Washington State Department of Health

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Recommendations for wildfire smoke and COVID-19 during the 2020 wildfire season

This wildfire season will be especially challenging as we continue to respond to the COVID-19 pandemic. There is concern about the health impacts of wildfire smoke overlapping with COVID-19 because both impact respiratory and immune systems. COVID-19 restrictions limit current public health recommendations to reduce exposure to wildfire smoke and will complicate our public health response.

This guidance will help air quality and public health officials in Washington state respond to wildfire smoke events during these unique circumstances.

Overlapping Health Impacts of Wildfire Smoke and COVID-19

Breathing in wildfire smoke by itself 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 existing chronic conditions. Some of these respiratory symptoms, including dry cough, sore throat, and difficulty breathing, are also common to COVID-19.

Early evidence indicates wildfire smoke exposures can make people more susceptible to respiratory infections, likely including COVID-19. Recent studies indicate that poor air quality can make symptoms and outcomes in people with COVID-19 more severe. Populations sensitive to wildfire smoke exposures include people with heart and lung diseases, people with respiratory infections, people with diabetes, stroke survivors, infants, children, pregnant women, and people over 65 years of age. Some of these groups are also those most at risk for COVID-19. Persons with, or recovering from, COVID-19 may be more at risk for negative health effects from wildfire smoke exposure because of compromised lung and heart function.

Additional COVID-19 Guidance: Seek medical attention when experiencing severe symptoms, such as chest pain or difficulty breathing, during wildfire smoke events. If you have a fever, cough, or shortness of breath, it is best to treat it like it could be COVID-19. Protect others by staying home. If you are concerned about your health, call your health care provider to discuss COVID-19 testing and other possible reasons for your illness.

Reducing Exposure to Wildfire Smoke during COVID-19

The following identifies normal recommendations to reduce exposure to wildfire smoke and provides additional guidance for this year, as many of these recommendations are impacted by COVID-19 related restrictions. Additional information on 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 to improve indoor air quality.

Additional COVID-19 Guidance: With additional limitations this year, this will be the best way to protect yourself from exposure to wildfire smoke.

Resources:

- EPA's information on COVID-19, Wildfires, and Indoor Air Quality
- EPA's information on wildfires and indoor air quality
- EPA's information on creating a clean room

Reduce intake of smoke into your home

To keep indoor air clean and wildfire smoke from entering your home:

- Close windows and doors when it is smoky outside. Track the air quality and open your windows for fresh air when the air quality improves.
- Pay attention to heat and take steps to keep it cool indoors by closing curtains during daylight, using an air conditioner or fans. If it's still too hot, open windows to avoid heat exhaustion and other heat illnesses.
- Set air conditioners on recirculate to prevent intake of outside air.
- Turn off fans that vent to the outside, like the one in your bathroom. Exhaust fans pull outside air in through cracks around windows and doors.

Additional COVID-19 Guidance: Opening your windows for fresh air when the air quality improves will also help reduce the viral load of SARS CoV-2 in the air, but this alone is not enough to protect you from COVID-19. Continue with best practices for COVID-19.

Avoid activities that create indoor air pollution

Do not add to indoor air pollution during wildfire smoke events. Avoid the following activities: burning candles or incense, smoking cigarettes, broiling or frying food, and vacuuming (unless your vacuum has a HEPA filter).

Additional COVID-19 Guidance: None

Improve indoor air filtration

There are three ways to improve indoor air filtration of smoke particles in your home: 1) increase heating, ventilation, and/or air conditioning (HVAC) filtration, 2) use a portable air cleaner with HEPA filter, and 3) use a DIY box fan filter. There are different considerations with each of these options

1. **Increase HVAC filtration**

Filtration of air in your home will improve the air quality inside your home during wildfire smoke events. The HVAC system is the best way to reduce fine particles (PM2.5) from wildfire smoke throughout your home, rather than only a single room.

