



Asthma: Understanding the Environmental Triggers in Child Care

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Celebrating



25
years

Children's Health Alliance of Wisconsin



WISCONSIN
ASTHMA
COALITION

★ Children's Health Alliance of Wisconsin



EMSC
Emergency Medical Services for Children
WISCONSIN

★ Children's Health Alliance of Wisconsin



Infant Death Center

★ Children's Health Alliance of Wisconsin



Keeping Kids Alive
IN WISCONSIN

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WISCONSIN
Medical Home

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Oral Health

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WISCONSIN

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W I S C O N S I N
ASTHMA
C O A L I T I O N

★ 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

Myth

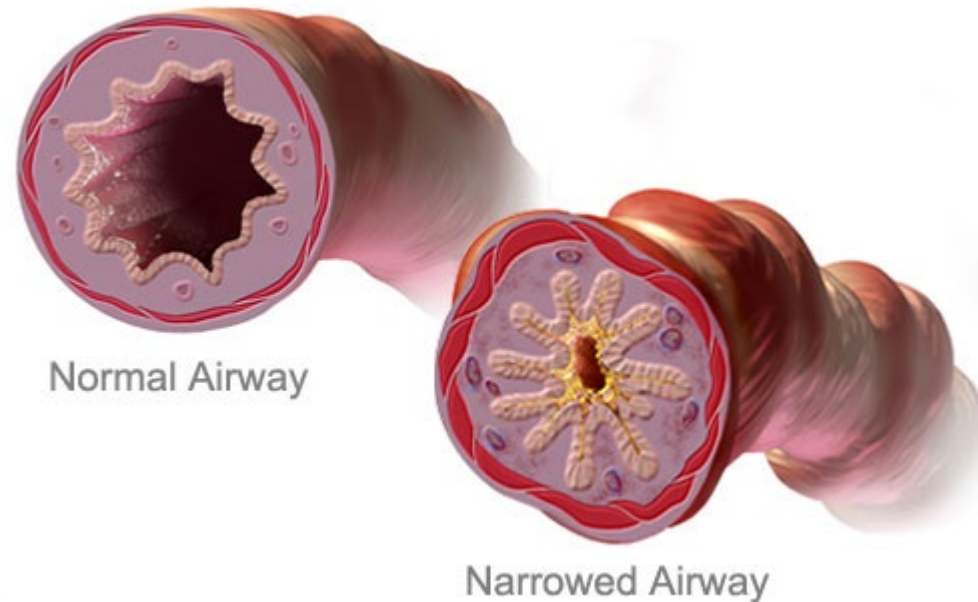
1. Asthma is a psychological illness
2. Asthma symptoms may become less severe over time
3. Asthma is curable

Fact

1. Airway swelling is real
2. Asthma is a chronic disease, and you do not “outgrow it”
3. Asthma cannot be cured, but can be controlled

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



1 IN 3 CHILDREN



HAVE UNCONTROLLED ASTHMA



1 IN 2 ADULTS
HAVE ASTHMA
CAUSED OR MADE WORSE
BY THEIR JOB



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


Garwick, et al, Public Health Nurs. 2010 Jul;
27(4): 329–336

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

1. Sheehan, et al, Ann Allergy Asthma Immunol. 2009 Feb; 102(2): 125–130

2. Morgan et al., N Eng J Med, 351: 1068-1080, 2004



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

	Bronze	Silver	Gold
1. Designate an asthma champion	X	X	X
2. Complete a WAC environmental walkthrough	X	X	X
3. Take the American Lung Association's Asthma Basics online course	1 champion	50% of staff	80% of staff
4. Establish a process for identifying all students with asthma	X	X	X
5. Ensure all students with asthma have access to rescue medications	X	X	X
6. Create policies allowing students with asthma to self-carry and administer medications (with doctor's permission)	X	X	X
7. Create policies for staff to follow when students have asthma episodes	X	X	X
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	X	X	X
9. Share WAC's medication assistance webpage with families	X	X	X
10. Subscribe to the EPA's air quality alerts		X	X
11. Keep Asthma Action Plans on file for students with asthma		20% of students with asthma	40% of students with asthma
12. Provide asthma education for all students (posters, videos, etc.)*		X	X
13. Provide asthma self-management education for students with asthma*		50% of students with asthma	80% of students with asthma
14. Provide opportunities for parents and caregivers to participate in American Lung Association's Asthma Basics training		X	X
15. Make at least two changes recommended by the WAC walkthrough		X	X
16. Educate parents about Wisconsin Asthma Program's home walkthrough program		X	X
17. Become a member of the WAC (designated asthma champion)		X	X
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			X
19. Implement an ongoing Integrated Pest Management System			X

School walkthrough program

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

TAKING CONTROL OF ASTHMA



SCHOOL WALKTHROUGH GUIDEBOOK

A healthier environment for students and staff.




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

Name: _____

Birthdate: _____

Asthma Severity:

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

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): _____	
<input type="checkbox"/> Continue Green Zone medicines: _____	
<input type="checkbox"/> Add: _____	
<input type="checkbox"/> 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: _____	
If the child is not better right away, call 911 Please call the doctor any time the child is in the red zone.	

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 feel 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 the action plan to be administered in school by the nurse or other school members as appropriate. I consent to communication between the prescribing health care 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: _____

School Nurse Reviewed: _____

Date: _____

Date: _____

Please send a signed copy back to the provider listed above.

Please visit aaaai.org/SAMPRO
to view and download

Name:

Birthdate:

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

Severity

Treatment plan

Rescue 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: _____

If the child is not better right away, call 911
Please call the doctor any time the child is in the red zone.

Asthma Triggers: (List)



Triggers

Red Zone Get Help Now

Take rescue medicine(s) now
 Rescue Medicine: Albuterol/Levalbuterol _____ puffs every _____
 Take: _____

If the child is not better right away, call 911
 Please call the doctor any time the child is in the red zone.

Self-administer?

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 feel that the child may carry and self-administer their inhalers
 School nurse agrees with student self-administering the inhalers

Contact info

Asthma Provider Printed Name and Contact Information:	Asthma Provider Signature:
	Date:
Parent/Guardian: I give written authorization for the medications listed in the action plan to be administered in school by the nurse or other school members as appropriate. I consent to communication between the prescribing health care 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:	School Nurse Reviewed:
Date:	Date:

Please send a signed copy back to the provider listed above.



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

→ ↻ chawisconsin.org/initiatives/asthma/medication-assistance-programs/ ☆



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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