NeoSimSure

Neonatal Simulation Scenarios

1st Ed, 2025-26

Strengthening Skills

Saving Lives

Division of Neonatology
Department of Paediatrics
WHO Collaborating Centre for Training
and Research in Newborn Care
All India Institute of Medical Sciences, New Delhi

Supported by: UNICEF, India

डॉ. विनोद कुमार पॉल
सदस्य
Dr. Vinod K. Paul
MEMBER

भारत सरकार
नीति आयोग
संसद मार्ग, नई दिल्ली – 110001
Government of India
NATIONAL INSTITUTION FOR TRANSFORMING INDIA
NITI Aayog
Sansad Marg, New Delhi – 110001
Tele.: 23096809, 23096820
E-mail: vinodk.paul@gov.in

29th September, 2025

Foreword

Simulation-based training has become an essential part of modern neonatal education. It offers healthcare providers the chance to practice life-saving skills in a safe, controlled environment without ever placing vulnerable newborns at risk. In neonatology, where every second counts and every decision can change the course of a life, simulation is not just a teaching method; it is a bridge between knowledge and practice.

This booklet brings together 18 neonatal simulation scenarios developed by a dedicated team of neonatologists and nurses from across India. Their diverse experiences, drawn from delivery rooms, special care newborn units (SCNUs), and neonatal intensive care units (NICUs), have shaped scenarios that reflect the real-world challenges faced in hospitals every day. These cases span the spectrum of neonatal emergencies, from resuscitating a newborn who does not cry at birth to managing sudden deterioration in preterm infants, and stabilising conditions such as congenital diaphragmatic hernia and hypothermia.

What sets this resource apart is its dual focus. On the one hand, it hones technical skills: mastering protocols, handling equipment, and making quick, informed decisions. On the other hand, it addresses the equally vital human factors; namely teamwork, leadership, communication, and critical thinking. It is this blend that creates not only skilled professionals but also confident and compassionate caregivers.

Each scenario has been carefully structured, offering clear learning objectives, equipment checklists, setup guidance, scenario scripts, debriefing frameworks, and cognitive aids. The debriefing section, in particular, emphasises that the true strength of simulation lies in reflection, understanding what was done, why it was done, and how teams can work better together in the future.

This booklet is intended for all professionals involved in neonatal care, including doctors, nurses, residents, and educators. No matter the setting, it ensures structured, meaningful, and practical learning.

The development of this resource has been a remarkable journey of collaboration. Experts from across the country contributed their knowledge, tested scenarios in varied contexts, and refined them through multiple pilot runs and rounds of feedback. What you now hold in your hands is more than a set of training modules; it is the result of shared expertise, countless discussions, and a common vision to strengthen newborn care through education.

It provides a safe arena to practice high-stakes situations, sharpen decision-making skills, and build the confidence to act decisively when real lives are at stake. More than just teaching skills, it instils preparedness, resilience, and teamwork.

I sincerely congratulate the contributors, reviewers, and the WHO-CC team for this outstanding effort.

I hope that these scenarios will serve as a catalyst for improving neonatal training across India, fostering interdisciplinary collaboration, and ultimately ensuring safer and more effective care for newborns.

Vinod Paul

Foreword

Over the years, I have witnessed the transformative role of simulation in medical education. In neonatal care-where seconds can determine outcomes-simulation offers an invaluable opportunity to learn, practice, and refine critical skills in a safe, supportive environment. It enables healthcare providers to rehearse high-stakes scenarios, strengthen decision-making, and build confidence without placing fragile newborns at risk.

It is in this spirit that I am delighted to introduce this collection of 18 neonatal simulation scenarios. This work reflects the dedication, collaboration, and vision of a team of neonatologists, nurses, and educators who have developed each scenario with scientific rigor and validated them through extensive field testing. Multiple rounds of pilot runs, followed by careful incorporation of feedback, ensure that every scenario resonates with realism, practicality, and relevance. What you hold is not merely a set of training modules but the product of countless hours of discussion, practice, and refinement-anchored by a shared commitment to improving newborn care.

The scenarios span the spectrum of challenges encountered in delivery rooms, special care newborn units (SCNUs), and neonatal intensive care units (NICUs). Learners are guided through critical situations such as resuscitating a neonate who does not cry at birth, managing sudden deterioration in a preterm infant, or stabilizing a newborn with congenital diaphragmatic hernia or hypothermia. By engaging with these situations in a simulated environment, healthcare teams gain the confidence to act decisively and the skills to work effectively under pressure when faced with similar challenges in real life.

