

SIMULATION CASE PC-8

Learning outcomes:

By the end of this simulation the candidates will:

- Understand management of PEA
- Understand the importance of a team approach to cardiac arrest management
- Understand the importance of effective communication during cardiac arrest management

Simulation focus: Primary respiratory arrest secondary to choking, leading to cardiopulmonary arrest. Rhythm PEA

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 3-year-old girl who was eating a sausage when she suddenly started coughing, and then stopped breathing.

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 a Non-Paramedic SBAR to Team Leader}*

Situation	A 3-year-old girl was eating a sausage when she suddenly started coughing, and then stopped breathing.	
Background	A 3-year-old girl that had been eating sausages has stopped breathing, following a sudden coughing episode. Attempted back slaps (from a parent) failed to dislodge the food. An ambulance was called, and they found the child to be unconscious on their arrival. During CPR, sausage meat was dislodged from the mouth. Bag mask ventilations with oxygen and chest compressions were started and are ongoing, on arrival.	
Assessment	A	Apnoeic
	B	Not breathing
	C	Pulseless – PEA arrest
	D	
	E	
Recommendation	Needs resuscitation	

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

The child remains in PEA.

Ventilation must be commenced and the PEA protocol needs to be followed.

Bagging is difficult and when clinically examined, signs of a tension pneumothorax are evident.

This responds to needle decompression (tension pneumothorax being the underlying cause for this PEA arrest). With subsequent ventilations, chest compressions and at least one cycle of the PEA protocol, a return to sinus tachycardia is seen on the monitor.

Key treatment points



Airway	Establish airway patency		
	Oral tracheal intubation		
Breathing	Bag and mask with added oxygen		
	Bag with TT with added oxygen		
Circulation	IV/IO access		
	PEA protocol		
Specific therapy	Uninterrupted BLS		
	Needle decompression, followed by chest drain and thoracotomy		
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	<p>All of the above, plus</p> <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

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

Discussion Points

- Candidates should consider children who are particularly vulnerable e.g. existing neuro muscular diagnoses
- Encourage candidates to familiarise themselves with the Difficult Airways Trolley or Tracheostomy box located in their workplace

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.