

# Anaphylaxis: assessment and referral after emergency treatment overview

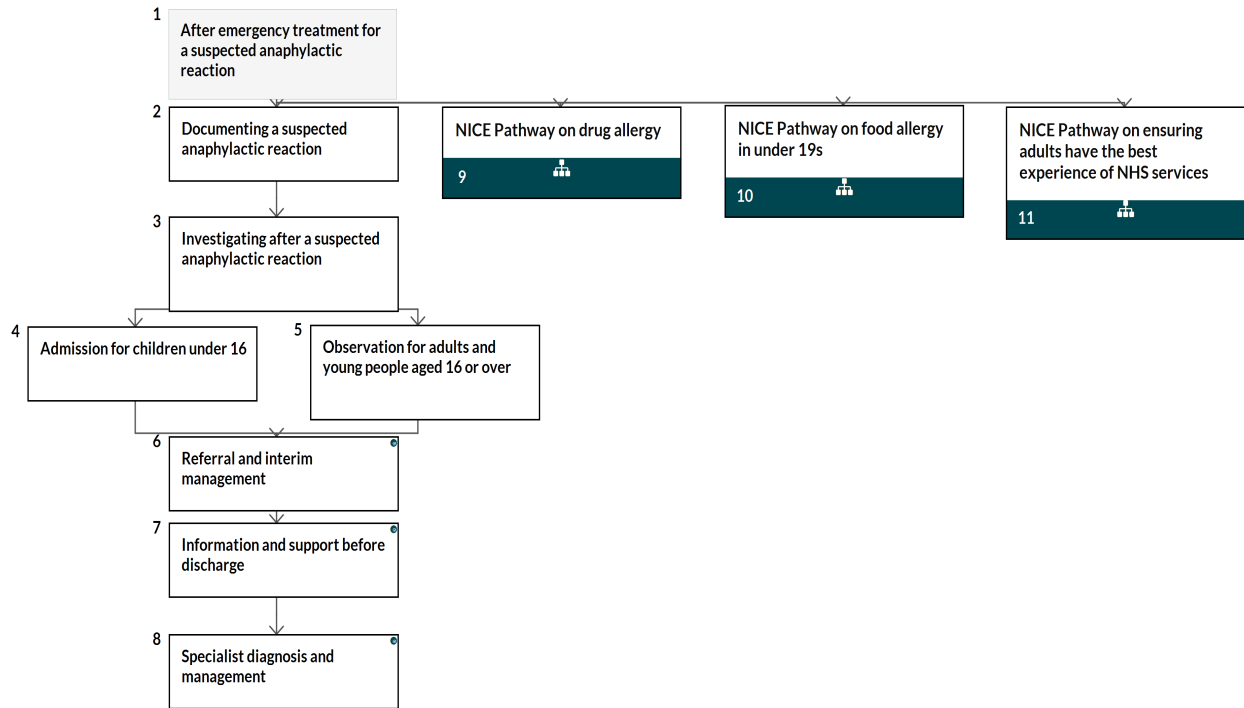
NICE Pathways bring together everything NICE says on a topic in an interactive flowchart. NICE Pathways are interactive and designed to be used online.

They are updated regularly as new NICE guidance is published. To view the latest version of this NICE Pathway see:

<http://pathways.nice.org.uk/pathways/anaphylaxis-assessment-and-referral-after-emergency-treatment>

NICE Pathway last updated: 20 October 2020

This document contains a single flowchart and uses numbering to link the boxes to the associated recommendations.



## 1 After emergency treatment for a suspected anaphylactic reaction

No additional information

## 2 Documenting a suspected anaphylactic reaction

Document the acute clinical features of the suspected anaphylactic reaction (rapidly developing, life-threatening problems involving the airway [pharyngeal or laryngeal oedema] and/or breathing [bronchospasm with tachypnoea] and/or circulation [hypotension and/or tachycardia] and, in most cases, associated skin and mucosal changes).

Record the time of onset of the reaction.

Record the circumstances immediately before the onset of symptoms to help to identify the possible trigger.

## 3 Investigating after a suspected anaphylactic reaction

### Children under 16

After a suspected anaphylactic reaction in children 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.

For more information on venom immunotherapy, see [specialist diagnosis and management \[See page 6\]](#). See also [the NICE Pathway on drug allergy](#).

### Adults and young people aged 16 or over

After a suspected anaphylactic reaction in adults or young people 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.

### Follow-up sample

Inform the person (or, as appropriate, their parent and/or carer) that a blood sample may be required at follow-up with the specialist allergy service to measure baseline mast cell tryptase.

## 4 Admission for children under 16

Children younger than 16 years who have had emergency treatment for suspected anaphylaxis should be admitted to hospital under the care of a paediatric medical team.

## 5 Observation for adults and young people aged 16 or over

Adults and young people aged 16 years or older who have emergency treatment for suspected anaphylaxis should be observed for 6 to 12 hours from the onset of symptoms, depending on their response to emergency treatment. In people with reactions that are controlled promptly and easily, a shorter observation period may be considered provided that they receive appropriate post-reaction care prior to discharge.

## 6 Referral and interim management

### Referral

After emergency treatment for suspected anaphylaxis, offer people 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 on-going management of, and patient education about, suspected anaphylaxis.

Each hospital trust providing emergency treatment for suspected anaphylaxis should have separate referral pathways for suspected anaphylaxis in adults (and young people) and children.

