

MANAGEMENT OF ANAPHYLAXIS IN SCHOOLS

Maryland State School Health Services Guidelines

October 2024

Contents

Maryland School Health Services Practice Issues Committee (2022 - 2023)3

Foreword 4

Section I: Introduction.....5

 Purpose..... 5

 Background..... 5

 Legal Authority5

 Definition 6

 Signs and Symptoms..... 6

Section II: Management of Anaphylaxis.....7

 Health Appraisal 7

 Assessment..... 7

 Components of a Nursing Assessment Specific to Anaphylaxis7

 Planning..... 8

 Epinephrine Auto-Injector 8

 Administration of Epinephrine Auto-Injector 9

 Basic administration of EAI:..... 9

 Steps following EAI administration:..... 9

 School Epinephrine Auto-Injector Availability Policy.....10

 Individualized Health Care Plan 10

 Emergency Action Plan..... 11

 Implementation..... 12

 Evaluation 12

Section III: Care Coordination and Case Management 13

 Roles and responsibilities..... 13

 Parent/Guardian Responsibilities 13

 Student Responsibilities 13

 School Administrator Responsibilities 14

School Staff Responsibilities..... 15

Parent/Guardian Outreach 16

School-Sponsored Activities..... 16

Section IV: Glossary 17

Section V: Resources/References/Appendix 18

Resources..... 18

References..... 19

Appendix A: Potential Allergen Exposures and Exposure Avoidance Strategies 20

Appendix B: *Food Allergy & Anaphylaxis Emergency Care Plan* 21

Appendix C: *Standing Order Form for Stock Epinephrine Auto Injector and Protocol*..... 21

Appendix D: *Allergy and Anaphylaxis Emergency Plan* 21

Maryland School Health Services Practice Issues Committee (2022 - 2023)

Isha Alston, MSN, RN
Deputy Director, School Health and Support
Anne Arundel County Department of Health

Catherine Bonner, MSN, RN, NCSN
School Nurse
St. Mary's County Public Schools

Karen Siska Creel, MSN, RN
Director of Nursing, School Health and Support
Anne Arundel County Department of Health

Patricia Fato, BSN, RN, CPN
SHNIC Nurse Educator
Kennedy Krieger Institute

Filipa Gomes, MSN, RN, CNM, NCSN
Supervisor of Health Services
Carroll County Public Schools

Janice Howells, BSN, RN
School Health Programs Coordinator
Washington County Public Schools

Christine Knode, BSN, RN, NCSN
Supervisor of Student Services/School Health
Calvert County Public Schools

Nancy Mattucci, MSN, RN
Supervisor, Office of Health Services
Baltimore County Public Schools

Tammatha Metcalf, MSN, RN, NCSN
Supervisor of Health Services
St. Mary's County Public Schools

Alicia Mezu, MSN/Ed, BSN, BSc, RN
Lead Health Services Specialist
Maryland State Department of Education

Mary Nasuta, MS, BSN, RN, NCSN
Nurse Coordinator
Harford County Public Schools

Rachel Nurse-Baker, RN, BSN, MPH
Nurse Consultant, School Health
Maryland Department of Health

Barbara Obst, MEd, RN, NCSN
SHNIC Coordinator
Kennedy Krieger Institute

Jamie Perry, MD, MPH
Director of School Health
Maryland Department of Health

Megan Roesler, MSN, RN, CPN
SHNIC Educator
Kennedy Krieger Institute

Kathryn Russell, MSN, RN
Supervisor, Office of Health Services
Baltimore County Public Schools

Michal Thornton, BSN, RN
Nurse Consultant, Center for Immunization
Maryland Department of Health

Kerrie Wagaman, MSN, BSN, RN, NCSN
Coordinator of Health Services
Howard County Public School System

Jenifer Waters, MSN, RN
Health Services Specialist
Frederick County Public Schools

Jasmin Whitfield, MSH, MPH, DNP
School Health Program Manager
Maryland Department of Health

Jennifer Yost, BSN, RN
Health Services Coordinator
Caroline County Public Schools

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 Maryland Code Annotated, Education § 7-401 (Md. Code Ann., Educ. § 7-401) requires the Maryland State Department of Education (MSDE) and the Maryland Department of Health (MDH) to jointly develop public standards and guidelines for school health programs. The following guidelines were developed in accordance with that requirement and are based on the expressed needs of the local school health services programs. The guidelines developed under Md. Code Ann., Educ. § 7-401 contain recommendations for minimum standards of care and current best practices for the health service topics addressed. It is intended that these guidelines will be used by the local education agencies (LEAs) in developing policies and procedures to assist local school health services programs in providing consistent and safe care to the students of Maryland. Specific laws and regulations that direct school nursing practice or other health services are identified in the guidelines.

