



MANAGEMENT OF STUDENT WITH ASTHMA IN SCHOOL

MARYLAND STATE SCHOOL HEALTH SERVICES GUIDELINE

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Foreword

There is a strong relationship between academic achievement and a child's physical, emotional and mental health. This link is the foundation for providing school health services as an important component of a school program. School health services provide primary prevention aimed at keeping students in schools through appropriate screenings, early identification of children at risk for physical, emotional and mental health concerns, and case management of students with chronic health concerns.

The Annotated Code of Maryland, Education Article, § 7-401 requires the Maryland State Department of Education (MSDE) and the Maryland Department of Health and Mental Hygiene (DHMH) to jointly develop public standards and guidelines for school health programs. The following guideline is developed in accordance with that requirement and is based on the expressed needs of the local school health services programs.

MANAGEMENT OF STUDENTS WITH ASTHMA IN SCHOOL

Introduction

Students with asthma require a thorough nursing assessment of their health needs to enable them to attend school regularly and to fully participate in the educational program. The school nurse must develop specific plans that consider the special accommodations students may require in school. These comprehensive guidelines will assist the school nurse in developing an individualized care plan, in conjunction with the family and the primary care provider, for students with asthma.

In 2004, the 108th Congress passed legislation (H.R. 2023) that amended Section 399L of the Public Health Service Act (42 U.S.C. 280g) to allow the Secretary of the Department of Health and Human Services to give preference in asthma-related grants to states that require public elementary and secondary schools to allow students to self administer medication to treat asthma or anaphylaxis if certain stipulations are met. In 2005, the Maryland General Assembly passed legislation (House Bill 143) creating a new statute, §7-421 of the Education Article, Annotated Code of Maryland, which requires public school systems to adopt policies authorizing students to possess and self-administer an asthma inhaler or other emergency medication for treatment of asthma or other airway constricting disease.

When students with asthma enter school, the school nurse is the lead team member in assessing their health needs, performing a nursing appraisal/assessment, and developing a care plan that meets their in-school health needs. The school nurse is also responsible for making the appropriate school personnel involved aware of the special health needs of students with asthma. Additionally, the school nurse may provide health education to students with asthma, and guidance regarding their need for accommodations (i.e. transportation, intermittent home teaching, and participation in educational activities).

Purpose

To provide guidelines for the management and coordination of care for students with asthma in school and to provide guidance for school staff working with students with asthma.

Definition

Asthma is a controllable chronic lung disease characterized by inflammation of the airways, recurrent exacerbation of airway constriction, and excess mucus secretion resulting in reduced airflow that may cause symptoms of wheezing, coughing, tightness of the chest, and difficulty breathing. Allergens, irritants, infections, exercise, strong expressions of feelings/emotions (laughing or crying), stress, and changes in weather or temperature may cause exacerbation.

The Nursing Appraisal/Assessment

Data Collection

It is essential that the school nurse be well informed on all aspects of medical, educational, and social issues regarding students with asthma. The school nurse collects information from a review of

of medical and educational records (i.e., the school health record, the Student Record Card, emergency health card, and the student cumulative education record). Additional information should be sought from each of the following sources:

- Parent interviews and/or home visits
- Student interview
- Physician/health care provider
- Teaching staff
- Classroom observations

Assessment

Based on the nurse's appraisal, a formal written nursing assessment is completed. The school nurse should assess the special health needs of students with asthma using local standard assessment procedures and the procedures outlined in the *Maryland State School Health Services Guidelines: Nursing Appraisal/Assessment of Students with Special Health Needs*. The school nurse should be cognizant of policies regarding the release of records, information sharing, and confidentiality. Identifying information, information specific to the student's asthma status, and treatment needs should include but not be limited to the following:

Identifying Information/Contact Information

- Name of parents/guardian, address, phone number, and emergency contacts;
- Student's date of birth (DOB) and grade;
- Primary care provider's name and phone number; and
- Name and phone number of asthma or allergy specialist (if the student is under the care of one).

Medical History/ Asthma History

A very important part of the medical history is a thorough assessment of the current asthma status and treatment. The asthma specific information should include the following:

- Current diagnosed medical conditions;
- Current medication and treatment orders for the identified conditions and the indications for their use;
- Family history of asthma and allergies;
- Development of disease, progress of disease, and initial diagnosis;
- History of asthma emergencies and frequency of hospitalizations including emergency room visits;
- Number of days of school missed in the past year;

