



## ASTHMA TRAINING FOR EARLY CHILD CARE STAFF

Good (morning, afternoon, evening), my name is \_\_\_\_\_. Our goal today is to increase your knowledge about asthma in young children, as well as identify actions you can take in the child care setting to reduce asthma triggers.

(This presentation was developed by the Environmental Protection Agency, Region 4 and has been adapted in order to address the growing problem of asthma in the United States by raising awareness of asthma as a serious chronic disease and by providing guidance to ensure effective intervention and treatment strategies.)

Before we start, here are some facts about Asthma in Children:

- \* Asthma is one of the most common chronic diseases nationwide, impacting the lives and families of over 7 million children.
- \* Asthma is the third-ranking cause of hospitalization among children under 15.
- \* An average of one out of every 10 school-aged children has asthma.
- \* 10.5 million school days are missed each year due to asthma.

## OBJECTIVES

- At the completion of the training, early child care staff will be able to:
  - Define asthma
  - Identify causes of asthma
  - Identify several indoor and outdoor asthma triggers that may exist in the child care facility environment
  - Identify common signs and symptoms of an asthma attack
  - Indicate methods to minimize and/or avoid asthma triggers in the child care facility
  - Identify ways to manage children diagnosed with asthma
  - Identify resources available to families dealing with asthma

Asthma is a serious medical condition and a growing problem in the United States. Asthma affects millions of children and adults.

While it is necessary for people with asthma to work with a physician to get on the right medications, it is equally important to identify triggers and develop a treatment plan that includes ways to reduce exposures to your asthma triggers.

Today, you will learn...

## WHAT IS ASTHMA?

- Asthma is a chronic, inflammatory disease of the respiratory system that causes the airways of the lungs to swell, tighten and constrict



A chronic condition is one that is ongoing.

Three things can happen during an asthma episode:

- Swelling of the airways (inflammation)
- Squeezing- the air passages are squeezed together by the muscles that surround the outside of each airway (constriction)
- Clogging- the mucus blocks the airways and thus allows less air to pass through the airways
- This combination of swelling, squeezing, and clogging dramatically reduces the size of the airways.

## ASTHMA FACTS

- Asthma is a leading cause of missed school days among school-aged children
- Children from lower income families and those living in urban areas or unclean areas are more at risk for asthma
- Asthma accounts for many hours of disrupted sleep and routine activities
- Asthma and allergies are often related and influence one another



Although there is no cure for asthma yet, asthma can be controlled through medical treatment and management of environmental triggers.

An average of one out of every 10 school-aged children has asthma.

10.5 million school days are missed each year due to asthma.

Annual expenditures for health and lost productivity due to asthma are estimated at over \$56 billion, according to the Centers for Disease Control and Prevention.

## CAUSES OF ASTHMA

- Currently, there is no cure for asthma
- There is no single cause for asthma
- Children are more likely to develop asthma if their parents have it
- Exposure to some viral infections as infants when the immune system is not fully developed may lead to asthma

The cause of asthma is unclear. It is probably caused by a mix of genetic and environmental factors.

**Note for presenter:** Some audiences may need a definition for genetic and environmental factors. Genetic factors are things passed down from your parents. Environmental factors are things in the environment around you that may contribute to the development of asthma.

Also, in young children, asthma may be difficult to diagnose and may be called Reactive Airways Disease (RAD)

For children who have asthma, it is necessary for the family to work with a doctor to find the right medications, identify triggers and develop an asthma action plan. A copy of the asthma action plan from the family's doctor should be on file.

Note: We will not be discussing medications in this presentation.

## SIGNS & SYMPTOMS

- Common signs and symptoms include:
  - Excessive coughing
  - Wheezing
  - Chest tightness
  - Shortness of breath
  - Waking at night



During a flare-up, a child can feel like they are breathing through a straw.

