



# PREPARING FOR THE CERTIFIED ASTHMA EDUCATOR EXAM (AE-C)



ANDREA M. JENSEN, CHES®, AE-C®  
ASTHMA PROGRAM COORDINATOR, UTAH COUNTY HEALTH DEPARTMENT

1



## Our Speaker

ANDREA M. JENSEN

2

# WHO IS ELIGIBLE TO SIT FOR THE AE-C® EXAM?



Licensed or credentialed health care professionals

OR

Provide direct patient asthma education and counseling (minimum of 1,000 hours)

3

## LICENSED HEALTHCARE PROFESSIONALS



- Physicians (MD, DO)
- Physician Assistants (PA-C)
- Nurse Practitioners (NP)
- Nurses (RN, LPN)
- Respiratory Therapists (RRT, CRT)
- Pulmonary Function Technologists (CPFT, RPFT)
- Pharmacists (RPh)
- Social Workers (CSW)
- Health Educators (CHES®)
- Physical Therapists (PT)
- Occupational Therapists (OT)

4


## 1,000 HOURS PROVIDING EDUCATION



- Must have 1,000 hours to sit for the exam and recertify
  - Documentation required
    - Where
    - When
    - Direct patient education only
- Approved by supervisor
  - Can be audited 
  - Supervisor contacted by NAECEB

5

## WHY TAKE THE EXAM?





Lend expertise for projects

- Some agencies may use the AE-C® certification as a basis for employment, job promotions, salary increases, etc

6



## WHAT DOES THE EXAM COST?

1 <sup>ST</sup> ATTEMPT	\$350
2 <sup>ND</sup> ATTEMPT	\$250
RECERTIFICATION	\$300

7

## SCHOLARSHIPS!



- **EXAM SCHOLARSHIP**
  - NAECB – Linda B. Ford Scholarship
  - 4 scholarships (\$350)
    - – April and September
  - Use within 6 months
- **RECERTIFICATION**
  - 2 scholarships (\$300)



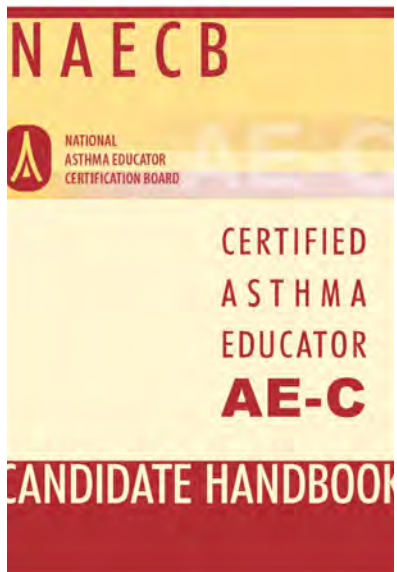
8

## WHERE DO YOU TAKE THE EXAM?



- 300 testing centers (H & R Block, etc)
- Link to Assessment Centers on website.
  - Can apply and pay the fee at anytime
  - By appointment only Monday – Saturday (times vary by location)

9



## HOW TO GET STARTED

- Visit <https://naecb.com>
- Click on “Certificants”
- Go to “Get Certified”
- Print out “Candidate Handbook” (Linked to this page)

10

# NAECB Candidate Handbook



**CERTIFIED ASTHMA EDUCATOR (AE-C) CANDIDATE HANDBOOK**

**EXAMINATION ADMINISTRATION**  
The NAECB Examination is delivered by computer at approximately 100 sites throughout the United States. There are no examination locations in a candidate's area. Candidates may register for the examination on-line or by mail. Candidates must be at least 18 years of age. The examination is administered by computer only. Although through e-mail, registration forms may not be used for computer. Candidates are notified on a first-come, first-served basis.

**EXAMINATION FEES**  
You must submit the appropriate fee with a complete examination application according to the following schedule. Payment may be made by credit card (VISA, MasterCard, American Express or Discover), check or money order made payable to: **NAECB**. **Checks, money orders and personal checks are not accepted. All fees are non-refundable and non-transferable.**

Examination Fee	Online Exam	On-Campus Exam
Application Fee	\$20	\$20
Exam Fee	\$100	\$100
Exam Material	\$100	\$100
Registration Fee	\$50	\$50

**TEST CENTER LOCATIONS**  
A current list of Test Centers can be viewed at [www.naecb.org](http://www.naecb.org). Specific testing information can be provided upon a candidate's request or placement requirement.

