AUTUMN
2002

ROUNDS

HARTFORD HOSPITAL'S WELLNESS MAGAZINE

HARTFORD HOSPITAL
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ICU Innovations

Hartford Hospital was among 11 hospitals—and the only medical center in New England—to test an innovative model of interdisciplinary care delivery in the intensive care unit (ICU). With two ICUs—medical and surgical—Hartford Hospital was unique among the participants in the "Idealized Intensive Care Unit" project originated by VHA, a nationwide network of community-owned health care systems and physicians, and IHI, the Institute for Healthcare Improvement.

"As a critical care unit prototype, we served as a model for other hospitals," explains Eric T. Shore, M.D., director of the hospital's Medical ICU, "as well as decreasing our length of stay and increasing our throughput. We were one of only three hospitals asked by VHA and IHI to present our data at the First International Summit on Redesigning Intensive Care in Chicago, attended by doctors and hospital administrators from 48 states and eight countries."

ICUs inherently are high-risk, high-cost environments where even small improvements can translate into immediate and dramatic gains for both patients and caregivers. Pharmacy orders are now delivered within an hour, while toll-free voicemail allows family members to keep tabs on sick relatives with twice-daily updates.

"Because ICU patients are so sick and frequently unstable, they are at the highest risk for complications," says Eric D. Dobkin, M.D., director of the hospital's Surgical ICU. "We were able to reduce adverse events, improving outcomes with process improvements that enhance our state-of-the art medical technology."

ROUNDS

Hartford Hospital's Wellness Magazine

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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.

SAFETY TIPS

ACL Tears

PEP Talk for Female Athletes

More than 100,000 anterior cruciate ligament (ACL) repairs are performed annually in the United States. The Coast Soccer League of Southern California has originated a Prevent Injury and Enhance Performance (PEP) program for female athletes. The American Academy of Orthopedic Surgeons says ACL injuries can be cut by 88% with neuromuscular training involving:

- warm-ups
- stretching
- jumping
- strengthening drills
- teaching girls to run, jump and pivot with their knees bent and low to the ground, like boys.

Most injuries to the ACL are sports-related. Female athletes who play soccer, basketball or volleyball are up to eight times more likely to injure the ACL than males who play those sports. Experts theorize that neuromuscular, biomechanical or hormonal factors may explain why ACL injuries affect females disproportionately.

The ACL is the major stabilizer of the knee. Located in the center of the knee joint, it runs from the thigh bone to the shin bone, through the center of the knee. Sports injuries often occur when the foot is fixed on the ground and a player suddenly changes direction or stops suddenly, twisting the knee joint. (See *Warning Signs* on Page 7.)

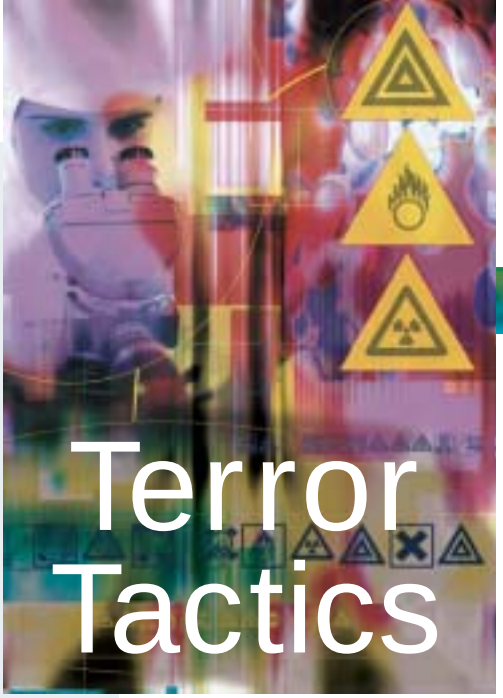
See *www.sportsmedicine.about.com.*

PHYSICIAN PROFILE

Brian W. Cooper, M.D.

