




 National Asthma Educator Certification Board Detailed Content Outline	Items			
	Cognitive Level			Totals
	Recall	Application	Analysis	
I. THE ASTHMA CONDITION	9	20	1	30
A. Pathophysiology	4	6	0	10
1. Teach an individual with asthma and their family using simple language by illustrating the following with appropriate educational aids				
a. normal pulmonary anatomy and physiology				
b. alterations in lung anatomy and physiology that characterize asthma e.g., <ul style="list-style-type: none"> • inflammation • bronchial hyperresponsiveness • bronchial wall edema • excess mucous secretion • smooth muscle contractions 				
c. immediate and potential long-term sequelae of airway inflammation e.g., <ul style="list-style-type: none"> • hyperresponsiveness • airway remodeling 				
d. processes occurring in the lungs during an asthma exacerbation				
2. Explain				
a. terms used to characterize asthma e.g., <ul style="list-style-type: none"> • severity • control • impairment • risk 				
b. how asthma severity and its control affect lung function measurements				
3. Teach an individual with asthma that asthma is a chronic airway disease with varying levels of severity and characterized by exacerbations				
4. Associate signs and symptoms of asthma with its underlying pathophysiology				
5. Compare asthma characteristics across age groups e.g., <ul style="list-style-type: none"> • infants • children • adults • elderly 				
B. Factors Contributing to Acute and Chronic Asthma	5	14	1	20
1. Describe to an individual with asthma				
a. differences between an allergen and an irritant				
b. common triggers that provoke asthma				
c. the way triggers (e.g., allergens, irritants, exercise, infections) can be distinct and synergistic for each individual with asthma				


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d. the role of active and passive tobacco smoke exposure in the development and control of asthma				
e. the role of family history and environmental factors (e.g., infections, diet, exposures) in the development of asthma				
f. potential occupational risks in the development and control of asthma				
g. medications (e.g., β -blockers, non-steroidal anti-inflammatory agents, anesthetics) that may exacerbate asthma				
2. Explain how to identify factors (e.g., allergens, pollutants) in the environment contributing to symptoms experienced by an individual with asthma e.g., <ul style="list-style-type: none"> • home • school • work place • outside 				
3. Identify conditions that may mimic asthma or affect asthma control e.g., <ul style="list-style-type: none"> • obesity • obstructive sleep apnea • vocal cord dysfunction • stress • depression 				
4. Explain how specific conditions may relate to the development and control of asthma				
a. pregnancy				
b. gastroesophageal reflux disease				
c. allergic conditions e.g., <ul style="list-style-type: none"> • rhinitis • sinusitis • eczema • allergic bronchopulmonary aspergillosis 				
d. infections (e.g., sinusitis, pneumonia)				
e. COPD				
II. ASSESSMENT OF AN INDIVIDUAL WITH ASTHMA AND FAMILY	6	19	17	42
A. History from an Individual with Asthma	2	7	7	16
1. Interview an individual about				
a. the pattern of current symptoms				
b. the impact of asthma on the quality of life, activity level, and social / functional roles for an individual with asthma				
c. signs and symptoms requiring medical care				


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d. high-risk asthma signs and symptoms e.g., <ul style="list-style-type: none"> • past intubations • over-use of β-agonists • poor perceivers • frequent use of systemic corticosteroids 				
e. the reason(s) for loss of control				
2. Define an individual's asthma severity and control (e.g., impairment, risk) from available information				
3. Identify				
a. triggers (e.g., irritants, allergens)				
b. exercise association				
c. co-morbid conditions e.g., <ul style="list-style-type: none"> • sinusitis • nasal polyps • gastroesophageal reflux disease 				
4. Solicit information about medications, and alternative and complementary therapies e.g., <ul style="list-style-type: none"> • over-the-counter • prescriptions • herbal and nutritional supplements • natural food products • physical therapies (e.g., yoga, acupuncture) 				
5. Integrate information from the medical record into an assessment e.g., <ul style="list-style-type: none"> • family, clinical and medical history • physical examination • vital signs findings • laboratory, pulmonary function, and radiological results • current and past therapies • diagnostic interpretations of objective measures 				
B. Physical Signs in an Individual with Asthma	1	2	1	4
1. Recognize signs of an acute exacerbation e.g., <ul style="list-style-type: none"> • cyanosis • accessory muscle use • labored breathing • clipped speech 				
2. Recognize the significance of auscultated breath sounds e.g., <ul style="list-style-type: none"> • crackles • wheezes • silent chest 				
3. Direct an individual to emergent care based on current presentation				


