

# Healthy Air for Your Home Leader's Guide

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## Objectives

- α To identify poor indicators of poor air quality in a home
- α To recognize persons at high risk for illness as a result of poor air quality
- α To identify sources of indoor air contamination
- α To determine what can be done about identified air problems-prevention and cleaning strategies

## Materials Needed

There are many resources available for this lesson. Contact national organizations for more consumer information, the Resource list includes suggestions. Think about your group as you prioritize the resources and gather information. Encourage participants to search for specific information about their issues

## Participant Handouts:

- Home Indoor Air Quality Checklist
- Health Effects of Common Indoor Pollutants
- Room by Room Checklist
- Indoor Air Quality Resources, 2003
- Indoor Molds 2002 Issues and Recommendations

## Resources for the leader:

- Healthy Air for Your Home Leader's Guide
- Air Quality Home Check, Poster
- Health Effects of Common Indoor Pollutants, Activity Sheet
- Home moisture problems, EC 1437, from <http://eesc.ort.edu/> (pdf file) (optional)
- Does Your Home Have an Indoor Air Problem? OSUES Energy Note - R305 (optional)
- A Brief Guide to Mold, Moisture, and Your Home, EPA 402-K-02-003.
- The Inside Story, A Guide to Indoor Air Quality. EPA 402K93007. Ordering information on the Resource list.

## Activities

-Review Handouts  
-Order additional handouts from EPA  
-Copy Handouts  
-Consider enlarging the poster to 11"x17' or making an overhead transparency

Ask participants to bring or describe their favorite cleaning tool and/or products.



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## Introduction

We take many simple steps to make our homes safer and to protect our families. We put in smoke detectors, childproof when toddlers come to stay or visit, lock up firearms, and take many other actions to improve safety in our home. Equally important however is the air within our homes. Often we don't recognize that the air inside our homes may be more seriously polluted than the outdoor air, even in a large city.

We spend about 90 percent of our time indoors—even more in the wintertime or if we are sick. Because we spend so much time indoors, our health is dependent on having good quality air to breathe. The air in our homes can make us feel tired or dizzy, make our eyes itch or our throats feel scratchy, trigger an asthma attack, spread an infectious disease, or even over a long period of time, cause cancer.

## Indicators of Poor Air Quality

In this lesson we will examine those things that can contribute to poor air quality and what we can do about it. Included is a "Home Indoor Air Quality Checklist" you can use to identify potential problems in your home.

There can be many symptoms of poor air quality. Homeowners who suspect they have a problem with air quality should ask:

- Who is bothered? Consider people and pets.
- What is the effect?
- Does it lessen or disappear when you leave the house?
- When did it start? It may relate to a new product brought into the home, hobby, season or time of the year.
- Where in the home are these effects most or least noticeable?
- Were changes made in the house just before you began to have problems?

## Who is the Most Susceptible?

The people who are most susceptible to the adverse effects of indoor air pollution are those who spend the greatest amount of time indoors. These include young children, the elderly, and the chronically ill. Just as different people are more sensitive to seasonal allergies, some people can be sensitive to and react adversely in the same environment in which others are unaffected.

Use "Health Effects of Common Indoor Pollutants" activity sheet ask a matching game as participants assemble or as you begin the lesson. Make cards with the terms and match the descriptions

Ask participants to complete the "Home Indoor Air Quality Checklist".

Discuss concerns participants might have with the air quality in their home.

Allergic reactions are the most common health problems people experience. Since different people can have different sensitivities, it is particularly important for public buildings frequented by large numbers of people to have good air quality. An individual can be affected by inhaling particles or vapors, by ingesting or eating dust or molds, and by having it come in contact with the skin. The effects may be immediate or not show up for years. Some responses include irritation of the eyes, nose, throat, headaches, dizziness, fatigue, and difficulty breathing. If someone is bothered by allergies and asthma, there are specific strategies that can be used to help clean the environment and air.

### **Asthma**

In people with asthma, the airways are sensitive and react to a variety of external factors or “triggers”. Coming into contact with these triggers causes the airways to tighten and become inflamed and blocked, resulting in problems breathing. An acute asthma attack can begin immediately after exposure to a trigger or several days or weeks later.

Reactions to triggers are different for each person. Recognizing avoiding, and eliminating triggers is an important way to control asthma. Always consult a medical doctor when considering methods for treating and controlling asthma.

