

NEW TOOLS FOR Asthma management

Asthma Can Be Controlled. Expect Nothing Less.



June 22, 2010

Dear School Health Provider:

New tools for asthma management are available! School-aged children may carry asthma medications in school. Many health plans are focusing on quality measures in asthma management. The Asthma Toolkit, developed by the Arizona Asthma Coalition, contains updates on asthma policy and tools you can use at your school.

The Tool Kit contains some *key points* about asthma. It is not intended to be comprehensive, nor does it cover all aspects of asthma care. In addition to the sample patient information in the Toolkit, more tools, including action plans, contact forms, the Pediatric Asthma Score and other useful information, is available to you on our website at <u>www.azasthma.org</u>.

The Arizona Asthma Coalition depends on a variety of funding sources, enabling the Coalition to develop patient and provider education materials and to advocate for better care and management for people living with asthma in Arizona. The Coalition is comprised of over one hundred dedicated volunteers, who donate their expertise and time. By making a donation to the Coalition, you will help us to continue to be able to provide these services to you and your patients. Please consider donating as generously as you can.

Sincerely,

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Key Points in Diagnosing and Managing Children over Five and Adult Asthma Patients

Asthma Diagnosis:

CLINICAL FINDINGS CONSISTENT WITH ASTHMA:

- Presents with one or more of the following symptoms:
 - cough (early morning or cough following exercise)
 - chest tightness
 - wheezing
 - dyspnea
- Clues supporting asthma
 - relief with inhaled beta agonist
 - fits a pattern (seasonal symptoms, symptoms around certain triggers, etc)

Objective findings confirming asthma

• Spirometry - change of 12% in FEV1 pre/post bronchodilator with at least a 200cc increase in FEV1.

Investigating and ruling out the differential diagnosis:

VOCAL CORD DYSFUNCTION (VCD)/LARYNGEAL DYSFUNCTION

- Can occur in combination with asthma or alone
- Clues suggesting VCD
- No response to regular asthma medications
- Beta-agonist use may actually increase symptoms

Treatment for Patients Diagnosed with Asthma: Stepwise Therapy

- Start with high dose medications based on asthma classification
- When controlled (based on clinical rules of 2/activity level/spirometry results) decrease medication dose (i.e. 25% reduction) with follow up every 2-3 months.

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Important Questions to ask with each follow up visit:

DISCUSS THE RULES OF 2:

- Use of rescue medication (albuterol) over 2 times a week
- Night-time awakenings requiring rescue medication over 2 times a month
- Use of more than 2 canisters of rescue medication yearly
 - Assess patient's activity level
 - Identify comorbid conditions and treat as necessary: Gastroesophageal Reflux (GERD), sinusitis, allergic rhinitis

When to Refer to a Specialist (pulmonologist/allergist)

- There has been a life-threatening asthma episode
- All patients diagnosed with severe persistent asthma
- Two or more asthma episodes in one year needing steroids to gain control
- Not clear that asthma is the only reason for breathing problems
- Asthma symptoms persist despite treatment for 3-6 months
- Repeated sinus infections; associated nasal symptoms not controlled
- Persistent Asthma associated with aeroallergen triggers
- Possibility that triggers for asthma are occupational related

Key Points on Steroids and Asthma

Following are some common myths families have about using steroids and some facts you can present to them to help dispel these myths.

Myth: *Steroids should be the last resort in treating persistent asthma.*

Fact: NO. Steroids are now the first-line choice for long-term treatment of persistent asthma, regardless of age or weight.



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Rules of 2

- Use of rescue medication (albuterol)
 over 2 times a week
- Night-time awakenings requiring rescue medication over 2 times a month
- Use of **more than 2 canisters** of rescue medication yearly

The Expert Panel of the National Asthma Education and Prevention Program (NAEPP) changed their recommendations on the use of inhaled corticosteroids (ICS) in the 2002 Update of the Asthma Guidelines to include evidence from multiple studies showing ICS are more effective than any other agent in long-term asthma outcomes in children with mild or moderate persistent asthma. As a result, ICS are now preferred therapy for all persistent asthma (including those under age 5 years).

Myth: Steroids make you "bulk up" and can't be used by athletes playing competitive sports.

Fact: NO. There are different types of "steroids."

The steroids used to treat inflammation in asthma (and other diseases) are more accurately called corticosteroids, which are similar to natural steroids made by the body in the cortex of the adrenal gland. The steroids publicized in the media are anabolic steroids and are similar to male hormones. When used by athletes, these anabolic steroids will build muscle and can be abused to enhance athletic performance.