- ❑ Limitation of activities;
- ❑ Current asthma severity level (see glossary for definition of asthma severity levels);
- ❑ Frequency/pattern of asthma signs and symptoms demonstrated by the student;
- ❑ Baseline management of asthma;
- ❑ Precipitating factors/asthma triggers (e.g. environment, food, weather, exercise, air quality, allergens, irritants, infection);
- ❑ Profile of typical exacerbation;
- ❑ Management of exacerbations;
- ❑ Family and student's understanding of the condition and its management;
- ❑ Ability of family and student to cope with the disease;
- ❑ Written copy of health care provider's asthma management plan;
- ❑ Asthma education program completed by student;
- ❑ Asthma medications; and
 - Quick relief medications, controller medications, or medications for use prior to exercise
 - Delivery devices used - hand-held inhaler or nebulizer; type of spacer if needed
 - Student's medication administration technique
 - Level of independence with medication/treatment; ability to self-administer and ability to carry on person
 - Medication side effects
- ❑ Peak flow monitoring.
 - Purpose of testing
 - Level of independence
 - Frequency
 - Required at school
 - Performed in health suite or classroom
 - Equipment used
 - Personal best peak flow measurement

The asthma appraisal/assessment should include a determination and recommendations as to whether special accommodations are required due to the student's class schedule, school-sponsored activities, or transportation. Psychosocial concerns regarding the family's living conditions and circumstances, understanding of asthma, compliance with the asthma regimen, and the need for resources must also be addressed. (See *Maryland State School Health Services Guidelines: Nursing Appraisal/Assessment of Students with Special Health Needs*). A copy of the nurse's final assessment should be placed in the student's health record and should be shared with the parents/guardian and health care provider.

Plans/Protocols and Interventions

It is recommended that each student with asthma have an individualized asthma action plan developed by his/her health care provider.³ This plan should include protocols for both routine and emergency administrations of medication. These plans may not consider the unique needs of students in the school setting and the school nurse may be required to develop a plan that considers the school setting.

If a student with asthma does not have an individualized action plan and one cannot be obtained from the health care provider, then the school nurse should determine if a student could be managed using emergency protocols for respiratory distress. If a student cannot be well managed using a standard respiratory emergency protocol, and an individualized plan cannot be obtained from the health care provider, an individualized asthma action plan should be developed by the school nurse. The individualized asthma action plan should be developed in conjunction with the student (as appropriate), parents/guardians and the health care provider(s). The objectives of this plan are to:

- Control asthma symptoms at school;
- Provide opportunity of optimal school performance;
- Allow full and normal participation by the student in school and school sponsored activities;
- Control and minimize, to the extent possible, allergen and irritant exposure at school; and
- Promote the acceptance of the asthmatic child by peers.²

The coordinated and collaborative plan results in the most appropriate management and the most productive school experience for students with asthma. Through coordination and collaboration, students with asthma remain medically stable, academically successful, and become independent in controlling their chronic condition over time. The following information gathered from the assessment should be considered when developing health care plans for students with asthma:

- Severity of disease (severe persistent, moderate persistent, mild persistent or mild intermittent)¹;
- Identification and reduction or elimination of triggers;
- Developmental considerations;
- Barriers to best practice management;
- Parental concerns;
- Student concerns;
- Equipment (e.g. nebulizer use);
- Social interventions;
- Classroom accommodations;
- Peak flow monitoring/frequency;
- Schedule- PE, lunch, recess, field trips, other school-sponsored activities;
- Emergency care including provisions for a student in distress, such as an adult escort to the office/health room, contacting the parents/guardians, and health care provider;
- Staff training;
- Educational needs and accommodations;
- Coordination with other team members including health care provider, and other school services providers;
- Medication administration, including self administration;
- Student's ability to identify need for interventions;
- Knowledge of student's specific triggers;
- Emergency equipment (e.g. nebulizer, inhaler, spacer, medications, oxygen, spacer);
- Storage of medication and/or equipment (consider multiple locations);

1 Guidelines for the Diagnosis and Management of Asthma, National Heart, Lung, and Blood Institute. NIH Publication No. 97-4051, July 1997.

2 Richards W. Asthma, Allergies, and School, *Pediatric Annals* 21 (9), 1992

3 American Academy of Pediatrics, Asthma and Allergy Foundation

- Does student carry medications/inhalers, spacers, and peak flow meters;
- Labels and directions on emergency equipment;
- Does the student wear medical alert identification (e.g. bracelet or pin); and
- Alternative arrangements in physical education, sports, and industrial arts classes.

NOTE: Students with asthma who are developmentally capable and have received appropriate and adequate instruction should be encouraged to possess and to self administer their metered dose inhaler if their health care provider has completed an order for the school. Section 7-421 of the Education Article, Annotated Code of Maryland, states: “The school nurse shall assess the student’s ability to demonstrate the skill level necessary to ensure proper and effective use of the medication in school.” The school nurse should assess students with asthma inhalers for:

- Ability to use correct technique;
- Recognition of when to use the inhaler; and
- Developmental ability to perform this task in a responsible manner.

