

Understanding Asthma: Instructional Notes to Accompany AAFA-TX PowerPoint Presentation
“What Do You Know About Asthma?”

Suggested faculty: School nurse, clinical nurse, faculty or staff delegated as school health liaison, asthma educator

This presentation is targeted to: Faculty, Administrators, Parents, Caretakers of asthmatic patients, adults in the community who want to know more about asthma

How to use these slide notes: The majority of school nurses are now required to provide disease education presentations for faculty or parents. This guide will make it easy to use the AAFA-TX PowerPoint slide presentation “What Do You Know About Asthma?” for optimum teaching success for this purpose.

Background information about asthma is provided so the presentation isn't a “reading” of slides which is boring and not educationally effective. I have also included some suggested lead questions to involve the audience in the learning process. You may choose to use these during the presentation (which will take more time) or you might hold the questions till the end of the full slide presentation as the basis for your discussion of the presentation.

Suggested for handouts to accompany the slides is included below. Each of these documents support and enhance the content of this slide presentation. The handouts can be found on our website <http://www.aafatexas.org/toolsforschools> Simply open the listed documents on the website then print a copy and duplicate for the audience. If you have questions on this project please contact joanhart6@gmail.com or joanhart@aafatexas.com Thank you for supporting AAFA-TX in helping others learn to control asthma.

Suggested Hand-outs when teaching faculty:

Asthma Devices - Peak Flow Meters, Spacers and Nebulizers, an Overview
Asthma Triggers, a poster
Asthma Management for the Classroom Teacher
Asthma Management for P.E. Instructors and Coaches
Commonly Used Asthma Medications
Early Warning Signs and Symptoms of Asthma Flares, bi-lingual
Eliminating Environmental Allergens in Schools
Rules of 2 - Taking Control
Sports and Asthma Guidelines for Coaches and Phys Ed Teachers
What to do for an Asthma Flare-up When a Nurse isn't Available, poster

Suggested Hand-outs when teaching parents or asthma awareness in the community:

Asthma Control Test age 4-11 (available in Spanish)
Asthma Control Test for kids 12 and over (available in Spanish)
Asthma Devices - Peak Flow Meters, Spacers and Nebulizers, an Overview
Commonly Used Asthma Medications
Early Warning Signs and Symptoms of Asthma Flares, bi-lingual
How to Use and Care for a Nebulizer (available in Spanish)
How to Use and Care for an MDI with a Spacer (available in Spanish)
How to Use an MDI without a Spacer (available in Spanish)
How to Use and Care for a Dry Powder Inhaler (available in Spanish)
How to Know When a Child with Asthma Should Stay Home From School (available in Spanish)
Important Things to Know About Asthma, bi-lingual
Tips for Parents on Coping with Childhood Asthma & Allergy (available in Spanish)
30 Ways to Limit Exposure to Allergy Triggers
What are the Most Common Asthma Triggers or Allergens (available in Spanish)

The Back Story, slides 1-6

STATISTICS: About 23 million Americans, including 6.5 million kids, have documented or diagnosed asthma. We know there are perhaps millions more with undiagnosed asthma. Asthma is an equal opportunity disease: men, women, seniors, teens, kids, toddlers and infants can have asthma. African-American, Caucasian, Hispanic, Oriental or Indian, race doesn't matter, all can have asthma although there does seem to be a higher prevalence among African-American and Hispanic populations. Economics or education doesn't matter either. Rich or poor, anyone can have asthma although there is a higher prevalence in families of lower income.

FATALITY: You can die from asthma and for African-Americans, there is a 200% higher death rate from asthma than other races have. At least 14 persons a day in the USA die from asthma. One in every 10 kids in the USA has asthma, 1 in every 7 teens have it; it is one of the top three most common and chronic diseases in children and the leading cause of school absenteeism. Asthma affects everyone touched by it: patients, parents or caretakers, siblings, extended family, employers, friends.

Children especially may have very strong emotional reactions to a diagnosis of asthma, but this can affect adults too.

Talking point, slides 3 & 4

1) Ask the audience to describe some of the emotional reactions or changes in behavior they may have noticed in their asthmatic students (or children).

2) When they noticed some of these emotional reactions or behavior changes, did they associate these reactions to asthma? Are they aware which of their students has asthma?

3) How can adults help asthmatic students understand and control these emotional reactions and behavior changes to the disease?

The Back Story, slides 7- 12

WHAT IS ASTHMA? Unless you have asthma, it's hard to describe what it feels like to have asthma. The physical symptoms of an asthma flare-up or episode (exacerbation, attack) can be debilitating or they can be mild depending on the level of severity of the disease, the patient and how well they control their symptoms. Even a patient with mild asthma can have a severe episode though. Asthma is very individual and very unpredictable.