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C. Objective Measures	2	3	2	7
1. Emphasize the importance of using objective measures to an individual with asthma to identify asthma and assess control				
2. Explain to an individual with asthma				
a. the purpose and technique for testing allergies (e.g., IgE levels, hypersensitivity skin testing) and comorbid conditions (e.g., sinus imaging, pH probe)				
b. the purpose, technique, or results for				
1) peak flow monitoring				
2) spirometric measures				
3) pre-bronchodilator and post-bronchodilator pulmonary function testing				
4) pulse oximetry				
3. Assess whether an individual's peak flow or spirometric results are valid				
D. Educational Needs	1	7	7	15
1. Assess				
a. the knowledge and skills of an individual with asthma and his or her family regarding asthma and treatment				
b. adherence barriers regarding self-assessment and self-management e.g.,				
• financial				
• cultural				
• attitudes				
c. knowledge of potential and known triggers in an individual's home, school, or work environments				
d. readiness and ability to learn, and learning style in an individual with asthma				
e. coping strategies used by an individual with asthma and his or her family				
f. the primary source of healthcare for an individual with asthma				
g. how an individual with asthma is currently recognizing and acting on changes in his or her symptoms				
2. Elicit goals and concerns of an individual with asthma and his or her family				
3. Utilize effective interviewing skills (e.g., ask open-ended questions, maintain eye contact)				


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4. Conduct a multidimensional assessment of an individual with asthma and his or her family e.g., <ul style="list-style-type: none"> • socioeconomic • psychosocial • health literacy level • culture • language • healthcare beliefs and practices 				
III. ASTHMA MANAGEMENT	10	31	19	60
A. Medications and Delivery Devices	3	12	5	20
1. Explain how medications are prescribed based on asthma severity and control				
2. Discuss				
a. the mechanism of action (e.g., β 2 adrenergic, and leukotriene modifier) of asthma medications				
b. the role in therapy (e.g., quick relief, long-term control) of asthma medications				
c. side effects, drug interactions, and safety (e.g., beta agonist overuse, inhaled vs. systemic corticosteroids) of asthma medications				
d. the administration route, dose, frequency, and duration of each asthma medication				
e. the relative efficacy of asthma medications				
3. Dispel misconceptions (e.g., inhaled corticosteroids vs. anabolic steroids) about asthma medications				
4. Demonstrate correct techniques for inhaled delivery devices e.g., <ul style="list-style-type: none"> • MDI • DPI • nebulizers • valved holding chambers 				
a. assembly				
b. administration				
c. cleaning				
d. replacement or refilling				
e. troubleshooting				
5. Assess whether an individual with asthma correctly demonstrates techniques for inhaled delivery devices e.g., <ul style="list-style-type: none"> • MDI • DPI • nebulizers • valved holding chambers 				
a. assembly				
b. administration				

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c. cleaning				
d. replacement / refilling				
e. troubleshooting				
6. Recommend devices to optimize inhaled medication delivery for an individual with asthma e.g., <ul style="list-style-type: none"> • elderly • child • disabled 				
7. Summarize potential benefits and risks associated with alternative therapies and over-the-counter medications				
8. Emphasize importance of taking medications as prescribed when alternative and over-the-counter medications are available				
9. Discuss the purpose of				
a. immunotherapy in controlling allergy symptoms				
b. controlling atopic diseases (e.g., allergic rhinitis, allergic bronchopulmonary aspergillosis)				
c. preventive immunizations (e.g., influenza)				
d. treatment of comorbid conditions				
e. smoking cessation medications				
B. Behavioral and Environmental Modifications	3	6	4	13
1. Recommend strategies to address				
a. the management of exercise-induced asthma				
b. psychosocial (e.g., stress, anxiety, depression)				
c. social support and family factors				
d. economic issues				
e. drug abuse				
f. active smoking				
g. adherence issues				
2. Employ culturally sensitive approaches to individuals with asthma and their families				
3. Allay concerns and fears of an individual with asthma and his or her family, and dispel myths they may believe				
4. Emphasize the importance of following a comprehensive trigger avoidance plan				
5. Recommend strategies to reduce, avoid, or eliminate common triggers in homes, work places, and schools e.g., <ul style="list-style-type: none"> • second-hand smoke • other irritants • allergens • infections • chemical exposure 				

