

A 12-year-old boy is brought to the emergency department with skin rash, vomiting, abdominal pain, and respiratory distress. He was stung by a bee while playing soccer. He has a history of eczema treated with topical triamcinolone, and his brother has severe asthma. After receiving appropriate management, the boy is able to breathe comfortably. Abdominal pain and vomiting are resolved, and the rash is fading. Which of the following is the most important recommendation for this patient?

- ☐ A. Apply insect repellent 4 times a day
- ☐ B. Avoid all outdoor activities
- ☐ C. Carry inhaled albuterol at all times
- ☐ D. Carry self-injectable epinephrine at all times
- ☐ E. Wear colorful clothing when outdoors
- ☐ F. Wear white clothing when outdoors

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- ☐ A. Apply insect repellent 4 times a day [1%]
- ☐ B. Avoid all outdoor activities [0%]
- ☐ C. Carry inhaled albuterol at all times [2%]
- ☒ D. Carry self-injectable epinephrine at all times [96%]
- ☐ E. Wear colorful clothing when outdoors [0%]
- ☐ F. Wear white clothing when outdoors [1%]

Proceed to Next Item

Explanation:

User Id: [REDACTED]

This patient developed anaphylaxis from a hymenoptera sting and likely recovered after receiving epinephrine therapy. Anaphylaxis is an acute, life-threatening, IgE-mediated type I hypersensitivity reaction characterized by allergic symptoms affecting more than 1 organ system or sudden hypotension after exposure to the allergen.

Symptoms can involve the oropharynx, skin, gastrointestinal tract, lungs, and cardiovascular system. The most common triggers are insect stings, medications (eg, beta-lactam antibiotics), and food (eg, nuts, shellfish, egg).

Early administration of **intramuscular epinephrine** is the first-line treatment for anaphylaxis. The benefits of epinephrine result from β_2 and α , adrenergic receptor agonism, leading to bronchial smooth muscle relaxation (eg, decreased wheezing) and vasoconstriction (eg, decreased upper airway edema, raised blood pressure), respectively. Antihistamines, bronchodilators (**Choice C**), and corticosteroids can be helpful supplemental therapies. However, inappropriate prioritization of these adjunctive therapies can result in delay in epinephrine administration and cardiopulmonary decompensation.

Therefore, the most important recommendation is for this patient to carry epinephrine at all times. Adolescents should be educated about the unpredictability of anaphylaxis and proper use of an epinephrine autoinjector. In addition, patients should be referred to an

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(Choice A) Topical insect repellents can help deter mosquitoes, fleas, ticks, and biting flies but are unlikely to protect from stinging bees or wasps. No insect repellent completely removes the risk of insect bites and stings.

(Choice B) Although staying indoors can prevent future insect stings, this recommendation is impractical.

(Choices E and F) Beekeepers wear white clothing to deter mass attacks. No evidence currently exists that wearing colorful clothing increases sting risk. However, patient education should be focused on potentially life-saving epinephrine and venom immunotherapy.

Educational objective:

Patients with history of anaphylaxis should carry **self-injectable epinephrine** at all

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Educational objective:

Patients with history of anaphylaxis should carry **self-injectable epinephrine** at all times. Triggers from hymenoptera stings should prompt referral to an allergist for **venom immunotherapy**.

References:

1. [Avoidance of bee and wasp stings: an entomological perspective.](#)
2. [Outcomes of allergy to insect stings in children, with and without venom immunotherapy.](#)
3. [Timing the transfer of responsibilities for anaphylaxis recognition and use of an epinephrine auto-injector from adults to children and teenagers: pediatric allergists' perspective.](#)