



Exterminating Superbugs at the Source

How Doctors Are Fighting Hospital Infections

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Jan. 6, 2010—

The hospital should be a place you go to get well, but that very same [hospital can sometimes be the cause of your illness](#).

Richard McKenzie of Pittsburgh found out the hard way when he came down with a hospital-acquired infection known as *C. difficile* after a routine out-patient procedure.

"I came into the hospital for a colonoscopy and went back to regular life," McKenzie says.

But after a month of acute stomach pain and diarrhea and several trips to the doctor, McKenzie found out that he had a severe case of clostridium difficile, commonly known as *C. difficile*, which he battled for almost a year afterward.

Although the [C. difficile bacteria naturally resides in the body](#), it can become overpopulated when antibiotics wipe out the good bacteria in the digestive tract or when a person becomes comes in contact with someone who's infected. The result is [diarrhea, constipation, abdominal pain](#) and, sometimes, flu-like symptoms, says infectious disease physician Dr. Lee Harrison of the University of Pittsburgh Medical Center.

"It's a very, very hardy bug that can live in the environment for a long time," he notes, adding that the bacteria can be introduced to the environment through the feces of an infected patient and can survive as a spore on surfaces, bedrails, even on hospital staff.

The infection, along with several other prevalent hospital superbugs, afflicts 1.7 million hospital patients each year, according to the Centers for Disease Control and Prevention.

"[Infections picked up in health care settings](#) add billions of dollars to our nation's health bill and take as many as 100,000 lives [each year]," adds Dr. Rich Besser, senior health editor for ABC News.

As a result, "there's been a continuing interest in [hospital infections](#) for well over 20 years," says Dr. Richard Wenzel, infectious disease specialist and professor of internal medicine at the University of Virginia, and methods for fighting off these hospital bugs have become a hot topic for research.

New Research Offers New Hope

In a recent study, published today in the *New England Journal of Medicine*, researchers tested a strategy for preventing another common hospital infection, *S. aureus*, better known by its antibiotic-resistant strain, MRSA.

Researchers found that screening surgical patients for *S. aureus* upon admission into the hospital and treating those infected prior to surgery reduced the post-operation infection rate by 60 percent.

The study was conducted across five hospitals in the Netherlands and included nearly 7,000 patients. Infected patients were randomly assigned to treatment with an antibiotic ointment applied to the nostrils and an antibacterial soap bath or treatment with a placebo ointment and placebo soap.

The intervention not only significantly decreased the incidence of post-operative infection with *S. aureus*, but it also reduced the average hospital stay of patients by two days.

Dr. William Schaffner, chair of the preventive medicine at the Vanderbilt University School of Medicine in Nashville, Tenn., said that such studies will "likely have a substantial effect on surgical practice" in the years to come.

Many surgeons already employ the preventive measures for patients undergoing certain kinds of surgical procedures, he notes, and that considering these results, many more hospitals will try to adopt some of these practices.

In the fight against *C. difficile*, one hospital has designed its own approach to reducing the hospital infection.

Harrison of the University of Pittsburgh Medical Center says the facility pioneered a new multi-faceted approach to combating the bug after the hospital experienced large outbreaks in years past.

"We have a bundle approach, which includes isolating patients who have *C. difficile*, hand washing, and limiting the use of antibiotics," Harrison says.

Hand sanitizers do not kill *C. difficile* so hospitals need to work to "un-train" hospital staff who have been trained to rely on them between patients, he says.

Because certain antibiotics are more likely to contribute to *C. difficile*, the hospital also works to limit the use of the drugs when possible.

Since the medical center has employed the bundle program, "rates have come down but it's a constant struggle," Harrison says. "There are always new strains" to deal with.

The Aftermath of Infection

For McKenzie, although his *C. difficile* is now under control, he admits that, "to a certain extent, I'm a little afraid of the hospital now."

While he'll never know exactly how he got *C. difficile*, he warns that "a lot of this is hand contact" and that "it might be dormant in someone and it may become active in you," so it's wise to "be careful."

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