



EAACI Anaphylaxis
awareness Day

21 NOVEMBER

ANAPHYLAXIS EXPLAINED:

A PRACTICAL GUIDE FOR PATIENTS

Developed by the European Academy of Allergy
and Clinical Immunology



EAACI
EUROPEAN ACADEMY OF ALLERGY
AND CLINICAL IMMUNOLOGY

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The information provided in this guide, including text, graphics, images, and other material, is for informational purposes only and is not a substitute for professional medical advice, diagnosis, or treatment. EAACI cannot provide specific medical advice to patients through this guide or via email. Patients are encouraged to consult their personal healthcare providers for any questions or concerns related to their health.

EAACI offers this information to help patients better understand and actively participate in their own medical care. However, this guide is not a substitute for a thorough evaluation and treatment by a qualified healthcare provider.

1. What is Anaphylaxis?

Anaphylaxis is a serious, rapid-onset allergic reaction that can be life-threatening. It is considered a **systemic hypersensitivity reaction** that affects multiple organs.

When you are exposed to an allergen, your immune system mistakenly responds by releasing large amounts of chemicals, such as histamine, causing a range of symptoms.

Prompt treatment with **adrenaline** is crucial to preventing severe complications or fatal outcomes.



2. How Does Anaphylaxis Occur?

Anaphylaxis occurs when your body's immune system identifies a usually harmless substance—like food, insect venom, or medication—as a threat. This misidentification triggers the release of chemicals that cause systemic inflammation, leading to symptoms like airway constriction, a drop in blood pressure, and shock.

KEY MECHANISMS



Allergen Exposure

Ingesting, inhaling, or coming into contact with an allergen.



Immune Response

The release of immunoglobulin E (IgE) antibodies, leading to the release of chemicals like histamine.



Widespread Inflammation

This results in the dilation of blood vessels (causing low blood pressure), airway swelling, and other systemic effects.

3. Recognising the Signs and Symptoms

It is critical to recognise anaphylaxis symptoms early to act quickly. Symptoms usually involve more than one system, such as the skin, respiratory, cardiovascular, or gastrointestinal systems.

Common Symptoms Include:



Skin Reactions: Hives, swelling, redness, or itching



Respiratory Issues: Wheezing, coughing, difficulty breathing, tightness in the chest or throat, and hoarseness.



Gastrointestinal Distress: Abdominal pain, vomiting, diarrhea, or nausea.

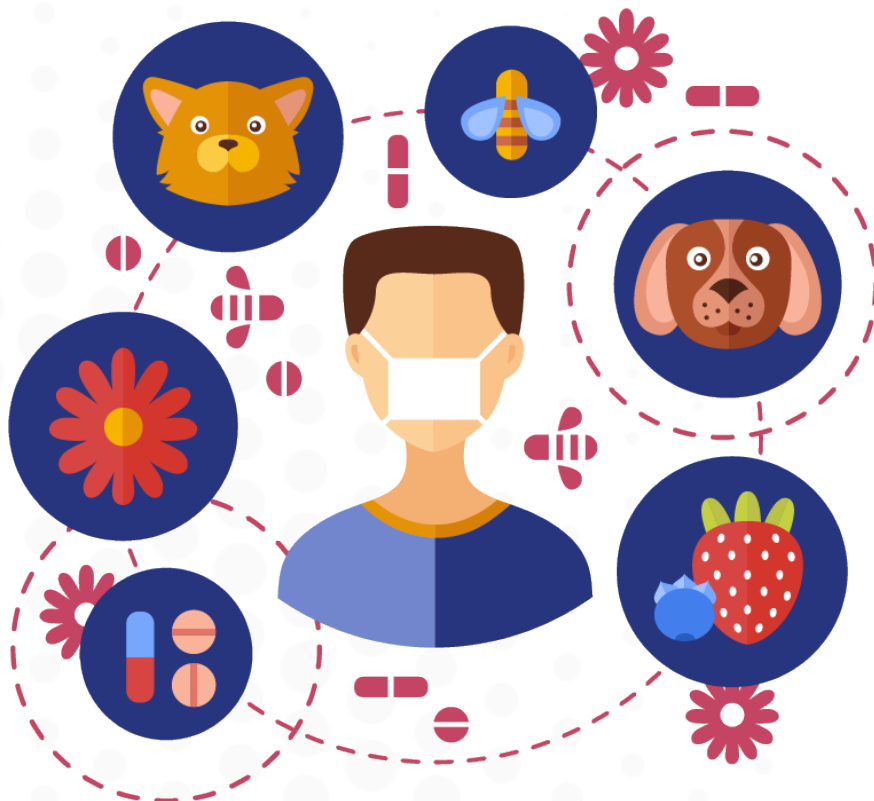


Neurological Symptoms: Anxiety, confusion, or a sense of impending doom.

