

SIMULATION CASE PSC-3

Learning outcomes:

By the end of this simulation the candidates will:

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

Simulation focus: Tricyclic overdose/SVT management

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 two year old girl sleeps for longer than expected during her afternoon nap. She is difficult to rouse and hypotonic. She starts to convulse and an ambulance is called.

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	Tricyclic overdose	
Background	An open tablet bottle is found in her parent's room where she was playing earlier in the day.	
Assessment	A	Patent
	B	She is blue
	C	Pulse around 200/min difficult to count
	D	She is in the tonic phase having a grand mal convulsion
	E	-
Recommendation	Needs resuscitation	

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

A poor volume rapid pulse (rate 220/min) is palpable at the brachial artery. The convulsion stops after intravenous lorazepam/buccal midazolam but breathing is inadequate and requires support. ECG monitoring reveals supra ventricular tachycardia rate 220 /min. Glucose is greater than 11mmol/l. The dysrhythmia responds briefly after administration of 3rd dose Adenosine but reverts to SVT and only responds to the first synchronous 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		
	IV-IO access		
	Narrow complex tachycardia protocol → SVT protocol		
	Fluid bolus		
Circulation	Lorazepam IV-IO		
Specific Therapy	Bicarbonate therapy		
Handover	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

- Adenosine method of administration
- Use of synchronous vs asynchronous shocks (a copy of the SVT algorithm will be available in the simulation station)
- Specific treatment in TCA overdose: charcoal (within 1-2 h), treat hypoxia & acidosis bicarbonate or THAM (if Na high) to produce alkalosis.

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.