

# Anaphylaxis: assessment and referral after emergency treatment

NICE guideline

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[www.nice.org.uk/guidance/ng258](https://www.nice.org.uk/guidance/ng258)

## Your responsibility

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the [Yellow Card Scheme](#).

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should [assess and reduce the environmental impact of implementing NICE recommendations](#) wherever possible.

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This guideline replaces CG134.

This guideline is the basis of QS119 and QS97.

## Overview

This guideline covers assessment and referral for anaphylaxis. It aims to improve the quality of care for people with suspected anaphylaxis by detailing the assessments that are needed and recommending referral to specialist allergy services.

NICE has also produced a [guideline on drug allergy](#).

## Who is it for?

- Healthcare professionals
- Commissioners and providers
- People with suspected anaphylaxis and their families and carers

## Using this guideline

People have the right to be involved in discussions and make informed decisions about their care, as described in [NICE's information about shared decision making](#).

Healthcare professionals should follow our general guidelines for people delivering care:

- [Babies, children and young people's experience of healthcare](#)
- [Decision making and mental capacity](#)
- [Medicines adherence](#)
- [Medicines optimisation](#)
- [Multimorbidity](#)
- [Patient experience in adult NHS services](#)
- [Shared decision making](#)
- [Transition from children's to adults' services](#)

[Making decisions using NICE guidelines](#) explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

# Documenting suspected anaphylaxis

- 1.1.1 Document the acute clinical features of suspected anaphylaxis, that is, rapidly developing, life-threatening problems involving:
- one or more of the following:
    - the airway (pharyngeal or laryngeal oedema)
    - breathing (bronchospasm with tachypnoea)
    - the circulation (hypotension or tachycardia or both)
  - in most cases, associated skin and mucosal changes. **[2011]**
- 1.1.2 Record the time of onset of suspected anaphylaxis. **[2011]**
- 1.1.3 Record the circumstances immediately before the onset of symptoms to help to identify the possible trigger. **[2011]**

## Timing of blood samples

- 1.1.4 After suspected anaphylaxis in an adult or young person aged 16 years or older, take timed blood samples for mast cell tryptase testing as follows:
- a sample as soon as possible after emergency treatment has started
  - a second sample ideally within 1 to 2 hours (but no later than 4 hours) from the onset of symptoms. **[2011]**
- 1.1.5 After suspected anaphylaxis in a child younger than 16 years, consider taking blood samples for mast cell tryptase testing as follows if the cause is thought to be venom-related, drug-related or idiopathic:
- a sample as soon as possible after emergency treatment has started
  - a second sample ideally within 1 to 2 hours (but no later than 4 hours) from the onset of symptoms. **[2011]**
- 1.1.6 Inform the adult, young person or child (or their parent or carer, as appropriate) that a blood sample may be required at follow-up with the specialist allergy service to measure baseline mast cell tryptase. **[2011]**

## Period of observation

- 1.1.7 A suitably qualified and experienced healthcare professional should consider discharging the adult, young person or child after 2 hours of observation, starting from resolution of airway swelling and resumption of normal breathing and stable blood pressure and heart rate if:
- there was a good response (within 5 to 10 minutes) to a single dose of intramuscular (IM) adrenaline given within 30 minutes of the onset of suspected anaphylaxis and
  - symptoms have completely resolved, and
  - the person already has 2 in-date adrenaline auto-injectors and knows how and when to use them, and
  - there is adequate supervision from an appropriate adult, if needed, following discharge. **[2026, adapted from Resuscitation Council 2021 guidance]**
- 1.1.8 Observe the adult, young person or child for a minimum of 6 hours after resolution of all symptoms if:
- 2 doses of intramuscular (IM) adrenaline were needed to treat the anaphylaxis or
  - there is a history of biphasic reaction. **[2026, adapted from Resuscitation Council 2021 guidance]**
- 1.1.9 Observe the adult, young person or child for a minimum of 12 hours after resolution of all symptoms if:
- the person had severe anaphylaxis requiring more than 2 doses of adrenaline, or
  - the person has severe asthma or had anaphylaxis that involved severe respiratory compromise, or
  - there is a possibility of continuing absorption of allergen, for example, slow-release medicines, or

- the person presents out-of-hours, or
- the person may not be able to respond in the event of a deterioration in their condition, or
- the person would be discharged to a geographical area where access to emergency care is difficult. **[2026, adapted from Resuscitation Council 2021 guidance]**

