



January 2007

Smoking Chimneys Burning Lungs

Amanda (name changed to protect the innocent) recently called our office to see what we could do about the wood smoke from the chimneys in her neighborhood. She has trouble breathing when smoke is in the air. When Amanda is out walking her dog, she has to go back inside quickly if she begins to smell the chimney smoke. Charles (another fictitious name, but also a real person) called us about the smoke-filled air in his neighborhood, and told us he is considering moving since his neighbors continue to burn fires even though he has spoken with them regarding his health problems.

Are these people just complainers, or do they have legitimate air quality issues? What can Pima County Environmental Quality (PDEQ) do for people like Amanda and Charles? We ask the community to have less fires in their fireplaces, and/or burn in ways that pollute less, especially when the weather is overcast and stagnant. And, yes, these complaints are legitimate air quality issues!

Pollution from wood smoke can have serious health consequences. The very small particles from wood smoke can penetrate deep in the lungs and become trapped for years, contributing to lung disease. Exposure to the pollutants in wood smoke can cause eye, nose and throat irritation, headaches, nausea, dizziness and can aggravate asthma and other respiratory diseases.

Wood smoke contains hundreds of chemical compounds, including nitrogen oxides, carbon monoxide, volatile organic compounds, and particulate matter. These compounds can cause health problems, especially for children, pregnant women and people with respiratory ailments. U.S. Environmental Protection Agency (EPA)-certified woodstoves, fireplace inserts, and natural gas fireplaces emit considerably less air pollution than traditional woodstoves and fireplaces. Pima County Department of Environmental Quality suggests that those who use traditional fireplaces for recreational purposes (not as the sole source of heat in their homes) voluntarily reduce the number of fires they light to improve air quality and the quality of life for sensitive individuals.

The pollution from the burning wood can affect the quality of indoor, as well as outdoor air. According to the EPA, several of the pollutants emitted from wood burning have demonstrated cancer-causing properties similar to cigarette smoke. Combustion gases and particles can enter the home from chimneys and flues that are improperly installed or maintained and cracked furnace heat exchangers. Pollutants from fireplaces and woodstoves with no dedicated outdoor air supply can be “back-drafted” from the chimney into the living space, particularly in well-sealed weatherized homes. It is recommended that furnaces, flues and chimneys be inspected annually and that cracks or damaged parts are repaired promptly. Those who use fireplaces or woodstoves can follow these tips for healthier burning:

- Burn seasoned hardwoods (oak, mesquite, pecan) instead of softwoods (cedar, fir, pine) because hardwoods burn hotter and form less creosote and smoke;
- Use wood that has been split and dried for at least six months;
- Use smaller pieces of wood. They burn more efficiently so they are a better source of heat;
- Make sure there is enough room in the firebox for air to circulate freely around the wood;
- Do not use green or wet woods because they smoke and form creosote;
- Never burn painted scrap wood or wood treated with preservatives, because they could release highly toxic pollutants;
- Do not burn plastics, charcoal, and colored paper such as comics, because they also produce toxic pollutants;
- Go outside and check your chimney frequently. If you see smoke coming out, you're wasting wood by not burning hot enough. Give the fire more air and check the chimney again;
- Watch your smoke. If it goes into your neighbor's yard, you are causing a nuisance and should remedy the situation; and
- Avoid burning wood on days when the air pollution level is elevated. Check www.airinonow.org or 520.882.4AIR for hourly air pollution information.

There are plenty of folks like Amanda and Charles in our community. Think of them the next time you light a fire.

Questions or Concerns?

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