During an asthma flare or exacerbation, the muscles tighten around the airways (broncho-constriction). This causes the insides of the airways to swell, reducing the passageway for oxygen. It also makes extra mucus (inflammation).

Teaching Exercise: Purchase some straws (paper work best but plastic will do). Ask each member of the audience to place the straw in their mouths, pinch their nostrils shut, and jump up and down in place for a minute or so, breathing only through the straw with pursed lips. That feeling is similar to how it feels for someone with asthma to breathe.

CAUSES: Scientists still don't know what causes the disease of asthma. The majority of studies believe it is partly caused by a genetic pre-disposition: if either parent had asthma, there is a good chance the off-spring will inherit it, and the other leading cause is pointing to environmental factors including smoking or being around smoke or environmental chemical exposure. Some studies believe that other physical diseases may also contribute to someone getting the disease, things like GERD (gastro-esophageal reflux disease) and obesity.

We may not know what causes the disease, but we do know what cause the symptoms of the disease. When symptoms occur, that is referred to as an asthma flare-up or exacerbation or episode or often with kids, as an asthma attack.

Talking point:

1) Why do they think there is a movement away from referring to a flare-up as an “attack”? (frightening to kids, makes them a victim, removes their power, etc.)

The Back Story, slides 13 - 22

CAUSE FOR ASTHMA SYMPTOMS: Some people have allergic asthma. Breathing an allergen causes wheeze, cough, chest tightness and shortness of breath. Allergy is common in asthma and a personal and family history of allergies is often associated with asthma. Approximately 70% of patients with asthma have allergies.

The goal is to eliminate these allergen triggers from your environment in order to control asthma symptoms induced by allergic reactions. Fix leaky pipes and use exhaust fans to reduce humidity in indoor air to prevent mold. Use bedding encasements to prevent dust mites from living in your pillows, mattresses and comforters, wash all bedding weekly in hot (130°) water to kill dust mites, vacuum frequently with a Hepa filter vacuum to keep dust under control.

All warm-blooded animals, whether domestic or farm, have dander, which is the residue left on their coats from their dried saliva. Cats produce more saliva than other animals so they are usually the worst pets to have if someone has a dander allergy. The animal's length of hair or amount of hair has little to do with a dander allergy. It's the amount of saliva that matters. There are new studies, however, which suggest exposure to a pet from infancy reduces or eliminates a dander allergy in many children. These studies are inconclusive but interesting.

Although not a true allergen (occurring in nature) strong chemical odors can trigger allergy symptoms. Gasoline, road exhaust fumes, pesticides, herbicides, fertilizers, room deodorizers, perfumes, scented body lotions, household cleaning products can all cause allergy symptoms in some individuals.

Smoke of any kind irritates the lungs and can trigger asthma symptoms. The second-hand smoke from tobacco is more harmful to children and others (even pets) than inhaling a cigarette. Because smoke clings to hair, skin and clothing as well as furniture, walls and carpeting, no one should smoke around anyone with allergies or asthma.

Emotions can play a role in triggering an asthma flare or exacerbation. Crying, arguing, classroom performance stress, work stress and even the “good” stress of excessive laughter can all trigger asthma flares in some individuals.

Colds, flu or other infections lower immune system defenses and increase the chance of an asthma flare. They also affect the respiratory system placing more restrictions on a delicate area.

Many have Exercise Induced Asthma, flares that are triggered by activity BUT almost everyone with asthma will at some time have asthma symptoms triggered by exercise, which includes sports or dance. EIA can be controlled. Asthma patients should not eliminate exercise from their life, they should live a normal and active life as active lungs are healthier lungs. There are some exercises that are better for asthma patients, those that require short bursts of energy rather than sustained energy. Things like swimming, baseball, football, walking, doubles tennis, climbing stairs, gymnastics or volleyball are all good activities for those with asthma. Always follow your healthcare provider's instructions with sports participation. A warm up and cool down period are recommended and in some cases, the physician may prescribe using a rescue inhaler (albuterol) before a sports activity. For more info on EIA, see the AAFA-TX handout.

Talking points:

- 1) What actions can be taken to help a child or other asthma patient learn or identify their individual triggers? (observation, allergy testing, diaries)
- 2) What actions can be taken to help eliminate the most common allergens from the classroom or home environment.
- 3) What steps might be taken to educate other students in the classroom or home about asthma?

