



# Best Practices for Ventilation of Isolation Areas to Minimize Airborne Infectious Disease Transmission

**Guidance published 6/29/23**

Janelle Nystrom, MPH  
CDPH Occupational Health Branch



# Temporary airborne infection isolation for airborne infectious diseases (**AirIDs**).



**TOMÁS J. ARAGÓN, M.D., Dr.P.H.**  
*State Public Health Officer & Director*

## State of California—Health and Human Services Agency **California Department of Public Health**



**GAVIN NEWSOM**  
*Governor*

June 29, 2023

**TO:** Skilled Nursing Facilities, Long-Term Care Facilities, Hospices, Drug Treatment Facilities, and Homeless Shelters

**SUBJECT:** Best Practices for Ventilation of Isolation Areas to Reduce COVID-19 Transmission Risk in Skilled Nursing Facilities, Long-Term Care Facilities, Hospices, Drug Treatment Facilities, and Homeless Shelters

**Related Materials:** [Interim Guidance for Ventilation, Filtration, and Air Quality in Indoor Environments \(ca.gov\)](#) | [COVID-19 Isolation and Quarantine Guidance](#) | [All Guidance](#) | [More Languages](#)

## **Introduction**

The COVID-19 pandemic has demonstrated the need for skilled nursing facilities (SNFs), long-term care facilities, hospices, drug treatment facilities, and homeless shelters to employ effective resident isolation strategies to prevent transmission of viruses through the air. These facilities must continue to be prepared to isolate residents who have, or are suspected of having, COVID-19 or any other infectious disease that spreads through the air. This document describes several methods that can help prevent transmission of infectious, aerosol-transmissible respiratory viruses within the close quarters of residential facilities by modifying the environment and enhancing ventilation.

# Developing the Guidance

Cal/OSHA's Aerosol Transmissible Diseases (ATD) standard covers SNFs

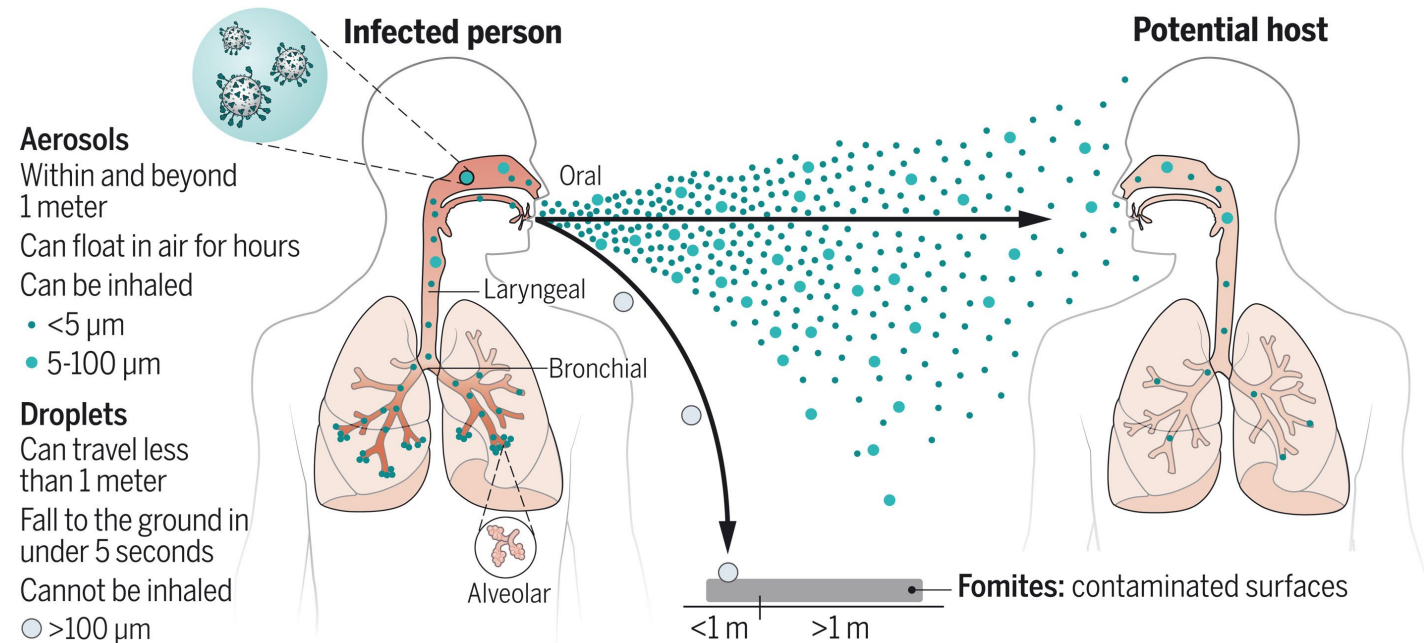
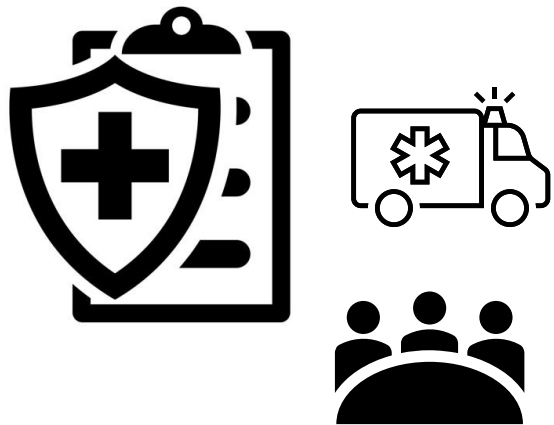
- Typically “referring” patients to a facility with an Airborne Infection Isolation Room (**AIRR**)