**SPECIAL ARRANGEMENTS FOR CANDIDATES WITH DISABILITIES**  
NAECB and IRE provide self-paced and self-administered exams. All candidates with disabilities will be notified of the opportunity to take the examination online. NAECB will provide accommodations to candidates with disabilities. Reasonable requests are available at no additional cost. NAECB provides a list of accommodations and a list of accommodations that are not provided. NAECB will provide accommodations for candidates with disabilities. NAECB will provide accommodations for candidates with disabilities. NAECB will provide accommodations for candidates with disabilities.

**CERTIFIED ASTHMA EDUCATOR (AE-C) CANDIDATE HANDBOOK**

**Sample question 2: Matched at JCRH analysis (answer: C)**  
A 35-year-old patient is referred to a primary care provider for review of his asthma. He is currently a participant in the NAECB program and is having a challenge appointment to play football. He states that he does not have any symptoms of asthma and is happy to play football. He states that he does not have any symptoms of asthma and is happy to play football. He states that he does not have any symptoms of asthma and is happy to play football.

**Sample question 4: Matched at JCRH analysis (answer: C)**  
Which of the following interventions is most likely to improve the symptoms of a patient with acute asthma?  
A. Using a HEPA filter in the living room.  
B. Placing a cloth under the bedsheet.  
C. Changing the mattress and pillow in the bedroom.  
D. Replacing the carpet in the bedroom.

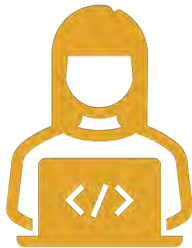
**Sample question 6: Matched at JCRH analysis (answer: A)**  
An asthma educator is conducting the initial assessment of a child asthma program over the last year. There is a decrease in the number of patients who are currently in the program. The asthma educator wishes to evaluate what caused this decrease in the number of patients in the program. Which of the following would be the BEST measure of asthma control?  
A. Asthma-related emergency department visits.  
B. Reporting performance on long-term control or asthma medication.  
C. Use of rescue asthma medication by patients.  
D. Asthma quality of life survey results.

**Sample question 10: Matched at JCRH analysis (answer: C)**  
The educator plans to assess the readiness of a patient to register online.  
A. Child health.  
B. Test results.  
C. Test results.  
D. Test results.

**Sample question 11: Matched at JCRH analysis (answer: A)**  
An asthma educator is meeting with the parents of a 5-year-old girl with persistent asthma. The parents appear to understand the girl's asthma and plan to continue her care, but admit they often do not know if conditions are under control. The educator would like to assess the parents' understanding of the girl's asthma. Which of the following would be the BEST measure of asthma control?  
A. Asthma-related emergency department visits.  
B. Reporting performance on long-term control or asthma medication.  
C. Use of rescue asthma medication by patients.  
D. Asthma quality of life survey results.


11

## HOW DO YOU APPLY FOR THE EXAM?



- Register on-line or use a paper application through NAECB
- Must review and accept the Code of Conduct during the registration (failure to do so will prevent registration)

12




## CERTIFICATION EXAMINATION FOR ASTHMA EDUCATORS DETAILED CONTENT OUTLINE

*Effective September 1, 2018*


	Cognitive Levels			TOTALS
	Recall	Application	Analysis	
<b>1. THE ASTHMA CONDITION</b>	<b>9</b>	<b>18</b>	<b>3</b>	<b>30</b>
<b>A. Pathophysiology</b>	<b>4</b>	<b>6</b>	<b>0</b>	<b>10</b>
1. Teach an individual with asthma and their family using simple language by illustrating the following with appropriate educational aids <ol style="list-style-type: none"> <li>a. normal pulmonary anatomy and physiology</li> <li>b. alterations in lung anatomy and physiology that characterize asthma e.g.,                             <ul style="list-style-type: none"> <li>• inflammation</li> <li>• bronchial hyperresponsiveness</li> </ul> </li> </ol>				

USE THE CANDIDATE HANDBOOK AS AN OUTLINE


13




# TEST QUESTIONS



**Recall (RE)**  
Recall or recognize specific information




**Application (AP)**  
Comprehend, relate or apply knowledge to new or changing situations



**Analysis (AN)**  
Analyze information, determine solution and evaluate solution

14

## PRACTICE EXAM

- Parallels the actual exam
- 75 multiple choice questions (\$75)
  - ½ the number of questions
  - Passed practice exam  passing actual exam
  - Available for 90 days – can only be taken once
  - Time yourself! (About 1 minute per question)



15

175 QUESTIONS

150 SCORED

25 PRE-TEST QUESTIONS

3 HOURS

WHAT'S ON THE  
EXAM?



