Clinical Quips 2006

Editor: Barb Bancroft

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MEDICAL MINUTIAE

Tamiflu and the avian flu virus. There were 490,290 prescriptions filled in the past 4 months for Tamiflu, more than triple the number during the same period last year

Sauerkraut and bird flu. There has been a 50 percent increase in U.S. sales of Frank's sauerkraut since South Korean researchers reported this year that pickled cabbage—which is also used in a dish known as kimchi—helps ward off the flu.

New use for tofu. Toilet manufacturer's once used small plastic balls to test their commodes' flushing capacity. But the new substance of choice is properly shaped tubes of miso, which is made primarily of cooked soybeans. "It's a very good indicator of commode flushing capacity," says an official at Kohler. (*The Wall Street Journal*)

Decapitation issues. How long is the interval on consciousness after beheading, or in today's terms, decapitation? Can you believe someone actually asked this question, AND even more importantly, someone could actually answer it? So, here goes. In France, in the 16th century, when beheading was commonplace as a method of capital punishment, some of the condemned were asked to blink their eyes if they were still conscious after the blade fell. Reportedly, their eyes blinked for up to 30 seconds after the beheading. Of course, it was impossible to determine how much of the blinking was voluntary and how much was due to reflexive behavior. And, I doubt that in today's world of research there would be the possibility of a double-blind placebo-controlled trial to confirm these findings. (New

In This Issue…

Scientist, *Does Anything Eat Wasps?* 2006)

Who are you sleeping with? A recent study in Manchester, England sampled 150 pillows from different homes and found millions of spores from up to 16 species of fungi in each one. The fungi were the type usually found in wet environments…so how can your bed linens and pillows possibly support this type of growth? Most likely they survive because the body produces approximately 100 liters of sweat at night per year! And, that's just an average. Think about all of the women with night sweats from menopause and add another 100 liters.

Who else are you sleeping with? Millions of dust mites also snuggle right up to you every night. Studies have shown that a mattress can gain as much as a POUND or TWO a year in feces excreted by dust mites that are dining on your epithelial cells that are shed every night.

If you're healthy you don't have to worry about these microscopic bed mates. However, asthmatics and immunocompromised patients should wash all sheets, blankets, pillows, and any other bed items regularly. And, use feather pillows instead of synthetic pillows.

(Woodcock, A. University of Manchester, England; *The WEEK*, November 11, 2005)

I-Pod Implants. A British company is developing a system that would use a breast implant to hold an iPod MP3 player. The other breast implant would store her entire music collection. Why, one wonders? The CEO of the company, BT Futurology replied, "If a woman has something implanted permanently, it might as well do something useful." Brilliant.

The quest to be glabrous. Is there a reason for men and women to spend an inordinate amount of time and money on shaving, zapping, peeling, ripping, waxing, and removing our bodies of excess hair? Well, it appears that from an evolutionary standpoint the answer is yes. And, the reason? To show prospective mates that we aren't infested with critters. Somewhere around 500,000 years ago our human ancestors decided that shedding the primate coat of hair would protect them from disease-causing parasites and of course, would mean disease-free. And, it was true—glabrous humans were not only healthier, but they also lived longer and were more

attractive to the opposite sex. GUYS!! Wax and peel those hirsute backs!

Bra size and the obesity epidemic. Since 1990, the average American woman's breast size has increased by more than one full cup size—from a 34B to a 36C. Why? The obesity epidemic, breast implants, and the estrogens in oral contraceptives have all been implicated. A pair of D cup breasts weighs between 15 and 23 pounds—the equivalent to carrying around two small turkeys on the anterior chest wall. Small breasts can move more than three inches vertically when jogging. The larger the breast's the more they move, especially when jogging. In some cases, breasts, when jogging, have been known to slap against the chest with enough force to break the clavicle. Yikes.

NUTRITIONAL NUGGETS

Can eating kosher meat reduce the risk of mad cow disease? Well, first of all, the risk of mad cow disease (also known as bovine spongiform encephalopathy, or BSE) is miniscule with the rules and regulations placed on the beef industry today. However, if you are still concerned, the answer is yes…eating kosher may virtually guarantee a mad cow disease-free meal. Why?

1) Mad cow disease occurs mainly in older cows. Cattle chosen for kosher meat are usually between 18 and 24 months. The current USDA's age limit is under 30 months.

