

School Food Allergy and Anaphylaxis Management for the Pediatrician—Extending the Medical Home with Critical Collaborations



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KEYWORDS

- Food allergy • Primary care pediatrician • Anaphylaxis • Emergency response
- School health

KEY POINTS

- Community pediatricians participate in critical collaborations within schools that support families and children with food allergy and other potentially life-threatening allergies.
- Community pediatricians can provide leadership and guidance to both families and schools to safeguard children and adolescents with food allergy and other potentially life-threatening allergies, thereby extending the medical home goals into the school setting.

INTRODUCTION

Primary care pediatricians are the managers and facilitators of the patient-centered medical home and serve as the glue in a series of critical collaborations within schools that support the family and child with food allergy and other potentially life-threatening allergies. When primary care pediatricians include the school health professional team into a child's overall medical plan for managing life-threatening food allergies and anaphylaxis, they can further the goals of the medical home. They can provide leadership and guidance to extend the medical home goals into the school setting, by

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educating the family to partner with their schools and encouraging the school to provide reasonable and effective accommodations, as per state or federal guidelines. In fact, the most effective management of life-threatening food allergies and anaphylaxis occurs when the medical home, the family home, and the educational home work together as a team for the benefit of the child or adolescent, ultimately affording the student the least restrictive environment with the greatest chance for safety and maximal opportunity to learn and thrive.

Families of children with food allergies are reliant on many individuals when it comes to the school community. The pediatrician and the pediatric allergist play a critical role in clearly defining the food allergy management strategies necessary for the child. They work with parents and schools to ensure that these important strategies are applied to the specific student while taking school resources and policies into account and collaborating with the school team. Pediatricians can coordinate and foster mutually beneficial relationships, a spirit of trust, and positive interactions among all stakeholders, especially the family. The school nurse, school physician, and others on the school health team are key members of the multidisciplinary school teams that include nutrition services, school administration, teachers, counselors, transportation directors, special subject areas, physical education teachers, and all others who interact with students.

The purpose of this article is two fold. The first is to guide community pediatricians by strengthening their understanding of essential principles and components in effective food allergy management in the school setting and to direct readers to additional resources to support this goal.¹⁻³ The second is to empower pediatricians to be the stewards in collaborations that bridge the medical, family, and educational homes for the sake of children with food allergies and other potential life threatening allergies.

FOOD ALLERGY MANAGEMENT PRINCIPLES: THE PILLARS OF PREVENTION AND PREPAREDNESS

Effective food allergy management is necessary at all times and in all situations. The pillars of food allergy management are prevention and emergency preparedness. Very small amounts of food allergen can cause anaphylaxis (severe, life-threatening, allergic reaction). To prevent accidental exposure, those responsible for students must effectively read labels, prevent ingestion of hidden ingredients, prevent cross-contact, use efficient cleaning strategies, and communicate clearly. It is equally necessary to be prepared for an allergic emergency. Adults who are responsible for students must be able to recognize an allergic reaction and have epinephrine (first-line treatment of choice for anaphylaxis) available. They must also know when and how to use it and know to contact emergency services immediately. These strategies are always necessary, and the school setting is no exception. Implementing solid food allergy management is challenging and takes knowledgeable administration, school nurses, school staff, and school community.^{2,4}

Prevention

It is important for pediatricians to understand the different routes of exposure and the risks of these exposures and apply this understanding to the school setting. Pediatricians should be aware of challenges and solutions as they apply to preventing accidental exposures in the school setting. **Table 1** contains a list of potential routes of exposure, challenges to preventing these exposures, and solutions to these challenges.⁵ Pediatricians, as individuals and/or as American Academy of Pediatrics

