish oils, and vitamin D in current multivitamin preparations are unlikely to make up the

deficiency.

"Ultimately, it is only by investigating the effects of vitamin D in doses at, and above, those currently recommended that decisions can be made on the optimal intake of vitamin D and the possible prevention and treatment of asthma," wrote Graham Devereux, M.D., of the Department of Environmental and Occupational Medicine at the University of Aberdeen in the accompanying editorial in the same issue of the journal.

Public release date: 23-Apr-2009

Type of vitamin B1 could treat common cause of blindness

GALVESTON, Texas — University of Texas Medical Branch at Galveston researchers have discovered that a form of vitamin B1 could become a new and effective treatment for one of the world's leading causes of blindness.

Scientists believe that uveitis, an inflammation of the tissue located just below the outer surface of the eyeball, produces 10 to 15 percent of all cases of blindness in the United States, and causes even higher rates of blindness globally. The inflammation is normally treated with antibiotics or steroid eye drops.

In a paper appearing in the May issue of the journal *Investigative Ophthalmology and Visual Science*, however, the UTMB researchers describe striking results achieved with benfotiamene, a fat-soluble form of vitamin B1. In their experiments, they first injected laboratory rats with bacterial toxins that ordinarily produce a reaction mimicking uveitis. When those rats are fed benfotiamene, they fail to develop any signs of the inflammatory disorder.

"Benfotiamene strongly suppresses this eye-damaging condition and the biochemical markers we associate with it," said UTMB associate professor Kota V. Ramana, senior author of the study. "We're optimistic that this simple supplementation with vitamin B1 has great potential as a new therapy for this widespread eye disease."

The researchers' data shows benfotiamene works by suppressing the activation of a crucial signaling molecule called NF-kappa B, which is normally triggered by the stress caused by infection. Shutting down NF-kappa B, they said, prevents the runaway production of inflammatory proteins that generates uveitis.

Benfotiamene's low cost, rapid absorption by the body and lack of negative side effects make it an ideal candidate for uveitis prevention, according to Ramana.

"Already, clinical trials have shown that benfotiamene is absorbed better than thiamine [the most common form of vitamin B1] and significantly improved diabetic polyneuropathy in patients, and it's already taken as a supplement for diabetic complications," Ramana said.

Public release date: 26-Apr-2009

Long-term complications of melamine consumption in children

LINTHICUM, MD, April 26, 2009—Children with a history of consuming melamine-contaminated milk powder are at an increased risk of developing kidney stones and other urological complications. Researchers presenting two studies at the 104th Annual Scientific Meeting of the American Urological Association (AUA) found that melamine calculus occurred mostly in infants at six months to 18 months after consuming melamine-contaminated milk powder after birth but that the stones could be effectively managed with noninvasive treatment.

In the first study, researchers analyzed the clinical data of 50 young children with double kidney stones who had a history of consuming melamine-contaminated milk powder. Researchers studied ultrasound images from each child, measuring kidney stone size, number, shape and location. Eighty-five percent of these cases occurred in children ages six to 18 months. Of these 50 children, 42 formed kidney stones in both kidneys; multiple stones were found in 18 children; and single stones were found in nine of them. Eleven children experienced kidney failure, in which the stone diameters of bilateral kidneys were significantly larger than those who did not experience kidney failure. In 21 cases, the stone was passed after non-operative hospital treatment in an average of eight days.

Researchers in the second study analyzed the clinical data of 165 infants, aged 50 days to three years, with urinary stones who had a history of consuming melamine-contaminated milk powder. The children were divided into mild (25 cases), moderate (122 cases) and severe (18 cases) groups. Researchers found that the peak incidence of urolithiasis (urinary stones) was found in children aged six months to 12 months. Of these patients, 50.3 percent were asymptomatic, 16.9 percent experienced dysuria (painful urination), 14.6 percent had infantile colic, 10.9 percent experienced oliguria or anuria (decreased urine and absence of urine, respectively) and 7.3 percent had hematuria (blood in the urine). Acute urinary retention (the sudden inability to urinate) caused by urethral stones was found in five cases. The stone diameter ranged from 22mm to 16mm, and 63.5 percent of cases had 4-10 mm stones. All cases accepted non-operative treatment, except those cases with a bilateral stone and obstruction. After hospital treatment, the stone expulsion rate was 43 percent.

"This study presents us with the long-term complications for children who had been fed with melamine contaminated products," said Anthony Atala, MD, an AUA spokesman. "Both parents and physicians should be vigilant of these signs and symptoms in children who may have consumed the contaminated milk powder."

