

Age Healthier, Breathe Easier

Solutions You Can Use to Control or Reduce Environmental Triggers

Chronic Obstructive Pulmonary Disease (COPD) is the fourth leading cause of death in the United States, claiming approximately 119,000 lives each year.ⁱ COPD includes chronic bronchitis and emphysema. Asthma is a chronic lung disease which can be life threatening for older adults. More than 2.5 million Americans age 65 and older have asthma, and in 2002 more than 970,000 older adults suffered an asthma episode.ⁱⁱ The highest mortality rate for asthma occurs in the older population.

Environmental hazards can pose a significant risk to older adults, especially those with COPD and/or asthma. The following charts “Age Healthier, Breathe Easier: Solutions You Can Use” provides a list of useful solutions and some websites which may help you or your loved one avoid or control environmental triggers for COPD and asthma. While there are other non-environmental triggers, these suggestions are limited to environmental triggers.

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Concerns	Trigger Description and What you can do
<p data-bbox="90 175 327 207">Poor Air Quality</p> 	<p data-bbox="768 175 1955 318">Air Quality affects health, especially that of individuals with heart or lung disease. The Air Quality Index (AQI) tells us how clean the air is and whether it could affect our health. EPA, together with state and local agencies, forecasts and reports on current conditions for ozone and particle pollution.</p>  <p data-bbox="768 358 1014 391">What you can do:</p> <p data-bbox="768 431 1976 537">Check the Air Quality Index (AQI) daily. If you cannot access the Internet to check it, consult your local newspaper, tv or radio weather broadcasts for daily ozone and/or particle pollution forecasts.</p> <p data-bbox="768 578 1955 610">On bad air days (Code Orange, Red, Purple or Maroon), limit or reschedule outdoor activity.</p> <p data-bbox="768 651 1955 716">There are simple steps that people can take to reduce exposure. Visit EPA's AirNow website (http://www.epa.gov/airnow) to learn more about how the air could affect your health.</p> <p data-bbox="768 756 1381 829">For more Information about Ozone, visit: http://www.epa.gov/asthma/triggers/ozone.html</p>


Concerns	Trigger Description and What you can do
<p data-bbox="92 139 310 167">Tobacco Smoke</p> 	<p data-bbox="770 139 2003 245">Smokers are particularly at risk of developing Chronic Obstructive Pulmonary Disease (COPD). Second-hand smoke exacerbates or worsens respiratory conditions such as COPD and asthma. Cigarette smoking is responsible for 90% of all chronic obstructive pulmonary disease.</p> <p data-bbox="770 285 1014 313">What you can do:</p> <p data-bbox="770 362 1016 389">If you smoke, stop.</p> <p data-bbox="770 435 1058 462">Avoid tobacco smoke.</p> <p data-bbox="770 508 1623 535">Request that family members, friends or caregivers smoke outside.</p> <p data-bbox="770 581 1465 609">For More Information about Second-Hand Smoke:</p> <p data-bbox="770 618 1394 646">http://www.epa.gov/iaq/asthma/triggers/shs.html</p> 



Concerns	Trigger Description and What you can do
<p data-bbox="92 138 569 170">Smoke from Wood Burning Stoves</p> 	<p data-bbox="770 138 1974 245">Smoke from wood burning stoves or fireplaces affects health and can exacerbate symptoms in persons with COPD and asthma, even at low levels. Smoke can also drift onto a neighbor's property and affect their health.</p> <p data-bbox="770 285 1014 318">What you can do:</p> <p data-bbox="770 358 1675 391">Avoid using wood burning fireplaces. Switch to a vented gas fireplace.</p> <p data-bbox="770 431 1980 500">Avoid using wood burning stoves. If you must use a wood burning stove, make sure it is EPA-emission certified. Stoves made after 1990 are generally EPA certified.</p> <p data-bbox="770 540 1940 609">Use only firewood that has been dry for several months and avoid chemically treated wood. Never burn household waste.</p> <p data-bbox="770 649 1770 682">Have your wood stove, fireplace and chimney inspected and cleaned annually.</p> <p data-bbox="770 722 1770 755">Use an electric starter instead of charcoal lighter fluid if you barbeque outside.</p> <p data-bbox="770 795 1478 828">For more information about Combustion Pollutants</p> <p data-bbox="770 836 1461 868">http://www.epa.gov/iaq/asthma/triggers/combust.html</p> <p data-bbox="770 876 821 901">and</p> <p data-bbox="770 909 1276 941">Indoor Air and Combustion Appliances</p> <p data-bbox="770 950 1325 982">http://www.epa.gov/iaq/pubs/combust.html</p>


