

Demonstration - cardiac simulation

Key Teaching Objectives

To demonstrate a cardiac simulation and emphasise the following:

- ABC Protocol for asystole and/or other causes of cardiac arrest
- Teamwork
- Supportive critiquing
- Non-technical skills (NTS) feedback

ENVIRONMENT FOR DEMONSTRATION

Equipment required

See generic equipment list

Environment

The room should be large enough to accommodate the instructors and equipment and ensure that all the candidates have a good view.

The equipment should be placed at an angle to the audience to facilitate their view. The instructors should not obstruct the view.

Personnel required

6 x instructors to carry out the demonstrations in the following roles:

- Instructor to lead simulation
- Instructor to lead human factors feedback
- Team leader
- Team members x 3

SET FOR DEMONSTRATION

Before the simulation begins, candidates should focus on all of the elements of the demonstration and consider what they want to build on from the simulations the previous day and, therefore, what their focus will be for the purposes of development.

During the demonstration ensure that the sequence is understood. It is - shock, immediate chest compressions and ventilations for 2 minutes, then pause compressions only for a monitor check, recommence chest compressions while the defibrillator is charged. Stop compressions and ventilations while the shock is given and immediately recommence compressions and ventilations without a monitor check.

1. Instructor

Introduces the format (including roles) and objectives of the demonstration then plays the role of the instructor.

2. Instructor describes the simulation to the instructor who is the team leader

SIMULATION DEMONSTRATION

Learning outcomes:

By the end of this simulation the candidates will:

- Have an understanding of the 2015 guidelines for management of cardiac arrest
- Have an understanding of team management

Simulation focus: Primary respiratory arrest secondary to opiate overdose, leading to cardiopulmonary arrest. Rhythm asystole then pulseless VT

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 nine year old boy has been found collapsed at home. His mother is a registered drug addict and says that some of her methadone is missing. She doesn't know how long he has been alone.

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 | 9 year old found collapsed at home | |
| Background | A nine year old boy has been found collapsed at home. His mother is a registered drug addict and says that some of her methadone is missing. She doesn't know how long he has been alone. | |
| Assessment | A | Apnoeic |
| | B | |
| | C | Pulseless |
| | D | |
| | E | |
| Recommendation | Needs emergency management | |

Clinical course {to be given as the simulation progresses}

The child remains in asystole until satisfactory ventilation is achieved and initial drugs have been given and one cycle of the asystole protocol has been completed. He then develops a pulseless ventricular tachycardia. This responds to the second DC shock.

Key Treatment Points



| | | | |
|------------------------|--|--|--|
| Airway | Establish airway patency | | |
| | Oral tracheal intubation/supraglottic device | | |
| Breathing | Bag and mask with added O ₂ | | |
| | Bag with ETT with added O ₂ | | |
| Circulation | IV/IO access | | |
| | Asystole protocol | | |
| | Pulseless VT protocol | | |
| General Therapy | Uninterrupted BLS | | |
| Handover | S | | |
| | B | | |
| | A | | |
| | R | | |

3. Instructor terminates demonstration and ...

[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

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

CLOSURE OF DEMONSTRATION

4. Instructor then invites the course participants to ask questions, answer these and then summarise the key points