Public release date: 26-Apr-2009

Drinking diet soda may reduce the risk of forming kidney stones

LINTHICUM, MD, April 26, 2009—Patients with stone disease could benefit from drinking diet soda. New research from the University of California, San Francisco suggests that the citrate and malate content in commonly consumed sodas may be sufficient to inhibit the development of calcium stones. The study was presented at the 104th Annual Scientific Meeting of the American Urological Association (AUA).

Increased alkalinity is proven to augment citraturia, a known factor for calcium stones. Malate increases the amount of alkali delivered. Researchers measured the citrate and malate content of 15 popular diet sodas. The researchers found that Diet Sunkist Orange contained the greatest amount of total alkali and Diet 7-Up had the greatest amount of citrate as alkali.

"This study by no means suggests that patients with recurrent kidney stones should trade in their water bottles for soda cans," said Anthony Y. Smith, MD, an AUA spokesman. "However, this study suggests instead that patients with stone disease who do not drink soda may benefit from moderate consumption."

Ralph's Note - What the Heck????? Yes Citrate and Alkalinity has been shown to reduce kidney stone risk before. But how about a little healthier delivery method, since the sweeteners can be very very acid forming.

Public release date: 27-Apr-2009

Whiter laundry and a surprising new treatment for kids' eczema

Bleach baths clear the rash and banish flare-ups of miserable skin disease
CHICAGO--- It's best known for whitening a load of laundry. But now simple household bleach has a surprising new role: an effective treatment for kids' chronic eczema.

Chronic, severe eczema can mar a childhood. The skin disorder starts with red, itchy, inflamed skin that often becomes crusty and raw from scratching. The eczema disturbs kids' sleep, alters their appearance and affects their concentration in school. The itching is so bad kids may break the skin from scratching and get chronic skin infections that are difficult to treat, especially from methicillin-resistant *Staphylococcus aureus* (MRSA).

Researchers from the Northwestern University Feinberg School of Medicine have discovered powerful relief in the form of diluted bleach baths. It's a cheap, simple and safe treatment that drastically improves the rash as well as reduces flare-ups of eczema, which affects 17 percent of school-age children.

The study found giving pediatric patients with moderate or severe eczema (atopic dermatitis) diluted bleach baths decreased signs of infection and improved the severity and extent of the eczema on their bodies. That translates into less scratching, fewer infections and a higher quality of life for these children.

The typical treatment of oral and topical antibiotics increases the risk of bacterial

resistance, something doctors try to avoid, especially in children. Bleach kills the bacteria but doesn't have the same risk of creating bacterial resistance.

Patients on the bleach baths had a reduction in eczema severity that was five times greater than those treated with placebos over one to three months, said Amy S. Paller, M.D., the Walter J. Hamlin Professor and chair of dermatology, and professor of pediatrics, at the Feinberg School. Paller also is an attending physician at Children's Memorial Hospital.

The study will be published in the journal *Pediatrics* April 27.

"We've long struggled with staphylococcal infections in patients with eczema," Paller said. She noted more than two-thirds of eczema patients have evidence of staphylococcus on their skin, the bacteria that most commonly causes infection and worsens the eczema. "This study shows that simple household bleach, which we think decreases the staphylococcus on the skin, can help these children."

In the study, Paller and researchers treated 31 pediatric patients (6 months to 17 years old) who had eczema and a bacterial staph infection for 14 days with oral antibiotics. Half of the patients received bleach in their bath water (half a cup per full standard tub), while the other half received a look-alike placebo. Patients were also instructed to put a topical antibiotic ointment or placebo control into their nose (where the staphylococcus can also grow) for five sequential days of each month. All were instructed to bathe in the bleach twice a week, and soak for five to 10 minutes for three months.

Paller said bathing in the diluted bleach bath water was surprisingly odor-free because of the small amount of bleach added. "In our clinics, no one had the just-out-of-the-swimming pool smell," she said.

The research team saw such rapid improvement in the kids taking the real bleach baths that they terminated the study early because they wanted the children getting the placebo to get the same relief.

"The eczema kept getting better and better with the bleach baths and these baths prevented it from flaring again, which is an ongoing problem for these kids," Paller said. "We presume the bleach has antibacterial properties and decreased the number of bacteria on the skin, which is one of the drivers of flares."

Northwestern researchers launched the study to confirm their hunch about the potential of bleach baths, "since bleach has been used by hospitals in the past few years as a disinfectant to decrease MRSA," Paller said.

