

# SARS-CoV-2 contamination of air, surfaces examined in ICU, wards

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(HealthDay)—Considerable severe acute respiratory syndrome

coronavirus-2 (SARS-CoV-2) contamination of air and object surfaces is reported in intensive care units (ICUs) and general coronavirus disease 2019 (COVID-19) wards (GW), according to a study published online April 10 in *Emerging Infectious Diseases*, a publication of the U.S. Centers for Disease Control and Prevention.

Zhen-Dong Guo, from the Academy of Military Medical Sciences in Beijing, and colleagues tested air and surface samples to examine the distribution of SARS-CoV-2 in two hospital wards in Wuhan, China, from Feb. 19 through March 2, 2020. Swab samples were collected from potentially contaminated objects in the ICU and GW.

The researchers found that the rate of positivity was higher in the ICU than the GW (43.5 versus 7.9 percent). The rate of positivity was relatively high for floor swab samples (70 and 15.4 percent in the ICU and GW, respectively). Half of the samples from the soles of ICU [medical staff](#) shoes were positive. The rates of positivity were also relatively high for the surface of objects frequently touched by medical staff or patients, with the highest rates for computer mice (75 and 20 percent in the ICU and GW, respectively). In samples from sleeve cuffs and gloves of medical staff, sporadic positive results were obtained. Positive results were obtained for 35 and 12.5 percent of air samples collected from the ICU and GW, respectively. Rates of positivity for SARS-CoV-2 aerosol transmission were 35.7, 44.4, and 12.5 percent near air outlets, in patients' rooms, and in the doctors' office area.

"These findings indicate that virus-laden aerosols were mainly concentrated near and downstream from the patients," the authors write. "However, exposure risk was also present in the upstream area; on the basis of the positive detection result from site 3 (doctors' office area), the maximum transmission distance of SARS-CoV-2 aerosol might be 4 m."

**More information:** [Abstract/Full Text](#)

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