To implement these guidelines, LEAs and local health departments should consult with MSDE and MDH who will:

- Assist and provide technical assistance to local school health services programs to support their efforts to plan for students with special health needs;
- Provide training to all appropriate school staff regarding issues related to students with special health needs including, but not limited to, planning, maintaining a safe environment, and medication administration issues; and
- Monitor the implementation of school health services programs including, but not limited to, programs and policies related to students with special health needs.

Section I: Introduction

PURPOSE

The purpose of the guidelines is to:

1. Provide guidance to school health services programs for the management and coordination of care for students at risk for anaphylaxis and students with an unknown history of anaphylaxis;
2. Define the roles and responsibilities of school health services staff, school administrators, other school staff, parents/guardians and students in the planning, care, and education required to support students at risk for anaphylaxis and students with an unknown history of anaphylaxis; and
3. Provide guidance to school health services programs in the development and implementation of policies and procedures regarding the use of auto-injectable epinephrine pursuant to the Md. Code Ann., Educ. § 7-426.2.

BACKGROUND

Legal Authority

In 2007, Md. Code Ann., Educ. § 7-426 Guidelines for Student Emergency Medical Care required MSDE and MDH to establish guidelines for providing emergency medical care to students with special health care needs, and to delineate the roles and responsibilities for planning and providing services to students with special health care needs. Children with anaphylactic allergies are defined in Md. Code Ann., Educ. § 7-426.1.

In 2012, Md. Code Ann., Educ. § 7-426.2 Policy on Use of Epinephrine in Public Schools was codified into law. Md. Code Ann., Educ. § 7-426.2(b) requires each county school board to establish a policy for public schools within its jurisdiction to authorize the school nurse and other school personnel to administer auto-injectable epinephrine, if available, to a student who is determined to be or perceived to be in anaphylaxis, regardless of whether the student has been identified as having an anaphylactic allergy, or has a prescription for epinephrine as prescribed by an authorized licensed health care practitioner under the Health Occupations Article. Contents of the policy shall include: 1) training for school personnel on how to recognize the symptoms of anaphylaxis; 2) procedures for the emergency administration of auto-injectable epinephrine; 3) the proper follow-up emergency procedures; and 4) a provision authorizing a school nurse to obtain and store at a public school, auto-injectable epinephrine to be used in an emergency. In 2013, the Maryland Legislature amended Md. Code Ann., Educ. § 7-426.2 to require parental notification of the local education agency epinephrine auto-injector policy.

In 2023, the Maryland General Assembly passed House Bill 78, which amended Md. Code Ann., Educ. § 7-426.1 to require each county (LEA) board to adopt and implement guidelines to reduce the risk of exposure to anaphylactic major food allergens in classrooms and common areas. In addition, the amended language requires the principal of certain public schools in consultation with a school health professional to implement certain strategies and monitor and implement the guidelines established by the county board.

Definition

Anaphylaxis is a severe, acute, and potentially fatal allergic reaction. Life-threatening symptoms can rapidly develop, affecting multiple organs including the skin, lungs, heart, and gastrointestinal system within minutes of exposure to an allergen. In rare instances, symptoms can be delayed and may take more than an hour to present. Without identification and treatment, anaphylaxis can lead to airway obstruction, altered heart rhythms, shock, and death.

Risk factors for anaphylaxis include, but are not limited to, a history of anaphylaxis, anaphylactic allergies (e.g., food allergies), and severe asthma. Major food allergens include milk, eggs, fish, crustacean shellfish, tree nuts, wheat, peanuts, soybeans, and sesame. Insect bites or stings, medications, and latex may also cause anaphylaxis.

Signs and Symptoms

Successful management of anaphylaxis includes early recognition of the signs and symptoms of an anaphylactic reaction. Signs and symptoms may include, but are not limited to, those listed in Table 1.

Table 1: Signs and Symptoms of an Anaphylactic Reaction

Reaction Type	Symptoms
Respiratory	Cough, shortness of breath, discomfort or tightness in chest or throat, discoloration of skin or lips (pale, gray, blue)
Gastrointestinal (GI)	Abdominal discomfort, diarrhea, difficulty swallowing, nausea, vomiting
Skin	Flushed skin, profuse sweating, itching, rash, hives, localized swelling (tongue, lips)
Cardiac/Vascular	Dizziness, faint or weak pulse, low blood pressure, fast heart rate, loss of consciousness
Other	Headache, irritability, uterine cramping, metallic taste, hoarse voice, sneezing

NOTE: Not all signs and symptoms need to be present in anaphylaxis.

Section II: Management of Anaphylaxis

The *Maryland State School Health Services Guideline: Nursing Appraisal and Assessment of Students with Special Health Care Needs* is a comprehensive guideline that should be used to support the assessment and development of a plan of care for a student at risk for anaphylaxis. Students at risk for anaphylaxis may require individualized plans specific to their daily and/or emergency management, as necessary.

