

Managing Asthma in the Early Childhood Setting

by Iris Graville



Asthma, one of the most common chronic disorders in childhood, affects more than seven million children in the United States, and is the third leading cause of hospitalization for children. Statistics like these make planning and preparing for asthma in the early childhood setting a high priority.

Brief Overview of Asthma

Asthma is a chronic condition that causes inflammation of the respiratory system and can make it hard to breathe. Although asthma can't be cured, some children outgrow it. And while it can be a life-threatening disease if not properly managed, deaths due to asthma are rare among children.

An asthma episode (a preferable term to 'asthma attack') is a series of events resulting in the narrowing of the tiniest areas in the lungs due to swelling, tightening of the airway muscles, and increased mucus in the airway. Everyone's airways constrict somewhat in

response to irritating substances. But in a person with asthma, the airways overreact to things that would just be minor irritants in people without asthma (some doctors describe this hyper-reactive tendency as 'twitchy airways'). The narrowed airway is responsible for the difficulty in breathing and the high-pitched, whistling sound ('wheeze') often associated with asthma. Other common symptoms of asthma include:

- chronic cough, especially at night and after exercise or exposure to cold air
- shortness of breath, especially during exercise, that doesn't return to normal breathing very quickly afterward
- tight, uncomfortable feeling in the chest.

Many elements in a child's environment can set this airway reaction into motion and cause the symptoms listed above. Commonly referred to as 'triggers,' the factors that can contribute to an episode vary from person-to-person. They can include:

- respiratory infections (colds, flu)
- allergic reactions to pollen, food, and other allergens
- exposure to cold air or sudden temperature change
- cigarette smoke

- excitement/stress
- exercise

In mild cases of asthma, the symptoms usually go away on their own and can be prevented by avoiding the factors that cause the airways to tighten. For many people, treatment includes long-term medicines that control inflammation and thus prevent chronic symptoms, as well as quick-relief medicines when asthma episodes occur.

How to Make Your Center Asthma-Friendly

With the high rates of asthma in the U.S. today, it's likely that early childhood and school-age programs will have children in their care with this condition. The following suggestions will help programs reduce irritants and promote children's health and development:

- Keep the child-care setting free of tobacco smoke at all times.
- Maintain good ventilation and reduce or eliminate allergens and irritants (particularly cockroaches, dust mites, mold, furry pets, strong odors, or fumes).
- Obtain health consultation to write policies and guidelines for managing



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medications, reducing allergens and irritants, and promoting safe physical activities/field trips for students with asthma.

- Develop a written asthma action plan for each child (see below).
- Provide training and supervision for staff who give prescribed medications and/or monitor children while taking asthma medicines or using inhalers.
- Provide training for staff and children about asthma.

Karen Ekdahl, of Bellingham Childcare & Learning Center (Bellingham, Washington), has implemented many of these ideas in the NAEYC-accredited center she directs. Licensed for 76 children, ages five weeks through five years, the center provides both part- and full-time care and serves nearly 100 children. Six of those currently enrolled have chronic asthma, including two children who are under the age of three. Karen says,

“We do all we can to maintain a healthy environment so children can participate in our program.” One resource she’s found especially useful is the “Eco-Friendly Child Care Checklist” from the Oregon Environmental Council. “The checklist helped us look around the center to see if there are any triggers or other health hazards in the environment,” Karen says. “We’ve made a few changes, such as avoiding manufactured air fresheners and aerosol sprays of any kind, and limiting pets in classrooms.” Karen adds, “The best resource, though, has been our nurse consultant. She visits on-site monthly and is accessible by phone and e-mail between visits. She helps with the asthma care plan and really understands children’s medical needs and the realities of group care.” The nurse consultant also advises on medication administration and documentation, storage and transport of asthma medications between home and center and on field trips, and the proper care and cleaning of nebulizers.

The program requests a physical exam and health history for all children upon enrollment. This ensures that program staff know about asthma care issues before the child begins attending. “While information from the doctor about medications and treatment is essential,” Karen explains, “we really rely on parents to communicate how asthma looks in their children. We don’t hesitate to contact parents throughout the day if clarification is needed or to let parents know how their children are doing.”

