Anaphylaxis
in Schools & Other Settings




3rd Edition Revised

Allergy Quebec

Canadian Allergy, Asthma and Immunology Foundation

Food Allergy Canada

Canadian Society of Allergy and Clinical Immunology

Allergy Asthma information association

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Key medical terms are explained in the Glossary in Appendix K.
The terms 'pupil' and 'student' are used interchangeably.
Recommendations for schools would also be appropriate for other child care settings (e.g. camps, child care centres).

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Foreword

Anaphylaxis is a growing public health issue. While anaphylaxis has the potential to cause death, fatalities are rare and usually avoidable. Measures must be in place to reduce the risk of accidental exposure and to respond appropriately in an emergency. Improved patient self-management, comprehensive school board policies, standardized school anaphylaxis plans, and greater community support and involvement will all help to avert future tragedies.

In collaboration with patient allergy associations and allied healthcare professionals, the Canadian Society of Allergy and Clinical Immunology has developed this manual primarily for non-medical people. It consists of an updated Consensus Statement and an Appendices section.

The Consensus Statement provides our recommendations for the management of anaphylaxis in the community, which are based on the most current research. While many comments refer to the school environment, key recommendations of the Emergency Protocol and many management strategies and tips would also apply to all individuals at risk of anaphylaxis. Please note that as future research emerges, this manual may be modified.

The Appendices section provides resources that will help individuals at risk of anaphylaxis, educators, caregivers, and parents understand the basics of anaphylaxis. It is our hope that resources such as sample policies, best practices and tips, and the Anaphylaxis Emergency Plan for individuals will help schools, organizations, and individuals develop effective management strategies which are both medically sound and practical.

There may be situations where individuals have been given recommendations that differ from those outlined in this manual. In these cases, individualized instructions for risk reduction strategies and treatment of a reaction should be provided in writing by the persons' physicians. Parents of allergic children should discuss individualized plans with their children's school staff and caregivers.

With community support, anaphylactic reactions and fatalities can be avoided. Thank you for doing your part to protect allergic individuals.

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Executive Summary

Anaphylaxis is a serious allergic reaction that is rapid in onset and may cause death.[1] While fatalities are rare, anaphylaxis must always be considered a medical emergency requiring immediate treatment.

Signs and symptoms of a severe allergic reaction can occur within minutes of exposure to an allergen (a substance capable of causing an allergic reaction). In rarer cases, the time frame can vary up to several hours after exposure. The most common allergens include certain foods and insect stings. Less common causes include medications, latex, and exercise.

Symptoms of anaphylaxis generally include two or more of the following body systems: skin, respiratory, gastrointestinal and/or cardiovascular. However, low blood pressure alone (i.e. cardiovascular system), in the absence of other symptoms, can also represent anaphylaxis.[1,3] Breathing difficulties and low blood pressure are the most dangerous symptoms and both can lead to death if untreated. Anaphylaxis is an unpredictable condition as signs and symptoms can vary from one person to the next and from one episode to another in the same person.

Epinephrine is the first line treatment for anaphylaxis. This life-saving medication helps to reverse the symptoms of a severe allergic reaction by opening the airways, improving blood pressure, and increasing the heart rate. It is recommended that epinephrine be given at the start of a known or suspected anaphylactic reaction. In normally healthy individuals, epinephrine will not cause harm if given unnecessarily. There is currently one epinephrine auto-injector available in Canada: EpiPen®.

There are six key recommendations in the emergency management of anaphylaxis, including:

1. Epinephrine is the first line medication which should be used for the emergency management of a person having a potentially life-threatening allergic reaction.[12]
2. Antihistamines and asthma medications should not be used instead of epinephrine for treating anaphylaxis.[1,3,4]
3. All individuals receiving epinephrine must be transported to hospital immediately (ideally by ambulance) for evaluation and observation.
4. Additional epinephrine should be available during transport to hospital. A second dose of epinephrine may be given as early as 5 minutes after the first dose if there is no improvement in symptoms.[3,16]
5. Individuals with anaphylaxis who are feeling faint or dizzy because of impending shock should lie down unless they are vomiting or experiencing severe respiratory distress.[17]
6. No person experiencing anaphylaxis should be expected to be fully responsible for self-administration of an epinephrine auto-injector. Assistance from others, especially in the case of children, may be necessary.

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Individuals at risk of anaphylaxis are advised to carry an epinephrine auto-injector at all times when age appropriate. Additionally, they should wear medical identification, such as a MedicAlert® bracelet, which clearly identifies their allergy. Regular practice with an auto-injector trainer allows the allergic person and others to become familiar with the administration technique. In the school setting, this applies to all staff who are in regular contact with the student at risk.

Research is underway to better understand anaphylaxis. At present, the severity of reactions cannot be predicted. Therefore, it is not possible to identify which individuals are most at risk for severe allergic reactions. While reaction severity cannot be predicted in all individuals, those with asthma, and who have had previous anaphylactic reactions are at increased risk. Until there is a cure, avoidance of the allergen(s) is the only way to prevent an anaphylactic reaction. Measures can be taken to reduce, but not completely eliminate, the risk of exposure. In the school setting, this requires the cooperation of the school community, including students at risk, their parents or guardians, and school staff. This idea of sharing the responsibility of anaphylaxis management applies to other settings as well.

Anaphylaxis emergency plans can help to create safer environments for allergic individuals. School anaphylaxis plans help reduce the risk of exposure to allergens and prepare school communities for an emergency situation. These plans should be reviewed and updated on a regular basis, e.g. once a year. Despite best efforts, however, anaphylactic reactions do occur. In the event of a life-threatening allergic reaction, it is critical for individuals to respond quickly and appropriately by following these emergency steps:

1. **Give epinephrine auto-injector** (e.g. EpiPen®) at the first sign of a known or suspected anaphylactic reaction.
2. **Call 9-1-1** or local emergency medical services. Tell them someone is having a life-threatening allergic reaction.
3. **Give a second dose of epinephrine** as early as 5 minutes after the first dose if there is no improvement in symptoms.
4. **Go to the nearest hospital immediately (ideally by ambulance)**, even if symptoms are mild or have stopped. The reaction could worsen or come back, even after proper treatment. Stay in the hospital for an appropriate period of observation as decided by the emergency department physician (generally about 4-6 hours).
5. **Call emergency contact person (e.g. parent, guardian).**

Upon discharge from the hospital, an epinephrine auto-injector prescription should be obtained and immediately filled. A follow up appointment is recommended with the person's physician, including referral to an allergist.

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Consensus Statement

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Understanding Anaphylaxis

What is anaphylaxis?

Anaphylaxis (pronounced *anna-fill-axis*) is a serious allergic reaction that is rapid in onset and may cause death.[1] An allergen is a substance capable of causing an allergic reaction. Upon first exposure in individuals who are predisposed to allergy, the immune system treats the allergen as something to be rejected rather than tolerated. This process is called *sensitization*. Re-exposure to the same allergen in the now-sensitized individual may result in an allergic reaction which, in its most severe form, is called *anaphylaxis*.

How common is it?

While the exact prevalence is unknown, it has been estimated that up to 2% of Canadians are at risk of anaphylaxis from food and insect allergy.[2] This currently represents about 700,000 Canadians.

What are the signs and symptoms?

Signs and symptoms of a severe allergic reaction can occur within minutes of exposure to an allergen. In rarer cases, the time frame can vary up to several hours after exposure. The ways these symptoms occur can vary from person to person and even from episode to episode in the same person.

Symptoms of anaphylaxis generally include two or more of the following body systems: skin, respiratory, gastrointestinal and/or cardiovascular. However, low blood pressure alone (i.e. cardiovascular system), in the absence of other symptoms, can also represent anaphylaxis.[1,3]

- **Skin:** hives, swelling (face, lips, tongue), itching, warmth, redness
- **Respiratory (breathing):** coughing, wheezing, shortness of breath, chest pain or tightness, throat tightness, hoarse voice, nasal congestion or hay fever-like symptoms (runny, itchy nose and watery eyes, sneezing), trouble swallowing
- **Gastrointestinal (stomach):** nausea, pain or cramps, vomiting, diarrhea
- **Cardiovascular (heart):** paler than normal skin colour/blue colour, weak pulse, passing out, dizziness or lightheadedness, shock
- **Other:** anxiety, sense of doom (the feeling that something bad is about to happen), headache, uterine cramps, metallic taste

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Because of the unpredictability of reactions, early symptoms should never be ignored, especially if the person has suffered an anaphylactic reaction in the past. **It is important to note that anaphylaxis can occur without hives.**

If an allergic person expresses any concern that a reaction might be starting, the person should always be taken seriously. When a reaction begins, it is important to respond immediately, following instructions in the person's Anaphylaxis Emergency Plan. (See Appendix D.) The cause of the reaction can be investigated later. The most dangerous symptoms of an allergic reaction involve **breathing difficulties** caused by swelling of the airways (including a severe asthma attack in those who have asthma) or **a drop in blood pressure** indicated by dizziness, lightheadedness, feeling faint or weak, or passing out. Both can lead to death if untreated.

What triggers anaphylaxis?

Although many substances have the potential to cause anaphylaxis, the most common triggers are foods and insect stings (e.g. yellow jackets, hornets, wasps, honey bees). In Canada, the most common food allergens that cause anaphylaxis are:

- Peanut
- Tree nuts (almonds, Brazil nuts, cashews, hazelnuts, macadamia nuts, pecans, pine nuts, pistachios, walnuts)
- Milk
- Egg
- Sesame
- Soy
- Wheat
- Seafood
  - Fish, e.g. trout, salmon
  - Shellfish
    - Crustaceans, e.g. lobster, shrimp, crab
    - Molluscs, e.g. scallops, clams, oysters, mussels
- Mustard

Health Canada requires these 'priority food allergens' to always be identified on food labels by their common names.

Medications and exposure to natural rubber latex can also cause potentially life-threatening allergic reactions. A less common cause of anaphylaxis is exercise, which in some individuals can be triggered by the prior ingestion of a specific food which is not normally a problem. In some cases of anaphylaxis, the cause is unknown *('idiopathic')*.

Note: According to food labelling regulations, the common name of the priority allergens listed above as well as gluten sources (wheat, triticale, barley, rye, oats) and added sulphites must be included on a food label. For regulatory purposes, Health Canada uses these terms to describe seafood: fish (e.g. trout, salmon), shellfish (e.g. scallops, clams) and crustaceans (e.g. lobster, shrimp).

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How is a person identified as being at risk for anaphylaxis?

Family doctors and emergency physicians are most often the first healthcare professionals to identify a person who has experienced an allergic reaction. They play an important role in discussing anaphylaxis management with individuals (e.g. allergen avoidance strategies), prescribing an epinephrine auto-injector, and referring them to an allergist for evaluation. People thought to be at risk of life-threatening allergic reactions should be evaluated by an allergist.

An individual is diagnosed as being at risk by obtaining a detailed personal history and confirmation of an allergy through appropriate investigations such as skin and/or blood tests. Once a diagnosis is made, a person should do the following:[4,5]

- Avoid the allergenic substance;
- Carry an epinephrine auto-injector at all times;
- Wear medical identification such as MedicAlert® (available as bracelets, bands and necklaces);
- Have a written Anaphylaxis Emergency Plan which describes the signs and symptoms of anaphylaxis and what to do in case of a reaction (See Appendix D.);
- Receive instruction on a regular basis from their healthcare professional on when and how to use epinephrine auto-injectors. Local pharmacists can also provide information on anaphylaxis and the use of epinephrine auto-injectors.

Factors that may increase the risk of a severe anaphylactic reaction

1. Anaphylaxis and asthma

People with asthma who are also diagnosed with life-threatening allergies are more susceptible to severe breathing problems when experiencing an anaphylactic reaction. It is extremely important for asthmatic individuals to keep their asthma well controlled. In cases where an anaphylactic reaction is suspected but there is uncertainty whether or not the person is experiencing an asthma attack, epinephrine should be used first. Epinephrine can be used to treat life-threatening asthma attacks as well as anaphylactic reactions. People with asthma who are at risk of anaphylaxis should carry their asthma medications (e.g. puffers/inhalers) with their epinephrine auto-injector. Both anaphylaxis and asthma should be listed on their medical identification (e.g. MedicAlert® bracelet).

2. Under-utilization and delay in the use of epinephrine

Epinephrine is the drug of choice to treat an anaphylactic reaction and needs to be given early in the course of a reaction. It is extremely important that all individuals at risk of anaphylaxis, parents/guardians of children at risk, teachers, and caregivers know the signs and symptoms of anaphylaxis and the correct use of emergency medication (i.e. epinephrine auto-injector). In studies of individuals who have died as a result of anaphylaxis, epinephrine was underused, not used at all, or administration was delayed.[6-9]

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There are no contraindications to using epinephrine for a life-threatening allergic reaction. **This means that in normally healthy individuals, epinephrine will not cause harm if given unnecessarily.** Possible side effects from epinephrine can include: rapid heart rate, pallor (paleness), dizziness, weakness, tremors and headache. These side effects are generally mild and subside within a few minutes.

3. Underlying cardiac diseases

People with heart disease or high blood pressure should speak to their physician about their cardiac medications and their need for epinephrine. Some medications (e.g. beta-blockers, ACE inhibitors) may interfere with the action of epinephrine and worsen the allergic reaction. (See Appendix K.)

Other Factors to Consider

- Previous history
  Previous history of anaphylaxis is a strong predictor of future anaphylaxis. However, at least 25% of adults and 65% of children presenting with anaphylaxis do not report a previous episode.[10]
- Age
  The highest incidence of anaphylaxis occurs in individuals aged 0 to 19 years. Food is the most common cause of anaphylaxis in children, adolescents and young adults. In middle-aged and older adults, medications and insect venom are the most common causes.[11]

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Emergency Protocol

About Epinephrine

Despite best avoidance efforts, accidents can and do happen. Treatment protocols, including the use of an epinephrine auto-injector, must be provided by a healthcare professional. All persons at risk of anaphylaxis and their relatives, caregivers, and school personnel must be prepared to respond in emergency situations. Accidents are seldom predictable. Being prepared for the unexpected is always necessary.

