Prepare Now to Protect Yourself from Unhealthy Wildfire Smoke

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In Montana, wildfire smoke can be one of the most serious health risks in our environment. That’s especially true for children, the elderly, and people who have heart or lung disease. All of us should take steps to limit our exposure when we can see and smell smoke in the air.

Consider Air Cleaners

One important step you can take now is to consider buying an air cleaner for your home. There are portable units designed to create a single “clean room,” as well as large, central systems meant to clean the whole house.

Air cleaners can be expensive, and most are not good at removing gases and odors from the air.

The two basic types for smoke removal are:

- Mechanical air cleaners. These contain a fiber or fabric filter that must be sealed tightly and cleaned or replaced regularly.

- Electronic air cleaners, such as electrostatic precipitators (ESPs) and ionizers. ESPs use a small electrical charge to collect particles from the air. Ionizers, or negative ion generators, cause particles to stick to materials near the device (such as carpet and walls). Electronic air cleaners usually produce small amounts of ozone, an irritant that can damage lungs.

How effective an air cleaner is depends on its efficiency and air flow. These two factors are combined to establish a Clean Air Delivery Rate (CADR). It’s important to consider both factors when buying an air cleaner.

A room air cleaner should be big enough to filter at least two or three times the volume of air in the room every hour. You can usually find the airflow rate, room size, particle removal efficiency, and perhaps CADR on the packaging.

Our mission is to improve and protect the health of all Lewis and Clark County residents.
Central-system air units should be able to exchange at least half of the air in the house each hour under most conditions.

More information about residential air cleaners:
- [www.epa.gov/iaq/pubs/residair](http://www.epa.gov/iaq/pubs/residair)

More information about ozone generators marketed as air cleaners:
- [www.epa.gov/iaq/pubs/ozonegen](http://www.epa.gov/iaq/pubs/ozonegen)

**Stay Indoors**

During a smoke-pollution episode, the best thing to do is to stay indoors with doors and windows closed. This can reduce exposure to air pollution by as much as a third, especially in a tightly closed, air-conditioned building where the air conditioner is set to recirculate air instead of bring it in from outdoors.

In leaky homes and buildings, staying inside may offer little protection. In homes without air conditioning, indoor concentrations of smoke can approach 70 to 100 percent of outdoor concentrations.

Closing up your home can put you at risk for heat stress if you don’t have air conditioning. Older individuals and people in frail health run the risk of heat exhaustion or heat stroke. In these cases, it’s a good idea to stay with friends or family who have air conditioning, spend time in places with air conditioning (like a movie theater), or leave the area until the heavy smoke is gone.

When air quality improves, even temporarily, you should “air out” your home. Mop, dust, and vacuum to get rid of smoke particles that have settled on surfaces.

**Reduce Activity**

When you exercise, you breathe more deeply, taking in 10 to 20 times the amount of air you do when resting.

You also tend to breathe through your mouth. This bypasses the nasal passages, which naturally filter the air we breathe. Reducing physical activity outside is a good way to lower the amount of air pollution you inhale.

**Reduce Other Pollution**

Avoid cooking; vacuuming; burning cigarettes, candles, and incense; and using gas, propane, or wood-burning stoves and furnaces when wildfire smoke is heavy. These can add to indoor air pollution.
Reducing other indoor air pollution during smoke events can cut indoor particle levels by a quarter to a third or more. This can help compensate for the increased pollution entering your home from outside.

**Adjust Car Ventilation**

Keeping windows and vents closed can reduce the amount of smoke that gets into your vehicle. But it also can cause your car’s interior to heat up quickly to extreme temperatures.

Your car’s ventilation system will typically remove a small portion of the pollution coming in from outside. Most vehicles can recirculate inside air, which will help keep the particle levels lower. Check your owner’s manual to make sure you’ve set the system correctly.

Never leave children and pets unattended in a vehicle with the windows closed or, in hot weather, even partially open.

**Think Twice about Masks**

In general, wearing a mask is not an effective way to reduce your exposure to wildfire smoke. In fact, it may actually be harmful because it offers a false sense of security. It may encourage you to spend more time outdoors or increase physical activity.

Masks are uncomfortable, and they can make it harder to breathe. They can also contribute to heat stress. If you have heart or lung disease, a mask can actually be dangerous and should be used only under a doctor’s supervision.

To provide any protection, a mask must create an airtight seal around your mouth and nose and be able to filter very small particles. Paper dust masks, which are designed to filter out larger particles like sawdust, typically offer little protection against smoke. The same is true for bandanas (wet or dry) and tissues held over the mouth and nose.

Surgical masks that trap smaller particles are available, but these are designed to filter air coming out of the wearer’s mouth. So these tend to be no better than dust masks.

There are some situations when a mask can be helpful. For outdoor workers or others who must be outside regardless of the smoke, properly fitted masks can afford some protection.

Some flexible masks (technically called respirators, but they look more like paper masks) are good enough to filter out 95 percent of smoke particles if properly fitted. They’re marked with one of the following: R95, N95, or P95.

These are typically sold at medical supply and home improvement stores and tend to be more expensive than ordinary dust masks.

If you want more protection, you can buy a tight-fitting respirator that requires cartridge filters. Respirators with purple HEPA filters offer the best protection, but they may be less comfortable and slightly more expensive than flexible masks.

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