

SIMULATION CASE PI-3

Learning outcomes:

By the end of this simulation the candidates will:

- Have an understanding of the ABC/primary assessment approach to sepsis
- Learn how to work in a team
- Have an understanding of the emergency treatment of a child with sepsis and the role of fluids/inotropes

Simulation focus: Septicaemia- meningitis

Timing: 0-3 minutes: introduction; remaining time: split equally between simulation and debrief

Introduction [Environment and Set]

Prior to the start of the simulation: one instructor to:

1. [Environment] Brief candidate group to *check the Environment*:

Room	Candidates to set up the room appropriately	
Equipment	Candidates to check required equipment present and accessible	

Equipment list:

In addition to generic equipment list:

- Appropriate size manikin to be ready for simulation in room and covered until simulation commences

2. [Set] Give *History*

A four month old baby is brought to hospital because he is breathing rapidly. He has been hot and restless, has vomited twice, and passed 2 loose stools. Now he is refusing to take a bottle and appears pale and listless. A triage practitioner calls you urgently.

Then leave the room for candidate group to prepare and after 2 minutes, return with instructor team and commence simulation

[Dialogue] Simulation

Initial handover {to tell candidate on phone as triage practitioner SBAR to Team Leader}

Situation	I am the triage practitioner and I'm calling you because there is a 4m old baby in the emergency department with fever and breathing difficulties	
Background	A four month old baby is brought to hospital because he is breathing rapidly. He has been hot and restless, has vomited twice, and passed 2 loose stools. Now he is refusing to take a bottle and appears pale and listless.	
Assessment	A	Patent
	B	Respiratory rate 65/min,
	C	Pulse 180/min, capillary refill time 6 seconds.
	D	His temperature is 39°C.
	E	He has pale, mottled peripheries and is uninterested in his surroundings.
Recommendation	Requires urgent resuscitation	

Clinical course {to be given as the simulation progresses}

The baby's condition remains unchanged until 40ml/kg fluid are been given. Then heart rate falls, BP rises, and peripheral colour returns. If oxygen is not administered this improvement does not occur. If a glucose stick test is not requested by the candidate you may choose to make the child fit because of hypoglycaemia

Key treatment points



Airway	Establish airway patency		
Breathing	High flow oxygen via face mask		
Circulation		IV-IO access	
		Fluid boluses	
		Consider inotropes	
Specific therapy	Consider sepsis as cause and give IV/IO antibiotics		
	Treat hypoglycaemia with 10% Glucose 2ml/kg + ongoing infusion		
Handover to PICU Consultant	S		
	B		
	A		
	R		

[Closure] Debrief

Using the learning conversation, carry out the debrief of both the technical and non-technical elements of the simulation.

The debrief will be for the team as a whole and should focus on some or all of the following:

- Technical skills in an A, B, C, D, E format and guided by the KTPs; in particular the safe and effective demonstration of all continuously assessed skills:
 - BLS
 - Defibrillation
 - Airway management
- Non-technical skills, including qualities of team membership and leadership:

Team members	<ul style="list-style-type: none"> • Clear communication • Respect • Flexibility • Assertiveness • Ability to listen
Team leaders	All of the above, plus <ul style="list-style-type: none"> • Full overview of all aspects associated with child, parents and team • Prioritises according to KTPs • Summarises and re-evaluates

- Feedback on Environment, where required

Potential issues that may be raised for this specific simulation

- timing of intubation and invasive pressure monitoring
- use of inotropes and repeat fluid boluses
- management of rapid sequence induction in critically sick infant
- lumbar puncture considerations/contraindications
- antibiotic choice for different age groups
- management of fever

Assessment

Refer to the *Instructor guidance on simulations* document for a guide to the assessment of the simulation station. These assessments should be documented on the paper-based or electronic system for the final faculty meeting. Any scores of *serious concern* should be reported immediately to the course director.