The Back Story, slide 23

MYTHS ABOUT ASTHMA: There are many myths surrounding asthma. No, asthma isn't "outgrown," symptoms may become less frequent especially in puberty, but the disease state is always there. No, you can't "catch" asthma from another person. No, asthma is a real disease, it is not an emotional or psychosomatic illness. Wrong! You can play sports, you should remain active if you have asthma, just be more selective in the sports and activities that are best for the patient. Active lungs are healthier lungs.

Asthma severity varies from patient to patient. Some have very mild asthma with intermittent or infrequent symptoms; some have moderate asthma and others have very severe asthma with symptoms most of the time. Asthma severity can vary from patient to patient and even for the patient, it can change over time. It is a very individual disease.

Talking point:

- 1) What role can faculty or parents play to help educate all students, with or without asthma, to help their asthmatic classmates and friends? What should be taught? (Not contagious, tolerance, empathy, acceptance, observation/trouble-shooting for asthmatic friends or siblings, recognizing the symptoms of an episode, know what to do to help during an episode).

The Back Story, slides 24-27

CONTROLLING ASTHMA: The Goals of Asthma Treatment are simple:

- * fewer asthma symptoms during the day and night
- * using a quick-relief or rescue inhaler less often
- * leading a more active life, not missing school or work
- * reducing asthma flare-ups and visits to the ER or hospital

In order to have these results, the patient needs to be properly diagnosed by a healthcare provider who is experienced in this disease. Certain tests, including Spirometry (a machine that measures breath), help determine if a patient has asthma and how severe it is. The healthcare provider, patient and caregiver will work together to develop an Action Plan with steps to take to control asthma.

Everyone has a part in controlling asthma: the healthcare provider, the patient and the caregiver or parent. The patient and caregivers have to play detective and learn what triggers or starts their asthma flares. This can be done professionally by seeing a specialist for allergy testing and, if the patient is a good candidate, using immunotherapy or allergy shots to build immunity over time against many of the allergens that trigger flares. Playing detective personally helps, too. If symptoms occur when around an animal, chances are the patient has a dander allergy. If symptoms are worse when awakening then there's a good chance the patient has a dust mite allergy. Once triggers are identified, they have to be avoided or eliminated from the patient's environment.

Talking points:

- 1) What role does the teacher or school administrator play in helping to control asthma for their students? (encourage asthma education, eliminate allergens, encourage empathy and acceptance by classmates, educate other parents about the disease, etc.)

2) Its legal, with both physician and parental permission, for children to carry their own asthma medications to school and at school events. How does the faculty feel about this? What can they do to ensure medications aren't abused?

A major part of an asthma action plan is prescription medication. Asthma medications can be in liquid, pill or inhaler form. Some people, depending on their asthma severity, may not need medications on a regular basis. Others may only require one type of medication, usually the reliever variety, and others may need a combination of medications.

Medications to treat asthma fall into two basic categories:

➤ Long acting "Controller" medications which prevent chronic airway inflammation: They usually take days or weeks to have maximal effect and they are effective for 12 to 24 hours each time they're used.

Examples of controller medications include:

Inhaled Steroids (Flovent, Pulmicort, Asmanex, e.g.)

Long-acting bronchodilator (Serevent, Foradil, e.g.)

Leukotriene Modifiers (Singulair)

➤ The second category is the reliever or rescue medications which are quick acting bronchodilators.

They provide immediate relief of airway muscle constriction and the medication is effective within 5 to 10 minutes after use. Their relief lasts only 4-6 hours.

Examples include short acting bronchodilators (Albuterol, Xopenex, and MaxAir, e.g.).

Talking points:

1) All medications have a potential for side effects. Discuss what some of these might be and how they impact success in the classroom.

2) What should the faculty (or parents) do when they observe unusual behavior in asthmatic kids? (speak to school nurse, nurse communicate to parents or physician, parents communicate to physician and school nurse and classroom teacher)

The Back Story, slide 28:

IS ASTHMA IN CONTROL? How do you know if your asthma is in control? Apply the "Rules of Two"

➔ Do you use your "quick-relief inhaler" more than TWO TIMES A WEEK?

➔ Do you awaken at night with asthma more than TWO TIMES A MONTH?

➔ Do you refill your "quick-relief inhaler" more than TWO TIMES A YEAR?

If the answer is yes to these questions, then asthma is probably not in control and the patient should visit their healthcare provider to see if change, adding or reducing the medication therapy is needed.

If the patient is **non-compliant**, they're not avoiding or eliminating their triggers and not following their medication plans so their asthma won't be in control. Most likely, they will have more asthma symptoms or flares as a result and perhaps these flares will be so severe they'll require emergency room visits and/or hospitalizations to stop the flare and save a life.

The Back Story, slide 29

Asthma Devices:

MDI's or Metered Dose Inhalers are a convenient way to deliver a specified dose of rescue or albuterol medications used for sudden symptoms or flares. These are canisters of medication with a propellant gas that delivers the medication as a spray or mist.

