Learning Objectives

Asthma 101 “What You Need to Know” was designed to provide basic information about asthma and its management. Upon completion of the course, the learner should be able to identify:

- common asthma symptoms
- potential asthma triggers
- the difference between quick relief and controller medications used in asthma management
- how to manage an asthma episode and respond to an asthma emergency
- the importance and components of an Asthma Action Plan

Asthma in the U.S.

- An estimated 22.2 million people currently have asthma
- 6.8 million children have asthma
- Asthma is the one of the leading causes of school absenteeism
- Asthma accounts for 14.5 million lost work days
- Asthma is the third leading cause of hospitalizations among children under 15
- In 2004, there were 3,780 deaths attributed to asthma

Asthma in Minnesota

- The burden of asthma in Minnesota:
  - 302,000 adults currently diagnosed with asthma
  - 90,000 children currently diagnosed with asthma—equivalent to 1 out of 14 children or 7%
  - $240 million spent directly in hospitalizations, emergency department visits, office visits and medications in 2004
  - $181 million spent indirectly in lost school and work days in 2004
- Asthma hospitalization rates are highest in boys under age 5. Rates are higher for boys than girls until the late teenage years at which point the rates reverse and are higher for women than men.

Asthma is...

- a chronic inflammatory disorder of the airways
- inflammation (swelling) of the lining of the airways
- bronchoconstriction (tightening of the bands of smooth muscles surrounding the airways) which reduces the width of the airways
- excess mucus production that further narrows the airways
**Asthma Classification**
- There are several different levels of asthma severity
- Severity assessment forms the basis of the asthma treatment plan
- Severity level determines the type, dose, and frequency of medications

**Asthma Triggers**
- Triggers cause asthma symptoms to begin or get worse.
  - Infections
  - Allergens
  - Irritants
  - Behaviors

  *If you avoid asthma triggers, you may prevent asthma episodes and may require less medication to keep your asthma under control.*

**Infections**
- Respiratory Infections Are the #1 Trigger for Asthma
- What Can You Do?
  - Wash hands
  - Keep hands away from face
  - Use separate towels

**Allergens**
- Animals
  - Cats, dogs, etc.
  - Birds, mice
- Cockroaches
- Dust mites
  - Carpets/upholstery
  - Pillow cases
- Mold
- Pollens
  - Weeds, grass, trees
- Medical conditions
- Latex
  - Gloves, balloons

**Asthma/Allergy Connection**
- Strong link between asthma and allergies
  - Important to keep them under control
- Some allergies affect the upper airway but can trigger an asthma episode in the lower airway
- All asthma is not allergy-related, and not all allergies will cause an asthma episode
- Allergens are identified and exposure is minimized to improve quality of life

**Irritants**
- Smoke (from cigarettes and hookah)
- Dust and chalk dust
  - (when glasses are removed, and it is airborne)
- Strong odors
  - (perfume, markers that smell, air fresheners, cleaning chemicals, paint, etc.)
- Cold (or very humid) air
**Behaviors**

- Emotions (crying, laughing, shouting)
- Exercise may be a trigger for asthma, but asthma should not limit physical activity
- Smoking

**Common Triggers Found in the Home**

- Tobacco smoke
- Dust and chalk dust (sidewalk chalk)
- Strong odors (perfume, markers that smell, air fresheners, cleaning chemicals, paint, etc.)
- Animals
- Mold
- Dust mites
- Latex (gloves, balloons)

**Avoiding Asthma Triggers**

- Ask person with asthma (or parents) to identify:
  1. his/her triggers in order of severity,
  2. steps the health care provider suggests to avoid possible triggers, and
  3. what concerns they have about removing those triggers
- If they do not know, they should discuss with their health care provider

**Simple, Low-cost Modifications**

- Minimize dust by reducing clutter
- Find new home for animals with fur or feathers
- Remove carpeting
- Don’t use latex gloves or allow latex balloons
- Encourage them not to sit on carpeted floors
- If the home has carpet, encourage use of HEPA vacuum cleaners

**Modifications for the Home**

- Do not block ventilation ducts
- Mediate moisture problems or water leaks immediately
- Avoid mold growth
- Reduce the number of plants that need frequent watering
- Do not allow latex in the home; allow only mylar balloons

**Modifications for the Home**

- Do not use aerosol, strong-smelling cleaning supplies, or air fresheners
- Do not use permanent/odorous markers
- Do not smoke in your home or vehicle
Getting Help From the Professionals

- It is important to see his/her health care provider regularly. He/she can help track triggers and work to find the right medicines to control asthma symptoms.

- Someone with asthma should see their health care provider once every 3 to 6 months, even when they are feeling well, and more often when experiencing breathing problems.

Goals of Therapy

- Control chronic and nighttime symptoms
- Maintain normal activity levels, including exercise
- Maintain near-normal pulmonary function
- Prevent acute episodes of asthma
- Minimize emergency department visits and hospitalizations
- Avoid adverse effects of asthma medications

Asthma Medications

Controller and Quick Relief

- Controllers (anti-inflammatory)
  - Help to prevent an asthma episode
  - Are taken daily
  - Does not eliminate the need for quick relief medications

- Quick relief medications (inhaled bronchodilators)
  - Fast-acting
  - Relieve symptoms during an asthma episode
  - Are taken as needed

Controller Medications

- Can be inhaled or taken orally
- Decrease swelling and inflammation in the airways
- Control symptoms
- Prevent asthma episodes
- Will not help during an asthma episode or in emergencies

Take controller medication(s) every day, even when feeling well!