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Testing for steroid use in sports looks for anabolic steroids, not corticosteroids used in asthma. There is no ban on ICS by the NCAA or the IOC (International Olympic Committee), although the IOC does require prior notification if an athlete is on steroids for asthma.

Myth: Steroids will stunt growth.

Fact: Not if used properly.

For most children using ICS for asthma, height will not be affected. Strong evidence from several large, long-term clinical trials of ICS use in children followed for years show no long-term growth effects (a small percentage may have temporary slowing of growth velocity over first **12 to 18 months use**, but will catch-up and achieve expected adult height). In fact, uncontrolled and under treated asthma is much more likely to lead to poor growth than use of daily ICS for years. Especially in young children, taking ICS has much

fewer risks than not controlling asthma where more potent oral steroids may be needed with more side effects. **Myth:** *Steroids have too many side effects to be used every day in children.*

Fact: Depends on the steroid.

Inhaled steroids, especially used with a spacer or holding chamber, have minimal side effects compared to oral or parenteral steroids. Because ICS are delivered directly to the lung, smaller doses are needed to be effective and very little gets absorbed to the rest of the body. The main side effects are thrush in the mouth or hoarseness/irritation of the throat and these can be avoided by always using a spacer and rinsing the mouth after use. Otherwise, there is no significant effect on growth (see above myth on growth), and in children, there have been no significant effects on bone mineral density, the hypothalamic-pituitary-adrenal axis or immune system, or risk of cataracts/glaucoma.

In contrast, the use of frequent oral/parenteral steroids or prolonged use of oral steroids is more worrisome in the potential for side effects, because their potency is so much higher. To compare potency of steroids, the following table compares a prednisone course of 40mg/day for 5 days (almost all of which is bioavailable and active in the body) to common inhaled steroids (of which only 1-6% is bioavailable):

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Five days of prednisone 40mg/day (200mg total or 200,000 μ g) is equivalent to:

- ? 200 days of Advair 500 µg bid
- ? 400 days of Advair 250µg bid
- ? 1000 days of Advair 100 µg bid
- ? 227 days of Flovent 440 µg bid
- ? 454 days of Flovent 220 µg bid
- ? 1136 days of Flovent 88 µg bid
- ? 200 days of Aerobid 500 µg bid
- ? 200 days of Pulmicort Respules 0.5mg bid
- ? 400 days of Pulmicort Respules 0.25mg bid
- ? 250 days of Pulmicort Turbuhaler 400 µg bid
- ? 500 days of Azmacort 200 µg bid
- ? 625 days of QVAR 160 µg bid
- ? 1250 days of QVAR 80 µg bid
- ? 1136 days of Beclovent/Vanceril 88 µg bid

Key Points about Asthma and the Schools

In a United States survey conducted in 2003, 28 percent of children and adolescents under the age of 18 were estimated to have asthma. A separate survey found that asthma was more disruptive of school routines than any other chronic illness and had a significant impact on absenteeism. School staff lacked an awareness of asthma management. The survey also reported that 85 percent of school nurses believed there were students with undiagnosed asthma in their schools. Child care settings experience similar impact. Asthma is the leading cause of school absenteeism, due to chronic illness and the third leading cause of hospitalizations in children 15 years of age. The cost in school days and missed educational opportunities from these absences is estimated at 14 million days per year.

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Tips for School Nurses

- Inquire about school history, including absenteeism, availability of a school nurse and whether the student has declined to participate in school activities because of asthma.
 - Complete an asthma action plan and asthma management plan (some districts have both on the same form) and be certain that the family and the school have copies.
 - Obtain informed consent from parents to exchange information with school staff about asthma symptoms and management.
 - Consider school nurses as partners in providing patient education, monitoring the method and frequency of inhaler use.
 - Prescribe extra inhalers for school and when appropriate, extra peak flow meters, spacers and other needed devices. (Some insurance companies require that physicians complete waivers for the student to receive extra medication or equipment.
- Work with school administrators to create policies related to asthma education/awareness and the new student asthma and anaphylaxis self-carry medication laws.

Asthma Rescue Medication

The statute allows for a pupil who has written parental consent to possess and self-administer handheld inhaler devices for breathing disorders and establishes an exemption from civil liability for school districts and employees who, in good faith, make decisions or take actions to implement these provisions.

HISTORY

Currently, Section 15-344, Arizona Revised Statutes, delegates authority regarding the policies and procedures of the administration of any prescription medication to a pupil by a school employee to the school district governing board.