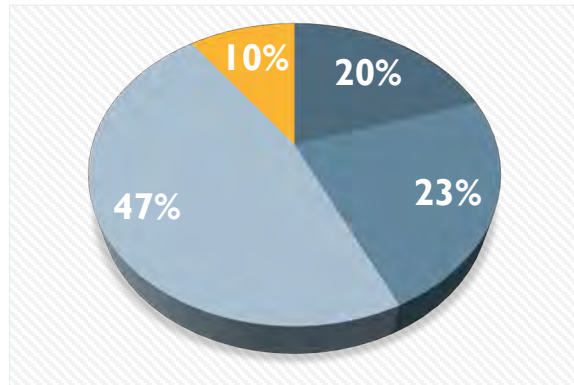
16



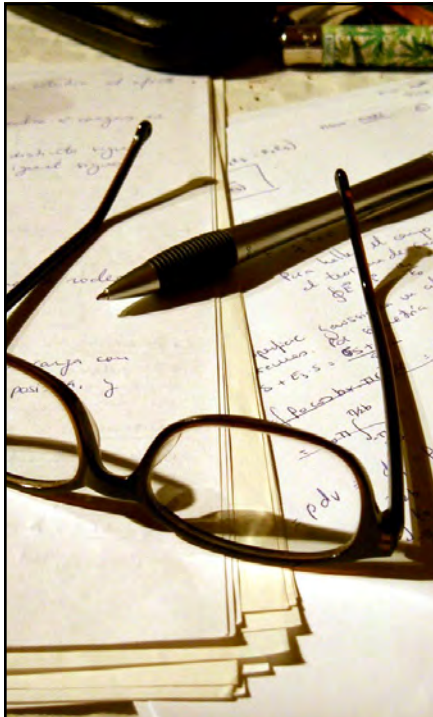
## CONTENT OUTLINE



- Asthma Condition
- Patient & Family Assessment
- Asthma Management
- **Organizational Issues**



17





## TEST PREPARATION


- Ask a current Asthma Educator to be your “coach” & support system
- Gather study aids
- Know your learning style
- Best time for you to learn?


18

## TEST PREP COURSES (NOT FOR PROFIT)






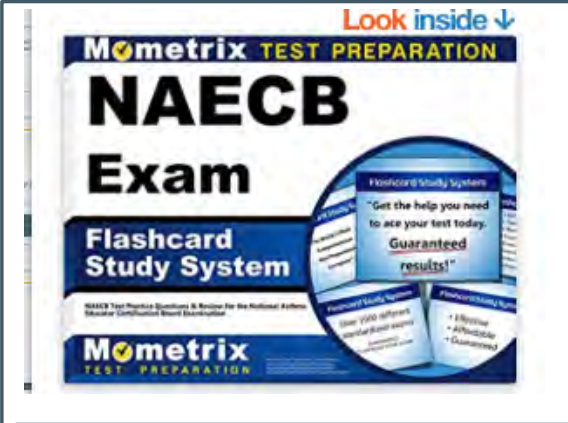




19

## STUDY TIPS





- Preprinted
  
- From Candidate Handbook:
  - Asthma Condition - 20%
  - Patient and Family Assessment - 23%
  - Asthma Management - 47%
  - Organizational Issues - 10%

20

## EXAMPLE OF FLASH CARD



### Side 1:

#### The Asthma Condition

© Mometrix Media - flashcardsecrets.com/naecb  
NAECB Exam

Describe the components of an asthma episode and explain them to a patient using simple terminology.

### Side 2:

#### The Asthma Condition

An asthma episode is comprised of three effects on the pulmonary system: bronchoconstriction, inflammation, and mucus production. During an asthma episode, the smooth muscle surrounding the bronchioles constrict, often in response to the exposure of an asthma trigger. This effect causes the bronchial tubes to become smaller and therefore harder to get air through. The muscle of the bronchioles also becomes inflamed and swollen, resulting in chest pain and a feeling of chest tightness when breathing. The third component of an asthma episode is mucus production. During an asthma exacerbation, the bronchioles excrete mucus, which can plug the tubes that carry air and oxygen throughout your lungs. These bronchioles also spasm, causing the tubes to close off and further restrict your breathing. Many people say that these effects feel like breathing through a straw or having an elephant sit on their chest.