Table 1
Types of routes of exposure to food allergens in the school setting

Type of Exposure	Relevant Concepts/Facts/Studies	Practical Challenges	Practical Interventions (See CDC, NSBA and/or State Guidelines)
Oral exposure	Unable to visualize allergens; they can be hidden ingredients Labels and ingredients can change without warning⁷ Items with advisory labels can contain allergens⁸ Trace amounts can cause severe allergic reactions Allergens can be detectable in saliva⁹ Cross-contact of food allergen can occur from one surface to another, food to food, and with transfer of saliva. If a person is then exposed to these allergens, especially by mouth, it may be enough of an exposure to cause a serious allergic reaction^{7,9}	Without labels, it is impossible to know avoidance practices of those responsible for preparation of foods brought in to school Classroom celebrations are common source of outside food and high risk for cross-contact In schools, most allergic reactions that occur start in classroom¹⁰ Resources and manpower in schools to read labels vary among schools <i>Additional consideration for preschool/early elementary</i> Young children can pass saliva to each other via developmentally appropriate exploration⁹ In some schools, children eat in their classrooms/learning environments Supervision during meal/snack time depends on resources and staff <i>Additional consideration for adolescent/teenage students</i> Older students under less supervision and more reliant on self-management Increased risk taking, peer pressure, bullying,^{11,12} kissing with salivary exchange	If food is not from home then all labels must be accurately read by an assigned reader Classrooms should have safe nonperishable snack or celebration items available if needed Cafeterias should prepublish menus and offer meal options without known allergens Food allergic children who are eating from the cafeteria should be assisted in selection of safe food No sharing of food, drinks, and utensils anywhere No unlabeled food in classroom or cafeteria Nonfood celebrations and rewards are optimal/safest If meal/snack is in the learning environment, then effective strategies must be in place to clean and prevent accidental exposure/cross-contact In some cases, food-free classrooms or selective allergen restriction (lower age groups) may be appropriate and practical if label reading is not possible Periodic check ins to ensure continued self-management and safety from bullying Discussion of intimate kissing and allergen exposure and evidence-based preventive measures

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Table 1
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Type of Exposure	Relevant Concepts/Facts/Studies	Practical Challenges	Practical Interventions (See CDC, NSBA and/or State Guidelines)
Skin exposure	Isolated skin contact on intact skin did not cause severe or systemic reactions in 2 small studies, although skin reactions did occur^{13,14} Soap and water and commercial hand wipes are effective in cleaning hands; alcohol- and nonalcohol-based hand sanitizers are not¹⁵ Soap and water, commercial cleaners, and commercial wipes were effective in cleaning table tops¹⁵ Young children frequently place their hands and objects in their mouth (age 1–2 y, 80×/h; age 2–5 y, 40×/h)¹⁶ Adults touch their eyes, nose, and mouth regularly (15×/h)¹⁷	Hand washing in young grades can take 20–30 min Resources and manpower available to clean allergens and prevent cross-contact varies school by school and classroom by classroom Some nonedible items contain some food allergens; finger paint, play dough, shaving cream, paste, bean bags, furniture, pet food, bird feed, as well as others¹⁸ Skin exposure can result in mucosal exposure in adults and children <i>Additional consideration for preschool/early elementary</i> Skin exposure that can quickly turn into mucosal exposure or oral ingestion¹⁶ Less effective cleaning skills (hands or eating surfaces)	Hand washing with soap/water or wipes before and after eating is optimal¹⁵ Appropriate cleaning of eating areas decreases risk Curricular activities can be food free, or comparable, but alternate activities can be provided for children with life-threatening food allergies. Attention to avoid allergens with crafts/lessons/pets is optimal Establish a cleaning protocol to avoid cross-contact In some cases, food-free classrooms or selective allergen restriction in lower age groups may be appropriate and practical Adult supervision of hand cleaning is optimal Adults have responsibility for cleaning surfaces, toys
Inhalation exposure	Aerosolized proteins in cooking are the most common cause of allergic reactions by inhalation.¹³ Odors are caused by volatile organic compounds, not protein, and odors alone do not cause allergic reactions^{13,18} Inhaling proteins can cause allergic reactions. There have been deaths associated with the inhalation of actively cooked foods^{13,18,19}	Experiments involving burning/heating of allergens create risk Some field trips are in areas where foods are actively cooked or aerosolized Some activities involve using food powders or grinding/crushing fresh foods	Use caution with cooking foods, flours, powders, and other small particles of food that can go up in the air^{13,18,19} Avoid food in curricular science experiments or classroom activities. All field trips to have prior assessment from school nurse to determine need for special accommodations

Abbreviations: CDC, Centers for Disease Control and Prevention; NSBA, National School Boards Association.

Adapted with permission from Pistiner, AllergyHome.org (found at <http://www.allergyhome.org/schools/>) and previously published as Pistiner M, Devore C. The role of pediatricians in school food allergy management. *Pediatr Ann* 2013;42(8):334–40.

