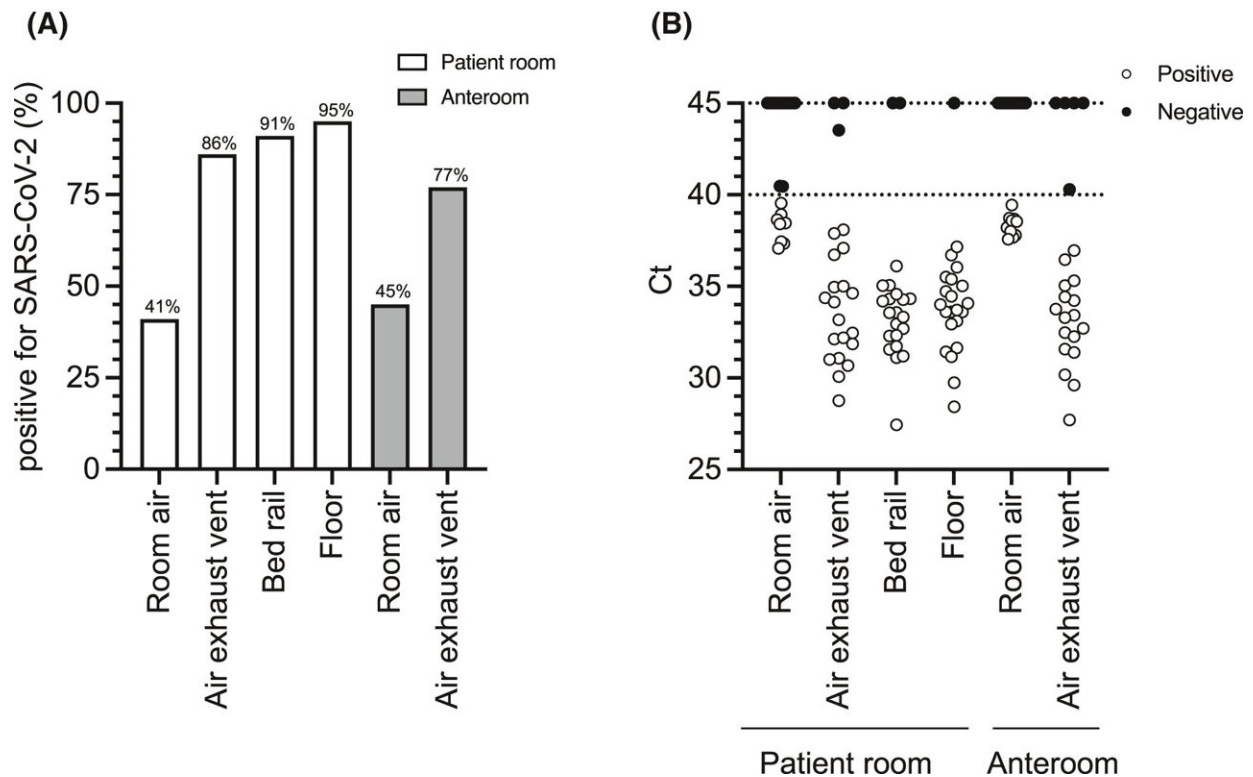


Study demonstrates active SARS-CoV-2 in air

April 5 2022



Air and surface sampling from patient rooms and adjoining anterooms. Air and surface samples were collected from patient rooms and adjoining anterooms and tested for the presence of SARS-CoV-2 by hid-RT-PCR. (A) Percentage of positive air and surface samples across different sampling locations. (B) Ct distribution of the samples collected in different sampling locations. Circles represent individual samples. Average Ct for patient room locations are 38.27 (room air), 33–49 (air exhaust vent), 33.08 (bed rail), and 33.62 (floor). Average Ct for anteroom locations are 38.32 (room air) and 32.99 (air exhaust vent). Credit: *Indoor Air* (2022). DOI: 10.1111/ina.13023

A recent study published in *Indoor Air* by Antonio Rothfuchs et al, is the first to demonstrate active SARS-CoV-2 in air. Infectious SARS-CoV-2 was recovered from the air in rooms occupied by COVID-19 patients. This result strongly supports the aerosol route of transmission for SARS-CoV-2 and urges the revision of infection control frameworks for COVID-19 to include airborne transmission. We spoke with Antonio Rothfuchs, associate professor at MTC, and one of the co-authors of the study.

What are the most important results?

We recovered active SARS-CoV-2 from the air in rooms occupied by COVID-19 patients. Our study is the first to demonstrate infectious SARS-CoV-2 in air.

Why are these results important?

There has been a lack of understanding and consensus concerning the mechanisms of SARS-CoV-2 transmission. Our study is important because it strongly supports the [aerosol](#) route of transmission for SARS-CoV-2 and urges the revision of infection control frameworks for COVID-19 to include airborne transmission.

How can this new knowledge contribute to improving human health?

Understanding how a pathogen spreads is important for blocking its transmission in society. By demonstrating the aerosol route of transmission for SARS-CoV-2 we highlight the importance of ventilation-based measures in stopping the spread of the virus.

How did you conduct the study?

The study was carried out in the infectious disease ward of University Hospital Uppsala during the second SARS-CoV-2 wave in a joint, collaborative effort between our group at MTC; Erik Salaneck at Uppsala University (UU), University Hospital Uppsala; and Klas Udekwu at the Swedish University of Agricultural Sciences (SLU) and UU.

What is the next step in your research?

An important next step is to investigate how aerosols containing the virus are generated, e.g. through coughing, other expiratory maneuvers or re-aerosolization of virus from surface deposits.

More information: Nuno Rufino de Sousa et al, Detection and isolation of airborne SARS-CoV-2 in a hospital setting, *Indoor Air* (2022). [DOI: 10.1111/ina.13023](https://doi.org/10.1111/ina.13023)

Provided by Karolinska Institutet

Citation: Study demonstrates active SARS-CoV-2 in air (2022, April 5) retrieved 28 February 2023 from <https://medicalxpress.com/news/2022-04-sars-cov-air.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.