October 2007

Fact Sheet

Women and Environmental Health

Information for Older Adults and Their Caregivers

The environment affects human health in many ways. A healthy environment has positive effects; a polluted environment harms health. Some of the negative effects have a particular impact on women's health, especially among those over 50.

Pollutants are health factors in commonly known conditions such as lung disease, as well as in other chronic illnesses. Chronic health conditions such as high blood pressure, chronic obstructive pulmonary disease (COPD), and asthma are more common in women over 50 compared to men in the same age group.[2]

This fact sheet offers information both on steps that you can take to reduce exposure to environmental pollutants and conditions to be aware of as you age, especially:

- Pollutants in the air you breathe,
- Cleaning agents and pesticides you use around the home, and
- Childhood exposure to lead and resulting health problems after menopause. [3]

Heart disease is the #1 killer of women over age 65.[1]

Air Pollution

Air pollution is the contamination of air with harmful substances. Examples of air pollutants include, but are not limited to:

- Fine particles, such as vehicle exhaust and soot;
- Gases, including ozone and carbon monoxide;
- Fumes released by burning coal, oil, or kerosene and from household cleaning products and paints; and
- Smoke from tobacco, open burning, and wood-burning stoves.

Fine particles and ozone are recognized as the most harmful air pollutants.

Staying indoors does not necessarily provide protection

Call the National Poison Control Center if you or someone shows symptoms of having been poisoned (1-800-222-1222).

against air pollution. Fine particles can enter your home or workspace through open windows, doors, or air conditioners. If adequate ventilation does not exist, tobacco smoke or

fumes from cleaning products can become concentrated indoors and quickly degrade air quality.

Health Effects of Air Pollution

- If you have cardiovascular disease, air pollution can cause sudden variations or an increase in your heart rate.[4] Air pollution may worsen coronary atherosclerosis or chronic heart conditions which can result in a heart attack[5,6] and possibly death, especially among postmenopausal women.[7]
- If you have a lung disease, air pollution can enter your respiratory tract and cause health problems including inflammation of the lungs, difficulty breathing, and aggravation of asthma and COPD.
- If you have diabetes, exposure to air pollution may increase the risk of heart attack, stroke, and other heart problems.[8]

How to Avoid or Minimize Your Exposure to Air Pollution

Check the Air Quality Index (AQI) each day. The AQI reports on how clean the air is and whether it will affect your health. Reduce your outdoor activity as much as possible on poor air quality days. You can learn more about the AQI by visiting www.epa.gov/airnow. You also can learn more about the daily air quality through newspaper, television, and radio weather reports.

Pesticides and Cleaning Agents

Pesticides and cleaning agents, in the form of powders, gels, liquids, or sprays, are powerful chemicals used in the home and garden to clean surfaces and kill pests. Overexposure to the harmful chemicals in pesticides and cleaning agents can lead to:

- Headaches
- Dizziness
- Muscle twitches
- Nausea, and
- Weakness

If you, a family member, or friend experiences any of these symptoms, call your local poison control center.

Emergency room surveys suggest that children under six are more likely to be poisoned while visiting grandparents—where poisons are more likely to be in reach and without child-proof closures—than in their own homes.

While older adults accounted for less than three percent of reported poisoning incidents, they were twice as likely as children and younger adults to experience a serious outcome and 10 times as likely to die as a result of exposure to these chemicals.[11] In addition, long-term exposure to pesticides has been linked to health problems such as cancer and neurological problems such as dementia.[12,13]

How to Avoid or Minimize Your Exposure to Pesticides or Cleaning Agents

- Keep products in the container in which they came. Read the labels carefully and follow all the recommended precautions.
- Dispose of pesticides and cleaning agents according to label instructions.
- When using products inside your home, leave

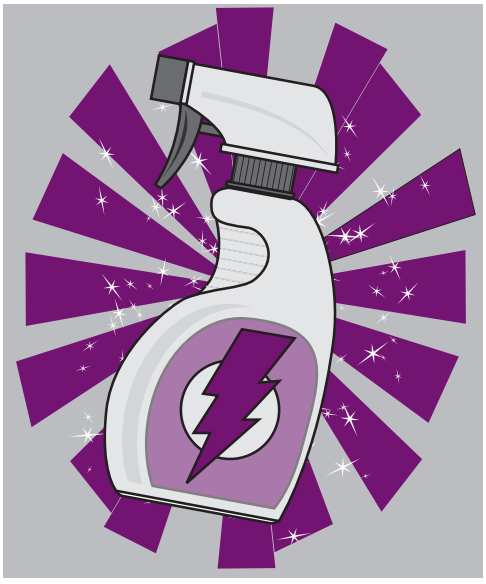
doors and windows open and turn on a fan so there is plenty of ventilation.

- Only use the product in the problem area. Limit the amount you use to the recommendations on the label.
- Never use outdoor products indoors. Be sure to close the doors and windows of your home before applying products outside.
- After using these products, always wash your hands and any other parts of your body or clothing that might have been exposed to them.

