

SIMULATION CASE PI-6

Learning outcomes:

By the end of this simulation the candidates will:

- Recognise tricyclic overdose
- Implement resuscitation of the child with tricyclic overdose

Simulation focus: Tricyclic overdose

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 paramedic crew bringing in a 3 year old boy, difficult to rouse and hypotonic, now convulsing.

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 Paramedic SBAR to Team Leader}*

Situation	A 3-year-old boy, difficult to rouse and hypotonic, now convulsing.	
Background	A 3-year-old boy is still asleep at 10am. He is difficult to rouse and hypotonic. He starts to convulse and an ambulance is called. The paramedics found an open bottle empty of tablets in the room where he was playing with his 5 year old sister at 6am.	
Assessment	A	Intermittent stertor
	B	Erratic and difficult to count
	C	Blue; heart rate 170/min
	D	Tonic phase of a grand mal convulsion
	E	Mottled purple and white on limbs
Recommendation	Needs resuscitation and emergency management	

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

A poor volume irregular pulse (rate 70/min) is palpable at the brachial artery. The convulsion stops after intravenous lorazepam but breathing is inadequate and requires support. ECG monitoring reveals ventricular tachycardia rate 170/min. Glucose is greater than 11mmol/l. The dysrhythmia responds to the first DC shock. Following this the BP is 65 mmHg systolic.

Key treatment points



Airway	Establish airway patency		
Breathing	High flow oxygen via face mask		
	Bag-mask ventilation with added oxygen		
Circulation	IV-IO access		
	Wide complex tachycardia protocol → VT protocol		
	Fluid bolus		
Specific therapy	Lorazepam IV-IO		
	Bicarbonate therapy		
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

- use of synchronous vs asynchronous shocks (a copy of the VT algorithm will be available in the simulation station)
- duration of resuscitation: prolonged resuscitation up to 24h has been successful
- consider arrhythmias with any fast / slow heart rhythms

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.