Lonesome Complex

Announcement

- September 29, 2008 -

Fire Information Center
1-866-601-0637

Wildland Fire Smoke and Your Health

Smoke will persist in the mornings in areas south and east of the fire as diurnal winds transport smoke down valleys into low lying areas. These cool winds are caused when cold air from nightly cooling drains into a valley or basin, causing a down-slope wind. Cold air is denser than warm air and sinks. During the day, as the sun heats the surface of the earth, it causes warm air to rise from the surface, causing upslope winds. Smoke will often clear out during the day in these low lying areas as temperatures rise.

Smoke from wildland fires is made up of small particles, gases and water vapor. Water vapor makes up the majority of smoke. The remainder includes carbon monoxide, carbon dioxide, nitrogen oxide, volatile organic compounds, air toxics and very small particles.

The biggest health threat from smoke is the very small particles. These microscopic particles cause burning eyes, a runny nose and in some cases bronchitis. Smoke can aggravate lung and heart diseases, such as congestive heart disease, chronic obstructive pulmonary disease, emphysema or asthma.

How to Reduce the Impact of Smoke On Your Health

Stay indoors

- Indoor levels of smoke are one third lower in a well sealed home.
- If you have air conditioning, run it on recirculation mode (do not draw in outside air).
- It may also help to run your heater on "fan only" mode which will allow the filter to help clean the air.
- Drink plenty of fluids. If you must spend time outdoors, drink even more.

Reduce Activity

- Outdoor exercise is not recommended during smoky conditions.
- Reducing physical activity, even indoors, is an effective way to reduce health impacts. You can breath as much as 10-20 times more while exercising then at a "resting level."

Reduce other sources of pollution in your home

- Cooking, smoking, vacuuming, and using a wood stove can generate additional air pollution in your home. Minimize or eliminate the use of these devices until air pollution levels are reduced.

Room Air Cleaners

- Room air cleaners can be effective; however some models generate ozone which can actually negatively impact indoor air quality. Ozone air cleaners will not remove particle pollution.
- Look for models that use HEPA (High Efficiency Particulate Arresting) filters with the highest CADR (Clean Air Delivery Rate).
- A room air cleaner will not help clean your entire house, but it can help create a "clean space" for sleeping, resting and recovering.

Humidifiers

- Humidifiers will not significantly reduce air pollution, but may reduce eye and nose irritation.

Inside your car

- Operate your car's air conditioning in recirculation mode (sometimes called "Max A/C"). This will reduce the pollution levels inside your car. If it gets too cold, regulate the temperature to a warmer setting, but leave the A/C in recirculation mode.
- If you must work outside, use your car as a "clean air shelter" to take breaks from the smoke. Idling your car is not usually recommended, but in this case it is okay.

Wildland Fire Smoke and Your Health (continued)

Masks (disposable particulate respirator)

- It is best not to be outside when the air quality is unhealthy. If you must be outside, use a mask rated N-95 or higher. (P-95 or R-95 is acceptable). Standard paper dust masks are not effective in reducing smoke particles.
- Masks can cause stress on unhealthy individuals, because they make breathing harder. Check with your doctor to make sure you are healthy enough to wear respiratory protection.
- Masks must be air tight and properly fitted to work. Always read the instructions. The mask must seal correctly on your face. Those with facial hair are unlikely to get a good seal.

Safe Cleanup of Fire Ash

- Wildfires can deposit large amounts of ash on indoor and outdoor surfaces. Ash deposited by forest fires is relatively nontoxic and similar to ash found in fireplaces. Ash inhaled can be irritating to the nose and throat and may cause coughing. Exposure to ash in the air may trigger breathing difficulties or attacks in people who have asthma. To avoid possible health problems from contact with ash:
    - Do not use leaf blowers. Gentle sweeping of indoor and outdoor surfaces, followed by wet mopping, is the best procedure for removing ash in most cases. A damp cloth or wet mop may be all that is needed.
    - Do not allow children or pets to work in, clean up, or play in the ash.
    - Wash ash off toys before children play with them.
    - Clean ash off house pets.
    - Wear gloves, long-sleeved shirts, and long pants to avoid skin contact.
    - If you do get ash on your skin, wash it off as soon as possible.
    - If you have a vegetable garden or fruit trees, wash the fruit or vegetables thoroughly before eating them.
    - Avoid getting ash into the air as much as possible. Do not use leaf blowers or take other actions that will put ash into the air.
    - Shop vacuums and other common vacuum cleaners do not filter out small ash particles, but instead blow such particles out the exhaust into the air where they can be breathed. HEPA filter vacuums are recommended.
    - A mask rated P-95 or N95 that forms a close seal on your face will provide some protection against inhaling ash and other dusts.
    - If respirators are not available, simple dust masks or other face coverings will help keep grit and dust out of your mouth and nose, but will not protect your lungs.
    - People with heart or lung disease should consult their physician(s) before using a respirator during post fire cleanup.

Adapted from Butte County Public Health Department and Butte County Air Quality Management District