21

## ONLINE FLASH CARDS

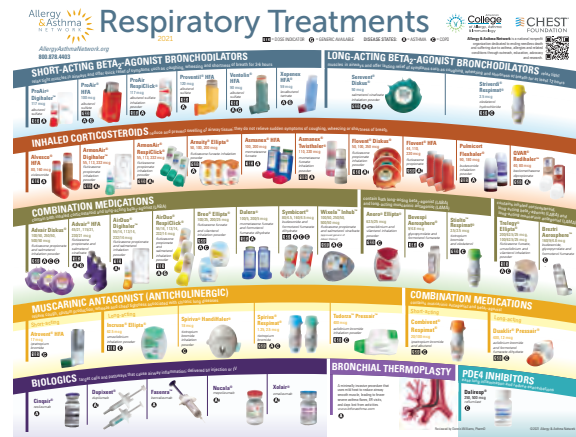
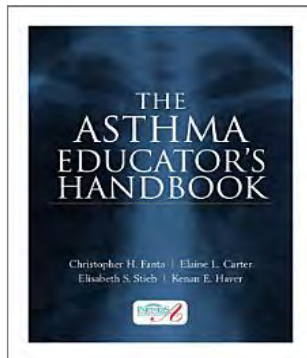



**Brainscape**

Create your own online cards – fee involved?

22

## EXTRA STUDY HELPS



23

## SAMPLE QUESTION



Immunoglobulin E (IgE) is a type of antibody made by B lymphocytes. It is important in asthma because:

1. It binds to the surface of mast cells and can activate them when a specific allergen attaches to it.
2. It has the ability to bind allergens, helping mast cells digest them and remove them from the airways
3. It binds to bacteria, helping mast cells and lymphocytes fight respiratory infections more effectively
4. It can be used as a diagnostic test for asthma
5. It is a powerful chemoattractant, drawing eosinophils into the airway

24

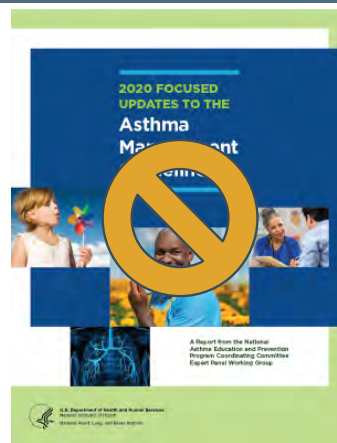
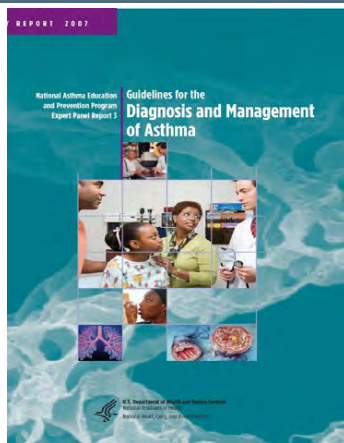
## ANSWER:



- The correct answer is #1. When IgE antibody molecules bind to the specific allergen that they were designed to recognize, they activate the mast cells on which they sit and thereby initiate the allergic reaction. This reaction is important not only in asthma but in other allergic diseases that share this common mechanism, referred to as atopic disease (allergic rhinitis and conjunctivitis, atopic dermatitis, hives and anaphylaxis).
- Also explains why the other 4 answers are not correct

25

## TESTED ON EPR 3 GUIDELINES



26

## EPR 3 CLASSIFICATIONS

Intermittent vs

Mild Persistent  
Moderate Persistent  
Severe Persistent

Guidelines organized for 3 age groups:

- Ages 0-3
- Ages 4-11
- Ages 12 and up

27

## EPR 3 CLASSIFICATIONS

- 3 key areas for each group
  - determine severity
  - assess control
  - utilize a step-wise approach
- Be able to analyze patients and care based on EPR 3 guidelines