(AAP) Chapters, can provide guidance, such as school-related food allergy articles like as this current one and state and federal guidance documents,^{1-3,5,6} to those administrators in schools responsible for students with life-threatening food allergies on ways to try to prevent inadvertent exposure to food allergens.^{3,6} Pediatricians provide guidance for what parents expect from schools based on state and/or federal guidelines. Dietary guidance and medical orders for school diet restrictions can be challenging for both prescribers and school food services directors and staff. Under 7 CFR 15b.3, students with a disability that restricts their diet, which, according to the Americans with Disabilities Act (ADA) Amendments Act of 2008 (<http://www.eeoc.gov/laws/statutes/adaaa.cfm>) includes food allergy, are entitled to substitutions in lunches and after school snacks on a case-by-case basis. This occurs only when supported by a written statement of the need for substitutions from a licensed physician or, in some states, other state-allowed health care providers (US Department of Agriculture's recent memo, SP32-2015, issued March 30, 2015: <http://www.fns.usda.gov/nslp/policy>). The written statement must include recommended alternate foods, unless otherwise exempted by the Food and Nutrition Service (www.fns.usda.gov/sites/default/files/special_dietary_needs.pdf).

Preparedness and Emergency Response

Despite everyone's best efforts to prevent exposures to allergens through avoidance, exposures can and do occur. Therefore, it is equally necessary for schools to be prepared for allergic emergencies. The pediatrician or allergist should provide schools with an emergency care plan that includes a list of specific food and other triggers to avoid and emergency medical orders for epinephrine in the event of anaphylaxis. Alternately, physicians may write these orders as a prescription for school nurses who create the emergency care plan (ECP).³

Anaphylaxis Emergency Care Plans

ECPs are a collaborative effort of the medical, family, and school homes. They are created by the pediatrician, allergist, and/or school nurse and serve as simplified criteria to assist parents, school personnel, and anyone caring for a child with life-threatening allergies to identify signs and symptoms of anaphylaxis and treat appropriately with epinephrine.²¹ It should be understandable to an unlicensed assistive personnel or other laypersons that epinephrine is the treatment of choice for anaphylaxis and administering other medications, like antihistamines, should never delay treatment with epinephrine.²⁰ It is also helpful to address the potential need for a second dose of epinephrine and the need to be evaluated in the emergency room.^{2,5}

In all cases of life-threatening food allergy, unlicensed persons who function as a supervisor of a child or adolescent with a life-threatening food allergy at any time during the school day need to be willing and trained to carry out the ECP. This is a document created by the prescriber and/or the school nurse based on the provider's written medical orders, providing in simple language directions to unlicensed staff on what to do in an emergency. The format is typically "If you see this...then do this..." Emergency contact information and a photo of the student usually accompany the action plan.⁵ The Centers for Disease Control and Prevention (CDC) recommends that the ECP includes information about signs and symptoms of an allergic reaction, how to respond, and what medications should be given.¹ There are multiple templates available from the American Academy of Allergy, Asthma and Immunology, AAP, as well as other respected sources.¹

Leadership

Ultimately, pediatricians and allergists can educate, support, and empower parents to ensure that sound school policies and protocols exist and that there is clear leadership when it comes to the management of life-threatening allergies. They can guide administrators to understand that all school staff responsible for a student with a food allergy must be educated and prepared to recognize and play their specific role in an allergic emergency during a regular school day, as well as during other school situations, such as extended sheltering in place, emergency evacuations, lock-downs, and on day or extended field trips.^{2,3,5} **Table 2** contain strategies to prepare for allergic emergencies in those with known and unknown allergic conditions.⁵

Epinephrine

It is critical that families and schools understand that in the event of a life-threatening allergic reaction, epinephrine is the treatment of choice.^{6,20} Pediatricians may remind families that relying on antihistamines alone may delay use of epinephrine and leave a child at risk for life-threatening anaphylaxis.^{6,21} Antihistamines are not first-line treatment of anaphylaxis and do not stop or prevent it. They are slow to act (30–60 minutes),