Epinephrine is the drug form of a hormone *(adrenaline)* that the body produces naturally. Epinephrine is the treatment or drug of choice to treat anaphylaxis and as a result is widely prescribed for those at risk of anaphylaxis. All efforts should be directed toward its immediate use.[3,4,12] Individuals at risk of anaphylaxis are instructed to carry it with them at all times when age appropriate. Depending on the maturity level of the child, this is usually by the age of 6 or 7.

Sometimes people who are at risk for anaphylaxis also have asthma. Epinephrine can be used to treat potentially life-threatening allergic reactions and severe asthma attacks.

Epinephrine helps to reverse symptoms of an allergic reaction by opening the airways, improving blood pressure, and accelerating heart rate. Epinephrine auto-injectors are devices that have been designed for use by non-medical people. They contain a pre-measured amount of epinephrine and come in different dosages or strengths. (See Appendix A for more information about auto-injectors.)

Individuals at risk of anaphylaxis will not always have the same symptoms during an allergic reaction.[5]

Key Recommendations

1. **Epinephrine is the first line medication that should be used for the emergency management of a person having a potentially life-threatening allergic reaction.[12]**

   In studies of individuals who have died as a result of anaphylaxis, epinephrine was underused, not used at all, or administration was delayed.[6-9] The course of an anaphylactic episode cannot be predicted with certainty and may differ from one person to another and from one episode to another in the same person.[5] It is recommended that epinephrine be given at the start of a known or suspected anaphylactic reaction. Epinephrine should be injected into the muscle of the mid-outer thigh.

2. **Antihistamines and asthma medications should not be used instead of epinephrine for treating anaphylaxis.[1,3,4]**

   While they will do no harm when given as additional or secondary medication, they have not been proven to stop an anaphylactic reaction. Epinephrine is the only treatment shown to stop an anaphylactic reaction. The main benefit of antihistamines is in treating hives or skin symptoms.

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3. **All individuals receiving epinephrine must be transported to hospital immediately (ideally by ambulance) for evaluation and observation.**

   It is optimal to have individuals transported to hospital by paramedics or local emergency medical services. While epinephrine is usually effective after one injection, the symptoms may recur and further injections may be required to control the reaction. Repeat attacks have occurred hours later without additional exposure to the offending allergen.[13-15] Therefore, it is recommended that a person suffering from an anaphylactic reaction be observed in an emergency facility for an appropriate period because of the possibility of either a "biphasic" reaction (a second reaction) or a prolonged reaction.[13,14] For most individuals, a reasonable length of observation time is 4 to 6 hours. This time may vary depending on the judgment of the attending physician who will take into consideration factors such as the severity of the reaction, the person's response to treatment, previous episodes, and distance from the hospital to the person's home. More caution should be used in people with asthma because most fatalities associated with anaphylaxis occur in these individuals.[14] Upon discharge from hospital, an epinephrine auto-injector prescription should be obtained and immediately filled, if not already available.

4. **Additional epinephrine should be available during transport to hospital. A second dose of epinephrine may be given as early as 5 minutes after the first dose if there is no improvement in symptoms.[3,16]**

   The second dose of epinephrine should only be given in situations in which the allergic reaction is worsening or not improving.

   Signs that the reaction is worsening are that the patient's breathing becomes more difficult or there is a decreased level of consciousness. Individuals who have been prescribed epinephrine are advised to have at least one epinephrine auto-injector *with them* at all times. It is important for people at risk of anaphylaxis to take extra precautions (e.g. packing a back-up auto-injector) when planning trips or camping outdoors. When travelling, they should try to be within a reasonable distance of a medical facility should an emergency occur.

5. **Individuals with anaphylaxis who are feeling faint or dizzy because of impending shock should lie down unless they are vomiting or experiencing severe respiratory distress.[17]**

   To improve blood circulation, caregivers should assist in lifting the person's legs and keeping the legs raised by putting something (e.g. a pillow) underneath. The person should continue to lie down until emergency responders arrive or until they have fully recovered. If the person feels nauseated or is vomiting, lay the person on his or her side to keep the airway clear and prevent choking on vomit. (Note: Individuals having difficulty breathing should be kept sitting up.)

   Do not make the person sit or stand immediately following a reaction (even if treated) as this could result in another drop in blood pressure.[17]

   Individuals at risk should be advised to seek help when experiencing an allergic reaction and not to go off alone (e.g. to the washroom) if they are feeling unwell. If they are alone and lose consciousness, no one will know they need help.

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6. **No person experiencing anaphylaxis should be expected to be fully responsible for self-administration of an epinephrine auto-injector.**

   Individuals may not physically be able to self-administer epinephrine when they are suffering from a reaction. They may be anxious about using a needle, may downplay the seriousness of a reaction, or may not want to draw attention to themselves. They may also be confused. Assistance from others, especially in the case of children or teens, is crucial in these circumstances.

Location of Epinephrine Auto-injectors ("auto-injectors")

Auto-injectors must be kept in locations which are easily accessible (e.g. not in locked cupboards or drawers) but out of reach of young children. They should not be exposed to extreme cold (fridge/freezer) or heat (glove box in a vehicle). The locations should be known to all staff members and caregivers. Individuals at risk of anaphylaxis are advised to carry an auto-injector at all times and tell others where the device is kept, in case of an emergency. Auto-injector expiry dates must be checked regularly to ensure that devices have not expired.

Children who have demonstrated maturity (usually by the age of 6 or 7) should carry their own epinephrine. Many children learn to carry their auto-injector in a waist-pack by the time they are in grade one or two. This will vary depending on the child's development and skill level, level of support provided and education of peers and caregivers. In the case of younger children, staff may have to carry the auto-injector or have it available in the classroom. Classmates and friends should be taught not to play with an auto-injector.

Back-up Auto-injectors

It is suggested that a back-up dose of epinephrine (auto-injector) be available as a precautionary measure. In some situations, a second injection may be required to treat an allergic reaction. It is beneficial for schools to have an epinephrine auto-injector as a standard item in their emergency or first-aid kit. Note that auto-injectors contain one of two specific dosages of epinephrine, i.e. 0.15 mg and 0.30 mg, and are not necessarily interchangeable. (See Appendix A for more information about auto-injectors.)

Some school boards and schools have taken different steps to ensure that back-up devices are available.

- Many school administrators ask parents to provide a back-up epinephrine auto-injector that is kept in a central, unlocked area such as the school office. Some schools consider seeking financial assistance from their boards to ensure that medication is available if families have difficulty providing the school with an adequate supply.
- Some school boards and schools purchase stock epinephrine auto-injectors (i.e. not prescribed for a specific person) for use in an emergency situation.
- Many private day camps and some high schools strategically place spare auto-injectors in common areas such as cafeterias and sports areas.

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Avoidance Strategies

Avoidance is the cornerstone of preventing an allergic reaction. Much can be done to reduce the risk of anaphylaxis when avoidance strategies are implemented. General recommendations for food and insect stings are provided below. Additional strategies for avoiding specific food allergens are covered in Appendix G.

Food Allergens

For people with food allergies, the key to remaining safe is avoidance of the food allergen. It must be stressed that very small amounts of certain foods can cause severe reactions when eaten. This may happen if a person at risk touches an allergenic substance and then subsequently touches the mouth. Even a very small amount 'hidden' in a food or transferred to a serving utensil has the potential to cause a severe allergic reaction. Direct ingestion of an allergy-causing food poses the greatest risk for people with food allergies. In some cases, the vapor or steam produced while cooking certain foods, such as fish, has been shown to contain allergens which can trigger asthmatic reactions and even anaphylaxis.[18,19]

While it is difficult to completely eliminate all allergenic ingredients due to hidden or accidentally introduced sources, it is possible and extremely important to reduce the risk of exposure to them. Effective ingredient label reading, special precautions for food preparation, proper hand washing and cleaning go a long way toward reducing the risk of an accidental exposure.

Note: Parents of food-allergic children are often concerned that the odour or smell of a particular food such as peanut butter will cause a life-threatening or anaphylactic reaction. It is the protein in a food which causes an allergic reaction and inhalation of airborne peanut protein can cause reactions, though usually not anaphylaxis. The odour alone has not been shown to cause an anaphylactic reaction as the smell does not contain the protein. (See Appendix G for more information.)

The following guidelines are recommended to reduce the risk of exposure for people with food allergy:

1. **Adult supervision of young children who are eating is strongly recommended.**
2. **Individuals with food allergy should not trade or share food, food utensils, or food containers.**

   They should also place meals on a napkin or personal placemat. Where possible, young children with food allergies should eat in a designated area while at school to help minimize the risk of cross-contamination.
3. **School administrators, parents and foodservice staff should work closely together to ensure that food being served during lunch and snack programs is appropriate according to their policies around food.**

   If there is any uncertainty, food-allergic children should only eat food which parents have approved.

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4. **The use of food in crafts and cooking classes may need to be modified or restricted depending on the allergies of the children.**

5. **Alternatives to using food as a reward should be considered.**

   Non-food items such as stickers and pencils should be considered for some class and school celebrations where young children are involved. If teachers have a system in place to reward students, they should consider non-food items or a special activity.

6. **Ingredients of food brought in for special events by the school community, served in school cafeterias, or provided by catering companies should be clearly identified.**

   Parents of food-allergic children should be consulted when food is involved in class activities. Food should not be left out where young children with food allergy can help themselves.

7. **All children should be encouraged to comply with a 'no eating' rule during daily travel on school buses.**

8. **All children should wash their hands with soap and water before and after eating.**

   Anti-bacterial hand sanitizers are not as effective at removing peanut butter residue.

9. **Surfaces such as tables, toys, etc. should be carefully cleaned of contaminating foods.**

   Where allergens have been consumed, wipe down the surface using a household cleaning product and disposable cloth or paper towel. (Throw out after to avoid cross-contaminating other surfaces.) Note that alcohol wipes are less effective in removing allergens.

See Appendix G for recommendations for cleaning and hand washing.
See Appendix H for information on anaphylaxis management in the high school setting.

Insect Stings

The risk of insect stings is higher in the warmer months. General guidelines to reduce the risk of exposure to insect stings include:

1. Keep garbage cans covered with tightly fitted lids in outdoor play areas.

2. Consider restricting eating areas to designated locations inside the school building during daily routines. This allows for closer supervision, avoids school yard cleanup, and helps reduce the prevalence of stinging insects.

3. Have insect nests professionally relocated or destroyed, as appropriate.

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4. People who are allergic to stinging insects should:
   - Always carry an epinephrine auto-injector with them during insect season (varies by region).
   - Stay away from areas where stinging insects gather such as gardens, hedges, fruit trees, and garbage cans.
   - Wear light colours (insects are attracted to bright ones) and avoid loose flowing garments or hair that could entrap an insect (tie hair back).
   - Wear shoes instead of sandals during the warm weather; do not go barefoot.
   - Avoid substances that attract insects, e.g. perfumes, colognes and highly scented suntan lotions, cosmetics, hair sprays and deodorants.
   - Drink from cups rather than beverage cans or bottles where insects can hide. Use a straw if drinking beverages outdoors.
   - Consult with an allergist to determine if they are appropriate candidates for venom immunotherapy, a de-sensitization program, which is highly effective.

Other Allergens

Reactions to medication, exercise, latex and unknown causes (i.e. idiopathic) are rare in school settings. Care of children with these allergies should be individualized based on discussions amongst the parents, physicians, and school personnel. The same emergency protocol, as described earlier in this document, would apply.

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General Recommendations

Identification of Individuals at Risk

Administrators should collect information about a student's medical condition at the time of registration. Ideally, the review of this information should occur before the new school year as well as before special activities, such as school field trips. Questions or concerns about changes in a child's condition or treatment protocol should then be addressed. All school staff, including supply or substitute teachers and volunteers, must be aware of students at risk for anaphylaxis, have access to their allergy information and anaphylaxis plan (as appropriate), and be instructed in the proper management strategies including the correct use of an epinephrine auto-injector. A process should be in place to ensure that all staff receives regular training. (See Appendix B: Action Steps for Anaphylaxis Management.)

Anaphylaxis Plan

A comprehensive **written** school anaphylaxis plan ("school plan") should be prepared which defines roles and responsibilities and includes information about avoidance strategies, staff training, and emergency protocol. There should be a communication strategy to ensure that the school plan is understood by the entire school community.

A school anaphylaxis plan serves to reduce the risk of exposure to allergenic substances and helps school communities prepare for an emergency situation. **It should not imply a guarantee (e.g. peanut-free environment) or that there is zero risk. School communities should strive to create an environment that is described as 'allergy-safe' rather than 'allergen-free'.** The school anaphylaxis plan should be reviewed and updated on a scheduled basis. (See Appendix C for a sample school anaphylaxis plan.)

Roles and Responsibilities

Anaphylaxis management is a shared responsibility that includes allergic children, their parents/guardians, caregivers, and the entire school community.

Parents/Guardians

Parents/guardians should make every effort to teach their allergic children to self-protect. Good safety habits should be established from an early age. Parents/guardians:

- Must educate the allergic child on avoidance strategies.
- Are responsible for informing the school about the child's allergies, updating the school on any changes (e.g. diagnosis of an additional allergy, outgrowing an allergy), and providing the

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child/school with an epinephrine auto-injector which is not expired (parents should keep a log of expiry dates and replace outdated auto-injectors).