28

FIGURE 11. CLASSIFYING ASTHMA SEVERITY AND INITIATING THERAPY IN CHILDREN

Components of Severity		Classifying Asthma Severity and Initiating Therapy in Children					
		Intermittent		Mild		Persistent	
		Ages 0-4	Ages 5-11	Ages 0-4	Ages 5-11	Ages 0-4	Ages 5-11
Impairment	Symptoms	≤2 days/week	≤2 days/week but not daily	Daily	Throughout the day		
	Nighttime awakenings	0	≤2x/month	1-2x/month	3-4x/month	>1x/week but not nightly	>1x/week
	Short-acting beta <sub>2</sub> -agonist use for symptom control	≤2 days/week	≤2 days/week but not daily	Daily	Daily	Daily	Several times per day
	Interference with normal activity	None	Minor limitation	Some limitation	Some limitation	Some limitation	Extremely limited
Lung Function	Normal FEV <sub>1</sub> between exacerbations	N/A	>80%	N/A	>80%	N/A	60-80%
	FEV <sub>1</sub> /FVC	>85%	>85%	>80%	>80%	60-80%	75-80%
Risk	Exacerbations requiring oral systemic corticosteroids (consider severity and interval since last exacerbation)	0-1/year (see notes)	≤2 exacerbations in 6 months requiring oral systemic corticosteroids, or ≥4 wheezing episodes <sup>1</sup> in 1 year, 1 day AND risk factors for persistent asthma	≥2/year (see notes)	≥2/year (see notes)		
Recommended Step for Initiating Therapy (See "Stepwise Approach for Managing Asthma" for treatment steps.)		Step 1 (for both age groups)		Step 2 (for both age groups)		Step 3 and consider short course of oral systemic corticosteroids	Step 3 and consider short course of oral systemic corticosteroids
The stepwise approach is meant to assist, not replace the clinical decisionmaking required to meet individual patient needs.		In 2-4 weeks, depending on severity, evaluate level of asthma control that is achieved. * Children 0-4 years old: If no clear benefit is observed in 4-6 weeks, stop treatment and consider alternative diagnosis or adjusting therapy. † Children 5-11 years old: Adjust therapy accordingly.					

# CLASSIFYING THERAPY & STARTING TREATMENT

(0 - 4 YEARS)  
(5 - 11 YEARS)



29

FIGURE 14. CLASSIFYING ASTHMA SEVERITY AND INITIATING TREATMENT IN YOUTHS 12 YEARS OF AGE AND ADULTS

Assessing severity and initiating treatment for patients who are not currently taking long-term control medications

Components of Severity		Classification of Asthma Severity ≥12 years of age			
		Intermittent	Mild	Moderate	Severe
		Symptoms	≤2 days/week	>2 days/week but not daily	Daily
Impairment	Nighttime awakenings	≤2x/month	3-4x/month	~1x/week but not nightly	Often 7x/week
	Short-acting beta <sub>2</sub> -agonist use for symptom control (not prevention of EIB)	≤2 days/week	>2 days/week but not daily, and not more than 1x on any day	Daily	Several times per day
	Interference with normal activity	None	Minor limitation	Some limitation	Extremely limited
	Lung function	• Normal FEV <sub>1</sub> between exacerbations • FEV <sub>1</sub> >80% predicted • FEV <sub>1</sub> /FVC normal	• FEV <sub>1</sub> >80% predicted • FEV <sub>1</sub> /FVC normal	• FEV <sub>1</sub> >80% but <80% predicted • FEV <sub>1</sub> /FVC reduced 5%	• FEV <sub>1</sub> <80% predicted • FEV <sub>1</sub> /FVC reduced >5%
Risk	Exacerbations requiring oral systemic corticosteroids	0-1/year (see notes)	≥2/year (see notes)	Consider severity and interval since last exacerbation. Frequency and severity may fluctuate over time for patients in any severity category. Relative annual risk of exacerbations may be related to FEV <sub>1</sub> .	
Recommended Step for Initiating Treatment (See "Stepwise Approach for Managing Asthma" for treatment steps.)		Step 1	Step 2	Step 3 and consider short course of oral systemic corticosteroids	Step 4 or 5
		In 2-6 weeks, evaluate level of asthma control that is achieved and adjust therapy accordingly.			

# CLASSIFYING SEVERITY & STARTING TREATMENT

(12 & OLDER)



