



## Topic: Ventilation

### TOOLS & RESOURCES

Project Firstline Video: [Episode 17: What is Ventilation?](#)

Project Firstline Video: [Episode 18: Why Does Ventilation matter?](#)

American Society for Healthcare Engineering Videos on Ventilation: <https://www.ashe.org/project-firstline/videos-on-ventilation>

Ventilation Demonstration Video: <https://www.youtube.com/watch?v=KTjtYVwoSj4>

AHRE Ventilation Standards (a fee is required to purchase standards): [https://www.techstreet.com/ashrae/standards/ashrae-170-2021?product\\_id=2212971](https://www.techstreet.com/ashrae/standards/ashrae-170-2021?product_id=2212971)

Chicago Department of Public Health: <https://www.chicagohan.org/en/web/han/hai/pfl>



*The Centers for Disease Control and Prevention Project Firstline initiative aims to provide infection prevention and control training for frontline healthcare workers by supporting their efforts to understand and confidently apply the principles necessary to protect themselves, their facility, and their community from infectious disease threats.*

### Ventilation

Ventilation is the movement of air in and out of spaces. In healthcare, good ventilation is important to ensure people are not exposed to chemicals, dust, other hazards in the air, and to help reduce the spread of respiratory germs in a facility.

To ensure ventilation is occurring to look for vents or fans, like you would in your home. In healthcare, actions like opening a window or changing the fan in a room can change the balance of air across a lot of different spaces. One room is affected by another, and that is why it is important to work with the experts in your facility that oversee air handling and ventilation. Ventilation is one of the many strategies in healthcare that keep germs from spreading.

It is important to **NOT** take steps to improve ventilation on your own. Actions like opening windows, or blocking or redirecting vents, can change the balance of air pressure and the ventilation in other spaces in your facility. You can always work with the staff at your facility who are in charge of ventilation systems if you have questions or think changes need to be made.

### Air Exchanges

An air exchange is the amount of time it takes for a room's old air to be completely replaced with new air. In healthcare, nearly every room in a healthcare facility has a recommended number of air exchanges. Those air exchanges are measured by the hour, so we think about how many times per hour the air in a room is replaced.

For example, 12 air exchanges are recommended for emergency department rooms. Meaning, the air in the emergency room waiting area would be removed and filtered or replaced 12 times in an hour.

The recommendations for air exchanges come from the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE). If you have questions about the recommended air exchanges in your facility, reach out to the experts in your facility as they will have access to that information.

Understanding the air exchanges are important because it will tell you how long a room should remain empty after a patient leaves and before another person comes in. Staff entering a room before an air exchange is complete will need to wear recommended PPE until the air is completely cleared. PPE should also be worn when entering a room where a patient is still present.

*Please reach out to [InfectionPrevention@team-iha.org](mailto:InfectionPrevention@team-iha.org) if you have any questions or comments.*