Asthma: Understanding the Environmental Triggers in Child Care

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Project Manager

Children’s Health Alliance of Wisconsin
Celebrating 25 years of Children’s Health Alliance of Wisconsin
Wisconsin Asthma Coalition (WAC)

- **WAC vision:** Taking control of asthma

- **WAC mission:** Fostering partnerships to improve asthma management, enhance quality of life, reduce disparities and prevent asthma-related deaths.
Coalition by Discipline

- Advocacy
- Asthma/allergy
- Asthma education
- Disparities
- Emergency medicine
- Environmental
- Epidemiology
- Health education
- Payers

- Pediatrics
- Pharmacy
- Primary care
- Public health
- Respiratory therapy
- School nursing
- Tobacco prevention
- Tribal community
- Work-related asthma
Overview

• Asthma Introduction
• Challenges for Child Care Centers
• Child Care Center/School/Home Walkthroughs
• Asthma Action Plan
• Medication Assistance
Asthma Introduction
# Asthma myths

<table>
<thead>
<tr>
<th>Myth</th>
<th>Fact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Asthma is a psychological illness</td>
<td>1. Airway swelling is real</td>
</tr>
<tr>
<td>2. Asthma symptoms may become less severe over time</td>
<td>2. Asthma is a chronic disease, and you do not “outgrow it”</td>
</tr>
<tr>
<td>3. Asthma is curable</td>
<td>3. Asthma cannot be cured, but can be controlled</td>
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</table>
What is asthma?

- Chronic lung disease
- Cannot be cured, but can be controlled
- Airways:
  - Inflamed
  - Tighten
  - Mucous
Asthma symptoms

- Wheezing
- Chest tightness
- Shortness of breath
- Coughing
ASTHMA IS COMMON

MORE THAN HALF A MILLION WISCONSINITES

1 IN 10 ADULTS

1 IN 13 CHILDREN
ASTHMA IS DEADLY

EMERGENCY DEPARTMENT VISIT & HOSPITALIZATION RATES

1 PERSON DIES EVERY 5 DAYS
ASTHMA IS EXPENSIVE

18,642 EMERGENCY DEPARTMENT VISITS + 4,992 HOSPITALIZATIONS = EXCEEDING $100 MILLION ANNUALLY
**ASTHMA IS DISRUPTIVE**

**AMONG THOSE WITH ASTHMA**

1 in 2 adults have asthma caused or made worse by their job.

1 in 3 children have uncontrolled asthma.

1 in 4 adults unable to carry out their work.

1 in 2 children miss school.
Living with asthma: Families Speak

https://www.youtube.com/watch?v=0GJfL-chd8A&feature=youtu.be
Asthma management

• Routine healthcare visits
• Follow treatment plan
  – Quick relief medications
  – Long-term controllers
• Asthma education for caregivers
• Reduce or remove triggers
What is an asthma trigger?

- A trigger is anything that causes asthma symptoms to begin or get worse.
Asthma triggers

- Tobacco smoke
- Dust/dust mites
- Pet dander
- Mold
- Cockroach and other pests
- Pollen
- Intense emotions
- Respiratory infection
- Odors
Asthma in Child Care Centers
Asthma challenges for child care centers

- Undiagnosed and unreported asthma
- Coordinating asthma care with parents
- Medication administration
- Asthma Action Plan (AAP) variability

Environmental factors

- Allergen exposure is common in schools and child care centers

- Poor indoor air quality adversely affects children and staff with asthma¹

- Eliminating exposure to these factors reduces the frequency and severity of exacerbations²

Center/school personnel education

- Asthma education is essential for all staff
- Critical components:
  - Recognizing warning signs and when/where to get help
  - Knowledge of asthma care plans (AAP or AMP)
  - Basic knowledge of inhalers and epi-pens
Child care center triggers

Q: What are the most common asthma triggers found in child care centers?
Most common triggers

- Animals
- Cockroaches/other pests and vermin
- Dust and dust mites
- Mold, mildew and moisture
- Strong odors
Classroom pets

- Warm-blooded animals such as:
  - Hamsters
  - Guinea pigs
  - Rabbits
  - Chicks
Classroom pets

Solutions:
- Keep in localized cages
- Alternative pets (e.g. fish)
- Restrict warm-blooded
Cockroaches and other pests

Where to look
- Pest droppings
- Cardboard boxes
- Poorly stored food
- Gaps around piping in kitchen/bathroom

Solutions
- Integrated pest management system
  - Watching for signs
  - Keep food contained
  - Seal area between pipes and walls
Dust and dust mites

Where to look
- Upholstered furniture
- Pillows
- Carpeting
- Stuffed animals
- Open bookshelves
Dust and dust mites

Solutions

- Vacuum regularly
- Store stuffed animals in bins
- Wash in hot water
- Dust with damp cloth
- Reduce clutter
# Mold, moisture, mildew