- Coughing at night or after physical activity, or a cough that lasts more than a week. Coughing can also be a warning sign of an impending episode for some people with asthma.
- Wheezing: Sounds like a high pitched raspy whistle. You may hear the wheeze when the person exhales. As the episode progresses, you may hear the wheeze when the person inhales and exhales.
- Tightness in the chest: Some kids may describe this sensation as a heaviness in the chest. You may even see them attempt to press down on their chest in an attempt to alleviate the pressure.
- Shortness of breath: The student may complain of being winded, or can't catch their breath.
- Waking at night with any of the above symptoms, which is a key marker of uncontrolled asthma. These nighttime awakenings may manifest during the day as the child being tired at school or demonstrating an inability to focus.
- One or more of these may be present and the absence of wheezing may mean there is no air moving through the lungs at all.

## COMMON INDOOR ASTHMA TRIGGERS

- Animal dander
- Secondhand smoke
- Dust
- Dustmites
- Cockroaches
- Mold
- Perfumes & sprays
- Cleaning products



A trigger is something that causes asthma symptoms. Triggers are everywhere and each child with asthma has different triggers.

- Pets like rabbits, hamsters, gerbils, and parakeets may cause some children to have an asthma attack and should be removed from the child care setting.
- Secondhand smoke is the smoke from a cigarette, cigar, or pipe and the smoke exhaled by smoker.
- Most homes and child care settings have dust mites. They are found in carpets, clothes, stuffed toys and fabric-covered items.
- Droppings, saliva, and the body parts of cockroaches and other pests can cause asthma attacks for some children.
- Mold grows where moisture is present. All molds that are found growing inside a building should be removed immediately.
- Asthma symptoms may be worse around scented or unscented products, including cleaners, paints, cosmetics, and air fresheners.

## COMMON OUTDOOR ASTHMA TRIGGERS

- Pollen
- Air pollution
- Cold air exposure



- Some children's asthma flares up in the spring when the pollen counts are high or when grass is freshly cut, especially if windows are left open.
- Outdoor air pollution, including diesel exhaust from school buses, can cause asthma episodes. Poor outdoor air quality can also be a problem.
- Changes in weather and temperature can affect some children's asthma as well.

## OTHER ASTHMA TRIGGERS

- **Respiratory infections** (Cold, Flu, Pneumonia, Bronchitis)
- **Foods** (Nuts, Eggs, Milk, Shrimp, Citrus Fruit)
- **Exercise**
- **Physical expressions of strong feelings** (crying or laughing hard, yelling)

- The most common cause of asthma episodes is colds or other upper airway infections, which is just one more reason to emphasize the importance of good hand washing.
- Some children only experience asthma symptoms during or after physical activity. This is referred to as exercise induced asthma (EIA).
- Strong physical expressions of feelings, such as crying or laughing hard, or yelling, can cause some children's asthma to flare up.
- Certain foods may be asthma triggers for asthma. Some symptoms of food allergies are hives, rash, nausea, vomiting, and diarrhea. If a child has food allergies that trigger asthma, you will likely see these allergy symptoms, followed by coughing and wheezing. And, in severe cases, if not caught quickly, anaphylaxis -- swelling of the throat, cutting off the airway -- may result.

## HOW TO MINIMIZE INDOOR ASTHMA TRIGGERS IN THE CHILD CARE CENTER

### Pets

- Keep pets in clean, caged environments if needed
- Ensure that pets are groomed regularly
- Isolate pets away from children diagnosed with asthma or known allergies
- Place animal cages away from air vents to avoid circulation of dander
- Opt to have no pets or pets that don't produce dander



Fish are asthma friendly pets

Proteins in animal's skin flakes, urine, feces, saliva and hair can trigger asthma. Dogs, cats, rodents (including hamsters and guinea pigs) and other warm-blooded mammals can trigger asthma in individuals with an allergy to animal dander.