2) "Downers" cannot be used for kosher meat. What's a "downer"? Downers are cows that are too sick, injured, or otherwise unable to walk. Many cows with mad cow disease were unable to walk, appeared sick and wobbly, and were considered "downers". The person, known as the shochet, who selects the cows for kosher meat, is trained to detect any signs of illness. If present, the cow is not chosen. The USDA banned the use of "downer's" for meat in January of 2005.

3) The animal used for kosher meat is killed as quickly as possible by severing the carotid arteries with one swift stroke of the shochet's knife. Cattle for nonkosher markets have traditionally been killed by a "stun" gun that injects pressurized air into the skulls. This high pressure can theoretically scatter brain or spinal cord tissue throughout the body of the cow. The USDA has banned this procedure.

4) And finally, kosher meat is prepared by draining all of the blood from the animal. This is accomplished by soaking the meat in water, covering it with coarse kosher salt, and then washing it. This salting process may

make kosher meat safer from contamination with bacteria such as *E. Coli O157:H7* and *Salmonella,* but it has no proven benefit for killing the prion that causes mad cow disease.

P.S. Certified organic meats also provide a high level of safety standards. So go kosher or organic to reduce your risk of mad cow disease to practically zero. (*Environmental Nutrition,* May 2004)

Don't even think about skipping breakfast—especially if you're trying to lose weight. Skipping breakfast, grabbing a quick bite at lunch, and chowing down on a big dinner is precisely the pattern that causes overeating.

A study reported in the January 2004 *Journal of Nutrition,* found that when more calories were consumed in the a.m., calorie intake for the entire day was less. Conversely, the more calories eaten in the evening, the larger the day's calorie intake.

Researchers believe that this phenomenon may be linked, in part, to satiety. The signal for satiety may be stronger in the a.m. than in the evening. BOTTOM LINE: If you have eaten little during the day, that's the perfect formula for overeating. To avoid that, eat a hearty, healthy breakfast and don't skimp on the lunch.

TRAVEL TIDBITS AND UPDATE

Rule #1: Fever in the returning traveler is considered malaria until proven otherwise.

Rule #2: Most travelers infected overseas get sick within 12 weeks after returning home. But some diseases (i.e., malaria), might not cause symptoms for six to twelve months.

As many as 70 percent of persons who return from international travel report some type of illness. Most of the conditions are mild and only 5 percent require some form of medical attention. So how should you proceed if one of your patient's returns from some far-away country with a fever?

First of all, find out whether or not your patient sought any travel-related advice prior to embarking on the trip. Did this patient take the recommended vaccinations prior to travel? Ask specifically about the yellow fever vaccine (YF-Vax), hepatitis A (Havrix, Vaqta) and hepatitis B (Engerix-B, Recombivax HB) vaccines. If the patient had these vaccines then the cause of the fever is

rarely one of these diseases since the vaccines are almost 100% effective in preventing each of these diseases. Less effective vaccines include typhoid vaccine (Typhim Vi, Vivotif Berna), intramuscular gamma-globulin for hepatitis A, and even some effective vaccines in the U.S., such as those for polio, may not adequately protect the patient if a booster is not received before travel.

Did the patient have prophylactic medications prescribed for malaria, and, if so, did the patient take the medications as prescribed or did the patient just take a pill or two? Even more importantly, did the patient even FILL the prescription for malaria prophylaxis?

You will want to know where the patient traveled—specifics including urban areas, rural areas, accommodations, living conditions, food consumed, exposure to wildlife and exposure to domestic animals. Many infections are encountered only in specific regions of the world. For example, illnesses endemic to tropical areas include malaria, dengue, hepatitis, enteric fever, TB, HIV, and amebic liver abscesses. Other infections, such as yellow fever, African trypanosomiasis (sleeping sickness), and Lassa fever, have a more restricted geographical distribution.