Table 2

School strategies in place for management of allergic emergencies

Strategies in Place for Known History of Food Allergy

- Identification of students with life-threatening allergies via medical documentation
- Food allergy emergency care plan based on medical orders
 - Updated at least annually, reviewed periodically, always accessible
 - Shared on a need-to-know basis with all staff in a supervisory role, with education in its use given by an appropriate health professional.
- [C2] child-specific dual pack auto-injectors
 - Kept with supervising adult or in a known and secure but accessible location
- Delegate medication administration^a
 - School nurse trains nonlicensed staff to administer auto-injector and arrange immediate transportation to ED when school nurse is not immediately available

Strategies in Place for Unknown Food Allergy (Approximately 25% of Epinephrine Administrations)⁸

- Full-time school nurse
 - Standing epinephrine orders^a
 - Stock epinephrine^a
- Supervisory staff trained to rapidly identify allergic reactions and immediate contact of school nurse and/or 911 (especially if nurse not immediately available) and/or give non-patient-specific epinephrine auto-injector if allowed by state

Strategies in Place for All Students and Staff (with Known and Unknown History of Life-Threatening Allergies)

- School physician in every district, full-time school nurse in every building
- Universal staff training
- Include anaphylaxis emergency in periodic school/staff-wide emergency preparedness drills
- Communication access for all staff in supervisory roles available to contact 911 for ambulance transport to ED and school nurse if available

Abbreviations: ED, emergency department; RN, registered nurse.

^a Regulations and guidance vary state by state. Confirm that school practices conform to state and local regulations and guidance.

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and nonlicensed responders may not be able to give antihistamines in some states and schools. Delays in administration of epinephrine are associated with increased mortality^{6,20–23} and increased rate of hospitalization (reference). At present, the available doses for epinephrine auto-injectors for community use are the 0.3- and 0.15-mg doses. Current recommendations are to upsize to 0.3 mg for greater than or equal to 25 kg (55 lb).^{6,24} Pediatricians should consider supporting school communities by writing nonspecific/stock epinephrine standing orders in addition to student-specific prescriptions for the school that ensure the availability of two doses of 0.15 and 0.3 mg dosing (appropriate doses available for students and staff in the case of stock epinephrine), as 10% to 20% of students may require more than 1 dose.^{25,26} Non specific/stock epinephrine and orders and training to administer it are important as up to 25% of epinephrine administrations are to those with no known allergy to the school.⁸ Delegated staff need to be trained for the specific student's auto-injector and those designated and trained to administer to those experiencing first time anaphylaxis need to be trained for use of the specific stock auto-injectors available.

The CDC: Voluntary Guidelines for the Management of Food Allergy in Schools and Early Care and Education Programs

The CDC: Voluntary Guidelines for the Management of Food Allergy in Schools and Early Care and Education Programs¹ is a comprehensive and practical set of federal guidelines drafted to assist in the management of food allergies in school. The guidelines call for leadership in schools to develop comprehensive plans for managing food allergies in that setting. These voluntary guidelines serve as an excellent ground work for schools to implement individual school policies, practices, and protocols especially useful in states without state guidelines. The CDC guidelines have been written in a way that allows for variation in implementation, because schools have different resources and cultures, as well as strengths and challenges. The guidelines name five priority areas that should be addressed in each school's food allergy management plan. These include the following:

1. Appropriate food allergy management for the individual student
2. Preparation for allergic emergencies
3. Food allergy training/professional development for staff
4. Food allergy education for students and families
5. Healthy and safe educational environments

School Physician

Besides emphasizing the importance of excellent communication among all stakeholders and developing role-specific expectations for everyone involved, the section in this CDC guidance document regarding school medical directors warrants comment. The American Medical Association (H-60.991 Providing Medical Services through School-Based Health Programs) and the AAP²⁷ recommend physician oversight of all school health programs. Unfortunately, not all schools hire school physicians. Therefore, community pediatricians, who play a vital role in ensuring the health and safety of not only their patients: but also all children in their community, can actively participate on School Wellness Councils and guide school boards to understand the importance of medical oversight by a school physician. Community pediatricians can also collaborate directly in peer-to-peer deliberation with school physicians, when present, reducing time spent talking to multiple school staff. The school physician can serve as a school health leader and can contribute to the overall operations of both patient-specific and non-patient-specific (unassigned stock epinephrine) care by addressing various aspects of allergy management in school, such as

1. Participate in the school's coordinated approach to managing food allergies.
2. Ensure the daily management of food allergies for individual students.
3. Prepare for food allergy emergencies.
4. Support professional development on food allergies for staff.
5. Educate students and family members about food allergies.
6. Create and maintain a healthy and safe school environment. (excerpt from Ref.¹).

