Asthma Management in the School-Based Health Center
November 17, 2016 3:00 – 4:00 p.m. EST

WELCOME!

- 1 hour presentation including a Q&A discussion period at the end
- Today's session is being recorded and will be available on demand for future viewing
- Handouts are available at: http://www.albany.edu/sph/cphce/prevention_agenda_webinar_asthma.shtml
- Recorded programs, resources and materials available at: nyspreventschronicdisease.com

Webinar Guidelines

- Turn on your computer speakers for sound
- Please designate one person at the computer
- Adobe Features you will use today:
  - Chat Box
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- You can earn CNE, CME, or CHES credits for this webinar
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- Even if you are not seeking continuing education credits, we would really appreciate it if you would fill out the evaluation. We value your feedback!

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- Funding for this program is provided by the New York State Department of Health.
- No commercial funding has been accepted for this activity.

Asthma Management in the School-Based Health Center

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American Lung Association of the Northeast
LEARNING OBJECTIVES

After viewing this presentation participants will be able to:

- Identify the four components of the NAEPP Guidelines;
- Recall at least three of the six priority key messages of the NAEPP Guidelines; and
- State at least two strategies to apply the NAEPP Guidelines to practice in the school-based health center setting.

Setting the Stage

- Jamaica Hospital Medical Center, Jamaica, NY
  - general medical and surgical hospital – 650 beds
  - ED visits for children 0-17 in 2014 – 1505
  - Hospitalizations for children 0-17 in 2014 – 335
  - 3 School-based Health Centers
- Asthma Coalition of Queens
  - NYS funded Regional Asthma Coalition
  - Established in 2012
  - American Lung Association of the Northeast

The Lyndon B. Johnson School (PS 223) at-a-Glance

- Students with Disabilities 2.3%
- Economically Disadvantaged 91%
- 74% of Students enrolled in SBHC
- ED visit rate 172% of NY State Avg. and Hospital Discharges 165% of NY State Avg. for Kids 0-17
The Ronald H. Brown School (PS 155) at-a-Glance

- Black/African American: 50%
- American Indian or Alaskan Native: 5%
- Hispanic/Latino: 5%
- Asian: 15%
- White: 10%
- Multiracial: 5%

- 506 Students PreK-5th Grade
- 78% of Students enrolled in SBHC
- ED visit rate 148% of NY State Avg. and Hospital Discharges 175% of NY State Avg. for Kids 0-17
- Students with Disabilities 16%
- Economically Disadvantaged 94%

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Campus Magnet High School (Q490) at-a-Glance

- Black/African American: 72%
- American Indian or Alaskan Native: 5%
- Hispanic/Latino: 5%
- Asian: 10%
- White: 8%
- Multiracial: 2%

- 1271 Students in Grades 9-12
- 72% of Students enrolled in SBHC
- ED visit rate 128% of NY State Avg. and Hospital Discharges 192% of NY State Avg. for Kids 0-17
- Students with Disabilities 16%
- Economically Disadvantaged 75%

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Creating a Partnership

- JHMC School-based Health Centers
- Pediatric Pulmonologist
- Asthma Coalition of Queens
- JHMC Ambulatory Care

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Four Components of Asthma Management

- Measures of assessment and monitoring
- Education for a partnership in asthma care
- Control of environmental conditions and comorbid conditions
- Pharmacologic therapy

24 Years of Asthma Guidelines: Introduction

- National Asthma Education and Prevention Program (NAEPP) = 1989
  “The National Program”
  “The Guidelines”
  - 1991
  - 1997
    • 2002 Update
  - 2007
24 Years of Asthma Guidelines: U.S. & World

- Asthma Burden Persists
  - Children
  - Aged
  - Disadvantaged

Significant number of patients are not treated based on asthma guidelines

- Percentage in 2013 (49.0%) significantly lower than in 2003 (61.4%).
- Percentage was similar to the percentage for 2008 (59.6%).
- Did not differ by age, sex, race or ethnicity, and poverty level.

