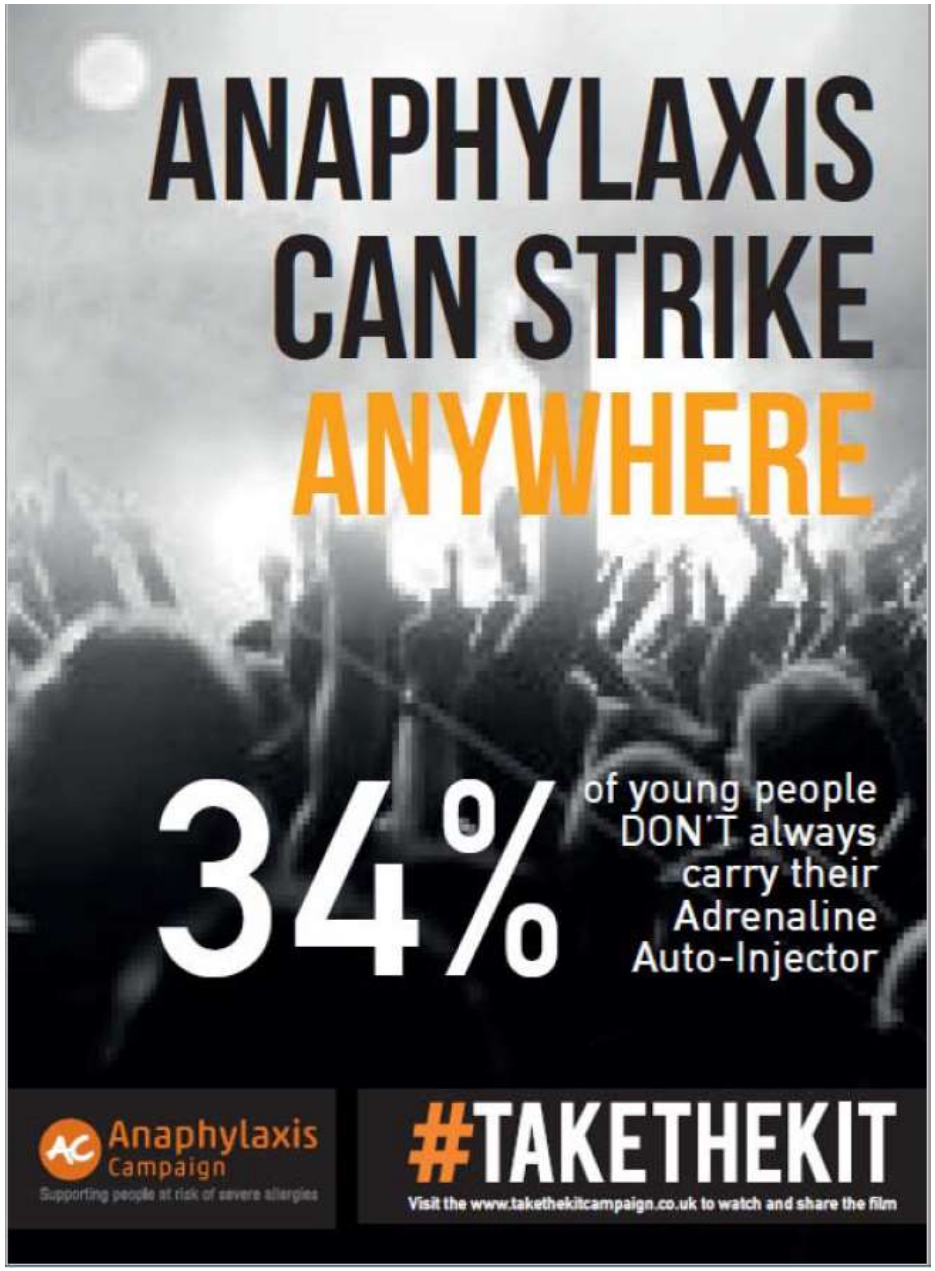
Naughty, nice or potentially life threatening?

For some people, a simple snack can be a matter of life and death.
Just one bite can trigger a severe allergic reaction – it can even kill.
The Anaphylaxis Campaign was set up to offer information and support.
If you're one of those affected, learn how to protect yourself. Call us.

