

SIMULATION CASE PI-5

Learning outcomes:

By the end of this simulation the candidates will:

- Recognise epiglottitis
- Implement resuscitation of the child with epiglottitis

Simulation focus: Epiglottitis

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*

You have received a pre-alert from the non-paramedic crew bringing in a two year old girl with a history of pyrexia, vomiting and sore throat. She will not drink.

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 your arrival with the child as Non-Paramedic SBAR to Team Leader}*

Situation	2 year old not drinking	
Background	A two and a half year old girl became pyrexial and vomited once 6 hours before admission. She was seen by her GP after 2 hours by which time she had a sore throat. He prescribed penicillin but none has been given as the pharmacist was shut. Now she will not drink. The mother says that she does not have a cough. She has been previously well. She missed her Hib vaccination as she had a high temperature.	
Assessment	A	Drooling
	B	RR 40/min, marked recession; soft inspiratory stridor, no cough
	C	Pulse 160/min; CRT normal
	D	Not talking and eyes shut, but opens them with painful stimulus
	E	Pale
Recommendation	Needs resuscitation and emergency management	

Clinical course *{to be given as the simulation progresses}*

If her airway is inspected, or if an IV is put up respiratory arrest occurs. After correct initial assessment her respiratory rate falls to 10 gasps/minute. Consciousness is lost and stridor disappears. Rapid airway management is necessary. If this is not performed she becomes bradycardic prior to developing asystole.

Key treatment points



Airway	Do not inspect		
	Call anaesthetist/ENT		
Breathing	High flow oxygen via face mask		
	Bag-and-mask with high flow oxygen		
	Attempt tracheal intubation		
	Attempt needle cricothyroidotomy*		
	*The anatomy is very unlikely to be palpable, so in reality it might be a needle tracheotomy. See notes in Potential Issues section below.		
	Transcricoid ventilation		
Circulation	IV/IO access after airway management		
Specific therapy	IV/IO antibiotics		
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

- **APLS guidance on surgical airways:** The APLS section on the surgical airway provides pragmatic advice for this rare event. We agree that there is very little evidence to inform this topic, but careful consideration was given to the evidence that does exist and to the current guideline from the APA/DAS: 'Cannot intubate and cannot ventilate (CICV) in a paralysed anaesthetised child aged 1 to 8 years'. The APA/DAS guideline excluded under 1s. Otherwise, there is a good deal of consensus with APLS. The main area of difference concerns 1-5 year olds, in the absence of an ENT surgeon, when the APLS guideline recommends an open technique in preference to a needle cricothyroidotomy.
- use of t-piece and reservoir bag, applying PEEP may be helpful
- call most senior paediatric anaesthetist and ENT surgeon
- use of transcrioid oxygenation (limited ventilation): oxygen rate 1L/min/year of age, 1s inflation

At the end of the debrief, give the opportunity for candidates to ask questions, answer these and then summarise the key points

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.