- Should complete an Anaphylaxis Emergency Plan which has the child's photograph and allergy information, emergency contact numbers, emergency protocol, signature of a parent/guardian and, if required, the signature of the child's physician. (See Appendix D.)
- Should provide consent which allows school staff to use an epinephrine auto-injector when they consider it necessary in an allergic emergency.
- Should **not** sign a waiver absolving the school of responsibility if epinephrine was not injected.
- For food-allergic children, should provide non-perishable foods (in case child's lunch is forgotten at home) and safe snacks for special occasions.
- Should communicate with school staff about field trip arrangements.
- Should meet with foodservice staff to inquire about allergen management policies and menu items, if their child is to eat foods prepared at the school.

Children at Risk

Allergic children who have been diagnosed as being at risk of anaphylaxis should:

- Have an auto-injector with their name on it, kept in a readily accessible location which is **unlocked.**
- Carry their own auto-injector when age appropriate, usually by the age of 6 or 7.
- Refrain from eating if they do not have an auto-injector with them.
- Be very cautious about eating foods prepared by others.
- Not share foods or utensils.
- Wash hands with soap and water before and after meals.
- Wear medical identification, such as a MedicAlert® bracelet which clearly identifies their allergy, or a special badge in the case of very young children in the nursery setting.
- Inform someone (preferably an adult) immediately after accidental exposure to an allergen or as soon as symptoms occur.

School Community

- All school staff should be aware of children who have an allergy that may trigger an anaphylactic reaction and be prepared to treat them in accordance with the emergency protocol. Information about children with life-threatening allergies should be readily available. Many teachers keep a copy of their students' Anaphylaxis Emergency Plans in their "day book"; this is where important information is organized for substitute teachers.
- School staff must consult with the parent before posting the child's plan. It should be kept in areas which are accessible to staff, while respecting the privacy of the child (e.g. office, staff room, lunch room or cafeteria). Older children are often more reluctant to have their plan posted in the classroom where it is visible to all.

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- The entire student population should be educated regarding the seriousness of anaphylaxis and be taught how to help their peers. This could be achieved through general awareness sessions in an assembly or a special health lesson. Peers should be taught that bullying and teasing students at risk of anaphylaxis is unacceptable. Bullying and teasing incidents should be dealt with immediately.
- The school should have readily available first-aid kits that contain an epinephrine auto-injector. Schools should consider keeping kits in designated areas where the likelihood of an allergic reaction occurring may be higher, e.g. lunch rooms or cafeterias. Epinephrine auto-injectors come in two dosages (i.e. 0.15 mg and 0.30 mg) and are prescribed based on a person's weight. (Expiry dates should be checked on a periodic basis, e.g. September and January.)

Foodservice & Bus Companies

During contract negotiations with foodservice companies, catering services, and bus companies, school boards should consider a company's allergen management policy and anaphylaxis training as part of the evaluation criteria. Although they are not typically school board employees, foodservice staff and bus drivers are often in regular contact with students at risk of anaphylaxis. As such, they play a key role in helping to create safe environments and knowing what to do in an emergency. Consideration should be given to the following:

- Foodservice companies operating in a school setting are responsible for ensuring that their personnel are trained to reduce the risk of cross-contamination through purchasing, handling, preparation, and serving of food. The contents of foods served in school cafeterias and brought in for special events should be clearly identified.
- Bus companies should include anaphylaxis training as part of the regular first-aid training which drivers are required to complete. Bus companies are encouraged to establish and enforce a 'no eating' rule during daily travel on school buses. (For long excursions, there may be occasions where students eat on the bus. It is recommended that proper education and precautions be taken to minimize the risk of exposure.)
- Staff at both foodservice and bus companies should participate in the school's anaphylaxis training, which includes the identification of students at risk, recognition of signs and symptoms, and how to use an epinephrine auto-injector. With parental permission, foodservice staff and school bus drivers should have access to students' Anaphylaxis Emergency Plans.

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Training & Communication

Training

All individuals who have been prescribed an epinephrine auto-injector – and their parents and caregivers – should know how to use it **before** an emergency arises. **All** individuals who are in regular contact with children at risk of anaphylaxis should participate in training sessions. In the school setting, they would include: school staff, nurses, foodservice staff, bus drivers, coaches, and so forth. The principal or a delegate should keep a record of staff who have completed the training. Friends of appropriate age and maturity, teenagers, and adults can also be trained to respond in an emergency situation.

Standardized anaphylaxis training should be provided once a year at minimum, preferably around the start of the school year. Ideally, a follow-up refresher training session should be given mid-year. Training should include ways to reduce the risk of exposure, recognition of signs and symptoms of anaphylaxis, when and how to give the epinephrine auto-injector, initiation of 9-1-1 response, and transfer of care to paramedics, where available. It is beneficial for participants to role play an emergency situation, similar to practicing a fire drill. This allows trainees to become familiar with the emergency procedure for dealing with an anaphylactic reaction, identify areas of improvement, and increase confidence in their ability to respond appropriately. It would also be a good opportunity for the school to involve its nurses or local paramedics, where appropriate. Educational services and resources are available through some public health units, allergy associations, paramedic associations, and professional training services.

With proper training, people can successfully learn how to use an epinephrine auto-injector with confidence. Auto-injector trainers or demonstrators are must-have teaching tools that allow for hands-on learning. The auto-injector trainers look like the real devices but do not contain a needle or medication. Studies have shown that individuals at risk of anaphylaxis, parents/guardians of allergic children, caregivers, teachers, and even healthcare professionals often cannot correctly administer the EpiPen®.[20-26] Practicing with an auto-injector trainer allows people to become familiar with the administration technique. (See Appendix A for information about auto-injector trainers/demonstrators.) Training with the brands of auto-injectors available in Canada is recommended for school staff.

Communication

Ongoing communication about the school anaphylaxis plan is essential in creating awareness and support for students at risk. Some school principals distribute their school anaphylaxis plan to all families at the beginning of the school year and reminders are often published in school bulletins and newsletters throughout the year. Parents are often involved with their children in educating classmates about allergies using age-appropriate books, videos and games. (See Appendix F for sample school letters.)

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Legal Issues

School board administrators should refer to the specific acts and regulations in their province or territory. According to the Canadian School Boards Association, every province and territory in Canada has one or more statutes regulating education, from which school boards derive their authority and responsibilities. Some jurisdictions also have additional requirements contained in regulations or guidelines issued by the ministries or departments of education.

Our general recommendations are as follows:

- Parents should sign a consent form allowing the school staff to administer epinephrine when necessary, in an allergic emergency.
- Parents should **not** sign a waiver absolving the school of responsibility if epinephrine was not injected. Schools should not ask parents to sign such a waiver.

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Literature Review Methodology – Related Article Search Strategy

The "Anaphylaxis in Schools & Other Settings" document was updated using the PubMed "Related Articles" strategy. This involved entering each of the original citations from this document into the MEDLINE database which resulted in 537 related articles. These were screened for new and relevant information that would contribute to the update.

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Appendices

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About Epinephrine Auto-injectors

Epinephrine auto-injectors ("auto-injectors") are easy to use with a concealed needle that contains a pre-measured dose of epinephrine. They are 'intramuscular' devices which should be injected into the muscle of the mid-outer thigh to release the medication. There is currently one epinephrine auto-injector available in Canada: EpiPen®. This product comes in two dosages or strengths - 0.15 mg and 0.30 mg - that are prescribed based on a person's weight. For information about product features, contact the following company or visit the website.

EpiPen®

Pfizer Canada Inc.
17300 Trans-Canada Highway
Kirkland, Quebec H9J 2M5
Web: www.epipen.ca
Tel: 1-877-EPIPEN1 (1-877-374-7361)
Fax: 514-426-6831
Email: corporate.affairs.canada@pfizer.com

TIPS

Colour

Epinephrine should be clear in colour. If the solution is discoloured, cloudy or contains particles, the auto-injector device should be replaced.

Weight/Dosage

According to product instructions, the 0.30 mg dosage of the EpiPen® auto-injector should be used for adults and children weighing 30 kg (66 lbs) or more; and the 0.15 mg dosage should be used for children weighing between 15 kg to 30 kg (33 and 66 lbs). Some health care providers may prescribe differently than these dosages. The individual's health care provider will prescribe the appropriate dose for their patient, including the switch from the lower dosage to the higher dosage and the dose for children who weigh less than 15 kg (33 lbs).

Body Position

When giving epinephrine, it is recommended to have the person sit or lie down. When administering to a child, it may be helpful to support or brace their leg to reduce movement. After giving epinephrine, place the person on their back with their legs raised.[1] If they feel sick or are vomiting, they should be placed on their side so that the airway is clear and they do not choke on vomit. It is important to avoid having an individual immediately sit up or stand after receiving epinephrine as these sudden changes

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of position may lower their blood pressure, worsen their condition, and potentially result in their death.[1,2] Additionally, emergency responders should be directed to the person (i.e. the person should be taken to the ambulance by stretcher, not walked out).

Accidental Injection

Epinephrine auto-injectors should be injected into the muscle of the mid-outer thigh. Before giving an injection, care should be taken to ensure that the needle end of the auto-injector is administered. If someone accidentally injects epinephrine into their fingers, thumb or any extremity, they should seek medical attention.

Disposal

Once the epinephrine auto-injector has been administered, the used device can be given to emergency medical personnel for proper disposal.

Auto-injector Trainer/Demonstrator

To avoid confusion, individuals should not carry an epinephrine auto-injector trainer or demonstrator (used for teaching) with their actual auto-injector, which contains medication and a needle. The auto-injector trainer or demonstrator could be mistaken for the medical device.

In Canada, the EpiPen® trainer is available from Pfizer Canada and some allergy associations.

Expiration Reminder Services

Pfizer Canada offers programs or services to assist individuals in keeping track of the expiration dates of their auto-injectors. Contact the company or visit the website for additional information.

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2. Pumphrey RSH. Fatal posture in anaphylactic shock. Journal of Allergy and Clinical Immunology 2003;112:451-452.

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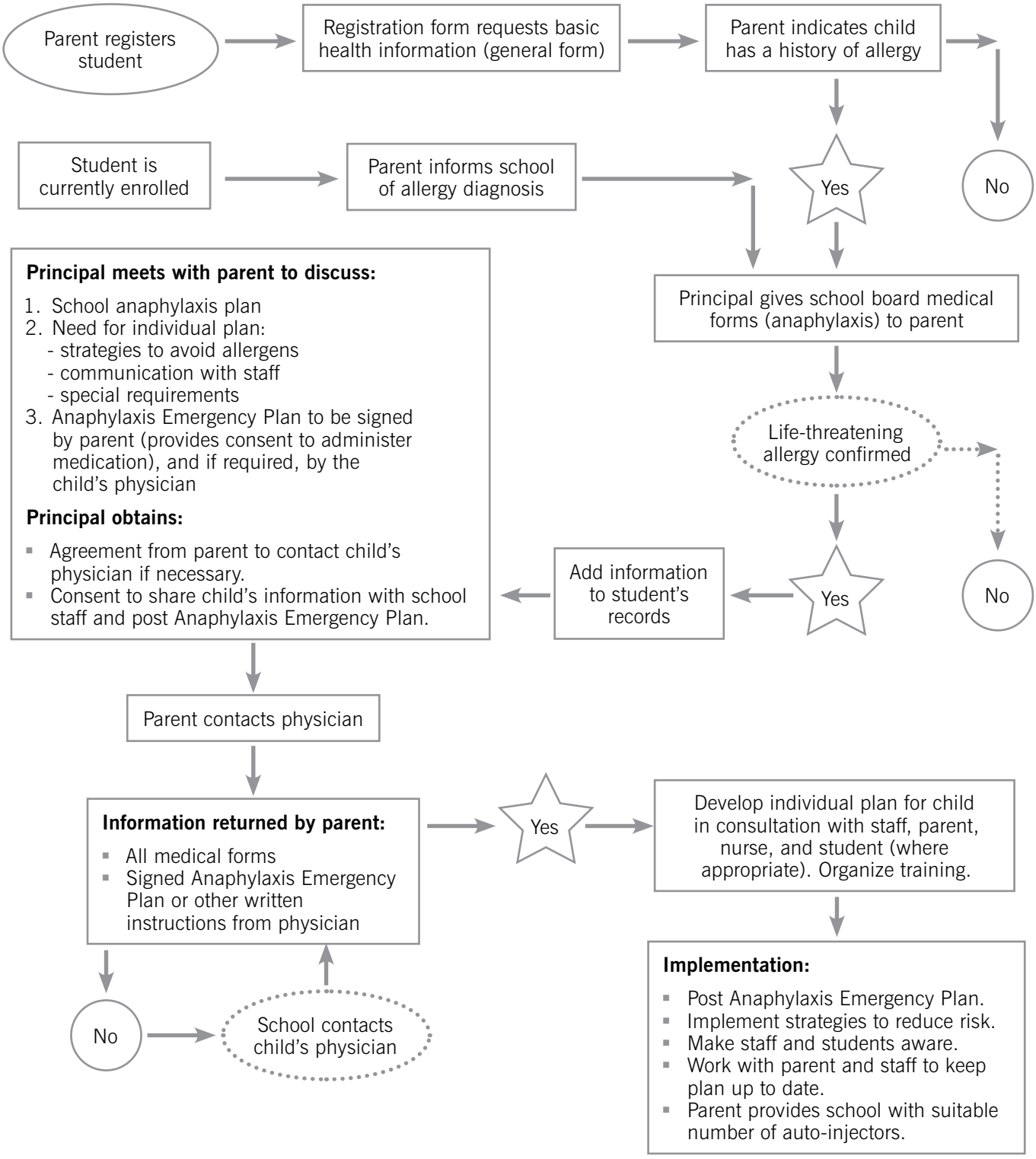
Action Steps for Anaphylaxis Management



Source: Managing anaphylactic reactions at school, *Anaphylaxis Guidelines for Schools: severe allergic reactions*, New South Wales Department of Health & Department of Education & Training, Australia. Adapted with permission from NSW Department of Health.

