

Minimum Competencies for Asthma Care in Schools: Asthma Consultant/ Chronic Disease Specialist

Area
I. Pathophysiology
<ol style="list-style-type: none">1. Explain using simple language and appropriate educational aids the following concepts:<ol style="list-style-type: none">a. Normal lung anatomy and physiologyb. Changes/pathology of asthma<ol style="list-style-type: none">1. inflammation2. bronchial hyperresponsiveness3. bronchial wall edema4. excess mucous secretion5. smooth muscle contractionsc. Signs and symptoms associated with underlying pathology of asthmad. Immediate and potential long-term sequelae of airway inflammation (hyperresponsiveness and airway remodeling)e. Processes occurring in the lungs during an asthma exacerbationf. Asthma is a chronic airway disease with varying levels of severity and asthma controlg. Signs and symptoms of asthma associated with its underlying pathophysiologyh. How asthma severity and control affect lung function measurementsi. Importance and rationale for using spirometry and the pre-post bronchodilator responsej. Purpose and technique of peak flow measurementsk. Distinctness of triggers (allergens, irritants) according to individualsl. Terms used to characterize asthma e.g.,<ol style="list-style-type: none">1. severity2. control3. riskm. How asthma medications are prescribed based on asthma severity and control
II. Factors Contributing to Acute and Chronic Asthma
<ol style="list-style-type: none">1. Explain using simple language and appropriate educational aids the following concepts:<ol style="list-style-type: none">a. Differences between an allergen and an irritantb. Common triggers that provoke asthmac. Role of active and passive tobacco smoke exposure in the development and control of asthmad. Role of family history and environmental factors (e.g., infections, diet, exposures)e. Medications (e.g., β-blockers, non-steroidal anti-inflammatory agents, anesthetics) that may exacerbate asthmaf. Explain how to identify factors (e.g., allergens, pollutants) in the environment contributing to symptoms<ol style="list-style-type: none">i. Schoolii. Homeiii. Outside2. Identify and explain conditions that can affect asthma control or mimic asthma<ol style="list-style-type: none">a. GERDb. Allergic conditions (rhinitis, eczema)c. Sinusitisd. Infectionse. Obesityf. Obstructive sleep apneag. Vocal cord dysfunctionh. Stressi. Depression
III. Assessment of a Student with Asthma and his/her Family

1. Perform a **history** for a student with asthma
 - a. Using the Asthma Intake Form interview student/family about:
 - i. Pattern of current symptoms
 - ii. Impact of asthma on the quality of life, activity level, and absenteeism
 - iii. High-risk asthma signs and symptoms
 - previous intubations
 - over use of beta agonists,
 - frequent use of systemic corticosteroids
 - frequent use of emergent care
 - hospitalizations
 - iv. Asthma control
 - v. Identify triggers, exercise, comorbid conditions (sinusitis, nasal polyps, GERD)
 - vi. Medications used for asthma (prescribed, over the counter, complimentary or alternative)
 - vii. Primary source of healthcare for an individual with asthma
2. Determine level of asthma control
3. Identify how a student with asthma is currently recognizing and acting on changes in his or her asthma control level
4. Perform a **physical** examination for a student with asthma that includes:
 - a. Recognize signs of an acute exacerbation e.g.,
 - a. Cyanosis
 - b. accessory muscle use
 - c. labored breathing
 - d. clipped speech
 - b. Vital signs
 - c. Lung auscultation: recognize, wheezes, crackles, absent (silent chest)
5. Understand the use and need for objective lung function tests
 - a. Emphasize the importance of using objective lung function tests to diagnose asthma and assess asthma control and severity
 - b. Explain purpose, technique and results:
 - i. Peak flow
 - ii. Spirometry
 - iii. Pre-post bronchodilator response
 - iv. Pulse oximetry
6. Recognize presentation that requires arranging emergent medical care
7. Review and integrate information from student records (academic and health) including current and past visits to the school health office
8. Conduct a multi-dimensional assessment of a student with asthma and his or her family
 - a. Socioeconomic
 - b. Psychosocial
 - c. Health literacy level
 - d. Culture
 - e. Language
 - f. Health care beliefs and practices
9. Perform an educational needs assessment of student/family to inform a tailored plan of care and intervention and services:
 - a. Elicit goals and concerns of students with asthma and his or her family
 - b. Knowledge and skills of student with asthma and his or her family regarding asthma and treatment
 - c. Barriers regarding self-assessment and self-management e.g.,
 - i. financial
 - ii. insurance