Components of a Care Plan for a Child with Asthma

Developing a written asthma care plan is an effective way to organize information from parents and health care providers specific to the needs of individual children (see Resources for websites for sample asthma care plans). Here are some suggestions for what to include in such a plan:

- name and phone number of child’s health care provider and/or asthma specialist
- known triggers for this child’s asthma
- activities that require special attention
- typical symptoms of asthma episodes for this child
- prescribed treatment for asthma episodes
- routine medications needed at child care
- how often the child has needed urgent medical care for asthma episodes in the past
- whether the child has life-threatening allergies that might present as an asthma episode.

Managing Asthma Medication

Medication often plays a key role in gaining good control of asthma and managing episodes. Some asthma medications must be taken every day to reduce or prevent swelling of the air-

ways and to help make the lungs react less strongly to irritants and triggers. These long-term medications usually come in the form of a spray or powder inhaled into the lungs. They may also be in liquid form for use with a nebulizer — a small machine that uses forced air to create a ‘medication mist’ for the child to breathe through a small face mask. Nebulizer treatments typically take about 10 minutes and may be needed several times each day until symptoms decrease. Liquid medications for the nebulizer should not be refrigerated.

Quick-relief medications (often called rescue medicines) are mainly used to treat an asthma episode. These usually are given in a spray form inhaled into the lungs to open airways quickly and to help stop coughing, wheezing, and troubled breathing. They work only for three to four hours and may have side effects such as shaking, pounding heart, nervousness, and restlessness.

Many asthma medicines come in a metered dose inhaler (MDI), a device that dispenses the medication in precise amounts. The MDI is usually a pressurized canister of medication with a plastic case and mouthpiece. Pressing the MDI releases a ‘puff’ of medication to be inhaled. Medication prescriptions should indicate how many puffs a child should receive. Children also can use MDIs with a special holding chamber, called a spacer. Very young children may use inhalers with a mask attached to the spacer to help get enough medicine into the lungs. Inhalers should be kept at room temperature and away from sunlight.

At Bellingham Childcare & Learning Center, classroom teachers typically give prescribed asthma medications after reviewing the medication plan, receiving instruction from parents,

and working with the nurse consultant to develop the asthma plan. Karen has found that a central location for medications works well at her program. "Parents leave medication at the front desk when they sign their children in," she explains, "and medications for the day are listed there on a white board that staff check every day." After check-in, the parent walks the child to the classroom and also updates the teacher verbally about medications. "Communication is key," Karen says.

What To Do in an Asthma Emergency

"We're fortunate we've never had an asthma emergency at the center," says Karen. She attributes that to staff who are knowledgeable about the children in their care. "They're so in tune with the children, they notice changes early and call parents if they have concerns. We've had parents come check on children and take them to the doctor if needed."

However, even with proper medication and rigorous efforts to minimize factors that can aggravate asthma, staff need to know about symptoms that suggest an emergency and how to respond. Any of the following signal a severe asthma episode that warrants emergency response:

- Wheeze, cough, or shortness of breath doesn't improve after prescribed medications are given.
- Neck and chest are 'sucked in' with each breath.
- Difficulty walking or talking.
- Struggling to breathe, hunching over.
- Confusion.
- Lips or fingernails turn pale or blue/gray.

The child's care plan should list actions in response to a severe asthma episode such as:

- Stop activity and help child sit upright.

- Stay calm and speak reassuringly.
- Have an adult remain with the child.
- Follow asthma care plan about giving rescue medication(s).
- Call parent/emergency contact.
- If no relief within 5-10 minutes of treatment, call 911.

When Staff have Asthma

Asthma affects adults as well as children. According to the Centers for Disease Control and Prevention (CDC), in 2008 asthma accounted for an estimated 14.2 million lost work days in adults. While adults with asthma can manage their own medications and carry out their work duties, they will need assistance in the event of an asthma episode. The program's health and personnel policies should address care for any chronic health conditions for staff. "We know that all the things we do to make our center healthy for children with asthma also will help staff with this condition," Karen says.