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School Anaphylaxis Plan

School administrators can use the following as a base to develop their own anaphylaxis plans. Examples of current practices are noted below. Successful school anaphylaxis plans have been built on respect for others, sound medical (vs. anecdotal) information, and realistic expectations of what the school community can do to help safeguard students at risk of anaphylaxis.

Elementary School Environment

Elementary schools have adopted different practices to reduce the risk of exposure to peanut- and tree nut-containing products which have been a leading cause of food-related allergic reactions and fatalities:

- Lunch supervisors should ensure that procedures for proper hand washing and cleanup are being followed. A **'no sharing'** policy of food, utensils, containers, straws, etc. should be enforced for food-allergic children.
- Some schools appeal to the community to keep peanut butter and other peanut/tree nut products out of the school.
- Some schools have children who bring peanut/tree nut-containing products to school eat lunch at a designated table in the lunchroom.
- Some schools ask children with food allergies to sit at a table which has been designated "allergy-safe" or "allergy-aware."

Strategies to reduce the risk for other food allergies (e.g. milk, egg, sesame) and stinging insect allergy are usually developed in consultation with school staff, nurses (where available) and parents of allergic children. (See Appendix G for examples of ways in which some schools are managing the risk for other allergens.)

Secondary School Environment

The secondary or high school student must be able to take on primary responsibility for allergen avoidance at school and in other environments. Students move around the entire campus and interact with many teachers and peers. Therefore, the high school setting is much harder to control than smaller elementary school settings. It is important to be realistic about what can be controlled. For example, there is limited supervision at lunchtime; in some schools there is only one staff member on duty to supervise hundreds of students. Many students leave the campus for lunch.

Secondary schools should follow recommendations outlined in the consensus statement, while adapting specific practices to respect the needs of older students (e.g. more discreet areas to post Anaphylaxis Emergency Plans). Teens are thought to be at higher risk for a severe allergic reaction, requiring greater vigilance. Secondary school age students are more vulnerable to peer influences and may deny their vulnerability and take greater risks.

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The management of allergens in high school is a balancing act between safety and a normal social life. Schools can help reduce risks by having fewer allergens in vending machines, placing vending machines in a central area, encouraging eating in the cafeteria instead of halls and classrooms, and so forth. These measures can reduce the risk of accidental exposure without imposing unenforceable or unrealistic rules on the rest of the student body. Students at risk must carry their epinephrine auto-injector and asthma inhaler (if relevant) and must be encouraged to be responsible for managing their condition.

Sample School Anaphylaxis Plan (elementary)

Overview

In our school, we have several children who are at risk for potentially life-threatening allergies. Some children are at risk for insect sting allergy, while most are allergic to food. Food-allergic individuals can experience a life-threatening reaction from ingesting a very small amount of their allergen. Exposure through skin contact or inhalation can cause allergic reactions, but generally not anaphylaxis. Anaphylaxis (pronounced *anna-fill-axis*) is a severe allergic reaction that can be caused by foods, insect stings, medications, latex or other substances. While anaphylaxis can lead to death if untreated, anaphylactic reactions and fatalities can be avoided. Education and awareness are key to keeping students with potentially life-threatening allergies safe.

Our school anaphylaxis plan is designed to ensure that children at risk are identified, strategies are in place to minimize the potential for accidental exposure, and staff and key volunteers are trained to respond in an emergency situation.

Identification of Children at Risk

At the time of registration, parents are asked about medical conditions, including whether children are at risk of anaphylaxis and asthma. All staff must be aware of these children.

It is the responsibility of the parent to:

- Inform the school principal of their child's allergy (and asthma).
- In a timely manner, complete medical forms and the Anaphylaxis Emergency Plan which includes a photograph, description of the child's allergy, emergency procedure, contact information, and consent to administer medication. The Anaphylaxis Emergency Plan should be posted in key areas such as in the child's classroom (posted on the wall or inside a cupboard door), the office (bulletin board), the teacher's daybook, and school cafeterias (inside the food preparation area). Parental permission is required to post the child's plan.
- Advise the school if their child has outgrown an allergy or no longer requires an epinephrine auto-injector. (A letter from the child's allergist or primary healthcare provider is required.)

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- Have the child wear medical identification (e.g. MedicAlert® bracelet). The identification could alert others to the child's allergies and indicate that the child carries an epinephrine auto-injector. Information accessed through a special number on the identification jewelry can also assist the local emergency medical services (e.g. paramedics) to access important information quickly.

Availability and Location of Epinephrine Auto-injectors ("auto-injectors")

- Children at risk of anaphylaxis who have demonstrated maturity should carry one auto-injector with them at all times and have a back-up available in the school. Most children are able to carry their own auto-injector and asthma inhaler (if needed) by grade one to two. For children with stinging insect allergy, this would not have to be for the full year but during insect season (warmer months).
- Posters which describe signs and symptoms of anaphylaxis and how to give an epinephrine auto-injector will be placed in relevant areas, e.g. classrooms, office, staff room, lunch room or cafeteria. Additional auto-injectors should be brought on field trips. It is recommended that the organizer of the field trip carry a cell phone and know the location of the closest medical facility.

Emergency Protocol

- An individual Anaphylaxis Emergency Plan can be signed by the child's physician, if required. With parental permission, a copy of this Plan will be placed in designated areas such as the classroom and office.
- Adults must be encouraged to listen to the concerns of the child who usually knows when a reaction is occurring, even before signs appear. It cannot be assumed that children will be able to properly self-administer their auto-injector. (Children may be fearful of getting a needle, they may be in denial that they are having a reaction, or they may not be able to self-administer due to the severity of the reaction.) When giving epinephrine, it is recommended to have the person sit or lie down. When administering to a child, it may be helpful to support or brace their leg to reduce movement.
- To respond effectively during an emergency, a routine has been established and practiced, similar to a fire drill. During an emergency:
    1. **Give epinephrine auto-injector** (e.g. EpiPen®) at the first sign of a known or suspected anaphylactic reaction.
    2. **Call 9-1-1** or local emergency medical services. Tell them someone is having a life-threatening allergic reaction.
    3. **Give a second dose of epinephrine** as early as 5 minutes after the first dose if there is no improvement in symptoms.
    4. **Go to the nearest hospital immediately (ideally by ambulance),** even if symptoms are mild or have stopped. The reaction could worsen or come back, even after proper treatment. Stay in the hospital for an appropriate period of observation as decided by the emergency department physician (generally about 4-6 hours).
    5. **Call emergency contact person (e.g. parent, guardian).**

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Body Position

After giving epinephrine, place the person on their back with their legs raised. If they feel sick or are vomiting, they should be placed on their side so that the airway is clear and they do not choke on vomit. It is important to avoid having an individual immediately sit up or stand after receiving epinephrine as these sudden changes of position may lower their blood pressure, worsen their condition, and potentially result in death. Additionally, emergency responders should be directed to the person's location and transport the person on a stretcher. The person should not be made to walk to emergency responders.

Important notes

- A person should stay with the child at all times.
- It is important to note the time of administration of the first epinephrine auto-injector so that you know how long it has been since the child received the first dose of epinephrine.
- The use of epinephrine for a potentially life-threatening allergic reaction will not harm a normally healthy child, even if epinephrine was not required.
- If an anaphylactic emergency occurs, both the school anaphylaxis plan and the child's Anaphylaxis Emergency Plan should be reviewed and amended as necessary.

Training

- Each year there will be training for staff which includes an overview of anaphylaxis, signs and symptoms and a demonstration on the use of epinephrine. Staff will have an opportunity to practice using an auto-injector trainer (i.e. device used for training purposes) and are encouraged to practice with the auto-injector trainer throughout the year, especially if they have a student at risk in their class.
- Ideally, a follow-up refresher training session should be given mid-year.
- Substitute teachers will be advised to review the Anaphylaxis Emergency Plan for children in their class. The principal will speak with substitute teachers about the procedure for responding to emergency situations.
- Students will learn about anaphylaxis in a general assembly or special class presentations.

Creating an Allergy-Safe School Environment

Individuals at risk of anaphylaxis must learn to avoid specific triggers. While the key responsibility lies with the students at risk and their families, the school community must also be aware. Special care is taken to avoid exposure to allergy-causing substances. Teachers are to inform parents which foods cannot be brought into their classrooms. The risk of accidental exposure to a food allergen can be significantly diminished by means of such measures.

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Given that anaphylaxis can be triggered by minute amounts of an allergen when ingested, children with food allergy must be encouraged to follow certain guidelines:

- Eat only food which they have brought from home unless it is packaged, clearly labelled and approved by their parents.
- Wash hands with soap and water before and after eating.
- Not share food, utensils or containers.
- Place food on a napkin or wax paper rather than in direct contact with a desk or table.

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Anaphylaxis Emergency Plan (individual)

Recommendation

- In schools and other child care settings, each child at risk of anaphylaxis should have an Anaphylaxis Emergency Plan. (See following page.)
- The Anaphylaxis Emergency Plan should be signed by the parent or guardian, and if required, by the child's physician.

Note: Some school boards may choose to allow a parent or guardian to note "on file" if a physician's signature has already been obtained (e.g. on previous Anaphylaxis Emergency Plan or written instructions about treatment protocol) and there has been no change in the child's condition or treatment strategy. The document with the physician's signature should be kept in the pupil's file for future reference.

- There may be situations where individuals were given recommendations that differ from those outlined in this Anaphylaxis Emergency Plan. In these cases, specific instructions for treatment of symptoms and risk reduction strategies should be provided in writing by the child's physician. Parents of allergic children should discuss individualized plans with their children's school staff.
- If an anaphylactic emergency occurs, both the school anaphylaxis plan and the Anaphylaxis Emergency Plan should be reviewed and amended as necessary.

The Anaphylaxis Emergency Plan has two pages:

1. First page – form with the person's photo and allergy information, signs and symptoms, brief action plan, contact information, and consent to administer medication. See next page (Anaphylaxis Emergency Plan) which can be photocopied.

2. Second page – epinephrine auto-injector instruction sheet, e.g. EpiPen®. Select the instructions which correspond to the device prescribed for the individual. The EpiPen® instruction sheet is available on the page that follows and can also be downloaded from www.epipen.ca.

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Anaphylaxis Emergency Plan: _____ *(name)*

This person has a potentially life-threatening allergy (anaphylaxis) to:

PHOTO

(Check the appropriate boxes.)

☐ Food(s): _____

_____

_____

☐ Insect stings

☐ Other: _____

Epinephrine Auto-Injector: Expiry Date: _____ / _____

Dosage:

☐ EpiPen® Jr. 0.15 mg ☐ EpiPen® 0.30 mg

Location of Auto-Injector(s): _____

☐ **Previous anaphylactic reaction:** Person is at greater risk.

☐ **Asthmatic:** Person is at greater risk. If person is having a reaction and has difficulty breathing, give epinephrine auto-injector before asthma medication.

A person having an anaphylactic reaction might have ANY of these signs and symptoms:

- **Skin system:** hives, swelling (face, lips, tongue), itching, warmth, redness
- **Respiratory system (breathing):** coughing, wheezing, shortness of breath, chest pain or tightness, throat tightness, hoarse voice, nasal congestion or hay fever-like symptoms (runny, itchy nose and watery eyes, sneezing), trouble swallowing
- **Gastrointestinal system (stomach):** nausea, pain or cramps, vomiting, diarrhea
- **Cardiovascular system (heart):** paler than normal skin colour/blue colour, weak pulse, passing out, dizziness or lightheadedness, shock
- **Other:** anxiety, sense of doom (the feeling that something bad is about to happen), headache, uterine cramps, metallic taste

Early recognition of symptoms and immediate treatment could save a person's life.

Act quickly. The first signs of a reaction can be mild, but symptoms can get worse very quickly.

1. **Give epinephrine auto-injector** (e.g. EpiPen®) at the first sign of a known or suspected anaphylactic reaction. (See attached instruction sheet.)
2. **Call 9-1-1** or local emergency medical services. Tell them someone is having a life-threatening allergic reaction.
3. **Give a second dose of epinephrine** as early as 5 minutes after the first dose if there is no improvement in symptoms.
4. **Go to the nearest hospital immediately (ideally by ambulance),** even if symptoms are mild or have stopped. The reaction could worsen or come back, even after proper treatment. Stay in the hospital for an appropriate period of observation as decided by the emergency department physician (generally about 4-6 hours).
5. **Call emergency contact person (e.g. parent, guardian).**

Emergency Contact Information

Name	Relationship	Home Phone	Work Phone	Cell Phone

The undersigned patient, parent, or guardian authorizes any adult to administer epinephrine to the above-named person in the event of an anaphylactic reaction, as described above. This protocol has been recommended by the patient's physician.

_____ _____ _____ _____

Patient/Parent/Guardian Signature | Date | Physician Signature ☐ On file | Date

Allergy Quebec · Canadian Allergy, Asthma and Immunology Foundation · Food Allergy Canada · Canadian Society of Allergy and Clinical Immunology · Allergy Asthma information association · AAIQ Association of Allergists and Immunologists of Quebec

Blue to the sky. Orange to the thigh.

How to use EpiPen® and EpiPen® Jr (epinephrine) Auto-injectors.

Remove the EpiPen® Auto-Injector from the carrier tube and follow these 2 simple steps:

- Hold firmly with orange tip pointing downward.
- **Remove blue safety cap by pulling straight up. Do not bend or twist.**

- **Swing and push orange tip firmly into mid-outer thigh until you hear a 'click'.**
- Hold on thigh for several seconds.

Built-in needle protection

- After injection, the orange cover automatically extends to ensure the needle is never exposed.