## Signs of problem
- Humidity
- Condensation
- Damp or cluttered areas near sinks
- Standing water
- Discolored ceiling and floor tiles

## Solutions
- Place appliances away from carpet
- Use water trays under plants
- Clean mold and dry thoroughly
- Eliminate standing water
Smoke and other odors

Sources

- Cleaning products
- Chemicals
- Scented plug-ins
- Perfumes
- Diffusers
- Second (or third) hand smoke
Smoke and other odors

Solutions

- Restrict scented items in classroom
- Create a third-hand smoke policy
- Choose low VOC products
Dos and Don’ts
Child care asthma response

- Establish policies and procedures to support children with asthma
- Keep Asthma Action Plans (AAPs) at center
- Medications available
- Train staff to recognize signs of asthma attack and use appropriate medications
Child Care Walkthrough
Child care walkthrough program

- Statewide
- Primary target – child care facilities
- Environmental assessment
- Recommend low and no-cost strategies
- Follow-up evaluation three and 12 months
- No cost to you and NONPUNITIVE!!!!
Child care walkthrough program

What is the process?

1. Contact WAC for an initial consult
2. Schedule a walkthrough with WAC staff
3. WAC provides basic asthma education and conducts environmental assessment (1-2 hrs.)
4. Staff compile results into final report and shares it with administration
5. Center develops a plan to implement changes
6. Complete post-walkthrough evaluations
Program success

• To date: 70+ walkthroughs completed

• Top three changes:
  – Removing difficult-to-clean toys
  – Cleaning up clutter (bins, storage)
  – Cleaning vents
Sustainability

- Easy to replicate
- Pre- and post-tests = QI feedback
- Decreased exposure to environmental asthma triggers
- Decreased use of rescue inhalers and 911
- Train-the-trainer = expansion statewide
Other Services
Asthma-Friendly Award

- Debuts for 19-20 academic year!
- Recognition for actively promoting asthma-friendly environment
- Designation lasts for 2 years
## Schools and Child Care Centers

<table>
<thead>
<tr>
<th>1. Designate an asthma champion</th>
<th>Bronze</th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Complete a WAC environmental walkthrough</td>
<td>X</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>3. Take the American Lung Association’s Asthma Basics online course</td>
<td>1 champion</td>
<td>50% of staff</td>
<td>80% of staff</td>
</tr>
<tr>
<td>4. Establish a process for identifying all students with asthma</td>
<td>X</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>5. Ensure all students with asthma have access to rescue medications</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>6. Create policies allowing students with asthma to self-carry and administer medications (with doctor’s permission)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7. Create policies for staff to follow when students have asthma episodes</td>
<td>X</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>8. Establish a plan to allow students with asthma to fully participate in school or center activities, including pre-treating exercise-induced asthma and modifying physical activities for students with limitations</td>
<td>X</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>9. Share WAC’s medication assistance webpage with families</td>
<td>X</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>10. Subscribe to the EPA’s air quality alerts</td>
<td>X</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>11. Keep Asthma Action Plans on file for students with asthma</td>
<td>20% of students with asthma</td>
<td>40% of students with asthma</td>
<td></td>
</tr>
<tr>
<td>12. Provide asthma education for all students (posters, videos, etc.)*</td>
<td>X</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>13. Provide asthma self-management education for students with asthma*</td>
<td>50% of students with asthma</td>
<td>80% of students with asthma</td>
<td></td>
</tr>
<tr>
<td>14. Provide opportunities for parents and caregivers to participate in American Lung Association’s Asthma Basics training</td>
<td>X</td>
<td>x</td>
<td></td>
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<tr>
<td>15. Make at least two changes recommended by the WAC walkthrough</td>
<td>X</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>16. Educate parents about Wisconsin Asthma Program’s home walkthrough program</td>
<td>X</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>17. Become a member of the WAC (designated asthma champion)</td>
<td>X</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>18. Put at least three comprehensive policies in place: facility-wide tobacco-free or third-hand smoke policy, bus idling, green cleaning, flag program, and/or ongoing staff asthma management education</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Implement an ongoing Integrated Pest Management System</td>
<td>X</td>
<td></td>
<td></td>
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School walkthrough program

- Statewide
- Primary target – Elementary schools
- Environmental assessment
- Recommend low and no-cost strategies
- Follow-up evaluation three and 12 months
Home walkthroughs

• Free referral-based program open to all ages
• Eligibility: struggling with asthma symptoms and has any of the following:
  – Missed school/work
  – Emergency department/urgent care visits
  – Hospitalizations
Home walkthroughs

- Asthma self-management education
- Medication assessment
- Asthma Action Plan
- Symptoms and triggers
- Trigger avoidance measures
- Follow-ups at 2 weeks, 3 months, 6 months
Medication Administration
&
Asthma Action Plan (AAP)
Variability
Asthma Action Plan (AAP)

- Developed with a physician
- Tailored to meet individual patient’s needs
- Severity, treatment, rescue plan, triggers
Asthma plan for home and school

