

## **Association of Asthma Educators: Becoming an Asthma Educator and Care Manager**

Produced by the Alabama Department of Public Health  
Video Communications and Distance Learning Division

## **Education for a Partnership in Care**

### **Faculty**

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## **Education for a Partnership in Care**

- Provide self management education about
  - Monitoring asthma
  - Written asthma action plan
  - Medication technique
  - Environmental control

## **Monitoring Asthma**

- Asthma symptoms
- Peak flow

## **Asthma Symptoms**

- Cough
- Wheeze
- Shortness of breath
- Chest tightness

## Severe Asthma Symptoms

- Cough, wheeze, shortness of breath, chest tightness worsen
- Trouble walking, talking, thinking
- Hunched shoulders, retractions

## Acute Respiratory Failure

- Initial signs and symptoms
  - Elevated respiratory and heart rate
    - Pulse paradox
  - Use of accessory breathing muscles
    - Person often feels short of breath and anxious

## Acute Respiratory Failure

- Alteration of consciousness
- Clinical setting: ABG abnormalities

– 1. Calhoun W. Management of Respiratory Failure: The Rising Problem of Asthma; Mechanisms and Management. Chest 1992; 101:410-414a. 2. Khasnis A, Lohandwala Y. Clinical signs in medicine: pulse paradoxus. J Postgrad Med 2002;48:46

## Risk Factors for Asthma-related Death

- Asthma history
  - Previous severe exacerbations
    - e.g. Intubation, ICU admission
  - Two or more hospitalization for asthma in the past year
  - Three or more ED visits for asthma in the past year

## Risk Factors for Asthma-related Death

- Hospitalization or ED visits for asthma in the past month
- Using > 2 canisters of SABA per month
- Difficulty perceiving asthma symptoms or severity of exacerbations

## Risk Factors for Asthma-related Death

- Other:
  - Lack of written action plan, Sensitivity to Alternaria
  - Type of mold

– [http://www.nhlbi.nih.gov/guidelines/asthma/f11\\_sec5\\_exacerb.pdf](http://www.nhlbi.nih.gov/guidelines/asthma/f11_sec5_exacerb.pdf). Fig.5-2a

### **Risk Factors for Asthma-related Death**

- **Social history**
  - Low socioeconomic status or inner-city residence
  - Illicit drug use
  - Major psychosocial problems

### **Risk Factors for Asthma-related Death**

- **Co-morbidities**
  - Cardiovascular disease
  - Other chronic lung disease
  - Chronic psychiatric disease

– [http://www.nhlbi.nih.gov/guidelines/asthma/f11\\_sec5\\_exacerb.pdf](http://www.nhlbi.nih.gov/guidelines/asthma/f11_sec5_exacerb.pdf).Fig.5-2a

### **Asthma Symptom Zones**

- **Green Zone**
  - Goals of asthma therapy met
- **Yellow Zone**
  - Cough, wheeze, shortness of breath, chest tightness

### **Asthma Symptom Zones**

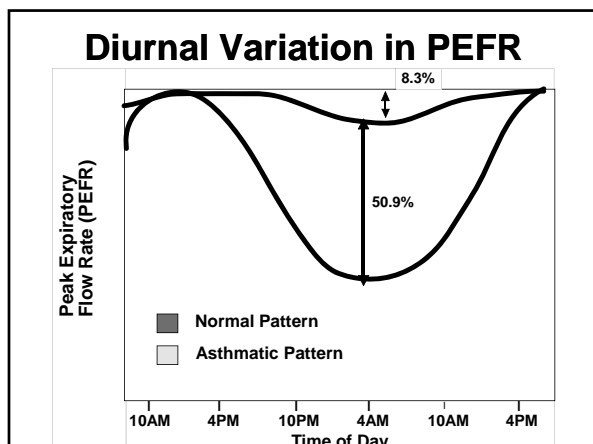
- **Red Zone**
  - Cough, wheeze, shortness of breath, chest tightness worsen
  - Trouble walking, talking, thinking
  - Hunched shoulders, retractions

### **Peak Flow Monitoring**

- **May be useful for patients with**
  - Moderate to severe asthma
  - Severe exacerbations
  - Poor perceivers

### **Role of Peak Flow Monitoring in Monitoring Asthma**

- **Provides objective data to assist care provider**
- **Documents personal best and flow variability**
- **Detects deterioration in control**
- **Indicates the need for increasing or decreasing medications**
- **Aids in trigger identification**



