The content of this webinar presentation has been approved for RN and RT CE credit. Not all topics qualify for AE-C re-certification. See www.naecb.org for more details.

Measures have been taken by the Utah Department of Health, Bureau of Health Promotion, to ensure there is no conflict of interest in this activity.
Effective Patient Education

Tips from an Asthma Specialist and a Certified Asthma Educator

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AND
ANDREA M. JENSEN, CHES®, AE-C
Objectives

Objective 1: By the end of the webinar, physicians will learn how to talk to their patients about environmental triggers.

Objective 2: By the end of the webinar, attendees will learn common problems physicians experience with patients and how to address them.

Objective 3: By the end of the webinar, attendees will be able to identify and know how to refer patients to the Asthma Home Visit Program.
Disclosures

None to report
Difficulties in asthma management

or

One size does not fit all
Key points:

- Understand why asthma may be difficult to control
- Understand possible remedies
- Understand that the causes may be different
- One size does fit all
TH2 type inflammation

- 2 types of inflammation associated with asthma
  - High TH2 inflammation
  - Low TH2 inflammation
  - New medicines (biologics) only work on High TH2 inflammation
Case #1

16 year old male
Severe, difficult to control asthma
Frequent steroid burst; missed school days
Advair 250 ug BID and albuterol
Suddenly seemed to improve
What happened?
Options for treatment:

1. Change to Symbicort or added theophylline
2. Treated GERD
3. Removed pet
4. Treated sinus infection/hay fever
5. Referred to counseling
6. Summer job
Case #2

11 year old girl
Very reliable parents
On multiple medications
Multiple sinus infection/pneumonia
Doing poorly, fatigue, missing school
What test might be helpful?
Options for treatment:

1. Pulmonary function test
2. Chest x-ray and/or Sinus x-ray
3. Skin test
4. IgG, IgM and IgA
5. CBC and IgE level
6. Sputum culture
7. Nasoscope and look at vocal chords
Monitor asthma symptoms

- Wheezing and tight chest
- Coughing: with activity or laughing
- Night time symptoms
- Shortness of breath
- Poor exercise tolerance
- Fatigue
Pulmonary function

- Pulmonary function test
- Difficult in small children
- FEV1 (flow rate) is low in relation to FVC (lung volume)
- Peak flow
- Effort dependent not reproducible
- Some patients find very helpful
Consider:

- Two patient each with an FEV1 of 3 Liters
- Predicted is 3.75 Liters
- One has a FVC of 3 Liters
- One has a FVC of 4 Liters
- Which one has asthma? Do they both have asthma?
Asthma Control Test (ACT)

- Interfere with activity
- Shortness of breath
- Night time or early morning symptoms waking up
- Rescue medication use
- General feeling
PETS in the home

- Removing pets from home is beneficial
- No such things as non-allergic dog or cat
- Symptoms are NOT related to length of hair, how much hair or if they shed
- Garage in most homes is indoors
Dander (especially cat) is sticky
Attaches to clothing, furniture and drapes
Remember friends and grand parents homes
Outside is best, and if not - limit to one room
Exposure
MOLDS

- Molds love water
- Indoor level of mold reflect outdoor level
- Close the windows
- Look for water damage
- Found in compost and decaying vegetable matter
Pests

- Cockroaches found in low income housing
- Dead insect allergy
- MOUSE
- Allergic to urine
- Major problem in low income housing
Chemicals

- Hair spray, perfumes and strong odors are well known triggers
- Oil or gas leaks in home
- Scent and fragrances, essential oils?
- Skin test not helpful
- Avoidance
House dust mite and house dust

- House dust mite (spider like insect)
- Lives in bedding and eats human skin cells
- Loves moisture and humidifiers
- Does not grow well in Utah: left high and dry
- Wash bedding
- Decrease dust and clutter
Co Morbidities

- Obesity

- Gastroesophageal reflux very controversial; some patients do benefit

- Emotional issues:
  - attention deficit and/or hyperactivity
  - learning issues
  - depression
Allergies and sinusitis

- Treatment of allergic rhinitis studies
- Prevents returns to emergency room
- Beneficial with exercise induced asthma
- Sinusitis is cause of difficult to control asthma
Stepwise therapy

Always do:

- Education
- Environmental control
- Compliance and co-morbidities
Stepwise therapy

- Prn use Albuterol
  - If using too much, can be dangerous (2 or 3 times routinely)

- Inhaled CORTICOSTEROIDS or Montelukast

- Combination medications

- Inhaled corticosteroids plus LABA same control with less steroid

- Removing the black box warning
Options

- Increase steroid dose or add Montelukast or LABA or theophylline
- Refer to specialist
- Skin testing
- Biologicals for TH2 high inflammation
Inhaled steroids (ICS)

- Main treatment for asthma
- Decreases emergency visits 80%
- Decrease asthma deaths
- Improves quality of life
- But it must be used in asthma care
Steroid phobia

- Some are afraid of steroids
  - These are NOT weight lifter steroids

- Anti-inflammatory (reduces swelling)

- Can develop thrush
  - Gargle after use; not brush

- Osteoporosis in adults

- Growth suppression? Small

- High doses can cause adrenal suppression
Can inhaled steroids be used during an acute attack?