One interesting finding in the study was the eczema on the body, arms and legs improved dramatically with the bleach baths, but the face, which was not submerged in the bath, did not improve, further evidence of the positive effect of the bath.

As a result of the study, Paller suggests that kids who have eczema on their face close their eyes and mouths and dunk under the water to help improve the lesions. In her practice, patients have found that even daily bleach baths are well tolerated. The bleach baths may also be useful for individuals with frequent staphylococcus infection, whether related to eczema or not, and in adults with eczema and recurrent infections.

To help treat a rising number of severe cases of eczema, Northwestern's Feinberg School has recently opened an Eczema Care & Education Center (www.eczemacarecenter.com).

The new center offers patients one-on-one instruction for treating eczema, while a support group helps patients and their families cope with the emotional aspects of the disease.

"This is a disorder that can drive people crazy," said Peter Lio, M.D., director of the Eczema Care & Education Center and an assistant professor of dermatology and of pediatrics at the Feinberg School. "Eczema beats people down."

Lio said he just worked with an 11-year-old girl who had missed a half-year of school because of her severe eczema. "As we were working with her and demonstrating how to treat her skin, she started weeping," he said. "Between the tears, she said 'I'm crying because I know I'm going to get better.' "

Scientists believe eczema may be triggered by urban pollutants and toxins and/or allergies, and certainly shows a genetic tendency. "We don't have all the answers and are still learning about this disease," Lio said.

Ralph's note - as exciting as this appears...Please check with a medical professional before doing this.

Public release date: 28-Apr-2009

Are we cherry picking participants for studies of antidepressants?

People with depression often excluded from clinical studies and tend not to fare as well as study participants

PITTSBURGH, April 28 – Findings from clinical studies used to gain Food and Drug Administration approval of common antidepressants are not applicable to most patients with depression, according to a report led by the University of Pittsburgh Graduate School of Public Health. Published in the May issue of the American Journal of Psychiatry, the study suggests only a small percentage of people with depression qualify for these studies, and those who do not qualify are often treated with the same

medications but may suffer poorer clinical outcomes.

A part of the National Institute of Mental Health-funded Sequenced Treatment Alternatives to Relieve Depression (STAR*D) project – the largest study of the treatment of depression conducted in the United States – researchers compared symptoms and outcomes in depressed patients who met phase III study inclusion criteria to those who did not. Phase III studies for antidepressants determine the effectiveness of the drug in comparison to a placebo. The inclusion criteria for these studies are not standardized nor subject to federal guidelines, resulting in some variation from study to study in the profile of eligible patients. Typically excluded are patients with milder forms of depression, who might be more likely to respond to a placebo drug, and those who may have chronic depression or psychiatric and medical co-morbidities – additional illnesses or conditions.

After assessing 2,855 patients treated with citalopram, a commonly prescribed selective serotonin reuptake inhibitor for mood disorders, study authors concluded that fewer than one in four, or 22.2 percent, of the patients met the usual criteria for inclusion in phase III antidepressant trials.

"Only a small percentage of depressed patients in our study would have qualified for inclusion in phase III efficacy trials of depression drugs," said study lead author, Stephen Wisniewski, Ph.D., professor of epidemiology and co-director of the Epidemiology Data Center, University of Pittsburgh Graduate School of Public Health. "This raises major concerns about whether results from traditional phase III studies can be generalized to most people with depression, who also often suffer from anxiety, substance abuse and other medical and psychiatric problems."

When Dr. Wisniewski and colleagues further assessed how well patients did on treatment, they found that those who met the eligibility criteria for phase III trials had better outcomes, including higher remission rates, less severe side effects and serious adverse events. The depression remission rate in the patients who met the criteria was 34.4 percent, compared to only 24.7 percent in the ineligible group. Additionally, the drug response rate also was higher in the eligible group – 51.6 percent compared to 39.1 percent of the ineligible group.

"Results from research studies suggest more optimistic outcomes than may exist for real-world patients receiving treatment for depression," said Dr. Wisniewski. Although phase III eligibility criteria could be changed to include a broader population of patients, Dr. Wisniewski cautions that this could come at the cost of more serious side effects in patients who have co-morbidities and are generally sicker. These patients may not be able to safely tolerate the drugs being tested. Instead, he suggests medical care providers who treat patients with depression use their professional judgment by noting that most phase III findings are based on patients who may be very different than those under their care.

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.