### Peak Flow Monitoring

- Measure first reading in the morning **BEFORE** medications
- Second reading, if needed at dinner time
- If Peak flow low, recheck 15-20 minutes after taking quick reliever medication to assess change
- Keep Peak flow and symptom diary

### Terminology

- **Personal best:**
  - The best number the patient is able to achieve when well
  - Developed over a 2 - 3 week period

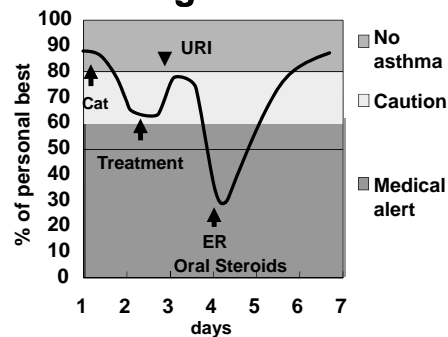
### Terminology

- **Predicted/expected:**
  - Corresponds to a chart of people without asthma
  - Based on height, age and sex
- **Actual:**
  - The number achieved after blowing into peak flow meter

### Peak Flow Zones

- **Green Zone**
  - 80-100% of personal best or predicted
- **Yellow Zone**
  - 50-80% of personal best or predicted
- **Red Zone**
  - < 50% of personal best or predicted

### Zone System for Monitoring Changes in PEFR



### How To Use a Peak Flow Meter

- Move indicator to base of PFM
- Stand up straight and take a deep breath
- Place mouth tightly around mouthpiece
- Blow out as fast and as hard as you can

### How To Use a Peak Flow Meter

- The number opposite indicator is the actual PEFR
- Repeat above steps for a total of three times
- Document the highest of the three readings

### Pitfall to Peak Flow Use

- Poor effort
- Inadequate seal around mouthpiece
- Hand placement
  - Can interfere with indicator or occlude air outlet port
- “Coughing” or “spitting” into the peak flow meter

### Spirometry vs. Peak Flow Meter

- Spirometer is used for **DIAGNOSING** and monitoring
- Peak Flow Meter is used for **MONITORING** only!
  - Measures only large airway function
  - No graphic display or printout available
  - No regular calibration

### Written Asthma Action Plan

- Manage asthma every day
- Manage asthma with increased asthma symptoms and/or decreases in peak flow

### Asthma Action Plan

- Green Zone
  - Goals of asthma therapy met
  - 80-100% of personal best or predicted
- Yellow Zone
  - Cough, wheeze, shortness of breath, chest tightness
  - 50-80% of personal best or predicted

## Asthma Action Plan

- Red Zone
  - Cough, wheeze, shortness of breath, chest tightness worsen
  - Trouble walking, talking, thinking
  - Hunched shoulders, retractions
  - < 50% of personal best or predicted

## Written Asthma Action Plan Should Include:

- Medicines, dose, frequency and duration
- Monitoring symptoms and/or PEF
- Guidelines for changes in medication based upon monitoring
- When to seek emergency care
- How to seek emergency care

## Provider+patient+Family Partnership: Written Asthma Care Plan

- Specifies long-term control medications and quick relief medications
- How and when to take them
  - By symptom monitoring and/or peak flow

**Asthma Medicine Plan**

You can use the colors of a traffic light to help learn about your asthma medicines.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Please fill in your doctor's name: \_\_\_\_\_

Please fill in your phone number: \_\_\_\_\_

**1. Green - Go** Use preventive medicine.

• Breathing is good  
• No cough or wheeze  
• Can work and play

Medicine: \_\_\_\_\_ How much to take: \_\_\_\_\_ When to take it: \_\_\_\_\_

Peak Flow Number: \_\_\_\_\_

20 minutes before sport, use this medicine.

**2. Yellow - Caution** Take your preventive medicine to keep an asthma attack from getting bad.

• Cough  
• Wheeze  
• Tight chest

Medicine: \_\_\_\_\_ How much to take: \_\_\_\_\_ When to take it: \_\_\_\_\_

Peak Flow Number: \_\_\_\_\_

When you see your doctor, use this medicine.