Quick Relief Medication

- Also called reliever or rescue medication
- Relieves asthma symptoms quickly
- Relaxes airway muscles
- Use when asthma symptoms first appear and/or before exercise, as indicated by health care provider
Small Children Can Get Their Medications By...

- Using a nebulizer
- Using a metered-dose inhaler with spacer and mask

More on Medications

- Know when the medication expires
  - Check the inhaler for the date
  - Do not use once expired
- Know how many doses have been used
  - Some inhalers have dose counters on them—pay attention to those
  - Some inhalers need to be manually counted
  1. Place a piece of tape on the inhaler
  2. Write the date you start using the MDI on the tape
  3. Place a hash mark on the tape for each dose used
  4. Count the hash marks often to make sure you still have doses remaining

Oral Steroids Treat Severe Swelling in Your Lungs

- Take during or after severe flare-up
- Take only as prescribed by health care provider

Asthma Action Plan

Actions to Take For an Asthma Episode

- Have someone stay with the person
- Follow the person’s Asthma Action Plan
- Make certain quick relief medicine is available and used properly
- Observe person to ensure he/she improves
- Communicate with emergency contacts if the person with asthma has experienced breathing difficulties while engaging in physical activity

Activity Can Continue When...

- Wheezing has resolved
- There is no chest tightness
- There is no shortness of breath
- Person is able to speak in complete sentences
- Person is able to freely walk around
- Person’s peak flow rate is 80% predicted or better
Use of an Asthma Action Plan

- For children, have the parent/guardian and health care provider complete an Asthma Action Plan
- For children, send a copy of the Asthma Action Plan to the child’s care provider, school, and/or coach
- Keep on hand and in an accessible location in case of an emergency

Zones of Asthma

There are three zones of asthma:

- Green
- Yellow
- Red

Green Zone

GO: No Asthma Symptoms

Yellow Zone

CAUTION: Early Warning Signs and Asthma Symptoms Begin

What to Do in the Green Zone

- Take controller medication every day, if prescribed, even when feeling well
- Keep quick relief medications on hand
- Give Asthma Action Plan to other care providers, if necessary
- Eliminate asthma triggers in home
- See health care provider regularly for an asthma check-up

What to Look for...

- Anxious or scared look
- Unusual facial paleness
- Flared nostrils
- Pursed-lip breathing
- Fast breathing/shortness of breath
- Hunched-over body position
- Perspiring
- Vomiting due to hyperventilation
- Restlessness during sleep
- Fatigue that is not related to activity
What to Listen for...

- Coughing or persistent cough with no other cold symptoms
- Frequent clearing of the throat
- Irregular breathing
- Noisy, difficult breathing
- Wheezing during exhaling

What to Do in the Yellow Zone

- Step up medications as prescribed and reduce activities as indicated
- Take quick relief medication
- Sit down, inhale slowly through the nose, and exhale through the mouth with lips partially open
- Keep taking daily controller medicines
- Stay calm

Red Zone

GET HELP!
Call Medical Services or 911

In the Red Zone

- Quick relief medication is not effective, not available, or has been used within the past 4 hours with no relief.
- In obvious distress: blue/darkened fingernail beds or area around the lips, retractions, lots of effort needed to breathe, trouble walking and talking
- Wheezing and coughing may stop because breathing has reduced severely.
- Call 911 if:
  - Peak flow is less than 50% of predicted or personal best
  - Blue or darkened fingernail beds or area around lips
  - Marked wheezing and shortness of breath

Basic Asthma Management

- Remain calm and reassure the person while providing assistance
- Stop the person’s physical activity and make sure he/she remains calm
- Remove the person from exposure to known asthma triggers

Got Emergency Help

- If any of the symptoms listed on a person’s Asthma Action Plan as emergency indicators are present
- If no improvement or relief from medications is noted after 15 to 20 minutes (or time period indicated by health care provider on Asthma Action Plan)

OR

- If any of the following conditions are present:
  - The person is hunched over with shoulders hiked, straining to breathe
  - The person has difficulty completing a sentence without pausing for breath
  - The person’s lips or fingernails turn blue
  - The person’s peak flow reading is below 50% below personal best
Emergency Action Plan

- Administer emergency medications specified in Asthma Action Plan
- Call 911 or emergency services

Goals of Asthma Control

- Sleep through the night
- Not cough or wheeze during the day or night
- Be physically active
- Not miss school or work due to asthma
- Not have asthma-related visits to emergency room or hospitalization

Control of Asthma Depends on...

1. Being able to get medical care
2. Having good self-management skills
3. Having good communication between a person with asthma and those around them (parents, coaches, teachers, child care providers, friends and co-workers)

Preventing and Controlling Asthma Episodes

To prevent and control asthma episodes, work closely with parents/guardians and a child’s health care provider to devise and follow a medical plan that:

- Prevents symptoms
- Reduces contact with triggers
- Prepares for any changes in symptoms
- Determines when a health care provider’s help is needed and when to seek immediate help

How Do You Know Your Asthma Is Not in Control?

THE RULES OF TWO

- Do you take your rescue inhaler more than TWO times per week?
- Do you awaken at night with asthma more than TWO times per month?
- Do you refill your rescue inhaler more than TWO times per year?

Remember...

- Asthma episodes can be prevented.
- When asthma symptoms go away, asthma is still there.
- Asthma is treatable—all episodes should receive immediate attention.
- A severe asthma episode IS an emergency!
- A person with even mild asthma can suffer a fatal episode.
Purpose:
To provide immediate, clear, accurate lung health and disease information.

Call 1-800-LUNGUSA or visit www.lunghelpline.org for immediate, clear, accurate lung health and disease information.

For More Information:
- www.lungusa.org
- 1-800-LUNG-USA
- 651-227-8014