Brian W. Cooper, M.D., F.A.C.P., Board-certified in both infectious disease and internal medicine, is chief of Hartford Hospital's Division of Infectious Disease, Allergy and Immunology. After graduating from Tuft's School of Medicine, he continued his training with residency and fellowship at Hartford Hospital. He is director of the hospital's Tuberculosis Clinic and the Traveler's/Geographic Medicine Clinic, and serves as director of Epidemiology.

A combat veteran of the Vietnam War, he has been in the U.S. Army Reserves since 1984. As of September 2002, Colonel Cooper will be serving a four-month rotation on active duty in Kuwait, where he will help set up a Combat Support Hospital with resuscitative battle surgery capability. His expertise in infectious diseases has broad applications to military and bioterrorism concerns. For relaxation, he scuba dives, preferably in the Caribbean.



Terror Tactics

Hartford Hospital has been designated a *Center of Excellence Responder*.

Bioterrorism creates new battlefields in a war without conventional boundaries. When the World Trade Center crumbled to the ground on September 11, 2001, our sense of security went with it. Terrorism and anthrax-laced letters awakened fears of future chemical attacks, incendiary explosions, "dirty" nuclear bombs and smallpox outbreaks, among other doomsday horrors.

Hartford Hospital has been designated a Center of Excellence for the northern tier of the state of Connecticut, one of two such first-response medical centers in the state. The hospital is responsible for coordination, education, research and leadership in the event of an event involving weapons of mass destruction. Under the acronym "B-NICE," the hospital is conducting drills to ensure its readiness to respond to **B**iological, **N**uclear, **I**ncendiary, **C**hemical and **E**xplosive assaults.

Imagine a chemical spill or toxic fumes from a fiery chemical plant explosion—or a paralyzing attack with Sarin nerve gas. Choking, blinded by fumes, victims stagger toward rescue vehicles. They arrive at the hospital by air, in vehicles or on foot.

"We have to decontaminate the individuals by washing off any trace of chemicals in a special 'decon' area outside the hospital before we can triage and treat them," says Lenworth M. Jacobs, M.D., M.P.H., F.A.C.S., director of the trauma program at Hartford Hospital. "Our job is coordination, education, research and leadership," explains Dr. Jacobs. "We need to teach people to take actions that are simple, but not intuitively obvious—such as taking off their clothes to save their lives."

Disaster drills assess the effectiveness of community response and staff preparedness. "Over the years, the hospital has developed infection-control plans with the State of Connecticut in case of a 'biological event' or large-scale outbreak of a communicable disease," explains Brian Cooper, M.D., chief of the Division of Infectious Disease.

The threat of terrorism invokes nightmare scenarios of nerve gas and virulent germ warfare that could claim hundreds of lives throughout the state. The Centers for Disease Control and Prevention (CDC) warns that the public health infrastructure currently is inadequate to detect and respond to a widespread terrorist event. Along with state officials and local emergency service personnel, the hospital is training frontline staff to recognize telltale symptoms of toxins or biological attack.

"Several years ago Hartford Hospital stockpiled the antibiotics ciprofloxacin and doxycycline—enough to treat 2,000 people for three days," says Dr. Cooper. "Because we might need to treat large numbers of people in respiratory failure, we have doubled the number of ventilators on hand."

What are the chances of radiation from a nuclear attack or rogue scientists from the former Soviet Union peddling biowarfare agents? Weaponizing a biological agent that is potent, yet stable enough for widespread infection has frustrated even well-financed terrorist states. "It's technically very difficult to use microorganisms to kill more than a few hundred people," says Dr. Cooper. Likely biological weapons include anthrax, smallpox, bubonic plague, Tularemia bacteria, or hemorrhagic fevers like Ebola virus.

"The goal of terrorists is not to kill, but to terrorize," says Dr. Jacobs. "What we've seen since September 11 is that emergency department personnel need to be better prepared for bioterrorism. The danger is real."

Minimal Incision for Hip Replacement Surgery

Hip-replacement surgery used to require a 10- to 12-inch-long incision, deep muscle retraction and painful recuperation. Now, in many cases, only a four-inch incision is necessary for total hip arthroplasty, a procedure in which worn-out hip sockets are replaced with new joints made from plastic, cobalt chrome or titanium.