Staff may also refer to the *Guidelines for Emergency Care in Maryland Schools, 2nd edition* containing decision making guidance for the emergency care of students who may not require individualized health plans.

HEALTH APPRAISAL

School management of students at risk for anaphylaxis begins with a health appraisal. Licensed health care provider documentation should include student-specific anaphylactic allergies and interventions. Further information may be obtained from the licensed health care provider or parent/guardian as necessary to complete a nursing assessment.

ASSESSMENT

A nursing assessment will help determine the individualized needs and reasonable accommodations a student at risk for anaphylaxis may require in school. If applicable, it is important to assess the student's asthma management plan when determining risk for anaphylaxis as severe asthma can increase the student's risk for an anaphylactic reaction. The final nursing assessment should be placed in the student's health record.

Components of a Nursing Assessment Specific to Anaphylaxis

1. Identifying information/contact information
 - Name and phone number of allergy/immunology specialist.
2. Medical history
 - Allergy history (e.g., type, severity of reaction, treatment, response to interventions);
 - Asthma history including progress of disease process (if applicable); and
 - History of health emergencies/hospitalizations related to asthma, allergies and anaphylaxis.
3. Current health status
 - Management and treatment of allergies, asthma or anaphylaxis;
 - Current medication and treatment orders (e.g., routine and emergency medication);
 - Medication delivery devices and tools (e.g., epinephrine auto-injector (EAI), inhaler, nebulizer);
 - Other respiratory equipment needs (e.g., pulse oximeter);
 - Risk of potential allergen exposure, avoidance recommendations; and
 - Impact of risk for anaphylaxis (e.g., quality of life, activity level, and school absenteeism).

4. Self-Management

- Student's understanding of potential allergen exposures and avoidance strategies (e.g., ability to read food labels, avoiding unlabeled or unknown foods);
- Level of independence with medication/treatment, including ability to self-carry and self-administer medication in accordance with Md. Code Ann., Educ. § 7-421; and
- Interactions with peers and teachers in the past related to management of anaphylaxis.

5. Psychosocial considerations

- Family/caregiver ability to understand and manage student's risk for anaphylaxis; and
- Emotional impact on student and parent/guardian.

6. Educational planning

- Educational accommodations or information necessary for revision/development of Section 504 or Individualized Education Plan (IEP), as necessary;
- Participation in programs, school-sponsored activities, field trips while maintaining access to medication or supplies;
- Transportation type and needs (e.g., consider access to emergency medication); and
- Identification of potential allergen exposures and avoidance strategies in the school (see Appendix A).

7. Physical assessment/Review of systems

- Documented per local school health services program guidelines.

PLANNING

Epinephrine Auto-Injector

The prompt administration of intramuscular (IM) injection epinephrine injected into the outer mid-thigh muscle is the first-line medication for the emergency treatment of anaphylaxis. Epinephrine can counteract some of the most severe symptoms of anaphylaxis by inducing vasoconstriction to prevent or decrease upper airway swelling, inducing bronchodilation to open the airways, and maintaining heart function to prevent or decrease hypotension and shock. Common side effects include rapid heart rate, tremor, and anxiety.

The use of an epinephrine auto-injector (EAI) is the recommended first-aid management because it does not require manipulation or handling of a syringe, or calculation or measurement of a dosage. Each EAI will contain a single dose of epinephrine (available in 0.1 mg, 0.15mg, or 0.3 mg) formulated according to an individual's weight. EAI manufacturer labels may advise weight-based dosing that slightly differs from the recommendations included in the table below. Patients weighing 7.5 kg (16.5 lb.) to 25 kg (55 lb.) should receive the 0.15 mg dose; although this dose is not ideal for those who weigh less than 15 kg (33 lb.), the alternatives are associated with delay in dosing, inaccurate dosing, and potential loss of the dose (Sicherer & Simons, 2017). The most important action to reverse an anaphylactic reaction is to use judgment to determine weight and not delay treatment. The benefits of epinephrine outweigh the risk of a dose that may not have been necessary.

Weight	Age (if weight unknown)	Epinephrine dosage
Weighing less than 55 lbs. (25 kg)	Young child (Approximately under age 8)	0.15 mg
Weighing more than 55 lbs. (25 kg)	Child or teenager	0.30 mg

ADMINISTRATION OF EPINEPHRINE AUTO-INJECTOR

Staff responsible for responding to an anaphylaxis emergency must be trained to use the EAI device(s) including the student's EAI and the school's stock EAI pursuant to Md. Code Ann., Educ. § 7-426.2 for anaphylactic reactions in persons with an unknown history of anaphylaxis. Regular training should include appropriate techniques for handling the device to prevent accidental needle injection. Basic steps for administration of EAI are included below.