- iii. cultural
- iv. attitudes
- d. Knowledge of potential and known triggers in home, school, or work
- e. Readiness, ability to learn, and learning style of student and family members
- f. Coping strategies used by student with asthma and his or her family

10. Apply effective interviewing skills to get a richer understanding

- a. Ask open-ended questions
- b. Maintain eye contact
- c. Motivational Interviewing Techniques
- d. Culturally sensitive approaches

IIV. ASTHMA MANAGEMENT

Medications and Delivery Devices: Support Appropriate Use of Asthma Medications

1. Discuss:
 - a. Mechanism of action (bronchodilators and controllers)
 - b. Role in therapy (quick relief, long-term control, maintenance)
 - c. Side effects, interactions, safety
 - d. Administration route, dose, frequency, and duration
2. Demonstrate correct techniques for devices (MDI, DPIs, spacers, nebulizers)
 - a. Assembly
 - b. Administration
 - c. Cleaning
 - d. Replacement
 - e. Trouble shooting
3. Assess student's inhaler technique and provide coaching to achieve accurate technique
4. Recommend devices to optimize inhaled medication delivery for student with asthma, such as spacers
5. Explain how medications are prescribed based on asthma severity and control
6. Identify how medications are being used/taken and if approach is consistent with health care providers' recommendations and best available evidence
7. Dispel misconceptions about asthma medications
8. Summarize potential benefits and risks associated with alternative therapies
9. Emphasize importance of taking medications as prescribed when alternative medications/approaches are available
10. Discuss the purpose of:
 - a. Immunotherapy
 - b. Controlling allergic diseases
 - c. Preventive immunizations
 - d. Treatment of co-morbid conditions
 - e. Smoking cessation treatments

Behavioral and Environmental Modifications

1. Recommend strategies to reduce, avoid, or eliminate common triggers
 - a. Irritants
 - b. Allergies
 - c. Exercise induced asthma/bronchospasm
 - d. Infections
 - e. Second hand smoke
2. Emphasize and assist with following a comprehensive trigger avoidance plan
3. Discuss effectiveness of various equipment for environmental control
 - a. air cleaners
 - b. vacuum cleaners
 - c. dehumidifiers
 - d. allergen impermeable covers

Asthma Management and Education Plan

1. Develop and implement an asthma management and education plan tailored to the individual/family
 - a. The plan should consider the student and family's
 - i. Goals and concerns
 - ii. Educational skills and needs
 - iii. Literacy (health and computer)
 - iv. Culture
 - v. Learning style
 - vi. Age
 - vii. Asthma severity and risk assessment based on Asthma Intake Form
 - viii. Triggers
 - ix. Daily management needs (meds, environmental control)
 - x. Follow-up care needs
 - b. Plan includes recommended strategies to address:
 - i. Management of exercise induced asthma
 - ii. Management of triggers
 - iii. Identifying warning signs and taking appropriate steps to manage worsening asthma
 - iv. Daily management (meds and environmental control)
 - v. Need for regular follow-up asthma care
 - vi. Psychosocial issues, as appropriate
 - vii. Adherence issues
 - viii. Financial barriers
 - ix. Smoking and other drug related issues
2. Provide self-management education and resources to support asthma control
 - a. Reinforce critical information
 - b. Include skills demonstration
 - c. Divide content into manageable amounts of information
 - d. Employ verbal and non-verbal communication skills
 - e. Select educational material for student/family based on needs assessment results
 - f. Instruct student with asthma to assess control using symptoms (if appropriate, peak expiratory flow rates including technique, timing, documenting and interpreting)
 - g. Review student's decision-making skills and confidence for using meds, recognizing and managing worsening asthma, seeking care and overall implementation of the asthma plan
 - h. Coach an individual how to effectively communicate as a partner in his or her care with school personnel, healthcare providers, caregivers, and peers
 - i. Reinforce the importance of self-management strategies in asthma control
 - j. Identify community resources that may be beneficial to the student/family with asthma
 - k. Plan, organize and offer educational opportunities for students, families and school personnel
 - l. Provide educational resources or information on how to access recommended resources
 - m. Document and track/document progress and mastery of self management actions

