
Masks to Protect Children and Pregnant People from Wildfire Smoke: *A Resource for Families*

Summary of Key Points

- During a wildfire smoke event, the best place to be is inside with good air quality.
- If you must go outside, NIOSH-approved N95s (with or without a valve) or surgical masks can help protect you and your family from wildfire smoke.
- Respirators (like N95s) are the best kinds of mask to keep out small smoke particles.
- People who are sensitive to wildfire smoke include children and pregnant people.

Local conditions may be important, including weather and how long wildfire smoke events last. When there is smoke outside, the best place to be is inside with good air quality. Contact your local public health official for additional guidance where you live. To learn about creating an indoor space with good air quality, see <https://www.epa.gov/indoor-air-quality-iaq/create-clean-room-protect-indoor-air-quality-during-wildfire>.

General Information

Will a mask help protect me and my children from wildfire smoke?

Yes, some types of masks can protect you and your children from breathing in wildfire smoke. Some outdoor activities can still take place during smoke events (see Air Quality Index (AQI) below), but your child should not participate in outdoor activities more than usual (like playing sports) just because they are wearing a mask. Remember that masks can help your child breathe *less* smoke, but they still breathe *some* smoke, especially if they are being active.

What is the best type of mask?

The best masks to reduce your child's exposure to wildfire smoke are called respirators (like N95s). These are recommended:

- If your child is age 7 or older, their face will likely fit an adult small N95.
- If your child is age 2 to age 7, it is less likely that you will be able to find an N95 that will fit their face well. However, there are child size medical/surgical masks that may fit their face.

Children should only wear masks if they are over age 2 and are able to tell you if they are uncomfortable.

How can I find a good mask for my child?

When looking for a mask for your child, you want to think about these three things:

- How well does the material filter?
- How easy is the material to breathe through?
- How tightly does the mask fit my child's face? The mask should fully cover the nose and mouth without gaps around the nose, cheeks, and chin.

Daily AQI Color	Levels of Concern	Values of Index
Green	Good	0 to 50
Yellow	Moderate	51 to 100
Orange	Unhealthy for Sensitive Groups	101 to 150
Red	Unhealthy	151 to 200
Purple	Very Unhealthy	201 to 300
Maroon	Hazardous	301 and higher

Image Source: airnow.gov

How do I know if my air quality is bad during wildfire smoke events?

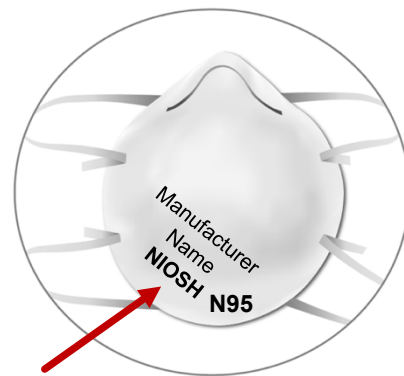
Visit airnow.gov for information about the air quality index (AQI) value based on your zip code.

- Consider using a mask for children, pregnant people and those with underlying health conditions when the AQI is higher than 151 if smoke is making them cough or if smoke events last more than a few days.
- If you want to know about specific conditions in your local area (fire locations, smoke plumes and more localized air quality information), you can look at the map at fire.airnow.gov

Different Types of Masks

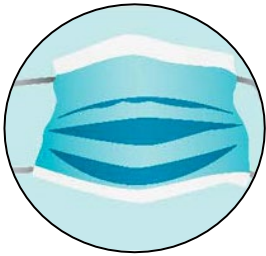
NIOSH-approved masks will reduce the amount of smoke that your child breathes, especially if they seal (fit well) to the face. This type of mask is specifically made to filter things like smoke and is called a *respirator*.