1.1.10 A suitably qualified and experienced healthcare professional should consider discharging the adult, young person or child after 2 hours of observation from resolution of anaphylaxis following a supervised allergy challenge even if 2 doses of IM adrenaline were needed. **[2026, adapted from Resuscitation Council 2021 guidance]**

## Admission to inpatient care

- 1.1.11 Admit young people and children under 16 years under the care of an inpatient paediatric medical team if they cannot be discharged in accordance with the criteria in [recommendation 1.1.7](#). **[2026]**

## Referral to a specialist allergy service

- 1.1.12 After emergency treatment for suspected anaphylaxis, offer the adult, young person or child a referral to a specialist allergy service (age-appropriate, where possible) consisting of healthcare professionals with the skills and competencies necessary to accurately investigate, diagnose, monitor and provide ongoing management of, and patient education about, anaphylaxis. **[2011]**
- 1.1.13 Each hospital trust providing emergency treatment for suspected anaphylaxis should have separate referral pathways for suspected anaphylaxis in adults (and young people) and children. **[2011]**

## Discharge from A&E or inpatient care

- 1.1.14 Before discharge a healthcare professional with the appropriate skills and competencies should offer the adult, young person or child (or their parent or carer, as appropriate) the following:
- information about anaphylaxis, including the signs and symptoms of anaphylaxis
  - information about the risk of a biphasic reaction
  - advice about how to avoid the suspected trigger (if known)
  - information about the need for referral to a specialist allergy service and the referral process
  - information on what to do if anaphylaxis occurs (use the adrenaline auto-injector and call emergency services)
  - a brand-specific demonstration of the correct use of the adrenaline auto-injector and when to use it, including advice that the person should lie down after using the injector (or sit up if they are struggling to breathe) and should not stand up or change position suddenly, even if they feel better
  - information about patient support groups. **[2011]**
- 1.1.15 At discharge following emergency treatment for suspected or known anaphylaxis, ensure the adult, young person or child has 2 in-date adrenaline auto-injectors (via a prescription, if needed) and knows when and how to use them, unless the anaphylaxis was due to a drug allergy and the drug can be easily avoided. **[2011, amended 2026]**
- 1.1.16 Give advice to the adult, young person or child to carry their adrenaline auto-injectors with them at all times. **[2011, amended 2020]**

# Terms used in this guideline

## Anaphylaxis

Anaphylaxis is a serious systemic hypersensitivity reaction that is usually rapid in onset and may cause death.

Severe anaphylaxis is characterised by potentially life-threatening compromise in airway, breathing or the circulation, and may occur without typical skin features or circulatory shock being present.

## Biphasic anaphylaxis

After complete recovery of anaphylaxis, a recurrence of symptoms within 72 hours with no further exposure to the allergen. It is managed in the same way as anaphylaxis.

## Idiopathic anaphylaxis

Denotes a form of anaphylaxis where no identifiable stimulus can be found. All known causes of anaphylaxis (including presentations associated with a delayed reaction, for example, alpha-gal allergy) must be excluded before this diagnosis can be reached.

## Supervised allergy challenge

A clinically supervised test where increasing doses of a suspected allergen are given to confirm or rule out an allergy. It is considered the gold standard method in diagnosing food or drug allergy.

## Suspected anaphylaxis

The diagnosis, prior to assessment by a specialist allergist, for people who present with symptoms of anaphylaxis.

In A&E departments a person who presents with the signs and symptoms of anaphylaxis

may be classified as having a 'severe allergic reaction' rather than anaphylaxis. Throughout this guideline, anyone who presents with such signs and symptoms is classed as experiencing 'suspected anaphylaxis', and should be diagnosed as having 'suspected anaphylaxis'. The use of the adjective 'anaphylactic' should be reserved to describe 'anaphylactic shock' where circulatory shock occurs in the context of anaphylaxis.

Please see the [NICE glossary](#) for an explanation of terms not described above.

# Recommendations for research

The guideline development group (GDG) has made the following recommendations for research, based on its review of evidence, to improve NICE guidance and patient care in the future.

## 1 Mediators of anaphylactic reactions

Aside from mast cell tryptase, which other chemical inflammatory mediators offer potential as indicators of anaphylaxis?

### Why this is important

Although mast cell tryptase is widely used to support the diagnosis of anaphylaxis, it is not universally suitable. Mast cell tryptase is not always elevated in children, when food is the allergen, or when the main severe feature is respiratory.