Please visit aaaai.org/SAMPRO to view and download

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**Asthma Action Plan for Home & School**

<table>
<thead>
<tr>
<th><strong>Green Zone</strong></th>
<th>Have the child take these medicines every day, even when the child feels well.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always use a spacer with inhalers as directed.</td>
<td></td>
</tr>
<tr>
<td><strong>Controller Medicines:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Rescue Medicines:</strong> Albuterol/Levalbuterol ______ puffs every four hours as needed</td>
<td></td>
</tr>
<tr>
<td><strong>Exercise Medicines:</strong> Albuterol/Levalbuterol ______ puffs 15 minutes before activity as needed</td>
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<tr>
<th><strong>Yellow Zone</strong></th>
<th>Begin the sick treatment plan if the child has a cough, wheeze, shortness of breath, or tight chest. Have the child take all of these medicines when sick.</th>
</tr>
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<tr>
<td><strong>Rescue Medicines:</strong> Albuterol/Levalbuterol ______ puffs every 4 hours as needed</td>
<td></td>
</tr>
<tr>
<td><strong>Controller Medicines:</strong></td>
<td></td>
</tr>
<tr>
<td>- Continue Green Zone medicines:</td>
<td></td>
</tr>
<tr>
<td>- Inhale:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Red Zone</strong></th>
<th>if breathing is hard and fast, ribs sticking out, trouble walking, talking, or sleeping.</th>
</tr>
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<tbody>
<tr>
<td><strong>Take rescue medicine(s) now</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Rescue Medicine:</strong> Albuterol/Levalbuterol ______ puffs every ______</td>
<td></td>
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</table>

If the child is in the yellow zone more than 24 hours or is getting worse, follow red zone and call the doctor right away!

Asthma Triggers: (List)

**School Staff:** Follow the Yellow and Red Zone plans for rescue medicines according to asthma symptoms. Unless otherwise noted, the only controllers to be administered in school are those listed as "given in school" in the green zone.

- Both the asthma provider and the parent must state that the child may carry and self-administer their inhalers.
- School nurse agrees with student self-administering the inhalers.

**Asthma Provider Printed Name and Contact Information:**

**Asthma Provider Signature:**

**Date:**

**Parent/Guardian:** I give written authorization for the medications listed in this action plan to be administered in school by the nurse or other school members as appropriate. I consent to communication between the prescribing healthcare provider/clinic, the school nurse, the school medical advisor and school-based health clinic providers necessary for asthma management and administration of this medication.

**Parent/guardian signature:**

**Date:**

**School Nurse Reviewed:**

**Date:**

Please send signed copy back to the provider listed above.
### Asthma Action Plan for Home & School

#### Severity

- **Asthma Severity:**
  - Intermittent
  - Mild Persistent
  - Moderate Persistent
  - Severe Persistent
  - **He/she has had many or severe asthma attacks/exacerbations**

#### Treatment Plan

**Green Zone**
- Have the child take these medicines every day, even when the child feels well.
- Always use a spacer with inhalers as directed.
- **Controller Medicine(s):**
  - Controller Medicine(s) Given in School: ______________________
- **Rescue Medicine:** Albuterol/Levalbuterol ___________ puffs every four hours as needed
- **Exercise Medicine:** Albuterol/Levalbuterol ___________ puffs 15 minutes before activity as needed

**Yellow Zone**
- Begin the sick treatment plan if the child has a cough, wheeze, shortness of breath, or tight chest. Have the child take all of these medicines when sick.
- **Rescue Medicine:** Albuterol/Levalbuterol ___________ puffs every 4 hours as needed
- **Controller Medicine(s):**
  - Continue Green Zone medicines: ______________________
  - Add: ______________________
  - Change: ______________________
- If the child is in the yellow zone more than 24 hours or is getting worse, follow red zone and call the doctor right away!

**Red Zone**
- If breathing is hard and fast, ribs sticking out, trouble walking, talking, or sleeping.
- **Get Help Now**
- **Take rescue medicine(s) now**
  - Rescue Medicine: Albuterol/Levalbuterol ___________ puffs every _____________
  - Take: ______________________
- **Asthma Triggers:** (List)
- **If the child is not better right away, call 911**
  - Please call the doctor any time the child is in the red zone.
Triggers

Self-administer?

Contact info
Medication Assistance
Medication assistance website

- Online list of asthma medications, valved holding chambers, epinephrine auto-injectors
  - Prescription assistance
  - Coupons
- Updated bi-annually

www.chawisconsin.org/asthma
Visit our website at www.chawisconsin.org/asthma

Medication Assistance Programs

We compile coupons and prescription assistance information to help patients and families find free or reduced-cost asthma medications. Click on your long-term control or quick-relief medication below. Use the coupons or prescription assistance programs to reduce the cost of asthma medications. Share this information with others! Print the medication assistance postcard for patients, partners, family and friends.
Questions and thank you

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