The most effective method to control animal allergens is to not allow animals in the child care setting. If you remove an animal, it is important to thoroughly clean the floors, walls, carpets and upholstered furniture

### Actions to take:

Keep animals off of furniture

Keep pets in clean, caged environments if needed

Ensure that pets are groomed regularly

Isolate pets away from children diagnosed with asthma or known allergies

Place animal cages away from air vents to avoid circulation of dander

## HOW TO MINIMIZE INDOOR ASTHMA TRIGGERS IN THE CHILD CARE CENTER

### Pests

- Keep food containers sealed and properly stored
- Remove food particles off of tables and countertops
- Sweep, vacuum, and mop floors regularly
- Remove trash daily



Droppings or body parts of cockroaches and other pests can trigger asthma. Certain proteins are found in cockroach feces and saliva and can cause allergic reactions or trigger asthma symptoms in some individuals. Cockroaches are commonly found in crowded cities and the southern regions of the United States. Cockroach allergens likely play a significant role in asthma in many urban areas.

### Actions to take:

- Keep food containers sealed and properly stored
- Remove food particles off of tables and countertops
- Sweep, vacuum, and mop floors regularly
- Remove trash daily

A vacuum with a HEPA filter and/or microfiltration bags may be helpful.

When vacuuming or cleaning, make sure children are out of the room.

## HOW TO MINIMIZE INDOOR ASTHMA TRIGGERS IN THE CHILD CARE CENTER

### Pests

- Place outdoor trash cans away from the entrance of the center to minimize opportunities for pests to enter
- Remove areas of clutter where pests may hide
- Seal cracks and crevices in the center's foundation through which pests can enter



Practice Integrated Pest Management (IPM) – In addition to clearing clutter and sealing cracks, try using poison baits or traps before using pesticidal sprays.

Controlling pests in school and child care:

<http://www.epa.gov/pesticides/controlling/childcare.htm>.

## HOW TO MINIMIZE INDOOR ASTHMA TRIGGERS IN THE CHILD CARE CENTER

### Mold and Moisture Control

- Fix plumbing and moisture problems as soon as possible to minimize or prevent mold growth
- Provide adequate ventilation and maintain low indoor humidity in the center
- Address signs of water damage as soon as noted
- Dry damp or wet things completely within one to two days

Molds are microscopic fungi that live on plant and animal matter. Molds can be found almost anywhere when moisture is present. Molds create tiny spores to reproduce, just as plants produce seeds. Mold spores float through the indoor and outdoor air continually. When mold spores land on damp places indoors, they may begin growing.

For people sensitive to molds, inhaling mold spores can trigger an asthma attack.

### Actions to take:

Fix plumbing and moisture problems as soon as possible to minimize or prevent mold growth

Provide adequate ventilation in the home

Address signs of water damage as soon as noted

Avoid installing carpet in areas likely to be exposed to moisture

Clean or replace heating and air conditioner filters regularly.

## HOW TO MINIMIZE INDOOR ASTHMA TRIGGERS IN THE CHILD CARE CENTER

### Secondhand Smoke

- Promote a center environment that is smoke-free
- Educate and encourage parents that smoke to do so outside and away from children

Secondhand smoke is the smoke from a cigarette, cigar or pipe, and the smoke exhaled by a smoker. Secondhand smoke contains more than 4,000 substances, including several compounds that cause cancer.

Secondhand smoke can trigger asthma episodes and increase the severity of attacks. Secondhand smoke is also a risk factor for new cases of asthma in preschool-aged children. Children's developing bodies make them more susceptible to the effects of secondhand smoke and, due to their small size, they breathe more rapidly than adults, thereby taking in more secondhand smoke. Children receiving high doses of secondhand smoke, such as those with smoking parents, run the greatest relative risk of experiencing damaging health effects.

Approximately 20 percent of children with asthma are exposed to secondhand smoke.

Actions to take:

Don't let anyone smoke near a child with asthma.

If you smoke — until you can quit, don't smoke in your home or car.

