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# AIR POLLUTION AND ENVIRONMENTAL AIR ILLNESS

AIR IS OMNIPRESENT, THEREFORE IT HAS AN ENORMOUS INFLUENCE ON OUR HEALTH. DIAGNOSING AND PREVENTING ENVIRONMENTAL AIR ILLNESS CAN BE DIFFICULT. THIS GUIDE WILL HELP.

## The Basics of Air Pollution

As many as 90 million Americans live in areas that the EPA has classified as “nonattainment” zones— regions where the air quality does not attain clean, healthy levels. Common air pollutants include nitrogen oxides, sulfur dioxide, excess carbon dioxide, particulate matter, volatile organic compounds (VOCs), toxic substances such as mercury, and heavy metals such as lead. Ground-based ozone, one of the most common pollutants, causes shortness of breath and lung damage. Even minutely small amounts of certain pollutants can result in serious health and environmental problems.

### OUTDOOR AIR POLLUTION

The most common sources of outdoor air pollution include the burning of fossil fuels (coal, oil and natural gas), the output from motor vehicles, power plants, refineries, incinerators, and emissions from industrial facilities. The combustion of fossil fuels produces a wide variety of pollutants including nitrogen oxides, sulfur oxides, hydrocarbons, mercury and particulate matter. Burning fossil fuels for electricity generation is the single greatest source of outdoor air pollution in the United States.

### INDOOR AIR POLLUTION

In most industrialized countries, people spend more than 90% of their time indoors, greatly increasing exposure to a variety of indoor air pollutants. The elderly, infants, and the ill are the most susceptible to indoor air pollutants because they have weaker immune systems and a tendency to spend longer periods of time indoors. Short-term health effects from poor indoor air include eye and throat irritation, headaches, dizziness, fatigue and asthma. Longer term effects of poor indoor air quality include respiratory disease, heart disease, lung cancer, and death.

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## *Prevention & Protection Tips*

### What Your Clients Can Do:

- Be aware: check local air-quality levels at [www.epa.gov/airnow/](http://www.epa.gov/airnow/)
- Be especially conscious of smog levels during hot weather.
- Limit time spent outdoors in vigorous exercise when air quality is unhealthy.
- Limit activity near busy roadways and other sources of pollution.
- Avoid congested streets and rush hour traffic.
- Stop smoking.
- Do not to burn wood or trash.
- Walk, use bicycles and take public transportation.

## Nine Indoor Air Hazards

- Moisture and biologicals (such as molds, mildew and dust mites)
- Combustion products, including CO<sub>2</sub>
- Formaldehyde
- Radon
- Household products and furnishings
- Asbestos
- Particulates
- Remodeling byproducts
- Environmental tobacco smoke

## Identifying Indoor Air Pollution as a Health Factor

In seeking to determine if indoor air pollution is a factor in your client's health issues, have them create a diary or log of symptoms. Then use the following assessment questions:

- When did the [symptom or complaint] begin?
- Does the [symptom or complaint] exist all the time, or does it come and go? That is, is it associated with times of day, days of the week, or seasons of the year?
- (If so) Are you usually in a particular place at those times?
- Does the problem abate or cease, either immediately or gradually, when you leave there? Does it recur when you return?
- What is your work? Have you recently changed employers or assignments, or has your employer recently changed location?
- (If not) Has the place where you work been redecorated or refurnished, or have you recently started working with new or different materials or equipment? (may include pesticides, cleaning products, craft supplies, et al.)
- What is the smoking policy at your workplace? Are you exposed to environmental tobacco smoke at work, school, home, etc.?
- Describe your work area.
- Have you recently changed your place of residence?
- (If not) Have you made any recent changes in, or additions to, your home?
- Have you, or has anyone else in your family, recently started a new hobby or other activity?
- Have you recently acquired a pet?
- Does anyone else in your home have a similar problem? How about anyone with whom you work? (An affirmative reply may suggest either a common source or a communicable condition.)

For more details on a wide variety of sources and how to control them, download the guide from the EPA, *The Inside Story: A Guide to Indoor Air Quality* at <http://www.epa.gov/iaq/pubs/insidest/html#Intro1>

### OTHER RESOURCES:

*Indoor Air Pollution: An Introduction for Health Professionals* from the EPA  
<http://www.epa.gov/iaq/pubs/hpguide.html>.

## Prevention & Protection Tips

### What Your Clients Can Do:

- Measure radon with an inexpensive detector.
- Weatherize: install storm windows, weather stripping, caulking, and blown-in wall insulation.
- Install exhaust fans that are vented to the outdoors in kitchens and bathrooms.
- Vent clothes dryers outdoors.
- Install exhaust fans over gas cooking stoves and ranges and keep burners properly adjusted.
- Ventilate attic and crawl spaces to prevent moisture build-up.
- Keep the house clean - reduces dust mites, pollens, animal dander, etc.
- Do not allow smoking inside.
- Throw away partially full containers of old or unneeded chemicals safely; buy in limited quantities.
- Use non-chemical methods of pest control when possible.
- Do not remove lead paint or asbestos yourself – use a professional contractor.
- Get an air filter. For help choosing, see *Residential Air Cleaning Devices*, the EPA guide at <http://www.epa.gov/iaq/pubs/residair.html>.