Anaphylaxis Campaign
Supporting people with severe allergies

Helpline:
Tel: 01252 542029 email: info@anaphylaxis.org.uk
www.anaphylaxis.org.uk


ANAPHYLAXIS
CAN STRIKE
ANYWHERE
34%
of young people
DON'T always
carry their
Adrenaline
Auto-Injector
AC Anaphylaxis Campaign
Supporting people at risk of severe allergies
#TAKETHEKIT
Visit the www.takethekitcampaign.co.uk to watch and share the film

Resuscitation Council (UK)

Emergency treatment of anaphylactic reactions

Guidelines for healthcare providers

Working Group of the Resuscitation Council (UK)

January 2008

Annotated with links to NICE guidance July 2012

Review Date: 2016

Areas covered by NICE Clinical Guidance CG134 are highlighted in the text with a pink sidebar, which is a web link to the NICE CG134 guidance web page

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Anaphylaxis

Definition

- Anaphylaxis is a severe, life-threatening, generalised or systemic hypersensitivity reaction

- This is characterised by rapidly developing life-threatening airway and/or breathing and/or circulation problems usually associated with skin and mucosal changes

Aetiology

1. Allergen contact with circulating IgE antibodies (mast cells, basophils) → type 1 hypersensitivity reaction

2. Rapid release of histamine and synthesis of mediators

3. Capillary leakage & mucosal oedema → shock & asphyxia

Anaphylaxis (clinical state) is due to anaphylactic (IgE) or anaphylactoid (Non-IgE) reaction

Recognising Anaphylaxis

Anaphylaxis is likely when all of the following 3 criteria are met:

- Sudden onset and rapid progression of symptoms
- Life-threatening Airway and/or Breathing and/or Circulation problems
- Skin and/or mucosal changes (flushing, urticaria, angioedema)

The following supports the diagnosis:

- Exposure to a known allergen for the patient

Resuscitation Council (UK)

What causes anaphylaxis?

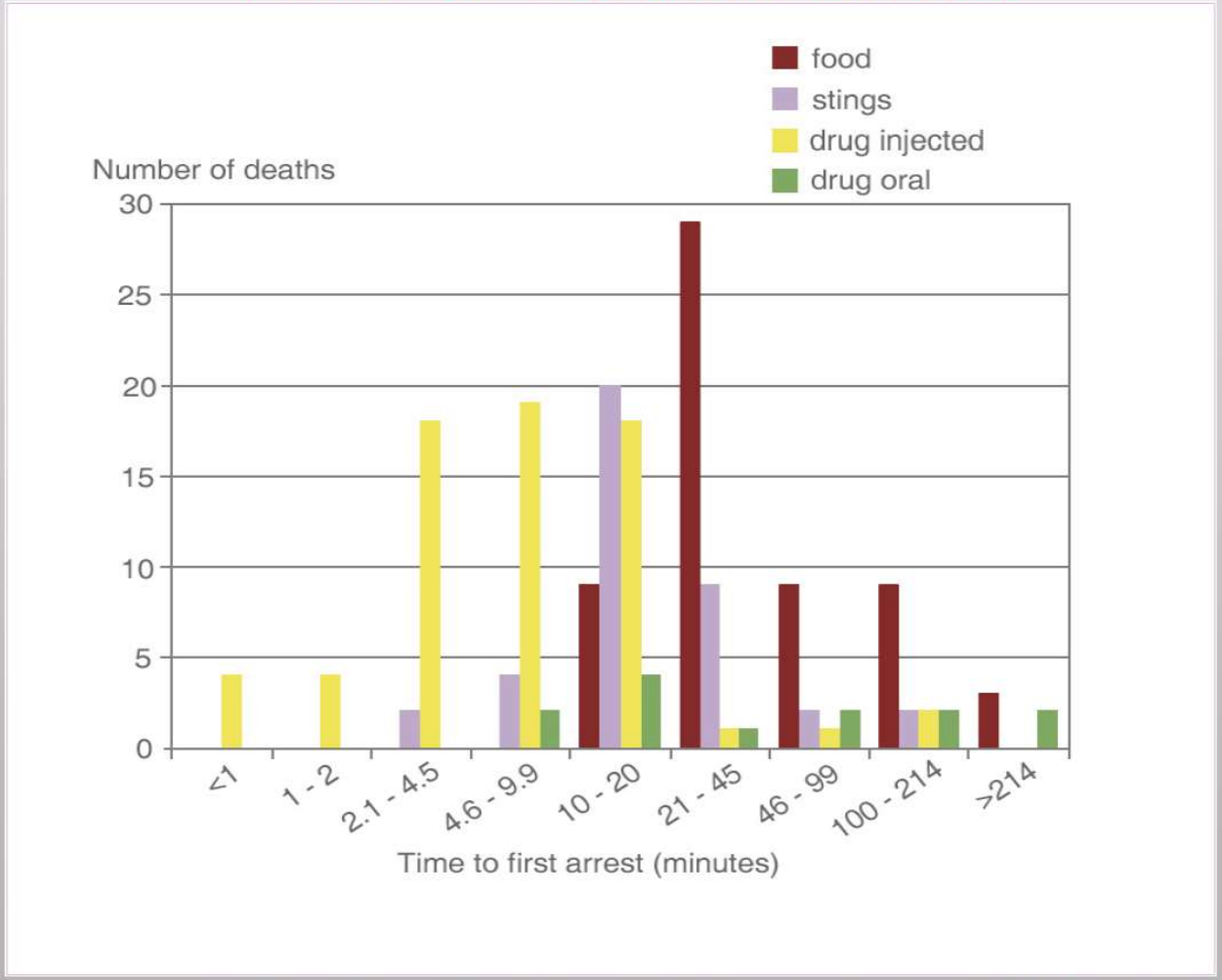
Stings	**47**	29 wasp, 4 bee, ? 14
Nuts	**32**	10 peanut, 6 walnut, 2 almond, 2 brazil, 1 hazel, 11 mixed or ?
Food	**13**	5 milk, 2 fish, 2 chickpea, 2 crustacean, 1 banana, 1 snail
? Food	**18**	5 during meal, 3 milk, 3 nut, 1 each - fish, yeast, sherbet, nectarine, grape, strawberry
Antibiotics	**27**	11 penicillin, 12 cephalosporin, 2 amphotericin, 1 ciprofloxacin, 1 vancomycin
Anaesthetic drugs	**35**	19 suxamethonium, 7 vecuronium, 6 atracurium, 7 at induction
Other drugs	**15**	6 NSAID, 3 ACEI, 5 gelatins, 2 protamine, 2 vitamin K, 1 each - etoposide, diamox, pethidine, local anaesthetic, diamorphine, streptokinase
Contrast media	**11**	9 iodinated, 1 technetium, 1 fluorescine
Other	**4**	1 latex, 1 hair dye, 1 hydatid,1 idiopathic

