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Where the Worst Germs Lurk Concern Over Swine Flu Grows, Prompting a Hard Look at the Hygiene Hot Spots During the Day

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They lurk on the kitchen sponge, your computer keyboard and the dirty laundry. Flush the toilet and they become airborne. Strangers leave them behind on airplanes, gas pumps, shopping carts, coffeeshop counters and elevator buttons. Your desktop, office microwave handles, and the exercise bike at the gym are covered with them. Don't even think about the toys at day-care centers or the kids' playground equipment.

Germs—the microscopic bacteria, viruses, fungi and protozoa that can cause disease—cling to the most common surfaces and then hitch a ride on our hands. As swine flu spreads from person to person around the world, it is most often being transmitted by coughing or sneezing, but it can also infect people who touch something with flu virus on it and then touch their mouth or nose, the Centers for Disease Control and Prevention warns. And like an unwelcome house guest, a flu virus can hang around for days.



Alamy (5); Jon Protas/The Wall Street Journal (cups)

No wonder germophobes—including me—are on high alert, viewing every surface as a potentially lethal petri dish. We're using our elbows to push elevator buttons, forgoing the handshake and social kiss for the fist bump, and fanatically disinfecting everything in sight. Sales of alcohol-based hand sanitizers were up nearly 17% as of the first week of September compared to the same period last year, according to Chicago-based research firm Information Resources. And marketers are taking full advantage of our paranoia, introducing anti-bacterial dishwasher-safe keyboards, machine-washable leather shoes, germ-resistant paper file folders and even hands-free communion wafer dispensers for churches.

Journal Community

"How about encouraging sick co-workers to stay home? Turns out the 'work hero' is really just the work insurgent." --Chris Georgandellis

But how vulnerable are we to the sea of germs swirling around us? Our immune system protects us from most of them, and in some spots that harbor germs, like household drains, the risk of transfer is low. Experts say there's no reason to panic—even though there may be good reasons to be grossed out, since the spread of germs is often linked to poor bathroom hygiene and bacteria from human waste.

"We take in humongous amounts of live organisms every day, and we are all routinely covered in fecal organisms," says Michael Bell, associate director for infection control at the Centers for Disease Control and Prevention's Division of Healthcare Quality Promotion. "It's a testament to our body's own defenses—if they routinely made us ill, none of us would have a chance."

Even the scariest bugs can usually be vanquished through old-fashioned hand washing. "Regardless of what you touch, make sure you clean your hands on a regular basis so you have a better chance of not delivering bacteria into your body through your mouth, nose and eyes or a cut on your skin," Dr. Bell says. He advises thorough and frequent hand cleaning—which may be needed 10 times or more daily depending on your activities—with soap or alcohol-based hand sanitizer.

Cleaning and disinfecting things like desks and doorknobs can play a role in protecting us, he says, but "focusing on one surface misses the point, because no surface is not germy." (The [CDC.gov](https://www.cdc.gov) Web site offers information on keeping germs at bay in the home, how to wash your hands correctly, and the importance of flu vaccines and other immunizations in preventing disease.)

Also, not all germs are harmful; we need friendly bacteria that live on our skin to help fight off bad bugs, and bacteria in our mouth and gut help digest our food and prevent illness and disease.

Afraid of Germs? Don't Even Think About Becoming a Teacher

Germ Warfare

Hand washing after contact with surfaces and other people's hands is the best protection against germs. Here are some other tips:

- **At Home:** Wash linens and towels in hot water; dry thoroughly. Disinfect bathroom and kitchen surfaces. Keep toothbrushes away from commode.
- **At the Coffee Shop:** Use napkin when handling communal milk pitchers and to cover countertops when preparing coffee.
- **Commuting or Traveling:** Avoid touching escalator rails, elevator buttons and gas pumps with bare hands; wear socks through airport security.
- **At the office:** Use paper towel on microwave oven handles, communal coffeemakers; use disinfecting wipes on desk and phone.
- **In public restrooms:** Avoid touching flush handles, faucets with bare hands.
- **In the gym:** Use towels on mats and between skin and machines.

WSJ reporting

Still, I wanted to know where in my home, office and wider world I should most forcefully brandish my disinfectant wipes and hand-sanitizer. My calls to experts turned up some surprising culprits: the public toilet seats I'd always been warned about are likely cleaner than the desks in my workplace. My kitchen sponge and cutting board harbor the biggest dangers, as do places like elevator buttons, communal coffee carafes and gym equipment, that are touched by many hands and are rarely cleaned.

