

S P R I N G
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ROUNDS

HARTFORD HOSPITAL'S WELLNESS MAGAZINE



Alert to Disaster

Hartford Hospital is responding to heightened fears about safety by readying medical, security and emergency personnel to handle disasters ranging from terrorist acts to biological weapons or attacks on nuclear power plants.

"Scene safety is our first priority in order to protect the first responders to an emergency," explains Raffaella Coler, R.N., M.Ed., director of Emergency Services Department (EMS) Education. "In the wake of September 11, we're more conscious of bioterrorism, decontamination in case of hazardous materials, and disaster planning for a mass casualty attack."

"The primary issue for the hospital is regulating the flow of people seeking care," says Anthony Paquette, a paramedic with the EMS Education Department. "Past disasters have shown that about 80 percent of people injured in an attack are self-referred to the hospital rather than arriving via ambulance."

Hospital planners and toxicologists have designated areas to streamline security, staging and triage in case of attack with biological or chemical agents, while EMS personnel are receiving "weapons of mass destruction" training. "Control of incoming crowds and communication are critical to site management," says Mr. Paquette. "One

goal of the terrorists is to shake people's faith in their government's ability to take care of them."

The federal government is spending more than \$1 billion to teach medical and emergency workers how to recognize the early signs of any infectious disease outbreak resulting from a bioterrorist attack, such as the release of anthrax or smallpox germs.

S A F E T Y T I P S



The Shocking Truth

A GFCI outlet (which stands for *ground fault circuit interrupter*) is an outlet with its own built-in circuit breaker. The GFCI senses the flow of electricity through a circuit and prevents dangerous shocks by shutting off the current in as little as 1/40 of a second.

The purpose of the device is to protect you from electric shock and your wiring and breaker panel from being "shorted out." GFCI protection should not be confused with *grounding*. Even if a system is properly grounded, minor faults in a circuit can give a harmful shock to a person using an appliance in a damp location or near water. You don't need to install a GFCI outlet for all outlets near water—just the first one in a series—since the single GFCI can "trip" or shut off if one of the plugs further down the line is shorted out.

Where to install a GFCI:

- all outdoor outlets
- hot tubs, spas and around swimming pools
- all bathroom outlets
- kitchen countertop surfaces and laundry tubs
- at least one outlet in the basement and crawl spaces
- all outlets in the garage (except one marked for freezer)

If you have GFCIs, you should test (and reset) them monthly. If your house does not have GFCI outlets, an electrician can easily add them. *Electrical wiring and device installation should only be handled by a licensed electrician.*

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ROUNDS is a quarterly publication of Hartford Hospital. It is not intended to provide medical advice on individual health matters. Please consult your physician for any health concerns.

PHYSICIAN PROFILE

Kent A. Kiehl, Ph.D.

Kent A. Kiehl, Ph.D., is director of the Clinical Cognitive Neuroscience Laboratory at The Institute of Living (IOL). He is also an assistant clinical professor in the Department of Psychiatry at Yale University School of Medicine.

Dr. Kiehl earned a Ph.D. in psychology and neuroscience at the University of British Columbia in Vancouver, where he was an assistant research professor until 2001. He was recruited to establish the pioneering program in functional MRI. Purchase of new equipment marks a new venture into brain mapping at the IOL's Neuropsychiatry Research Center.

Dr. Kiehl's two German Shepherds—*Andi* (short for Andes) in the red bandanna and *Alaya* (short for Himalayas) in blue—accompany him while he mountaineers and backpacks. Recently his travels took him from the Pacific Crest trail in California, along the high sierras from Kings Canyon, through Yosemite and to Lake Tahoe (Desolation Wilderness).



When the Mind Goes Dark



Scan of normal brain responding to stimuli



Scan of brain in patient with schizophrenia responding to stimuli

Schizophrenia is a disorienting mental illness that snarls the brain, creating frightful delusions, bewildering voices and disordered thinking. In this chronic, episodic illness sufferers become lost in a dark and chaotic world, spiraling into a cycle of eerie hallucinations and crippling confusion.

Now a technique called *functional magnetic resonance imaging* (fMRI) is allowing scientists to visualize regions of the working brain, using scanning technology developed in the early 1990s to study cognitive function. "There are abnormalities in nearly every domain of mental function in people with schizophrenia," says Kent A. Kiehl, Ph.D., director of the Clinical Cognitive Neuroscience Laboratory at The Institute of Living at Hartford Hospital.