CDC Asthma Stats, National Health Interview Survey

24 Years of Asthma Guidelines: U.S. Experience

- UNCONTROLLED ASTHMA
  Patients with current asthma
  - Children = 38.4%
  - Adults = 50%

- CONTROLLER MEDICATIONS
  Patients with current asthma
  - Children = 40%
  - Adults = 39%
24 Years of Asthma Guidelines: Our Experience

Vast majority of our pediatric asthma patients have

No, or erroneous, asthma classification

AND
no documentation of how classification was assessed if one is entered in EMR

# 1 PROBLEM:

• NO/Improper Severity Classification
• No classification → NO/Inadequate treatment

6 Year Old Male, SBHC Clinic

10/05/11 Diagnosed with asthma at age 4
6-8 ER visits per year; no hospitalizations
Meds: Flovent 44mcg 2 p bid and Singulair 5mg, Zyrtec 10mg

1/11/12 Asthma, unspecified severity, not well controlled

1/27/12 Asthma, unspecified severity, better controlled, taking meds more regularly

3/22/12 Asthma, moderate persistent, better controlled

5/29/12 Asthma, moderate persistent, poor controlled

4/17/12 Consultation with Pulmonologist, Dr. Edmondson at SBHC
Switched to Advair, 2 puff bid, along with treatment for allergic rhinitis
Meds: Flonase and Zyrtec

5/16/12 Improving, maintaining adherence

5/31/12 Needing re-education regarding inhaler technique
Importance of adherence to controller medication emphasized
9 Year Old Female, SBHC Clinic

<table>
<thead>
<tr>
<th>MEDICINE</th>
<th>FREQUENCY</th>
<th>TIME TO TAKE IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proventil</td>
<td>2 tablets</td>
<td>15 min before exercise</td>
</tr>
<tr>
<td>Ventolin</td>
<td>2 pumps</td>
<td>15 min before exercise</td>
</tr>
</tbody>
</table>

How can we comply with NAEPP-EPR3 Asthma Guidelines? Six Priority Messages

- Use Inhaled Corticosteroids
- Use a Written Asthma Action Plan
- Assess Asthma Severity
- Assess and Monitor Asthma Control
- Schedule Periodic Asthma Visits
- Control Environmental Exposures
Assessing Asthma Severity

**IMPAIRMENT**
- Current frequency and intensity of symptoms and functional limitations
  - SABA
  - PFT

**RISK**
- Future likelihood of asthma exacerbations, # of OCS required/yr and progressive decline in lung function over time

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Asthma Classification is NOT Simple

The Chronic Disease: Classifying Asthma Severity: 5 – 11 years from American Lung Association

<table>
<thead>
<tr>
<th>Components of Severity</th>
<th>Intermittent</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms</td>
<td>2-6 days/wk</td>
<td>2 days/wk</td>
<td>Daily</td>
<td>Throughout the day</td>
</tr>
<tr>
<td>Nighttime Awakenings</td>
<td>None</td>
<td>1-2x/month</td>
<td>3-4x/month</td>
<td>&gt;1x/wk</td>
</tr>
<tr>
<td>β-agonist use (not preventative of OIB)</td>
<td>2-6 days/wk</td>
<td>2 days/wk, but not daily</td>
<td>Daily</td>
<td>Several times per day</td>
</tr>
<tr>
<td>Activity Limits</td>
<td>None</td>
<td>Minor Limitation</td>
<td>Some Limitation</td>
<td>Extremely Limited</td>
</tr>
<tr>
<td>Long Function (FEV1/FVC)</td>
<td>&gt;85%</td>
<td>&gt;85%</td>
<td>75-80%</td>
<td>&lt;75%</td>
</tr>
<tr>
<td>Exacerbations</td>
<td>0-1x/year</td>
<td>2x in 1 year</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Recommended Step for Initiating Treatment:
- Classifying severity in children who are not currently taking long-term control medication.
24 Years of Asthma Guidelines: Our Experience

• Severity Classification

  Impairment Domain

  – Daytime sx
  – Nighttime sx
  – SABA use
  – Limitation
  – PFTs

  ≤ 2 / > 2 wk

  ≤ 2 / > 2 mo

  ≤ 2 / > 2 wk

  0 / > Minor

  ≤ 2 / > 2 wk

  ≤ 2 / > 2 mo

  ≤ 2 / > 2 wk

  0 / > Minor

School of Public Health
New York State Department of Health

Diagnosis and Management of ASTHMA

- Use Inhaled Corticosteroids
- Use a Written Asthma Action Plan
- Assess Asthma Severity
- Assess and Monitor Asthma Control
- Schedule Periodic Asthma Visits
- Control Environmental Exposure
Control Environmental Exposures

- Review the environmental history of exposures
- Develop a multi-pronged strategy to reduce exposure to those triggers to which a patient is sensitive
- May need referral to Allergist

Trigger Identification & Education

NYC Healthy Homes Program
Goals of Therapy

- Reduce Impairment
- Reduce Risk

Stepwise Therapy
- Based on your severity assessment choose the appropriate step to initiate therapy
- All patients with persistent asthma (mild-severe) preferred first line treatment is with a daily inhaled steroid
Stepwise Approach for Managing Asthma in Children 5-11 Years of Age

**Intermittent Asthma**
- Consult with asthma specialist if step 4 care or higher is required.
- Consider consultation at step 3.