30

FIGURE 12. ASSESSING ASTHMA CONTROL AND ADJUSTING THERAPY IN CHILDREN

Components of Control		Assessing Asthma Control and Adjusting Therapy in Children					
		Well Controlled		Not Well Controlled		Very Poorly Controlled	
		Ages 0-4	Ages 5-11	Ages 0-4	Ages 5-11	Ages 0-4	Ages 5-11
Impairment	Symptoms	≤2 days/week but not more than once on each day		>2 days/week or multiple times on ≤2 days/week		Throughout the day	
	Nighttime awakenings	≤1x/month		>1x/month		≥2x/week	
	Interference with normal activity	None		Some limitation		Extremely limited	
	Short-acting beta <sub>2</sub> -agonist use for symptom control (not prevention of EIB)	≤2 days/week		>2 days/week		Several times per day	
	Lung function	N/A		N/A		N/A	
Risk	Exacerbations requiring oral systemic corticosteroids	0-1x/year		2-3x/year		≥2x/year	
	Reduction in lung growth	N/A		N/A		N/A	
	Treatment-related adverse effects	Medication side effects can vary in intensity from none to very troublesome and worrisome. The level of intensity does not correlate to specific levels of control but should be considered in the overall assessment of risk.					
Recommended Action for Treatment  (See "Stepwise Approach for Managing Asthma" for treatment steps.)  The stepwise approach is meant to assist, not replace, clinical decisionmaking required to meet individual patient needs.		<ul style="list-style-type: none"> <li>• Maintain current step.</li> <li>• Regular followup every 1-6 months.</li> <li>• Consider step down if well controlled for at least 3 months.</li> </ul>		<ul style="list-style-type: none"> <li>• Step up 1 step.</li> <li>• Step up at least 1 step.</li> </ul>		<ul style="list-style-type: none"> <li>• Consider short course of oral systemic corticosteroids.</li> <li>• Step up 1-2 steps.</li> </ul>	

# ASSESSING CONTROL & ADJUSTING THERAPY IN CHILDREN

(0 - 4 YRS)  
(5 - 11 YRS)



31

FIGURE 13. ASSESSING ASTHMA CONTROL AND ADJUSTING THERAPY IN TINIERS ≥12 YEARS OF AGE AND ADULTS

Components of Control		Classification of Asthma Control (≥12 years of age)		
		Well Controlled	Not Well Controlled	Very Poorly Controlled
Impairment	Symptoms	≤2 days/week	>2 days/week	Throughout the day
	Nighttime awakenings	≤2x/month	1-3x/week	≥4x/week
	Interference with normal activity	None	Some limitation	Extremely limited
	Short-acting beta <sub>2</sub> -agonist use for symptom control (not prevention of EIB)	≤2 days/week	>2 days/week	Several times per day
	FEV <sub>1</sub> or peak flow	>80% predicted/personal best	60-80% predicted/personal best	<60% predicted/personal best
Validated questionnaires	ATAQ	0	1-2	3-4
	ACQ	≤0.75*	≥1.5	N/A
Risk	Exacerbations requiring oral systemic corticosteroids	0-1/year	≥2/year (see note)	
	Progressive loss of lung function	Evaluation requires long-term followup care.		
	Treatment-related adverse effects	Medication side effects can vary in intensity from none to very troublesome and worrisome. The level of intensity does not correlate to specific levels of control but should be considered in the overall assessment of risk.		
Recommended Action for Treatment  (See "Stepwise Approach for Managing Asthma" for treatment steps.)		<ul style="list-style-type: none"> <li>• Maintain current step.</li> <li>• Regular followup at every 1-6 months to maintain control.</li> <li>• Consider step down if well controlled for at least 3 months.</li> </ul>	<ul style="list-style-type: none"> <li>• Step up 1 step.</li> <li>• Reevaluate in 2-6 weeks.</li> <li>• For side effects, consider alternative treatment options.</li> </ul>	<ul style="list-style-type: none"> <li>• Consider short course of oral systemic corticosteroids.</li> <li>• Step up 1-2 steps.</li> <li>• Reevaluate in 2 weeks.</li> <li>• For side effects, consider alternative treatment options.</li> </ul>

