

SIMULATION CASE PI-8

Learning outcomes:

By the end of this simulation the candidates will:

- Recognise gastroenteritis
- Implement resuscitation of the child with gastroenteritis

Simulation focus: Gastroenteritis

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*

The triage practitioner asks you to see a 10 month old girl with a 12 hour history of vomiting and diarrhoea.

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	10 month old – vomiting and diarrhoea	
Background	A 10 month old girl is brought into the Emergency Department with a 12 hour history of vomiting and diarrhoea	
Assessment	A	Patent
	B	RR 36/min
	C	Pulse 130/min; CRT 4 seconds
	D	Drowsy, but opens eyes on stimulation
	E	Pale and hypotonic
Recommendation	Needs resuscitation and	

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

The child continues to have vomiting and profuse watery diarrhoea. Blood pressure is 90 systolic. Following 10 ml/kg of normal saline given twice, the pulse rate comes down to 115 per minute and the child appears more alert. The child is started on maintenance fluids but an hour later when she is about to go to the ward and following further vomiting and profuse diarrhoea she again has a pulse rate of 140 and is pale and lethargic. A further fluid bolus corrects this. The serum sodium taken on insertion of the IV cannula is reported as 132 mmol/l.

Key treatment points



Airway	Establish airway patency		
Breathing	Oxygen via face mask		
Circulation	IV access		
	Fluid bolus x 2		
Specific therapy	Calculation of maintenance fluids and electrolytes		
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

- Diagnostic issues: do not assume D&V always due to gastroenteritis, eg high fever, oxygen need, poor perfusion or mentation may indicate sepsis
- High fluid volumes may be needed in gastroenteritis, surgical emergencies and shock
- Caution with fluids: raised ICP, heart failure, renal failure (urine output may be wrongly assumed with watery stools), trauma, DKA
- Fluid replacement should include rehydration, maintenance and ongoing losses – weigh & measure

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.