Someone with schizophrenia often hears voices or sounds caused, in part, by overactivation of the auditory regions of the brain. Auditory hallucinations occur when the frontal cortex misinterprets this overactivity as externally generated voices, when in fact, it comes from an internal source. Now that brain imaging has illuminated the abnormal interaction between frontal cortex and auditory cortex, scientists believe they can develop cognitive and pharmacological strategies to help treat patients with these symptoms.

In an effort to understand how the brains of people with schizophrenia work, Dr. Kiehl is using fMRI to study cerebral sites involved with auditory processing. Test subjects listen to auditory stimuli and are told to press a button quickly when an

"oddball" tone is sounded within a series of similar tones. "People with schizophrenia can perform the 'oddball' task of target detection almost as well as normal individuals," explains Dr. Kiehl, "but as much as one-third of their brains respond differently than other people's."

Regions all over the brain of a normal person activate upon hearing the tone, which suggests that the "orienting response" is generated in a neural network distributed throughout the brain. This adaptive feature probably evolved so people could quickly orient themselves in space and evade danger. While the fMRI scans of normal test subjects "light up," the brains of those with schizophrenia remain shadowy and dark.

In the near future, Dr. Kiehl plans to begin obtaining fMRI data from psychotic patients admitted to The Institute so that comparisons can be made to speed diagnosis and target drug therapy. Although a new generation of drugs can relieve hallucinations or delusions, many patients forget or don't want to take medications. Conceivably the technique could identify those at risk and help resolve the controversy about whether low doses of antipsychotic medications, along with cognitive and stress coping training, can help teenagers likely to develop schizophrenia stave off the illness.

Purchase of the new fMRI equipment is being underwritten by a bequest of more than \$16 million from the estate of Ruth C. and Philip F. Holton. Eventually Dr. Kiehl envisions the development of a worldwide brain imaging database that could help illuminate this puzzling disease.

E-n-d-o-C-i-n-c-h Spells Relief

For patients with chronic heartburn or gastroesophageal reflux, a new procedure called the EndoCinch Suturing System is an appealing alternative to invasive surgery or a lifetime of pills costing a thousand dollars a year. "Once you start taking medications to inhibit acid secretion, it is often difficult to stop," says Jeffrey L. Nestler, M.D., a gastroenterologist with Connecticut Gastroenterology and Medical Associates, P.C.

Gastroesophageal reflux is a common disease, afflicting 60 million Americans. Usually a leaky valve at the bottom of the esophagus functions poorly or stays open, causing food and stomach acid to be regurgitated, eroding the esophageal lining and causing heartburn, hoarseness and cough. Between 5 and 10 percent of sufferers consult a gastroenterologist, but only a small fraction require surgery. Though most control symptoms with standard medications, the EndoCinch offers hope to those whose symptoms steadily worsen.

"The one medication I could take was starting not to work after six years," recalls Chris Richards, CMA, who works in Dr. Nestler's office and who was one of the first to undergo the procedure at Hartford Hospital. "I had a constant cough, a sore throat and laryngitis. I had to sleep propped up on pillows—everything I swallowed would come back up."

The outpatient procedure takes about an hour and is performed in the endoscopy unit of the hospital with the patient under sedation. During the procedure, Dr. Nestler places sutures at several locations near the "valve" between the stomach and esophagus. These sutures are tied together to tighten the valve and strengthen its ability to



Dr. Jeffrey Nestler can help patients suffering from gastroesophageal reflux with a new outpatient procedure.

serve as a barrier to reflux in a process called *endoluminal gastroplication*. "Essentially, it's like taking in a pair of pants," says Dr. Nestler. "We put in pleats, or *plications*, where the esophagus joins the stomach and you're back to work the next day."

Hartford Hospital is one of only two places in the state to offer the EndoCinch Suturing System to patients with chronic heartburn. So far, the best candidates for the procedure are patients who are responsive but intolerant to medication and whose heartburn doesn't go away even after they've lost weight, quit smoking and eliminated caffeine and chocolate from their diet. "I'm no longer taking any medications," says Ms. Richards. "The EndoCinch changed my life."

What's going around...News & Breakthroughs

Don't Forget, More Research Needed

People who took non-steroidal anti-inflammatory drugs like ibuprofen or naproxen for at least two years were only one-sixth as likely to get Alzheimer's as those who did not take the drugs, Dutch researchers report in *The New England Journal of Medicine*. Advil and Motrin contain ibuprofen, while naproxen is in Aleve. Rigorous trials will determine whether the drugs really ward off Alzheimer's.

DNA-Related Defects Higher Near Toxic Sites

Children born to mothers living near hazardous-waste landfills may face a higher risk of many types of birth defects, including disorders that have genetic links, such as Down syndrome. British researchers had previously found a one-third increase in the risk of non-genetic birth defects among people living within two miles of a hazardous-waste site, according to *The Lancet*.