Concerns	Trigger Description and What you can do
<p data-bbox="92 138 674 207">Volatile Organic Compounds in household cleaning and hobby products</p> 	<p data-bbox="770 154 1990 261"><u>Volatile Organic Compounds</u> (VOC) are emitted as gases from certain solids or liquids. VOC's are widely used as ingredients in household products. EPA studies have shown that levels of several VOC's average 2 to 5 times higher readings indoors compared to the outdoors.</p> <p data-bbox="770 300 1014 332">What you can do:</p> <p data-bbox="770 375 1948 443">Vent rooms adequately with a fan that exhausts to the outside when using cleaning or hobby supplies which may be harmful.</p> <p data-bbox="770 485 1898 553">Dispose of old hobby and cleaning products that might be stored under the sink or in the basement or garage.</p> <p data-bbox="770 596 1934 664">Store products per manufacturer's suggestion. Even newer products stored indoors will still cause exposure</p> <p data-bbox="770 706 1940 738">Limit or eliminate use of products that irritate or produce symptoms for you or your family.</p> <p data-bbox="770 781 1176 813">Volatile Organic Compounds</p> <p data-bbox="770 816 1194 849">http://www.epa.gov/iaq/voc.html</p>



Concerns	Trigger Description and What you can do
<p data-bbox="90 138 184 170">Pollen</p> 	<p data-bbox="768 138 1470 170">Pollen may also be a trigger for respiratory conditions.</p> <p data-bbox="768 212 1014 245">What you can do:</p> <p data-bbox="768 285 1650 318">Stay inside with the windows closed on high pollen days, if possible.</p> <p data-bbox="768 358 1980 423">Use your air conditioner to help filter the air coming into the home. Central air systems are the best.</p> <p data-bbox="768 464 1822 496">Remove indoor plants if they irritate or produce symptoms for you or your family.</p> <p data-bbox="768 578 861 610">Pollen</p> <p data-bbox="768 613 1434 646">http://www.epa.gov/iaq/asthma/triggers/pollen.html</p>



Concerns	Trigger Description and What you can do
<p data-bbox="90 141 184 170">Molds</p> 	<p data-bbox="770 154 1995 370">Molds reproduce by means of tiny spores which are invisible to the naked eye and float through outdoor and indoor air. There are many types of mold, and none of them will grow without water or moisture. Molds can cause asthma attacks in people with asthma who are allergic to mold. If you think you have symptoms related to mold, contact a health professional for advice, especially if you suffer from COPD or asthma. If you have health concerns, consult a health professional before starting cleanup of mold.</p> <p data-bbox="770 410 1014 440">What you can do:</p> <p data-bbox="770 483 1944 553">Prevent mold by controlling moisture. It is important to dry water-damaged areas and items within 24 - 48 hours to prevent mold growth.</p> <p data-bbox="770 594 1927 664">Use an exhaust fan in the bathroom or open a window to remove moisture after showering. Wipe down damp surfaces after bathing and dry completely.</p> <p data-bbox="770 704 1997 846">Scrub mold off hard surfaces with detergent and water, and dry completely. If your symptoms are severe, wear a dust mask, goggles and rubber gloves while cleaning. N-95 respirators can be purchased at many hardware stores and on the Internet.(about \$12 to \$25.) Check with your doctor before wearing any respirator.</p> <p data-bbox="770 886 1608 1027">Use air conditioners and/or de-humidifiers as needed. Monitor humidity in home with a hygrometer (about \$10-\$50) available at many hardware stores. Keep indoor humidity below 60% (ideally between 30% and 50%) relative humidity.</p> <p data-bbox="770 1068 1770 1175">Remove moldy or dusty wallpaper and regularly wipe walls and hard floors with a damp cloth. Absorbent or porous materials, such as ceiling tiles and carpet, may have to be thrown away if they become moldy.</p> <p data-bbox="770 1216 1965 1323">Empty air conditioner, refrigerator and de-humidifier drip pans regularly. (Some refrigerators built after 1989 have drip pans built into unit instead of underneath appliance. Check for possible leaks.)</p> <p data-bbox="770 1364 1167 1433">Mold http://www.epa.gov/mold.html</p> 

