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***Air It Out*** **– Electronic Version. Vol. 14, Issue 11, #2 November 2007**
Asthma & Allergy Foundation of America, Texas Chapter, 9101 Quarter Horse Lane
Ft. Worth, TX 76123 817-297-3132 888-933-2232 info@aafatexas.org www.aafatexas.org

## ASK THE DOCTOR, Part 2

AAFA-TX's patient & caregiver "helpline" answers questions on asthma and allergies, provides referrals or sources of assistance for difficult disease-related issues. *Air It Out* again asks Dr. Richard Herrscher, MD, Board Certified in Internal Medicine and Allergy and Immunology, with offices on Communications Parkway in Plano (972-473-7544), for help.

* **A.I.O:** How is asthma in an infant diagnosed?

* **Dr. Herrscher:** The diagnosis of **asthma in infancy** (child up to 2 years of age) is **extremely difficult** and based primarily on **visible symptoms** such as wheezing or chronic cough. The main problem with symptoms is that many infants will also wheeze when they have a viral respiratory infection. Often an asthma **diagnosis is deferred** until after **age 5** when the progression to asthma can be more accurate. Typical diagnostic tests such as office based tests of lung function (forced expiration and impulse oscillometry) can sometimes be used reliably down to age 3 but not below that age. Exhaled nitric oxide testing has shown promise in diagnosing asthma, but this test is not widely available and again has limits down to age 3. Invasive procedures such as bronchoscopy or closed loop spirometry can be used in infants but are usually reserved for research situations or in severe cases when a diagnosis or the need to rule out other diseases is critical. High resolution CT scanning has the ability to show changes in the airway in infants indicative of asthma, but this test is still not validated or proven. This brings us back to the point of symptoms for most infant diagnosis. Current studies and the 2007 asthma guidelines give risk factors that can be used to predict the probability of infant wheezing progressing to asthma. These **risk factors include 4 or more wheezing episodes in the last year** that lasted more than 1 day and affected sleep AND have EITHER one of the following: parental history of asthma, physician diagnosed eczema, or evidence of IgE sensitization to aeroallergens OR two of the following: IgE sensitization to foods, blood eosinophils more than 4%, or wheezing not related to colds. Infants with these risk factors have a high probability of asthma after age 5.

***A.I.O:** How do parents of an infant know if their child is having an **asthma flare-up**? In other words, what signs should they look-for?

* **Dr. Herrscher:** The typical signs are **wheezing** or audible sounds while the infant is breathing. *Pressing one's ear over the infant's chest or back closely mimics what can be heard with a stethoscope* and improves the ability to pick up wheezing sounds. **Chronic or frequent cough** is often the only sign seen in infants, particularly if it worsens at night or after exertion/play. Other **more serious signs include** *rapid breathing* or retractions (sinking of the skin inward) of the abdomen/chest/neck, cyanosis or pallor (*either a blue or a pale tint to lips, face or hands, feet, nails*), and restlessness during sleep or listlessness while awake.

***A.I.O:** What is the difference between **RAD** (Reactive Airways Disease) and asthma? IS there such a thing as RAD?

* **Dr. Herrscher:** Reactive Airways Disease is really a term that says *there is wheezing in response to an environmental trigger* but physicians are hesitant to say that this is asthma. RAD is not a good definition of anything and has come into disfavor. However, the real issue is that many infants wheeze after viral infections in the first five years of life (transient wheezers) only to outgrow this problem and have no asthma for the remainder of their lives. It is not appropriate to label these kids as having asthma, so what do we call this? Unfortunately with current diagnostic coding, we don't have a good definition to use. In the first five years of life it is difficult to separate the transient wheezers from the persistent wheezers (those with asthma). We really don't know who will outgrow the wheezing until they actually outgrow it. So when faced with a wheezing infant during a viral infection, do physicians label this as asthma? Or do physicians say "Reactive Airways Disease" and then refine the diagnosis to asthma or no asthma based on the symptom course over the next several years? So, there may be some use for terms like RAD in this group of patients.

* **A.I.O:** By Dec. 31, 2008, the propellant or delivery system for all albuterol inhalers will be restricted to **only HFA's** (*hydrofluoroalkanes*), an aerosol gas that is environmentally friendly. What differences will patients who use albuterol notice in their new inhalers?

* **Dr. Herrscher: One** of the **benefits** of the new HFA inhalers, in addition to being environmentally friendly, is a **smaller particle size** of the delivered medication. These smaller particles have lesser tendency to fall out of the upper airway and they penetrate into the small or distal lung airways better, giving an enhanced medication response. The new HFA inhalers deliver the medication mist with **less force** and at a **warmer temperature**, resulting in less blast effect that was typical of the older CFC inhalers. Plus the **smell and taste** of the HFA inhaler mist is **slightly different** compared to the CFC-inhalers, though the medication is the same. The new HFA inhalers **should not get wet** so the old float test to determine emptiness isn't recommended. The HFA inhalers also have a **tendency to gum up** with medication residue over time. It is best to inspect these inhalers periodically; if white powder or other residue is seen around the tiny medication spray hole then it is time to clean the device. To clean, remove the medication canister from the L-shaped plastic mouth piece, rinse the mouth piece in warm water and then dry completely before replacing the canister.

**Upcoming Free AAFA-TX Programs: 1) Sat. Dec. 1**, "Asthma & Allergy Essentials for Childcare Providers" Hillcrest Day School, Frisco, Darla Theis, Instructor. **2) Tues. Jan 8**, 9 am-noon, "Asthma Management & Education" a CE program for nurses worth 3 contact hrs, Brownsville ISD, Brownsville. **3) Fri. Feb. 29**, 9 am-noon, "Asthma Management & Education" a CE program for nurses and respiratory therapists worth 3 contact hrs, Lake Highland HS, Richardson. **4) Fri. Feb. 29**, "The Recognition & Treatment of Anaphylaxis" a CE program for nurses worth 2 contact hrs., Lake Highland High School, Richardson, Dr. Eric Schmitt, Faculty. For more information or to register, contact AAFA-TX.