Numerous other states have adopted legislation allowing pupils to posses and self-administer handheld inhaler devices for breathing disorders on school property.

PROVISIONS

- The statute allows for the possession and selfadministration of prescription medication for breathing disorders by the pupil who has been prescribed the medication by a licensed physician or licensed health care professional, if the pupil's name is on the handheld inhaler device or medical container.
- Exempts school districts and employees from civil liability for all decisions made and actions taken in good faith to implement these provisions.
- Requires parents to provide annual written documentation authorizing the pupil to possess and self-administer a handheld inhaler.
- Makes technical and conforming changes.

Pupils with Anaphylaxis Carry and Self-Administer Emergency Medications

The statute requires school districts to adopt and enforce policies and procedures to allow pupils who have been diagnosed with anaphylaxis to carry and self-administer emergency medications while at school and school sponsored activities. Additionally, school districts and employees are immune from civil liability for all decisions made and actions taken in good faith to implement these provisions.



HISTORY

Currently, Section 15-344, Arizona Revised Statutes, delegates authority regarding the policies and procedures of the administration of any prescription medication to a pupil by a school employee to the school district governing board.

Numerous other states have adopted legislation allowing pupils to posses and self-administer inhaler devices for breathing disorders on school property.

PROVISIONS

 The statute requires school districts to adopt polices and procedures to allow pupils who have been diagnosed with anaphylaxis, by a specified

licensed health care provider, to carry and self-administer emergency medications, including auto-injectable epinephrine, while at school and school sponsored activities. The policies adopted must require a pupil who uses auto-injectable epinephrine while at school and at school sponsored activities to notify the nurse or the designated school staff person of the use of the medication as soon as practicable.

• Declares that the pupil's name on the prescription label on the medication container or on the medication device and annual written permission from the parent or guardian of the pupil is sufficient proof that the pupil is entitled to the possession and self-administration of the medication.

- Exempts school districts and employees from civil liability for all decisions made and actions taken in good faith to implement these provisions, except in cases of wanton or willful neglect.
- Makes technical and conforming changes.

How Asthma-Friendly Is Your School?

Children with asthma need proper support at school to keep their asthma under control and be fully active. Use the questions below to find out how well your school assists children with asthma:

- **1.** Is your school **free of tobacco smoke** all of the time, including during school-sponsored events?
- **2.** Does the school maintain **good indoor air quality**? Does it **reduce or eliminate allergens and irritants** that can make asthma worse?

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- **3.** Allergens and irritants include pets with fur or feathers, mold, dust mites (for example, in carpets and upholstery), cockroaches, and strong odors or fumes from such products as pesticides, paint, perfumes, and cleaning chemicals.
- **4.** Is there a **school nurse** in your school all day, every day? If not, is a nurse regularly available to the school to help write plans and give guidance for students with asthma about medicines, physical education and field trips?
- **5.** Can children take **medicines** at school as recommended by their doctor and parents? May children carry their own asthma medicines?
- **6.** Does your school have an **emergency plan** for taking care of a child with a severe asthma episode (attack)? Is it made clear what to do? Who to call? When to call?
- 7. Does someone teach school staff about asthma, asthma management plans and asthma medicines? Does someone teach all students about asthma and how to help a classmate who has it?
- **8.** Do students have **good options for fully and safely participating in physical education** class and recess? (For example, do students have access to their medicine before exercise? Can they choose modified or alternative activities when medically necessary?)

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If the answer to any question is no, students may be facing obstacles to asthma control. Asthma out of control can hinder a student's attendance, participation and progress in school. School staff, health professionals and parents can work together to remove obstacles and to promote students' health and education.

Contact the organizations listed on the **Resource** pages for information about asthma and helpful ideas for making school policies and practices more asthma-friendly. Federal and State laws are there to help children with asthma. *

* Coordinated by the National Heart, Lung, and Blood Institute, National Institutes of Health For additional information, contact the NAEPP at 301-592-8573 (phone) or 301-592-8563 (fax)

National Asthma Education and Prevention Program

Resolution on Asthma Management at School

Asthma affects nearly 5 million children in the United States – about 1 child in every 14. This chronic lung disease causes unnecessary restriction of childhood activities and is a leading cause of school absenteeism. Asthma is controllable, however. With proper treatment and support, children with asthma can lead fully active lives.