Suspected triggers for fatal anaphylactic reactions in the UK between 1992-2001

Adapted from Pumphrey RS. Fatal anaphylaxis in the UK, 1992-2001.
Novartis Found Symp 2004;257:116-28

Resuscitation Council (UK)

Time to cardiac arrest



Adapted from Pumphrey RS. Lessons for management of anaphylaxis from a study of fatal reactions. *Clin Exp Allergy* 2000;30(8):1144-50.

Recognising anaphylaxis

Remember:

- Skin or mucosal changes alone are not a sign of an anaphylactic reaction
- Skin and mucosal changes can be subtle or absent in up to 20% of reactions (some patients can have only a decrease in blood pressure, i.e., a Circulation problem)
- There can also be gastrointestinal symptoms (e.g. vomiting, abdominal pain, incontinence)

Differential Diagnoses

Life-threatening conditions:

- Sometimes an anaphylactic reaction can present with symptoms and signs that are very similar to life-threatening asthma – this is commonest in children.

- A low blood pressure (or normal in children) with a petechial or purpuric rash can be a sign of septic shock.

Differential Diagnoses

Non-life threatening conditions:

- Vasovagal episode
- Panic attack
- Breath-holding episode in child
- Idiopathic (non-allergic) urticaria or angioedema

Airway Problems

- Airway swelling, e.g., throat and tongue swelling (pharyngeal/laryngeal oedema). The patient has difficulty in breathing and swallowing and feels that the throat is closing up

- Hoarse voice

- Stridor – this is a high-pitched inspiratory noise caused by upper airway obstruction

Breathing problems

- Shortness of breath – increased respiratory rate
- Wheeze
- Patient becoming tired
- Confusion caused by hypoxia
- Cyanosis (appears blue) – this is usually a late sign
- Respiratory arrest

Circulation

- Signs of shock – pale, clammy
- Tachycardia
- Hypotension) – feeling faint (dizziness), collapse
- Decreased conscious level or loss of consciousness
- Anaphylaxis can cause myocardial ischaemia and ECG changes even in individuals with normal coronary arteries
- Cardiac arrest

