

# What's the best method for cleaning hospital rooms?

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Surprisingly little research exists to guide infection-prevention efforts, study finds.

(HealthDay)—Concerns about hospital "superbugs" have spotlighted the need to prevent the spread of germs in health-care settings. But a new report reveals a disturbing lack of knowledge on something as basic as proper cleaning of a patient's room.

Very little research addresses the best ways to disinfect and sanitize the hard surfaces in a hospital room, investigators report in the Aug. 11 issue of *Annals of Internal Medicine*.

"We basically found that there are studies available to guide actions, but there are much fewer than you might expect for such an important issue," said lead author Dr. Craig Umscheid, an assistant professor of

medicine and epidemiology at the University of Pennsylvania's Perelman School of Medicine in Philadelphia.

At any given time, about one in every 25 hospital patients has an infection they got from being at a hospital, according to the U.S. Department of Health and Human Services. An estimated 721,000 health care-related infections occurred in 2011, which led to about 75,000 deaths, the authors noted in background information.

Hand-washing receives much attention for preventing the spread of germs, but disinfecting the hard surfaces in an examination room or hospital suite can be just as important, Umscheid said. Many dangerous germs are spread by touching counters, floors, tray tables, bed rails, IV pulls, light switches, toilets, and even call buttons.

Many experts believe that only 50 percent of surfaces are typically disinfected during cleaning of a patient's room, according to background notes.

For this report, researchers reviewed 80 studies published between 1998 and 2014.

The investigators found only five randomized, controlled trials that explored the best ways to disinfect surfaces. Most were before/after studies, in which germs were measured on a surface before and after a cleaning product had been used.

Fewer than 35 percent of the studies focused on [infection rates](#) or spread of disease due to unclean surfaces, the researchers said.

They also found that most studies only examined the effectiveness of a single cleaning product or method, rather than comparing it against others.

"There are all these approaches that are available, and there just are no head-to-head trials that compare one versus another and look at outcomes that matter to patients," said Umscheid.

The team identified several studies showing that rates of *C. difficile*, the most common cause of hospital-acquired gastrointestinal infections, fell with the use of bleach-based disinfectants but that a chlorine dioxide-based product was ineffective in reducing contamination and infection rates.

Seventeen studies on newer cleaning technologies—such as devices that emit ultraviolet rays or hydrogen peroxide vapor—reported positive findings, with three demonstrating reductions in infection rates.

The researchers also found some evidence supporting use of contamination-resistant surfaces such as copper-coated bed rails.

Studies attempting to assess the best hospital cleaning strategies are difficult to perform, said Victoria Richards, an associate professor of medical sciences with the Frank H. Netter MD School of Medicine at Quinnipiac University in North Haven, Conn.

"A hospital is a busy and chaotic place," Richards said. "There are a lot of different individuals who go into a lot of different rooms, touching different surfaces. Just by virtue of the environment, it's a very difficult type of research to conduct."

Hospital officials rely heavily on manufacturers' recommendations when it comes to choosing [cleaning products](#), said Donna Armellino, vice president of infection prevention for the North Shore-LIJ Health System in New York.

These recommendations often focus more on how a cleaner would affect

a surface, and just assume it's an effective germ-killer, Armellino said.

"From a medical equipment standpoint, basically they're looking to see what chemicals are compatible with the surface of that specific medical equipment," she said. "Will it discolor the plastic or will it harm the surface of the metal?"

At the same time, Armellino said the threat posed by contaminated surfaces is not as dire as that posed by unwashed hands or unclean medical instruments.

"I would be more concerned with those items that penetrate or come into contact with the mucous membrane, rather than items that come into contact with intact skin," she said.

Patti Costello, executive director of the Association for the Healthcare Environment, objected to the study's methodology.

"This study seems to be more of a compendium of past studies and doesn't provide any new information," she said. Her organization, a personal membership group of the American Hospital Association, stresses on-going education, training and certification that demonstrates a commitment to correct and consistent disinfection, Costello said.

"Hospitals take cleaning and surface disinfection very seriously," she added.

**More information:** For more on hospital-acquired infections, visit the [U.S. Centers for Disease Control and Prevention](#).

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