We've learned some hard lessons from the COVID-19 pandemic:

- “Referring employers” were often unable to refer patients
- Rapid airborne infection isolation needed to prevent spread
- **Other effective control measures** must be used to temporarily isolate patients when AIRRs are not available

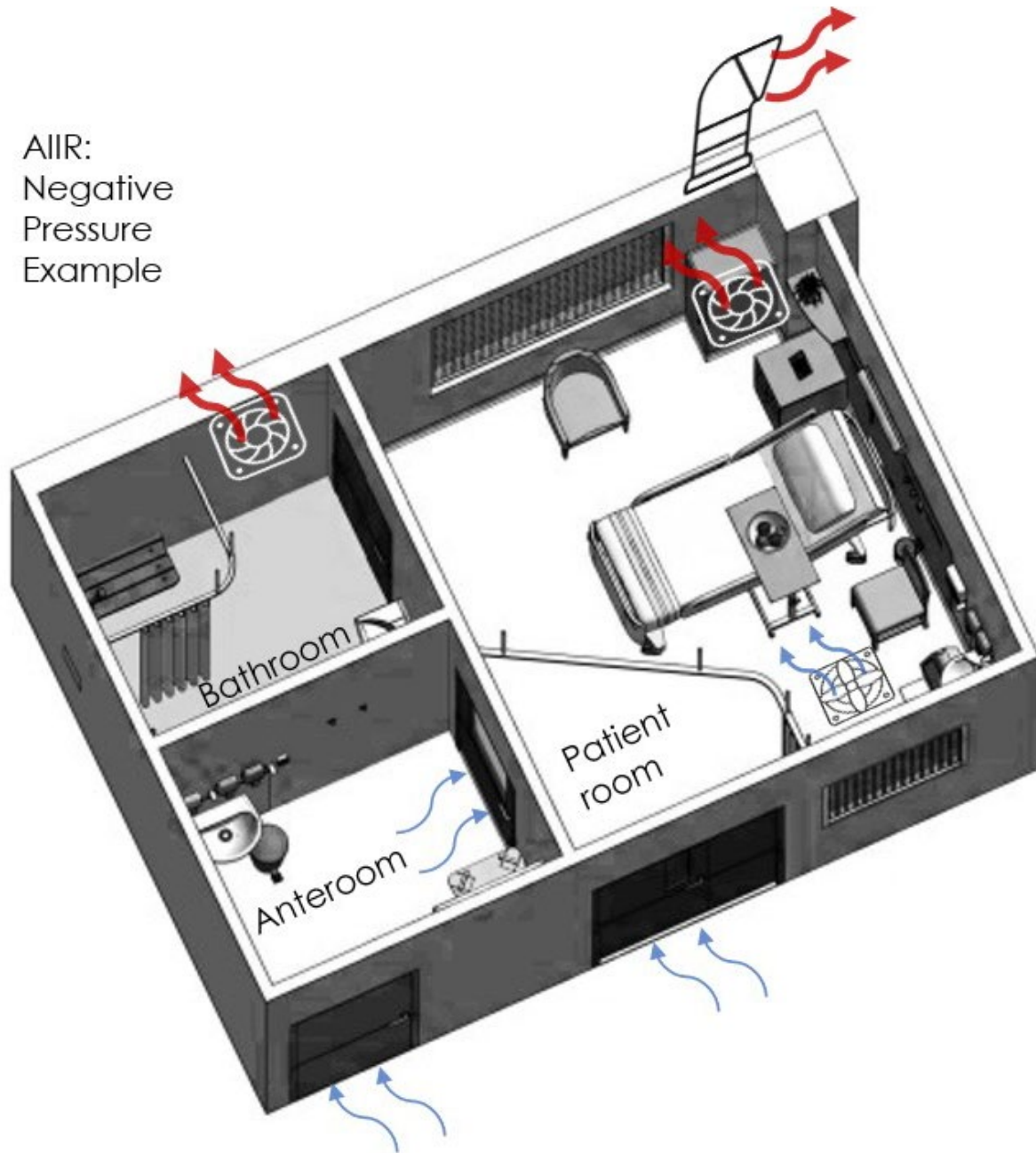
# WHY?

- We know that AirIDs are here to stay
  - Isolation for COVID positive residents is still necessary to reduce risk of transmission
- We need to be prepared for emergencies
- We can plan now



# AIIRs

AIIR:  
Negative  
Pressure  
Example



## What's so great about **Airborne Infection Isolation Rooms (AIIRs)**?

- Contain airborne infectious particles
- Dilute room air through high air exchange rate
- Exhaust contaminants directly outdoors (no recirculation)
