



TREATMENT OF ANAPHYLAXIS

Anaphylaxis is a sudden, potentially severe allergic reaction that may involve the skin, the respiratory tract, the gastrointestinal tract, and in some cases, the circulatory system (1). In children attending school, anaphylaxis is generally the result of allergic reactions to food, insect stings, or rarely, medications. For every 200 students attending a school, two to four students are likely to have a significant food allergy and one is likely to have a stinging insect allergy. While the majority of these reactions are self-limited or respond readily to early medical intervention, fatal anaphylactic reactions have been reported (2). Those with asthma are at greatest risk of severe anaphylactic reactions.

Signs and symptoms of anaphylaxis vary considerably from person to person and from time to time. Reactions may begin with a tingling sensation, itching, or metallic taste in the mouth, followed by itching and tightness in the throat, hives and/or generalized swelling of the face and extremities. A sensation of "air hunger" and wheezing, nausea, abdominal cramps and vomiting, a drop in blood pressure and loss of consciousness may follow this. Onset of symptoms may be within minutes and rarely beyond one hour following exposure. The time course of the reaction may follow one of three patterns: 1) rapid progression of symptoms, 2) early symptoms followed by apparent resolution for one to two hours and then rapid development of respiratory symptoms and/or drop in blood pressure, or 3) protracted symptoms despite medical management.

The rapidity with which life-threatening reactions may develop in susceptible children necessitates the availability and early, appropriate administration of epinephrine (adrenaline) followed by immediate transport to an emergency room at the first sign of anaphylactic symptoms. Children at risk for anaphylactic reactions must be identified to the school. School nurses, teachers, and/or other school personnel must be trained to recognize symptoms of impending anaphylaxis, to administer an injection of epinephrine (adrenaline) and an oral dose of liquid antihistamine, and to summon an emergency service for transport to the nearest emergency facility.

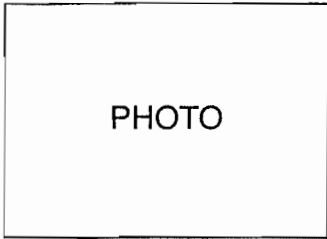
If a child with a known food allergy is suspected of ingesting the food or a child with insect sting allergy is

suspected of being stung by a bee, he/she should be given liquid diphenhydramine (Benadryl) immediately, even if there is some doubt as to whether the child ingested the suspected food or was stung by the insect. The attached form indicates that epinephrine should be given at the first sign of throat, lung or heart symptoms and possibly sooner. For the reasons described above, the person who experienced anaphylaxis should be transported to the nearest emergency facility. Each child should have a specific emergency plan with the doses of antihistamine and epinephrine to be given and the telephone numbers of the ambulance service to be summoned (often 911), the child's parents or guardians and pediatrician, and the emergency room where the child is to be taken. In no case should treatment or transport be delayed if the parents (guardians) or pediatrician cannot be reached.

Epinephrine is the most effective drug for treating anaphylaxis and should be readily available for any child at risk for anaphylaxis. The benefit of administering epinephrine in situations of doubt about symptom severity outweighs the side effects, which are generally mild. It is most easily administered with an auto-injectable device, Epi-Pen®/EpiPen Jr.®, in the lateral thigh muscle (side of the upper leg). A second injection may be given in 10 to 15 minutes if the child continues to be in distress. In children with severe breathing difficulty and asthma, up to six puffs of a bronchodilator (Alupent, Proventil, Ventolin) may be given in addition to the epinephrine if available.

Prompt recognition of signs and symptoms of anaphylaxis, early administration of epinephrine, and rapid transport to an appropriate emergency facility are the keys to successful management of anaphylaxis.

1. Joint Task Force on Practice Parameters, American Academy of Allergy, Asthma and Immunology, American College of Allergy, Asthma and Immunology, and the Joint Council of Allergy, Asthma and Immunology. The diagnosis and management of anaphylaxis. *J Allergy Clin Immunol* 1998;101:S465-S528.
2. Sampson HA, Mendelson L, Rosen JP: Fatal and near-fatal anaphylaxis reactions in children. *N Engl J Med* 1992;327:380-384.



AUTHORIZATION OF EMERGENCY TREATMENT

_____ is allergic to: _____

1. If you suspect that a food allergen has been ingested (or insect sting), immediately determine the symptoms and treat the reaction as follows:

Symptoms:

- Mouth Itching, tingling, or swelling of lips, tongue, mouth
- Skin Hives, swelling on face or extremities, itchy rash
- Gut Nausea, abdominal cramps, vomiting, diarrhea
- Throat Tightening of throat, hoarseness, hacking cough
- Lung Shortness of breath, repetitive coughing, wheezing,
- Heart Thready pulse, passing out, fainting, pale, blueness
- General: Panic, sudden fatigue, chills, fear of impending doom

If a food allergen has been ingested, but *no symptoms*:

If a reaction is progressing (several of the above areas affected):

Give Medication checked "X"*

- | | | |
|---|--|--------------------------------|
| <input type="checkbox"/> Antihistamine | <input type="checkbox"/> EpiPen | |
| <input type="checkbox"/> Antihistamine | <input type="checkbox"/> EpiPen | |
| <input type="checkbox"/> Antihistamine | <input type="checkbox"/> EpiPen | |
| <input type="checkbox"/> Antihistamine | <input type="checkbox"/> EpiPen | |
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| <input type="checkbox"/> Antihistamine | <input type="checkbox"/> EpiPen | |
| <input type="checkbox"/> Antihistamine | <input type="checkbox"/> EpiPen | |
| <input checked="" type="checkbox"/> Antihistamine | <input type="checkbox"/> EpiPen | <input type="checkbox"/> Other |
| <input checked="" type="checkbox"/> Antihistamine | <input checked="" type="checkbox"/> EpiPen | |

Medication Doses:

Antihistamine (liquid diphenhydramine, Benadryl™ or cetirizine, Zyrtec™):

Give _____ Teaspoon(s), _____ cc (_____ mg) by mouth.