"We are sharing more surfaces than ever before in history, spending more time indoors, travelling on bigger planes and cruise ships and working in bigger office complexes," says Charles Gerba, a microbiologist at the University of Arizona's Department of Soil, Water and Environmental Science. "The biggest risks are in areas of high contact—like the hundreds of people who have touched that escalator rail before you did."

One of the scariest germ incubators may be the office. Your co-worker eating at the next cubicle isn't just annoying you with the smell of fried onions—he's leaving behind particles of food that can be breeding ground for bacteria. Add in the microbes transferred from workers' hands to keyboards, phones and the computer mouse, and the average office desk is may harbor 400 times more germs than the average toilet seat, since office desks and surfaces may be rarely cleaned, while bathrooms tend to be disinfected regularly, Dr. Gerba says.

After testing surfaces and objects in 113 offices in five cities, the Arizona researchers found that women's offices had more than twice the bacteria of their male counterparts. Makeup cases, phones and purses had the highest number of bacteria; for men it was wallets, hand-held electronic devices and phones. Women's offices had higher numbers of mold and yeast, mostly from food kept in drawers. But the superbug MRSA, isolated in 6% of offices, was found more often in men's offices on the phone, computer mouse, desktop and the bottom of desk drawers.

The studies are funded by makers of disinfectants including [Procter & Gamble](#) and [Clorox](#), whose products were also used to test the effectiveness of cleaning and compare regular cleaning regimens to disinfecting with substances like bleach. Dr. Gerba says more research is needed on the link between surface germs and disease, since it's impossible to say who will get sick. "Some people will never get ill no matter what they do or don't do, and others will get ill almost every time," he notes.

At home, the kitchen may be the germiest room. About 50% to 80% of food-borne illnesses happen in the home, where micro-organisms can be spread from raw meat and vegetables on chopping boards, utensils and counters, and then spread on hands. The culprits are dangerous bacteria such as e. coli, salmonella and campylobacter. They cause food-borne illnesses that strike 76 million people each year, sending 300,000 of them to the hospital and killing 5,000.

One problem is haphazard cleaning; a study by the U.K.-based Hygiene Council found that in 12% of cases, surfaces that looked clean in homes were heavily contaminated. Sponges and cleaning cloths can be swarming with bacteria from previous wipe-ups, so to be on the safe side, it's best to use paper towels, disposable cloths or reusable ones that have been decontaminated and dried, the group advises. The CDC advises microwaving sponges for 30 seconds or putting them in the dishwasher every other day or so depending on how often you use them.

In the laundry room, your average load of wash contains more than coffee stains. The Hygiene Council also warns it can be packed with bacteria such as e. coli from clothing, towels and linens. Washing in cold water doesn't kill the germs; if you have to wash at lower temperatures, add a laundry disinfectant. Wash your hands after loading the washing machine and dry clothes immediately, since bacteria and fungi build up on damp items, the group advises.

In the bathroom, the family toothbrush holder can also harbor bacteria; if you have to all share the same one, don't allow the brushes to touch each other, the CDC recommends. But it also says there is no evidence to support disinfecting toothbrushes in the microwave or with ultraviolet devices on the market. Best strategy: Get a new one every few months and rinse thoroughly after using.

And keep your toothbrush away from the commode—especially the powerful flush of toilets on airplanes. Some studies have shown that flushing sends a spray of water containing bacteria that settles on people and surrounding surfaces. In general, fecal particles are only worrisome if they've come from someone with intestinal illness or diarrhea, but the best advice I ever heard was to treat all airplane bathroom surfaces as if they are radioactive; keep the lid closed when flushing, use a paper towel to handle lid, faucets and door handles after washing hands, then use hand sanitizer once back at the seat as an extra precaution.

While surfaces are often the leading source of germs, remember germs can thrive in water we may inadvertently swallow at public swimming pools (don't ever get in one if you see a baby without a swim diaper) and waterparks (think of all those people who may not be diligent about personal hygiene). Hotel hot tubs can be bubbling cauldrons of rash-causing *Pseudomonas aeruginosa*, as chlorine and other disinfectants evaporate more quickly in high temperatures. And communal showers may harbor foot fungus. After reviewing all this depressing information, I turned to my own doctor, New York infectious disease specialist Eric Neibart, who helped bring me down to earth—sort of. What are the chances of picking up an infectious disease from the germs we come in contact with daily? "Millions of people touch things every day and nothing happens, so just use common sense," Dr. Neibart advises. "There's a bigger risk of being injured in a taxicab."