

ASTHMA TRAINING



ASTHMA OVERVIEW

- ▶ **Training Overview**
- ▶ What is Asthma?
- ▶ “Triggers” that worsen asthma
- ▶ Common signs & symptoms of asthma
- ▶ “Asthma attack”
 - ▶ Signs & symptoms of an emergency; interventions
- ▶ Preventative measures
- ▶ Medical management
- ▶ Asthma effects on children



IMPACT OF ASTHMA

- ▶ By ensuring proper medication administration and ensuring preventative measures be taken to minimize episodes of asthma attacks children are better equipped to learn and take part in normal day-to-day activities.
- ▶ Children with asthma miss about 10 days of school and experience about 20 days of restricted activity per year.
- ▶ In school:
 - ▶ Increased absenteeism
 - ▶ Decreased alertness
 - ▶ Reduced performance
- ▶ In personal life:
 - ▶ Separation from socially active events
 - ▶ Weight gain
 - ▶ Lack of sleep
 - ▶ Depression
 - ▶ Anxiety
 - ▶ Stress

WHAT IS ASTHMA ?

- ▶ Asthma is a chronic inflammatory disease that causes the airways of the lungs to swell up, narrow, and/or fill up with mucous.
- ▶ It is a chronic ongoing disease that cannot be cured, but it can be managed so that individuals can live long productive lives.
- ▶ Asthma occurs because the lungs respond to a stimulus, or “trigger,” that may not bother other people without asthma, but do cause a negative reaction in those who do have asthma. The triggers cause the airways to narrow, get smaller, and increase the difficulty of the individual to take in air (London, Ladewig, Ball & Bindler, 2007).
- ▶ Air is what we need to breath and sustain life. Air passes through the nose into the nasal cavity down the nasal cavity within our throat and into large tubes that lead into the left and right lungs. It is within our lungs that air travels into little tubes called bronchioles then into sacs called alveoli. From there air travels from the sacs into our blood where our body can then transport to where it needs to go in order to keep us going (Lewis, Heitkemper, Dirksen, O & Bucher, 2007).
- ▶ When someone with asthma comes across a trigger and the lungs overreact the tubes within the lungs swell up, muscles tighten and can also fill up with mucus to make it harder for air to pass through the lungs.
- ▶ How a person reacts to his or her asthma condition depends on how narrow the airways get at any given time.
- ▶ *Side note: A person's reaction can also depend on perceived severity of the situation, fear, and anxiety, but for the most part, depends on how open the airways of the lungs are or are not.*

ASTHMA TRIGGERS

- ▶ When the lungs overreact to swell or tighten up it differs for every person at any given time. But by knowing what can trigger the lungs to swell or tighten may help in preparation to control or prevent the incident from happening.

- ▶ Triggers can be:
- ▶ Dust
- ▶ Tobacco smoke
- ▶ Dirty air outside
- ▶ Cockroach droppings
- ▶ Pets
- ▶ Mold
- ▶ Strenuous exercise
- ▶ Bad weather
- ▶ Some kinds of food
- ▶ Some emotions



MILD SIGNS AND SYMPTOMS

▶ **Coughing**

- ▶ Coughing from asthma often is worse at night or early in the morning, making it hard to sleep.

▶ **Wheezing**

- ▶ Wheezing is a whistling or squeaky sound that occurs when one breathes.

▶ **Chest tightness**

- ▶ Someone may feel like something is squeezing or sitting on his or her chest.

▶ **Shortness of breath**

- ▶ Some people who have asthma say they can't catch their breath or they feel out of breath. They feel like they can't get air out of their lungs.

MEDICATION MANAGEMENT

- ▶ In order to keep asthma signs and symptoms under control doctors often times prescribe asthma medications to help control asthma signs and symptoms. The medications cannot and will not cure asthma, but they will help control asthma from getting worse if taken properly as prescribed by the doctor.
- ▶ “Asthma medicines come in two types—quick relief and long-term control. Quick-relief medicines control the symptoms of an asthma attack” (“Management and treatment:” 2009).
- ▶ **Relievers (quick relief)**
- ▶ A common quick-relief medication is called albuterol, and it also goes by names like ProAir, Proventil, Xopenex and Ventolin. These are the medications that a child with asthma should have with them or with a responsible guardian at all times. These medications are used when the signs and symptoms of asthma suddenly become really bad because the lungs have closed up tightly really quickly and there is not enough air coming into the lungs. Used these medications as prescribed by a doctor in case of an emergency asthma attack occurs.

ALBUTEROL-GENERIC
PRO AIR - BRAND
PROVENTIL - BRAND
VENTOLIN - BRAND



albuterol
sulfate



albuterol
sulfate



albuterol
sulfate

Ventolin

PREVENTER MEDICATIONS

- ▶ Medicines that should be taken at home on a regular basis are called preventers, or long-term controller medications.
- ▶ “Long-term control medicines help you have fewer and milder attacks, but they don’t help you if you’re having an asthma attack” (“Management and treatment:,” 2009).
- ▶ If long-term controller medications are taken at a regular basis as prescribed by a doctor a child is less likely to have an asthma attack and have to use his or her quick-relief medication.