➤ **Spacers** make it easier for younger kids to use an MDI. The MDI releases medicine at a very high speed and the patient has to inhale quickly to absorb the mist. When using **a spacer**, the drug is discharged into the spacer and held there in suspension for 3-5 seconds longer, giving the patient more time to inhale the spray. Infants and toddlers are able to use these rescue medicines with a spacer plus a mask. **Spacers** reduce medication side effects like cough or Oral Thrush and help ensure the drug is delivered to the lower airways and not absorbed by the mouth into the stomach.

➤ A **peak flow meter** is a device that measures how well a patient is breathing; it can detect breathing difficulties even before other symptoms of an asthma flare or episode occur. In fact, a first sign of an asthma flare is a drop in the peak flow reading. The peak flow meter is a *gauge* and reading results will be different for each patient. Every patient has a “best number” which means the biggest, fastest breath blown into the meter when the patient feels well and has no symptoms of asthma.

➤ A **nebulizer** is a medication delivery system consisting of a nebulizer (small plastic bowl with a screw-top lid which holds the medication), a mouthpiece to inhale the medication and tubing to connect these to a compressed air machine. The air flow from the compressor to the nebulizer changes the medication solution placed in the cup to a mist. When inhaled correctly, the medication has a better chance to reach the small airways increasing the medication's effectiveness in relieving asthma symptoms. Infants and children under 5, patients who have problems using a metered dose inhaler and patients with severe asthma will often use nebulizers. AAFA-TX has bi-lingual information on the proper use and care of all of these devices.

Talking Points:

1) Asthma medications can only be effective if used correctly. (If you can, demonstrate the proper technique in using these devices to your audience).

2) How can the faculty (or parents) provide a safe environment for asthmatic kids to use their medications without feeling “different” or a “freak” to their classmates? One study shows 1 in 10 asthmatic kids are bullied, BUT what wasn't emphasized in the study was whether those same children would have been bullied for some other reason. Bullies need little reason to pick on someone. Bullies has always existed but today, it's become an art form and can be “in-your-face” or done electronically on the social media sites. A discussion about stopping bullies from ruling might be very helpful.

Asthma is a chronic disease that is best controlled by avoiding triggers and taking the medications prescribed, as prescribed. Uncontrolled asthma can lead to death. According to the Texas Asthma Health Facts, 2006, in that year, over 25,000 hospital admissions were due to asthma (but many of these may be due to lack of health insurance so patients have no alternative medical resource except a hospital ER) and between 2001 and 2005, 1,272 people in Texas died of asthma, 12 of them under 4 yrs. of age. Asthma kills.

The Back Story, slide 30-31:

ASTHMA FALL-OUT:

1) There are **financial issues**:

➤ Annual expenditures in the US for health care costs and lost productivity due to asthma are estimated at nearly \$20 BILLION.

➤ Asthma meds are expensive: asthma was considered a pre-existing condition for insurance companies so changing providers meant no coverage, but the new Healthcare Reform provisions for 2010 eliminate the “pre-existing” right for insurance companies.

➤ No insurance? Most children under 19 can have access to insurance. New financial guidelines in the CHIP insurance program now covers more kids at very reasonable rates for families with higher income brackets than in the past. i.e., a family of 4 with \$44K annual income can qualify for CHIP and starting 2010 state employees eligible for insurance can qualify to get CHIP benefits. The only caveat is the child **MUST BE** a legal resident in the state. There are no restrictions if the parents are illegal as long as the child can prove legal residency.

2) All medications have **side-effects**:

➤ Some might make some kids jittery, others sleepy, others moody or irritable.

➤ They might affect school success, social interactions and general behavior.

➤ Discuss any side-effects with the doctor because they may be able to change medications which won't have such side-effects.

➤ The need to take meds at certain times during the day will also mean more regimentation for kids and adults.

3) Other issues related to asthma control:

- A **healthy diet** and lifestyle is more important than ever for an asthmatic to help prevent other illnesses which might trigger an asthma flare such as respiratory infections.
- As with most chronic illnesses, **asthma is affected by other diseases or co-morbidities** that the patient may have. Diabetes, GERD and obesity will all worsen asthma symptoms.

4) Stress on family life and affect on siblings

- The financial and emotional issues of asthma can destroy marriages and/or make a tenuous relationship more difficult.
- Emotional stress can take a toll on the parent's health too
- Siblings might become resentful of the attention paid to the asthmatic child causing family dissention

For more information on asthma or allergies, contact the Asthma and Allergy Foundation of America, Texas: www.aafatexas.org



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