Yes - with B agonist have shown to prevent hospitalization and ER visit

Especially if used early in illness
Biologics: new kid on the block

- **Xolair** (anti IgE) off steroids, blocks IgE
  - Safe and approved down to 6 years of age

- **IL 5 inhibitors** (3 now)
  - Safe and effective
  - Prevented asthma exacerbations

- **New IL 4 / IL13 inhibitor**

  For those on steroids or poorly controlled asthma despite combination therapy
TH2 inflammation

- Interleukins are molecules that allow cells to talk to each other
- TH2 inflammation associated with allergy
- IL 5 attracts eosinophils
- IL 4 and IL 13 induced IgE production
Let’s work together!

Healthcare Field

+ Public Health

= Utah Asthma Home Visit Program
FREE Asthma Home Visit Program
(Salt Lake and Utah Counties only)

Both coordinators are Certified Asthma Educators (AE-C)
Qualifications

No age limit

No income requirement

Severe or uncontrolled asthma
Severe Uncontrolled asthma:

- Hospitalization/Emergency Department Visit
- Course of oral steroids
- ACT score of 19 or less
Referral and Feedback Channels

Pulmonary Clinics
Primary Care Clinics
Pediatric Clinics

Intermountain Healthcare
Hospitals and Pediatric Clinics

WIC
Utah Women, Infants & Children

Nurse-Family Partnership
Helping First-Time Parents Succeed

Kids on the move
Empowering families, one kid at a time

MountianStar Healthcare
Visit #1

INTENSIVE SELF MANAGEMENT EDUCATION
Sample of flip chart pages
Assess inhaler technique

Self-Administration of Asthma Medication (SAAM)

Checklist
Participant:  
Site:  
Assessed By:  
Date:  

Mistined Dose Inhaler (MDI®) with Spacer

Basic Knowledge and Skills

<table>
<thead>
<tr>
<th>Item</th>
<th>Yes</th>
<th>No</th>
<th>%</th>
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1. Reasons MDI use  |    |    |   |
2. Looks at MDI spray hole and removes anything in the way of the spray hole  |    |    |   |
3. Knows MDI  |    |    |   |
4. Inhalers spaced in MDI  |    |    |   |
5. Places a sticker with lips sealed on end  |    |    |   |
6. Breathes in  |    |    |   |
7. Places spacer in mouth with lips sealed and exhaled  |    |    |   |
8. If users a mask, makes sure mask is secured around face and the nose  |    |    |   |
9. Follows steps 5-9 for second puff  |    |    |   |
10. Inhaler in mouth when exhalation  |    |    |   |
11. Knocks on chest  |    |    |   |
12. Hexki mouth inward exhalation  |    |    |   |
13. Stands about one step before starting second puff  |    |    |   |
14. Separates steps 5-9 for second puff  |    |    |   |
15. Inhales mouth with motion  |    |    |   |
16. Spits with cough  |    |    |   |
17. Examples of MDIs include Pro-Air, Primatene, Ventol, Symbicort, Alvesco, QVAR, and Dolera. Inhaler's Valved MDI are also MDIs (See link below):  |    |    |   |
18. None  |    |    |   |

Sources of Mistined Dose Inhaler (MDI®) with Spacer sections:

- Presenting demonstrating at least 6 of 7 critical steps (in bold and shaded) on the initial assessment and all 3 after correction. The other steps should be checked and reinforced for teaching purposes.

- See video demo on the CDC website: [http://www.cdc.gov/asthma/teaching_videos/default.htm](http://www.cdc.gov/asthma/teaching_videos/default.htm)
No doctor? Connect to help

No insurance? CommunityHealth Connect
Can’t afford prescription?

Step 3 on NAEPP guidelines?
Asthma Action Plans

### Asthma Action Plan

#### Medication Administration & Self Administration Forms

<table>
<thead>
<tr>
<th>Type of Action Plan</th>
<th>Description</th>
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<tr>
<td>Oral</td>
<td>For medication administration by healthcare providers.</td>
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<tr>
<td>Inhaled</td>
<td>For self-administration of inhaled medications.</td>
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#### Key Points

- **Red Zone:** Emergency situations requiring immediate medical attention.
  - Call 911 or go to the nearest emergency department.