Grow Your Own Cells?

Adult stem cells can be coaxed into forming cells that appear to replicate bone, cartilage, fat, skeletal muscle and potentially nerve and liver cells, say researchers at the Stem Cell Institute at the University of Minnesota. Scientists hope one day to make replacement parts—like new brain cells for people with Parkinson's or new pancreatic cells to treat diabetes—avoiding the controversial use of embryonic stem cells.

Rubella Less Of A Threat

Rubella, commonly known as German measles, is on the verge of being eliminated in the United States, according to the Centers for Disease Control and Prevention. The disease once infected tens of thousands of people a year and was responsible for numerous birth defects. Cases of rubella have fallen steadily since 1969, the year vaccination began, reports the *Journal of the American Medical Association*.

Computer Mapping Enhances Sinus Surgery

A new minimally invasive technique for navigating close to the brain increases precision and safety during endoscopic sinus surgery. Using a combination of advanced computer software and a three-dimensional CT scan, surgeons can accurately position instruments within the nasal and sinus cavities to avoid complications while working near the eyes or skull base.

The minimally invasive technique involves inserting the endoscope up through the nostrils, while an electromagnetic guidance system tracks the sinus instrument to allow surgeons to “see” its location in relation to the relevant anatomy. The instrument appears as a moving crosshair on the digitized images of the targeted areas.

“The InstaTrak image guidance system expands the surgeon’s visual capabilities beyond the limited view of the endoscope,” explains Richard A. Newman, M.D., director of Hartford Hospital’s Department of Otorhinolaryngology. “Although most sinus surgery doesn’t require such precision, structures can be easily located if the anatomy has been altered by a tumor or previous surgical procedure.”

Traditional sinus surgery relies on a fiberoptic endoscope to illuminate the interior of the sinus cavity. With InstaTrak, surgeons have a map. The CT scan is taken in the Radiology Department with the patient wearing headgear that resembles a white plastic helmet. Images are loaded into the computer, and when the patient arrives in the operating room, the plastic headset is replaced and the images

studied in three dimensions. Dr. Newman knows exactly how far the instrument is from the eyes, large blood vessels or the brain, and can remove diseased tissue completely and safely.

About 6 percent of all office visits to primary care physicians are for sinus problems, and more than 300,000 sinus procedures are performed annually. While most patients don’t require the extraordinary precision of the InstaTrak, the new technique is safer and reduces the length of surgery so patients with recurrent polyps, chronic sinusitis or tumors spend less time under anesthesia.



Dr. Richard Newman uses a three dimensional CT scan for sinus surgery.

Protein Linked to Aging in Mice

Scientists writing in *Nature* have identified a stretchy protein linked to the ravages of aging and chronic diseases like emphysema. *Fibulin-5* is critical to development of elastic fibers that stabilize the outside of cell walls, keeping skin tight and lungs and blood vessels pliable. Scientists hope it may help regenerate elastic fibers to treat diseases, improve skin tone and retard aging.

Seniors’ Nutrition Suffers

High-calorie meals loaded with sugar could be deadly for lungs damaged by chronic obstructive pulmonary disease, a chronic disorder that plagues many elderly Americans. Poor nutritional choices may make elderly patients sicker, while medications can sabotage a senior’s already precarious diet. See the new Nutrition Screening Initiative, sponsored by the American Dietetic Association and the American Academy of Family Physicians, at www.aafp.org/nsi.

Lactose Intolerance Crosses Racial Lines

Researchers at the University of California–Los Angeles are studying the gene that causes lactose intolerance, which afflicts up to 50 million Americans with nausea, cramps and diarrhea because of their inability to digest significant amounts of lactose, the predominant sugar found in milk. The condition is common in African Americans and Asian Americans, who seem to share the same gene.

Another Prostate Cancer Gene Found

Scientists have identified a second faulty gene that appears to make some families prone to developing prostate cancer, a finding that may eventually help diagnose and treat some forms of the disease. According to *Nature Genetics* the RNASEL gene, like the previously discovered HPC2-ELAC2 gene, increases the risk of prostate cancer, though only 9 percent of all cases are hereditary.

LASIK: Visualizing A Future without Glasses



LASIK has become the most popular elective surgery in the United States since its approval by the FDA in 1998. Last year, more than a million Americans underwent laser surgery to free themselves from glasses and contact lenses. The outpatient procedure, which takes about 15 minutes, is performed under a tiny flap in the corneal tissue. Vision clears within a day, while complete healing usually takes about two weeks.

