

Emergency management of anaphylaxis in the community

Recognise clinical features		
Early	Progressive	Severe
<ul style="list-style-type: none"> • sensations of warmth, itching especially in axillae and groins • feelings of anxiety or panic 	<ul style="list-style-type: none"> • erythematous or urticarial rash • oedema of face, neck, soft tissues • abdominal pain and vomiting • dyspnoea 	<ul style="list-style-type: none"> • hypotension (shock) • bronchospasm (wheezing) • laryngeal oedema (stridor, aphonia, drooling) • arrhythmias, cardiac arrest • hypoxaemia, cyanosis
<p>Note: Severe clinical features may appear extremely rapidly without prodromal features</p>		

Acute management																
<p>Anaphylaxis is a life-threatening emergency Use the ABC of resuscitation (Airway, Breathing and Circulation) IF WORKING ALONE, CALL FOR ASSISTANCE</p>																
1	<p>Remove allergen Stop any suspected medication or diagnostic contrast material, remove allergen from patient's mouth, scrape out bee stings.</p>															
2	<p>Give oxygen Lie patient flat and give oxygen by face mask at the highest possible flow rate (> 6 L/minute).</p>															
3	<p>Give adrenaline Immediately inject adrenaline 1:1000 intramuscularly in the lateral thigh.</p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: center;">Adults (and children > 25 kg)</td> <td style="text-align: center;">Children (< 25 kg)</td> <td style="text-align: right;">(use 1 mL/insulin syringe)</td> </tr> <tr> <td>< 50 kg give 0.25–0.50 mL</td> <td>1 year 10 kg give 0.1 mL</td> <td></td> </tr> <tr> <td>> 50 kg give 0.50 mL</td> <td>3 years 15 kg give 0.15 mL</td> <td></td> </tr> <tr> <td></td> <td>5 years 20 kg give 0.2 mL</td> <td></td> </tr> <tr> <td></td> <td>8 years 25 kg give 0.25 mL</td> <td></td> </tr> </table> <p>(See Notes 1, 2)</p>	Adults (and children > 25 kg)	Children (< 25 kg)	(use 1 mL/insulin syringe)	< 50 kg give 0.25–0.50 mL	1 year 10 kg give 0.1 mL		> 50 kg give 0.50 mL	3 years 15 kg give 0.15 mL			5 years 20 kg give 0.2 mL			8 years 25 kg give 0.25 mL	
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4	<p>Start rapid fluid resuscitation Establish an intravenous line and infuse normal saline or Hartmann's solution (20 mL/kg). Continue as necessary.</p>															
5	<p>Give further adrenaline If necessary, repeat intramuscular dose every 5 minutes. Large doses of adrenaline may be needed, up to a maximum of 5 mL (5 mg). If the patient remains shocked after two intramuscular doses, consider an adrenaline infusion to restore blood pressure. (See Notes 3, 4)</p>															
6	<p>Ventilate If there is severe respiratory and circulatory collapse or coma, ventilate the patient. (See Note 5)</p>															
7	<p>Additional measures</p> <p>Bronchodilators For bronchospasm, give salbutamol or terbutaline by nebuliser, or aerosol with spacer device. In severe cases use continuously.</p> <p>Corticosteroids Give hydrocortisone 2–6 mg/kg or dexamethasone 0.1–0.4 mg/kg intravenously. (See Note 6)</p> <p>Nebulised adrenaline (5 mL of 1:1000). May be tried in laryngeal oedema and may ease upper airway obstruction. However, do not delay intubation if upper airway obstruction is progressive.</p>															
8	<p>Supportive treatment Observe vital signs frequently and, if possible, monitor electrocardiogram and pulse oximetry. Keep patient in hospital for observation for at least 4–6 hours after the complete resolution of abnormal symptoms and signs, as biphasic reactions may occur. (See Note 7)</p>															

Notes

- Adrenaline is life-saving and must be used promptly. Withholding adrenaline due to misplaced concerns of possible adverse effects can result in deterioration and death of the patient. It is safe and effective.
- Adrenaline 1:1000 contains 1000 microgram in 1 mL (1 mg/mL). The volumes of adrenaline recommended for adults and children approximate to 5–10 microgram/kg. Children's weights are approximate for age.
- If critical care facilities are not immediately available, give the following adrenaline infusion:
 - Mix 1 mg adrenaline (1 ampoule) in 1000 mL of normal saline
 - Start infusion at 5 mL/kg/hour (approx. 0.1 microgram/kg/minute)
 - Titrate rate up or down according to response.
- Some cases are resistant to adrenaline, especially if the patient is taking beta blocking drugs. If adequate doses of adrenaline are not improving the situation, give glucagon 1–2 mg intravenously over 5 minutes.
- Drug-assisted intubation for impending airway obstruction is a very high-risk procedure and should only be attempted by an expert.
- Corticosteroids may modify the overall duration of a reaction and may prevent relapse. However, onset of action will be delayed. Never use these to the exclusion of adrenaline.
- Keep patient in hospital longer if there is a history of asthma or previous allergy, or if the patient needed repeated doses of adrenaline. All patients must be followed up to investigate possible provoking factors and for further management.