The itinerary is also helpful as far as dating the illness. If the patient was on a 10-day trip to Africa and became febrile 3 days after returning, the incubation period was obviously no more than 13 days. Therefore, hepatitis A can be ruled out as its incubation period is four weeks. A patient who has a fever 6 weeks after returning from a 2-month trip to Southeast Asia is unlikely to have dengue fever, which generally has an incubation period of 10 days or less. Some typical incubation periods for selected travel-related infections are as follows:

Less than 10 days: dengue fever, traveler's diarrhea, spotted fevers (Rocky Mountain spotted fever), yellow fever

Ten to 21 days: enteric fevers (typhoid, paratyphoid), leptospirosis, malaria, typhus, viral hemorrhagic fevers (Ebola)

Greater than 21 days: acute HIV infection, amebic liver abscess, malaria (yes, it's in both places), TB, viral hepatitis (A, B, C, D, E) (*Hepatitis B can rarely be less than 21 days)

Further questioning should include specific exposures to insect bites—what type of insect, did the patient have a local skin reaction? Did the patient have an exposure to rodents, bats, dogs

or any other animal? Did the patient take a swim in lakes, rivers, or streams? Did the patient consume untreated water, unpasteurized dairy products, raw meat, or raw and undercooked seafood (such as ceviche?) Mosquito and tick exposure can prompt consideration for tick-borne illnesses such as tularemia or rickettsiosis, and mosquito exposure would of course be the cause of malaria or dengue fever. Exposure to certain animals would make one consider anthrax, brucellosis, Q fever, or tularemia. Sand flies in arid areas such as Iraq or rural rain forests would prompt consideration of leishmaniasis and tsetse flies would make you consider African trypanosomiasis. Did the patient run through the fields with bare feet? Consider cutaneous larva migrans, hookworm infection, and strongyloidiasis. How about sexual encounters with unprotected sex? Consider the usual gonorrhea, hepatitis, B, HIV, herpes, and syphilis. Did the patient have any exposure to sick patients or people? Consider diphtheria, enteric fevers, meningococcal infections, TB, or viral hemorrhagic fevers.

Once you have considered all of the above, it's time for the physical exam. Many physical findings are non-specific, however, a few clues can emerge. Splenomegaly may be a nonspecific sign of a variety of tropical infections, however, in one travel clinic, patients with splenomegaly were eight times more likely to have malaria than were those without splenomegaly. Skin rashes are common –is it maculopapular such as that seen with acute HIV infection, brucellosis, hepatitis B, human parvovirus B19, infectious mononucleosis, and viral hemorrhagic fevers? Is there an eschar? Consider anthrax or tic or scrub typhus. Urticaria may be a sign of helminthic infections.

Laboratory studies can provide some clues. Eosinophilia should alert the practitioner to the possibility of a helminthic infection—think worms and liver flukes. Patients with malaria or dengue fever may have leucopenia or thrombocytopenia. Hemoconcentration may indicate dengue. Blood smears are important for malaria and may need to be repeated twice within a 24 hour period. Mildly elevated liver enzymes may suggest hepatitis infections as well as typhoid fever, dengue, and typhus. Elevated LDH, bilirubin and liver enzymes are frequently observed in patients with malaria. Hypoglycemia in a nondiabetic should also raise the possibility of malaria. Bottom line?

The following are the top causes of fever among 1,014 travelers at 3 tertiary care referral centers: 1) Malaria 2) no diagnosis 3) Respiratory tract infection (pneumonia, flu, tropical pulmonary

eosinophilia, and TB) 4) Dengue 5) Diarrheal illness 6) gastroenteritis 7) Hepatitis 8) UTI 9) Enteric fever 10) Acute Epstein-Barr virus infection 11) Rickettsial infection 12) Amebiasis 13) Acute HIV infection

FACT: The mortality rate for *Plasmodium falciparum* (the most lethal form of malaria) in the U.S. is close to 10 percent.

If only 1 percent of the red blood cells in a human contain the malaria parasites, there are an estimated 100,000,000,000 parasites in circulation at one time in the typical malaria patient.

INFECTIOUS DISEASE UPDATES

"Male circumcision gives a man major protection against HIV infection."
Roger V. Short, University of Melbourne, Australia

Here's yet another study to add to the growing evidence that circumcision reduces the risk of acquiring HIV infection. This recent study in South Africa showed that men can reduce their risk of acquiring HIV by ***more*** than half.

French researchers recruited 3,274 uncircumcised South African heterosexual males between the ages of 18 to 24. All of the young men wanted to be circumcised. The volunteers were randomly divided; half of the men underwent circumcision and were instructed to be celibate for six weeks to allow full healing. Men in both groups took classes on safe sex practices and were checked for HIV infection during the next 18 months of the 21-month study.

After 18 months, an oversight panel stopped the project because the results were overwhelmingly clear. Forty-nine of the uncircumcised males had acquired HIV infections, versus only 20 of the circumcised males. This is a 60 percent reduction. Wow.