Emergency plans should outline:

- What should be done if nurse is not available;
- What the school should provide (e.g. access to medication and treatment equipment);
- What the parent should provide (e.g. medications, nebulizer, spacer, and other equipment);
- The health care provider's emergency orders; and
- When to call 911.

NOTE: The Maryland Nurse Practice Act (Title 10, Subtitle 27, Code of Maryland Regulations) allows certain nursing functions to be delegated. The decision as to whether the student's health care needs may be delegated is based on the delegation criteria outlined in the Maryland Nurse Practice Act and the professional judgment of the school nurse. The school nurse must also determine the appropriate personnel/staff to whom responsibility for monitoring the asthma nebulizer treatments may be delegated.

Copies of emergency and routine treatment plans should be shared with the appropriate school management team/staff (including bus drivers) and a copy should be placed in the student's health record. The final plans should be sent to the parent/guardian and the health care provider for approval/sign off.

Coordination and Case Management

Certain students with asthma may need a designated school case manager to coordinate his/her care. The school nurse is often the case manager for student with asthma, but another student services or Individualized Education Program (IEP) team member may be designated as case manager. However, the school nurse serves as the liaison between the health care team, school staff, administration, pupil service staff, parents/guardian, and student. The school nurse can also refer the student and/or family for counseling, support groups, and access to medical care.

Staff Training

Discipline specific staff training provided by the school nurse to non-licensed health staff, teachers, bus drivers, food services personnel, and other school staff may include:

- Definition of asthma;
- Classroom accommodations;
- Bus accommodations;
- Field trip accommodations;
- Symptoms to report to the school nurse;
- Confidentiality;
- Review of the standard or individual emergency protocol;
- The inclusion of emergency plans in substitute plans (for classroom, school health, transportation, and food services staff); and
- Medication issues.

Education Planning

The school nurse is an integral part of the educational team and is vital in the planning of educational accommodations for students with asthma. The health needs of students with asthma are supported by a thorough nursing assessment and development of an emergency care plan; however, some students with asthma may require additional educational accommodations.

It is recommended that a nursing assessment be part of the process for determining special accommodations for a student with asthma (e.g. change in school placement, concurrent or intermittent home teaching, or adaptations to physical education class). Special accommodations may be needed to address the following:

- Vocational assignment;
- Field trips and other school-sponsored activities;
- Asthma triggers in the environment;
- Physical education class;
- Poor indoor or outdoor air quality;
- Bus transportation;
- Need and criteria for intermittent home instruction; and
- Medication schedule.

If the student requires more specific educational accommodations, a 504 plan may be developed. If a student with asthma qualifies for special education services, an IEP may include specific accommodations. Both 504 plans and IEPs may include the accommodations listed above.

Transportation

The asthma plan should address transportation needs for the student with asthma. In general, a student with well-managed asthma should not require special transportation. However, each case should be evaluated on an individual basis. It is recommended that the school nurse provide consultation on all requests for special transportation for students with asthma.

Field Trips/School-Sponsored Activities

All students have the right to fully participate in educational activities. No student should be denied the right to participate in a field trip/school-sponsored activity because of the need for medication/treatment or additional assistance. If a field trip/school-sponsored activity is planned, the teacher should give sufficient notice to the school nurse so that a plan can be implemented for students with special health needs such as asthma and which may include the requirement for a nurse to accompany the student. Prior to the field trip, the school nurse should ensure the teacher/staff member in charge has copies of the emergency and routine care plans for the student.

Asthma medications should be administered to students during school-sponsored trips/activities when necessary or as ordered. Timing of doses should be adjusted to occur outside of the school-sponsored activity period (if medically appropriate). Medications must be administered in compliance with the State guidelines outlined in *Medication Administration in Schools*. The school nurse, in collaboration with the school administrator, parents, and the health care provider should determine whether asthma medication is administered during a school-sponsored activity/trip and by whom.

Monitoring/Evaluation

Evaluation is an ongoing process and should include the following:

- Assessment and documentation of student's response to the management plan;
- Effectiveness of the plan to meet the student's health and educational needs;
- Orders reviewed with family and health care provider at least annually and as necessary;
- Documentation of medications and treatments given;
- Documentation of number of health room visits and days missed from school due to asthma;
- Communications with the health care provider, family, and school staff; and
- Need for ongoing staff training.

Asthma Severity Levels⁴

Students with asthma may have the severity of their asthma classified by their health care provider according to the following guidelines. Medications should be ordered as a stepwise progression (Steps I-IV) to reflect that the symptoms of a student's asthma may vary over time and by situation and medication requirements may also change to be consistent with those needs. The medication step should be the lowest level required to keep the student well controlled on the least amount of medication.

