Overview
This is an activity used to demonstrate environmental asthma triggers and solutions 1-on-1 or with small audiences in the home or clinical environment.

Learning Objectives
By the end of the activity, participants will be able to:

- Examine examples of environmental asthma triggers commonly found in the home and outdoor environment.
- Understand ways to reduce exposure to environmental asthma triggers.

Audience
6th grade to adult

Materials
- Plastic container with lid (approximately shoe-box size)
- Examples of environmental asthma triggers (see table)
- Trigger/Solutions cards

<table>
<thead>
<tr>
<th>Trigger</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust Mites</td>
<td>Small stuffed animal</td>
</tr>
<tr>
<td>Cockroach/Pests</td>
<td>Plastic cockroach, mouse</td>
</tr>
<tr>
<td>Secondhand Smoke</td>
<td>Empty cigarette package</td>
</tr>
<tr>
<td>Mold</td>
<td>Photo on cube</td>
</tr>
<tr>
<td>Animal Dander</td>
<td>Photo on cube</td>
</tr>
<tr>
<td>Chemical Irritants</td>
<td>Air freshener, nail polish, perfume, nail polish removal, candle, cleaning products</td>
</tr>
<tr>
<td>Unvented Gas Stoves</td>
<td>Photo on cube</td>
</tr>
<tr>
<td>Wood Smoke</td>
<td>Photo on cube</td>
</tr>
<tr>
<td>Pollen</td>
<td>Artificial plant</td>
</tr>
<tr>
<td>Auto and Truck Traffic</td>
<td>Photo on cube</td>
</tr>
<tr>
<td>Factory Pollution</td>
<td>Photo on cube</td>
</tr>
</tbody>
</table>
Environmental Asthma Triggers Kit

Duration
15 minutes

Activity Preparation
Collect examples of various environmental triggers and place in bin.

Instructions
1. Open the trigger kit and ask the participant if they have any of the examples currently in their home.

2. Explain that each of the items makes it harder to breathe for asthmatics and can trigger an asthma attack.

3. Review the “Trigger/Solutions” card and discuss ways the participant can find alternatives.

4. Encourage the participant to reduce environmental asthma triggers and emphasize that taking a multi-trigger approach is best.

Evaluation
- Ask participants to identify some actions they think are feasible to take to reduce potential environmental triggers.
- Follow up with participant at next appointment/contact to check in on the successes and challenges of those actions.

Produced with a grant from the National Institute of Environmental Health Sciences (P30ES010126).
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## Environmental Asthma Triggers

<table>
<thead>
<tr>
<th>Asthma Trigger</th>
<th>Found Where:</th>
<th>What You Can Do</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dust Mites</strong></td>
<td>Pillows, bed linens, upholstered furniture, carpets, stuffed toys</td>
<td>• Use dust mite covers on pillows and bed&lt;br&gt;• Wash bedding and dry in hot dryer weekly&lt;br&gt;• Vacuum carpets and furniture with HEPA vacuum weekly&lt;br&gt;• Limit number of stuffed animals and wash and dry in hot dryer or freeze in sealed bag weekly&lt;br&gt;• Consider hardwood flooring&lt;br&gt;• Avoid humidifiers; dust mites like high humidity, so humidifiers increase the number of dust mites and your allergen</td>
</tr>
<tr>
<td><strong>Cockroaches and Pests</strong></td>
<td>Places in the home with food and water- kitchen, bathrooms especially; cardboard, cluttered areas like cupboards.</td>
<td>• Block any entry points (small spaces around doors, windows, corners)&lt;br&gt;• Fix any leaks that may be providing water&lt;br&gt;• Wipe counters and stoves daily&lt;br&gt;• Store food in tightly sealed containers or bags&lt;br&gt;• Do not leave dirty dishes out overnight&lt;br&gt;• Do not store cardboard inside&lt;br&gt;• Keep cupboards organized to reduce shelter for pests&lt;br&gt;• Take out trash and recycling daily when dealing with an infestation&lt;br&gt;• When necessary, use pesticide bait stations instead of sprays or bombs</td>
</tr>
<tr>
<td><strong>Secondhand Smoke and E-cigarette Aerosol</strong></td>
<td>Cigarettes, cigars, pipe smoke, e-cigarettes (vape pens, JUUL, Suorin Drop, Puff Bar, STIG, Hyde and others)</td>
<td>• Quit smoking and avoid vaping; they worsen lung health&lt;br&gt;• Never smoke or vape in the home or car&lt;br&gt;• <a href="http://www.smokefreehousingnc.com">www.smokefreehousingnc.com</a> provides steps you can take to protect yourself and your family from secondhand smoke in your apartment</td>
</tr>
<tr>
<td><strong>Mold</strong></td>
<td>Indoors: along windows, ceilings, drywall, insulation, carpeting, fabric, upholstery, wood, air conditioning units, under sinks, bathrooms, crawl spaces and basements, HVAC systems, humidifiers, plants, live Christmas trees&lt;br&gt;Outdoors: leaves, trees, wet building components like wood, damp crawlspaces</td>
<td>• Monitor and fix any leaks in roof, pipes, or windows&lt;br&gt;• Dry water damaged areas and items within 24-48 hours&lt;br&gt;• Use a dehumidifier or air conditioning to keep humidity between 30-50%&lt;br&gt;• Use an exhaust fan in the bathroom and kitchen, and be sure it’s vented to the outside&lt;br&gt;• Ensure clothes dryers are vented to the outside&lt;br&gt;• Avoid humidifiers&lt;br&gt;• Clean any visible mold with soap and water&lt;br&gt;• Keep windows closed during late summer and early fall&lt;br&gt;• Use an artificial Christmas tree and minimize houseplants</td>
</tr>
<tr>
<td><strong>Animal Dander</strong></td>
<td>Anywhere pets spend time; furniture, bedding</td>
<td>• Keep pets out of sleeping areas&lt;br&gt;• Vacuum furniture with HEPA vacuum&lt;br&gt;• Bathe/groom pet’s coat regularly and outside the home&lt;br&gt;• Consider finding your pet a new home</td>
</tr>
</tbody>
</table>
## Environmental Asthma Triggers