Uncircumcised males have soft foreskin around the head of the penis containing Langerhans cells that tend to be located close to the surface. Langerhans cells are antigen presenting and processing cells. In other words, they present HIV directly to the helper T4 cells of the immune system and the patient subsequently becomes infected.

Circumcision removes the soft foreskin. During the healing after the

procedure the protein keratin, produced by the surface keratinocytes, toughens the penis and reduces HIV penetration.

BOTTOM LINE: The earlier the circumcision, the better. The later in life a male is circumcised, the more likely he is to be already infected with HIV if he is sexually active. (Auvert B. *PLoS Medicine,* November 2005; *Science News* 10/29/05, Vol. 168)

GI Gems

Hypnotherapy for irritable bowel syndrome? Does this sound like a treatment from the 19th century—channeling Dr. Mesmer (as in "mesmerized"). Well, listen up…it might actually have a beneficial role for the 58 million Americans with this condition. British researchers followed 204 patients for up to six years and found that 12 weekly one-hour hypnotherapy sessions significantly improved symptoms 71 percent of the time. Of these, 81 percent maintained gains for years after stopping hypnosis. These patients also said that they took fewer drugs and saw their physician less frequently. Less than one in 10 patients attempted alternatives after completing hypnotherapy. (*GUT*, October 2003)

PEDIATRICS

SIDS update

The "Back to Sleep" campaign to prevent SIDS began in 1992 and since that time the deaths from SIDS has been reduced from 6000 per year to 2200 per year. The American Academy of Pediatrics has proposed new recommendations to further reduce the number of cases per year. These include:

· Avoid bed-sharing during sleep. There is a growing body of evidence that bed-sharing in the U.S. and other Western countries increases the risk for SIDS. IN addition, a reduction in the risk for SIDS has also been shown for infants who sleep in the same room as their mothers. The AAP recommends that cribs or bassinets be placed in the parent's bedroom.

· Consider pacifier use at bedtime during the first year. A recent meta-analysis indicates that pacifier use is associated with an approximate 50% reduction in the rate of SIDS. The American Academy of Pediatrics recommendations are quite specific. The pacifier should be used when placing the infant down for sleep, and it should not be coated with any sweet solution; in addition, pacifier introduction in breast-fed infants should be delayed until one month of age.

· Place infants in the supine sleep position on a firm mattress, not on their

side or tummy. Side-sleeping is also a well-established risk factor for SIDS and is no longer considered safe.

(American Academy of Pediatrics Task Force on Sudden Infant Death Syndrome. *Pediatrics* 2005 November; 116:1245-55.)

Some interesting numbers on conjoined twins:

Recorded number of conjoined twins thru November 2003—1,279

Conjoined twins per 100,000 births: 1 to 2

Conjoined twins per 200 identical twins: 1

Percent of stillborn: 40-60

Percent surviving one day: 35

Ratio of female to male survivors: 3:1

Percent joined at the side: 28

Percent joined at the front and chest: 19

Percent joined at the naval: 18

Percent joined at the hip, spine, or sacrum: 19

Percent joined at the head: 16

Number of recorded separation attempts: 245

Percent success rate when twins were joined at the:

Naval: 82

Hip: 63

Sacrum: 68

Number of attempts to separate twins joined at the head (crown): 33

Number of individual survivors from head separation: 34

Historical highlight

The earliest recorded separation attempt traces to Constantinople circ A.D. 945 when surgeons attempted to save the life of one Armenian twin after his brother, to whom he was conjoined at the abdomen, died. The living twin only lived three days. (*Scientific American,* January 2004)

TREATMENT UPDATES

Pathologic gambling secondary to dopamine agonists used to treat Parkinson's disease and restless leg syndrome. Pathologic gambling is a rare complication of dopamine agonists' therapy and it has been reported with each of the frequently prescribed medications in the dopamine agonist class. Health care professionals should be aware of this rare, yet socially and financially devastating side effect. What are the drugs known as dopamine agonists? Pramipexole (Mirapex), ropinarole (Requip), pergolide (Permax), and bromocriptine (Parlodel). All of the

patients who have developed a gambling addiction on the dopamine agonist had no prior gambling history, but developed a tremendous gambling addiction within one to 30 months after initiating therapy. Most patients experienced a dramatic resolution of their gambling within one month of discontinuing the medication. It is interesting from a pathophysiologic perspective that brain dopamine systems have been implicated extensively in a reward and addictive behaviors such as gambling, alcoholism, sexual addiction, cocaine addiction, and other addictions in human and animal models. (Dodd MC, et al. Pathological gambling caused by drugs used to treat Parkinson's Disease. *Arch Neurol* 62; July 2005.)

