

Cardiac 4 (Pacific)

History {initial candidate briefing prior to arrival of child}

You are called urgently to the emergency department. A 10 month old girl who had been brought into the resus area for severe gastroenteritis and shock has become unresponsive. She has a history of 3 days of severe watery diarrhoea and vomiting with increased sleepiness over the last few hours. A nurse is performing CPR. Estimated weight 6 kg.

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

Clinical course {to be given to candidate as they progress}

Monitor shows VF.

Single shock reverts to sinus tachycardia, HR 160 with ventricular ectopics and barely palpable pulse.

CRT 7 sec. BP 50/34. Airway patent and breathing spontaneously at a rate of 25.

Improves with 2 fluid boluses of 10 mL/kg.

The infant goes back into ventricular fibrillation and has return of spontaneous circulation (ROSC) with the 2nd shock. Sinus rhythm with occasional ventricular ectopics.

K level is 2.1 mmol/l.

INSTRUCTORS INFORMATION

Key treatment points

Airway & breathing	Establish airway patency
	BVM ventilation with 100% O ₂
	Consider LMA/intubation or arrange for intubation
Circulation	VF protocol
	IV/IO access if not in situ
	N.Saline 10 mL/kg x 2-4. Consider inotropes
Specific therapy	Seek expert advice: KCL 0.2 - 0.4 mmol/kg/hour for 2 hours. Check VBG/U&Es
General therapy	Uninterrupted BLS

Diagnosis

Cardiorespiratory arrest: Ventricular fibrillation due to hypokalaemia in the setting of gastroenteritis and hypovolaemic shock

Learning objectives

At the end of this session participants should be able to:

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

Resources

PIC Hypokalaemia CPG