Emergency treatment of anaphylaxis

**Anaphylaxis**

Assess for:
- Upper airway obstruction (stridor, oral swelling)
- Lower airway obstruction (wheeze, respiratory distress)
- Shock (dizziness, pale, clammy)

Call for help
- Remove trigger / causative agent
- Position flat or sitting, not walking or standing

Cardiac arrest?

**NO**
- Adrenaline IM
  - Use auto injector if available
  - (preferred injection site upper outer thigh)
  - Adults: 0.5mg (0.5ml of 1:1,000)
  - Children: 10mcg/kg (0.01ml/kg of 1:1,000)
  - (min dose 0.1ml, max dose 0.5ml)
  - Repeat every 5 minutes as needed

**YES**
- Adrenaline IM – in-hospital practitioners
  - 0.1 ml/kg of 1:10,000 (infants and young children) OR 0.01 ml/kg of 1:1,000 (older children)
  - Titrate 1 microgram / kg*

- Hydrocortisone IV
  - 20 mg

- Adrenaline IV
  - Titrated 1 microgram / kg*

- Observe (4 hours min)
  - Monitor vital signs, reassess ABC
  - Consider steroids and oral antihistamine

**RESOLUTION**

- Call for specialist advice
  - Consider:
    - Transfer to advanced care setting
    - Further 0.9% saline
    - Nebulised adrenaline for upper airway obstruction
  - **Adrenaline infusion**
  - **Inotropic support**
  - **Nebulised salbutamol** for lower airway obstruction

APLS Guidelines: drugs in anaphylaxis

<table>
<thead>
<tr>
<th>Drugs in anaphylaxis</th>
<th>Dosage by age</th>
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<tbody>
<tr>
<td>Adrenaline IM – pre-hospital practitioners</td>
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<tr>
<td>- Less than 6 months</td>
<td>150 micrograms (0.15 ml of 1:1000)</td>
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<td>- 6 months to 6 years</td>
<td>300 micrograms (0.3 ml of 1:1000)</td>
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<tr>
<td>- 6–12 years</td>
<td>500 micrograms (0.5 ml of 1:1000)</td>
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<tr>
<td>- More than 12 years</td>
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<tr>
<td>Adrenaline IM – in-hospital practitioners</td>
<td>10 micrograms / kg</td>
</tr>
<tr>
<td>Adrenaline IV</td>
<td>Titrated 1 microgram / kg*</td>
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<tr>
<td>Hydrocortisone (IM or slow IV)</td>
<td>25 mg</td>
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<td></td>
<td>50 mg</td>
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<tr>
<td></td>
<td>100 mg</td>
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<td>200 mg</td>
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* 1 microgram / kg given over 1 minute (range 30 seconds to 10 minutes), e.g. according to local protocol, one of these adrenaline doses can be diluted in saline to a volume of 10 ml, giving a solution of 1 mcg/kg/ml.

1The strength of IM adrenaline is not intended to be prescriptive, 1:1000 or 1:10,000 could be used depending on what is practicable. The problem with sticking solely to 1:1000 is that when used in infants and small children, you are then drawing up very small volumes.