# ASSESSING CONTROL & ADJUSTING THERAPY

12 & OLDER



32



# STEPWISE APPROACH (0-4 YRS)



FIGURE 13. STEPWISE APPROACH FOR MANAGING ASTHMA LONG TERM IN CHILDREN, 0-4 YEARS OF AGE AND 5-11 YEARS OF AGE

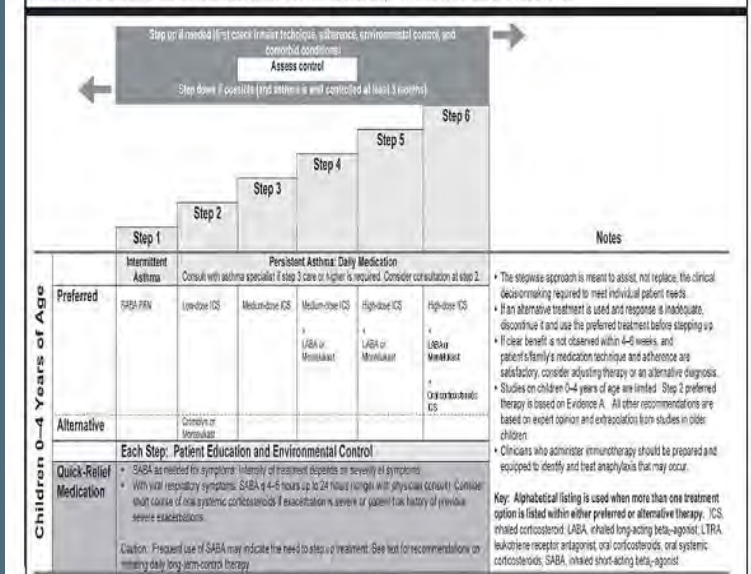


Figure 13 EPR-3 Part 1

33

# STEPWISE APPROACH (5 - 11 YEARS)

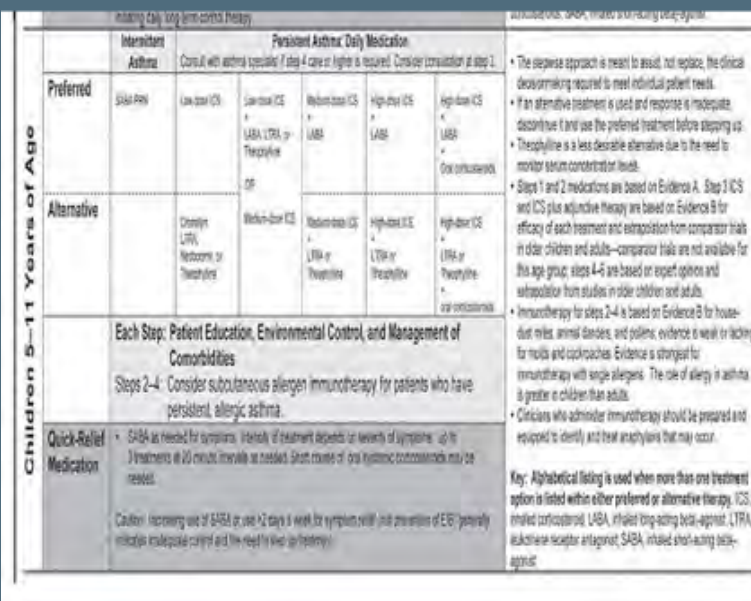


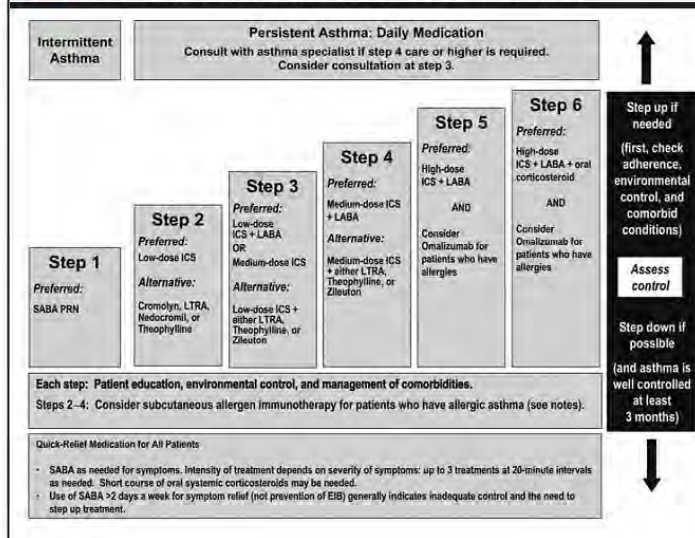
Figure 13 from EPR-3 (Part 2)

34

# STEPWISE APPROACH (12 & UP)

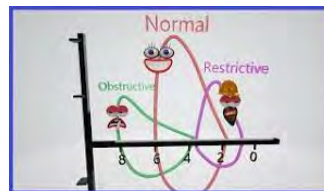
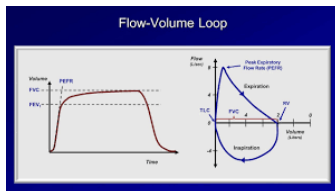
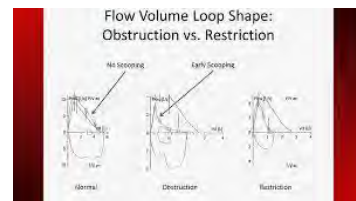
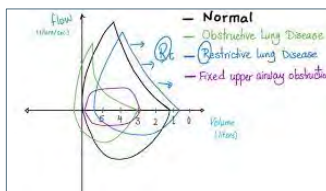
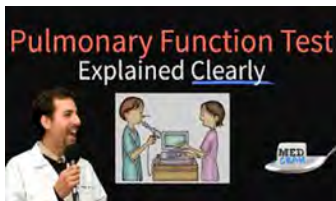


