

## APLS: Scenario Illness 3

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

A 7 year old girl with asthma, is in transit by ambulance to emergency with a 2 day history of increasing cough and wheeze. Ambulance called to home because of severe breathing difficulties. They are giving nebulized salbutamol and oxygen in transit.  
Guide Weight: 25 kg

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

Ambulance officers report little response to salbutamol. She is pale. Only able to say a few words. RR 40. HR 150. Tracheal Tug. Saturation 90% in oxygen on ambulance monitor.

### **Additional History & Observations**

There is a history of multiple admissions to hospital as young child and infant. Has been not taking preventers for two years. Over the last two days she has been taking frequent doses of inhaled salbutamol. She is unable to find her spacer.

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

There is no improvement with a further dose of nebulised salbutamol and ipratropium. Oxygen saturations remain 91% in oxygen. Continuous nebulised salbutamol with two further doses of ipratropium. IVI MgSO<sub>4</sub>, aminophylline or salbutamol and IV steroids are needed. Slow improvement.

Unless escalation of therapy with IVI MgSO<sub>4</sub>, aminophylline or salbutamol then saturations worsen and bradycardia develops.

## **INSTRUCTORS INFORMATION**

### **Key Treatment Points**



<b>Airway</b>	Establish airway patency High flow O <sub>2</sub> via face mask commenced early Titrate O <sub>2</sub> therapy to SpO <sub>2</sub> 94-98% when stable	
<b>Breathing</b>	Position child to enhance breathing	
<b>Circulation</b>	Intravenous access	
<b>Specific Therapy</b>	Nebulised Salbutamol IV steroids IV infusion MgSO <sub>4</sub> , aminophylline or salbutamol.	

**Diagnosis:** Severe Acute on Chronic Asthma

### **Learning objectives**

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

- Apply the structured approach to assessment, management, and diagnosis of severe asthma
- Recall and apply the principles of management of severe asthma in their own practice

### **Potential Issues to be Discussed**

- Severity of asthma. History in assessing this.
- Oxygen saturations. Role of blood gases.
- Escalation of therapy.
- Intravenous therapy  $MgSO_4$ , aminophylline or salbutamol.

## APLS: Scenario Illness 4

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

A 4 year old child presents with a generalised tonic-clonic seizure. He has received buccal midazolam from the paramedics in the ambulance. On arrival he is not convulsing but is responsive only to painful stimuli.

Estimated weight 15 kg.

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

As the candidate starts to assess the patient, he has a generalised tonic-clonic seizure and becomes apnoeic. RR 30, then apnoeic, HR initially 170 developing bradycardia after apnoea. Conscious level initially responding only to painful stimuli and then unresponsive. Febrile 39.7°C.

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

With airway opening and BVM ventilation O<sub>2</sub> sat and bradycardia improves. There is no response to a second dose of benzodiazepine and the convulsion continues. BSL is 8.2 mmol/L. Plans to manage the airway, including ensuring the presence of an experienced airway clinician should be initiated. The convulsion eventually stops with an infusion of intravenous levetiracetam or phenytoin.

## INSTRUCTORS INFORMATION

### Key Treatment Points



<b>Airway</b>	Establish airway patency High flow O <sub>2</sub> via face mask commenced early Titrate O <sub>2</sub> therapy to SpO <sub>2</sub> 94-98% when stable Arrange for intubation or intubate	
<b>Breathing</b>	BVM ventilation with 100% O <sub>2</sub>	
<b>Circulation</b>	IV/IO access	
<b>Specific Therapy</b>	Status epilepticus protocol Blood sugar check	

**Diagnosis:** Prolonged Febrile Convulsion

### **Learning objectives**

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

- Apply the structured approach to management and diagnosis during convulsive status epilepticus (CSE)
- Recall and classify the potential causes of CSE
- Recall and apply the APLS status epilepticus algorithm in their own practice

### **Potential Issues to be Discussed**

- Discuss algorithm: obtaining IV or IO access after 1<sup>st</sup> dose of IM/Intranasal/buccal midazolam (a copy of the algorithm will be available), role of levetiracetam
- Discuss seizures in children with epilepsy vs first seizure presentation
- Discuss convulsions with a fever
- Antibiotics to cover meningitis/encephalitis
- RSI for intubation and seizures
- “Extremity” for fever, rash

# Status epilepticus management

