**ANAPHYLAXIS**

**Administration of Epinephrine for Life-Threatening Allergic Reactions in School Settings**


**PURPOSE OF THE STUDY.** To ascertain the incidence of anaphylaxis in schools, characterize the circumstances surrounding anaphylactic episodes, and evaluate practices that are used to manage students with life-threatening allergies.

**STUDY POPULATION AND METHODS.** School districts in Massachusetts (N = 109) that completed an epinephrine-administration form whenever epinephrine was injected at school. Data were obtained from September 2001 to August of 2003.

**RESULTS.** Forty-eight school districts noted a total of 159 administrations of epinephrine during the 2-year period of reporting. The individual was not known to have a life-threatening allergy in 24% of the cases. Thirty-one percent of the students who received epinephrine had allergy to multiple antigens, and 25% had allergy to tree nuts or peanuts only. Nineteen percent of the cases occurred outside the school building on a playground or when transporting them to or from school or on field trips. The registered school nurse in the health office administered the epinephrine in most cases. The average time from development of symptoms until epinephrine was delivered was 10 minutes. In 92% of the cases, the student involved was taken to a medical facility using the emergency medical system.

**CONCLUSIONS.** Anaphylactic reactions in schools, although not frequent, are not uncommon events. A systematic review of anaphylactic events that required epinephrine administration identified opportunities for improvement in the treatment of students with life-threatening allergies.

**REVIEWER COMMENTS.** The limitation of this study is that it was based on voluntary reporting. There are variations in reporting among regions in the state, but it is not possible to determine if the differences are attributable to reporting practices or actual difference in epinephrine administration. Because there were no unique identifiers for subjects in the study, there is no assurance that allergy events are not recurring repeatedly in the same student. In summary, a thorough program should be in place in the schools to evaluate, treat, and manage students with life-threatening anaphylaxis to foods.

**Parental Knowledge and Use of Epinephrine Auto-injector for Children With Food Allergy**


**PURPOSE OF THE STUDY.** To assess parental use and knowledge of an epinephrine autoinjector (EAI), Anapen, prescribed for their food-allergic child(ren), and to examine the availability of emergency kits and personalized care plans.

**STUDY POPULATION.** The parents of 152 food-allergic children prescribed an EAI between June 2000 and March 2003 at 1 of 5 children’s hospitals in northern France.

**METHODS.** An anonymous-questionnaire format was used to collect details on the child’s clinical manifestations of allergies, EAI education by a health care provider, verification of proper EAI use at each follow-up visit, availability of a personalized care plan at school, physician instructions in case of allergic reaction, and medications available at home or outside the home. Parents were also asked to list symptoms that required epinephrine (open-ended item).

**RESULTS.** One hundred nine families representing 111 children completed and returned the survey. The majority (90%) of families had the use of Anapen demonstrated (76% with a trainer device), and 83% had received written instructions. Nineteen percent had a repeat demonstration at follow-up visits, and 10% never received a demonstration; yet, 88% of parents felt that they could use an EAI in an emergency. Only 54% of school-aged children had a personalized care plan, and 11% had an EAI at school with no personalized care plan. Only 48% of the parents could list >1 symptom that required an EAI. There was no difference in the quality of instructions between pediatricians and allergists and no difference in knowledge between parental socioeconomic groups.

**CONCLUSIONS.** EAIs and personal care plans were insufficiently available at schools and in daily life. Proper EAI use and education were unsatisfactory.

**REVIEWER COMMENTS.** This study emphasized the importance of extensive and repeated education about food-allergy risks and measures that need to be in place in case of an emergency. Although a majority of parents felt that they knew how to use an EAI, many could not recognize >1 symptom that would require the use of an EAI, and
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