Anaphylaxis: emergency management for health professionals

Clinical features

Any acute onset of hypotension or bronchospasm or upper airway obstruction where anaphylaxis is considered possible, even if typical skin features are not present

OR

Any acute onset illness with typical skin features (urticarial rash or angioedema) PLUS involvement of respiratory, cardiovascular, or persistent severe gastrointestinal symptoms

1 Immediate action

- Call for assistance
- Lay the patient flat – do not allow them to stand or walk.
- If unconscious or pregnant, place in recovery position (left lateral if pregnant) and maintain airway.
- If breathing is difficult, allow the patient to sit with legs outstretched.
- Hold young children flat, not upright.

2 Give INTRAMUSCULAR ADRENALINE (EPINEPHRINE) into mid-lateral thigh without delay

3 Call ambulance to transport patient to hospital

Keep the patient flat and transfer to ambulance via stretcher. Do not allow them to stand or walk even if they appear to have recovered following administration of adrenaline.

4 Supportive management

When skills and equipment are available:
- monitor pulse, blood pressure, respiratory rate, pulse oximetry
- give oxygen and airway support if needed
- obtain intravenous access in adults and hypotensive children
- if hypotensive, give intravenous normal saline (20 mL/kg rapidly) and consider additional wide-bore intravenous access.

5 Additional measures

Adrenaline (epinephrine) infusion

If inadequate response or deterioration, start an intravenous adrenaline infusion as follows:

- Give only in liaison with an appropriate specialist. Phone …………………………………………………………………………………………………………………………………………………………………………………………………………………

- If inadequate response or deterioration, start an intravenous adrenaline infusion as follows:

5.1 Adrenaline (epinephrine) infusion

<table>
<thead>
<tr>
<th>Adrenaline dose chart (1:1000 ampoules containing 1 mg adrenaline per 1 mL)</th>
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</thead>
<tbody>
<tr>
<td>Age (years)</td>
</tr>
<tr>
<td>&lt;1</td>
</tr>
<tr>
<td>1–2</td>
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<tr>
<td>2–3</td>
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<td>4–6</td>
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<tr>
<td>7–10</td>
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<tr>
<td>10–12</td>
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<td>&gt;12 and adult</td>
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</tbody>
</table>

Repeat adrenaline every 5 minutes as needed

If multiple doses are required, consider adrenaline infusion if skills and equipment available (see step 5).

Autoinjector

An adrenaline autoinjector, e.g. EpiPen or Anapen, may be used instead of an adrenaline ampoule and syringe.

- 150 microgram (0.15 mg) device for children 7.5–20 kg (aged ~ 1–5 years)
- 300 microgram (0.3 mg) device for children over 20 kg (aged ~ 5–12 years) and adults
- 300 microgram (0.3 mg) or 500 microgram (0.5 mg) device for children over 50 kg (aged >12 years) and adults

Instructions are on device labels and ASCIA Action Plans.

6 Observation

Prolonged and biphasic reactions may occur.

Observe the patient for at least 4 hours after last dose of adrenaline.

Observe longer (overnight) if the patient:
- had a severe reaction (hypotension or hypoxia), or
- required repeated doses of adrenaline, or
- has a history of asthma or protracted anaphylaxis, or
- has other concomitant illness, or
- lives alone or is remote from medical care, or
- has known systemic mastocytosis.

Document food, medicine, sting/bite exposure in the 2–4 hours before anaphylaxis.

7 Follow-up treatment

Corticosteroids

The role of corticosteroids is unknown. It is reasonable to prescribe a 2-day course of oral steroid (e.g. prednisolone 1 mg/kg, maximum 50 mg daily) to reduce the risk of symptom recurrence after a severe reaction or a reaction with marked or persistent wheeze. Corticosteroids should only be administered after adrenaline and resuscitation.

Adrenaline (epinephrine) autoinjector

Prescribe an autoinjector, pending specialist review. Train the patient in autoinjector use and give them an ASCIA Action Plan for Anaphylaxis - www.allergy.org.au.

Allergy specialist

Refer patients with anaphylaxis for review.

Antihistamines

Antihistamines have no role in treating respiratory or cardiovascular symptoms of anaphylaxis. Oral non-sedating antihistamines treat itch and urticaria. Injectable promethazine should NOT be used in anaphylactic shock as it can worsen hypotension.

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Endorsed by the Australasian College for Emergency Medicine, the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists, the Australasian Society of Clinical Immunology and Allergy (ASCIA), the Australasian College of Rural and Remote Medicine, the Australian Dental Association, the Internal Medicine Society of Australia and New Zealand, and the Royal Australasian College of Physicians.

This Anaphylaxis Wallchart has been officially recognised as an Accepted Clinical Resource by the Royal Australian College of General Practitioners.