## HOW TO MINIMIZE INDOOR ASTHMA TRIGGERS IN THE CHILD CARE CENTER

### Dust and Dust Mites

- Keep classrooms as clean and clutter free as possible
- Dust furniture regularly with a damp cloth and allow sufficient time to dry
- Wash pillows, blankets, and stuffed toys often
- Use dust proof covers on pillows and mattresses



Dust mites are tiny bugs that are too small to see. They feed on human skin flakes and are found in mattresses, pillows, carpets, upholstered furniture, bedcovers, clothes, stuffed toys and fabric and fabric-covered items.

Body parts and droppings from dust mites can trigger asthma in individuals with allergies to dust mites. Exposure to dust mites can cause asthma in children who have not previously exhibited asthma symptoms.

### Actions to take:

Keep rooms as clean and clutter free as possible

Dust furniture regularly with a damp cloth and allow sufficient time to dry

Wash pillows, blankets, and stuffed toys often

Use dust proof covers on pillows and mattresses

## HOW TO MINIMIZE INDOOR ASTHMA TRIGGERS IN THE CHILD CARE CENTER

### Perfume and Cleaning Products

- Limit the use of scented aerosols and perfumes in the center
- Use cleaning supplies in the absence of children and in areas with adequate ventilation



Chemical irritants are found in some products and may trigger asthma. Some children's asthma may be worse around scented or unscented products such as cleaners, paints, adhesives, pesticides, cosmetics or air fresheners.

Remember to always follow the instructions on the label of any product used in the child care setting.

## HOW TO MINIMIZE OUTDOOR ASTHMA TRIGGERS IN THE CHILD CARE CENTER

- Watch for the Air Quality Index (AQI) and stay indoors on Ozone Action Days
- Be mindful of outside play time when grass is being cut
- Consider limited outside play time when the weather is extremely cold



Small particles and ozone come from things like exhaust from cars and factories, smoke, and road dust.

Actions to take:

Monitor the Air Quality Index on your local weather report

Know when and where air pollution may be bad

Regular exercise is healthy. Check your local air quality to know when to play and when to take it a little easier

Schedule outdoor activities at times when the air quality is better. In the summer, this may be in the morning

Stay inside with the windows closed on high pollen days and when pollutants are high

Use your air conditioner to help filter the air coming into the center. Central air systems are the best

Pay attention to asthma warning signs. If you start to see signs, limit outdoor activity.

## PREVENTING AND MANAGING ASTHMA EPISODES

- Use the information you learned today to maintain an asthma friendly environment in the child care center
- Educate parents on their role to help ensure their home is asthma friendly
- Work with parents to be familiar with each child's asthma condition and asthma triggers
- Know what measures need to be taken if a child has an asthma exacerbation



To prevent and manage asthma episodes, child care staff need to maintain an asthma friendly environment. Educate all staff members on their role to help ensure child care center is asthma friendly and the most importantly, make sure all staff know what to do in case of an asthma emergency.

### ASTHMA ACTION PLAN:

The action plan lists what triggers will bring on an asthma attack. The plan also includes the child's daily medicine needs. And the plan lists rescue medicines for quick-relief during an attack or when asthma signs start.

# RESOURCES

**U.S. Department of Health and Human  
Services-Administration for Children  
and Families**

**<http://www.acf.hhs.gov/>**

**U.S. Environmental Protection Agency-  
Asthma Program**

**<http://www.epa.gov/asthma/>**



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For more information about asthma and asthma triggers and Head Start, please visit the following websites.

## RESOURCES

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U.S. Centers for Disease Control and  
Prevention

<http://www.cdc.gov/asthma/>

National Asthma Education and Prevention  
Program

[http://www.nhlbi.nih.gov/health/public/lung/  
index.htm#asthma](http://www.nhlbi.nih.gov/health/public/lung/index.htm#asthma)



Together we can make a difference. We can take steps to help our children keep their asthma under good control.

(Ask the audience) Do you have any questions? (Be prepared to answer questions)

(Thank the audience for attending the presentation)