**Step 1 Preferred:**
- SABA PRN

**Step 2 Preferred:**
- Low-dose ICS + LABA
- Alternatives: CMB, nedocromil, or theophylline

**Step 3 Preferred:**
- Low-dose ICS + LABA
- OR
- Medium-dose ICS + either LTRA or theophylline

**Step 4 Preferred:**
- Medium-dose ICS + LABA
- OR
- Medium-dose ICS + either LTRA or theophylline

**Step 5 Preferred:**
- High-dose ICS + LABA
- OR
- High-dose ICS + either LTRA or theophylline

**Step 6 Preferred:**
- High-dose ICS + LABA + oral systemic corticosteroid

Each step: Patient education, environmental control, and management of comorbidities

Steps 2-6: Consider subcutaneous allergen immunotherapy for patients who have allergic asthma.

Quick-Relief Medication for All Patients
- SABA as needed for symptoms. Intensity of treatment depends on severity of symptoms: up to 3 treatments at 20 minute intervals as needed.
- Slow down the speed delivery of the medication such that there is medication deposition to the airways, rather than the posterior wall of the pharynx.
- Decreases need for coordination between actuation and inhalation.

- Mouth piece or face mask available: Must be a one way valved holding chamber.
Why use a Spacer with an Inhaler?

Inhaler alone

Inhaler used with spacer device

When an inhaler is used alone, medicine ends up in the mouth, throat, stomach and lungs.

When an inhaler is used with a spacer device, medicine is delivered to the lungs.

Asthma Action Plans

- Every child with asthma should have an action plan, especially those on more than one medication.
- A copy should be sent to the medical provider, school/camp, coach, babysitter/care provider.
- Empowers caretakers to administer rescue medications.
- Plans based on symptomatology more effective than plans based on peak flow measures.
Asthma Action Plans

• An action plan should contain –
  – The frequency and dose of daily medications written in simple language
  – The medications to add when a person starts having symptoms, including dose & frequency
  – Signs and symptoms to monitor for
  – An emergency contact number for the doctor
  – Indications for when to go to the ER

UNIVERSAL ASTHMA ASSESSMENT TIP SHEET & VIDEO ON DASHBOARD

Universal Asthma Assessment Workflow

In an effort to improve the care of our patients with asthma, as mandated by CMS, we are pleased to provide a guidelines-based asthma assessment, an asthma action plan, and an asthma medication set for implementation at all areas of our institution. These tools are named Universal as they can be used for ALL PATIENTS.

Try It Out

UNIVERSAL ASTHMA ASSESSMENT (UAA)

The Asthma Assessment consists of guidelines-based impairment and risk components which will be filled in by the obtained history. These components allow us to assign an asthma severity and asthma control and to prescribe medications depending on these levels and age of the pt. The table, in color font, contains these levels followed by a number. The number is linked to the components of the assessment. The highest number obtained on each question of the assessment yields the pt’s asthma severity and control level.

Three categories have been created to assess All Asthma Patients, under the age categories of 0 - 4 yrs of age, 5 - 18 yrs of age and 19 yrs of age and older. They are as follows:

- Uncontrolled
- Well-controlled
- Very well-controlled

UNIVERSAL ASTHMA ASSESSMENT VIA ASSESSMENT BUTTON

- At Risk
  - Symptoms
  - Exercise-induced bronchoconstriction
  - Recent exacerbations
  - Family history
  - Personal history

UNIVERSAL ASTHMA ASSESSMENT UNIVERSITY AT ALBANY School of Public Health

School of Public Health
UNIVERSITY AT ALBANY
GENERATE A NOTE FROM THE UAA BY TYPING .ASC

UNIVERSAL ASTHMA ACTION PLAN
To Select Treatment - "UNI AS" (Patient Instruction)