- Increase the filtration in your home HVAC system to a MERV rating 13 filter with the deepest pleat your system can accommodate to reduce fine particles.
- Close the air intake to keep wildfire smoke out.
- Consult your HVAC manual or consult with an HVAC professional before making improvements
- Change the filter when dirty or indicated by manufacturer's instructions.

Additional COVID-19 Guidance: While running the HVAC system can help reduce the viral load of SARS CoV-2 in the air, HVAC systems alone are not enough to protect you from COVID-19. Continue with other best practices for reducing your exposure to COVID-19.

Resources:

- EPA's Indoor Air Filtration Factsheet
- EPA's info on "Can running the HVAC system in my home help protect me from COVID-19?"

2. Use a portable air cleaner with a HEPA filter

Improving filtration of air in your home will improve your indoor air quality during wildfire smoke events. Using a portable air cleaner with a HEPA filter can reduce fine particles (PM2.5) from wildfire smoke in a single room.

- Select one that is rated for the size of room where you plan to use it. The rating is based on the square footage of the room and the Clean Air Delivery Rate (CADR).
- When selecting, also consider the noise rating, as some can be quite loud. Choosing one rated for a larger size room and then running it at a lower setting can reduce the noise.
- Do not use ozone generators, personal air purifiers, or electrostatic precipitators and ionizers that produce ozone, which is a respiratory irritant. Check that it has been certified to avoid ozone exposures through the California Certified Air Cleaning Devices portal
- Place it in a room where you spend time, with the windows and doors closed.
- Change the filter when dirty or indicated by manufacturer's instructions.

Additional COVID-19 Guidance: While portable air cleaners can help reduce the viral load of SARS CoV-2 in the air, portable air cleaners alone are not enough to protect you from COVID-19. Continue with other best practices for reducing your exposure to COVID-19.

Resources:

- EPA's Indoor Air Filtration Factsheet
- California Certified Air Cleaning Devices
- California's Air Cleaning Devices for the Home Factsheet

- EPA's info on "Will an air cleaner or air purifier help protect me and my family from COVID-19 in my home?"

3. **Use a DIY box fan filter**

Improving filtration of air in your home will improve your indoor air quality during wildfire smoke events. Making your own box fan filters can be a less expensive option to reduce fine particles (PM2.5) from wildfire smoke in a single room. When building your own box fan filter it is important to understand their limitations and the potential risks.

- Select a standard box fan and a filter with a MERV 13 rating of the same dimensions.
- There are different designs to consider, such as the filter is attached by bungee cord, the filter is screwed on brackets, and two filters are attached to create a triangle shape
- Place the constructed DIY box fan filter in a room, ideally a small room where you spend time, with the windows and doors closed. Keep it away from a window or wall so that the front or back are not blocked.
- Do not run unattended and monitor for overheating to reduce the risk of fire.
- Change the filter when dirty.

Additional COVID-19 Guidance: While ventilation and filtration can help reduce the viral load of SARS CoV-2 in the air, DIY box fan filters alone are not enough to protect you from COVID-19. Continue with other best practices for reducing your exposure to COVID-19.

Resources:

- WA Department of Ecology's video on how to make your own clean air fan
- Puget Sound Clean Air Agency's info on DIY air filters
- Colville Tribes Air Quality Program box fan filter a DIY users guide

Seeking Cleaner & Cooler Air Elsewhere

Going to clean air shelters and public clean air spaces or a friend's or relative's place with a dedicated clean air space and air conditioning can provide relief from wildfire smoke and heat when you cannot keep your indoor air clean or you cannot keep your house cool.

Additional COVID-19 Guidance: It might not be safe for people to go to public spaces to seek cleaner and cooler indoor air away from home this year due to COVID-19. With the congregation of people at these settings, there is a risk of transmission of SARS CoV-2, the virus that causes COVID-19. Check in advance to see if these places are open and be prepared for lower capacity, to physically distance, and wear a cloth face covering.

If you decide to leave the area and visit friends or relatives, consider COVID-19 restrictions in the county you are traveling to and with the people you are visiting. This is important if either they or you are more sensitive to COVID-19 and should be especially cautious about exposures. Please follow current guidance for indoor gathering size etc.

