

# IEQ NEWS



*We care about indoor air*

Winter 2009

Indoor Environmental Quality

Issue #10

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## What's New?

DPH Uranium in Water Fact Sheet  
<http://www.ct.gov/dph>

## In the News:

CO Awareness  
<http://www.wfsb.com/health/18267695/detail.html>

California Particle Board Law  
<http://www.arb.ca.gov/toxics/compwood/compwood.htm>

## REMINDER:

- Install a CO detector
- Use your portable generator properly.

Environmental and Occupational Health  
Assessment Program

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## FOCUS: HOME IEQ

### Why is the indoor environmental quality of the home important?

It is estimated that most people spend 90% of their time inside, 65% of that in their homes, more during winter months. New construction materials and techniques have been employed to save energy. These tighter buildings trap pollutants inside. Levels of pollutants inside may be 2-5 times greater than levels outside.

The quality of housing plays a critical role in the health status of the occupants. Substandard housing conditions have been linked to adverse health effects such as lead poisoning and asthma. Deferred maintenance can lead to problems such as mold as a result of water incursion from leaking pipes or roofs.

There are many pollutants within the home that may contribute to adverse effects on the health of the occupants. Such effects include asthma exacerbations, headaches, respiratory illnesses, and skin irritations. If symptoms occur more often when you are inside the home than when you are away, this could indicate an IEQ problem in the home.

Poor indoor air quality may be noticeable with pollutants such as smoke; others such as carbon monoxide are not as obvious and may be deadly.

A key to reducing exposure to indoor air pollutants is changing behaviors and practices in the home and providing ventilation to bring in fresh air and flush out indoor pollutants.

### Examples of Potential Pollutants in the Home

- Mold
- Chemicals from paints & household cleaners
- Second hand smoke
- Particulates from fireplaces & wood stoves
- Pesticides
- Carbon monoxide from furnaces & stoves
- Dirt/dust
- Formaldehyde from furnishings & carpets



Is your home a "healthy home" ?

- ⇒ Does your home have a properly installed and working carbon monoxide detector?
- ⇒ Are all fuel-burning appliances in your home checked annually?
- ⇒ Is your home smoke-free?
- ⇒ Is your home regularly cleaned to prevent pests and dust?
- ⇒ Do you repair any water leaks immediately?
- ⇒ Do you use non-toxic, mild, or least toxic household cleaners?

If you answered YES to all of these questions, you have made a good start to making your home a "healthy home".

For a more complete checklist click on:  
<http://www.centerforhealthyhousing.org/>

Healthy Home Resources



## Technically Speaking:

### Combustion Byproducts Can Cause Poor Indoor Air Quality Your Home



If you burn any type of fuel for heat and/or appliances, combustion byproducts will be produced. This includes visible byproducts like smoke and soot, and gases such as carbon monoxide (CO), sulfur oxides (SOx) and nitrogen oxides (NOx). The term combustion spillage is used to describe unwanted combustion gases that flow into your home. This can become a dangerous problem, especially if an odorless, colorless gas like CO builds up indoors. An average of four deaths occur in Connecticut each year due to unintentional, non-fire-related CO poisonings.

Problems relating to combustion gas spillage generally fall into three categories that may act independently or together to cause a hazard:

#### 1. Chimney Problems

A chimney may not remove combustion gases from the house efficiently if it is too small for the furnace, too big to maintain a draft, un-insulated, cracked or corroded, or blocked. Lack of chimney cleaning, use of wood or coal burning stoves, dead bird and bird nests are the most common causes of blockages. Regular cleaning by professionals is encouraged.

#### 2. Pressure Problems

A house is said to be under negative pressure if the pressure inside falls below the pressure outdoors. This can cause combustion gases get sucked back down flues, chimneys and exhaust vents into the house. This is known as backdrafting. It is more common in the winter when all of the windows and doors are closed and exhaust fans are turned on. Cold, dense outdoor air and winds are frequent culprits in causing intermittent backdrafting.

#### 3. Equipment Failure

Condensation can cause ducts to corrode and crack, break, or develop holes, allowing combustion gas to escape into the house. Heat exchangers can also develop cracks over time, spilling combustion gas. Fuel burning appliances can become starved for oxygen, resulting in incomplete combustion and combustion gas spillage. This is frequently caused by handyman remodeling of basements where air flow was not properly calculated.

Local health officials may wish to work with their local fire marshal or fire chief to investigate combustion spillage.

## Reducing Exposure to Indoor Pollutants

What can you do to make your home a "healthy home"?

- Keep the kitchen and bathrooms well ventilated with an exhaust fan to prevent odors, moisture and mold.
- Keep all food and garbage in covered containers to prevent pests.
- Keep all cleaning chemicals "green" and non-aerosol.
- Keep the dirt outside by using walk-off mats at each door.
- Keep pets out of bedrooms and off of furniture. Pet dander contains very strong allergens.

To take the EPA home tour click on:

[http://www.healthyindoorair.org/home\\_tour.htm](http://www.healthyindoorair.org/home_tour.htm)



## Literature Review

### Healthy Housing Reference Manual

Centers for Disease Control and Prevention and U.S. Department of Housing and Urban Development. Healthy housing reference manual. Atlanta: US Department of Health and Human Services; 2006.

Important reference document for public health and housing professionals with responsibility and interest in creating and maintaining healthy housing. This update addresses the many changes that have occurred in housing construction methods and materials and new knowledge related to the impact of housing on health and safety.

<http://www.cdc.gov/nceh/publications/books/housing/housing.htm>



## Tools for Schools: NEW WEBSITE

The CT School Indoor Environment Resource Team has been developing a web site for the Connecticut TfS "community". A main purpose of the web site is to provide "news you can use" information for the Tools for Schools building teams in the state.

The "Information-Sharing Forum" page provides basic information and links for a variety of technical and administrative school IEQ issues. An important part of the "Forum" will be a question and answer format for TfS "experts" from around the state to post information about their solutions to IEQ problems. Other TfS team members, facilities and business directors and custodians can use these solutions in their own school districts.

The site, <http://www.csiert.tfsiaq.com/index.html>, is still a work in progress, but you can go to the Forum page and submit your ideas to us by clicking on **Forum**, then "messages." Your input is critical.

## Helpful Web Links



<http://www.epa.gov/ne/healthyhomes> : Environmental Protection Agency Healthy Home booklet

<http://www.healthhouse.org>: American Lung Association Health Home Program

<http://cdc.gov/healthyplaces/healthyhomes.htm> : CDC's Healthy Homes Initiative.

<http://www.ashrae.org/publications/detail/3521> : American Society of Heating, Refrigerating and Air-Conditioning Engineers. Top 10 Ways Homeowners Can Ensure Good Indoor Air Quality.