Implement the Colorado School Asthma Care Plan

1. Promote and facilitate completion of the CO School Asthma Care Plan for each student with active asthma as defined by symptom experience or use of asthma medications in the last 2-3 years
2. Review the CO School Asthma Care Plan with student and assess understanding
3. Provide self-management education to support implementation of individualized Colorado School Asthma Care Plan:
 - a. Review inhaler technique skills and provide demonstration
 - b. Instruct student with asthma to assess asthma control using symptoms
 - c. Coach a student how to effectively communicate his or her asthma related needs as a partner in his or her care with school personnel

- d. Review a student's decision-making skills and confidence for using meds, recognizing and managing worsening asthma, seeking care and overall implementation of the plan
- 4. Review the CO School Asthma Care Plan with other school team members
- 5. Provide periodic follow-up and re-evaluation of the CO School Asthma Care Plan with the student
 - a. Reassess asthma control level
 - b. Assess and review use of symptoms in identifying asthma control
 - c. Assess and review student's decision making abilities to implement plan
 - d. Assess adherence to plan
- 6. Revise plan as needed
- 7. Collaborate and coordinate asthma care with community health care providers
 - a. Clarify physician's/provider's orders, if necessary
 - b. Outline criteria necessitating a referral back to health care provider re: asthma
 - c. Identify electronic resources for communicating health information with health care providers, when available

V. ORGANIZATIONAL ISSUES

Perform Organizational Needs Assessment related to Asthma Programming

1. Obtain necessary information (e.g., methods, data sources) about the asthma population, school health team and necessary resources
 - a. Identify and use national and local asthma data bases
 - b. Identify and use district and school-level data about asthma
 - c. Identify and use asthma practice guidelines and best available evidence
2. Use findings to make recommendations
3. Identify potential indicators of success

Program Development

1. Identify existing resources (funding, facilities, personnel, health information technology)
2. Prioritize program features based on resources and characteristics of the target population (e.g., asthma severity, risk factors)
 - a. Free and reduced lunch status
 - b. Willingness of school nurse and administrators to be involved in project
 - c. Technology resources of school (ie. databases, hardware)
3. Compare evidence-based solutions to needs of asthma program
4. Create goals of program and specific objectives to meet goals
5. Select teaching methods that will best meet objectives for the target population

Program Implementation

1. Ensure safety and privacy of individuals with asthma e.g.,
 - a. HIPAA
 - b. FERPA
 - c. OSHA
 - d. Infection control
2. Maintain a program database:
 - a. Consider informatics issues
 - b. Select data collections tools for outcomes identified
3. Document care provided to students with asthma
4. Provide continuing education for school staff for creating asthma friendly and supportive schools and asthma program delivery
5. Critique educational materials for cost, readability, accuracy, illustrations, acceptability

Program Evaluation

1. Capture data to permit analysis and the generation of reports
2. Assess program processes (when possible use validated tools)
 - a. adherence to the program elements

- b. influence of the program on knowledge, skills, and / or attitudes (e.g., confidence, outcome expectations)
- 3. Monitor program outcomes (when possible use validated tools)
 - a. key outcomes (e.g., absenteeism, inhaler technique, asthma control, healthcare utilization, satisfaction)
 - b. nurse competencies- (e.g. informatics, skills)
- 4. Use findings to assess program impact and need for modifications

VI. Referral and Professional Networking

- 1. Identify community resources that may be beneficial to the student/family with asthma
- 2. Educate and engage parents about ways to communicate electronically and how to access student electronic records
- 3. Know and describe strategies/services available to support student/family with asthma with financial burdens associated with his / her disease
- 4. Collaborate with other health care providers
- 5. Collaborate with other school health teams and school community members
- 6. Coordinate asthma care with school staff, families, other providers and between systems
- 7. Identify electronic resources for communicating health information with health care providers when available
- 8. Outline criteria necessitating a referral back to health care provider managing asthma
- 9. Provide education and technical assistance to
 - a. School administration
 - b. Teachers
 - c. Coaches
 - d. Community and health care professionals

VI. Teamwork

- 1. Function effectively within nursing and interprofessional teams
 - a. foster open communication
 - b. provide mutual respect
 - c. foster shared decision making to achieve quality student care
- 2. Coordinate asthma care with the school community as directed by the school nurse (such as on field trips)

