

This presentation has been developed by the Arizona Department of Health Services to assist in teaching school staff about anaphylaxis and auto-injector epinephrine.

Use of Epinephrine Auto-Injector for Anaphylaxis

For people with known severe allergies
as well as unknown previous allergies



What is Anaphylaxis?


- A severe allergic reaction when the immune system is exposed to a substance that it mistakenly believes is harmful
- Signs will appear in multiple parts of the body
- Without epinephrine treatment, it can be fatal
- Anaphylactic shock is when the anaphylaxis causes severe low blood pressure or shock



Some Causes of Anaphylaxis

- Food
 - Peanuts, tree nuts, fish, shellfish, cow's milk, soy, egg, sesame seeds
- Insect stings
- Medications
 - Penicillin, aspirin, nonsteroidal anti-inflammatory
- Natural rubber latex





Arizona Revised Statute

§ 15-341, A, 35 (a)

- Permits pupils who have been diagnosed with anaphylaxis by a licensed health care provider to carry and self-administer emergency medications, including auto-injectable epinephrine, while at school and at school-sponsored activities.





Arizona Revised Statute § 15-157

Arizona Administrative Code R7-2-809

- Directs public school districts and charter schools to stock epinephrine by auto-injectors
 - 2 pediatric doses and 2 adult doses
 - Based on funding provided by the legislature
- In addition to school nurses or athletic trainers, at each school there should be at least 2 other personnel trained in giving auto-injector epinephrine to children or adults who are showing symptoms of anaphylaxis.



Immune from Civil Liability

- The following are immune from civil liability with respect to all decisions made and actions taken that are based on good faith implementation of the requirements of Arizona Revised Statute § 15-157, except in cases of wanton or willful neglect.
 - School districts
 - Charter schools
 - Employees of a school district or charter school
 - Physicians, NP or PA signing standing orders



School Supply of Auto-Injector Epinephrine

- Obtain through standing order
- Store at room temperature in a secure, unlocked, easily accessible location
- Do not refrigerate; protect from light
- Check epinephrine supply monthly
 - Epinephrine liquid should be clear and without particles
 - Replace before expiration date



How to Obtain Epinephrine

- Standing orders include directive to have orders serve as prescription.
- Purchase from pharmacy or pharmaceutical company.
- Prescription for epinephrine will need to be renewed annually or when signature changes.
- Send pharmacy copy of newly signed order, or physician can call in a verbal renewal order.



All Staff Needs Annual Training by Regulated Health Professional to Recognize Symptoms of Possible Anaphylaxis

- Reaction in cafeteria due to a food allergy
- Classroom situation
- Symptoms developing in a school hallway or during recess
- Symptoms during after-school sports
- A teacher or a visitor to the school may develop symptoms of anaphylaxis



Training of People Authorized to Give Epinephrine by Auto-Injector

- Annual training by regulated health professional
- Additional Training
 - Read manufacturer's package insert and instructions
 - Adrenaclick®
 - Auvi-Q®
 - EpiPen®/EpiPen Jr. ®
 - Generic epinephrine injection, USP auto-injector
 - Explain to the trainer the process of giving epinephrine to the person with suspected anaphylaxis



List of Trained and Authorized Staff

- A list of the people authorized to administer auto-injectable epinephrine by standing order should be stored next to the school's supply auto-injectable epinephrine.
- The list should also be maintained in the school's administrative offices and made available upon request.



Document Events

- Document
 - Time and dose of epinephrine given
 - Describe symptoms before & after epinephrine
 - Write names of people involved in giving epinephrine and in caring for person
- Do not discard auto-injector in regular trash
 - Give to emergency responders with person's name and time it was used written on it



Inform Essential Contacts

- Notify of events
 - School administrators
 - School health office
 - Parents/guardians/family member
 - Physician who signed standing orders
- Write report for school
 - Send a copy of incident to physician who signed epinephrine standing orders



Send Report to ADHS' Bureau of Emergency Medical Services

- Name and location of school
- Name of individual who was injected
- Age of the individual injected
- Incident date and time
- Name of individual that administered the injection.
- Number of doses of epinephrine given
- Reasons for giving epinephrine
- Describe any problems with giving epinephrine
- Time 911 was called