Epinephrine:

EpiPen™ [Epi-Pen _____ (_____ mg)] injected once into upper outer thigh

Epinephrine injection may need to be repeated if the child's symptoms persist or get worse.

Call 911 (or Ambulance service and phone number: _____)

State that the child had a severe allergic reaction, and additional epinephrine doses may be needed

Additional contact information:

Nearest Hospital _____ Phone _____ Address _____

Allergist Name _____ Phone _____

Pediatrician Name _____ Phone _____

Parent's Name (other contacts) and Contact Numbers

Name _____

Phone (1) _____ Phone (2) _____

Name _____

Phone (1) _____ Phone (2) _____

Other allergies, medication allergies, medical conditions: _____ Approximate Weight: _____ lbs

DO NOT HESITATE TO ADMINISTER MEDICATION OR TAKE THE CHILD TO A MEDICAL FACILITY EVEN IF PARENTS CANNOT BE REACHED!

*Additional boxes may be checked depending upon specific patient history

Physician's Signature _____

Date _____

Parent's Signature _____

Date _____



Provided by the Food Allergy Initiative, a national non-profit organization dedicated to finding a cure to life-threatening food allergies. For more information, please visit www.FoodAllergyInitiative.org or email Info@FoodAllergyInitiative.org

SAMPLE LETTER FOR CARRYING SELF-INJECTABLE EPINEPHRINE

Date _____

To Whom it May Concern:

_____ is _____
(Patient Full Name) (Age/Gender)

who suffers from a life-threatening allergy to _____.
It is medically necessary for him/her to always carry both an antihistamine and _____
autoinjector devices of epinephrine (EpiPens®). EpiPens are prescribed by a licensed medical
professional.

_____ should have this life-saving medication with
(Patient Full Name)
him/her at all times. If he/she is exposed to even a minuscule amount of the offending foods
a severe allergic reaction may occur. Epinephrine must be administered immediately,
followed by emergency medical attention to prevent a life-threatening reaction.

Additional information may be obtained from

(Physician Name)
at _____ (Phone) or _____ (Fax)

Respectfully signed,

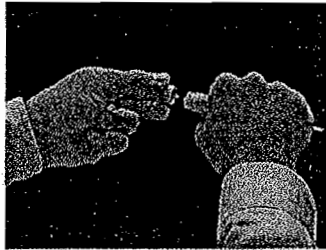
_____, M.D.
M.D. Office Stamp



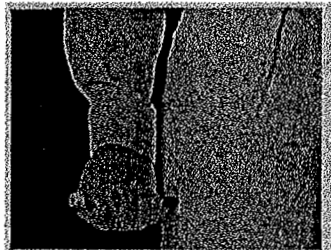
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EpiPen®/EpiPen Jr. Directions:

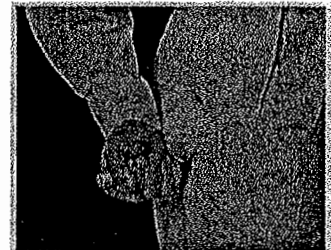
1. Identify student by first and last name
2. Check written order and label on medication
3. Remove EpiPen from yellow container/package
4. Remove gray cap from EpiPen
5. Hold the unit in your fist
6. Place black tip against upper outer thigh at right angle to leg
7. Press tip hard into thigh until activation
8. Hold in place about 10 seconds
9. Pull needle straight out of injection site
10. Massage injection site



REMOVE CAP



PLACE BLACK TIP
AGAINST THIGH



PRESS FIRMLY
HOLD 10 SECONDS

Additional tips about EpiPen:

There is one dose in each EpiPen

There are NO buttons to press, activation occurs by the pressure against the leg

Do not store at extremes of temperature, do not refrigerate

Do not confuse trainer (blue) with real device (yellow/white)

Check expiration date, but an expired one is better than nothing

Check window on device, fluid should be clear

EpiPen trainers can “click” but real ones do not

The device can go through clothing, but time usually permits clothing removal

Arrows show direction of injection

Take the EpiPen to the hospital for disposal, bend the needle back against a hard surface and carefully re-insert the fired unit, without replacing the safety cap—**NEEDLE FIRST**—into the amber carrying tube.

If insect sting, remove carefully by flicking, not squeezing (causes more venom to inject) and apply ice.



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TEACHER'S CHECKLIST

- ✓ Know the symptoms of an allergic reaction.
- ✓ Keep information about your allergic student someplace where a substitute will immediately be aware of it.
- ✓ Use the parent's expertise in food allergies.
- ✓ Rethink lesson plans that use food.
- ✓ Review all emergency procedures and be sure you know when and how to administer medications.
- ✓ Avoid cross contamination from snacks or other class foods.
- ✓ At the end of the school year, work with the parents in planning for food allergy management for the next year.



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