FIGURE 16. STEPWISE APPROACH FOR MANAGING ASTHMA IN YOUTHS ≥12 YEARS OF AGE AND ADULTS





35

## ONLINE VIDEOS FOR PFT'S




36


## BEFORE THE EXAM

- Explore the route beforehand
  - Rush hour traffic?
  - Roads closed?
  - Construction?
  
- Same time of day as scheduled
  
- Sleep well the night before




37

## DAY OF EXAM



- Have a good breakfast
- Don't bring belongings
- Visit bathroom before test
- Bring 2 forms of ID

- Pencil & paper (turn in at end)
- Picture will be taken during test
- Video monitored during test 

38

## COMMON TEST TAKING STRATEGIES



- What are they specifically asking in question?
- Watch for **NOT, EXCEPT**, etc
- What would you do **FIRST?**
- Which answer is **MOST** right?
- Answer based on EPR-3



39

## COMMON TEST TAKING STRATEGIES



- Answer the easy questions first
- Don't miss any questions (check list)
- Reviewing other questions may help you answer previous questions
- Blank questions marked wrong – guess if you need to!
- Write down question number skipped so you can go back
- Watch the clock



40

## MULTIPLE CHOICE QUESTIONS



READ THE STEM  
CAREFULLY  
(PROBLEM)



DETERMINE THE  
CORRECT ANSWER  
BEFORE YOU LOOK AT  
THE OPTIONS



CLUES IN THE STEM



DISTRACTORS –  
CROSS OFF  
INCORRECT ANSWERS  
IMMEDIATELY



COME BACK TO ITEMS  
YOU WERE UNSURE  
OF

41



## WHEN YOU'RE DONE

- Immediate results!
- Call your coach/family/friends with your results – either way
  - The test is HARD – there is NO SHAME in not passing!
  - Celebrate if you pass
  - Plan to take it again if you didn't pass
- Be proud of yourself for taking this step either way

42

## CERTIFICATION PERIOD



- 5 years after taking and passing the certification exam
- The NAECB board recently reduced time from 7 years to 5 years
- Prior to June 1, 2020, valid for 7 years. After that date will maintain their certification for 5 years
- Recertifying by CEUs remains unchanged at 5 years

43



## RECERTIFICATION

- Re-certification:
  - By exam **OR**
  - 35 CE's needed every five years
  - Will cost \$300
- Certificants may renew by up to one year prior to the expiration of initial certification

44


## CONTINUING EDUCATION EVENTS THAT OFFER CEU (NOT ENDORSED OR AFFILIATED WITH NAECB)

Please contact NAECB at [info@NAECB.org](mailto:info@NAECB.org) to have future events posted here.

Websites and information about national conferences:

- [Medscape](#)
- [American Association of Respiratory Care](#)
- [American Academy of Allergy, Asthma & Immunology](#)
- [Association of Asthma Educators](#)
- [Asthma and Allergy Foundation of America](#)
- [American Lung Association's Asthma Educator Institute](#)
- [Work-Related Asthma: Recognition and Diagnosis](#)

<https://naecb.com/certificants/certificant-corner/>



45



## ASTHMA EDUCATORS

Experts in:

- Educating
- Counseling
- Assessment

Asthma Educators make a difference –

We can help to minimize the impact of asthma on our patient's quality of life

46

---



TIME FOR QUESTIONS



RECORD YOUR QUESTIONS IN THE QUESTION BOX - WE'LL GET TO AS MANY AS WE CAN!

47

---



ANDREA M. JENSEN, CHES®, AE-C®

UTAH COUNTY HEALTH DEPARTMENT  
[ANDREAJ@UTAHCOUNTY.GOV](mailto:ANDREAJ@UTAHCOUNTY.GOV)



FOR MORE INFORMATION, VISIT  
[ALLERGYASTHMANETWORK.ORG](http://ALLERGYASTHMANETWORK.ORG)

48