WOMEN'S HEALTH ISSUES…

Some notes on endometriosis…what should you be asking your patients? What should you be thinking about as short- and long-term consequences? If your patients have had a hysterectomy in their 30s or 40s for endometriosis be aware that recent evidence suggests that removing the ovaries may increase the risk of heart disease and endometriosis. Most experts agree that women with endometriosis who undergo surgical menopause should take hormone therapy until natural menopause (around age 51-52). Some experts recommend waiting three to nine months after surgery before starting hormone replacement, to give any remaining ectopic endometrial tissue a chance to involute since the supply of estrogen has been depleted with the removal of the ovaries.

Women with endometriosis have a higher-than-average risk of autoimmune and related disorders. Researchers reported in the journal *Human Reproduction* that compared with American women in general, women who had endometriosis were 100 times more likely to have chronic fatigue syndrome, 7 times more likely to have hypothyroidism, and twice as likely to have fibromyalgia. In addition, multiple sclerosis, rheumatoid arthritis, lupus, Sjögren's syndrome, allergies and asthma were also more common. Obviously this fits in to the "autoimmune" theory of endometriosis. It should also alert the practitioner to be alert to new symptoms in the patient with endometriosis that suggest one of the autoimmune or immune dysregulation syndromes.

Do women with endometriosis have a higher risk of cancer? Unfortunately the answer is yes, but there is a silver lining. Women with endometriosis have a 2% lifetime risk of developing ovarian cancer; however, taking birth control pills, one

of the most widely used treatments for endometriosis, for five years or more can cut ovarian cancer risk by as much as 40%. Several reports have also suggested an association between endometriosis and breast cancer, non-Hodgkin's lymphoma, and melanoma.

For more information for you and your patients: Endometriosis Association: 414-355-2200, 222.endometriosisassn.org (*Harvard Women's Health Watch*/February 2006)

Toxic Shock Syndrome following medical abortion with mifepristone (RU-486, Mifeprex) and misoprostol. Five cases of toxic shock syndrome following a medical abortion have been reported in the literature. Although this does not sound like an alarming number, it's certainly important for clinicians to know that TSS is a distinct, but rare, possibility. The cause of the genital tract infection is *Clostridium sordellii*, a very rare cause of genital tract infections in females. All infections occurred within one week after medical abortions induced by 200 mg of oral mifepristone (Mifeprex) and 800 µg of vaginal misoprostol.

All of the previously healthy women developed symptoms 4-5 days after the medical abortion. Clinical symptoms included tachycardia, hypotension, vomiting or diarrhea, abdominal pain, and the lack of a rash. The three women who arrived at the hospital alive were afebrile, had pleural and peritoneal effusions, WBC counts greater than 50.000 cells/µL, and hematocrits greater than 45%. **NOTE:** Misoprostol's side effects can mimic the early symptoms of *C. sordellii* infection—vomiting, diarrhea, cramping; however, TSS has distinctive features including tachycardia, hypotension, edema, hemoconcentration, and profound leukocytosis. (Fischer M et al. Fatal toxic shock syndrome associated with *Clostridium sordellii* after medical abortion. *N Engl J Med* 2005 Dec 1; 353:2352-60.)

An important P.S. More than 460,000 women in the U.S. have used the medical abortion procedure with a case-fatality rate of approximately 1 death per 100,000 procedures. This rate is similar to that associated with spontaneous abortion or surgically induced abortion. In contrast, the risk for maternal death associated with childbirth is considerably higher—12.9 deaths per 100,000 live births in the U.S. In addition, fatal postpartum *C. sordellii* infections have also been reported.

Why are men afraid of the "C" word? Yes, that "C" word means commitment. Is there a gender difference when it comes to the "C" word? In order to answer this question, one must study the furry little prairie vole, one of just three percent of

mammal species that mate for life, and his cousin, the montane vole, who finds a female mate, impregnates the female mate, and scurries off for another sexual interlude completely forgoing any family obligations. Obviously there must be a reason that voles vary in their quest for commitment, and that reason is oxytocin, the commitment chemical. If an oxytocin blocking agent is injected into the male prairie vole, they become less interested in mating for life and for bonding with only one mate.