School Nurse

Every school benefits from a school nurse, but especially in a building with a child with a life-threatening food allergy or other life-threatening conditions.²⁸ The NASN states that the registered school nurse, as the daily health professional in the school setting, "serves in a pivotal role to provide expertise and oversight for the provision of school health services and promotion of health education" through provision of comprehensive management, planning, and coordination of care; education of staff; collaboration with medical professionals; individualization of care; and assurance of a safe environment with prompt emergency response.^{29–34} A recent study by Wang and colleagues³⁵ demonstrated that full-time school nurses saved money, changing the way some think about school health economics and nurse staffing.

A school nurse's education positions them to have a leadership role in managing life-threatening allergies as well as implementing or overseeing the implementation of the individualized health care plan (IHP) and ECPs. They serve as care coordinators, advocates, responders, and educators while leading and guiding the school community in food allergy and anaphylaxis management. School nurses make assessments of their students' health situation. Their role in the school and their nursing background also allow them to train and prepare others to recognize these reactions if they are unavailable and efficiently implement school-wide policies aimed at delivering emergency treatment and preventing these reactions.

The school health team, led by the school physician, provides leadership in the planning and implementation of a school district's health policies and food allergy management plan, while supporting partnerships among the student's family and health care providers and school staff.¹

Food Allergy Policies and Protocol

School policies and protocols that directly address epinephrine are important to establish and to couple with general and comprehensive food allergy policies and management plans in the school setting. Policies and protocols delineate roles and responsibilities for key stakeholders. All schools need to make basic steps to ensure the safety of a student with life-threatening food allergy and anaphylaxis. For example, required annual generalized (non-patient specific) staff training, by a competent medical or nursing professional, is an important first step for all staff to understand the importance of prevention and preparedness. Staff need to be aware of the emotional and social impact of food allergies and the potential for food allergy-related bullying.^{36–39} Staff must also recognize quickly when something is not right and take action or seek medical assistance immediately. Staff must understand that timing is critical and that giving epinephrine by auto-injector cannot be delayed, understanding there is greater risk at withholding it than giving it when not needed. Patient-specific training and updates should be offered to staff who work directly with the child and might be called upon to provide assistance in a life-threatening emergency.^{2,3} Finally, policies should include a statement about liability for staff who volunteer to assist a student in a life-threatening emergency. A template of a comprehensive school

anaphylaxis policy can be found at <http://www.nasn.org/ToolsResources/FoodAllergyandAnaphylaxis/EpinephrinePoliciesProtocolsandReporting> (NASN/NASSNC/AAP Policies and Protocols work group).

A sound protocol guides the emergency response that school physicians and nurses direct in the school setting. A sample protocol, developed by a work group that consisted of a school physician, pediatric allergist, state school nurse consultants, and school nurses has been created as a template to guide the creation of a tool that can be adapted for any school district to align with state law. Before use, these protocols must be vetted by school physician or designee according to school district health procedures. The protocol can be accessed at http://www.nasn.org/portals/0/resources/Sample_Anaphylaxis_Epinephrine_Administration_Protocol.pdf. When school personnel, other than health care professionals, use a protocol, they must be thoroughly trained by a school health professional training that includes their specific role in the school emergency protocol, identification of anaphylaxis, and how to administer an epinephrine auto-injector. This training should be more extensive than general staff or delegate training and should include a face-to-face and hands-on component.

Understanding School Care Plans

In order for pediatricians and allergists as well as parents to make specific requests of schools, it is helpful to understand how schools develop student programs. There are three main types of student plans in the school setting: Individualized Healthcare Plan (IHPs), 504s, and individualized education plans (IEPs).

Individualized health care plans

An IHP is a standard of nursing care that outlines the nurse's plan of care for a student with any kind of special need. It clarifies clinical practice and becomes the foundation for the health portion of the other educational and emergency plans.⁴⁰ The components of the IHP include assessment data, nursing diagnosis, student goals, expected outcomes, and evaluation, including documentation of the nursing process. The IHP is based on the health care provider's orders given to the school, including documented diagnoses, medication orders, treatment orders, and other identified needed accommodations, in collaboration with the family. An IHP is written by a nurse for licensed persons. In some cases, the IHP becomes an official component of the child's 504 Plan, but by itself an IHP is not legally binding. Community pediatricians or allergists do not need to request an IHP, because it is a professional responsibility of the school nurse to prepare. However, it may be useful for the pediatrician or allergist to encourage parents to participate in the development of student goals for the IHP.