- **Yellow Zone:** Monitoring and preparation for increased asthma symptoms.
  - Check peak flow meter regularly.

- **Green Zone:** Normal asthma control.
  - Continue with usual medication and activity.

#### Action Plan

1. **Alerts:**
   - Increase use of quick-relief inhaler.
   - Call healthcare provider.

2. **Emergency Measures:**
   - If severe symptoms persist:
     - Call 911 or go to the nearest emergency department.
     - Use prescribed emergency medication.

3. **Follow-up:**
   - Schedule follow-up appointment with healthcare provider.
   - Review action plan with healthcare provider.

#### Sample Form

![Asthma Action Plan Form](image_url)
Set a goal for visit #1
Asthma Triggers

Visit #2

HOME BASED
TRIGGER REDUCTION
EDUCATION
(AND SUPPLIES!)
Allergen reduction products

(Cleaning supplies in Utah County only - limited time)
Help with repairs?

Critical home repair loans (Habitat Utah County)

Green and Healthy Homes Initiative (GHHI) – SL County
Set a goal for Visit #2

My Plan to Reduce Asthma Triggers

Circle the asthma triggers you would like to work on:
- Dust Mites
- Mold
- Pets
- Mold
- Strong Odors
- Tobacco Smoke

<table>
<thead>
<tr>
<th>What I will do</th>
<th>Steps I will take to do this (include when/how often)</th>
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Visit #3
Visit #3

Follow up on goals

- Repeat Asthma Control Test
How else can we help?

- Free car seat inspection?

- Living Well with Chronic Conditions

Utah County only

- way to quit
- Stepping On
- BABY STEPS
- Foster Grandparents

Share Today. Shape Tomorrow.
6-month & 12-month Follow Up

- Call
- OR
- Email link to Google Doc with participant number included

- How often using controller medicine?
- Repeat ACT
- Visited ED?
- Hospital?
Results?
Results

Number of participants as of September 1, 2017

- Visit 1 = 142
- Visit 3 = 121
- 6 month = 57
- 12 month = 21

Upon enrollment:

- 75% of participants had an ACT 19 or lower
- 64% had at least 1 ED or Hospitalization
- 99% had either an ACT 19 or lower or an ED/hosp/steroid on intake
Asthma Control & Confidence Level

Asthma Control

Confidence Level

Before Program After Program

At intake After program
Improvements

79% showed improvement in ACT from visit 1 to visit 3

89% of those with at least 1 ED visit 12 months prior to visit 1 reported a reduction at 12 month follow-up.

91% completed visit 1 and 60% of sessions
  • 9% dropout rate

81% had an increase in score or stayed at passing
Knowledge Test:

- Pre: 54% passed
- Post: 77% passed

81% had an increase in score or stayed at passing (at least 6 out of 8)

Compliance:

47% started using their controller medication more by visit 3
Community Health Workers

Back up has arrived!

Community Health Workers have been trained

Assisting in Salt Lake County
IN THEIR WORDS
Testimonials from Participants

“IT feels like I can do this now. I wouldn’t have made it through the last few months if it wasn’t for you. You are amazing!”

“This program completely turned things around for us. When my son first got diagnosed, I was totally lost, overwhelmed, and nervous about how we would deal with his condition. But this program gave me the tools and confidence to handle his condition.”

“We learned quite a few things we can change, even though we’re pretty knowledgeable on the subject.”

“We are happier! Plans happen, dates occur, friends play. Life is different.”

“It used to be a way of life for [our daughter] to get sick... But after getting educated on her inhalers, and having our home inspected, things changed. In 7 months of school, she’d missed a whopping 27 days of 1st grade. After the asthma visits and implementing what we learned, she missed only two more days of school related to completely unrelated health issues. We are happier! Plans happen, dates occur, friends play. Life is different.”

MEET OUR HOME VISITORS

Andrea Jensen, AE-C, CHES
Utah County Health Department

“Having managed my children’s asthma for the last 17 years, I know how hard it can be without having someone to guide you. I enjoy helping families get the tools and information needed to feel comfortable managing asthma.”

Tiffany Brinton, CHES
Salt Lake County Health Department

“I love seeing the transformation in families over the course of our visits. They earn their lives back! Seeing our families start out lost, confused, and scared and then seeing them confident and relaxed is one of the most rewarding parts of my job.”
Questions?

Dr. Henry Yeates, MD
Orem Allergy & Immunology Clinic

Andrea M. Jensen, CHES®, AE-C
Utah County Health Department