Although arthroscopic techniques and other less extensive procedures have been utilized for years in patients with arthritic knees, use of smaller surgical instruments and less invasive procedures for patients with arthritis of their hips has taken longer to catch on, says Steven F. Schutzer, M.D., an orthopedic surgeon at Hartford Hospital. Dramatic changes have occurred over the years. "When I was an intern in 1978, patients were kept in bed after total hip replacement for two weeks in traction," says Dr. Schutzer. "Now they're out of the hospital in three days."

About 300,000 hip and knee replacements are performed annually for patients with osteoarthritis, rheumatoid arthritis or other problems. The traditional approach to hip replacement involves cutting through layers of fat and muscle until the hip joint is exposed, and then replacing the damaged joint. The incision must be large enough to allow surgeons to visualize the joint where the thigh bone joins the hip socket. The larger the incision, the longer recuperation may take.

Dr. Schutzer welcomes the downsized instruments, reduced blood loss, shorter healing times and faster rehabilitation that the smaller incision brings. Another potential advantage may be a lower risk of dislocation, which occurs about 1-2 percent of the time and may require further surgery in some cases. "Intuitively it makes sense because cutting fewer muscles should create less instability, reducing the likelihood of dislocation."

Implant choices depend on the age of the patient, activity level and bone quality. Up to 95 percent of all implants survive at least 15 years, but with average patient age in the mid-60s, surgeons want ever more durable materials that can withstand high-impact activities. "In terms of longevity, new and improved bearing materials are being developed," adds Dr. Schutzer. "Though 95 percent of patients receive metal-on-plastic joints, we may choose metal-on-metal or ceramic for very young patients."

A clinical trial is underway at Rush Presbyterian-St. Luke's Medical Center in Chicago to study minimally invasive surgery for total hip replacement. Doctors there are experimenting with fluoroscopically guided instruments that require two incisions, each less than two inches long. "The preliminary results hold out promise," says Dr. Schutzer, though researchers will have to show that procedures performed without actually seeing the hip joint do not add to the risk of dislocation or other complications.

Dr. Steven Schutzer is pioneering a new hip replacement technique.

What's going around...*News & Breakthroughs*

Sight Sensation

Genetically engineered drugs apparently halt vision loss, occasionally restoring sight in people who have gone blind. Experimental drugs are being tested at UCLA's Jules Stein Eye Institute on the top two kinds of adult blindness. An estimated 200,000 new cases of "wet" macular degeneration are diagnosed annually, and of the 4 million diabetics with some degree of retinopathy, 24,000 go blind each year.

Hormones and the Heart

Rearchers recently stopped the Women's Health Initiative (WHI) study of more than 16,000 women who take Pempro or Premarin (no other estrogen or progestin was included). Hormone replacement therapy was shown to increase the risk of invasive breast cancer, blood clots, heart attacks and stroke, while slightly decreasing osteoporotic hip fractures and colon cancer. Study of estrogen alone is continuing in women who have had a hysterectomy.

Say "Cheese"

The Lactobacillus bacteria normally found in cheese may some day be used to create a vaccine against dental cavities, according to researchers at Sweden's Karolinska Institute, writing in the journal *Nature Biotechnology*. Genetically engineered lactobacilli produce antibodies that have been shown to fight Streptococcus mutans bacteria—the main culprit in cavities. The goal is to create "supercharged" antibodies that will persist in the mouth.

Snack Flak

Health experts warn that a substance in high-carbohydrate foods may cause cancer, said researchers at a U.N.-sponsored conference. The potentially carcinogenic substance, *acrylamide*, is found in french fries, potato chips and breakfast cereal. The Center for Science in the Public Interest found that the acrylamide in a large order of fast-food fries was at least 300 times greater than EPA's limit for a glass of water.

CardioSEAL Closes Heart Defect to Prevent Stroke

Dr. Isaac Silverman. Finally—a way to prevent strokes.