What makes this resource truly distinctive is its focus beyond clinical skills. Each scenario has been thoughtfully designed to address the human factors that are vital in neonatal care-teamwork, communication, leadership, and critical thinking. These elements lead to a cohesive, high-performing team capable of delivering safe, effective care. Along with scripts and checklists, the booklet provides structured guidance for pre-briefing, debriefing, and reflection, recognizing that the deepest learning in simulation occurs during thoughtful discussion and analysis.

The resource can be used in skills laboratories, integrated into continuing medical education (CME) programs, or embedded within quality improvement initiatives. By offering clear objectives, equipment checklists, setup instructions, and cognitive aids, it ensures that both faculty and learners engage meaningfully with each scenario. More importantly, it represents a vision for the future-where immersive, evidence-based, and learner-centered education becomes the norm, and every healthcare provider has the opportunity to practice until they are both confident and competent.

I would like to congratulate the contributors, reviewers and WHO-CC team for a product of outstanding educational and technical quality. Dr Anu Sachdeva has set new standards for upcoming educational pedagogy for healthcare professionals. I warmly compliment her for her stellar leadership.

I am confident that this resource will serve as a catalyst for strengthening neonatal care training across diverse settings. This resource material will inculcate the spirit of interdisciplinary education among healthcare professionals, and ultimately provide safe, efficient & effective care for mothers and babies.

Prof. Ashok K. Deorari
MD Dip NBE, FAMS, FNNF
Pro Vice-Chancellor
Swami Rama Himalayan University
Swami Ram Nagar, P.O. Jolly Grant
Dehradun (Uttarakhand) 248016

Former Professor & Head,
Division of Neonatology, Department of Paediatrics,
All India Institute of Medical Sciences, New Delhi
+91 135 2471537, +91 135 2471142/143/569
www.srhu.edu.in

Preface

1st Edition, October 2025

Simulation-based training has become an indispensable tool in modern neonatal care education, offering learners a safe and controlled environment to practice life-saving skills without risk to real patients. This booklet presents a comprehensive series of 18 neonatal simulation scenarios meticulously crafted by neonatologists and nurses. Each scenario addresses a critical clinical situation that healthcare providers frequently encounter in neonatal intensive care units (NICUs), special care newborn units (SCNUs), and delivery rooms.

The simulations are designed to reflect realistic challenges-ranging from resuscitating a neonate who is not breathing at birth to managing conditions like congenital diaphragmatic hernia, hypothermia, and sudden deterioration in both term and preterm neonates. Emphasis is placed not only on clinical skills but also on interprofessional teamwork, communication, leadership, and critical thinking-core competencies essential for high-quality neonatal care.

This booklet is intended for use by healthcare professionals, including doctors, nurses, residents, and medical educators, involved in neonatal care and training. It can be incorporated into skill labs, continuing medical education (CME) programs, or quality improvement initiatives. Each scenario includes clear learning objectives, equipment checklists, environment setup, pre-briefing, scenario scripts, debriefing guides, and cognitive aids to facilitate effective delivery and reflection.

We would like to express my sincere gratitude to Dr. Douglas D. McMillan, Professor Emeritus, Neonatal-Perinatal Medicine, Dalhousie University, and Dr. Nalini Singhal, Professor of Paediatrics (Neonatology), University of Calgary, for their thoughtful review and critical insights that significantly strengthened the simulation scenarios.

We hope these scenarios will serve as a catalyst for skill enhancement, team preparedness, and ultimately, improved neonatal outcomes. The collaborative effort in developing this module reflects our collective commitment to advancing newborn care through immersive, evidence-based, and learner-centered education.

Division of Neonatology,
Department of Paediatrics,
AIIMS, New Delhi-110029

Contributors (In alphabetical Order)

Dr. Deena Thomas
Assistant Professor in Neonatology
Department of Paediatrics
Government Medical College
Kottayam, Kerala

Dr. Deepika Anand
Assistant Professor
Division of Neonatology
Department of Paediatrics
All India Institute of Medical Sciences
New Delhi

Dr. Gunjana Kumar
Associate Professor
Department of Neonatology
National Institute of Medical Science
and Research Hospital, NIMS
University Rajasthan, Jaipur

Dr. Kavita Sreekumar
Associate Professor
Department of Paediatrics
Goa Medical College
Goa

Dr. Mayank Priyadarshi
Associate Professor
Department of Neonatology
All India Institute of Medical Sciences
Rishikesh

Dr. Pratima Anand
Assistant Professor
Department of Neonatology
Lady Hardinge Medical College &
Associated Hospitals, New Delhi

Dr. Satya Prakash
Consultant
Division of Neonatology
Department of Paediatrics
All India Institute of Medical Sciences
New Delhi

Dr. Sindhu Sivanandan
Consultant Neonatologist
Kauvery Hospital
Chennai

Dr. Subhash Chandra Shaw
Professor
Department of Paediatrics & Neonatologist
Army Hospital Research and Referral
New Delhi