“With the right person, we can achieve superb results,” says Martin G. Edwards, M.D., a Board-certified ophthalmologist who specializes in laser refractive surgery at Hartford Hospital. “There are some contraindications—such as very large pupils or very large visual corrections—but at Consulting Ophthalmologists we do very extensive pre-operative screening to ensure that patients are good candidates for laser surgery.”

Different “refractive errors” cause the world to be out of focus. LASIK reshapes the cornea—the transparent tissue that covers the iris, or colored part of the eye—to improve the way the lens behind the iris focuses light onto the retina. Nearsightedness (*myopia*) commonly results in blurred distant vision, while farsightedness (*hyperopia*) results in blurred near vision. *Astigmatism* (which can occur alone or along with myopia or hyperopia) results when the cornea and lens focus the light rays at different points in front of or behind the retina, causing different parts of the image to appear blurry.

LASIK works best for people who want to reduce their reliance on glasses or contacts, and whose vision has been relatively stable over time. The technique does not correct vision problems related to *presbyopia*, the loss of close-up focusing power that occurs as people advance into middle

age. The blurring of close-up vision usually occurs around age 40, when the lens begins to harden and lose elasticity.

Dr. Edwards uses the LADARvision excimer laser system with a patented eye tracker that measures the eye position 4,000 times per second and reshapes the cornea with a computer-controlled pattern of tiny, overlapping spots. Hartford Hospital’s state-of-the-art “flying” spot lasers have beams as tiny as 0.8 millimeters in size, increasing accuracy and precision in comparison with older lasers with beams as much as seven times larger.

An American Academy of Ophthalmology (AAO) panel recently concluded that LASIK provides excellent results for many, but not all, people with vision problems. The panel notes that LASIK is highly effective in patients with low to moderate myopia, but is less likely to correct the vision of those with moderate to high levels of myopia.

Worldwide more than 3 million people have had successful LASIK surgery. The cost of the procedure, typically not covered by insurance, averages \$2,000 to \$2,500 per eye, depending on the age of the laser and the experience of the practitioner.

w a r n i n g s i g n s

Post-Traumatic Stress Disorder

Of the estimated 70 percent of American adults who have experienced a traumatic event at least once in their lives, up to 20 percent go on to develop Post-Traumatic Stress Disorder, or PTSD. According to David Tolin, Ph.D., director of the Anxiety Disorders Center at The Institute of Living, an estimated one to five percent of men and one to 10 percent of women will experience PTSD at some time in their lives. When after-effects of trauma linger, symptoms usually cluster into three categories:

- **Intrusive Re-Experiencing**
“I can’t stop thinking about it,” bad dreams, agitation, anxiety, flashbacks. More than just memories, flashbacks cause sufferers to lose contact with reality and re-experience events as though they were happening in the present moment.
- **Avoidance and Numbing**
People “shut down,” avoid thinking, become distant, lose interest in usual activities.
- **Excessive Arousal**
Patients are “ready for danger,” scanning their surroundings with alarm. They’re often easily startled, have trouble sleeping and have outbursts of anger or irritability.

Fallen Skyline, Broken Sleep

In the aftermath of televised horror, we are all victims.

While we watched, the twin towers of the World Trade Center crashed to the ground on September 11, shattering our illusions of security. Terrorism tears our collective safety net, awakening primitive and unconscious fears.

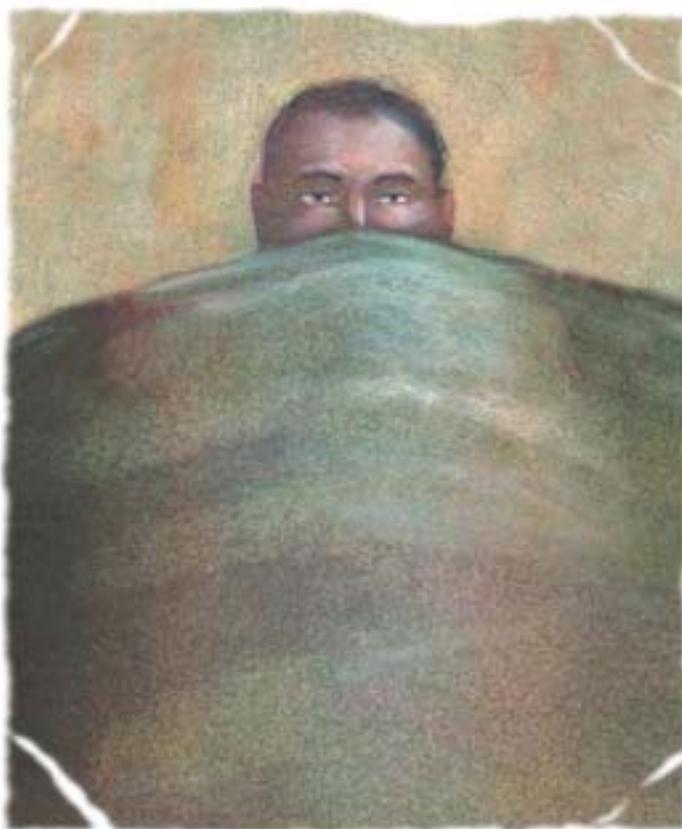
"Statistically our risk related to a terrorist act today may be no different now than it was on September 10," says Heidi McCloskey, R.N., M.S.N., C.S., director of the Professionals' Program at The Institute of Living. "But our *denial* is gone and we have the psychological task of coping with the experienced knowledge that our world is unsafe."