When to exclude children with asthma

Karen explains that her center's philosophy is to accommodate children's needs so they can participate in the program; sometimes that involves alternatives to outdoor play if cold is a trigger or figuring out how to do nebulizer treatments right in the classroom. "Sometimes, though, for a child with any kind of illness, the best place for them is at home," Karen says. For children with asthma, it's best if they stay home when:

- Wheezing or coughing continues after treatment.
- Breathing is fast or difficult.
- A fever is over 100 degrees.
- They're unable to take part in the daily routines and activities at school.

Karen reiterates, "Caring for children with asthma requires really good com-

munication between parents, staff, the child's doctor, and our nurse consultant." That communication, combined with clear policies, procedures, and training, will ensure safe, nurturing environments for children with asthma.

References

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American Lung Association, Epidemiology and Statistics Unit, Research and Program Services. (2009, January). *Trends in asthma morbidity and mortality*. Washington, DC: Author.

Asthma Fact Sheet:

www.lungusa.org/lung-disease/asthma/resources/facts-and-figures/asthma-children-fact-sheet.html

Asthma in Children:

www.medicinenet.com/asthma_in_children

Centers for Disease Control and Prevention. (2008). National Health Interview Survey Raw Data. National Center for Health Statistics. Available at www.cdc.gov/nchs/data/bsc/NHISreportforBSCOct2308.pdf

National Heart, Lung, and Blood Institute. (2008, October). *How asthma-friendly is your child-care setting?* National Asthma Education and Prevention Program NAEPP School Asthma Education Subcommittee. Available at www.nhlbi.nih.gov/health/public/lung/asthma/chc_chk.htm

Sander, N. (2011). Understanding asthma — One step at a time. *Allergy and Asthma Today*, 9(1), 32.

Welch, M. J. (2011). *Allergies and asthma: What every parent needs to know*. Elk Grove Village, IL: American Academy of Pediatrics.

Resources

- Allergy and Asthma Network — Mothers of Asthmatics, Inc.
www.aanma.org
- American Academy of Allergy, Asthma, and Immunology (AAAAI)
www.aaaai.org
- American Academy of Pediatrics
www.aap.org
- Art and Creative Materials Institute (ACMI), non-toxic materials
www.acminet.org
- Asthma and Allergy Foundation of America
www.aafa.org
- Asthma Fact Sheet
www.ecels-healthychildcarepa.org/content/FS-Asthma.pdf
- Asthma Information Packet for Early Care and Education Providers
www.ucsfchildcarehealth.org/html/pandr/trainingcurrmain.htm
- Centers for Disease Control and Prevention (CDC), Air Pollution and Respiratory Health Branch
www.cdc.gov/nceh/airpollution/default.htm
- Eco-Healthy Child Care, Oregon Environmental Council, Eco-Healthy Child Care Checklist
www.oeconline.org/our-work/kidshealth/ehcc
- Managing Chronic Health Needs in Child Care and Schools: A Quick Reference Guide
American Academy of Pediatrics, Elaine A. Donoghue, (Ed.), 2009
www.healthychildren.org, Item Number: MA0443
- National Resource Center for Health and Safety in Child Care and Early Education, Special Care Plan for a

Child with Asthma

<http://nrckids.org/CFOC/PDF/Version/Appendix%20M.pdf>

- U. S. Environmental Protection Agency asthma website
www.epa.gov/asthma/index.html
- Asthma Emergency Guide: An assessment tool for preschool and child care staff
www.pedipress.com/pdfs/Preschool_Emer_Guide_3.3.pdf
- Sample Asthma Action Plan
www.epa.gov/asthma/pdfs/asthma_action_plan.pdf

Children's books about asthma

- *The ABCs of Asthma: An Asthma Alphabet Book for Kids of All Ages* by Kim Gosselin
- *Brianna Breathes Easy: A Story About Asthma* by Virginia L. Kroll
- *The Lion Who Had Asthma* by Jonathan London
- *Taking Asthma to School* by Barbara Mitchell
- *I Have Asthma (Let's Talk About It Books)* by Jennifer Moore-Mallinos