- Provide negative pressure relative to the hallway
- Monitor directional airflow



# What is the goal?



Protect patients

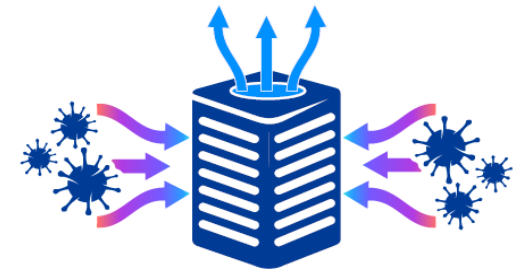
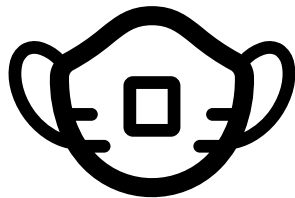
Protect staff

Protect visitors and community

# Exceptions to Cal/OSHA

- Facilities must place residents who have, or are suspected of having, an airborne infectious disease in an airborne infection isolation room (AIIR), **unless one is not available.**
- For novel and unknown pathogens, facilities must place residents in an AIIR, **unless doing so is not feasible.**

“When it is not feasible to provide All rooms or areas... the employer shall provide **other effective control measures** to reduce the risk of transmission to employees, which shall include the use of respiratory protection...”