After using EpiPen®, you must seek immediate medical attention or go to the emergency room. For the next 48 hours, you must stay close to a healthcare facility or be able to call 911.

For more information visit the consumer site EpiPen.ca.

EpiPen® and EpiPen® Jr (epinephrine) Auto-Injectors are indicated for the emergency treatment of anaphylactic reactions in patients who are determined to be at increased risk for anaphylaxis, including individuals with a history of anaphylactic reactions. Selection of the appropriate dosage strength is determined according to patient body weight.

EpiPen® and EpiPen® Jr Auto-Injectors are designed as emergency supportive therapy only. They are not a replacement for subsequent medical or hospital care. After administration, patients should seek medical attention immediately or go to the emergency room. For the next 48 hours, patients must stay within close proximity to a healthcare facility or where they can call 911. To ensure this product is right for you, always read and follow the label. Please consult the Consumer Information leaflet in your product package for complete dosage and administration instructions.

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Emergency Management of Anaphylaxis

Symptoms of anaphylaxis generally include two or more of the following body systems: skin, respiratory, gastrointestinal and/or cardiovascular. However, low blood pressure alone (i.e. cardiovascular system), in the absence of other symptoms, can also represent anaphylaxis. Breathing difficulties and low blood pressure are the most dangerous symptoms and both can lead to death if untreated.

- **Skin:** hives, swelling (face, lips, tongue), itching, warmth, redness
- **Respiratory (breathing):** coughing, wheezing, shortness of breath, chest pain or tightness, throat tightness, hoarse voice, nasal congestion or hay fever-like symptoms (runny, itchy nose and watery eyes, sneezing), trouble swallowing
- **Gastrointestinal (stomach):** nausea, pain or cramps, vomiting, diarrhea
- **Cardiovascular (heart):** paler than normal skin colour/blue colour, weak pulse, passing out, dizziness or lightheadedness, shock
- **Other:** anxiety, sense of doom (the feeling that something bad is about to happen), headache, uterine cramps, metallic taste

Individual displays signs/symptoms of a potentially life-threatening allergic reaction (anaphylaxis).

↓

Immediately proceed with five steps of the Emergency Protocol:

1. **Give epinephrine auto-injector** (e.g. EpiPen®) at the first sign of a known or suspected anaphylactic reaction.
2. **Call 9-1-1** or local emergency medical services. Tell them someone is having a life-threatening allergic reaction.
3. **Give a second dose of epinephrine** as early as 5 minutes after the first dose if there is no improvement in symptoms.
4. **Go to the nearest hospital immediately (ideally by ambulance)**, even if symptoms are mild or have stopped. The reaction could worsen or come back, even after proper treatment. Stay in the hospital for an appropriate period of observation as decided by the emergency department physician (generally about 4-6 hours).
5. **Call emergency contact person (e.g. parent, guardian).**

↓

Upon discharge from hospital, the patient should:

- Obtain an epinephrine auto-injector prescription and immediately fill it.
- Schedule a follow up appointment with his or her physician. If not already under the care of an allergist, the patient should obtain a referral.

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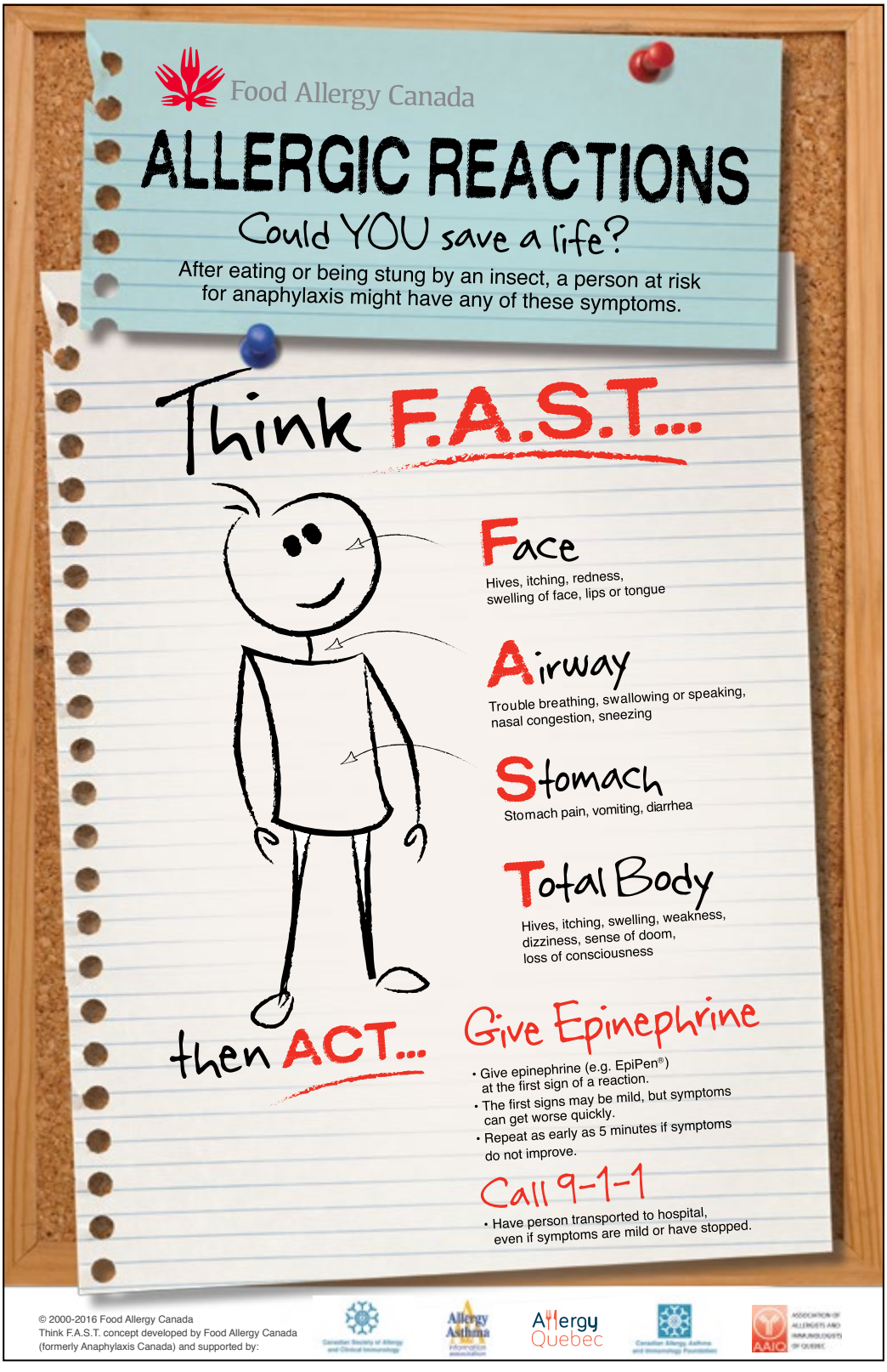
Think F.A.S.T.



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School Communication (sample letters)

Sample Letter from Principal (elementary)

Dear Parent / Guardian,

Within our school community there are several students who have a potentially life-threatening allergy (anaphylaxis) to foods, predominantly to peanuts and tree nuts (e.g. almond, cashew, hazelnut, pistachio).

We feel the best way to reduce the risk of accidental exposure to these students is to respectfully ask for the co-operation of the parents/guardians within this school community to:

CHOOSE ONE (or replace with wording for other allergens)

a. Avoid sending peanut butter or products with peanuts listed in the ingredients.

b. Talk to your children about eating at a designated table where they can consume products containing peanuts or tree nuts.

We have attached our school anaphylaxis plan which will help us provide an 'allergy-safe' environment for children at risk of anaphylaxis. I ask you to read the plan carefully and contact me should you have any questions or concerns.

Your cooperation and understanding of this matter is appreciated.

Yours truly,

Principal

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Sample Letter from Teacher (elementary)

Dear Parent / Guardian,

Two of the students in our class have a potentially life-threatening allergy (anaphylaxis) to peanuts and tree nuts (e.g. almond, cashew, hazelnut, pistachio).

All of the children will have a special presentation to learn about life-threatening allergies and ways to help their allergic friends stay safe. In order to reduce the risk of accidental exposure, I:

CHOOSE ONE (or replace with wording for other allergens)

a. Ask respectfully that families cooperate by enjoying peanut/tree nut-containing products at home (please do not send to school).

b. Will have children who bring peanut eat at a designated table in the lunchroom, which will be properly cleaned after eating.

c. Will have children with a peanut/tree nut allergy eat at a special table in the lunchroom.

All parents are asked to advise me in advance of sending in food to celebrate a child's birthday or other special occasion. I encourage you to consider non-food items for some of these events so that all children may participate in the fun.

If you have any questions, please feel free to contact me. Your cooperation and understanding of this matter is greatly appreciated.

Yours truly,

Teacher

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TIPS

When drafting school communication, it is important for principals and teachers to present a balanced picture of anaphylaxis in order to avoid creating unnecessary anxiety or establishing unrealistic expectations for the school community. This can be done in collaboration with school nurses (where available). While anaphylaxis has the potential to cause severe reactions and death, risks can be significantly reduced through effective management strategies and emergency procedures.

In the case of food-related allergic reactions, studies have shown that anaphylactic shock and fatalities most often occur when people at risk accidentally ingest something to which they are allergic and do not receive epinephrine in time. Underlying asthma and age of victims (most often older children, teens, and young adults) have also been contributing factors.

While many schools have asked families not to bring specific foods (e.g. peanuts), it is difficult to ensure compliance with food restrictions on an ongoing basis. Therefore, it is preferable to avoid using phrases such as:

- 'Peanut-free', 'tree nut-free' or 'guarantee' – when referring to a school environment or policy.
- 'Ban' – this term tends to be divisive for the community and can be misleading. Similar to a guarantee, it is impossible to ensure complete compliance with a food ban.

The allergen-free signs (e.g. peanut-free) used by some schools can serve as a reminder that certain products aren't allowed. However, an allergen-free environment cannot be guaranteed and safety rules should still be followed.

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Avoidance Strategies for Specific Food Allergens

Avoidance of Food Allergens

While research efforts are underway worldwide to better understand food allergy, a cure has not been found. Currently, physicians cannot safely determine which individuals may be at risk for a mild or moderate allergic reaction and which individuals might go on to develop a severe or potentially fatal allergic reaction to a food. A very small amount of a food allergen can trigger an allergic reaction if ingested. Therefore, avoidance of an allergenic substance is the only way to prevent an allergic reaction. For many people at risk of food anaphylaxis, a life-long avoidance diet will be necessary.

It is difficult to imagine how daily life is impacted when basic safety depends on avoiding a food which has the potential to cause a life-threatening allergic reaction. Consider how many times a day the average person eats something. For the majority of people, this is done without thought. For those at risk for a life-threatening or anaphylactic reaction, however, nothing can be taken for granted. Every bite counts.

Individuals at risk of food anaphylaxis must take ownership for their own safety. This involves sticking to basic rules such as:

- Washing hands with soap and water before and after eating.
- Eating only foods which are safe. Food-allergic individuals should always read food labels and avoid high-risk foods such as bulk foods and foods which are known to often contain an allergenic substance (e.g. peanuts/tree nuts in ice cream, baked goods, or ethnic foods).
- Inquiring about the preparation of foods outside of the home.
- Learning how to use an auto-injector and teaching others to assist them in an emergency.
- Carrying life-saving medication (an epinephrine auto-injector) with them at all times and wearing medical identification, such as a MedicAlert® bracelet.
- Refraining from eating if they do not have their auto-injector.

Note: It is prudent for parents of young children (especially in high-risk families with a history of allergy) to try new foods at home before they are introduced in a child care or other setting.

Awareness and support from others in the community can help to create safer environments for individuals at risk of anaphylaxis. Ways to reduce the risk of accidental exposure include:

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- Washing hands with soap and water and wiping around the mouth after eating.
- Taking precautions to minimize the risk of cross-contamination in food preparation.
- Reading food labels and asking food-allergic individuals about their specific needs. (See this appendix for more information on food labels and "may contain" warnings.)
- Not sharing food with friends who have food allergy or pressuring them into accepting a food they do not want.
- Properly cleaning surfaces and disposing of food items after meals and snacks.
- Ensuring that young children have adult supervision while they are eating.

Where younger children are involved, some food restrictions or special measures may be developed. Special accommodations should be handled on an individual basis. Parents of food-allergic children and school staff are encouraged to work collaboratively to develop strategies which are both realistic and reasonable for their environments.

Many school principals ask the entire school community to read food labels and to not send in products with an allergenic substance such as peanut. This can be especially challenging when multiple allergens (e.g. peanut, milk, egg) are involved. It is important to note that food restrictions alone do not take the place of effective risk reduction strategies. The emphasis should be on preventing an allergic emergency through education, awareness, and training and being prepared to respond during an emergency.

Parents of young food-allergic children should teach them to not accept foods which parents have not approved. Additionally, parents should ask school staff not to offer food to their children without their prior approval. People who do not have a food allergy may not understand ingredient labelling practices. Assumptions about foods can put allergic individuals at risk. Therefore, parents should teach food-allergic children to stick to strict safety rules (not sharing or accepting food, carrying epinephrine, etc.) even in schools which have implemented a restriction on products with peanuts and tree nuts. **Schools can be expected to create an 'allergy-safe' or 'allergy-aware' environment. It is unrealistic, however, to expect an 'allergen-free' environment.**

The following sections provide information about the most common food allergens in the school setting as well as examples of ways in which they are being managed in the school environment. Schools can also consider introducing non-food items (e.g. stickers, pencils) in place of food for some class and school celebrations.

