

Recommendations for wildfire smoke and respiratory viruses

This guidance will help air quality and public health officials in Washington state respond to wildfire smoke events when respiratory virus (COVID-19, Respiratory Syncytial Virus or RSV, influenza) transmission is also a concern. It indicates how wildfire smoke is impacted by the additional presence of respiratory viruses. Additional resources are included for each topic. This guidance provides baseline recommendations. Please also follow any local health jurisdiction, workplace, business, or school policies, which may provide additional guidance specific to their setting or community.

Overlapping Health Impacts of Wildfire Smoke and Respiratory Viruses

Breathing in wildfire smoke can produce harmful health effects. These range from minor symptoms, such as eye, nose, and throat irritation, or headaches, to more severe symptoms like shortness of breath, chest tightness, asthma attacks, and worsening of existing chronic conditions. Some of these respiratory symptoms, including dry cough, sore throat, and difficulty breathing, are also common symptoms of respiratory viruses, such as COVID-19, RSV, and influenza.

Both respiratory viruses and wildfire smoke exposures adversely impact the respiratory and immune systems. Increasing evidence suggests experiencing both can lead to worse health outcomes. Past research shows inhaling wildfire smoke can make people more likely to get pneumonia and bronchitis, which are also common with other respiratory virus infections. Studies also show people living with poor air quality suffer from respiratory virus infections that happen more frequently and have more severe symptoms. This suggests people with a respiratory virus may have greater risk of health effects from breathing wildfire smoke.

People with increased risk of health effects from wildfire smoke exposure include people with:

- Heart and lung diseases
- Respiratory infections
- Diabetes
- Stroke survivors
- Also, infants, children, pregnant people, and people older than 65

Health status, life stage, lack of access to resources or health care, or environmental injustices that most seriously harm people of color also can increase risk. Some of these groups are also at higher risk for getting very sick from respiratory viruses, including those with chronic respiratory conditions.

Additional Considerations for Respiratory Viruses: Seek medical attention for severe symptoms, such as chest pain or difficulty breathing, including during wildfire smoke events. If you have any possible [respiratory virus symptoms](#) during a wildfire smoke event, they may be from a respiratory virus or from breathing wildfire smoke. If you are concerned you may have a respiratory virus during a wildfire smoke event, follow the guidance in [What To Do When You Are Sick With COVID-19 or Another Respiratory Virus](#). If you have respiratory virus symptoms during a wildfire smoke event and are at high risk of getting very sick or are likely to have close contact with someone at high risk of getting very sick from a respiratory virus, it is especially important to follow the guidance in [What To Do When You Are Sick With COVID-19 or Another Respiratory Virus](#). Also, stay up to date on your respiratory virus vaccines. If worried about your health, contact your health care provider.

Reducing Exposure to Wildfire Smoke when There's Risk of Respiratory Virus Transmission

We recommend the following to reduce exposure to wildfire smoke. We also have additional guidance on the impact of respiratory viruses below. More about how to protect yourself from wildfire smoke is available on our [Smoke from Fires webpage](#).

Stay indoors and keep indoor air clean

When the air quality is poor from wildfire smoke, reduce outdoor physical activity. As the air quality worsens you will need to go indoors and take additional steps to keep smoke out of your home and improve air filtration to keep indoor air clean.

Additional Considerations for Respiratory Viruses: Respiratory viruses are more easily spread indoors. When there is wildfire smoke, it is more difficult to bring in outside air to reduce the risk of spreading viruses. Indoor air filtration is the best way to protect yourself from exposure to wildfire smoke and respiratory viruses when indoors.

Reduce intake of smoke into your home

To keep indoor air clean and wildfire smoke from entering your home, see “How can I improve filtration in my home to reduce smoke levels?” on the [Smoke from Fires webpage](#).

Additional Considerations for Respiratory Viruses: Increased air flow and filtration is a part of reducing transmission of respiratory viruses. See [our guidance for Ventilation and Air Quality for Reducing Transmission of Airborne Illnesses](#). When there is poor air quality due to wildfire smoke, opening windows or bringing in unfiltered outside air through ventilation brings smoke indoors. This also is a health risk and can lead to worse respiratory virus outcomes. Follow other steps to reduce exposure to each hazard, such as following guidance in [What To Do When You Are Sick With COVID-19 or Another Respiratory Virus](#) if there is someone sick in your household. Bring in outside air when air quality improves.

Avoid activities that create indoor air pollution

Do not add to indoor air pollution during wildfire smoke events. See “What can I do to protect myself and my family from outdoor smoke?” on the [Smoke from Fires webpage](#) for more information.

Avoid using strong-smelling cleaning or household products. Cleaning is useful for protecting health, but products, including cleaners, sanitizers, and degreasers, often add harmful chemicals into the air. See [our Safe Cleaning Practices recommendations](#) for more information.