Course Director
Dr. Anu Sachdeva
Additional Professor
Division of Neonatology
Department of Paediatrics
All India Institute of Medical Sciences
New Delhi

Reviewers (In alphabetical Order)

Dr. Abhishek S Aradhya
Neonatal Director
Ovum Women's and
Child's Specialty Hospital
Bangalore

Dr. Ankit Verma
Associate Professor
Division of Neonatology
Department of Paediatrics
All India Institute of Medical Sciences
New Delhi

Dr. Anu Sachdeva
Additional Professor
Division of Neonatology
Department of Paediatrics
All India Institute of Medical Sciences
New Delhi

Dr. Ashok Kumar Deoarari
Pro VC HIMS, Dehradun
Former Professor and Head
Department of Paediatrics
AIIMS, New Delhi
Former Principal-Dean
Himalayan Institute of Medical Sciences
Jolly Grant, Dehradun

Dr. Deena Thomas
Assistant Professor in Neonatology
Department of Paediatrics
Government Medical College, Kottayam
Kerala

Dr. Deepak Chawla
Professor and Head
Department of Neonatology
Govt. Medical College and Hospital
Chandigarh

Dr. Deepika Anand
Assistant Professor
Division of Neonatology
Department of Paediatrics
All India Institute of Medical Sciences
New Delhi

Dr. Pankaj Kumar Mohanty
Additional Professor
Department of Paediatrics
All India Institute of Medical Sciences
Bhuvaneshwar

Dr. Pratima Anand
Assistant Professor
Department of Neonatology
Lady Hardinge Medical College &
Associated Hospitals, New Delhi

Dr. Praveen Kumar
Professor and Head
Department of Paediatrics
Post Graduate Institute of Medical
Education and Research, Chandigarh

Dr. Rakesh Kumar
Associate Professor
Himalayan Institute of Medical Sciences
Jolly Grant, Dehradun

Dr. Ramesh Agarwal
Professor
Division of Neonatology
Department of Paediatrics
All India Institute of Medical Sciences
New Delhi

Dr. Satya Prakash
Consultant
Division of Neonatology
Department of Paediatrics
All India Institute of Medical Sciences
New Delhi

Dr. Sindhu Sivanandan
Consultant Neonatologist
Kauvery Hospital
Chennai

Dr. Srinivas Murki
Chief Consultant Neonatologist
Ankura Hospital for Women and Children
LB Nagar, Hyderabad

Dr. Gunjana Kumar
Associate Professor
Department of Neonatology
National Institute of Medical Science and Research, Jaipur, Rajasthan

Dr. Kavita Sreekumar
Associate Professor
Department of Paediatrics
Goa Medical College, Goa

Dr. M Jeeva Sankar
Professor
Division of Neonatology
Department of Paediatrics
All India Institute of Medical Sciences
New Delhi

Dr. Mayank Priyadarshi
Associate Professor
Department of Neonatology
All India Institute of Medical Sciences
Rishikesh

Ms. Meena Joshi
Ex-Assistant Nursing Superintendent
All India Institute of Medical Sciences
New Delhi

Dr. Neeraj Gupta
Professor and Head,
Department of Neonatology
All India Institute of Medical Sciences
Jodhpur

Dr. Subhash Chandra Shaw
Professor
Department of Paediatrics & Neonatologist
Army Hospital Research and Referral
New Delhi

Dr. Suman Rao P N
Professor and Head
Department of Neonatology
St. John's Medical College Hospital
Bangalore

Dr. S Venkataseshan
Professor
Post Graduate Institute of Medical Education and Research, Chandigarh

Dr. Tejo Pratap Oleti
Consultant Neonatology
Fernandez Hospital
Hyderabad

Office Secretariat

- Dr. B Nishita Sri, Program Manager
- Mr. Puneet Nagi, Program Assistant

Field Testing Team (In alphabetical order)

Dr. Ashok Kumar Deorari
Pro VC HIMS, Dehradun
Former Professor and Head
Department of Paediatrics
AIIMS, New Delhi
Former Principal- Dean
Himalayan Institute of Medical Sciences
Jolly Grant, Dehradun

Dr. Anu Sachdeva
Additional Professor
Division of Neonatology
Department of Paediatrics
All India Institute of Medical Sciences
New Delhi

Ms. Bindu Ajith
Sister In Charge, MCB NICU
All India Institute of Medical Sciences
New Delhi

Dr. Deena Thomas
Assistant Professor in Neonatology
Dept. of Paediatrics
Government Medical College
Kottayam, Kerala

Dr. Deepika Anand
Assistant Professor
Division of Neonatology
Department of Paediatrics
All India Institute of Medical Sciences
New Delhi

Dr. Gunjana Kumar
Associate Professor
Department of Neonatology
National Institute of Medical Science
and Research, Jaipur, Rajasthan