Does oxytocin work the same way in humans? In women, oxytocin causes the uterus to contract during childbirth. After delivering the child, oxytocin plays a key role in the bonding process between the mother and the child. And, in humans, oxytocin, similar to its function in prairie voles, causes a feeling of blissful connectedness between lovers.

But is it that simple in humans? If it was that simple, we would all be living in blissful connectedness and that is not the case. So, what makes this scenario more complex in humans? The answer is the interaction of other hormones—including vasopressin and testosterone. Serum levels of vasopressin are similar in male and female voles, however in the area of the brain, known as the extended amygdale, in which vasopressin is strongly influenced by androgen.

The extended amygdala is the area of the brain involved in fear, vigilance, and reacting to threatening stimuli. Vasopressin plays a global role in self-defense, including the defense of your offspring and your territory. Androgen and vasopressin work together to act as the role of the protector. In prairie voles, vasopressin inspires the males to retrieve wayward offspring; in humans, vasopressin may cause men to defend their property if threatened. Meanwhile back at the female, less androgen in both female species heightens the motherly effects of oxytocin.

Let's get back to testosterone for a minute. In utero, the male embryo sends a message to the mother's body to trigger a release of testosterone. This flood of testosterone programs the amygdala to develop more testosterone receptors. Testosterone makes the aggressive portion of the amygdala larger compared to the female amygdala.

Several studies of U.S. males have demonstrated that men involved in committed relationships like marriage or fatherhood tended to have lower testosterone levels than single men. Studies from Harvard Medical School found that this held true for fathers in Beijing as well—in other words, lower testosterone levels are unique to men who are in committed relationships, regardless of their nationality. So, the question begs to be asked: "Do men in

relationships have lower testosterone because they are in a relationship or is it that men with lower testosterone are more likely to be in a relationship?"

Speaking of testosterone…let's change gears for a minute and talk about the fact that oral contraceptives might just permanently damage a woman's sexual libido. The pill curbs the production of testosterone, which plays a major role in sex drive, and raises the levels of the sex hormone binding globulin (SHBG) which neutralizes testosterone. IN other words, the pill prevents contraception in more than one way! Here's the bad news. This double whammy effect of lowering testosterone as well as neutralizing testosterone was previously believe to be temporary and reversible once the pill was stopped. However, researchers at Boston University studied SHBG levels in 125 women over the period of a year and found that SHBG levels were seven times higher in pill users than in women who had never used the pill. Women who had stopped taking the pill had lower levels but they were still three or four times as high as in women who had never taken oral contraceptives. This may be what is called "imprinting" and will be a lasting effect in oral contraceptive users. Bummer—sexual freedom but with a catch…the loss of the desire to *enjoy* that sexual freedom.

Cardiovascular disease following hysterectomy. Women who have undergone hysterectomy are at higher risk for cardiovascular disease but NOT because of the hysterectomy. Their risk is due to underlying risk factors rather than to changes acquired by the hysterectomy. Women with hysterectomy histories have higher BMIs (body mass indexes) and white blood cell counts, exercised less, and were more likely to have hypertension, high cholesterol, diabetes and CVD diagnoses; and had lower incomes and educational attainment. During an average follow-up of 5.1 years, the incidence of total CVD (defined as myocardial infarction, coronary death, stroke, or coronary revascularization procedures) was significantly higher in women who had undergone hysterectomy (with or without oophorectomy) than in those who had not.

ONCOLOGY UPDATES

Do the statins decrease the risk of breast cancer? A study reported at the 2005 American Society of Clinical Oncology (ASCO) meeting in Orlando FL found that the cholesterol-lowering statin drugs may reduce the risk of breast cancer by more than half. The study, conducted by LSU in

Shreveport, compared 548 women with a history of breast cancer and nearly 40,000 women without the disease. The average age of the participants was 48, and around 12 percent were taking statins to lower cholesterol. After considering factors such as age, smoking, alcohol use, and diabetes, LSU researchers found statin use was associated with a 51 percent reduced risk of breast cancer.

Do statins lower the risk of GI cancers? A similar study, reported at the annual gather of gastroenterologists, Digestive Disease Week, found a similar reduction in esophageal cancers and pancreatic cancers among statin users.