Improve indoor air filtration

Filtration of air in your home will improve the indoor air quality and reduce your exposure to respiratory viruses and smoke during wildfire smoke events. There are three ways to improve indoor air filtration of smoke particles in your home:

- Increase filtration in the heating, ventilation, and/or air conditioning (HVAC) system
- Use a portable air cleaner with a HEPA filter
- Use a Do It Yourself (DIY) box fan filter

See “How can I improve filtration in my home to reduce smoke levels?” on the [Smoke from Fires webpage](#) for more information.

Additional Considerations for Respiratory Viruses: Increased filtration is a part of reducing transmission of respiratory viruses (see [our guidance for Ventilation and Air Quality for Reducing Transmission of Airborne Illnesses](#)). You can run an HVAC system and use a HEPA portable air cleaner to reduce your exposure to wildfire smoke and respiratory virus transmission while at home. If you do not have a HEPA portable air cleaner, you can consider use of a DIY box fan filter. Depending on conditions in your household, such as whether someone is isolating with COVID-19 or another respiratory virus and if they are especially sensitive to wildfire smoke, you may have to prioritize where indoor air filtration devices go in your home. You can move indoor air filtration devices between rooms. However, every time you move the device, it takes time for it to clean the air in the room. Follow other steps to reduce exposure to each hazard - see our [What To Do When You Are Sick With COVID-19 or Another Respiratory Virus](#) and [COVID-19 Resources and Recommendations](#) for more information.

Masks

When you have no other way to avoid wildfire smoke, some masks provide some protection. N95 masks filter out most fine particles in smoke but not hazardous gases, such as carbon monoxide. These masks can be found at many hardware and home repair stores and pharmacies. It's important to take necessary steps to wear them correctly to achieve a proper fit and seal to provide protection. If worn improperly, they may not provide as much protection. See our [Wildfire Smoke and Face Masks Fact Sheet](#) for information on proper use and fit.

Additional Considerations for Respiratory Viruses: When worn properly, respirators approved by the National Institute for Occupational Safety and Health (NIOSH) (such as N95s) offer the most protection for respiratory viruses, followed by international respirators (such as KN95s and KF94s), surgical masks, and then cloth face masks. N95 respirators with exhalation valves can provide protection from wildfire smoke, but they are not recommended for respiratory

viruses, as viral particles can escape into the air when the wearer exhales. KN95 masks or masks approved in other countries may not provide the same protection as NIOSH-approved respirators because they are not regulated in the United States. Cloth face coverings, surgical masks, and masks with filter inserts generally provide less protection from the fine particles in smoke.

Resources:

- [NIOSH's Personal Protective Equipment for the Public](#)
- [WA DOH's Masks Guidance During COVID-19](#)
- [Washington Labor & Industries Wildfire Smoke Rule for Outdoor Workers](#)

Behavioral Health Considerations

Long periods of wildfire smoke can impact mental and behavioral health. Spreading respiratory viruses makes this worse. Wildfire smoke and disasters impact our daily routine, including limiting the time we spend outside and changing activities. There may be feelings of isolation or sadness from staying inside or the lack of sunshine. Wildfire smoke is also a direct threat to health and safety.

Protecting mental health and physical health are both extremely important. See “Can smoke impact my mental health” on the [Smoke from Fires webpage](#) for more information.

Resources:

- [AirNow's Coping with the Stress of Wildfire smoke](#)
- [WA DOH's Behavioral Health Resources and Recommendations](#)
- [Clean Air Methow & University of Washington's community resource guide](#)
- [CDC's information on Coping After Natural Disasters](#)

More Wildfire Smoke Information and Resources

For more information on the health impacts of wildfire smoke and answers to frequently asked questions, visit our [Smoke from Fires webpage](#) and your [local health jurisdiction's](#) webpage. Updates on wildfire status can be found on the [WA Smoke Blog](#). Additional information on air quality during wildfires can be found on the [state Department of Ecology](#) and [regional clean air agency](#) websites.

Additional resources related to wildfire smoke and respiratory viruses:

- [EPA's COVID-19, Wildfires, and Indoor Air Quality](#)
- [EPA's Wildfire Smoke: A Guide for Public Health Officials](#)

More Respiratory Virus Information and Resources

Stay up-to-date on [respiratory virus activity](#) in Washington and [what to do when you are sick with COVID-19 or another respiratory virus](#). Additional COVID-19 resources can be found at [Resources and Recommendations](#).

Have more questions? Call us at **1-800-525-0127**.

For interpretative services, **press #** when they answer and **say your language**. For questions about your own health or testing results, please contact a health care provider.

To request this document in another format, call 1-800-525-0127.

Deaf or hard of hearing customers, please call 711 ([Washington Relay](#)) or email doh.information@doh.wa.gov.