

Standard methods rid hospital rooms of coronavirus, slashing transmission rates

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Wash your hands. Don't touch your face. Don't grab that door handle.

Put the toilet seat lid down before you flush.

COVID-19 has prompted a mountain of advice about how to protect yourself against [coronavirus infection](#), and now a trio of studies of infected patients offer very encouraging news on what works.

The bad news first—people infected with the new [coronavirus](#) appear to shed it everywhere.

The virus was found all over the [hospital rooms](#) of three COVID-19 patients in Singapore, a report published online March 4 in the *Journal of the American Medical Association* showed.

The virus was found on a host of surfaces, including bed rails, door handles, chairs, light switches, windows, sinks, stethoscopes, air fans and toilets, according to a team led by Sean Wei Xiang Ong, of the National Center for Infectious Diseases, in Singapore.

The good news? All of those surfaces wound up virus-free following routine cleaning with a widely used chlorinated sanitizer, suggesting that coronavirus is no more hearty than the flu or noroviruses, said Dr. Greg Poland, director of the Mayo Clinic's Vaccine Research Group, in Rochester, Minn.

"What this study suggests is what we know from other studies and from common sense," Poland said. "Where those surfaces have been cleaned, they're safe. Where they haven't been cleaned, they're not safe."

These sorts of precautions appear to limit the ability of COVID-19 to spread between people, two other studies reported.

No [health care workers](#) in Hong Kong contracted COVID-19 and no hospital-acquired infections were identified within the first six weeks of

the outbreak, even though the health system there tested 1,275 suspected cases and treated 42 confirmed cases, according to a study published March 5 in the journal *Infection Control & Hospital Epidemiology*.

What works to stem spread

Researchers led by Vincent Cheng, from Queen Mary Hospital in Hong Kong, credited hospital infection-control measures, including hand washing, regular cleaning, and the use of protective gloves and surgical masks.

"Appropriate hospital infection-control measures can prevent health care-associated transmission of the coronavirus," the study authors wrote.

Another study, this one of the first 10 U.S. cases of COVID-19, found that quarantine and other safety precautions can prevent the virus' spread.

A total of 445 people had close contact with 10 travel-related cases of COVID-19 that appeared early in the United States, as the virus raced through China, researchers from the U.S. Centers for Disease Control and Prevention reported online March 3 in the CDC's *Morbidity and Mortality Weekly Report*.

Nineteen were members of a patient's household, and five of those 19 continued to have household exposure while the patients were held in isolation, according to Rachel Burke, of the CDC's COVID-19 Response Team, and colleagues. The remainder of the 445 include 104 community members who spent at least 10 minutes within six feet of an infected person, 100 people exposed to a sick person in a health care setting, and 222 health care workers.

Despite all this exposure, only two people wound up contracting the

coronavirus from the first 10 patients, both of them spouses of infected people. That amounts to a secondary infection rate of 0.45% among all close contacts and 10.5% among household members.

Dr. Nancy Messonnier, director of the CDC's National Center for Immunization and Respiratory Diseases, warned not to read too much into the CDC report.

"I actually do think that's good news, but it is a relatively small number of cases compared to, for example, the 80,000 cases that are around the world," Messonnier said. "We take that as optimistic, but of course we still need to be cautious with these early cases and do complete investigations, which our state and local health departments are doing."

Dr. Amesh Adalja, senior scholar with the Johns Hopkins Center for Health Security in Baltimore, agreed.

"It is reassuring that the secondary attack rate was low, but it remains to be seen how representative that is of true community spread," Adalja said. "It makes sense that household members are at higher risk. We know that there is no population immunity to this virus, so we may see higher secondary attack rates as we study more patients and transmission events."

The results of the Singapore hospital study suggest that the coronavirus spreads through droplets produced by sneezing and coughing, as well as in a person's feces, Poland said.

What doesn't stem spread

"When you flush a toilet, a so-called plume cloud results," Poland explained. "That and air-blown hand dryers are very effective ways of spreading viruses around a bathroom."

For example, a norovirus patient with diarrhea pushes down the flush handle and then investigators "are able to isolate the virus off of every single surface in that bathroom," Poland said. "Ceilings, fans, dryers, you name it."

The Hong Kong cases also showed how a lack of sanitary practice can allow the coronavirus to spread.

Researchers determined that 11 confirmed COVID-19 cases were likely transmitted during a single family gathering for "hot pot" dining, where utensils contaminated with saliva were co-mingled in shared pots. Patients included a 91-year-old woman and a child, who both tested positive for the virus but didn't display symptoms.

People should expect the surfaces around a coronavirus patient to be contaminated, but the virus is easily killed with disinfectants, bleach, alcohol and other common cleansers. "All of those sorts of things very handily kill this virus," Poland said.

The Hong Kong study highlights the importance of hand washing as well, researchers there suggested.

However, Poland warned that not all methods of hand cleansing are equal.

Alcohol-based hand sanitizers will kill any coronavirus they touch directly, but viruses might escape if they're protected by other substances, Poland said.

"If the virus is within visible dirt on your hands or if the virus is within mucous because you coughed or sneezed on your hand, a hand sanitizer is not going to be effective, whereas [hand washing](#) would be," Poland said.

"The most effective way to clean your hands is with soap and water," Poland concluded. Thoroughly cleaning with soap and water will wash away both the virus as well as any substances harboring the [virus](#).

More information: Harvard Medical School has more about [preventing infectious diseases](#).

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