# Continuum of effective control measures

Most Effective



Airborne Infection Isolation Rooms  
(gold standard but absent in most SNFs)

Temporary isolation using negative air machines  
(negative pressure and high level of filtration)

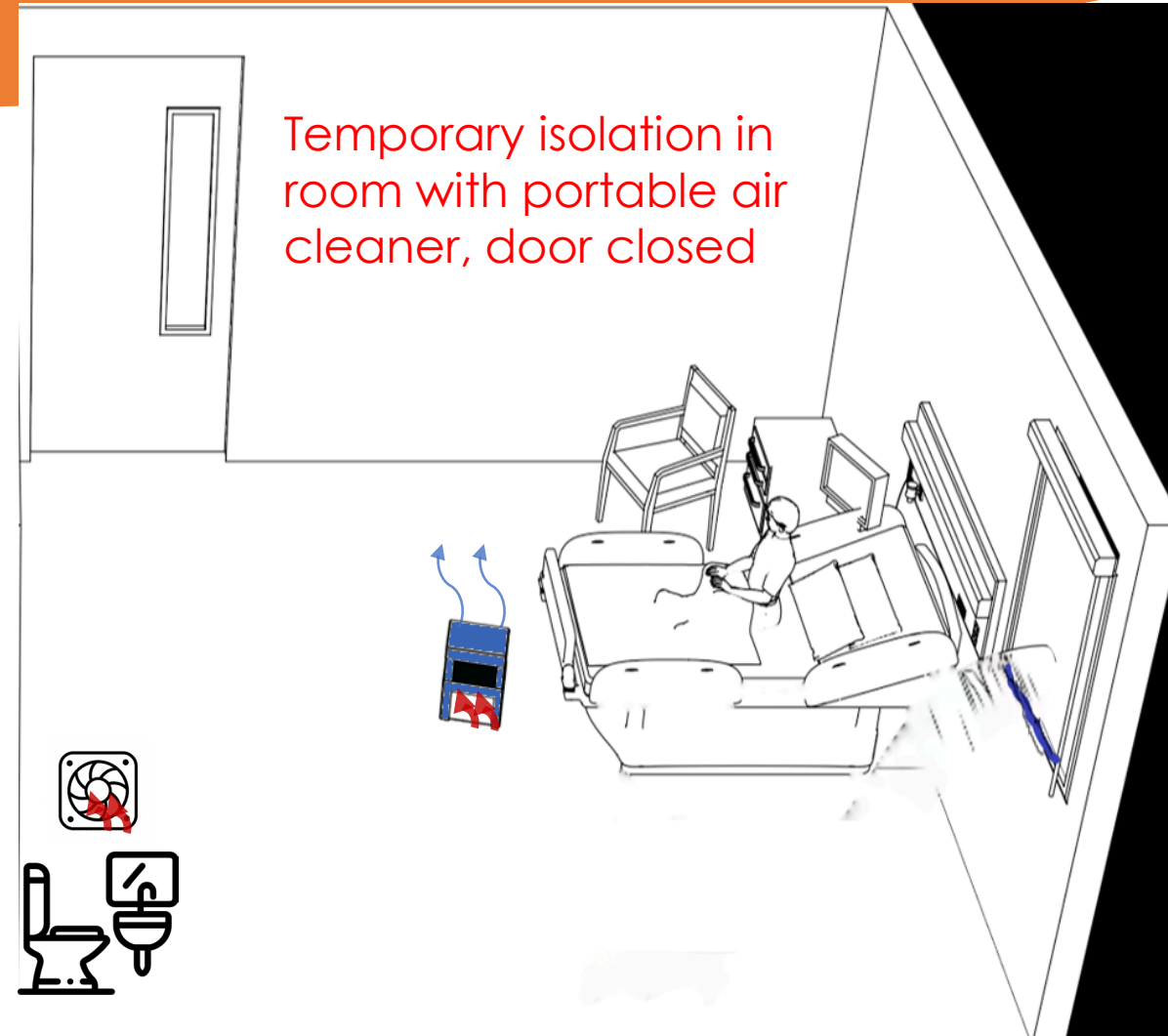
Temporary isolation in room with portable air cleaner,  
door closed