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TOOL KIT

The National Asthma Education and Prevention Program (NAEPP)

believes that schools should adopt policies for the management of asthma that encourage the active participation of students in the self-management of their condition and allow for the most consistent, active participation in all school activities. These policies should allow:

- A smoke-free environment for all school activities.
- Access to health services supervised by a school nurse. These services should include identification of students with asthma; a written asthma management plan for each student with asthma; appropriate medical equipment and the support of an adult, as appropriate, to evaluate, monitor, and report on the administration of medication to the parent/guardian and/or health provider.
- A written medication policy that allows safe, reliable, and prompt access to medications in the least restrictive way during all school-related activities and self-managed administration of medication (including consideration of allowing students to carry and self-administer medications) consistent with the needs of the individual child and the safety of others.
- A school-wide emergency plan for handling severe exacerbations of asthma.
- Staff development for all school personnel on school medication policies, emergency procedures and procedures for communicating health concerns about students.
- Development of a supportive and healthy environment that respects the abilities and needs of each student with asthma. *

Asthma can be controlled. Expect nothing less.

* National Heart, Lung and Blood Institute National Asthma Education and Prevention Program School Asthma Education Subcommittee

Resources

AHCCCS

www.ahcccs.state.az.us/Services/Overview/ForAZFamC hildren.asp

ALLERGY & ASTHMA NETWORK MOTHERS OF ASTHMATICS (AANMA) www.aanma.org/headquarters

AMERICAN ACADEMY OF ALLERGY ASTHMA AND IMMUNOLOGY www.aaaai.org/media/resources/media_kit

AMERICAN ACADEMY OF PEDIATRICS www.medicalhomeinfo.org/training/Topics.html

ARIZONA ASSOCIATION OF COMMUNITY HEALTH CENTERS www.aachc.org

ARIZONA ASTHMA COALITION www.azasthma.org

ARIZONA COMMISSION OF INDIAN AFFAIRS www.indianaffairs.state.az.us/agreements/ades.html

ARIZONA COMMUNITY ACTION ASSOCIATION www.azcaa.org/azcaa-communityAgencies.html

ARIZONA DEPARTMENT OF ECONOMIC SECURITY www.de.state.az.us/ASP/default.asp

ARIZONA DEPARTMENT OF HEALTH SERVICES www.azdhs.gov

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY www.azdeq.gov/

AMERICAN LUNG ASSOCIATION www.lungusa2.org/arizonanewmexico/

A TO Z CHILD HEALTH LINKS www.azchl.org

BANNER'S CHILDREN'S HEALTH HOSPITAL www.bannerhealth.com/patients+and+visitors/facilities /arizona/desert/programs+and+services/childrens+servi ces/childrens+hospital.asp

CATHOLIC SERVICES www.catholicsocialserviceaz.org/services/families.asp

CENTER FOR DISEASE CONTROL www.cdc.gov

CHILD AND FAMILY RESOURCES www.childfamilyresources.org www.arizonachildcare.org

CHILD WELFARE LEAGUE www.cwla.org

COMMUNITY INFORMATION AND REFERRAL www.cir.org **COUNTY HEALTH DEPARTMENTS**

www.healthguideusa.org/arizona_county_health_depart ment.htm

COVERING KIDS AND FAMILIES www.coveringkidsandfamilies.org/communications/bts /events/index.php?StateID=AZ

GOODNIGHT PEDIATRICS (AFTER HOUR PEDIATRIC CARE) www.goodnightpeds.com/index.php?option=com_conta ct&catid=4&Itemid

KIDS CARE www.kidscare.state.az.us

U.S. DEPARTMENT OF HOUSING AND URBAN SERVICES (HUD) Shelters in Arizona

www.hud.gov/local/az/homeless/sheltersinfo.cfm

www.espanol.hud.gov/local/az/homeless/sheltersinfo.cf m?&lang=es in Spanish

NATIONAL ALLIANCE FOR HISPANIC HEALTH www.hispanichealth.org

NATIONAL SAFETY COUNCIL www.nsc.org/ehc/asthma.htm

PHOENIX AREA INDIAN HEALTH SERVICE www.ihs.gov/FacilitiesServices/AreaOffices/Phoenix/ph x_services.cfm

www.ahcccs.state.az.us/Services/Overview/ForAZFamC hildren.asp

PHOENIX CHILDREN'S HOSPITAL www.phxchildrens.com

POISON CONTROL CENTER www.npic.orst.edu/poisondata.htm

RAISING SPECIAL KIDS www.raisingspecialkids.org/

ST. JOSEPH'S HOSPITAL www.stjosephsphx.org/stellent/websites/get_page_cache.asp?nodeId=5 001537

SUPPORT GROUPS IN ARIZONA www.findingstone.com/services/azsupportgroups.htm

UNITED STATES LIBRARY OF MEDICINE www.nlm.nih.gov

Asthma can be controlled. Expect nothing less.