Avoidance of Peanut and Tree Nuts

A study conducted in Montreal schools estimated the prevalence of peanut allergy to be up to 1.7%.[1] Another study based on self-reported data across Canada confirmed this estimate.[2]

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Peanut allergy requires stringent avoidance and management plans as it is one of the most common food allergies in children, adolescents, and adults.[3] Reactions to peanuts are often more severe than to other foods. Peanut has been a leading cause of severe, life-threatening, and even fatal allergic reactions.[4,5] Despite appropriate counseling on peanut avoidance, the majority of subjects followed for 5 years experienced adverse reactions from accidental peanut exposure.[6] Very small quantities of peanut, when ingested, can result in a life-threatening reaction.

Peanuts are legumes and grow underground. They are not botanically related to tree nuts. The tree nuts included in Canada's list of priority food allergens are almonds, Brazil nuts, cashews, hazelnuts, macadamia nuts, pecans, pine nuts, pistachio nuts and walnuts. Individuals who are allergic to peanut may not be allergic to tree nuts, and vice versa. However, it is possible to be allergic to both. Those who are allergic to peanut or tree nuts are generally advised to avoid both due to possible cross-contamination of peanuts and nuts during processing/packaging and the risk of confusion between different nuts.

In the high school environment, teens at risk of anaphylaxis must adhere to key safety rules. Where food is concerned *(any food)*, this involves reading food labels carefully and taking special precautions such as asking foodservice staff about the preparation and handling of food at the cafeteria, if they purchase their lunch at school. Students with food allergy should eat with a friend and advise others quickly if they feel they are having an allergic reaction. They should not eat if they do not have their epinephrine auto-injector with them.

Foodservice companies have a responsibility to train their staff to understand the risk of cross-contamination in the purchasing, preparation, and handling of food items. Foodservice staff should participate in regular school staff training on anaphylaxis management; they must be aware of students at risk for food allergy.

Avoidance of Milk and Egg

While many young children outgrow an allergy to milk and egg within the first decade of life, some will continue to remain at risk of anaphylaxis, and should therefore follow key safety rules such as carrying epinephrine at all times. Anaphylactic reactions to milk and egg can occur when relatively small quantities are ingested. Therefore, the allergic child must avoid all traces of milk and egg.

Elementary schools have adopted different strategies to reduce the risk of exposure for milk- and egg-allergic children.

Milk

- Some schools ask families not to send in milk products in classes where there are milk-allergic children.
- Some schools have milk programs but classes with milk-allergic children do not participate.

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- Some schools allow milk products in classrooms where there are milk-allergic children and have implemented practices to reduce the risk:
  - Children are given straws to put in bevel-topped milk containers (distributed through milk programs) and are taught to close the top once the straw is inserted.
  - Children who bring milk from home are asked to bring it in a plastic bottle with a straw.
  - Children at risk for milk allergy sit at a table where spillable milk products are not being consumed. Alternatively, they sit at the same table but not directly beside classmates who have spillable milk products, e.g. milk, yogurt.
  - On pizza days, some parents of milk-allergic children either take their kids home for lunch (where they have this option); others send their child with an alternative lunch so that they can still participate. Special care should be taken to ensure that children properly wash their hands and mouths after pizza lunches and that surfaces are properly cleaned.

Egg

- In classrooms where there are young egg-allergic children, parents and staff have worked to reduce the risk of accidental exposure by:
  - Avoiding egg in cooking classes or egg shells in craft activities. (This includes both egg whites and yolks, either cooked or raw.) Some food products which may contain egg protein are: bread brushed with egg white, deli meats with egg, and egg substitutes. Non-food items which may contain egg protein include: egg tempera paints, cosmetics, and shampoo.
  - Selecting activities which do not involve the use of real eggs, e.g. Easter egg decorating or hunts with wooden or plastic eggs.
  - Seating children with egg allergy away from those who bring eggs for lunch or snack (e.g. hard-boiled, egg salad sandwiches) or whose food may contain eggs (e.g. mayonnaise).
  - Asking children to enjoy eggs and egg salad sandwiches at home.

Individuals with egg allergy are advised to consult with their allergist about drugs (such as anaesthetics) and vaccines (such as the influenza vaccine) which may have egg protein.

Avoidance of Seafood

Seafood allergies can cause severe and life-threatening allergic reactions; therefore, strict avoidance must be practiced. The term “seafood” refers to all edible finfish (e.g. trout, salmon) and shellfish including crustaceans (e.g. lobster, shrimp, crab) and molluscs (e.g. scallops, clams, oysters, mussels) from fresh and salt water. Individuals with a specific allergy to any of these species are advised to consult with their allergist about possible sensitivity to other species so that they do not unnecessarily avoid seafood to which they may not be allergic. The risk of accidental exposure through cross-contamination in the storage and handling of these foods can be high. Allergic consumers should look for ‘may contain’ warnings on food ingredient labels and be especially careful when purchasing these foods. It is important to note that exposure to airborne proteins, such as in the vapor or steam produced while cooking certain foods (e.g. fish), has been known to cause an allergic reaction.

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Casual Contact with Food Allergens

Allergic reactions to foods such as peanut butter are triggered by specific food *proteins.* Food odour is caused by non-protein chemicals. Smelling peanut butter odour is different from inhaling airborne peanut particles (proteins) which might occur from the mass shelling of peanuts in a poorly ventilated area. Peanut-allergic people may feel unwell if they smell peanut butter, but this is likely due to a strong (and understandable) psychological aversion. Inhaling airborne peanut particles can cause allergic reactions with symptoms such as rashes, runny nose, itchy eyes, and occasionally wheezing, but anaphylaxis is thought to be unlikely. Some people worry that just touching small amounts of peanut butter will result in a significant or life-threatening allergic reaction.

A U.S. study[7] explored the commonly held beliefs that peanut odour and skin contact with peanut products pose a significant risk to peanut-allergic individuals. Many people believe that the mere presence of peanut products can contaminate the surrounding airborne environment, making an area unsafe for a peanut-allergic child. The researchers noted that a very small amount of peanut butter induced only a local reaction when touched; however, the same amount could cause anaphylaxis if it was unintentionally transferred to the mouth. While the researchers hope that their study about casual contact will allay concerns about peanut odour and skin contact with peanut products, they advise continued caution: "Indeed, trace quantities of peanut can induce reactions when ingested, and intimate kissing, although perhaps considered casual contact, is also akin to ingestion." They add: "Specifically, on the basis of this study alone, we would not recommend changing any school policies that protect children with peanut allergy." The researchers also stressed that they did not study the effects of having a large amount of peanut or peanut butter in the room and that further investigation would be required.

Food Labelling of Pre-Packaged Food

Canada's new food labelling regulations came into effect on August 4, 2012, and require food manufacturers to clearly identify common food allergens, gluten sources and added sulphites, in plain language on the label of pre-packaged food products. Under the new regulations, certain ingredients with components that do not contain one of the common allergens will continue to be exempt from listing their individual components in the list of ingredients. However, if a common allergen is a component part of an ingredient to be used in a mixture, e.g. fish (anchovy) contained in Worcestershire sauce, an ingredient in barbecue sauce, it has to be listed. Additionally, plain language has to be used if the allergen is not part of the common name, e.g. casein (milk). The new Canadian regulations are intended to provide greater clarity in food labelling for individuals with food allergies. For additional information about the new regulations, visit the Health Canada website at http://www.hc-sc.gc.ca.

Foods with "May Contain" Warnings

Products with a *'may contain'* warning could be problematic for individuals with life-threatening food allergies if ingested. **Individuals with food allergy should not eat products which have a 'may contain' warning with respect to their allergen(s).** However, foods with a precautionary warning

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should not be an issue if consumed by non-allergic children in the presence of older children with food allergies. Regular hand washing, cleansing of surfaces, and adult supervision of young children while eating are still advised as a precautionary measure. (Note: Precautionary labels such as 'may contain' are put on by food manufacturers at their own discretion.)

Reading Food Labels

While it is the responsibility of allergic consumers to always read food labels, confusion can be created by strong brand awareness and unfamiliarity with food labelling regulations. Here are some examples which consumers need to be aware of:

- Some popular brands which are widely recognized as being safe for allergic consumers may be used in other products which may contain peanut/nuts (e.g. peanut-free chocolate in ice cream which has a 'may contain' warning).
- An allergen-free claim on certain products may be specific to only one size or format of the brand, not to all products using the same brand name. In some cases, the brand name has been used in new products which contain the allergen.
- Product formulations (recipes) may change and ingredients of a particular brand may not be the same in all formats or all sizes. For example, a regular size candy bar may be considered to be free of an allergen such as peanut; however, the snack size version could have a 'may contain peanuts' warning. This could be due to the risk of cross-contamination if the product is run on the same equipment as products which contain peanut. Products may also be produced in a different format or in a different production factory.
- Food labelling standards in other countries may not be the same as Canada's. Imported products may pose a risk to allergic consumers. Researchers found that 62% of imported chocolate bars from Eastern Europe without a precautionary label actually contained detectable levels of peanut protein.[8]

Food-allergic individuals and those who buy on their behalf must read food ingredient labels every time they purchase a product, as product ingredients and labelling may change.

Food-allergic consumers are encouraged to read food ingredient labels three times: once when purchasing an item, a second time when putting the product away, and a third time just before serving.

Cleaning Surfaces

A U.S. study suggests that liquid or bar soap and antibacterial wipes can effectively remove peanut butter residue from hands. However, anti-bacterial hand sanitizers and water alone are not as effective.[9] In the same study, researchers found that common household cleaning products such as Formula 409® (Clorox), Lysol® sanitizing wipes, and Target brand cleaner with bleach were effective in removing residual peanut allergen from surfaces. Not all products may be available in Canada, but the research suggests that comparable products would work equally well. Dish soap did not effectively remove residue of peanut butter from surfaces.[9]

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Food Lists

Many schools provide a list of 'safe foods' to all families to help them comply with a 'no peanut or tree nut' request. While this is well-intended, schools and food-allergic consumers are encouraged to use them as a guideline only. Many of these lists could be inaccurate or outdated.

Parents of children with food allergy should teach them to always read food ingredient labels and not to accept or share foods which the parents have not approved, even in so-called 'peanut-free' schools. It is unrealistic to expect others who are not affected by food allergies to understand the details required to properly read a food label. Some people may assume that a product is okay if there is no 'may contain' warning (which is voluntarily put on by manufacturers).

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Adolescents and Anaphylaxis

For adolescents at risk of anaphylaxis and their parents, the shift from elementary school to a much larger middle or high school can be unsettling. Parents and teens at risk need to rethink the teen's anaphylaxis management strategies to address both a new environment and the developmental changes that take place during puberty. There are many changes during this time, but three stand out: the loss of control over the school environment, the social changes that teens face, and the way the teen's brain will be evolving during this time.

School Environment

When students move from a smaller elementary school to a larger high school setting, they have access to a whole new group of people from which to choose their friends. They may stop seeing friends who knew them well in elementary school and who knew what to do in an emergency. They may not tell their new school friends about their allergy, and their parents may not be aware that they are no longer with friends who know what to do in an emergency.

While adolescents are expected to take on more responsibility, this is a time when parental involvement and ongoing communication with their children is critical. Several studies of fatal anaphylaxis indicate that age may be a factor. Many of the individuals who died from anaphylaxis were older children, teens and young adults. Teens at risk, their parents, and school staff should work together to agree to an anaphylaxis management strategy which protects the teens while respecting their need for privacy and their personal choice about how they want to educate others.

Social Changes

As teens are under less adult supervision, they must learn to teach their friends about their allergy, including how to avoid accidental exposure, and how to respond in an emergency. For safety's sake, a significant food allergy should always be disclosed, the sooner the better.

It is important for parents to start talking to their teens about how they will handle social situations at an early age. Research is starting to show that parents should begin talking about sensitive issues (for example, sex and drugs) about two years earlier than they think they need to. Evidence shows that children will start learning about these things on the playground at age 10 or 11.

Teens must learn to deal with awkward situations such as advising their date of a food or latex allergy **before** they engage in any physical contact. Teens at risk of anaphylaxis must disclose their food allergy to their partner. Severe allergic reactions can occur if a residual amount of a food protein is transferred orally during intimate kissing. Teens who are allergic to latex and are sexually active should inform their partner about the need to use a non-latex condom.

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Teens must be able to resist peer pressure and seek help if they are being teased or bullied about their food allergy. Adolescents must be able to count on their friends for support and assistance should they have an allergic reaction.

Brain Development

During puberty the brain undergoes a complete re-ordering. A very organized, easygoing child may change completely during this time. The part of the brain that makes decisions is the last to mature. Recent research shows that the development process is not completed until around age 25. Teens at risk of anaphylaxis may go through a period of very poor decision making. They may engage in risky behavior such as eating unsafe foods or neglecting to carry their medications. It is important for both parents and educators to be realistic about these changes and watch for irresponsible behaviour.

Adolescents are eager to fit in, which means being like every one else. For teens at risk of anaphylaxis, this may mean not telling friends about their condition and/or not carrying their medication. Instead, the epinephrine auto-injector is left at home, gets put in back packs or purses and may not always be with the student. Teachers need to know where the auto-injector is being carried at all times.

Parents should stay involved in their teen's lives and remember to acknowledge their efforts when they act responsibly about their allergy. Teens with life-threatening allergies must be guided so they learn how to manage their condition responsibly as they move towards adulthood.