Ultrasound studies (*echocardiography*) reveal that about 40 percent of patients age 55 and younger may have a heart defect called a Patent Foramen Ovale (PFO) that places them at risk for a stroke. A PFO is an abnormal opening between the right and left sides of the heart that enables blood to circumvent the lungs and go directly into circulation. In this way, a blood clot in the legs can pass directly through the heart and go to the brain, causing a stroke. Most patients are unaware of a PFO until it is detected after a first stroke.

Many younger stroke victims could benefit from a new device called CardioSEAL, a cardiac implant designed to stop this abnormal right-to-left shunting of blood. The CardioSEAL is a flexible, umbrella-like device that permanently closes the PFO without requiring open-heart surgery. The CardioSEAL procedure takes about 45 minutes and is performed in the heart catheterization laboratory.

"Our goal is to intervene to prevent the next stroke," says Isaac E. Silverman, M.D., co-medical director of The Stroke Center at Hartford Hospital, the first hospital in the state to routinely perform the implant in stroke survivors. "We view this approach as a relatively non-invasive way to treat one potential risk factor. The alternatives are open-heart surgery, which is more invasive, or in some patients, lifelong therapy on blood-thinning medications such as Coumadin that may be difficult to tolerate."

The CardioSEAL implant procedure is called *transcatheter septal closure*, meaning that the device is delivered by catheter (a narrow tube) to close off the PFO in the *septum*, or heart wall between the right and left atria. The device, available in sizes ranging from about a dime to a half-dollar when open, consists of a metal framework and polyester mesh that collapses into the catheter. Over a few months, tissue grows into the fabric, bonding the device into the heart and permanently closing the defect. Patients stay in the hospital overnight after the procedure and are followed up in the Stroke Center clinic.

Hartford Hospital interventional cardiologists Raymond G. McKay, M.D., Francis Kiernan, M.D., and echocardiographer Anita Kelsey, M.D., were trained by one of the inventors of the CardioSEAL device and the interventional cardiology team at Massachusetts General Hospital.

"The less invasive approach eliminates the inherent risks associated with long-term anticoagulant medication," says Dr. Silverman. "This procedure also reduces the pain, discomfort, hospital and recovery time, and expense associated with open surgical PFO closure."

Racial Bias in Puzzling Disease

Of the estimated 500,000 Americans with Systemic Lupus Erythematosus, 90 percent are women, most between the ages of 15 and 45—and up to three times as many are African American. No one knows what causes the body's autoimmune system to attack healthy cells. The National Institutes of Health is studying the role of genetics and environment to determine why people of color are more susceptible.

If You Smoke...

A drug called ADT (Sialor or Sulfarlem) may effectively prevent lung cancer in some people at risk, according to the *Journal of the National Cancer Institute*. Current and former smokers who had an irregular growth in their lungs and took ADT had only half as many growths become cancerous, suggesting that the drug works like an antioxidant, seeking out and destroying cancer-causing free radicals.

It's Not All in Your Head

Physicians at the University of Texas Southwestern Medical Center at Dallas say tight, thin bra straps can cause headaches by putting downward pressure on the cervical nerve, which runs from the neck to the shoulder. Tight bras, over time, can cause pain that radiates all the way down the arms and into the hands. Wide straps distribute weight more evenly.

Drink Less, Have More Sex

The *American Journal of Hypertension* reports that male heavy drinkers who cut their alcohol intake in half (from an average of four beers a day to two) lowered both their blood pressures and their resting heart rates—in just 3 weeks. And men with normal blood pressure have sex 25 percent more often than men with high blood pressure because they have more testosterone, researchers say.

The Hepatitis Threat

The Alphabet Group of Hepatitis Viruses Now Runs from A to E.

Hepatitis disrupts the workings of the liver, the organ that removes toxins from the bloodstream and cleanses the body. We are all at risk for some form of the disease, though the most lingering and deadly variants spread only through bodily fluids or sexual contact.