Arizona Department of Health Services' Epinephrine Report Form



Arizona Department of Health Services
Bureau of EMS and Trauma Services

School Emergency Administration of Auto-Injectable Epinephrine Report Arizona Administrative Code R7-2-809			
School Providing Injection			
School Name here: ▶			
Address here: ▶			
City here: ▶	District here: ▶	Zip: here: ▶	
Main Telephone Number here: ▶	Fax Number here: ▶		
Individual Injected			
Name here: ▶			
Age here: ▶			
Legal Guardian Contact			
Name here: ▶ Relationship here: ▶			
Direct Telephone Number here: ▶		E-mail Address here: ▶	
Individual Administering Injection			
Name: here ▶		Position/Title here: ▶	
Direct Telephone Number: here ▶		E-mail Address: here ▶	
Drug Administration			
Date: here ▶	Time: here ▶	Number of Doses: here ▶	
Reasons for drug administration here: ▶			
Describe any problems with the drug administration here: ▶			
Standing Order Authority			
Physician Name here: ▶			
Address here: ▶			
City here: ▶	AZ Medical License Number here: ▶		
Main Telephone Number here: ▶	Fax Number here: ▶		
EMS Response			
Time 911 was called: here ▶		Time EMS Arrived: here ▶	
Name of Transporting EMS Agency here: ▶			
Name of Hospital Individual was Transported here: ▶			
Comments:			
Please provide any questions or concerns here: ▶			
After completion, please forward this form to:			
Terry Mullins, MPH, MBA Arizona Department of Health Services—Bureau Chief of EMS and Trauma Services Email: tmullins@azdhs.gov Phone (602) 364-3149 Mail: 150 North 18 th Ave., Ste. 540, Phoenix, Arizona, 85007-3248			

- Link for reporting form <https://www.azdhs.gov/audiences/index.php#schools-home>
- Send report to Epinephrine@azdhs.gov
- Questions about reporting:
 - Terry Mullins at ADHS Bureau of Emergency Medical Services
 - (602) 364-3149
 - Terry.mullins@azdhs.gov



ARIZONA DEPARTMENT
OF HEALTH SERVICES

Health and Wellness for all Arizonans

Restock Supply of Epinephrine

- Use up-to-date standing orders to obtain replacement for auto-injector epinephrine
 - Pharmacies need annual renewal of orders
- Continue to monthly monitor epinephrine supply
 - Epinephrine liquid should be clear with no particles in liquid
 - Expiration date not passed
 - Replace before expiration date



After Event Evaluation

- Discuss the emergency response
- Describe the good parts of the response
- List the challenges to the response
- Identify ways to improve the next time
- Incorporate improvements into staff training



Resources and References

- Manufacturers package inserts and videos.
- Sicherer SH, Simons FER, et al. *Pediatrics*, March 2007.
- Sicherer SH, Mahr T, et al. *Pediatrics*, December 2010.
- American Academy of Allergy, Asthma, & Immunology. www.aaaai.org



Symptoms of Anaphylaxis

Only a few symptoms may be present

- THROAT: tightness/closure, hoarseness, itching, difficulty swallowing, change in voice, high-pitched breathing
- LUNG: difficulty breathing, shortness of breath, coughing, wheezing, chest tightness
- HEART: Weak pulse, irregular pulse, dizziness, fainting
- MOUTH: Itching, swelling of lips, tongue, and/or back of throat
- SKIN: Itching, redness, swelling, hives (a red, raised, itchy skin rash), itching of outer ear canals
- EYES: Redness, swelling, tearing, itching
- GUT: May have accompanying vomiting, diarrhea, stomach cramps





Allergic Emergency Plan when Student Has Own Epinephrine

- Know which students have severe allergies
- Know what symptoms to look for
- Decide if anaphylaxis and administer personal dose of epinephrine by auto-injector quickly (by self or by trained school personnel) while having someone else call 911
- If possible, have person sit down or lie down with legs raised
- May need a second dose of epinephrine in 10-20 minutes if still ill or worsening
- Transport to hospital by emergency medical responders
- Call parent/guardian
- Inform school administrators





Plan when Allergy Status Is Not Known

- Know the symptoms of anaphylaxis
- Decide if anaphylaxis or a serious health problem and call 911
- Get help from the school health office and/or people trained in identifying anaphylaxis and giving epinephrine by auto-injector
- Retrieve epinephrine from the school supply
- An authorized staff member decides if epinephrine is needed
- Choose epinephrine dose (0.3mg if \geq 66 lbs.; 0.15mg if 33-66 lbs.)
- Authorized staff quickly gives epinephrine by auto-injector
 - The person may need second dose of epinephrine in 10-20 minutes symptoms are not improving or are worsening
- Transport to hospital by emergency medical responders
- Contact parent/guardian/family and school administrators



Use of Epinephrine if Anaphylaxis Is Suspected

- Immediate epinephrine administration takes precedence over any use of bronchodilators or antihistamines
- Prompt administration of epinephrine is key in preventing death from anaphylaxis
- Cautions with use of epinephrine
 - Over 50 years old or underlying heart disease



Giving Epinephrine by Auto-Injector

- Follow instructions in manufacturers' package insert and training video
- How to hold
 - Form a fist around the center of the injector
 - Pull off the cap protecting the needle right before using
- How to Use
 - Hold the tip with the needle near the upper outer thigh (always apply to thigh)
 - Swing and jab into the outer thigh (thru clothes if necessary)
 - Hold injector in place and count to 10



Common Effects of Epinephrine

- Trembling
- Fast, irregular, or pounding heart rate
- Paleness of skin
- Flushing (redness of skin)
- Headache
- Nervousness



Waiting for Emergency Responders

- Have person positioned for greatest comfort of breathing
- May benefit by lying down with legs raised
 - This helps to counteract low blood pressure caused by anaphylactic shock
- Cover with a blanket as needed to keep warm
- Monitor person's airway and breathing
- Begin CPR if person stops breathing