Basic administration of EAI:

4. Remove the auto-injector from the protective case.
5. Remove the safety guard or cap from the device. Hold the auto-injector firmly keeping fingers away from the tip.
6. Hold the student's leg firmly in place both before and during injection.
7. The EAI is designed to work through clothing with care to avoid obstructing seams or items in pockets. Press the device firmly into the mid-outer thigh at a 90-degree angle. Continue to hold firmly in place based on manufacturer's instructions to allow the full dose to be administered (usually three to ten seconds).
8. Remove the auto-injector from the thigh while maintaining needle safety.
9. Massage the skin at the injection site for an additional ten seconds.
10. Proceed with the student's emergency action plan (EAP).

Manufacturer's instructions for EAI devices state epinephrine administration is not a substitute for medical care. Emergency medical care is required for persons treated for anaphylaxis and should be sought immediately upon medication administration. Continue to assess vital signs as trained and respond as indicated to the student's condition.

Steps following EAI administration:

Simultaneously call 911 or direct someone to call 911. Notify dispatcher that epinephrine was given for an anaphylactic reaction.

1. Lay the student on their back, loosen restrictive clothing. If vomiting or difficulty breathing, lay the student on their side. Light-headedness or loss of consciousness may indicate low blood pressure which necessitates laying the student flat with legs elevated.
2. Administer other health care provider medications as ordered (e.g., antihistamine, inhaler).
3. Always stay with the student until the 911 first responders arrive. Reassure and assist to keep the student calm.

SCHOOL EPINEPHRINE AUTO-INJECTOR AVAILABILITY POLICY

It is important that the LEA work with a healthcare provider to develop a collaborative, interdisciplinary planning team to develop and implement the school's stock EAI availability policy. A standing order form for stock EAI may be used to provide designated trained staff with a recommended standard by which to respond to this life-threatening event in students with an unknown history of anaphylaxis OR in the event healthcare provider orders or the student's individual auto-injector are not available (see Appendix C for sample standing order). The following should be considered when developing the LEA policy to determine the number and location of stock EAI devices:

- The school's current emergency plan for anaphylaxis and other medical emergencies;
- Health services staffing model;
- Size and layout of school building;
- Feasibility for having an EAI located at multiple sites within the building;
- Types, locations, and potential for allergen exposure and anaphylaxis response during curricular, extracurricular, and school-sponsored activities or events;
- Characteristics of school population (e.g., age/weight range to determine dosage);
- Administration of second dose of epinephrine if necessary;
- The availability and local response times for EMS including 911 access and EAI availability;
- Education and training of staff for responding to emergencies and implementing management plan; and
- Monitoring and evaluation of policy implementation.

INDIVIDUALIZED HEALTH CARE PLAN

Based on the nursing assessment, the development of an individualized health care plan (IHP) by the school nurse may be necessary to serve as a plan of care for the student's management needs while at school. Not all students at risk for anaphylaxis will require an IHP but it can be used to inform appropriate school personnel regarding the student's health care need(s) and other considerations in the school setting.

The school nurse should consider the following when developing the IHP for a student at risk for anaphylaxis:

- Severity of disease;
- Identification of allergens, allergen avoidance strategies (see Appendix A);
- Medication administration, including ability to self-carry and self-administer medication in accordance with Md. Code Ann., Educ. § 7-421;
- Notification of a student's anaphylactic allergy to educators and other school staff who come into contact with the student; and
- Emergency care including provisions for a student in distress (e.g., adult to remain with student, contacting the parent/guardian and licensed health care provider, and determination of the appropriate personnel/staff responsible for training on EAI).

EMERGENCY ACTION PLAN

Students may require the development of an emergency action plan (EAP) based on the nursing assessment. An Asthma and Anaphylaxis Emergency Plan, developed by the licensed health care provider, could be used as the EAP if available and meets the student's emergency needs in the school setting (see Appendix D).

Training must be provided to school personnel regarding the student's EAP including the location of medication, plan for administration, and process of notification of the school nurse in the event emergency medication is needed. School personnel trained by the school nurse can administer emergency medication in accordance with the student's EAP and licensed health care provider orders. The act of authorizing an unlicensed individual to administer emergency medication in the event of a medical emergency is based on the school nurse's judgment and criteria for delegation in The Maryland Nurse Practice Act (Annotated Code of Maryland, Health Occupations Article, Title 8; COMAR 10.27.11.) Refer also to the *Maryland State School Health Services Guideline: Administration of Medication in Schools*. School personnel who have direct contact with any student with an EAP should have immediate access to the plan in a manner determined by the school nurse.

The EAP for a student at risk for anaphylaxis should include, but not be limited to:

- Signs and symptoms of a severe allergic reaction or anaphylaxis;
- Health care provider's anaphylaxis management plan and specific emergency interventions;
- School staff designated to administer EAI;
- Storage and accessibility of student's EAI to allow immediate availability to designated school personnel;
- Type and location of school's stock EAI (in the event the student's health care provider orders or individual dose is not available OR if a second epinephrine dose is needed);
- Emergency contact information; and
- Procedure to call 911.