Lead

Did you know that the lead you were exposed to earlier in your life is still in your body? Lead is stored in your bones where it may not have any negative health effects until later in life. During menopause, bone stores break down and release accumulated lead into your bloodstream. Among older women, blood lead levels may be up to 25 to 30 percent higher than prior to menopause.[14]

These increases, combined with environmental exposure to lead in water or the home, can have negative health impacts. Higher blood lead levels can increase your risk for hypertension, atherosclerosis, and reduced kidney function.[14] In addition, poisoning can lead to decreased cognitive functioning, with symptoms that are similar to dementia.[15]



Did you know?

- Use of hormone therapy for menopause may increase your risk of developing asthma.[9]
- In 2003, more than 63,000 women died from COPD, compared to 59,000 men.[2]
- Diabetes is a major women's health problem, particularly for African Americans and American Indian/Alaska Natives.[10]

What Can You Do?

- See a doctor right away if you experience symptoms such as headaches, dizziness, muscle twitches, nausea, or weakness.
- Call your local public water supplier for annual drinking water quality reports. Have private water wells tested annually by a certified laboratory. For more information call the EPA's Safe Drinking Water Hotline (1-800-426-4791 or www.epa.gov/safewater).
- Leave lead-based paint undisturbed if it is in good condition; do not sand or burn off paint that may contain lead.
- Do not remove lead paint yourself. To remove lead hazards, hire a certified abatement professional.

Where Can I Go to Learn More?

Aging Adults and Environmental Health Issues

EPA's Aging Initiative is working to protect the health of older adults from environmental hazards through risk management and prevention strategies, education, and research. For more information about EPA's Aging Initiative, visit **www.epa.gov/aging**

Older Adults and Air Quality

http://airnow.gov/index.cfm?action=static.olderadults

Air Quality

Environmental Protection Agency

Air Quality Index
www.airnow.gov

Indoor Air Quality
www.epa.gov/iaq/

Smoke Free Homes
www.epa.gov/smokefree/

Environmental Health

MedlinePlus
www.nlm.nih.gov/medlineplus/airpollution.html

Heart Disease and Stroke

American Heart Association
http://www.americanheart.org/presenter.jhtml?identifier=4786

Lung Diseases

National Heart Lung and Blood Institute
http://www.nhlbi.nih.gov/health/public/lung/index.htm

American Lung Association
http://www.lungusa.org

Women's Health Issues

National Research Center for Women and Families
http://www.center4research.org/

U.S. Department of Health and Human Services
http://www.4women.gov/

Endnotes

1 Centers for Disease Control and Prevention, http://www.cdc.gov/DHDSP/announcements/american_heart_month.htm

2 American Lung Association, http://www.lungusa. http://www.lungusa.org/site/apps/s/content.asp?c=dvLUK9O0E&b=34706&ct=3052283

3 Muldon, S.B.; Cauley, J.A.; Kuller, L.H.; Morrow, L.; Needleman, H.L.; Scott, J.; Hooper, F.J.; Effects of blood levels on cognitive function of older women.

4 American Heart Association, http://www.americanheart.org/presenter/jhtml?identifier=4419

5 Brook, R.D.; Franklin B.; Cascio W.; Hong, Y.; Howard G.; Lipsett, M.; Luepker, R.; Mittleman, M.; Samet, J.; Smith Jr, S.C.; and Tager, I., 2004. Air pollution and cardiovascular disease. Circulation 109:2655-2671. http://circ.ahajournals.org/cgi/content/full/109/21/2655

6 Zanobetti, A.; and Schwartz, J., 2007. Particulate air pollution, progression, and survival after myocardial infarction. Environmental Health Perspectives 115(5):769-774.

7 Miller, K.A.; Siscovick, D.S.; Sheppard, L.; Shepherd, K.; Sullivan, J.H.; Anderson, G.L.; and Kaufman, J.D., 2007. Long-term exposure to air pollution and incidence of cardiovascular events in women. N Engl J of Med. 365(5):447-458.

8 Zanobetti, A. and Schwartz, J., 2002. Cardiovascular damage by airborne particles: are diabetics are more susceptible? Epidemiology 13(5): 588-592.

9 Barr, R.G.; Wentowski, C.C.; Grodstein, F.; Somers, S.C.; Stampfer, M.J.; Schwartz, J.; Speizer, F.E.; and Camargo, C.A. 2004. Perspective study of postmenopausal hormone use and newly diagnosed asthma and chronic obstructive pulmonary disease. Arch Intern Med. 164: 379 – 386.

10 U.S. Department of Health and Human Services, http://www.4woman.gov/minority/americanindian/diabetes.cfm.

11 National Poison Control Center Data, 1993-1998.

12 Dich, J.; Zahm, S.H.; Hanberg, A.; and Adami, H., 2004. Pesticides and cancer. Cancer Causes & Control,8(3), 420-443.

13 Kamel, F. and Hoppin, J.A., 2004. Association of pesticide exposure with neurologic dysfunction and disease. Environmental Health Perspective, 112(9),950-958.

14 Nash, D.; Magder, L.S.; Sherwin, R.; Rubin, R.J.; and Silbergeld, E.K., 2004. Bone density-related predictors of blood lead level among pre- and postmenopausal women in the United States. American Journal of Epidemiology, 160, 901-911.

15 Carpenter, D.O., 2001. Effects of metals on the nervous system of humans and animals. International Journal of Occupational Medicine and Environmental Health, 14(3), 209-218.

Publication Number EPA 100-F-07-028