

## ALS/Illness Scenario 4 Refresher Course

*This is a Teaching Scenario. Some flexibility in how it progresses is possible according to individual learner needs.*

### History {initial candidate briefing prior to arrival of child}

A 1 year old infant is stung by a bee on the face and develops facial swelling and stridor. She recently had bronchiolitis and has a strong family history of asthma. She is being transported by ambulance.  
Estimated weight 10 kg

### Initial impression {provide information as candidate assesses child and applies monitoring}

She has swollen eyes and lips and a wide spread urticarial rash. The respiratory rate is 30 and there is an audible inspiratory stridor. Her SpO<sub>2</sub> is 90% in air. The pulse rate is 160 with poor volume and the blood pressure is 61/42.

### Clinical Course {to be given to candidate as they progress}

She rapidly deteriorates (with or without IM adrenaline) with increasing respiratory distress, SpO<sub>2</sub> 84%, HR 190, BP 52/37. Then becomes apnoeic, unresponsive and pulseless in PEA. IV adrenaline 10 mcg/kg and a fluid bolus are required for ROSC. A few minutes after ROSC, the heart rate again rises and the stridor and wheeze return. With IM adrenaline both the stridor and tachycardia improve, however she remains wheezy with increased work of breathing. SpO<sub>2</sub> 95% in high flow oxygen. Salbutamol and steroids should be considered.

## INSTRUCTORS INFORMATION

### Key Treatment Points



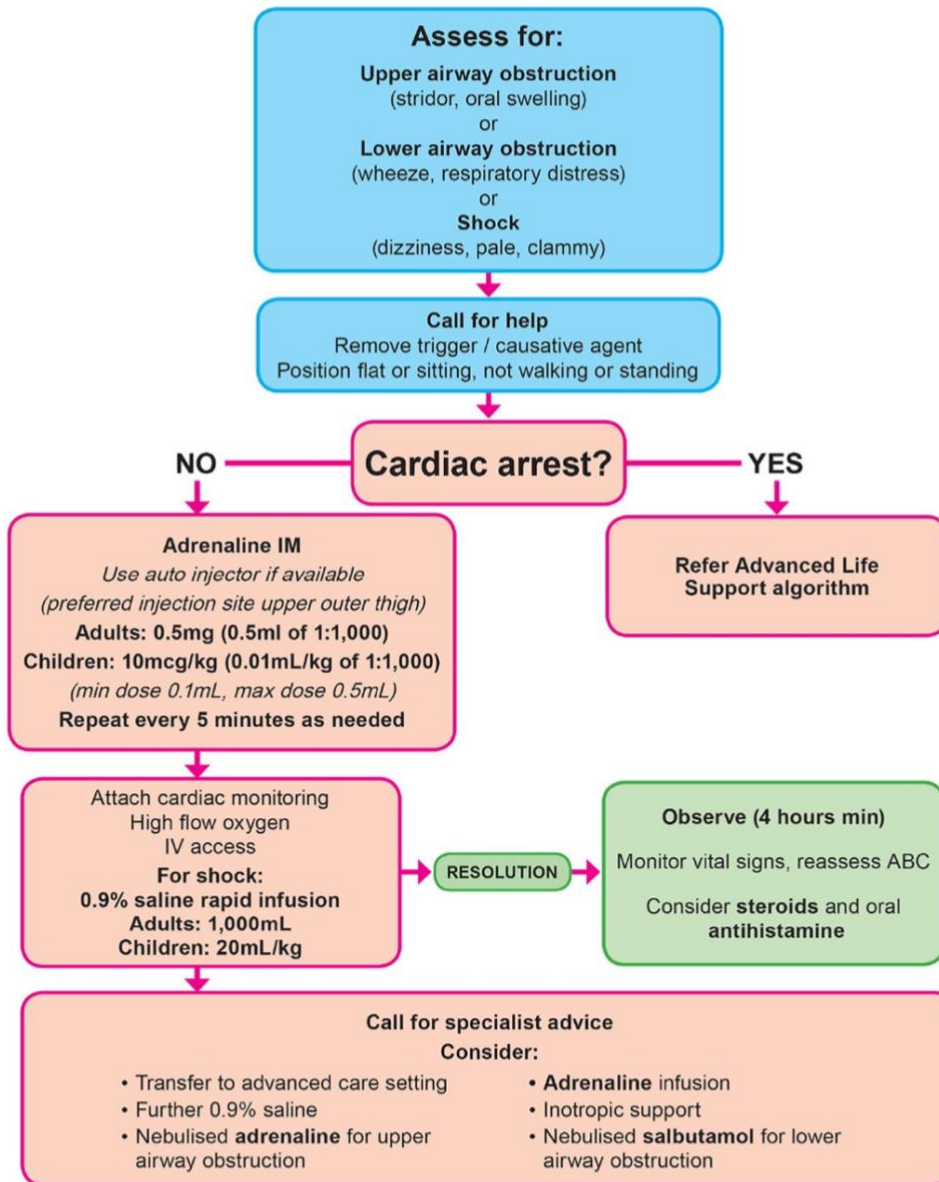
<b>Airway</b>	Establish airway patency High flow O <sub>2</sub> via face mask commenced early Consider LMA/iGel/intubation or arrange for intubation	
<b>Breathing</b>	BVM ventilation with 100% O <sub>2</sub>	
<b>Circulation</b>	PEA protocol Fluid bolus 10 mls/kg	
<b>Specific Therapy</b>	IM adrenaline 10 mcg/kg Inhaled salbutamol (spacer and mask if possible) and steroids if bronchospasm persists	