STEPS TO USE AN INHALER

- ▶ Quick-relief medications, like albuterol, are usually delivered by a device called an inhaler, that releases the medication through the mouth and directly into the lungs. These inhalers can be used by themselves or with an additional device attached to it called a spacer. A spacer enhances inhalation of medication in those not coordinated enough to breathe in or press down on an inhaler within the proper time of medication release.
- ▶ Steps for using an inhaler with or without spacer:
 - ▶ Take cap off and shake the inhaler. Prime (see below) if necessary.
 - ▶ Breathe out all the way
 - ▶ Hold inhaler towards mouth as prescribed by doctor
 - ▶ Breathe in slowly through the mouth, press down on the inhaler one time. (If using spacer, first press down on inhaler, wait 5 seconds, then breathe in slowly)
 - ▶ With spacer: Take 5 slow breaths
 - ▶ Without spacer: Hold breath while counting to 10 slowly
 - ▶ Wait about 1 minute between puffs for quick-relief medications
- ▶ Priming an inhaler:
 - ▶ When you use an inhaler for the first time, or if you have not used one in a while, the inhaler may not deliver the correct amount of medicine with the first puff. Therefore, before using the inhaler, you may have to test or prime it.
 - ▶ To do so, insert the medicine canister firmly into the clean mouthpiece according to the manufacturer's directions. Check to make sure that the canister is placed properly into the mouthpiece. Take the cap off the mouthpiece, and shake the inhaler 3 or 4 times. This shaking will allow for equal mixing of the medication's ingredients. Hold the inhaler well away from you, at arm's length, and press the top of the canister, spraying the medicine into the air 2 times. Look to see if a fine mist of medication has been released. The inhaler will now be ready to provide the right amount of medicine when you use it.

HOW TO USE AN INHALER WITH A SPACER



SEVERE SIGNS AND SYMPTOMS

- ▶ Again, quick-relief medications are used in the event of an asthma attack emergency.
- ▶ How might one know when a child is experiencing an “asthma attack?” Well, when signs and symptoms worsen to the point that one starts to really struggle with getting air into the lungs then that person can be considered to be having an “asthma attack.” An asthma attack can be a life-threatening emergency.
- ▶ Signs to look for:
 - ▶ Troublesome cough
 - ▶ Pronounced wheezing
 - ▶ Shortness of breath with rapid breathing
 - ▶ Accessory muscles (nasal flaring and use of abdominal and neck muscles) used
 - ▶ Emotional changes: panic, fear, restlessness
 - ▶ Inability to speak
 - ▶ Decreased alertness
- ▶ Common signs and symptoms of asthma worsen in an emergency. Coughing can become troublesome and continuous. Wheezing becomes louder and more pronounced. Shortness of breath continues to the point that someone breathes faster and faster to try to get more air in. The person may start to use his or her accessory muscles. Ribs suck in and become pronounced as the stomach may be moving up and down deeply when breathing as the person starts to use abdominal muscles to try and suck in more air. There is also nasal flaring when breathing in.
- ▶ The feeling of not being able to breath may cause emotional distress, panic, fear and restlessness.
- ▶ The child is struggling so hard to breath he or she may struggle to speak. And, the struggle to breath coupled with fear and lack of oxygen decreases alertness and a child’s ability to concentrate, think, and react properly.
- ▶ (Crawford, 2011).
- ▶ * The absence of a wheeze in the presence of other symptoms is a major concern, and the student needs immediate care.

WHAT TO DO IN AN EMERGENCY

- ▶ Notice the signs & symptoms
- ▶ Try to keep calm
- ▶ Medicate as prescribed
- ▶ If trouble walking or talking due to shortness of breath or fingernails or lips become blue CALL FOR AN AMBULANCE THEN CALL THE PARENT(S)
- ▶ Do NOT leave child alone
- ▶ By knowing the signs and symptoms of an asthma attack a person is better able to react as soon as possible to try and relieve the symptoms or know when it is time get help.
- ▶ In the event that a child does have an asthma attack try to keep calm, and try to keep the child calm. An asthma attack can be a very fearful experience. A child is already breathing fast due to the difficulty in taking in air, fear for themselves and sensed fear from others may only make the situation worse and increase their difficulty in breathing.
- ▶ Keep them as calm as possible and have them take their prescribed medication.
- ▶ If the medication does not work and the child begins to have trouble walking or talking due to shortness of breath or it is observed that the fingernails or lips are becoming blue due to an excessive lack of oxygen coming into the lungs and into the body, go to the hospital or call for an ambulance.
- ▶ (National Asthma Education and Prevention Program, 2003)

HOW TO PREVENT ASTHMA ATTACKS

- ▶ Although one can never be too sure when an asthma attack will occur the chance of it occurring can be minimized by taking preventative measures.
- ▶ In order to prevent an asthma attack:
 - ▶ have the individual avoid triggers that may irritate the lungs to cause a reaction
 - ▶ keep surroundings as free as possible from asthma triggers (e.g. clear dust away regularly, avoid areas with tobacco smoke, manage air filters, ensure a stress-free environment as much as possible)
 - ▶ recognize signs and symptoms of worsening or uncontrolled asthma
 - ▶ take medications as prescribed to help manage, prevent, or control asthma (know which medication belongs to which child, name of medication, when to give it, how much, and how to give it)
 - ▶ have an action plan to help guide asthma management under differing situations, especially in the event of an asthma attack