To facilitate immediate access to the school's stock EAI if the student's individual EAI is not immediately available, the school nurse should consider the following information when developing the student's EAP:

- Brand and location of the school stock EAI;
- Size and layout of the school building;
- Availability of trained staff;
- Student's schedule; and
- Local EMS response times.

IMPLEMENTATION

Implementation of a student's care plans will require local school health services programs to develop procedures to share school-wide anaphylaxis awareness and student-specific information when appropriate to manage the health and safety of a student at risk for anaphylaxis. The school nurse should apprise appropriate school staff of a student's anaphylaxis management plan and provide or arrange for all appropriate school staff to receive training. Adequate staff must be trained in the use of EAI in the school to treat anaphylaxis and all policy and procedures governing use of the school's stock EAI.

The school nurse should document the training for each staff member who attended. Training may include but is not limited to:

- Definition of severe allergy and anaphylaxis;
- Signs and symptoms of anaphylaxis;
- Providing food allergy education to students (e.g., adding food allergy lessons to health and education curriculum, and avoidance of food sharing);
- Maintaining a healthy school environment with food allergy awareness (e.g., use of nonfood incentives, avoidance of food sharing, designation of food storage areas for foods brought from home);
- Methods for safe handling of food (e.g., appropriate handwashing practices, cleaning and sanitizing of surfaces; classroom, cafeteria, and transportation accommodations);
- School events, school-sponsored activities, and field trip accommodations;
- Review of the contents of and implementation of the IHP and/or EAP, including the administration of the student's EAI and the school's stock EAI;
- Maintenance of the EAP with information provided to staffing substitutes (e.g., classroom, school health, transportation, and food services staff); and
- Education for school visitors or volunteers with student contact, as needed per local policy.

EVALUATION

The school nurse will assess and evaluate a student's health status and response to their health care plan(s) on an ongoing basis. The student's health care plan(s) should be reviewed at least annually and updated as necessary to reflect changes in the student's health care needs, nursing interventions, and goals.

School nurses should provide aggregate data to the school administrator on the number and type of allergies and anaphylaxis risks in the student population and any necessary accommodations based on the school nurse's assessment, healthcare provider orders, and the unique needs of each individual student. The school nurse should provide input to the school administrator regarding evaluation of the school's allergy and anaphylaxis prevention and management activities. Any time an EAI is administered, the designated school authority must complete and submit to MSDE the required *Maryland State Department of Education (MSDE)- School Health Services Form, Report of Anaphylactic Reaction/Epinephrine Administration electronic form*.

Section III: Care Coordination and Case Management

ROLES AND RESPONSIBILITIES

Effective case management requires coordination between all persons involved in the care of a student at risk for anaphylaxis. The roles and responsibilities should emphasize communication and collaboration between parents, administrators, health care staff, educators, food service employees, and operations staff. The school nurse is often the case manager for students at risk for anaphylaxis and can serve as the liaison.

Another student services staff member or Individualized Education Program (IEP) or 504 team member may be designated as the educational case manager.

In accordance with Md. Code Ann., Educ. § 7-426, the student, parent/guardian, and school will have specific responsibilities integral to the health and safety of the student at risk for anaphylaxis.

PARENT/GUARDIAN RESPONSIBILITIES

The Md. Code Ann., Educ. § 7-426 designates parents/guardians with certain responsibilities. School nurses should seek to fully involve the student's parent/guardian and work collaboratively to plan and provide for the student's management plan. The parent/guardian shall:

- Provide the school with emergency contact information that is accurate and updated as needed;
- Provide the school with complete and accurate medical information related to the student's allergies and anaphylaxis history;
- Collaborate with the school nurse to develop the plan of care for the student at risk for anaphylaxis;
- Supply and maintain at least one non-expired EAI device as ordered by the health care provider (HCP);
- Work with the school nurse and HCP to obtain additional EAIs as needed;
- Monitor the proper storage (e.g., away from light and high temperatures) and routinely check the expiration date of the EAI for students who self-carry; and
- Provide the recommended and preferred medical identification bracelet/necklace indicating allergic condition.

STUDENT RESPONSIBILITIES

Student participation in planning and health management responsibilities must be age, condition, and developmentally appropriate. The student shall:

- Avoid known allergens and triggers;
- Inform school staff immediately in the event of symptoms after an exposure;
- Inform the school nurse or designated school health services personnel in event emergency medication is used according to the plan developed with the school nurse; and
- Responsibly self-carry and self-administer medication when appropriate and in accordance with Md. Code Ann., Educ. § 7-421.