Concerns	Trigger Description and What you can do
<p data-bbox="92 155 243 183">Dust Mites</p> 	<p data-bbox="770 155 2001 261">Dust mite droppings are commonly associated with worsening of asthma. Dust mites live in the dust particles that collect in our homes. They are most common in humid places because dust mites require high humidity.</p> <p data-bbox="770 302 1014 329">What you can do:</p> <p data-bbox="770 375 1980 443">Maintain low humidity levels ideally between 30% - 50% relative humidity. Humidity levels can be measured by hygrometers which are available at local hardware stores. (about \$10-\$50)</p> <p data-bbox="770 483 1902 511">Use an air conditioner during warm weather, if possible. Central air systems are the best.</p> <p data-bbox="770 557 1255 584">Remove dust often with a damp cloth.</p> <p data-bbox="770 630 1961 735">Vacuum carpet, fabric window coverings, and fabric-covered furniture at least once a week. Using vacuums with high efficiency filters may be helpful. Wear a mask while vacuuming or ask someone else to vacuum for you.</p> <p data-bbox="770 776 1934 844">Cover mattresses, box springs and pillows with special allergen-proof fabric covers. Avoid down-filled comforters or pillows.</p> <p data-bbox="770 885 1745 912">Wash bedding (such as sheets, bedcovers and blankets) weekly in hot water.</p> <p data-bbox="770 958 1423 985">Avoid upholstered furniture that can trap allergens.</p> <p data-bbox="770 1031 1913 1058">Replace dust collecting blinds and long drapes with window shades or washable curtains.</p> <p data-bbox="770 1115 919 1143">Dust mites</p> <p data-bbox="770 1149 1423 1177">http://www.epa.gov/iaq/asthma/triggers/mites.html</p>

Concerns	Trigger Description and What you can do
<p data-bbox="92 154 273 186">Cockroaches</p> 	<p data-bbox="770 154 1974 219">Cockroach droppings contain a protein that is a primary trigger for asthma. Cockroaches need water to survive and thrive on food and trash that is left out.</p> <p data-bbox="770 267 1018 300">What you can do:</p> <p data-bbox="770 332 1375 365">Keep a clean, dry home (see also mold section)</p> <p data-bbox="770 406 1018 438">Fix leaks promptly.</p> <p data-bbox="770 479 1732 511">Keep food in closed containers. Avoid leaving food out, especially at night.</p> <p data-bbox="770 552 1890 584">Clean dishes as soon as you are done using them. Clean kitchen thoroughly after meals.</p> <p data-bbox="770 625 1984 771">Clean under appliances, including emptying the drip pan under the refrigerator. Many current (1989 to present) refrigerators have “fixed” drip pans either built in as part of the compressor mount or physically attached to the condenser instead of under the refrigerator. Check for leaks throughout refrigerator that could result in standing water.</p> <p data-bbox="770 812 1428 844">Store garbage in containers with tightly closed lids.</p> <p data-bbox="770 885 1659 917">Dispose of mail, newspapers and boxes where cockroaches may hide.</p> <p data-bbox="770 958 1995 1023">Block any openings through which cockroaches can enter from the outside, including windows, wall cracks and floor gaps.</p> <p data-bbox="770 1063 1459 1096">Try using baits or traps before using pesticidal sprays.</p> <p data-bbox="770 1136 1921 1201">If you spray, limit the spray to the infested area and avoid spraying in food preparation or storage areas.</p> <p data-bbox="770 1258 850 1291">Pests</p> <p data-bbox="770 1299 1417 1331">http://www.epa.gov/iaq/asthma/triggers/pests.html</p> 

Concerns	Trigger Description and What you can do
<p data-bbox="90 139 247 167">Pet dander</p> 	<p data-bbox="768 155 1990 293">Almost 70% of U.S. households have one or more pet. Older adults are among the almost 10 million pet owners who are allergic to their pets and must take extra precautions.ⁱⁱⁱ Older adults with COPD or asthma may suffer reactions from exposure to pet dander, skin flakes, saliva and urine. Hair and fur can collect pollens, mold spores and other outdoor allergens.</p> <p data-bbox="768 337 1014 365">What you can do:</p> <p data-bbox="768 410 1520 438">Keep your pets out of the bedroom or other sleeping areas.</p> <p data-bbox="768 483 1325 511">Clean and brush pets outside of your home.</p> <p data-bbox="768 557 1560 584">Keep pets off the bed linens, carpet and upholstered furniture.</p> <p data-bbox="768 630 1990 695">Avoid visiting homes with pets. If this is not possible, take appropriate medication immediately before your visit.</p> <p data-bbox="768 740 1415 768">Choose a pet without feathers or fur (such as fish).</p> <p data-bbox="768 813 831 841">Pets</p> <p data-bbox="768 849 1404 876">http://www.epa.gov/iaq/asthma/triggers/pets.html</p>