4. Common Triggers of Anaphylaxis

Identifying the allergen responsible for triggering anaphylaxis is essential for management. These are the most frequent triggers, which vary by age group:

- **Food Allergies (especially in children):** Peanuts, tree nuts, shellfish, eggs, milk, fish, soy, and wheat.
- **Insect Venom:** Stings from bees, wasps, hornets, and yellow jackets.
- **Medications:** Antibiotics (like penicillin), aspirin, non-steroidal anti-inflammatory drugs (NSAIDs), and general anesthesia.
- **Latex:** A material used in medical gloves, balloons, and various medical equipment.
- **Exercise-Induced Anaphylaxis:** Rare, but can be triggered by physical activity, especially when combined with food intake or medications.



5. Emergency Action Plan

It is essential that all patients at risk of anaphylaxis have a Personalised Anaphylaxis Emergency Action Plan in place, which should include the following steps:

1

Immediate Use of Adrenaline: Use your prescribed adrenaline auto-injector at the first signs of anaphylaxis. The early administration of adrenaline is key to improving survival rates.



2

Call Emergency Services (911/112): After using adrenaline, seek emergency medical assistance even if symptoms seem to improve.



3

Second Dose if Needed: If symptoms persist or worsen after 5-10 minutes, a second dose of adrenaline may be administered.



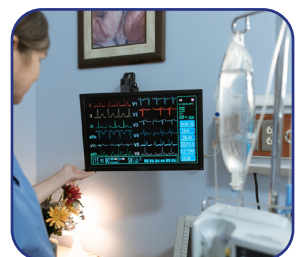
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Positioning: The patient should lie flat, with legs elevated, unless they are experiencing breathing difficulty, in which case they should sit up.



5

Monitor for Biphasic Reactions: Anaphylaxis can have a biphasic nature, meaning a second wave of symptoms might occur several hours after the initial attack, as noted by EAACI.



6. First-Line Treatment: Adrenaline

Adrenaline is the only first-line treatment for anaphylaxis. It works by:

- **Constricting blood vessels, which increases blood pressure.**
- **Relaxing the muscles around the airways, making breathing easier.**
- **Reducing swelling and hives.**

No other medication (such as antihistamines or corticosteroids) should be used in place of adrenaline for treating anaphylaxis. Antihistamines can be taken after adrenaline for symptom relief, but they are not life-saving treatments and should never delay adrenaline use.

7. Proper Use of an Adrenaline Auto-Injector

All the patients at risk of anaphylaxis, and their caregivers, should be trained in the correct use of adrenaline auto-injectors. Here's a step-by-step guide:

- 1 **Remove the device from its protective case.**
- 2 **Take off the safety cap** to expose the needle.
- 3 **Firmly press the injector against the outer thigh**, holding it at a 90-degree angle. You can administer it through clothing.
- 4 **Hold for 5-10 seconds** to ensure the full dose is delivered.
- 5 **Massage the injection site** for 10 seconds after removal.

Patients are advised to always carry two auto-injectors in case a second dose is required.

8. Post-Reaction Care and Follow-Up

In case the acute reaction has been managed, the affected person should follow the next steps:

1. Emergency Room Observation: Even if the reaction improves after adrenaline, all patients should be observed for at least 4-6 hours due to the risk of a biphasic reaction.



2. Biphasic Reactions: These can occur in 10-20% of cases and involve a return of symptoms hours after the initial episode.



3. Follow-Up with an Allergist: Long-term management, including testing for specific allergens, and a review of your action plan should follow an anaphylaxis episode.



9. Long-Term Management and Prevention

The importance of long-term management should be strongly emphasised, including avoiding known triggers and being prepared for emergencies:



Avoidance Strategies:

Work with an allergist to develop a clear strategy to avoid known allergens. This might include reading food labels carefully, avoiding certain environments, or communicating clearly with healthcare providers about drug allergies.



Allergen Immunotherapy:

In some cases, allergists may recommend immunotherapy (e.g., venom immunotherapy) to desensitise patients to specific allergens over time.



Adrenaline Auto-Injector Renewal:

Regularly check the expiration date of your adrenaline auto-injectors and replace them as needed.

10. Everyday Life with Anaphylaxis

Living with anaphylaxis requires adjustments, but with the right tools and knowledge, it is manageable. Here are some key lifestyle tips:

Educate

Your Circle:

Family, friends, coworkers, and teachers should all be familiar with your emergency action plan and know how to use an auto-injector.



Medical ID Bracelet:

Consider wearing one to alert others to your condition in case of an emergency.

Travel Safety:

When traveling, always carry your adrenaline in your hand luggage and inform airlines or restaurant staff about your allergies.



? FAQs

Can you prevent anaphylaxis entirely?

While it is impossible to guarantee complete prevention, careful avoidance of allergens and preparedness with adrenaline greatly reduce the risk of severe reactions.

Is one dose of adrenaline enough?

In most cases, one dose is sufficient. However, some reactions require a second dose, which is why carrying two auto-injectors is recommended.



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**Know the signs, take action:
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