"Hepatitis A, B and C are fairly common diseases," says Brian Cooper, M.D., chief of the Division of Infectious Disease, Allergy and Immunology and director of the hospital's Travel Clinic. "You can be immunized against A and B, but not C."

Hepatitis C afflicts 5 percent of infants born to infected mothers and 17 percent of infants born to women also infected with HIV. "Hepatitis B and C pass from infected mothers to their unborn children," says Douglas MacGilpin, M.D., a pediatrician at the Connecticut Children's Medical Center. "Women are at risk for transmitting the virus through the placenta or through breastfeeding."

According to the Centers for Disease Control and Prevention, about 1.25 million Americans are chronically infected with hepatitis B and as many as 2.7 million with hepatitis C. Signs of acute or chronic liver impairment include jaundice, dark urine, abdominal pain, fatigue and flu-like symptoms. Up to 30 percent of people with hepatitis B and 80 percent of those with hepatitis C have no symptoms.

People who inhaled illicit drugs but never used needles may discover to their horror in middle age that they're infected with hepatitis C, warns Dr. Cooper. Since hepatitis C often lurks in the body for years without symptoms, people are shocked to suddenly learn that they are infected with a fatal, incurable disease.

Hepatitis A can affect anyone. In the United States, it is spread by fecal contamination of food or water and can occur as isolated cases or epidemics. It causes liver inflammation, flu-like symptoms and jaundice (yellowing). Less common in New England, it is widespread in the Southwest and Central and South America. Vaccination is available.

Hepatitis B rages through the Third World, causing chronic infection, cirrhosis (scarring) of the liver, liver cancer, liver failure, and death. A sexually transmitted disease (STD) it is spread by saliva, semen and blood. Until screening for the virus became available in 1992, it was transmitted by blood transfusions, dialysis or organ transplant. Hepatitis B is considered the primary cause of liver cell cancer in the world. Vaccination is available.

Hepatitis C is spread by blood; intravenous drug use; transfusions, dialysis or transplant (prior to 1992); sexual contact; tattooing; body piercing; and inhaling illicit drugs. Hepatitis C does not spread as easily through sexual contact as hepatitis B or HIV (AIDS). Some researchers suggest that hepatitis C infection may be the major cause of liver disease in the United States. The use of alcohol may make the effects of hepatitis C on the liver more severe. Hepatitis C can lead to chronic hepatitis, cirrhosis and liver cancer. There is no vaccine for Hepatitis C; however, antiviral therapy is effective in some cases.

Hepatitis D is transmitted by blood and occurs only in people already infected with hepatitis B.

Hepatitis E is transmitted by contaminated food and water in much the same way as hepatitis A. Rare in the U.S., it is responsible for a 10-15 percent mortality rate among pregnant women in the Third World.

Vaccination

Hepatitis A

- A safe and effective vaccine for Hepatitis A has been available since the 1990s.
- In 2001, the Food and Drug Administration (FDA) licensed a combined hepatitis A and B vaccine for those 18 or older.
- Immunization is available; given from 24 months to 14-18 years in selected areas.

Hepatitis B

- Since hepatitis B infection may lead to liver cancer, the hepatitis B vaccine is the *first anti-cancer vaccine.*
- The state of Connecticut has mandated that all children born after 1994 must be vaccinated in a three-shot series administered from birth to nine months of age.
- Children born before 1994 must be vaccinated before entering seventh grade.
- According to Dr. MacGilpin, researchers believe newborns immunized at birth have lifelong protection from the disease. The number of new hepatitis B infections has plummeted since routine vaccination became available.

DISSOCIATIVE IDENTITY DISORDER

Children made helpless by the cruelty of abuse take refuge in magical thinking, detached from the horrifying reality of their pain. Violence and terror cause them to *dissociate*, or disconnect, from awareness of their fear. Abused kids escape psychologically from sadistic abuse in order to survive.

Childhood trauma lingers into adulthood, often with devastating emotional consequences. Aftershocks of rape, incest and terror haunt the victims of childhood sexual abuse, leaving them anxious, angry or addicted. They can suffer from post-traumatic stress disorders, bulimia and anorexia, panic attacks and phobias, self-destructive behaviors or suicidal thoughts. They learn silence, secrecy and shame.