References

Agertoft, L and Peterson, S. "*Effect of long-term treatment with inhaled budesonide on adult height in children with asthma*." **New England Journal of Medicine**, 2000, 343: 1064-1069.

Guidelines for the diagnoses and management of Asthma: update on selected topics 2002 U.S. Department of Health and Human Services, NIH, 2002, NIH Publication No. 02-5075

Meta-Analysis comparing steroids vs placebo/other long-term medications: Sin, DD et al. **JAMA**. 292: 367-376.

National Asthma Education and Prevention Program (NAEPP): www.nhlbi.nih.gov/guidelines/asthma/index.htm - can view and print 1997 full Expert Panel Report as well as Update of Selected Topics 2002.

Palmer LJ, Silverman ES, Weiss ST, Drazen JM: Pharmacogenetics of asthma: Am J Respir Crit Care Med 2002;165;861-866

Suissa S. Ernst P, Low-dose inhaled steroids and the prevention of death from asthma: NEJM 2000; 343;332-336

The Childhood Asthma Management Program (CAMP) Research Group. "Longterm effects of budesonide or nedocromil in children with asthma." **New England Journal of Medicine**, 2000, 343: 1054-1063.

For more information on steroids and asthma, as well as patient handouts, go to the **Arizona Asthma Coalition** website: **www.azasthma.org** - click on the *"Nurse's Tool Kit."*

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SCHOOL NURSE'S Tool Kit

A. C. T. FOR ASTHMA



ASSESS THE CHILD'S CONDITION

1. SPEAKING WHAT YOU MIGHT SEE: SHORT. CHOPPY SENTENCES DIFFICULTY SPEAKING AND WALKING "MY THROAT IS SCRATCHY" *** UNABLE TO SPEAK**

WHAT THE CHILD MIGHT SAY: **""I'M HAVING TROUBLE TALKING"** "MY MOUTH IS DRY"

2. BREATHING

WHAT YOU MIGHT HEAR: SQUEAKY SOUNDS **RAPID BREATHING MOUTH BREATHING** COUGHING OR SNEEZING *** NO SOUNDS**

WHAT THE CHILD MIGHT SAY: **"I'M HAVING TROUBLE BREATHING"** "MY CHEST FEELS TIGHT" **"MY CHEST HURTS"** "I CAN'T CATCH MY BREATH"

3. LOOKING

WHAT YOU MIGHT SEE RESTLESSNESS HUNCHING OVER PALE OR FLUSHED GRAY/BLUE LIPS OR FINGERNAILS *** UNRESPONSIVE/UNCONSCIOUS**

WHAT THE CHILD MIGHT SAY: "MY CHEST IS ITCHY/SCRATCHY" "I FEEL HOT ALL OVER" **"I FEEL TIRED"** "MY NECK FEELS FUNNY"



CALL FOR HELP

- Stay Calm and Reassure the Child
- 1. IF THE CHILD CAN SPEAK WITHOUT DIFFICULTY, AND YOU DO NOT HEAR SQUEAKY BREATHING. CALL A COLLEAGUE FOR HELP. AND THEN CALL THE PARENTS.
- * 2. IF THE CHILD HAS DIFFICULTY SPEAKING, GRAY OR BLUE LIPS, WITH OR WITHOUT ANY SQUEAKY BREATHING. OR NO SOUND THAT YOU CAN HEAR. CALL FOR EMERGENCY HELP NOW.
 - 3. YOUR EMERGENCY NUMBER IS:



TREAT THE CHILD'S SYMPTOMS

- 1. REASSURE THE CHILD. AND HELP THE CHILD TO SIT IN A COMFORTABLE POSITION WITH SHOULDERS RELAXED. LEANING FORWARD WITH ELBOWS ON THE KNEES. AND TRY TO COACH THE CHILD TO BREATHE OUT THROUGH **PUCKERED LIPS.**
- 2. IF THE CHILD HAS AN ACTION PLAN AND MEDICATIONS FROM THE DOCTOR, FOLLOW THAT PLAN. AND HELP THE CHILD USE THE MEDICATIONS.
- 3. STAY WITH THE CHILD UNTIL THE PARENTS OR EMERGENCY HELP ARRIVES.

***** AVOID DELAYS – TAKE IMMEDIATE ACTION AND **CALL FOR HELP!**

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