### Interim management: adrenaline injector

After emergency treatment for suspected anaphylaxis, offer people (or, as appropriate, their parent and/or carer) an appropriate adrenaline injector as an interim measure before the

specialist allergy service appointment.

## Quality standards

The following quality statements are relevant to this part of the interactive flowchart.

### Anaphylaxis

1. Referral to specialist allergy services after emergency treatment

### Drug allergy

3. Referral to specialist drug allergy services

## 7 Information and support before discharge

Before discharge a healthcare professional with the appropriate skills and competencies should offer people (or, as appropriate, their parent and/or carer) the following:

- information about anaphylaxis, including the signs and symptoms of an anaphylactic reaction
- information about the risk of a biphasic reaction
- information on what to do if an anaphylactic reaction occurs (use the adrenaline injector and call emergency services)
- a demonstration of the correct use of the adrenaline injector and when to use it
- a prescription for 2 adrenaline injectors, with advice to carry the injectors with them at all times
- 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 about patient support groups.

NICE has written [information for the public on anaphylaxis](#).

## Quality standards

The following quality statement is relevant to this part of the interactive flowchart.

## Anaphylaxis

### 2. Education in adrenaline auto-injector use

## 8 Specialist diagnosis and management

### Diagnosis

#### Multiplex allergen testing

The following recommendations are from [NICE diagnostics guidance on ImmunoCAP ISAC 112 for multiplex allergen testing](#).

There is currently insufficient evidence to recommend the routine adoption of multiplex allergen testing with ImmunoCAP ISAC 112 to help diagnose allergy and predict the risk of an allergic reaction in people with allergy that is difficult to diagnose, when used with standard clinical assessment.

The ImmunoCAP ISAC 112 shows promise and further research is recommended on the clinical effectiveness of using it in people with allergy that is difficult to diagnose (see the section on [recommendations for further research of NICE diagnostics guidance 24](#)).

An allergy healthcare professional with appropriate expertise is needed to ensure the results of multiplex allergen tests are interpreted correctly.

### Management

#### Pharmalgen for the treatment of bee and wasp venom allergy

The following recommendations are from [NICE technology appraisal guidance on pharmalgen for the treatment of bee and wasp venom allergy](#).

Pharmalgen is recommended as an option for the treatment of IgE-mediated bee and wasp venom allergy in people who have had:

- a severe systemic reaction to bee or wasp venom, **or**
- a moderate systemic reaction to bee or wasp venom and who have one or more of the following: a raised baseline serum tryptase, a high risk of future stings or anxiety about future stings.

Treatment with Pharmedgen should be initiated and monitored in a specialist centre experienced in venom immunotherapy.

NICE has written [information for the public on pharmedgen](#).

## Quality standards

The following quality statement is relevant to this part of the interactive flowchart.

### Anaphylaxis

3. Specialist assessment for venom immunotherapy

#### **9 NICE Pathway on drug allergy**

[See Drug allergy](#)

#### **10 NICE Pathway on food allergy in under 19s**

[See Food allergy in under 19s](#)

#### **11 NICE Pathway on ensuring adults have the best experience of NHS services**

[See Patient experience in adult NHS services](#)

## Glossary

### Anaphylaxis

(a severe, life-threatening, generalised or systemic hypersensitivity reaction – it is characterised by rapidly developing, life threatening problems involving: the airway (pharyngeal or laryngeal oedema) and/or breathing (bronchospasm with tachypnoea) and/or circulation (hypotension and/or tachycardia); in most cases, there are associated skin and mucosal changes)

### Biphasic reaction

(after complete recovery of anaphylaxis, a recurrence of symptoms within 72 hours with no further exposure to the allergen, managed in the same way as anaphylaxis)

### Idiopathic

(denotes a form of anaphylaxis where no identifiable stimulus can be found; all known causes of anaphylaxis must be excluded before this diagnosis can be reached)

### Suspected anaphylactic reaction

(the diagnosis, prior to assessment by a specialist allergist, for people who present with symptoms of anaphylaxis; in emergency departments a person who presents with the signs and symptoms of anaphylaxis may be classified as having a 'severe allergic' reaction rather than an 'anaphylactic' reaction – throughout these recommendations, anyone who presents with such signs and symptoms is classed as experiencing a 'suspected anaphylactic reaction', and should be diagnosed as having 'suspected anaphylaxis')

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## Sources

[Anaphylaxis: assessment and referral after emergency treatment](#) (2011, updated 2020) NICE guideline CG134

[Pharmalgen for the treatment of bee and wasp venom allergy](#) (2012) NICE technology appraisal guidance 246

[ImmunoCAP ISAC 112 for multiplex allergen testing](#) (2016 updated 2020) NICE diagnostics guidance 24

## Your responsibility

### Guidelines

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.

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.

## Technology appraisals

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, health professionals are expected to take these recommendations fully into account, alongside the individual needs, preferences and values of their patients. The application of the recommendations in this interactive flowchart is at the discretion of health professionals and their individual patients and do not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Commissioners and/or providers have a responsibility to provide the funding required to enable the recommendations to be applied when individual health professionals and their patients wish to use it, in accordance with the NHS Constitution. They should do so 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.

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.

## Medical technologies guidance, diagnostics guidance and interventional procedures guidance

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take these recommendations fully into account. However, the interactive flowchart does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Commissioners and/or providers have a responsibility to implement the recommendations, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this interactive flowchart should be interpreted in a way that would be inconsistent with compliance 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.