Does Celebrex reduce the risk of lung cancer? A research team at UCLA recently found that celecoxib (Celebrex) counteracts a substance called PGE2, which is produced in abnormally large amounts in patients with lung cancer. PGE2 triggers the growth of T-suppressor cells, which suppress a patient's immune system, making it harder to fight cancer. In both animal and human tests, the UCLA team found that Celebrex blocked the activity of PGE2, which in turn decreased the development and function of T-suppressor cells, thus resulting in an overall boost to the immune system. Further tests are needed to confirm the findings.

NEUROLOGY UPDATES

Your brain on methamphetamine—some interesting facts

Approximately 10 percent of all people who use alcohol become addicted to alcohol. Approximately 98 percent of all people who use methamphetamine become addicted to methamphetamine. The number one reason that people use methamphetamine is to boost sexual appetite, increase performance, and increase sexual endurance. Without methamphetamine, the amount of dopamine released in the brain during a plain old orgasm (as they say in the world of orgasm research) is approximately 10,000 molecules. ***With*** methamphetamine, the amount of dopamine released in the brain during an orgasm is **70,000** molecules. Is it any wonder that 98 percent of the people who use methamphetamine become addicted?

Of course there's the downside: Individuals develop compulsive sexual behavior including predatory and uninhibited behaviors. After six months of methamphetamine use people can't have sex unless they are high on the drug. Continued use leads to impotence and eventually totally destroys the sex drive. Long-term use results in a loss of 50 percent of the dopamine-producing pleasure neurons. Users are unable to feel joy for any activity and are constantly irritable.

With extreme dopamine depletion, patients may develop tremors and a Parkinson-like syndrome. Other long term side effects include severe muscle wasting, weight loss, tooth decay ("meth mouth"), gingivostomatitis, decreased salivation, poor dental hygiene, and decreased nutrition.

Who uses methamphetamine and why? Top users include shift workers, truck drivers, students, athletes, recreational weekend users to rev up sex drive, and individuals who don't have enough money to afford cocaine or heroin. Methamphetamine is less expensive and more available than crack cocaine, cocaine, and heroin.

As an FYI: Nicknames for methamphetamine include: Ice, Zip, Glass, Crank, Crystal, Crystal meth, poor man's crack.

Your brain in love…Anthropologist Helen Fischer has studied subjects who considered themselves to be "madly in love" for an average of six months. She shoved their heads inside an MRI machine and showed them two photographs, one neutral, and the other of their loved one. When each subject gazed at the photograph of his or her loved one, the area of the brain linked to reward and pleasure—the ventral tegmental area and the caudate nucleus, as well as the nucleus accumbens lit up light a megawatt street lamp. The caudate nucleus is packed with dopamine receptors, the neurotransmitter that mimics love potion #9. Dopamine creates intense energy, exhilaration, focused attention, and motivation to when rewards. Why else, when you're madly in love, do you stay up all night, think about your new love 23.9 hours a day and talk on the phone for hours? You are bold, you are bright, you are a risk-taker…you are HIGH on life.

Dr. Donatella Marazziti, a professor of psychiatry in Italy, has discovered the biochemistry of love sickness and its similarities with obsessive-compulsive disorder (OCD). She and her colleagues measured serotonin levels in the blood of 24 subjects who had fallen madly in love within the past six months and obsessed about their amore for more than four hours per

A cardiologist died and was given an elaborate funeral. A huge heart covered in flowers stood behind the casket during the service. Following the eulogy, the heart opened, and the casket rolled inside. The heart then closed, sealing the doctor in the beautiful heart forever. At that point, one of the mourners burst into laughter. When all eyes stared at him, he said, "I'm sorry, I was just thinking of my own funeral...I'm a gynecologist." That's when the proctologist left.

day. She compared the levels of serotonin with the newly in love group with those of a group suffering from OCD and another group that was free from both passion and OCD. Levels of serotonin in the OCD group and the group in love were 40 percent less than the control group. In other words, love and the OCD group had a similar biochemical profile.

Why doesn't passionate love last forever? Can you remain drenched in dopamine forever? If so, would you EVER get anything done? And, that's where oxytocin comes in…the neurotransmitter of commitment and comfort, not to mention blasé and boredom. Haahhaha…just kidding. However, it does explain why some individuals are "addicted to love…" and, as soon as the dopamine high wears off, the party is over and they are on to new romance and a new "high".

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