It is recommended that a cross-sectional study be carried out into the diagnostic accuracy of other potential chemical inflammatory mediators. The study should be conducted in both adults and children who have had a suspected anaphylactic reaction. The sensitivity and specificity of the proposed mediator should be compared against mast cell tryptase, using clinical assessment in conjunction with immuno-allergic study as the reference standard for both. The diagnostic accuracy of any mediator should be carried out for a range of potential allergens.

## 2 The frequency and effects of biphasic reactions

What are the frequency, timing, severity and predictors of biphasic reactions in people who have received emergency treatment for anaphylaxis?

### Why this is important

Limited evidence was found on the frequency, timing severity and predictors of biphasic reactions and the resulting effect of these on morbidity and mortality.

It is recommended that a UK-based prospective cohort study be conducted that follows patients up after emergency treatment for anaphylaxis.

The study should follow people up for 7 days after discharge from the emergency department. The aim is to collect data on the predictors (for example, the person's response to the initial treatment), the time to any reaction, the severity of any biphasic reaction and the effect of the biphasic reaction on morbidity and mortality.

### **3 Length of observation period following emergency treatment for anaphylaxis**

For how long should a person who has received emergency treatment for anaphylaxis be observed?

#### **Why this is important**

No studies were found that compared different observational periods or the effect of these on relevant patient outcomes.

It is recommended that a cluster randomised controlled trial is conducted for people who have received emergency treatment for anaphylaxis.

The interventions for the trial should be differing time periods of observation, within the secondary care setting, ranging from 1 hour to 24 hours after symptom resolution of the index reaction. Patients should then be followed up for 7 days following the end of the observational period to determine if a biphasic reaction has occurred and the effects of any reaction. The aim is to determine whether differing periods of observation have a detrimental effect on morbidity and mortality and to gather information about resource use.

### **4 Prevalence of anaphylactic reactions and related outcomes**

What is the annual incidence of anaphylaxis and its related outcomes within the UK?

## Why this is important

Limited evidence exists on the annual incidence of anaphylactic reactions and their associated outcomes within the UK.

It is recommended that a prospective observational study be conducted that records the annual incidence of anaphylactic reactions within the UK.

The overall number of anaphylactic reactions that occur in adults and children should be recorded and these should be classified into those that are first-time reactions, recurrent reactions or biphasic reactions. A clear, pre-defined, definition of what constitutes an anaphylactic reaction should be used, in order to avoid the misclassification of milder reactions. Data should also be collected on any emergency treatment that was delivered (by a clinician, use of an adrenaline injector) and the associated outcomes (morbidity, mortality, adverse events). Data should also be collected on any previous treatment received, such as that from a specialist allergy service or the provision of adrenaline injectors.

## 5 Effect of specialist services on health-related quality of life

For people who have experienced suspected anaphylaxis, what is the effect on health-related quality of life of (a) referral to specialist allergy services and (b) provision of adrenaline injectors, when compared with emergency treatment alone?

## Why this is important

The GDG believed that referral to specialist services and/or the provision of adrenaline injectors was likely to provide day-to-day HRQoL benefit for people who have experienced suspected anaphylaxis, as a result of decreased anxiety and ongoing support. However, the health economic model relied on GDG opinion alone to quantify this benefit. Future economic analyses would be greatly improved by a reliable demonstration of this effect and an estimate of its magnitude. It is recommended that data are collected using validated measure(s) of HRQoL, including EQ-5D.

## Finding more information and committee details

To find NICE guidance on related topics, including guidance in development, see the [NICE topic page on allergies and anaphylaxis](#).

For full details of the evidence and the guideline committee's discussions, see the [full version of the guideline](#). You can also find information about [how the guideline was developed](#), including details of the committee.

NICE has produced [tools and resources to help you put this guideline into practice](#). For general help and advice on putting our guidelines into practice, see [resources to help you put NICE guidance into practice](#).

## Update information

**May 2026:** We have produced new recommendations on period of observation and admission to inpatient care based on the [Resuscitation Council UK's emergency treatment of anaphylaxis 2021 guideline \(section 8.2\)](#).

We have amended recommendation 1.1.15 on adrenaline auto-injectors based on:

- [Medicines and Healthcare products Regulatory Agency's \(MHRA's\) guidance about safe use of adrenaline auto-injectors](#)
- [Resuscitation Council UK's guidance \(section 8.6\)](#)
- [British Society for Allergy and Clinical Immunology's guidance on prescribing adrenaline auto-injector for patients at risk of anaphylaxis](#).

The updates followed the [May 2026 surveillance review](#).

**August 2020:** Advice was added that people should carry their adrenaline injectors with them at all times.

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