

LIFE/Health



Dr. Shmuel Shoham of the Washington Hospital Center co-invented a small antiseptic alcohol gel dispenser (left) that hospital staff can wear on their waists. Dispensers containing antiseptic solutions (below) are placed at several areas at the Washington Hospital Center. Health care providers face the constant challenge of controlling infections. Marina Martinez (bottom) cleans a bed at the Washington Hospital Center. The center has four infection-control practitioners on its staff.

Infections: No hospital immune

Clean hands first step in preventing transmission

By Ann Geracimos
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A hospital patient recovering from an illness or medical condition is an everyday occurrence. So, alas, is the chance — estimated at 1 in 20 — of that patient contracting an infection during the hospital stay.

These days, ordinary germs aren't the only problem for health care professionals. Even more disturbing for them is the tendency for microbes — dis-

ease-causing organisms — to mutate and become resistant to antibiotics.

All of which makes a hospital stay for the most vulnerable people in the population a risky business. There is even a special word to describe that risk. "Nosocomial," an adjective, refers specifically to infections contracted as a result of being hospitalized.

The statistics that follow in the wake of this trend are alarming. Such infections are said to cause 90,000 deaths annually, and estimates on the cost of treating survivors amount to more than \$4.5 billion.

The situation is bad enough that hospitals such as Washington Hospital Center, the largest in Washington, have instituted

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Photographs by Astrid Riecken/The Washington Times

GERMS

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poster campaigns to remind employees about the frontline defense for protecting themselves and patients: hand washing. Six months ago, the hospital began putting that message alongside photographs of familiar faces — such as the head of the surgical intensive care unit and the hospital's director — in prominent places throughout the building.

The effort has overtones of elementary school, but such methods show the determination of medical institutions to try every means to control infection rates. It sometimes seems that the microbes mutate as fast as drugs are developed to curtail them.

One of these bad bugs, known familiarly to health care workers as MRSA (methicillin-resistant staphylococcus aureus), is particularly difficult to stamp out. Worse, it can cause life-threatening infections. The antibiotic Vancomycin is the drug of choice when treating MRSA infections, according to the Johns Hopkins Medicine Web site, which tells readers that hand hygiene is the most important strategy in preventing transmission.

Various government and nonprofit institutions are involved in the campaign, among them, the Infectious Diseases Society of America, the Society for Healthcare Epidemiologists of America, and, of course, the U.S. government's Centers for Disease Control and Prevention.

The CDC recently awarded \$10 million to five medical centers to research new approaches to reducing infections in health care settings. Seven states in the past four years have passed legislation mandating the reporting of infections.

"I can't imagine there isn't any hospital not working on the issues," says Nancy Donegan, director of infection control at

Washington Hospital Center. Her department has four infection-control practitioners among a full-time staff of six. "Unfortunately, we are all stuck with some of the same behaviors to help this" — behaviors that include occasional laxity in observing some of the more common-sense measures.

"A complex array of things" are in place to decrease risk, Ms. Donegan says, some of which involve guidelines for handling invasive technology such as intravenous catheters that can reach into a patient's heart. "You cannot go 10 feet without exposure to alcohol containers [on the wall] enabling the hospital worker to wash his hands. We provide all kinds of packaged education to try to keep the issue relevant. It's sort of what people learned from their mothers when they were 3 years old."

Further, she says, "the microorganism has its own ecology and we can't always understand it."

Another difficulty is in recognizing patients who are infected with MRSA.

"We know retrospectively because a culture has turned positive," says Dr. Michael Hockstein, medical director of the hospital's surgical intensive care unit. "But I can have someone who has fractured their hip and is in intensive care and you wouldn't suspect that problem."

An ancillary reason for rising rates of infection is the fact that people who come into hospital are among the most highly vulnerable in the population, says Dr. Shmuel Shoham, an attending physician in infectious diseases at the hospital. "Often times their host defenses are breached. Then anything [medical personnel] do that isn't perfect puts them at risk."

"I go outside and shake your hand, for example, and that's OK if you are healthy. But if I don't wash my hands going from one patient to the next and shake his hand, I may colonize him with a resistant organism that the first patient had."

A person has three levels of immune defense, he notes: the skin "and mucous membranes that go all the way in the belly." Second, is the innate immune system that operates when a body recognizes something abnormal and controls it. Third is what he calls an acquired or an adaptive system, whereby the body remembers old infections caused by, say, a vaccination against measles, and rejects a new infection like it.

"Patients with injuries in all three of these are at the greatest risk. Sometimes injuries are inflicted by your own body, such as leukemia. Sometimes by a physician in the course of treatment. Say you get steroids to calm down rheumatoid arthritis, but as a side effect, it may decrease your immunity in terms of fighting infections. In those patients, more aggressive uses are made of vaccinations or prophylactic antibiotics."

Dr. Shoham takes pride in being co-inventor of a new approach now being tried in parts of his hospital and several other hospitals around this country and Canada. It is a small antiseptic alcohol gel dispenser called gelFast that health care workers can wear at the waist for convenient access.

"It is so important to clean your hands before and after every patient contact," he says.

A health care worker clips it onto his belt or scrubs and in one easy motion — pull, squeeze, rub — kills off 99 percent of any bacteria, he says.

The device reduces the time needed for hand washing and — another point in its favor, says Dr. Hockstein, a fan — the fact that "a thin film forms [on the hands], but doesn't leave a residue. Four or six patients down the line, it doesn't build up. And it smells great — citrusy orange. Before this, you would think 'I gotta go wash my hands, what a pain this is going to be.' I don't think twice about using this now."