How do we live now? Anxieties and fears break through into our consciousness as we are bombarded by TV images of ground zero devastation and warnings about future plots. "Terrorism is difficult to get your hands around because it means there's nowhere left that's free of risk," says Ms. McCloskey. "After our denial is broken and crashed through, many of us try to *suppress* our feelings."

We tell ourselves we won't think about it, but memories haunt us. We hear about flashbacks: that crane operators who were in Vietnam confuse the ground zero dead with those lost in a war 30 years ago. All of us are traumatized, but some are more vulnerable. The tragedy reawakened personal nightmares.

"It's difficult to feel helpless to help," says Ms. McCloskey. "After the towers fell, we were expecting to treat people at the hospital. We felt a terrible sense of doom as the hours and days passed and we realized no one was coming."

A post-attack poll conducted by the Pew Research Center for the People and the Press found that more than half of American adults described themselves as being one or more of the following: anxious, afraid, sad, sleepless, withdrawn, hopeless, unable to concentrate, irritable,



suspicious and numb. Many of those symptoms also characterize Post-Traumatic Stress Disorder, or PTSD (see *Warning Signs*, page 6).

"Right after the attack most people said they were experiencing strong feelings of distress and discomfort," says David Tolin, Ph.D., director of the IOL's Anxiety Disorders Center. "The majority have experienced a gradual decline in the severity of symptoms over time."

"We all have self-protective coping mechanisms to deal with anxiety and stress," says Ms. McCloskey. "When terror is in the background, we're all slightly aroused. We have a chronic, underlying sense of risk. Then someone right here in Connecticut dies of anthrax and all of us whose mail goes through Wallingford have another thing to worry about."

"People are proving to be more resilient than the media had predicted," says Dr. Tolin. "There is a normal-to-abnormal continuum, and just as not everybody who is sad has depression, not everyone who feels anxiety and grief is experiencing PTSD."

As time passes, we begin to forget. For some people, however, the effects are lasting. If someone is drinking more, still experiencing acute symptoms of disturbed sleep, headache, anger or isolation, or if they're having suicidal thoughts or destructive rages, it's time to get help. For more information, call the Assessment Center at (860) 545-7200 or (800) 673-2411.



Mandarin Orange Sorbet

Delicious, Elegant, Simple, and Healthy

Mary Noon, M.S., R.D., C.D-N., an outpatient dietitian at Hartford Hospital, stresses the importance of eating fruits and vegetables daily—as many as 10 a day if you have high blood pressure. Although fresh fruits are great in season, try freezing lite or juice-packed peaches (not packed in heavy syrup), pineapples or pears for a refreshing, low-fat, low-calorie alternative to snack foods.

Ingredients

2 11 oz. cans mandarin orange sections
2 tsp. grated fresh ginger

1. Place unopened cans of mandarin oranges in the freezer. Freeze for 12 to 24 hours until fruit is frozen solid.
2. Submerge unopened cans in very hot tap water for 1 to 2 minutes. (Do not thaw too long or the sorbet will be too soft.) Remove cans and pat dry. Open cans (if necessary open at both ends and push fruit through) and pour any thawed juice into a blender container or food processor bowl. Break frozen oranges into small chunks. Add ginger to container.
3. Process until nearly smooth but not melted. Serve immediately or spoon into freezer container and freeze until ready to serve.

Makes 5 servings.

Nutrition information per serving:

58 calories
0 g fat
0 g cholesterol
8 mg sodium
15 g carbohydrate
1 g fiber
1 g protein

It also supplies 89% Vitamin C Daily Value.

This recipe can also be made with peaches or other fruits. Vanilla extract may be added.