⁴ National Asthma Education and Prevention Program Expert Panel Report 2: Guidelines for the Diagnosis and Management of Asthma. NIH Publication No. 02-5075, June 2002.

Mild Intermittent (Step I treatment level):

- Symptoms occur less than or equal to two days a week;
- Asymptomatic and normal Peak Expiratory Flow rate (PEF) between exacerbations;
- Exacerbations are brief (from a few hours to a few days) - intensity may vary; and
- Nighttime symptoms occur less than or equal to two times a month.

Mild Persistent (Step II treatment level):

- Symptoms occur more than 2 times a week but less than once a day;
- Exacerbations may affect activities;
- Nighttime symptoms greater than 2 nights a month; and
- Normal PEF

Moderate Persistent (Step III treatment level):

- Daily symptoms;
- Daily use of short acting beta2-agonist (rescue medication);
- Exacerbations may affect activities;
- Exacerbations occur 2 or more times a week - may last days;
- Nighttime symptoms greater than 1 night per month; and
- PEF >60% but <80%

Severe Persistent (Step IV treatment level):

- Continual symptoms;
- Limited physical activity;
- Frequent exacerbations;
- Frequent nighttime symptoms; and
- PEF ≤60%

GLOSSARY

Asthma Action Plan: An individualized plan initiated by a health care provider, which includes routine and emergency medication and protocols.

Bronchodilator: Medication that relaxes smooth muscles around the bronchioles and allows them to open more completely.

Health Appraisal: The process by which a designated school health services professional identifies health problems that may interfere with learning.

Metered Dose Inhaler: A hand-held device that delivers a specified dosage of medication as a spray or a powder to be inhaled.

Nebulizer: A device, pressurized by air, for the purpose of converting a liquid medication into a fine mist that can be inhaled.

Nursing Assessment: The act of gathering and identifying data about a client to assist the nurse, the client, and the client's family in identifying the client's problems and needs.

Peak Flow Meter: A device which measures flow rate of air breathed out during forced expiration.

Spacer: A plastic device to assist with effective inhalation of the bronchodilator administered via metered dose inhaler.

RESOURCES

- ❑ **American Academy of Allergy, Asthma, & Immunology:** <http://www.aaaai.org/>
This site contains a health care professional resource center and the Pediatric Asthma Clinical Guidelines
- ❑ **American Association of Asthma Educators:** <http://www.asthmaeducators.org/>
The primary purpose of the Association of Asthma Educators is to promote asthma education as an integral component of a comprehensive asthma program, to raise the competence of health care professionals who educate individuals and families affected by asthma, and to raise the standard of care and quality of asthma education delivered to those with asthma. To that end, the Association recognizes that asthma education should reflect the recommendations contained in the national guidelines and meet the needs of the target population. The express purpose of asthma education is to improve health outcomes for individuals and families affected by asthma.
- ❑ **American College of Asthma, Allergy & Immunology:** <http://allergy.mcg.edu/home.html>
The American College of Asthma, Allergy & Immunology is an information and news service for patients and parents of patients.
- ❑ **American Lung Association:** <http://www.lungusa.org/>
The American Lung Association (ALA) is the oldest voluntary health organization in the United States. ALA fights all forms of lung disease with special emphasis on asthma, tobacco control, and environmental health. The site contains asthma education programs for children, advocacy, communications, and multicultural programs as well as data and statistics.
- ❑ **Asthma & Allergy Foundation of America:** <http://www.aafa.org>
The Asthma and Allergy Foundation of America is a patient organization dedicated to improving the quality of life for people with asthma and allergies through education, advocacy and research. This site contains resources and continuing education programs for health care professionals.
- ❑ **Children's Hospital National Medical Center (CHNMC) training for School Nurses:** <http://www03.activate.net/vspan/cnma/001211/index.asp>. CHNMC provides an online tutorial for on asthma for nurses.
- ❑ **NAEEP Asthma Coalition Exchange:** <http://www.nhlbisupport.com/asthma/coalitioncorner/index.htm>
The National Asthma Education and Prevention Program is administered and coordinated by the National Heart, Lung, and Blood Institute and works with intermediaries including major medical associations, voluntary health organizations, and community programs to educate patients, health professionals, and the public. The ultimate goal of the NAEEP is to enhance the quality of life for patients with asthma and decrease asthma-related morbidity and mortality.
- ❑ **National Heart, Lung, & Blood Institute:**

As part of the National Institutes of Health, the National Heart, Lung, and Blood Institute provides leadership for a national program in diseases of the heart, blood vessels, lung, blood, and blood resources.

- **SchoolAsthmaAllergy.com** is a website sponsored by Schering Plough Corporation and the National Association of School Nurses and contains materials for parents and school nurses. State specific information and links are also available at this site.