Section 504 Plan

Some students need more support and accommodations in addition to the core curriculum and the IHP. When a longer-term school plan is required because of an expected prolonged medical condition that might interfere with a child's or adolescent's ability to receive general education (regular curriculum) instruction, formalized accommodations may be considered. Section 504 of the ADA is part of the Individuals with Disabilities Education Act (IDEA) that can spell out the specific needs of a child or adolescent with a life-threatening food allergy that may interfere with instruction. The 504 requires the school to provide those accommodations based on guidance from the treating prescriber and could be useful if a building does not have a school nurse or food allergy or anaphylaxis emergency preparedness plans or a school is either having challenges with or not implementing food allergy management strategies. To create a 504 Plan, a parent makes a written request to the school district,

Table 3

A team model: critical collaborations for pediatricians in school food allergy and anaphylaxis management. How can community pediatricians partner with stakeholders in student care?

Necessary Components in Food Allergy Management	Collaborator/Partner: Family	Collaborator/Partner: School Health Team (Physician/Nurse)	Collaborator/Partner: School Nutrition Team	Collaborator/Partner: Board Certified Allergist
Patient/family-centered care	Foster and support relationship between school nurse and others in school health and the family and student	Individual student: Encourage a school culture and resources that promote a safe environment for students with allergies Provide school with detailed health history of allergies and necessary orders to medicate student when experiencing symptoms All students: Encourage a school environment that is prepared to care for everyone in the school community with life-threatening allergies	Support school collaborations to ensure optimal nutrition/diet beyond just dietary restriction	Refer patients with suspected food allergy for further evaluation and management (eg, confirmation of food allergy, monitoring for resolution) Develop a collaborative relationship and approach to comanaged patients Learn most updated approach Support allergist's care with additional anticipatory guidance Ensure routine follow-ups
Care coordination	Communicate with school nurse regularly Encourage family to update school nurse with new allergies, new ECPs and any changes in student condition	Confirm that licensed health professionals (school physician, RN) are available in the school setting to make assessments and manage both emergent and nonemergent situations Partner with school physician to promote policy and direct care Partner with school nurse who acts as care coordinator between home, school, and the medical home	Improve and maximize nutrition especially for children getting most of their meals in school Ensure that food substitutions are offered and accepted	Share responsibility for providing support for food allergy management in all settings, especially in school (eg, ECPs, auto-injector prescriptions, medication orders) Coordinate with allergist to work as team and decrease redundancy and inconsistency

Care plans	Assist in creation and implementation Plan should reflect and support food allergy management strategies implemented in all settings Check in and modify as appropriate	Provide school with ECP Collaborate with licensed school health professional to adjust care plan to unique school setting and individual student needs Partner with school stakeholders in supporting development of IHP, 504, or other plans as needed	Assist in implementation with allergist as well Get familiar with state laws and requirements as per USDA Provide statement of allergy diagnosis to food services to allow for food substitutions	For this shared responsibility, coordinate with allergist to work as team and decrease redundancy and inconsistency
Prevention	Teach and reinforce evidence-based and best practice strategies to avoid allergen exposure. Keep in mind that family has expectation that these strategies are implemented in the school setting Involve patient education in all prevention strategies	Communicate specific child capability and comorbid conditions to school Partner with school stakeholders to determine school-specific resources and preexisting policies to determine accommodations to promote a school environment where the student is safe, healthy, and ready to learn	Collaborate to ensure well-balanced healthy meals and snacks in school that avoid allergen If difficulties reaching nutritional needs in the home, question of family resources, then collaborate and use school resources and expertise of school nutrition and school dietician if available	For this shared responsibility, coordinate with allergist to work as team and decrease redundancy and inconsistency
Emergency preparedness	Strongly encourage family to provide school with 2 auto-injectors and up-to-date ECP that can be implemented in the school setting Encourage student to wear emergency ID jewelry	Partner with the school to ensure that all members of the school community are appropriately trained to respond to an emergent situation	Ensure all nutrition service staff are trained to recognize and deal with allergic reaction Encourage partnering between school nutrition and school health and being included in school-wide policies	For this shared responsibility, coordinate with allergist to work as team and decrease redundancy and inconsistency
School education/training	Encourage family to check in with school nurse about current school community education and training that is specific to their child prevention and emergency care strategies	Consider offering services to school to support and encourage staff training Consider sharing available resources	Consider offering educational resources and guidelines to school nutrition to support and encourage staff training if these trainings are not provided by school physician or nurse	If you determine schools identified without staff education then consider partnering with allergists to work toward staff training