Dissociative Identity Disorder (DID), formerly called Multiple Personality Disorder, arises before the age of 12 (and often before age 5) as the result of severe physical, sexual and/or emotional abuse. DID is three to nine times more frequent in women than in men. "Boys tend to express their feelings with anger and violence, while girls turn it in on themselves," says Carol Porter, Psy.D., coordinator of the Trauma Track within the Adult Day Treatment Program at The Institute of Living.

"Someone who has suffered extreme, chronic abuse has no sense of safety within which to develop a personality that is not fragmented," explains Dr. Porter. "A child with DID creates separate identities, or *alters*, as an adaptive strategy to keep secrets out of her conscious mind so she can function."

"My alters are like voices in my head," says Donna*, a Trauma Track patient working in individual and group therapy to integrate her multiple alters that range in age from three to adulthood. "Sometimes I want them to all go away—it's like going to family therapy. I didn't know I dissociated until a couple of years ago. 'Little Donna' was the one who suffered—she couldn't take all the pain—and my other alters kept me alive. In some ways, they make me feel less alone."

Donna says she is troubled by losing time, coming to and wondering where she's been. She struggles with addictions, suicidal impulses and depression. She attends the outpatient Trauma Track three days a week, as part of a group of about eight women. "It helps to know that I'm with other survivors who can identify with me. The structure in my life is what I really need."

Up to 3-5% of the population—as many as 10 million people in North America—suffer from some form of dissociative disorder, with DID accounting for hundreds of thousands of cases. "Patients have adapted to a war zone in their chaotic family lives," says Dr. Porter. "They live in a constant state of stress that alters their brain chemistry forever."

An innovative technique called Eye Movement Desensitization and Reprocessing (EMDR) seems to help individuals who have survived trauma. Although survivors of abuse often struggle for years to integrate their alters, the rate of recovery is high.

** not her real name*

warning signs

Signs of ACL Injury

- Injury occurs when pivoting (e.g., soccer or skiing)
- Many patients recall hearing a loud "pop" when the ligament tears
- The knee "buckles"
- Rapid onset of significant swelling within the first two hours
- The knee feels "loose." Some people compare it to walking on roller skates with the lower leg shifting forward on the thigh bone.
- For some, the instability is predictable, while in others the knee suddenly "gives out."

Cook's Circle

Gazpacho means "uncooked" in the Andalusian dialect, and this classic Spanish dish is a flavorful way to turn ripe tomatoes into thick and zesty cold soup. Joanne Jurs, an administrative associate in the Business Development Department at Hartford Hospital, is a frequent contributor to the *Hartford Courant*'s recipe pages. Joanne and her husband, Ken, are food critics for the Farmington Valley's *Homesteader* newspaper, where they co-author a monthly column called "Tastefully Yours."

¡COMER CON GUSTO!

Ingredients

1 cup peeled tomato
1 cup green pepper
1 cup celery
1 cup cucumber
1/4 cup onion
2 tsp. fresh parsley
1 tsp. chives
1 garlic clove
2-3 Tbs. wine or sherry
1/4 tsp. pepper
1 tsp. salt *(may be omitted for salt-restricted diets)*
1 tsp. Worcestershire sauce
2 Tbs. olive oil
2 cups low-sodium V8 juice

Combine all but the final ingredient in a food processor and pulse. Consistency should be more crunchy than mushy. Pour into a bowl or pitcher, add the V8 juice, stir well and refrigerate overnight. If desired, you can add a dollop of low-fat sour cream. Serve with a French baguette and enjoy!

Serves 6

80 calories	5 g fat (80% monosaturated fat)
1 g protein	33 mg Vitamin C
7 g carbohydrate	453 mg sodium *(without salt 65.5 mg)*
1.5 g fiber	<1 g alcohol
0 g cholesterol	

Recipe analyzed by Brunella Ibarrola, MS, RD, CD-N.

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