Resources:

- CDC's Recommendations for Cleaner Air Shelters and Cleaner Air Spaces and COVID-19

CDC's Recommendations for Cooling Centers and COVID-19 Face Masks and Coverings

Face masks are not typically recommended as the best option to the general public to reduce exposure to wildfire smoke, as it is better to stay indoors and keep indoor air clean. If there is a need to use a face mask for limited duration outside by the general public, an N95 or other NIOSH respirator rated for fine particulates is usually recommended with several necessary steps to ensure it is worn correctly to achieve a proper fit and seal. N95 respirators are not an option for everyone, as they are not recommended for children, not as effective with facial hair, and those with pre-existing conditions should first consult with a healthcare provider.

Additional COVID-19 Guidance: While N95 and other NIOSH approved respirators are in short supply due to COVID-19, they need to be reserved for those required to wear them for work. Cloth face coverings generally do not provide much protection from breathing in wildfire smoke. However, it is important to continue to wear cloth face coverings to slow the spread of SARS-Cov-2 and reduce the risk of COVID-19.

Resources:

- More information on COVID-19 and face coverings is available at coronarvirus.wa.gov/masks and www.doh.wa.gov/masks.

Messaging for This Season

COVID-19 introduces new challenges this wildfire smoke season for how we should reduce exposure to wildfire smoke. It is especially important to encourage staying home and keeping indoor air clean by improving indoor air filtration. Due to impacts on the supply chain, it may take longer to receive supplies from retailers, so encourage people to prepare at home early before the smoke hits.

Air quality and public health officials will need to be flexible and adaptable as messaging and recommendations will change based on what phase of the COVID-19 response we are in.

Examples of wildfire smoke and COVID-19 messaging:

- WA Smoke Blog: Wildfire Smoke During COVID-19
- Public Health Connection: Wildfire Season and COVID-19
- Public Health Insider: Wildfire Smoke Preparedness During the COVID-19 Pandemic
- BC Center for Disease Control: Wildfires
- BC Lung Association: Wildfire Smoke Heath Protection Tips

More Wildfire Smoke Information and Resources

For more information on the health impacts of wildfire smoke and answers to frequently asked questions, visit the WA State Department of Health Smoke from Fires webpage and your local health jurisdiction. Updates on wildfire status can be found on the WA Smoke Blog. Additional information on air quality during wildfires can be found on the WA State Department of Ecology and your regional clean air agency.

Additional resources related to wildfire Smoke and COVID-19:

- CDC's Wildfire Smoke and COVID-19: Frequently Asked Questions and Resources for Air Resource Advisors and Other Environmental Health Professionals
- The COVID-19 Pandemic and Wildfire Smoke: Potentially Concomitant Disasters
- EPA's Wildfire Smoke: A Guide for Public Health Officials

More COVID-19 Information and Resources

Stay up-to-date on the current COVID-19 situation in Washington, Governor Inslee's proclamations, symptoms, how it spreads, and how and when people should get tested. See our Frequently Asked Questions for more information.

A person's race/ethnicity or nationality does not, itself, put them at greater risk of COVID-19. However, data are revealing that communities of color are being disproportionately impacted by COVID-19- this is due to the effects of racism, and in particular, structural racism, that leaves some groups with fewer opportunities to protect themselves and their communities. Stigma will not help to fight the illness. Share accurate information with others to keep rumors and misinformation from spreading.

- WA State Department of Health 2019 Novel Coronavirus Outbreak (COVID-19)
- WA State Coronavirus Response (COVID-19)
- Find Your Local Health Department or District
- CDC Coronavirus (COVID-19)
- Stigma Reduction Resources

Have more questions about COVID-19? Call our hotline: **1-800-525-0127,** Monday – Friday, 6 a.m. to 10 p.m., Weekends: 8 a.m. to 6 p.m. For interpretative services, **press #** when they answer and **say your language.** For questions about your own health, COVID-19 testing, 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 civil.rights@doh.wa.gov.