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Table 3
(continued)

**Necessary
Components in
Food Allergy
Management**

	Collaborator/Partner: Family	Collaborator/Partner: School Health Team (Physician/Nurse)	Collaborator/Partner: School Nutrition Team	Collaborator/Partner: Board Certified Allergist
Undesignated epinephrine	Check in with the school as to whether stock epinephrine is in place in the school	Ensure implementation stock epinephrine policies and protocols where allowed by law Support epinephrine administration training of school community Ensure that standing orders exist in the school and that there is a school physician. If not, consider becoming one and consider providing orders and protocols Collaborate and work with the school physician Encourage use of evidence-based protocols	Ensure all nutrition service staff are trained by school health to recognize and know their role in the school ECP Encourage partnering with school health and being included in school-wide policies	If you determine schools identified without policies then collaborate with allergists to work toward policy implementation and supporting the school
Advocacy	Encourage parent to know which school staff are caring for their child at school (is there a school nurse?) If no available full-time school nurse, encourage discussion with administration and school board	Use local chapters and pediatric organizations to assist in policy creation and implementation If no available full-time school nurse, encourage discussion with administration and school board Consider speaking at school board meeting to promote use of stock epinephrine	Work with school nutrition to support them especially with potential increased responsibilities	Work with allergist to encourage and advocate for school nurse presence

Abbreviations: ECP, emergency care plan; IHP, individualized health care plan; RN, registered nurse; USDA, US Department of Agriculture.

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and the treating pediatrician and allergist provide essential medical documentation demonstrating the need for accommodations within the school setting. A 504 Plan requires a formal meeting with a 504 Coordinator, essential staff, and the family to create an official plan. Student are still responsible for general education curriculum, but the school provides various supports to their environment, and more targeted interventions for a longer periods but still in the least restrictive environment as required by the ADA. A 504 is legally binding. It may be useful for the pediatrician or allergist to encourage parents to request a 504 if building level adjustments are insufficient for any reason for the child with food allergy to receive an education.

Individualized education plan accommodations

In cases in which students have other disabilities that affect their education beyond food allergy, the highest level of support is an IEP. In that case, food allergy would be outlined under medical needs in the IEP. Typically, a child with a food allergy alone does not qualify for, or need, an IEP. Only a few students are eligible for an IEP based on categories of disability outlined in the ADA. An IEP is legally binding. It may be useful for pediatricians and allergists to encourage parents to request an IEP if the child presents with confirmed or suspected learning deficits, in addition to food allergy.

SUMMARY

Community pediatricians, working in consultation with allergists, create a medical home that is the central focus of care for the child with life-threatening food allergies. They participate in coordinating mutual and critical collaborations within schools that support families and children (Table 3). They can provide leadership and guidance to both families and schools to safeguard children and adolescents, thereby extending the medical home goals into the school setting. Physicians can serve as school physicians when possible and collaborate with those school health professionals employed and/or school health administrators or even board members. Ways to do this might include serving on school boards and school wellness councils and promoting the presence of a school physician in every district and a school nurse in every building. The pediatrician and allergist can also work to educate and set appropriate expectations for the family for management of food allergy in schools. They can especially assist families in situations when schools are struggling to implement management strategies, so that a child or adolescent is neither overly restricted or put at risk. Pediatricians and allergists can promote trust and encourage families on working in a positive, collaborative fashion with schools that will have the care for their child for years to come. The most effective management of life-threatening food allergies and anaphylaxis occurs when the medical home, the family home, and the educational home work together as a team for the benefit of the child or adolescent, ultimately affording the student the least restrictive environment with the greatest chance for safety and maximal opportunity to learn and thrive.

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