Management of Anaphylaxis in the High School Setting

- It is important for individuals at risk of anaphylaxis to be under the care of a physician. Teens with asthma who are also at risk of anaphylaxis need to be followed by an allergist on a regular basis. Studies show that victims of fatal anaphylaxis were often older children, teens and young adults, many of whom had a history of anaphylaxis and asthma.
- Teens with asthma who are at risk of anaphylaxis should be taught to err on the side of caution and use their epinephrine auto-injector if they are not sure if they are having an asthma attack or an allergic reaction. Epinephrine can be used to treat a life-threatening asthma attack or an allergic reaction. They **must** carry an epinephrine auto-injector at all times and know how to use it. If they have asthma, they should also carry their asthma inhalers with their auto-injector. Some high school staff and school nurses do 'spot checks' to ensure that students at risk have their auto-injectors and asthma inhalers (if appropriate) with them.
- Food-allergic students should always be cautious about eating food from the school cafeteria and ask about ingredients each time food is purchased. (Parents should role play with their children to teach them how to inquire about food safety when they are away from home, out of their care. Ideally, older children should be familiar with safety procedures when dining out before they enter high school where there is typically a cafeteria.)
- Teens at risk should eat off a napkin to avoid contact with potentially contaminated surfaces. If they do not have their auto-injector with them, they should not eat.

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- Teens should eat lunch with friends who are informed about their allergy and are able to help them if they have a reaction. These friends would know where their auto-injector is kept and when and how to use it. Some schools have incorporated a special lesson in the health curriculum to teach peers about anaphylaxis.
- Students at risk need to know they have the support of school staff, and all complaints should be taken seriously. Parents are encouraged to meet with their child's teachers and coaches individually to review their child's situation. Some parents ask if the student can eat during the first lunch period and to have a designated table which a custodian and the student wipe down. Parents and students should make sure that eating arrangements at school and on field trips are in place. This process may need to be repeated when the semester changes.
- At the beginning of the school year, all high school staff should be informed about allergic students and, ideally, all staff should be trained.
- Foodservice staff should be included in anaphylaxis training for staff. An Anaphylaxis Emergency Plan for each food-allergic student should be kept in foodservice preparation areas where staff can review information discreetly while respecting the privacy of food-allergic students.
- High schools should consider keeping a spare epinephrine auto-injector in the cafeteria and office in case of emergency. The accessibility of back-up devices needs to be considered; they should not be locked up. (High school offices are often locked at the end of the school day, however, students may be at school until evening for extracurricular events.)
- High school populations are comprised of students from many different "feeder" schools in a region. It is important that school computer systems are set up to track critical information as students register. This includes the student's health information, including information about anaphylaxis. All staff need to know which students are at risk for all medical conditions.

Employment

Teens at risk of anaphylaxis should be careful about potential occupational hazards in the workplace, especially where they may be repeatedly exposed to their allergen. For example, teens often seek part-time employment in the foodservice sector. If they are at risk for potentially life-threatening allergic reactions to certain foods, they need to be selective about the type of work they can do or the environment in which they can work safely.

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Anaphylaxis in the Workplace

Adults and teens in the workplace must also have strategies to stay safe. Employees at risk of anaphylaxis are encouraged to:

- Tell their manager and/or colleagues about their allergies and where to find their epinephrine auto-injectors. Because teens and adults at risk of anaphylaxis may require assistance during an emergency, they are advised to teach other colleagues how to recognize symptoms of anaphylaxis and use an auto-injector properly.
- Work with colleagues to find ways to minimize the risk of accidental exposure. For example, it is helpful if they speak directly with caterers when food is being ordered for work-related events. Employees at risk of anaphylaxis should not expect their environments to be free of specific food allergens, as food is often brought in for meetings and social events.
- Provide their manager with an Anaphylaxis Emergency Plan which can be kept in their personnel file. Employees at risk could keep a copy of this plan with them (e.g. in their auto-injector carrier, purse or wallet).

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Anaphylaxis Policies
(Provinces, Territories and School Boards)

Each province and territory in Canada has its own Ministry of Education or Department of Education which governs schools within its region. Some Ministries are responsible for publicly funded schools only while others also cover private schools and child care centres.

Users of this manual are encouraged to first check what information is available before starting to develop an anaphylaxis policy. Existing policies can be compared with those of other boards or provinces for ideas and best practices. Many policies are available on school board and provincial websites and some schools post their anaphylaxis plans on their school websites.

We have provided general information from a variety of sources below. (Website links were accurate at time of writing.)

Alberta

In May 2007, the Alberta School Boards Association (ASBA) issued a policy advisory on anaphylaxis. The ASBA policy advisory provides school boards with voluntary guidelines for developing their own procedures for safeguarding students at risk of anaphylaxis. Alberta Education launched its Allergy Anaphylaxis Informational Response (AAIR) kit in March 2008. The resource was developed in response to the policy advisory to provide school administrators and staff with a comprehensive package of information and hands-on training materials for managing allergic conditions such as asthma and anaphylaxis in the school community. Additional information about the ASBA policy advisory and the AAIR resource is available at www.education.alberta.ca/aair.

British Columbia

In September 2007, the Ministry of Education announced the signing of the *Anaphylaxis Protection Order*. This ministerial order, which carries the force of law, requires all BC school districts to have anaphylaxis policies and procedures in place to protect allergic students. School policies for managing anaphylaxis must be developed in accordance with the *Anaphylactic and Child Safety Framework (September 2007)*. The Ministry's "Core Anaphylaxis Resources" including the Order, the Framework and additional supporting materials for teachers, parents and administrators is available on the British Columbia School Trustees Association website at www.bcsta.org/anaphylaxis.

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Manitoba

Since 1995, Manitoba has been implementing the Unified Referral and Intake System (URIS) which is a partnership involving the provincial government departments of Health, Seniors and Active Living; Families; and Education and Training. URIS provides support to children with special healthcare needs when they are apart from their parents/guardians and attending school, a licensed child care program, or are receiving respite, i.e. special care. Life-threatening allergies (anaphylaxis) are one of the healthcare needs addressed by URIS. The URIS Ministers issued a provincial directive requiring school divisions and child care facilities to develop local policies regarding anaphylaxis in May 2002. In October 2008, Bill 232 *(The Public Schools Amendment Act – Anaphylaxis Policies)* was passed to formalize, in law, a school board's obligation to develop an anaphylaxis policy. The Bill also gives the Minister of Education and Training the discretionary authority to make regulations in this area. The amendment was proclaimed effective November 1, 2009. For more information about *The Public Schools Amendment Act*, go to web2.gov.mb.ca/bills.

In 2008, Manitoba passed the Child Care Safety Charter – the first legislation of its kind in Canada which mandates safety plans and codes of conduct in child care facilities. While these facilities have been using the Manitoba guide *Caring for Children with Anaphylaxis in a Child Care Program* since 2002, the legislation requires them to develop comprehensive and coordinated policies and procedures to meet the needs of children who have diagnosed anaphylaxis. The Charter was proclaimed and came into force on May 1, 2010. For more detail, go to web2.gov.mb.ca/bills.

New Brunswick

In 1999, the New Brunswick Department of Education and Early Childhood Development issued Policy 704 – a Health Support Services Policy for anaphylaxis stating: "This policy defines standards and procedures required for the provision of health support services to students while they are the responsibility of the public education system, recognizing this responsibility is shared among parents, the public education system and healthcare providers." The policy was revised in 2004 and again in 2008. Section 6.6.1 of Policy 704 is specific to life-threatening allergies and risk of anaphylactic reaction. A copy of the policy can be downloaded from the Government of New Brunswick link at www.gnb.ca. The appendices are listed as separate documents and can be downloaded by clicking the links throughout the policy.

Newfoundland and Labrador

In 2015, the Division of Student Support Services, Department of Education and Early Childhood Development released its Guidelines for Anaphylaxis Management in Schools which can be downloaded from www.ed.gov.nl.ca/edu.

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Northwest Territories

A Ministerial Directive on Inclusive Schooling, 2006, directs education boards to have written policies and procedures for the access, storage and administration of medications to students. Additionally, the teacher resource kit, *Programming for Student Success, 2008*, provides links to information on dealing with anaphylaxis in schools. To access the Directive and Support Guide, go to www.ece.gov.nt.ca/.

Nova Scotia

The Nova Scotia Department of Education & Early Childhood Development Student Services website (http://studentservices.ednet.ns.ca) provides information for schools, teachers, students and parents regarding policies, guidelines and support documents related to various aspects of educational programming and supports for students with special needs, including healthcare needs. There is a direct link to the IWK Health Centre to access the PowerPoint presentation *Anaphylaxis: Education for a Life Threatening Allergic Reaction,* developed for Nova Scotia schools. The *Special Education Policy (2008)* outlines the collaborative team process, which includes parents as team members, that schools follow in planning for individual student programming and support needs. A provincial online student information system, which includes emergency health alerts on individual student records, is currently being implemented in all school boards. Templates for Health Care and Emergency Plans are included in this system and the Anaphylaxis Emergency Plan contained in *Anaphylaxis in Schools & Other Settings* can be attached.

Nunavut

Nunavut has an anaphylaxis response protocol in its Emergency Prevention, Preparedness and Crisis Response Manual developed by the Department of Education in consultation with Health, Community and Government Services and Family Services and approved by the Safe Schools and Anti-Violence Committee which is a joint committee of the Government of Nunavut and the Nunavut Teachers' Association. Additional information is available on the Government of Nunavut website (www.gov.nu.ca).

Ontario

In May 2005, the Ontario government passed a new law, *An Act to protect anaphylactic pupils,* which affected all publicly funded schools in Ontario. Named "Sabrina's Law" in honour of an Ontario student who died following an anaphylactic reaction in 2003, the law came into effect on January 1, 2006. The first legislation of its kind in Canada, this law requires that every school board establish and maintain an anaphylaxis policy. It also requires that principals develop individual plans for pupils at risk of anaphylaxis. For more information, refer to *Sabrina's Law, 2005* – S.O. 2005, Chapter 7 at www.e-laws.gov.on.ca.

On January 1, 2012 the Ontario Ministry of Education (EDU) assumed full responsibility for licensed child care in the province. Ontario sets policy and establishes the legislative/regulatory framework

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for licensed child care under the *Child Care and Early Years Act, 2014* (CCEYA) which establishes provincial standards which must be met by licensed child care operators to help protect and promote the health, safety and well-being of children. Regulations under the CCEYA require that all licensed child care operators in Ontario have an anaphylaxis policy in place in each child care centre operated by the licensee and each location where home child care (license) is provided to help protect those children at risk of anaphylaxis within a regulated child care setting. For more information regarding the requirements, refer to Ontario Regulation 137/15: www.ontario.ca/laws/regulation/150137.

Prince Edward Island

The Minister of Education and Early Childhood Development issued an updated directive in August 2011 concerning Procedures for Dealing with Life-threatening Allergies, stating that "The purpose of this Directive is to provide guidance to parents and school personnel concerning procedures for managing students who have life-threatening allergies and are at risk of anaphylaxis." The Minister's Directive is included in the *Information Handbook on Anaphylaxis*, Fourth Edition, August 2011. To download a copy of this handbook, published by the Department of Education and Early Childhood Development and the Department of Health and Wellness, go to: www.gov.pe.ca.

Quebec

In Quebec, health issues in schools and child care centres are managed by the *Ministère de l'Éducation du Loisir et des Sports,* the *Ministère de la Santé et des Services Sociaux* and the *Ministère de la Famille*. School nurses work either in the private school system or within the public system under the *Ministère de la Santé et des Services sociaux* (the health ministry). School nurses manage the anaphylaxis training of personnel as well as the emergency plans of allergic children in schools and *services de garde* (after school care). Other healthcare professionals in these settings, such as dental hygienists, can also respond to emergency situations involving anaphylaxis. Following the publication of anaphylaxis treatment recommendations by Allergy Quebec (formerly Association québécoise des allergies alimentaires) in 1998 and 2005, each school board and child care centre in Quebec develops and updates its own protocols. Most protocols are similar from region to region, and are based and updated on best practice guidelines relating to intervention and treatment as outlined by the pre-hospital emergency services (*Services préhospitaliers d'urgence)*.

Saskatchewan

In Saskatchewan, the Ministry of Education, in partnership with stakeholders including school divisions, schools, families, inter-ministry groups, students and human service agencies, continues the journey towards actualization of a needs-based model of identifying and providing supports for all students. The needs-based model focuses on developing and implementing procedures and practices to support all learners. Provincially students with specific health, medical and personal care needs, such as students living with life-threatening allergies (anaphylaxis), should be involved

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in a collaborative individualized planning process that results in the creation of an Inclusion and Intervention Plan (IIP). This plan provides written documentation of the student's specific needs, an outline of the supports required to optimize learning, and specific strategies and plans that will optimize the child's safety, not only at school, but, within the home and community as a whole. In September 2015, the Saskatchewan School Boards Association issued its "Managing Life-Threatening Conditions Policy Advisory" which includes anaphylaxis and is available at www.saskschoolboards.ca.

Yukon

In 2005, the Yukon Department of Education issued its "Administration of Medication to Students" policy to support public school students with severe and life-threatening illnesses and allergies. The policy was revised in 2006 and 2013. Related education policies that cover the topic of food allergies include "School Nutrition" and the "School Sale of Home Prepared Foods to the Public". Yukon Education also implemented an Anaphylaxis Policy in September 2012 to clarify roles and responsibilities in managing anaphylactic emergencies in public schools. Additional information about these policies is available at www.education.gov.yk.ca.

Board Policies & School Plans

Every school board should have a written anaphylaxis policy and written procedures which provide minimum standards, as outlined below, for schools within its region. Board policies should be flexible enough to allow schools and classrooms to adapt to the needs of individual children and differences in the organizational and physical environment of schools. Each school should develop its own written anaphylaxis plan which is specific to its environment and complies with the board policy.

At the school level, consideration must be given to factors such as the age and number of children at risk, location of eating areas, level of supervision, and size of the school. Principals should work with staff, parents of allergic children, and school nurses (where available) to develop a written anaphylaxis plan. The most successful board policies and school anaphylaxis plans cultivate understanding and enlist the support of the entire school community.