- **Look for masks labeled as "NIOSH N95".**
 - NIOSH is the National Institute of Occupational Safety and Health, the government branch that protects workers.
 - Masks that say 'NIOSH N95' have material that blocks nearly all smoke particles.
- For example, pretend there are 1000 smoke particles in the air near your child. If your child is not wearing a mask, they will breathe in all 1000 particles. If they are wearing a NIOSH N95 with a good seal, they will breathe only 100 particles. If there are gaps around the face, nose, or chin they will breathe many more particles.
- **Check the seal** of the mask by cupping your hands around the edges on your child's face. First, have the child blow out hard, as if they are blowing birthday candles, and feel for air leaking around the mask. Then, have the child take a deep breath in. You should see the mask suck toward the face and should *not* feel air flow around the edges. Pregnant people should also follow this guidance.



- Some masks have valves. You may feel air come out of the valve, but no air should go in through the valve. N95s with or without a valve will protect you from wildfire smoke.
- Even if there are small gaps when your child wears an N95, the N95 is still the best protection from smoke.
- N95s are not made specifically for children in the US, but children aged 7 and older may be able to wear small or extra small adult sized masks.
- Dirty, torn, wet, or crumpled N95s should be thrown away.

Medical (or surgical) face masks usually have gaps between their edges and the face. Although this type of mask does not work as well as an N95, and is not specifically made for protecting from smoke, some models may help protect your child from smoke.



- In the example above, if there are 1000 smoke particles in the air near your child and they are wearing a medical mask, they will breathe in 700-800 particles. The bigger the gaps between their face and the mask, the more they will breathe in.
- Medical masks come in adult and child sizes. Choose the type that best fits the child's face.

Cloth face masks or coverings, which help decrease the spread of infections (such as COVID-19), usually do not reduce exposure to wildfire smoke and air pollution. Therefore, these kinds of masks are not recommended for protection from wildfire smoke.



Safety

- Both NIOSH-approved N95s and medical masks can be worn safely by most children.
- Younger children should only wear a mask with an adult present.
- Your child can use a mask safely when all of these are true:
 - They are awake and over age 2
 - They will tell you if they have problems with the mask so it can be taken off
 - They will not pull on it or choke themselves with it
- If you have concerns, check with your child's health care provider.

Pregnancy

If you are pregnant, this information applies to you as well. If you are not breathing well, your baby is not either. Exposure to wildfire smoke may increase the risk that your baby may be born early or small.

During Mask Shortages

- You should always try to avoid smoke first (like improving indoor air quality).
- Remember that this information is about masks and the protection provided from wildfire smoke. Protection from smoke is different than protection from infectious diseases.

- In particular, N95s with or without exhalation valves protect from wildfire smoke
- Masks (such as KN95s) from other countries may not follow the same rules as NIOSH-approved devices and might not provide the same protection as an N95 or medical mask.

KEY WORDS & CONCEPTS:

Wildfire Smoke Event: A period of time where wildfire smoke is affecting the area where you and your family live, work and go to school.

Face Mask: Face coverings that go over your mouth and nose.

Respirator: A specific type of face mask that is specifically made to filter out particles or gases.

Air Quality Index: A tool that tells you how clean or polluted your outdoor air is, along with associated health effects that may be of concern.

Smoke Particles: Tiny liquids or solids in the air that are produced when something is burned. These are bad for your health.

About PEHSU

The Pediatric Environmental Health Specialty Units (PEHSUs) are a source of medical information and guidance on prevention, diagnosis, management, and treatment of environmental conditions that influence reproductive and children's health. PEHSUs work with health care professionals, parents, schools, community groups, as well as federal, state, and local agencies to address reproductive and children's environmental health issues where families live, learn, play, and congregate. For more information on PEHSUs and available resources, please visit: <https://www.pehsu.net/>.

If interested in collaborating on protecting children from wildfire smoke, please reach out to the PEHSU network by emailing pehsu@aap.org.

For additional resources and information on reproductive and children's environmental health topics that offer continuing education for health professionals, visit:

<https://www.pehsu.net/nationalclassroom.html>

This resource was authored by Stephanie Holm, MD, MPH, Mark Miller, MD, MPH, and John Balmes, MD of the Western States PEHSU; Created 2020

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