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6. Discuss the effectiveness of various equipment e.g., <ul style="list-style-type: none"> • air cleaners • vacuum cleaners • dehumidifiers • allergen-impermeable cover 				
C. Asthma Management and Education Plan	4	13	10	27
1. Development				
a. tailor the plan to the individual's				
1) goals and concerns				
2) educational needs assessment e.g., <ul style="list-style-type: none"> • learning style • health literacy • culture 				
3) asthma severity				
4) age				
b. create an individualized, written asthma action plan that addresses				
1) daily management (e.g., medications, environmental control)				
2) recognition of worsening asthma				
3) control of worsening asthma				
4) follow up asthma care				
c. create an individualized self-management education plan that <ul style="list-style-type: none"> • begins at the time of a diagnosis • is systematic • is integrated with other medical care • reinforces critical information • includes skill demonstrations for an individual with asthma • divides content into manageable amounts 				
d. review an action plan with a physician and other team members				
e. clarify a physician's instructions for an individual with asthma				
2. Implementation				
a. employ verbal and non-verbal communication skills				
b. critique educational materials for cost, readability, accuracy, specificity, illustrations, and source credibility				
c. select educational material for an individual while considering needs assessment results and the education plan				
d. encourage integration of the action plan into childcare, home, workplace, and / or school				

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e. instruct an individual with asthma to assess control using symptoms and peak expiratory flow meter readings				
f. demonstrate use of peak expiratory flow equipment and results e.g., <ul style="list-style-type: none"> • use of a peak flow meter • timing of measurements • documenting results • maintaining equipment 				
g. coach an individual with asthma how to effectively communicate as a partner in his or her care with healthcare providers, caregivers, and asthma educator				
h. review an individual's decision-making skills and confidence for <ol style="list-style-type: none"> 1) using asthma medications 2) managing worsening asthma 3) seeking care 4) implementing his or her asthma action plan 				
i. reinforce the importance of self-management strategies in asthma control				
j. indicate how team members should track and document progress and mastery of self-management actions				
3. Periodic reevaluation of the written asthma action plan				
a. reassess the level of asthma control				
b. review decision-making criteria with an individual with asthma and his or her family, particularly looking for what he or she can do differently				
c. reassess adherence to the written asthma action plan				
d. revise an asthma management plan after regular reassessment based on individual goals, expectations, and outcomes				
e. use <ol style="list-style-type: none"> 1) symptoms diaries and checklists to assist in reevaluation of asthma control 2) peak expiratory flow results to assist in reevaluation of asthma control 				
f. establish a personal best and revise zones				
g. coordinate follow-up care at each visit to check skill in self-monitoring and self-management				
IV. ORGANIZATIONAL ISSUES	5	10	3	18
A. Needs Assessment	1	1	1	3
1. Identify outcome indicators				
2. Obtain information (e.g., methods, data sources) about the asthma population and healthcare providers				
3. Use findings to make recommendations				

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B. Program Development	1	3	1	5
1. Identify resources e.g., <ul style="list-style-type: none"> • funding • facilities • personnel 				
2. Prioritize program features based on resources and characteristics of the target population (e.g., asthma severity, risk factors)				
3. Compare evidence-based solutions to program needs				
4. Create goals of program and specific objectives to meet those goals				
5. Select teaching methods and settings that will best meet objectives for the target population				
C. Program Implementation	1	1	0	2
1. Ensure safety and privacy of individuals with asthma e.g., <ul style="list-style-type: none"> • HIPAA • OSHA • infection control 				
2. Maintain a program database				
3. Coordinate training for program staff				
D. Program Evaluation	1	2	1	4
1. Select validated program evaluation tools				
2. Assess program processes e.g., <ul style="list-style-type: none"> • adherence (e.g., attendance, diary completion) of participant • the influence of the program on participants' knowledge, skills, and / or attitudes (e.g., confidence, outcome expectations) • procedure and task implementation 				
3. Assess program outcomes e.g., <ul style="list-style-type: none"> • key outcomes (e.g., quality-of-life, functional status, asthma control, healthcare utilization, participant satisfaction) • measures for key program outcomes • program effectiveness 				
4. Use findings to assess program impact and need for modifications				
E. Referral and Professional Networking	1	3	0	4
1. Identify community resources that may be beneficial to the needs of an individual with asthma				
2. Organize family support / education activities				
3. Describe strategies to assist an individual with asthma with financial burdens associated with his / her disease				
4. Outline criteria for appropriate referral to an asthma specialist				
5. Collaborate with other providers				

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6. Coordinate asthma care with other providers and between systems				
7. Provide education and technical assistance to <ul style="list-style-type: none"> • third-party payers • community and health care professionals • work sites • schools • faith-based groups 				
Totals	30	80	40	150