

APLS: Illness Scenario 5

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 4 month old boy is brought to ED by his parents with increasing respiratory distress. He has had a cough and cold for 2 days and had a “blue” episode whilst being fed this evening. He was born at 28 weeks gestation and was in NICU for 10 weeks with lung disease.

Guide weight 4 kg.

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

Infant held in instructor parent’s arms beside a bed. His eyes are open, but lethargic and cry is feeble. He is breathing very fast, RR 70, tracheal tug, nasal flaring subcostal recession. The parent states: “he’s really short of breath & hasn’t fed well last couple of feeds”.

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

SpO₂ is 86% (room air), HR 170, pulses palpable, CRT < 2, chest: bilateral wheezes & fine crepitation. “V” on AVPU. Temp 36.5°C, BGL 5.3 mmolL⁻¹.

Supplemental oxygen via face mask is required, and the child is more alert and RR improves a little. IV or NG maintenance fluids are indicated.

However, during (IV or NG) insertion the child suffers another apnoeic episode. SpO₂ falls to 80% and the child becomes unresponsive and floppy. Bag ventilation is required, and the SpO₂ recovers to 95%, after which spontaneous respirations recommence. Initial Na⁺ is 132 mmol/L.

INSTRUCTORS INFORMATION

Key Treatment Points



Airway	Monitor airway patency High flow O ₂ via face mask commenced early Titrate O ₂ therapy to SpO ₂ >90% when stable	
Breathing	BVM ventilation with 100% O ₂ Consider need for CPAP / heated, humidified, high flow nasal oxygen therapy (HHFNO)	
Circulation	IV access Maintenance fluids - consider 66% of normal rate	
Specific Therapy	Requires medical transfer to tertiary PICU / HDU	

Diagnosis; Apnoeic episodes due to severe bronchiolitis, at risk SIADH

Learning objectives

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

- Apply the structured approach to assessment, management and diagnosis of hypoxemia and respiratory distress
- Recall and apply the management of severe bronchiolitis in their own practice

Potential Issues to be Discussed, instructor resources

- Management of severe bronchiolitis
- Minimal stimulation, supplemental oxygenation, maintenance hydration and supportive ventilation
- Role of heated, humidified high flow nasal oxygen (HHFNO)
 - Heated, humidified HFNO has been shown to improve oxygenation, decrease the work of breathing and possibly decrease PICU admissions in bronchiolitis
 - Its use outside management of bronchiolitis is not well investigated. Concerns include delays in initiating resuscitation, hypotension and air leak. Its advantages over conventional low flow nasal cannula before/during intubation is unclear
- Consider reduced maintenance fluids to minimise risk of hyponatraemia due to SIADH - seek advice.
- Indications (or not) for antibiotic therapy
- Efficacy of steroids, bronchodilators and nebulised adrenaline for bronchiolitis (no evidence of efficacy)
- [PREDICT Bronchiolitis Guidelines Australasia](#)

APLS: Illness Scenario 6 - Pacific

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 3 day old infant is brought to the emergency department by his parents. He was born at 37 weeks gestation, normal delivery, weighing 3 kg. He went home on Day 1 with his mother. Initially he was well, but over the last 24 hours he has become increasingly lethargic and has not fed for 8 hours. Estimated weight 3 kg.

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

His colour is pale and greyish with decreased GCS, and he is responding to pain. RR 75 with some recession, HR 195 and pulses are difficult to feel. CRT 7.

Additional History & Observations

Mum was well through the delivery. She has had a fever and felt unwell for the last 24 hrs.

Pulses are difficult to feel with low perfusion and O₂ sat 89%.

BP 40/31. Temp 34 deg

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

Access is only possible via the intraosseous route.

There is mild improvement with the first fluid bolus. When the candidate listens to the chest, there is a soft systolic murmur at the sternal edge.

Cardiac ultrasound – normal

Sepsis is the most likely diagnosis so intravenous antibiotics should be administered.

Blood sugar should be checked.

INSTRUCTORS INFORMATION

Key Treatment Points



Airway & Breathing	Airway opening manoeuvres High flow O ₂ via face mask commenced early Titrate O ₂ therapy to SpO ₂ 94-98% when stable	
Circulation	IV/IO access 2 x fluid bolus – 5 mls/kg Blood cultures	
Specific Therapy	Local antibiotic guidelines	

Diagnosis: Shock secondary to sepsis – Group B Streptococcus

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

- Apply the structured approach to assessment and management of shock
- Recall, classify and apply the differential diagnosis of shock in a neonate
- Recall and apply the principles of management of shock in a neonate with reference to sepsis and duct dependent lesions in their own practice

Potential Issues to be Discussed

- Differential diagnosis of shock in neonates
- discuss differentiation of respiratory problems v sepsis v congenital heart disease

Resources

Sepsis Guidelines – Endorsed by the Paediatric Improvement Collaborative

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