SCHOOL ADMINISTRATOR RESPONSIBILITIES

School administrators must be aware of students at risk for anaphylaxis and may contribute to the management of students at risk for anaphylaxis in ways that include, but are not limited to:

- Inclusion of information about food allergies in the health education or other curriculum for students to raise awareness;
- Notification to parents and students about measures the school is taking to avoid exposure to food allergens;
- Designation of tables in the cafeteria to be used by students at risk for anaphylaxis that are free of foods containing the major food allergens of the student users and guidelines for who may use or accompany students using tables free of major food allergens;
- Designation of school areas that are food-free;
- Addressing food allergies in competitive foods (e.g., those available in vending machines, in school stores, during class parties, at athletic events, and during after-school programs);
- Guidance for food distribution by outside public or private individuals, groups, and entities holding functions on school grounds (e.g., consider banning food from specific classrooms or areas that children with food allergies use often, establish cleaning and sanitation procedures);
- Information for parents/guardians about 504 plans and their applicability to students at risk for anaphylaxis; and
- Strategies to reduce bullying and harassment of students at risk for anaphylaxis.

The school administrator should work with the school nurse to support the implementation of student specific health care plans and the necessary training, education and awareness activities to create and maintain a healthy school environment, which includes but is not limited to:

- Working collaboratively with school health services staff to support professional development on food allergies for all staff (e.g., allergen exposure risk reduction, recognizing signs and symptoms of an anaphylactic reaction, reading food labels to identify food allergens);
- Identifying and training specific school staff on the local school health services policy for the use and administration of EAI according to the local standing order or protocol;
- Planning for the implementation of a student's EAP including during participation in school events, after-school activities, and field trips;
- Promoting adherence to the parent/guardian and student responsibilities;
- Developing strategies for notifying parents/guardians of the school's policy on the use of stock epinephrine auto-injectors as required by Md. Code Ann., Educ. § 7-426.2; and
- Maintaining and appropriately storing the school's stock EAI according to local school health services policy.

SCHOOL STAFF RESPONSIBILITIES

Based on the needs of the individual student, school nurses should train, and document training of all school staff involved in the implementation of a student's health care provider orders and/or EAP. Other school staff may contribute to the management of a student with anaphylaxis in ways that include but are not limited to the tasks detailed below:

Transportation personnel: Follow guidance for the handling of food on school-provided transportation. Respond to the student with anaphylaxis as trained by the school nurse; communicate problems or concerns with the transportation office, school nurse and school administrator.

Coaches, athletic trainers, and advisors for school-sponsored activities: Communicate to the school nurse those students with a history of allergies or anaphylaxis indicated on a sports physical; communicate problems or concerns to the school nurse and school administrator. Respond to the student with anaphylaxis during athletic or other activities as trained.

School registered dietician and food services staff: Read and understand the student's health care management plan provided by the school nurse. Communicate ingredient list and menu choices with school nurse as appropriate to identify food(s) to be omitted or substituted. Provide meal or food substitution or modification per requirement of the U.S. Department of Agriculture's (USDA's) Child Nutrition Programs as applicable. Provide advanced copies of menus for parent/guardian to use in planning. Review cleaning and sanitation procedures in cafeteria or other food service areas (e.g., handwashing, methods for the safe handling of food to prevent food allergens from unintentionally contacting). Keep current contact information for vendors and suppliers to quickly obtain food ingredient information. Work with the school administrator to provide a table in the cafeteria free of major food allergens.

School counselor: Participate in disability awareness activities, assist with support groups/counseling, assist with educational planning (e.g., Section 504 or IEP plans). Work with school administrator to provide information to parent/guardian about 504 plans and their applicability to students at risk for anaphylaxis.

Pupil personnel worker/school social worker: Assist the school nurse working with families to address transportation concerns, home teaching, and attendance issues as applicable.

School psychologist: Assist students with psychological support for coping, adjustment, and any behavioral strategies to support the student. Work with school administrator to establish strategies to reduce bullying and harassment of students at risk for anaphylaxis.

Teachers (including substitute teachers), paraeducators and personal assistants: Respond to a student with anaphylaxis as instructed and/or trained by the school nurse and maintain awareness of classroom needs (e.g., routine and emergency care, exposure avoidance strategies). Modify class materials as needed. Work with school administrator to establish strategies to reduce bullying and harassment of students at risk for anaphylaxis. Communicate problems or concerns to the school nurse and school administrator as instructed or trained.

PARENT/GUARDIAN OUTREACH

School nurses should provide the parent/guardian with information regarding resources for anaphylaxis education (e.g., understanding the disease, prevention, management, administration of medication). The school nurse can also refer the student and/or parent/guardian for counseling, support, and additional resources.

