

Use and Administration of Epinephrine Auto-Injectors



**AMERICAN
SAFETY &
HEALTH
INSTITUTE**



Use and Administration of Epinephrine Auto-Injectors

Student Book, Version 8.0

Purpose of this Student Book

This ASHI *Use and Administration of Epinephrine Auto-Injectors Version 8.0 Student Book* is solely intended to give information on the presentation and administration of ASHI Use and Administration of Epinephrine Auto-Injectors certified training classes. The information in this book is furnished for that purpose and is subject to change without notice.

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PREVIEW

Anaphylaxis and Epinephrine



Anaphylaxis is a serious, rapidly developing, life-threatening condition. A person's likelihood of survival is greatly enhanced by the early administration of epinephrine.

In this class, you will learn about causes of severe allergic reaction, how to recognize and treat anaphylaxis, legal considerations for administering epinephrine, and how to prepare for an anaphylactic emergency.

Anaphylaxis

Anaphylaxis is a severe allergic reaction by the body's immune system. This fast-developing reaction affects the entire body and can quickly result in life-threatening symptoms.

A person must be exposed to something he or she is sensitive to in order to have an anaphylactic reaction. These causes, or triggers, are known as allergens.

Allergens can enter the body through ingestion, injection, skin absorption, or inhalation.

These foods and food groups account for 90% of severe allergic reactions:¹

- | | | |
|--------|------------------------|-------------|
| • Milk | • Crustacean shellfish | • Peanuts |
| • Eggs | • Wheat | • Tree nuts |
| • Fish | • Soy | |



Thousands of people are stung by insects each year, and as many as 90 to 100 people in North America die each year as a result of anaphylaxis from insect stings.²

Medications, such as penicillin and aspirin, can cause severe allergic reactions.

Latex, often used in disposable gloves or other manufactured products, is also a common cause of severe allergic reaction, especially if someone has had frequent exposure to it.

Someone who has had a severe allergic reaction in the past is likely to have another reaction when exposed to the same allergen.

A severe allergic reaction can develop rapidly. In general, the faster the reaction occurs, the more severe it is. Without treatment, death can occur within minutes.³

Epinephrine

Epinephrine, also known as adrenaline, is a hormone secreted by the adrenal glands in the human body. As an injectable medication, epinephrine can quickly counter the life-threatening symptoms of anaphylaxis and provide more time to treat the underlying cause.

Because of the speed of an anaphylactic reaction, the administration of epinephrine by a lay bystander may be the only opportunity to save a person's life.⁴

Epinephrine Auto-Injectors

Epinephrine auto-injectors are simple-to-use medical devices that allow individuals with minimal training to administer epinephrine quickly in an emergency. Auto-injectors automatically inject epinephrine through a spring-loaded needle when pressed firmly against the skin.

Individuals who have experienced a serious allergic reaction or are at risk for one are typically prescribed epinephrine auto-injectors to carry and use. In addition, epinephrine auto-injectors are available for use by certain trained lay providers in situations where anaphylactic reactions may occur more frequently, such as by teachers in schools, or by lay providers in remote areas that have longer EMS response times.

Barriers for Use

Most epinephrine auto-injectors are prescribed for self-administration during a life-threatening anaphylactic emergency. However, many of those who are prescribed auto-injectors do not carry them consistently.

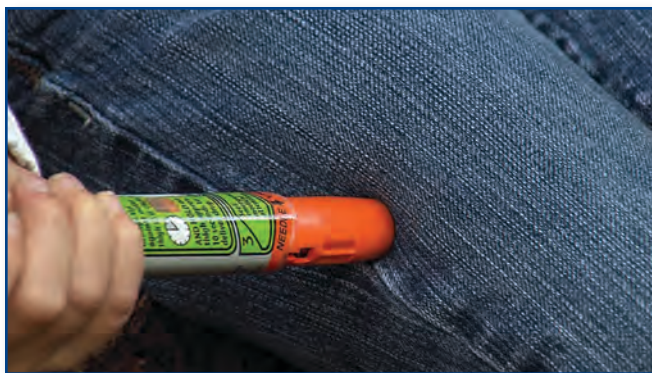
Anyone with a prescribed epinephrine auto-injector should have it nearby at all times, especially when there is a higher risk for exposure to a known allergen.

Even when an epinephrine auto-injector is available, there is often hesitation to use it. Common reasons for hesitation include the following:⁵

- Failure to recognize the symptoms of anaphylaxis
- Uncertainty about how and when to use an auto-injector
- Belief that EMS professionals can provide timely care
- Fear of making things worse

Not carrying an epinephrine auto-injector, or hesitating to use or administer one, is dangerous. It is the only early treatment available to save a life in an anaphylactic emergency.⁶

Many people don't yet realize they are severely allergic. For example, about 25% of anaphylactic reactions at schools occur in students previously undiagnosed.⁷



Legal Considerations

Federal law allows elementary and secondary schools in the United States to train personnel to administer epinephrine to a student suffering a life-threatening anaphylactic emergency.⁸ As a result, the majority of states now have regulations that allow or require schools to have epinephrine auto-injectors and to train school personnel on how to administer them.⁹

In addition to school personnel, several states have regulations that allow certain trained laypeople to administer epinephrine in a remote setting. This includes individuals such as law enforcement, outdoor camp staff, wilderness guides, and forest workers.

These regulations also provide Good Samaritan protection for trained lay providers and the organizations providing the emergency assistance.



Knowledge Check

True or false? Early use of epinephrine in an anaphylactic emergency quickly reverses life-threatening symptoms, buying time for the body and other medications to control the underlying problems.

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