

IN-AIR PATHOGENS

Proven facts & popular myths

THE FACTS

The 3 principal modes of in-air pathogen transmission

- 1** **Inhalation** of air carrying very small fine droplets and aerosol particles containing pathogens.
- 2** **Deposition** of pathogens carried in exhaled droplets and particles onto exposed mucous membranes (e.g., “splashes and sprays,” such as being coughed on).
- 3** **Touching** mucous membranes with hands soiled by exhaled respiratory fluids containing pathogens.¹



COMMON MYTHS

Myths surrounding the transmission of in-air pathogens

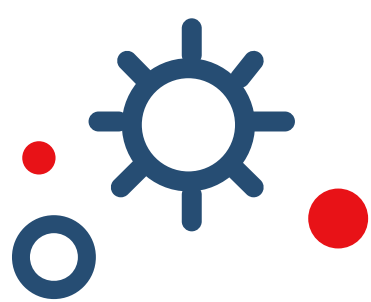
MYTH 1



“UNCROWDED INDOOR SPACES ARE SAFE”

While it was once believed that direct or very close contact was required for in-air pathogen transmission, research now indicates that pathogens can travel a significant distance, including well beyond six feet. In fact, pathogens suspended in air can even travel by air currents to reach other parts of a facility, where there is potential of them being inhaled.^{2,3}

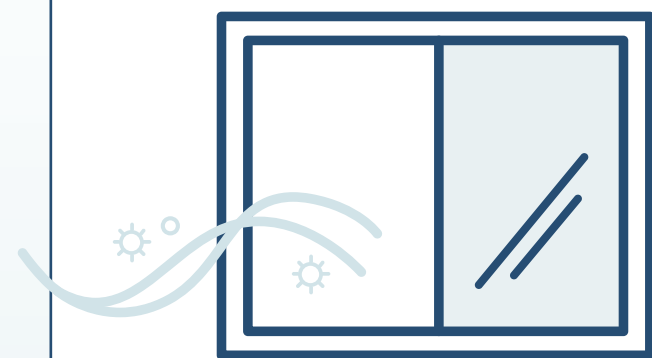
MYTH 2



“PATHOGENS DON'T STAY IN AIR FOR LONG”

Research has shown that the smallest very fine droplets and aerosol particles that carry in-air pathogens are small enough that they can remain suspended in the air for minutes to hours. This means pathogens can remain in the air of a room -and be inhaled- long after an infectious person has left the room.⁴

MYTH 3



“OPEN WINDOWS MAKE INDOOR SPACES SAFE”

While proper ventilation can reduce the risk of transmission of in-air pathogens, the specific conditions required for adequate ventilation are highly precise. And according to recent research, those ventilation requirements are rarely met in everyday facilities, and almost never met by opening windows.^{5,6}

¹<https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html> ²<https://www.ncbi.nlm.nih.gov/books/NBK531468/> ³<https://jamanetwork.com/journals/jama/fullarticle/2763852>
⁴<https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html> ⁵<https://www.medrxiv.org/content/10.1101/2021.03.17.21253800v1.full-text>
⁶<https://www.nature.com/articles/d41586-021-00810-9#ref-CR3> ⁷<https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html>

To learn more about in-air pathogen transmission, and how to help protect your indoor environment, visit thermofisher.com/aps