In accordance with Md. Code Ann., Educ. § 7-421 and Md. Code Ann., Educ. § 7-426, notification of parents/guardians and students about measures the school is taking to avoid exposure to food allergens and outreach and education for parents/guardians regarding emergency care of students at risk for anaphylaxis is required.

SCHOOL-SPONSORED ACTIVITIES

School personnel should provide sufficient notice to the school nurse to ensure that students at risk for anaphylaxis are able to participate in school-sponsored activities, school events, and field trips. A plan will need to be developed by the school nurse, in collaboration with the school administrator, parent/guardian, and student. Refer also to the *Maryland School Health Services Guideline: Administration of Medication in Schools* addressing the administration of medication during school-sponsored activities. Prior to school-sponsored activity, the school nurse should verify the school personnel in charge has a copy of the student's EAP and has been trained to implement and respond to the plan.

Section IV: Glossary

Accommodations: Individualized changes or adjustments in a school setting that provide a student with a disability equal opportunity to participate in school programs and activities.

Allergen: A substance that causes an allergic reaction.

Allergen avoidance and exposure risk reduction: Actions or activities documented in an individualized health care plan that specifically address the interventions needed to reduce the risk that an allergic person will come in contact with an allergen that puts them at risk for anaphylaxis or other allergic symptoms.

Anaphylaxis: A serious, life-threatening allergic reaction that requires immediate medical treatment, including a prompt injection of epinephrine and a trip to a hospital emergency room. Anaphylaxis can be fatal if not treated properly.

Auto-injector: A medication delivery device designed to administer automatically an injectable medication (e.g., epinephrine) that does not require manipulation or handling of a syringe or needle nor the measurement of the medication dose.

Emergency Action Plan (EAP): A document that specifies the actions needed to manage a student's specific medical condition in the event of a medical emergency.

Epinephrine auto-injector (EAI): A single-dose, pre-filled, automatic injection-based medication device used to treat life-threatening allergic reactions called anaphylaxis.

Individualized Health Care Plan (IHP): A type of nursing care plan developed by the school nurse utilizing data from a nursing appraisal/assessment. It is specific for a student with a chronic health condition and designed to meet the student's unique health care needs.

Nurse Practice Act: A statute enacted by the legislature of any state or by the appropriate officers of the district that delineates the legal scope of the practice of nursing within the geographical boundaries of the jurisdiction. The Maryland Nurse Practice Act is codified in the Annotated Code of Maryland, Health Occupations Article, Title 8. The accompanying regulations are found in the Code of Maryland Regulations Title 10, Subtitle 27.

Nursing Appraisal: The process by which a designated school health services professional identifies health problems that may interfere with learning. The process may include health record review, health observations, interviews, and conferences with parents/guardians, students, educators, and other health professionals.

Nursing Assessment: The act of gathering and identifying data that assists the nurse, the client, and the client's family to identify the client's health concerns and needs. (Nurse Practice Act, Annotated Code of Maryland, Health Occupations Article, Title 8, COMAR Title 10, Subtitle 27.)

Section V: Resources/References/Appendix

RESOURCES

Allergy and Asthma Network

<https://allergyasthmanetwork.org/>

Works with national and local partners to train healthcare professionals, raise awareness, and educate millions each year with easy-to-understand, medically reviewed resources in English and Spanish. Offers a section dedicated to “School Health Resources”.

American Academy of Allergy, Asthma, & Immunology (AAAAI)

<http://www.aaaai.org/>

The leading membership organization of more than 7,000 allergists/ immunologists and patients' trusted resource for allergies, asthma and immune deficiency disorders. Offers a “School Tools” resource section.

Asthma & Allergy Foundation of America (AAFA)

<http://www.aafa.org>

The leading not-for-profit organization for people with asthma and allergies, and the oldest asthma and allergy patient group in the world. Offers an “Asthma in schools” resource section.

Kids with Food Allergies

<https://www.kidswithfoodallergies.org/epinephrine-and-anaphylaxis-food-allergy.aspx#eai>

A division of AAFA. Includes a comparison of epinephrine devices available.

Centers for Disease Control and Prevention (CDC)

<https://www.cdc.gov/healthyschools/foodallergies/index.htm>

Healthy Schools works with states, school systems, communities, and national partners to prevent chronic disease and promote the health and well-being of children and adolescents in school. Offers a “Food Allergies” page with several resources for managing food allergies in schools.

Food Allergy Research and Education (FARE)

<http://www.foodallergy.org/>

FARE enhances the lives of individuals with food allergies empowering them to lead safe, productive lives with the respect of others through education and advocacy initiatives and improved awareness around healthcare options and treatment.

National Association of School Nurses (NASN)

<https://www.nasn.org/nasn-resources/resources-by-topic/allergies-anaphylaxis>

Optimizing student health and learning by advancing the practice of school nursing. Offers a variety of links to national resources, sample policies and planning checklists.