UNIVERSAL ASTHMA ACTION PLAN
To Select Treatment - "UNI AS" (Patient Instruction)
UNIVERSAL ASTHMA ACTION PLAN

"UNI AS" (Patient Instruction)

<table>
<thead>
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<table>
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<th>ACTION</th>
<th>REASON</th>
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</tbody>
</table>

UNIVERSAL ASTHMA MED PREF LIST

TYPE ‘ASTHMA’ IN ORDER SEARCH

Asthma/DRIP Medications on AMB FAM Pref List: Discharge/Clinic Patients

Diagnosis and Management of ASTHMA

1. Use Inhaled Corticosteroids
2. Use a Written Asthma Action Plan
3. Assess Asthma Severity
4. Assess and Monitor Asthma Control
5. Schedule Periodic Asthma Visits
6. Control Environmental Exposures
Asthma Diagnosis & Management Steps: Our Process

- Assess & monitor asthma control
- Schedule next follow-up appointment
- Review Asthma Action Plan, revise as needed
- Maintain, step up, or step down medication
- Review medication technique & adherence, assess side effects; review environmental control

Planned Follow-up

- Schedule planned follow-up visits at periodic intervals to assess asthma control and modify treatment if needed
  - 1-6 months depending on control
  - 3 month interval if step down in therapy is anticipated
- Consider a patient reminder system for these visits
Assessing Asthma Control

- Once treatment is established
- Consider current impairment and future risk domains
- Periodic follow-up
  - 1- to 6-month intervals depending on prior assessment
- Refer to asthma specialist (Pulm, A&I)
  - Atypical presentation, comorbid conditions
  - Additional education needed
  - Consider for step 2 (mild persistent)
  - Recommended for step 3 (moderate persistent or >)


Asthma Control Test
Stepwise Approach for Managing Asthma in Children 5-11 Years of Age

Intermittent Asthma
Consult with asthma specialist if step 4 care or higher is required.
Consider consultation at step 3.

Step 6
Preferred:
High-dose ICS + LABA + oral steroid
Alternative:
High-dose ICS + either LTRA or Theophylline + oral systemic corticosteroid

Step 5
Preferred:
High-dose ICS + LABA + oral steroid
Alternative:
High-dose ICS + either LTRA or Theophylline

Step 4
Preferred:
Medium-dose ICS + LABA
Alternative:
Medium-dose ICS + either LTRA or Theophylline

Step 3
Preferred:
Low-dose ICS + LABA, LTRA, or Theophylline
OR
Medium-dose ICS

Step 2
Preferred:
Low-dose ICS
Alternative:
Cromolyn, LTRA, Nedocromil, or Theophylline

Step 1
Preferred:
SABA PRN

Each step: Patient education, environmental control, and management of comorbidities.
Steps 2-4: Consider subcutaneous allergen immunotherapy for patients who have allergic asthma.

School-Based Asthma Education Programs

CQI Project

- To identify students coming for sports clearance who have never been diagnosed with asthma
- 30 students were screened using this questionnaire, out of which 5 were found to have a positive screening.
- These positives were then evaluated and prescribed appropriate treatment along with an Asthma Action Plan.
Summary

- Written asthma action plans
- Use inhaled steroids as per NHLBI guidelines for persistent asthma
- Reassess impairment and risk, preferably during periodic asthma check-ups
- Environmental management can and should supplement good medical care
- Ask about environmental exposures and seek ways to intervene
- Low cost interventions are effective in children
- Consider allergy referral to define exposure risk
- Consider Pulmonary referral in patients with persistent asthma who are not well controlled
Thank You!

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All Providers

New York State Resources

New York State Department of Health:
• Asthma Program
  https://www.health.ny.gov/diseases/asthma/
• Asthma Publication Request Form
  http://www.health.ny.gov/forms/order_forms/asthma.pdf
• School Based Health Centers in New York State
  https://www.health.ny.gov/facilities/school_based_health_centers/

New York City Resources

New York City Department of Health & Mental Hygiene:
• Asthma Program
  http://www1.nyc.gov/site/doh/health/health-topics/asthma.page
• Office of School Health
  http://schools.nyc.gov/Offices/Health/default.htm
• Healthy Homes
  http://www1.nyc.gov/site/doh/health/health-topics/healthy-home.page
QUESTIONS?

Please visit nyspreventschronicdisease.com
TO FILL OUT YOUR EVALUATION & POST TEST

Thank You