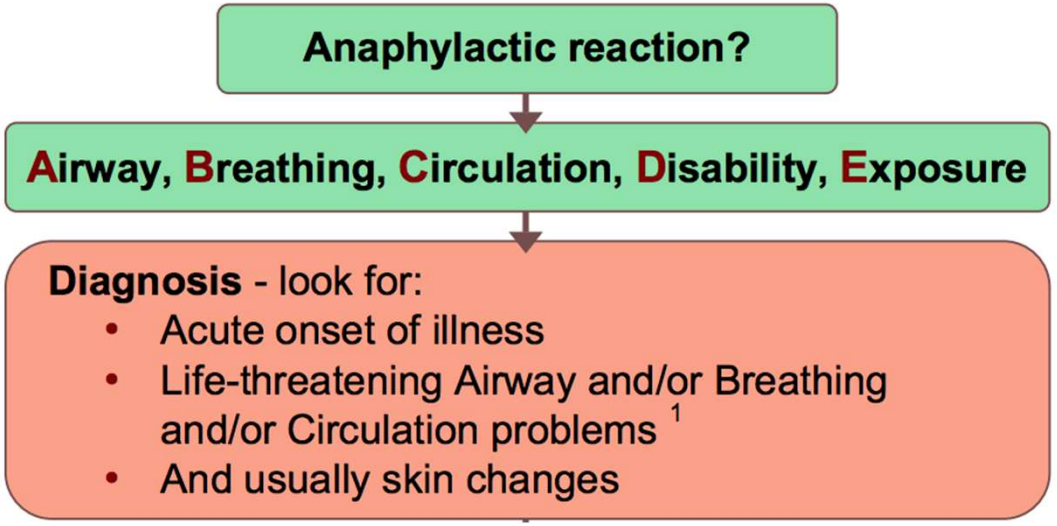
Skin and mucosal changes

- They are often the first feature and present in over 80% of anaphylactic reactions
- They can be subtle or dramatic
- There may be just skin, just mucosal, or both skin and mucosal changes
- There may be erythema
- There may be urticaria, which can appear anywhere on the body
- Angioedema is similar to urticaria but involves swelling of deeper tissues, most commonly in the eyelids and lips, and sometimes in the mouth and throat

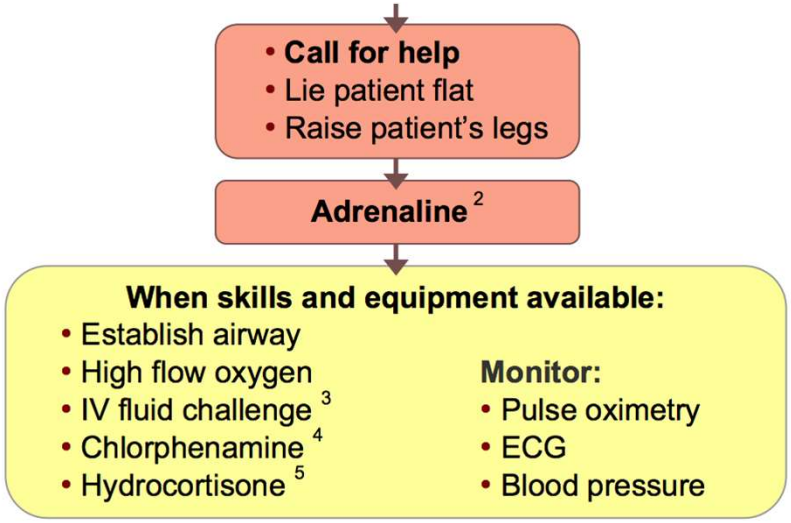
Treating anaphylaxis

- Out of hospital, an ambulance must be called early and the patient transported to an emergency department

- Remove potential triggers



Treating anaphylaxis



Treating anaphylaxis

2 Adrenaline *(give IM unless experienced with IV adrenaline)*
IM doses of 1:1000 adrenaline (repeat after 5 min if no better)

- Adult 500 micrograms IM (0.5 mL)
- Child more than 12 years: 500 micrograms IM (0.5 mL)
- Child 6 -12 years: 300 micrograms IM (0.3 mL)
- Child less than 6 years: 150 micrograms IM (0.15 mL)

Adrenaline IV to be given **only by experienced specialists**
Titrate: Adults 50 micrograms; Children 1 microgram/kg

3 IV fluid challenge:
Adult - 500 – 1000 mL
Child - crystalloid 20 mL/kg

Stop IV colloid
if this might be the cause
of anaphylaxis

	4 Chlorphenamine (IM or slow IV)	5 Hydrocortisone (IM or slow IV)
Adult or child more than 12 years	10 mg	200 mg
Child 6 - 12 years	5 mg	100 mg
Child 6 months to 6 years	2.5 mg	50 mg
Child less than 6 months	250 micrograms/kg	25 mg

Discharge from hospital

- Patients who have had a suspected anaphylactic reaction should be treated and then observed for at least 6 hours in a clinical area with facilities for treating life-threatening ABC problems

- Patients with a good response to initial treatment should be warned of the possibility of an early recurrence of symptoms and in some circumstances should be kept under observation for up to 24 hours

Discharge from hospital

This caution is particularly applicable to:

- Severe reactions with slow onset caused by idiopathic anaphylaxis
- Reactions in individuals with severe asthma or with a severe asthmatic component
- Reactions with the possibility of continuing absorption of allergen
- Patients with a previous history of biphasic reactions
- Patients presenting in the evening or at night, or those who may not be able to respond to any deterioration
- Patients in areas where access to emergency care is difficult

Discharge from hospital

Before discharge from hospital all patients must be:

- Reviewed by a senior clinician
- Given clear instructions to return to hospital if symptoms return
- Considered for anti-histamines and oral steroid therapy for up to 3 days
- Considered for an adrenaline auto-injector (AAI)
- Have a plan for follow-up, including contact with the patient’s general practitioner

Questions?