Concerns	Trigger Description and What you can do
<p data-bbox="92 154 642 224">Poorly Maintained Appliances that emit particles, gases and fumes</p> 	<p data-bbox="768 154 1969 261">Appliances can be sources of indoor air pollution. Older adults spend more than 80% of their time indoors. It is important to look at sources within the home that may emit particles, gases and fumes that are harmful to health and can trigger respiratory attacks.</p> <p data-bbox="768 302 1999 444">Appliances which use natural or LP (propane or butane) gas, fuel oil, kerosene, wood or coal such as kerosene heaters, outdoor grills, fireplaces and wood stoves produce particles which can pose a health threat. Air conditioners can also be a source of pollutants if not maintained properly.</p> <p data-bbox="768 485 1014 516">What you can do:</p> <p data-bbox="768 557 1929 626">Have your furnace, heating and air conditioning units professionally inspected and cleaned annually.</p> <p data-bbox="768 667 1493 737">Repair any leaks from your appliances properly or call a professional to assist you.</p> <p data-bbox="768 777 1528 847">All furnaces and fuel burning heaters must be vented to the outdoors.</p> <p data-bbox="768 888 1465 958">Change filters regularly and follow the manufacturer's maintenance instructions.</p> <p data-bbox="768 998 1686 1068">Avoid use of ozone generators as air purifiers in occupied spaces. Ozone may worsen chronic respiratory diseases such as asthma.</p> <p data-bbox="768 1073 1990 1287">NOTE: EPA does not certify residential air cleaning devices, including ozone generators. No federal agency has approved the use of ozone generators in occupied spaces because of serious health concerns about ozone. If you wish to use a residential air cleaning device, it is recommended that you review more information on the product either through a product review source such as Consumer Reports (http://www.consumerreports.org/)[Exit EPA] or through the Association of Home Appliance Manufacturers (http://www.aham.org/)[Exit EPA].</p> <p data-bbox="768 1328 1087 1359">Combustion Pollutants</p> <p data-bbox="768 1364 1461 1395">http://www.epa.gov/iaq/asthma/triggers/combust.html</p> <p data-bbox="768 1435 1220 1466">Residential Air Cleaning Devices</p> <p data-bbox="768 1471 1314 1502">http://www.epa.gov/iaq/pubs/residair.html</p> 

Concerns	Trigger Description and What you can do
<p data-bbox="92 155 705 256">Traveling - Staying in hotel and motel rooms that might have dust mites and/or smoke residue</p> 	<p data-bbox="770 155 1995 224">Many people enjoy traveling, and there is no reason to stop due to respiratory conditions. There are some steps that you can take to make your trips more comfortable.</p> <p data-bbox="770 266 1986 334">Hotel and motel rooms can have dust mites in the carpeting and mattresses or smoke residue in the linens or drapes.</p> <p data-bbox="770 376 1014 406">What you can do:</p> <p data-bbox="770 448 1457 516">When making lodging reservations, request allergy or smoke free rooms.</p> <p data-bbox="770 558 1524 626">If those rooms are not available, request a sunny, dry room away from the pool or smoking areas.</p> <p data-bbox="770 669 1577 698">You may want to take an allergen-proof pillow cover with you.</p> <p data-bbox="770 740 1396 769">Pack all necessary medications prior to your trip.</p> <p data-bbox="770 812 1772 880">A Travel Guide for People with Chronic Lung Disease, ALA of San Diego http://www.lungsandiego.org/copd/adults_bb_travelbook.asp [Exit EPA]</p> 

For a free poster and short fact sheet on environmental triggers for COPD and asthma and older adults, please email aging.info@epa.gov or visit the EPA Aging Initiative website at <http://www.epa.gov/aging>

i. National Institute on Heart, Lung and Blood, NIH, U.S. DHHS, Mortality and Morbidity Chartbook 2002 on Cardiovascular, Lung and Blood Diseases.

ii. National Center for Health Statistics, Centers for Disease Control and Prevention, U.S. DHHS, Summary Health Statistics for U.S. Adults, National Health Interview Surveys, 2001, and 2002 Data File

iii. American Academy of Asthma, Allergy and Immunology: Seniors and Asthma
http://www.aaaai.org/patients/seniorsandasthma/pets_allergies.stm [Exit EPA]