

ALS/Illness Scenario 6 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 2 year old boy brought in by ambulance with a 2 day history of vomiting, diarrhoea, and drowsiness. He had been vomiting all day and mum called an ambulance in the evening when she was having trouble keeping him awake.

Guide weight 15 kg

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

He has a generalized seizure during transfer from ambulance to resus area and is now blue and unresponsive.

Additional History & Observations

Mum has given him nothing but water for the last 48 hrs. She reports no recent injuries.

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

He is apnoeic and pulseless in PEA with a sinus bradycardia of 40.

ROSC occurs with CPR/Cardiac compressions and 1 dose of adrenaline.

After ROSC the child has a tonic clonic convulsion which ceases after midazolam.

There is bradycardia, hypertension, and coma (U on AVPU), so raised ICP and the need for respiratory support should be considered.

VBG: pH 7.25, pCO₂ 50 mmHg, pO₂ 40 mmHg, HCO₃ 19 mmol/L

Na 116 mmol/L, Cl 95, K 3.8, BSL 6.0 mmol/L.

INSTRUCTORS INFORMATION

Key Treatment Points		
Airway	Establish airway patency	
	Consider LMA/iGel/intubation or arrange for intubation	
	High flow O ₂ via face mask when spontaneous ventilation and ROSC. Titrate O ₂ flow to SpO ₂ 94-98%.	
Breathing	BVM ventilation with 100% O ₂	
Circulation	PEA protocol and uninterrupted BLS	
	IV / IO access	
	Fluid bolus 10 mls/kg	
Specific Therapy	Serum electrolytes, BSL	
	Management of convulsion including midazolam	
	Management of hyponatremia or consult ICU/retrieval	

Diagnosis: PEA from hypoxemia/dehydration with seizure.

Hyponatremic encephalopathy. Gastroenteritis, GIT Na loss, dehydration, water rehydration

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 ALS PEA algorithm in their own practice
- Apply the structured approach to assessment, management and diagnosis of coma and convulsions
- Recall and apply the principles of management of severe hyponatremia in their own practice
- Recall and apply the APLS status epilepticus algorithm in their own practice

Potential Issues to be Discussed/Instructor resources

- Differential diagnosis of acute encephalopathy – infection, intracranial bleed (including NAI), drugs, acute electrolyte abnormality, hypoglycaemia, or other metabolic abnormality,
- Management of hyponatremia, encephalopathy and CSE
- Hyponatremia. Used with permission and endorsed by the Paediatric Improvement Collaborative

https://www.rch.org.au/clinicalguide/guideline_index/Hyponatraemia/



