

Should peanut be allowed in schools?

YES – Elissa M. Abrams MD FRCPC Wade Watson MD MEd FRCPC

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YES Peanut is often removed from schools in an effort to prevent peanut-induced anaphylaxis in children with peanut allergy. However, the likelihood of a reaction at school is low, and removing peanut from schools has not been shown to prevent food reactions. As a result, peanut should be allowed in schools.

Risks and alternative approaches

Peanut exposure in the school environment is unlikely to cause a reaction unless peanut is ingested. Accidental exposures to peanut at school are very rare. In a questionnaire of 252 children with peanut allergy, there were 35 accidental exposures, of which only 1 occurred at school (although only 20% of these children attended schools that permitted peanut).¹ Other studies have noted a similar phenomenon, with most accidental exposures occurring at home, in restaurants, or at the home of a friend or relative.^{2,3}

Peanut contamination in school environments, to a degree that would result in a reaction, is low. A study of 6 preschools and schools (of which 3 allowed peanut, 2 had peanut-free tables, and 1 was peanut-free) found no detectable peanut protein from 36 eating areas and 22 desks, including areas where peanut had been consumed.⁴

Further, it has also been shown that the type of peanut exposure that would occur in schools (ie, cutaneous or inhalational exposure) is unlikely to cause a serious reaction in children with peanut allergy. In a study in which 30 children with serious peanut allergy were exposed to peanut butter, either by contact with intact skin or inhalation, there were no systemic reactions.⁵ Another study found no detectable peanut protein in the air in situations that would far exceed typical peanut exposure at school, including after volunteers danced on a floor containing peanut in a poorly ventilated room.⁴ No anaphylactic reaction from salivary peanut contact has ever been documented at a school.⁶

These studies support the notion that peanut exposure in schools, unless peanut is ingested, is unlikely to cause a reaction.

Peanut-free policies do not accomplish the goal of preventing systemic reactions. A study of peanut reactions noted no significant difference in the rates of accidental peanut exposures that occurred at schools that prohibited peanut versus those that allowed it (4.9%, 95% CI 3.3% to 7.1%, vs 3.0%, 95% CI 1.8 to 4.8).³

Even in peanut-free schools there is some peanut exposure, which could partially explain the persistent risk despite policies that try to limit exposure. A study examining peanut-free guidelines found a reduction, but not an elimination, of peanut in lunches at schools with peanut-free policies.⁷ In this study, 5 of 861 lunches in schools with peanut-free policies still contained peanut. It is likely that even this number is artificially low, as the parents in this study agreed to lunch inspections and questionnaires.

It has been hypothesized that peanut-free policies might create a false sense of security, as families believe that food sharing is safe and lower levels of vigilance might be observed.³

There are more effective policies that can prevent a serious reaction in children with peanut allergy. Encouraging proper hand-washing is highly effective for preventing accidental peanut exposure. Studies have shown that hand-washing with all cleaning agents except alcohol-based hand sanitizer will completely remove peanut protein from hands.⁴ A school-wide policy of no food sharing would help prevent accidental ingestion of peanut. Further, most school reactions occur in locations other than the cafeteria. For example, according to a United States national peanut and tree nut registry, 79% of peanut and tree nut reactions in schools occurred in classrooms and only 12% occurred in the cafeteria.⁸ Most of these reactions were associated with craft projects (such as peanut butter-containing bird feeders), so eliminating craft projects with peanut might also be a worthwhile intervention.

Treatment of reactions. It is equally important to focus on treatment of reactions when they do occur. Studies of fatalities from anaphylaxis have clearly documented that risk is related to lack of epinephrine use.⁹ A more important intervention would be to ensure that school staff are capable of appropriately managing anaphylaxis in school settings with an epinephrine autoinjector. A survey of school nurses from 73 schools in the United States found that 53% of schools surveyed had no policy for dealing with anaphylaxis and 38% of school nurses were unwilling to administer epinephrine in an emergency.¹⁰ It is vitally important to ensure that epinephrine is available and there is comfort with its use. Such a policy could arguably be far more

This article has been peer reviewed.
Can Fam Physician 2017;63:750-2

La traduction en français de cet article se trouve à
www.cfp.ca dans la table des matières du numéro
 d'octobre 2017 à la page e404.

important in preventing life-threatening reactions in children with peanut allergy than peanut-free policies are.

Conclusion

Peanut exposure at school, unless peanut is ingested, is unlikely to cause a reaction. In addition, no significant difference has been observed in the percentage of accidental exposures to peanut that occur at schools that prohibit versus allow peanut. Other policies, such as proper hand-washing and prohibiting food sharing, might be equally effective. In addition, our focus should be shifted to proper education about recognition and treatment of allergic reactions when they do occur.

Peanut is only one of several common allergens in children. In fact, a survey of 132 children noted milk to be the most common cause of food-allergy reactions in children.¹¹ It might not be possible to completely eliminate all offending allergens from schools attended by children with allergies. It should be possible, however, to implement policies to protect our children and educate school staff to treat a reaction should it occur. 🌿

References

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CLOSING ARGUMENTS – YES

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- Peanut exposure is unlikely to cause a systemic reaction unless peanut is ingested.
- The rate of accidental exposures and reactions to peanut in schools does not differ between schools that prohibit peanut and schools that allow it.
- Peanut-free policies might create a false sense of security.
- Other policies (such as no food sharing and proper hand-washing) are more likely to successfully reduce the risk of accidental exposure.

NO Peanut allergy is common in children and the most common cause of death related to food allergy in North America.¹ Serious accidental exposures at school can occur, and there is a systemic lack of school preparedness to treat subsequent reactions. In addition, especially in the younger years, there is risk of allergen contact from other activities (such as crafts). As a result, peanut should be banned from schools, especially in the early school years.

Risks and policy deficits

Serious accidental exposures at school do occur. School-aged children spend as much as half of their waking hours attending school,² so the possibility of an allergen exposure while there is considerable. One study reported that children with food allergies experience accidental allergen exposures and allergic reactions in schools, with 18% of children having had at least 1 reaction at school within the past 2 years. Thirty-six percent of the reactions involved 2 or more organ systems, with 32% involving wheezing and as many as 15% requiring treatment with epinephrine.³ However, of the 80 participating schools, only 33% had not made an accommodation for children with food allergy. A study conducted in 109 school districts in the state of Massachusetts reported that epinephrine was administered in 115 cases over a 2-year period.⁴

There is a systemic lack of school preparedness to treat allergic reactions. Published guidelines on the management of children with food allergies in schools and other child care settings recommend a personalized written emergency plan and a prescription for epinephrine. Despite these guidelines, substantial deficiencies have been noted, including a lack of staff education on preventive measures and emergency treatment of allergic reactions, a lack of written allergy action plans or failure to use them, and a lack of epinephrine for administration during life-threatening reactions.⁵⁻⁸

Considerable variability has been demonstrated in North America with respect to school preparedness to treat anaphylaxis. Recently, a survey of schools in the United States reported that 11% had had an occurrence of 1 or more anaphylactic events.⁹ Schools differed substantially in their preparedness to manage anaphylaxis, with large disparities in staff training and permission to treat. Thirty-six percent reported that only selected staff were trained in anaphylaxis recognition. Most schools (54% [3024 of 5578]) permitted only certain staff to administer epinephrine, although percentages varied (range 4% to 100%). Some of this variability also occurs in Canada, given differing provincial policies, although it has not been as well studied. Hence, the risk to children with peanut allergy is not insignificant. Policies like these will only work if there is adherence to them, and there is clearly a lack of adherence demonstrated.