**3. Red - Stop - Emergency** Get help from a doctor right now!

• Medicine is not helping  
• Breathing is hard and fast  
• Nose opens wide  
• Can't walk  
• Lips blue  
• Can't talk well

Medicine: \_\_\_\_\_ How much to take: \_\_\_\_\_ When to take it: \_\_\_\_\_

Peak Flow Number: \_\_\_\_\_

National Heart, Lung, and Blood Institute

## Managing an Asthma Exacerbation

- Home
  - 4-8 puffs of albuterol with spacer by MDI or nebulized treatment
  - Repeat in 20 minutes
- Poor response
  - Call health care provider and proceed to ED or call 911

## Managing an Asthma Exacerbation

- Emergency Department
  - Objective assessment of symptoms
  - 4-8 puffs of albuterol with spacer by MDI or nebulized treatment
  - Repeat at 20 minute intervals three times

## Managing an Asthma Exacerbation

- Combination albuterol and ipratropium may be used instead, repeat at 20 minute intervals three times or continuously
- Oral corticosteroid burst

## Asthma Symptom Diary

- Symptoms
- Precipitating factors
- Interventions (medications)
- Response to interventions
- Bring to follow-up appointments

## Assessment of Asthma Control

- Asthma Control Test (ACT)
  - <http://www.asthmacontrol.com>
- Asthma Control Questionnaire (ACQ)
  - <http://www.qoltech.co.uk/acq.html>
  - Used mostly in research

## Assessment of Asthma Control

- Asthma Therapy Assessment Questionnaire (ATAQ)
  - <http://www.asthmacontrolcheck.com>

## Asthma Therapy Assessment Questionnaire

<http://www.asthmacontrolcheck.com>

## Asthma Control Questionnaire

Table 1. Asthma Control Questionnaire<sup>10-12</sup>

1. On average, during the past week, how often were you woken by your asthma during the night?	0 Never 1 Hardly ever 2 A few times 3 Several times 4 Many times 5 A great many times 6 Unable to sleep because of asthma	4. In general, during the past week, how much shortness of breath did you experience because of your asthma?	0 None 1 A very little 2 A little 3 A moderate amount 4 Quite a lot 5 A great deal 6 A very great deal
2. On average, during the past week, how bad were your asthma symptoms when you woke up in the morning?	0 No symptoms 1 Very mild symptoms 2 Mild symptoms 3 Moderate symptoms 4 Quite severe symptoms 5 Severe symptoms 6 Very severe symptoms	5. In general, during the past week, how much of the time did you wheeze?	0 Never 1 Hardly any of the time 2 A little of the time 3 A moderate amount of the time 4 A lot of the time 5 Most of the time 6 All the time
3. In general, during the past week, how limited were you in your activities because of your asthma?	0 Not limited at all 1 Very slightly limited 2 Slightly limited 3 Moderately limited 4 Very limited 5 Extremely limited 6 Totally limited	6. On average, during the past week, how many puff-inhalations of short-acting bronchodilator (e.g., Ventolin, Albuterol) have you used each day? (If you are not sure how to answer this question, please ask for help.)	0 None 1 1-2 puff-inhalations most days 2 3-4 puff-inhalations most days 3 5-6 puff-inhalations most days 4 8-10 puff-inhalations most days 5 12-16 puff-inhalations most days 6 More than 16 puff-inhalations most days

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### **Adherence Can Be Increased**

- If the patient believes that he/she is at risk
- If the patient believes that the treatment is safe
- If the patient feels in control
- If there is good communication between patient and health care professional

### **Encourage Adherence**

- Promote open communication
- Elicit concerns, perceptions, and unresolved questions
- Assess patient and family perceptions of the severity level of the disease

### **Encourage Adherence**

- Assess the level of social support
- Encourage family involvement
- Identify barriers/ supports to adherence
- Agree on goals for therapy
- Clarify patient expectations and address concerns at each visit

### **Encourage Adherence**

- Simplify the treatment plan
- Provide written instructions--review daily self-management vs. acute care
- Observe patient's inhaler and peak flow meter techniques
- Reinforce patient's efforts

### **Developing an Active Partnership in Care**

- Open communication
- Agreement on goals/expectations of treatment
- JOINT development of treatment plan
- Encouragement of family efforts to control asthma

### **Key Education Messages Provided by Clinician**

### **Resources**

- **Guidelines for the Diagnosis and Management of Asthma Expert Panel Report 3, 2007, may be read and downloaded from [www.nhlbi.nih.gov/guidelines/asthma](http://www.nhlbi.nih.gov/guidelines/asthma)**

### **Resources**

- **Guidelines: Global Strategy for Asthma Management and Prevention may be read and downloaded from [www.ginasthma.com](http://www.ginasthma.com)**
- **Environmental Protection Agency: [www.epa.gov/asthma](http://www.epa.gov/asthma)**

### **Association of Asthma Educators**

- **Thanks for attending Becoming An Asthma Educator and Care Manager**
- **Visit us at:  
– [www.asthmaeducators.org](http://www.asthmaeducators.org)**