| Chemical Irritants | Furniture (pressed board, upholstered) and carpets (especially when new), paints, cleaning products, air fresheners, candles, personal care products, dry cleaned clothes | Let new furniture, carpets, and dry cleaning “air out” outside and open windows once inside to ventilate
Use low-toxic cleaning and personal care products
Avoid air fresheners and candles
If you must use a chemical irritant, make sure a person with asthma is not around, open windows and doors to ventilate, and follow instructions on the label so you don’t use too much |
|---|---|---|
| Unvented Gas Stoves | Kitchen, places with gas space heaters, gas water heaters | Use the overhead fan above the gas stove when a burner is on
Be sure the vent goes to the outside
Open a window
Install a carbon monoxide detector for safety and test/change batteries twice yearly
Never use the oven to keep you warm or heat your house
For unvented kerosene or gas space heaters, use the proper fuel
Open a window slightly or use an exhaust fan when you are using the heater |
| Wood Smoke | Indoors: fireplaces, wood stoves
Outdoors: outdoor wood-burning stoves, wildfires, open burning | Burn only dry wood
Have a professional make sure chimneys are clean and working properly
Limit use of fireplace and open windows, if possible
Consider replacing old wood stove models with newer, clean-burning types
Report illegal burning activities at 1-877 OPEN BURN |
| Pollen | Indoors: window sills, table tops, floors (tracked in from outdoors)
Outdoors: areas with grasses, leaves, trees; levels highest in morning | Check levels daily in your newspaper or online
Stay inside during peak days and keep windows closed
Use HVAC unit to help filter air
Wet-clean window sills, surfaces, and floors
Don’t wear shoes indoors |
| Auto and Truck Traffic | Tailpipe pollution from cars and trucks, air near highways | Track outdoor Air Quality Index daily at www.airnow.gov and follow guidelines
Ride a bike or walk instead of driving
Carpool or ride the bus |
| Factory Pollution | Coal-fired power plants, industrial plants | Track outdoor Air Quality Index daily at www.airnow.gov and follow guidelines
Use less energy in your home by turning out lights and using energy efficient light bulbs and appliances
Recycle |
Animal Dander

Truck and Auto Traffic

Factory Pollution

Wood Smoke

Mold

Unvented Gas Stoves

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Mold Solutions

Cockroach and Pest Solutions

Secondhand Smoke Solutions

Dust Mite Solutions
Animal Dander Solutions

Chemicals Irritants Solutions

Unvented Gas Stove Solutions

Wood Smoke Solutions
Pollens

- Check levels daily
- Wet cleaning

Auto and Truck Traffic Solutions

Factory Pollution Solutions

www.airnow.gov
These things can make it hard to breathe.
ENVIRONMENTAL ASTHMA TRIGGERS
What is in your home?