The most common environmental asthma triggers:

- Allergens
  - Outdoor—tree, grass and weed pollens, mold spores
  - Indoors—molds, animal dander or hair, dust mites, cockroaches
  - Food allergens (most common in children under 5 years)
- Irritants: cigarette smoke; smoke from wood-burning appliances or fireplaces; strong odors from perfumes, cleaning agents, etc.; air pollution; occupational dust and vapors.
- Weather

### **Sources of indoor contaminants, a room-by-room examination:**

Review the handout “Health Effects of Common Indoor Pollutants” that you may have used as a beginning activity. Use the “Room-by-room Checklist” to identify what common pollutants are found in each room. Some rooms are more susceptible to indoor pollutants. Plan to spend more time discussing those concerns.

Discussion:  
Do any family members have asthma?

What changes or adaptations have you made to keep the air clean?

The Soap and Detergent Association has great resources on cleaning, asthma, and allergies. See the Resource list for contact information

Handouts:  
“Health Effects of Common Indoor Pollutants” and  
“Room-by-room checklist”

Refer to the Home Air Quality Check poster as you discuss each room, the potential problems and possible remedies.

Some serious indoor air problems are created by what we do in our homes. Smoking, painting, hairsprays, cleaning materials, and other products are dangerous pollutants we bring into our homes. Others such as formaldehyde may be introduced when we buy new furniture, carpeting, or cabinets. Excess moisture is increasingly recognized as a serious indoor air quality problem since it can lead to mold growth. Sources of moisture include cooking and showers, unless the moisture is vented to the outside, as well as roof leaks and plumbing problems

### **Control Measures**

There are four ways to control indoor air quality problems:

- Source control
- Spot ventilation
- Whole house ventilation (dilution)
- Filtration (air cleaners)

*Control the Source.* Sources are described in the handout, "Health Effects of Common Indoor Pollutants". Controlling sources is the easiest way to ensure good indoor air quality. Keep out moisture, radon, carbon monoxide and other fumes. When sources are inside the home, remove or encapsulate them (may need professional help).

*Spot Ventilation.* Bath fans and kitchen range hoods are common spot ventilators. Often they are noisy and move little air. Good quality, quiet fans with a timer or a humidity sensor are a good investment, because they will be used, and if vented outside are effective.

*Whole-house Ventilation.* Opening windows and doors to increase air exchange can help as a temporary strategy. In general however this is unreliable, because it does not guarantee that air will flow and the pollutants removed or diluted. Best are systems with fans that mechanically bring in outside air and exhaust indoor air.

*Air Cleaners.* In most cases, air cleaners alone cannot ensure adequate indoor air quality. Use in combination with source control and spot ventilation. For more specific information see the fact sheet from the EPA "Residential Air Cleaners".

Use the poster "Home Air Quality Check" as a visual as you move from room to room.

Refer to the handout, "Health Effects of Common Indoor Pollutants The "Room by Room Checklist" includes recommendations for controlling the source of indoor air pollution. Encourage participants to order the EPA fact sheet, "Residential Air Cleaners".

## **Control Sources of Dust and Dust Mites**

Keeping our homes clutter free and clean improves air quality. Choose cleaning products that are environmentally friendly. Use small amounts of chemical based cleaners. Follow the manufacturer's instructions for use and safety.

Allergies and asthma are affected by dust and dust mites. More frequent cleaning, investing in a Hepa-filter vacuum cleaner, or washing bedding more often are important strategies to improve the home environment for people coping with allergies and asthma.

## **Control Sources of Mold**

Indoor molds have received media attention in recent years. Concern has been expressed about the amount of mold in the indoor environment and how that impacts the health of residents and workers in the environment.

Scientific research is needed to establish guidelines for indoor air quality related to mold and health issues. Current guidelines are based on case studies, implications, and legal decisions rather than scientific fact.

Review the fact sheet, "Indoor Molds 2002 Issues and Recommendations." It provides a review of current recommendations and considerations. New evidence and a congressional review that is scheduled for 2003 could lead to a change in recommendations.

## **Summary**

As lesson participants learn more about indoor air quality and how to make simple improvements in their home environment we will all breathe easier.

## **Evaluation**

- Read the informed consent form—people should receive their own copy.
- Ask each participant to complete the evaluation.
- Collect and return them to the county extension office.
- Each person should complete only one evaluation.

Note: The bibliography to this leaders guide can be found in the Resource list sheet distributed to each participant.

Ask members to share their ideas or suggestions for cleaning tools and products.

Review fact sheet, "Indoor Molds 2002 Issues and Recommendations"