School board policies should include, but are not limited to:

- An overview of anaphylaxis – definition, signs and symptoms
- A requirement that every school principal:
  - Ensure that, upon registration, parents, guardians and pupils provide information on life-threatening allergies.
  - Develop an individual plan for each pupil at risk of anaphylaxis which covers risk reduction strategies and an Anaphylaxis Emergency Plan. (The individual plan will be common for most pupils at risk where allergies and age levels are similar.)

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- Maintain a file for each pupil at risk which includes proof of diagnosis, current treatment, an emergency procedure for the pupil, and current contact information. Proof of diagnosis could be any of the following:

  a) Anaphylaxis Emergency Plan which has been signed by a physician
  b) Written treatment protocol/instructions prepared and signed by a physician
  c) Copy of a prescription for an epinephrine auto-injector where available (Note: prescriptions are kept by pharmacists when an order is filled.)

Note: Some school boards may choose to allow a parent or guardian to note *"on file"* if a physician's signature has already been obtained (e.g. on previous Anaphylaxis Emergency Plan or written instructions about treatment protocol), if there has been no change in the child's condition or treatment strategy. The document with the physician's signature should be kept in the pupil's file for future reference.

- General strategies that reduce the risk of exposure to allergenic substances in classrooms and common school areas:
  - Responsibilities should be defined for: school board, principals, nurses, parents, pupils, school employees, foodservice employees, bus drivers, and volunteers.
  - Some school boards ask bus companies to reinforce a 'no eating' rule on the bus during daily travel. With proper education and planning, eating on the bus can be allowed for longer trips.
- Medical forms and medication:
  - Anaphylaxis Emergency Plan (form with photo identification, specific details about pupil's allergies, and emergency contact information)
  - Requirements for the location of medications to treat anaphylaxis (i.e. epinephrine auto-injectors)
- A requirement that every school principal arrange for regular training (annually at a minimum) for all employees and others who are in contact with pupils at risk of anaphylaxis. "Others" may include service providers such as foodservice staff and bus drivers, who are typically not employees of a board, volunteers and lunchroom supervisors. (One board stipulates in its Request for Proposals that bus companies provide safety training for their drivers, including training in the use of an epinephrine auto-injector in addition to basic first aid.)
- General guidelines for responding in an emergency situation.
- A communication plan for the dissemination of information on life-threatening allergies to parents, pupils and employees.

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Glossary

ACE inhibitor: a type of medication used to treat heart disease or high blood pressure which may worsen an allergic reaction.

Adrenaline: a hormone secreted by the adrenal glands in response to stressful situations. In synthetic form it is known as epinephrine.

Allergen: a substance capable of causing an allergic reaction, i.e. pollens, moulds, animal dander, house dust mites, foods, insect stings, medications, natural latex, etc.

Allergic reaction: an adverse immune response following repeated contact with otherwise harmless substances such as pollens, moulds, foods, or drugs.

Allergist: a medical doctor who has first specialized in internal medicine or pediatrics and then has obtained additional subspecialty training required to qualify as a specialist in allergy and immunology.

Allergy: an altered immune response caused by a specific substance.

Anaphylaxis: a serious allergic reaction that is rapid in onset and may cause death.

Antihistamine: a drug that blocks the effects of histamine, which is one of the substances released into the tissues during an allergic reaction.

Asthma: a common chronic condition affecting the lungs, characterized by inflammation, constriction of the muscles surrounding the airways and excess mucus production. Symptoms may include cough, wheeze, or breathlessness.

Auto-injector: a "user-friendly" pre-loaded syringe used to administer epinephrine.

Beta-blocker: a type of medication used to treat heart disease or high blood pressure which may interfere with the action of epinephrine and worsen the allergic reaction.

Chronic: present for a long time.

Epinephrine: a synthetic version of the hormone adrenaline; used in the treatment of anaphylaxis and life-threatening asthma attacks.

Hives: a skin condition of smooth, slightly elevated bumps or welts, which are redder or paler white than the surrounding skin and are accompanied by severe itching. Not all hives are allergic in origin.

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Idiopathic reaction: a reaction that results from an unknown cause.

Immune system: the infection-fighting part of the body; in allergic individuals, harmless substances trigger the immune system to "fight".

Immunology: the science and study of the immune system.

Immunotherapy: a series of desensitizing injections (allergy shots) prescribed by an allergist that may be used to protect against allergy – extremely small amounts of an allergen, such as stinging insect venom, are gradually given in increasing dosages until a tolerance develops – not available for all allergens.

Oral immunotherapy: an experimental desensitization treatment for food allergy. With this treatment, extremely small amounts of an allergen are gradually given in increasing dosages until a tolerance develops (the patient eats the food to which they are allergic). Not yet available as a routine treatment option.

Proteins: complex chemical substances made of amino acids; proteins are essential constituents of all living cells.

Protocol: a written plan to follow for management of a condition in case of an emergency; useful tool for schools, day cares, summer camps, etc.

Sensitization: an allergic response to an allergen that results in specific IgE antibodies being produced that allow allergic reactions whenever subsequent exposure occurs.

Skin tests: The placement of a small, dilute amount of allergen onto the skin of the arm or back, through which the skin is pricked, or the injection of a small, dilute amount of allergen under the skin. If the patient is allergic to that substance, a small raised area surrounded by redness will appear at the test site within 15 minutes.

Stock epinephrine auto-injector: a device which is not designated for a particular person and can be used to treat anaphylaxis. It is meant for occasions where an individual does not have an auto-injector with them (they forgot it, they have not been diagnosed and are having a first time reaction).

Systemic reaction: An allergic reaction that affects the whole body or body system, as opposed to a local reaction that is confined to the immediate area of exposure.

Triggers: Factors that can provoke allergic reactions or asthma episodes, including allergens and irritants.

Urticaria (see Hives)

Note: This is not an extensive list of terms. You can find more terms at some of the allergy associations' websites in Appendix L.

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Information & Services

This list is provided as a quick reference to other organizations which may offer additional information and services. It is not a comprehensive list as each organization's website usually provides links to other organizations. **Mention of a specific organization does not imply official approval by individuals noted in this manual.** People are advised to check with their physicians regarding specific information.

ALLERGY ASSOCIATIONS

Allergy / Asthma Information Association (AAIA)

The AAIA is a national charitable organization providing education, support and advocacy on behalf of those affected by allergy, asthma, and anaphylaxis. The organization has offices and volunteers across Canada. Visit their website for services, products, and training materials, which are available in English and French.

National Office
21 Four Seasons Place, Suite 200
Toronto, Ontario
M9B 6J8

Tel: 1-800-611-7011 / (416) 621-4571
Fax: (416) 621-5034
Email: national@aaia.ca
Web: www.aaia.ca

Allergy Asthma & Immunology Society of Ontario (AAISO)

The AAISO is an organization of practicing physicians who strive to provide high quality medical services to the public, through consultation by referral from other physicians, as well as through public service education.

2 Demaris Avenue
Toronto, Ontario
M3N 1M1

Tel: (416) 633-2215
Web: www.allergyasthma.on.ca

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Allergy Quebec

Allergy Quebec (formerly Association québécoise des allergies alimentaires) is a non-profit organization whose mission is to advocate for the safety and improved quality of life of people living with food allergy. Services include telephone and on-line support; training workshops and resource packages. Allergy Quebec also oversees the «Allergen Control» programme, designed to ensure optimal allergen control in processed foods. Visit their website to sign up for a monthly newsletter.

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Email: info@allergiesquebec.ca
Web: www.allergiesquebec.ca /
www.allergen-control.com

Association of Allergists and Immunologists of Quebec (AAIQ)

The AAIQ is comprised of physicians with special expertise in the management of allergic and immunologic diseases. The AAIQ website provides information for both patients and professionals, including recent publications, special articles, scientific events, and updates on recent developments in the field.

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Canadian Society of Allergy and Clinical Immunology (CSACI) / Canadian Allergy, Asthma and Immunology Foundation (CAAIF)

The CSACI is the largest national professional medical specialty organization in Canada, representing physicians, allied health professionals and scientists with special expertise in the management of allergic and immunologic diseases. The Society is also dedicated to improving the quality of life of people with allergies through research, advocacy, and continuing professional development and public education.

CAAIF is a registered charity dedicated to funding research into the causes, prevention and treatment of allergic diseases; and educating healthcare professionals, patients and the public about the advances in research and treatment.

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Web: www.csaci.ca (CSACI)
Web: www.allergyfoundation.ca (CAAIF)

Food Allergy Canada

Food Allergy Canada (formerly Anaphylaxis Canada) is a non-profit charitable organization dedicated to helping Canadians with food allergies and those who care for them. The organization is committed to creating a safer world for people with potentially life-threatening allergies through education, advocacy, and research. The organization's approach to reducing the risk of allergic reactions in both children and adults is focused on self-management, community engagement, understanding, and respect.

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Web: www.foodallergycanada.ca

Western Canada Office
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Valleyview PO
Kamloops, British Columbia
V2C 0A9

Tel: 1-877-322-9378 / (250) 314-4814
Fax: 1-888-872-6014
Email: westernregion@foodallergycanada.ca

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OTHER ORGANIZATIONS

AllerGen NCE Inc., (The Allergy, Genes and Environment Network)

AllerGen, established in 2004, is a national research network funded by Industry Canada through the Networks of Centres of Excellence (NCE) Program. AllerGen's mandate is to support research, networking, commercialization, knowledge mobilization and capacity building activities that contribute to reducing the morbidity, mortality and socio-economic impacts of allergic and related immune diseases.

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Fax: (905) 524-0611
Email: info@allergen-nce.ca
Web: www.allergen-nce.ca

American Academy of Allergy, Asthma & Immunology (AAAAI)

The AAAAI represents allergists, asthma specialists, clinical immunologists, allied health professionals, and others with a special interest in the research and treatment of allergic disease. Established in 1943, the AAAAI has more than 6,800 members in the United States, Canada and 72 other countries. Visit www.aaaai.org for educational information on asthma and allergies, as well as a Find an Allergist/ Immunologist Directory.

555 East Wells Street
Suite 1100
Milwaukee, WI 53202-3823
USA

Email: info@aaaai.org
Web: www.aaaai.org

Asthma Society of Canada

The Asthma Society of Canada is a national registered healthcare charity providing asthma information and education to Canadians with asthma. Visit their website to access downloadable resources, sign up for e-newsletters, and join the National Asthma Patient Alliance.

401-124 Merton Street
Toronto, Ontario
M4S 2Z2

Tel: 1-866-787-4050 / (416) 787-4050
Fax: (416) 787-5807
Email: info@asthma.ca
Web: www.asthma.ca

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Canadian Food Inspection Agency (CFIA)

The CFIA is the Government of Canada's key science-based regulator for food safety (in partnership with Health Canada), animal health and plant protection. Visit the CFIA website for information on food allergies, such as downloadable fact sheets for priority allergens, and to subscribe to the free "Allergy Alerts and Food Recalls" e-mail service.

1400 Merivale Road
Ottawa, Ontario
K1A 0Y9

Tel: 1-800-442-2342 / (613) 773-2342
Email: cfiamaster@inspection.gc.ca
Web: www.inspection.gc.ca

Canadian School Boards Association (CSBA)

The CSBA is the national voice of school boards in Canada, representing over 400 school boards. The organization works to ensure that the needs and concerns of the education system are heard at the national level.

147 Saint Paul Street West, Suite 100
Montréal, Québec
H3Y 1Z5

Tel: 514-289-2988
Fax: 514-788-3334
Email: info@cdnsba.org
Web: www.cdnsba.org

Food Allergy Research & Education (FARE)

The largest food allergy association in the world, FARE works on behalf of the 15 million Americans with food allergies, including all those at risk for life-threatening anaphylaxis. FARE provides education and resources, advances advocacy initiatives, increases public awareness of food allergies as a serious public health issue, and funds critical research to find a cure.

7925 Jones Branch Drive, Suite 1100
McLean, VA 22102
USA

Tel: 1-800-929-4040
Fax: (703) 691-2713
Email: info@foodallergy.org
Web: www.foodallergy.org

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Health Canada (Food Directorate)

The Bureau of Chemical Safety in Health Canada's Food Directorate is the body responsible for the development of policies and standards, and risk assessment and management strategies which enhance the protection of food allergic consumers in Canada.

Bureau of Chemical Safety
Food Directorate
251 Sir Frederick Banting Driveway
Postal Locator: 2202C
Ottawa, Ontario
K1A 0K9

Tel:(613) 957-0973
Fax: (613) 954-4674
Email: bcs-bipc@hc-sc.gc.ca
Web: www.hc-sc.gc.ca/fn-an/label-etiquet/allergen/index-eng.php

MedicAlert® Foundation Canada

The Foundation is the largest membership-based registered charity in Canada and the leading provider of emergency medical information services for more than one million Canadians since 1961. MedicAlert® is unparalleled and backed by robust electronic health records maintained by medically trained professionals, a state-of-the-art secure database, and a 24/7 emergency hotline for Emergency Medical Services (EMS) personnel, all linked to customized identification products for Canadians with medical conditions and special needs.

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Fax: 1-800-392-8422
Email: service@medicalert.ca
Web: www.medicalert.ca

The Lung Association

The Lung Association's chief purpose is to combat both disease and environmental threats to the lungs. A non-profit organization, The Lung Association acts as the umbrella group for ten provincial lung associations. Its primary work involves research, education, prevention and advocacy for lung health.

The Lung Association (National Office)
1750 Courtwood Crescent, Suite 300
Ottawa, Ontario
K2C 2B5

Tel: (613) 569-6411
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Web: www.lung.ca

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Michelle Allard RN, BN

Canadian Nurses Association

Canadian Paediatric Society

Canadian Pharmacists Association
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Canadian Red Cross
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Canadian Pharmacists Association
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