**Diagnosis;** Severe Anaphylaxis, PEA, allergic wheeze

### Learning Objectives

- Apply the structured approach to management and diagnosis during cardiac arrest
- Perform BLS/ALS effectively and safely
- Recall and apply the PEA algorithm in their own practice
- Recall and apply the management of severe anaphylaxis in their own practice

# Anaphylaxis



Reviewed August 2023

## APLS Guidelines: drugs in anaphylaxis

Drugs in anaphylaxis	Dosage by age			
	Less than 6 months	6 months to 6 years	6–12 years	More than 12 years
Adrenaline IM – pre-hospital practitioners	150 micrograms device or 0.15 ml of 1:1000*		300 micrograms device or 0.3 ml of 1:1000*	300/500 microg device or 0.5 ml of 1:1000*
Adrenaline IM – in-hospital practitioners	10 Micrograms / Kg = 0.01 ml/Kg Of 1:1000, Minimum dose 0.1 ml* (*prime needle with adrenaline solution to ensure correct dose with small volumes)			
Adrenaline IV	Adrenaline infusion 0.1 – 1 micrograms/kg/min according to local guidelines			
Crystalloid	20 ml/kg			

## Potential Issues to be Discussed

- See APLS anaphylaxis algorithm (a copy of the algorithm will be available in the simulation station)
- PEA from anaphylaxis and potential to require multiple doses of adrenaline and fluid boluses
- In true anaphylaxis, the key treatment is IM adrenaline. Nebulised adrenaline is commonly given as an adjunct but its additive effectiveness is unclear and should not be given instead of IM adrenaline.
- Multiple doses of IM adrenaline may be necessary, in which case consideration of an adrenaline IV infusion should be considered.
- The use of the EpiPen may be raised. An EpiPen and literature are provided.

<https://www.allergy.org.au/hp/anaphylaxis/how-to-give-epipen>

EpiPen 300 mcg adrenaline use in children >20 kg

EpiPen Jr 150 mcg adrenaline use in children <20 kg

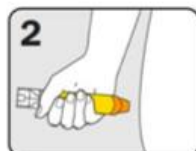


## How to give EpiPen<sup>®</sup>

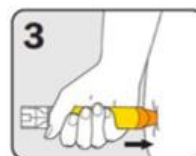
adrenaline (epinephrine) autoinjectors



1. Form fist around EpiPen<sup>®</sup> and PULL OFF BLUE SAFETY RELEASE



2. Hold leg still and PLACE ORANGE END against outer mid-thigh (with or without clothing)



3. PUSH DOWN HARD until a click is heard or felt and hold for 3 seconds REMOVE EpiPen<sup>®</sup>