REFERENCES

Centers for Disease Control and Prevention. (2013). *Voluntary guidelines for managing food allergies in schools and early care and education programs*.

https://www.cdc.gov/healthyschools/foodallergies/pdf/20_316712-A_FA_guide_508tag.pdf

Children with Anaphylactic Allergies, Md. Code Ann., Educ. § 7-426.1.

<https://mgaleg.maryland.gov/mgawebsite/Laws/StatuteText?article=ged§ion=7-426.1&enactments=False&archived=False>

Guidelines for Student Emergency Medical Care, Md. Code Ann., Educ. § 7-426.

<https://mgaleg.maryland.gov/mgawebsite/Laws/StatuteText?article=ged§ion=7-426&enactments=False&archived=False>

National Association of State Boards of Education. (2013). *Discussion guide: anaphylaxis and schools*.

http://cdpsdocs.state.co.us/safeschools/Resources/NASBE%20Anaphylaxis-Discussion-Guide_10-30-13.pdf

Policy on Use of Epinephrine in Public Schools, Md. Code Ann., § 7-426.2.

<https://mgaleg.maryland.gov/mgawebsite/Laws/StatuteText?article=ged§ion=7-426.2&enactments=false>

Posner, L. S., & Camargo, C. A. (2017). Update on the usage and safety of epinephrine auto-injectors, 2017. *Drug, Healthcare and Patient Safety*, 9:9-18. <https://doi.org/10.2147/DHPS.S121733>

School Health Program, Md. Code Ann., Educ. § 7-401.

<https://mgaleg.maryland.gov/mgawebsite/Laws/StatuteText?article=ged§ion=7-401&enactments=false>

Sicherer, S. H., & Simons, F. E. R. (2017). Epinephrine for first-aid management of anaphylaxis. *Pediatrics*, 139(3), e20164006. <https://doi.org/10.1542/peds.2016-4006>

Use of Asthma Drugs and Related Medication, Md. Code Ann., Educ. § 7-421.

<https://mgaleg.maryland.gov/mgawebsite/Laws/StatuteText?article=ged§ion=7-421&enactments=false>

APPENDIX A: POTENTIAL ALLERGEN EXPOSURES AND EXPOSURE AVOIDANCE STRATEGIES

Location	Potential Allergens	Avoidance Strategies
Classrooms	<ul style="list-style-type: none"> • Art supplies (latex) • Teaching materials • Food items (snacks, parties and celebrations in the classroom) • Cleaning products 	<ul style="list-style-type: none"> • Removal of identified classroom materials (e.g., rubber bands, erasers, art supplies, balloons) • Policy regarding food handling and distribution • Cleaning procedures for classroom surfaces • Hand-washing practices • Substituting non-food items for curriculums, awards, rewards, or prizes
Cafeteria	<ul style="list-style-type: none"> • Food ingredients in menu items • Food ingredients in food items brought from home 	<ul style="list-style-type: none"> • Food substitutions as necessary • Procedures to avoid cross-contamination during meal prep • Food handling and distribution policy • Cleaning procedures in all food service areas and following events that involve food • Hand-washing practices • Allergen free zones • Food free areas • Food sharing education
School bus	<ul style="list-style-type: none"> • Food consumed on the bus • Food remnants on hands • Exposures at home prior to boarding the bus 	<ul style="list-style-type: none"> • Policy and procedures for bus cleaning • Policy for food consumption on the bus
School-sponsored activities	<ul style="list-style-type: none"> • Potential exposure to allergens during recess, field trips, and other school sponsored activities 	<ul style="list-style-type: none"> • Review of activity location, schedule, and meal provision during the event • Wear closed-toe shoes and insect repellent when outdoors • Avoid loose-fitting clothing that can trap an insect between the clothing and skin • Hand-washing practices

APPENDIX B: FOOD ALLERGY & ANAPHYLAXIS EMERGENCY CARE PLAN

Food Allergy Research and Education. (2020). *Food Allergy & Anaphylaxis Emergency Care Plan*. <https://www.foodallergy.org/living-food-allergies/food-allergy-essentials/food-allergy-anaphylaxis-emergency-care-plan>

APPENDIX C: STANDING ORDER FORM FOR STOCK EPINEPHRINE AUTO INJECTOR AND PROTOCOL

Vermont Department of Health. (2021). *Standing Order Form for Stock Epinephrine Auto Injector and Protocol*. <https://www.healthvermont.gov/sites/default/files/documents/pdf/HS-IZ-VAL-Epinephrine-StandingOrders.pdf>

APPENDIX D: ALLERGY AND ANAPHYLAXIS EMERGENCY PLAN

American Academy of Pediatrics. (2019). *Allergy and Anaphylaxis Emergency Plan* (Updated 03/2019). https://downloads.aap.org/HC/AAP_Allergy_and_Anaphylaxis_Emergency_Plan.pdf