Least Effective



# Control measures for temporary isolation: **Easiest-to-implement**

- Care for AirID positive residents in a single-person room
- Keep doors to isolation rooms closed
- Increase filtration in the room by using portable air cleaners.
- Run the bathroom exhaust fan

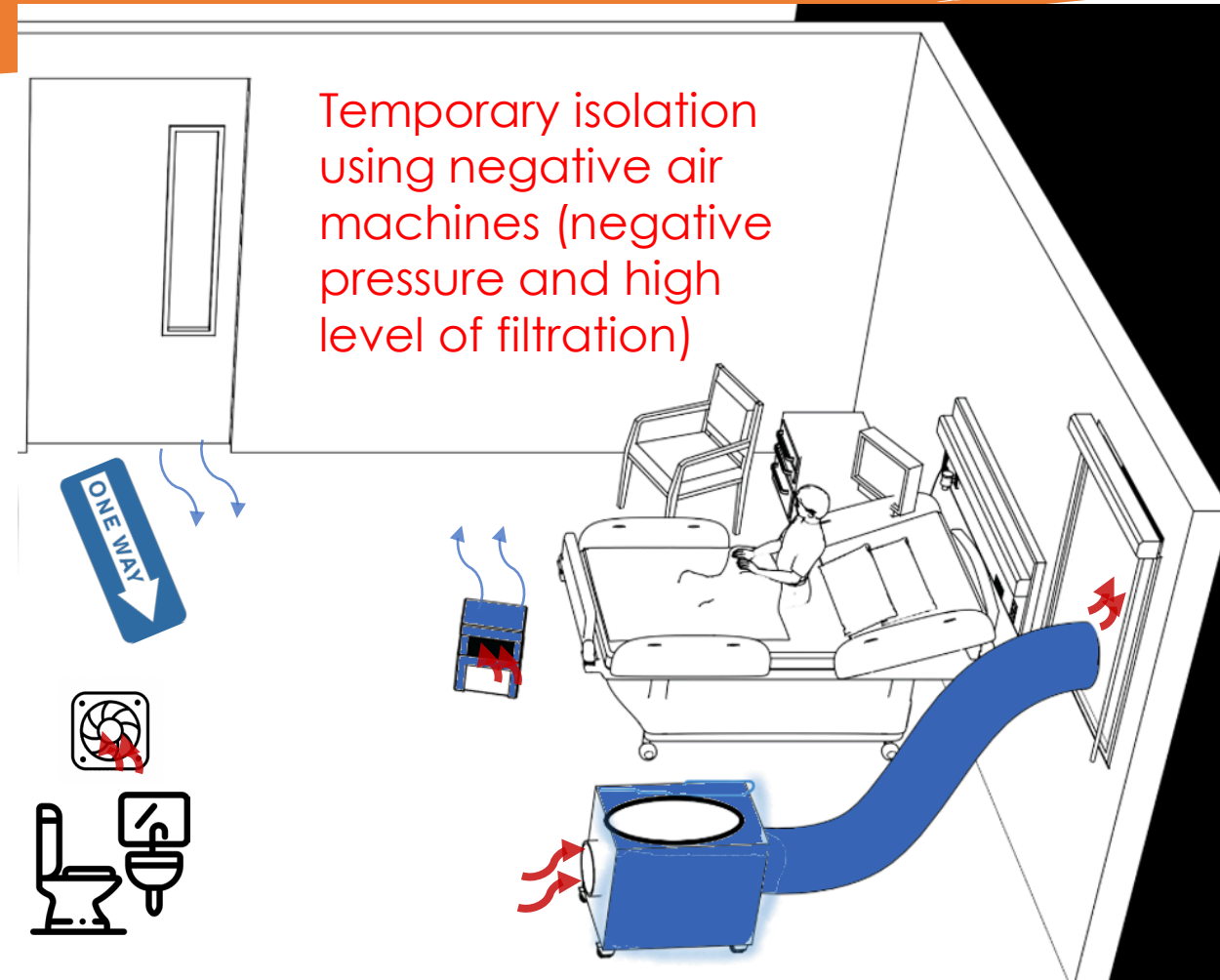


# Control measures for temporary isolation

## More effective

Consult with experienced professionals to:

- Create negative pressure inside the room by installing a negative air machine
- Continuously provide the room with minimum six air changes per hour.
- Exhaust air from rooms directly to the outdoors.
- Prevent recirculation of isolation room air to other sections of the facility.



# Examples

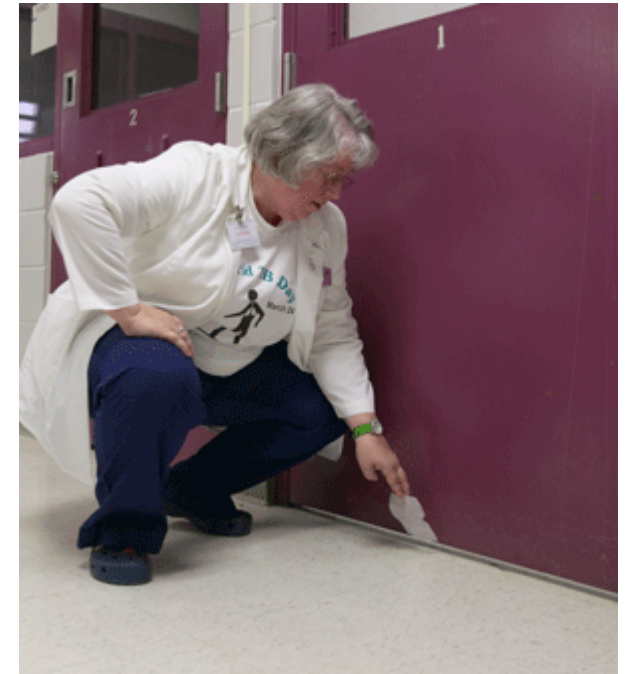


Negative air machine ducted out the window

HEPA air filter with exhaust option for negative pressure



Minihelic gauge




Checking negative pressure



**Take this  
with you!**

Airborne infection isolation for patients with AirIDs is necessary to protect staff, residents, visitors, and your community.

If AIRs are not available, you know the strategies to:

- Isolate patients and ventilate their isolation space immediately.
  - Implement more effective temporary airborne infection isolation controls.
- 

**What are  
your  
thoughts?**

Questions? Comments?

- How have you managed isolation in your facility?



# Resources:

CDPH “Best Practices for Ventilation of Isolation Areas to Reduce COVID-19 Transmission Risk in Skilled Nursing Facilities, Long-Term Care Facilities, Hospices, Drug Treatment Facilities, and Homeless Shelters” June 29, 2023

<https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/COVID-19/Best-Practices-for-Ventilation-of-Isolation-Areas-to-Reduce-COVID-19-Transmission-Risk.aspx>

Cal/OSHA Aerosol Transmissible Diseases (ATD) Regulation | Department of Industrial Relations

<https://www.dir.ca.gov/title8/5199.html>

The California Workplace Guide to Aerosol Transmissible Diseases (Cal/OSHA 2023):

[https://www.dir.ca.gov/dosh/dosh\\_publications/ATD-Guide.pdf](https://www.dir.ca.gov/dosh/dosh_publications/ATD-Guide.pdf)

American Society for Healthcare Engineering (ASHE) (2021) [Current/Updated Health Care Facilities Ventilation Controls and Guidelines for Management of Patients with Suspected or Confirmed SARS-CoV-2 \(COVID-19\).](#)