Dr. Kavita Sreekumar
Associate Professor
Dept. of Paediatrics
Goa Medical College, Goa

Ms. Kiran Singh
Sister Incharge, MCB NICU
All India Institute of Medical Sciences
New Delhi

Ms. Meena Joshi
Ex-Assistant Nursing Superintendent
All India Institute of Medical Sciences
New Delhi

Dr. Pratima Anand
Assistant Professor
Department of Neonatology
Lady Hardinge Medical College &
Associated Hospitals
New Delhi

Dr. Ramesh Agarwal
Professor
Division of Neonatology
Department of Paediatrics
All India Institute of Medical Sciences
New Delhi

I. "Towards Safer Beginnings"

Welcome to the Neonatal Simulation Scenario Series, developed by the Apex Centre of Excellence for Medical Simulation, AIIMS New Delhi. This compilation comprises 18 structured, evidence-based simulation scenarios that focus on common and critical neonatal emergencies.

These scenarios aim to:

- Provide a realistic, risk-free environment for practicing neonatal emergency care.
- Promote team-based learning, clinical decision-making, and confidence-building in managing neonatal crises.
- Facilitate experiential learning and structured debriefing to enhance clinical performance.

II. Clinical setting and intended learners

- These simulation scenarios are tailored for SNCU and NICU Doctors, i.e., paediatricians, medical officers, and residents and nurses involved in neonatal care, and also novice to intermediate learners (e.g., recruits or trainees in SNCU/NICU settings).

Background Information for Facilitator:

- Ensure all learners understand their roles (e.g., leader, nurse, assistant).
- Observe the leader's ability to assign tasks effectively and maintain situational awareness.
- Assess the team's ability to maintain clear, structured communication during the crisis.

Healthcare professionals often encounter situations in SNCUs and NICUs where they must deliver unpleasant information/bad news to parents/relatives. Effective communication is essential for supporting, fostering understanding, and ensuring compassionate yet precise delivery of complex information.

III. Pre-briefing

The following lines needs to be spoken by the facilitator conducting the scenario:

1. Psychological Safety: This is a safe learning environment. Mistakes are expected and are an important part of the learning process.
2. Learning Focus: The purpose of this simulation is learning, not assessment. We are more interested in your thought process, communication, and teamwork than in perfection.
3. Fidelity Disclaimer: The simulation environment may not fully replicate the clinical setting. Please do your best to treat the manikin/actor as you would a real patient. If something seems unrealistic, verbalize what you would normally do.
4. Roles & Boundaries: Each of you has been assigned a role. Please stay within your role to keep the scenario realistic. If you are unsure about available resources (like drugs, equipment), ask us, and we will clarify.

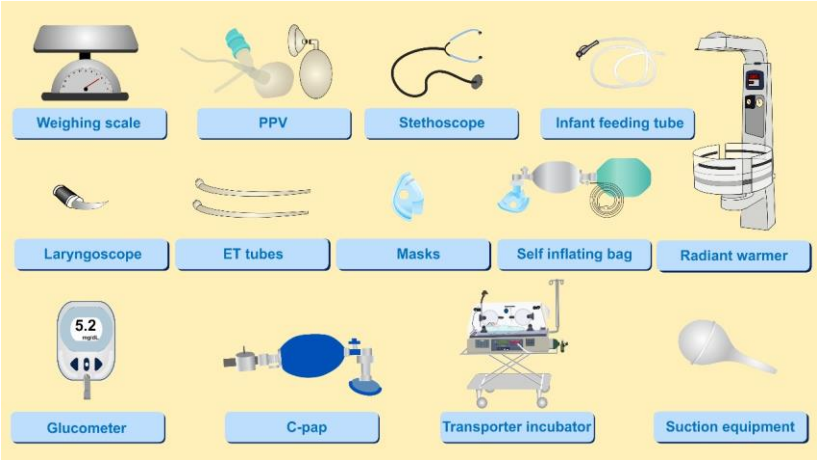
5. Time-Out & Pause Option: At any time, you can call a 'time-out' if you need clarification. Similarly, we may pause the scenario to give instructions.

6. Recording / Feedback Use *(if relevant)*: This session may be recorded for educational purposes. Recordings will remain confidential and used only for feedback and learning.

7. Debriefing Structure: After the scenario, we will debrief using a structured framework. This is where most of the learning happens, so please be open and reflective.

IV. Equipment

Manikin and other equipment required for scenario preparation: Please note that this is a generic list; the facilitated may fine tune the requirements for each scenario.



1. *Manikin:* Specified in the respective scenario
2. *Temperature*
    - Digital thermometer
    - Radiant warmer
    - Clean prewarmed linen- at least three and a cap
3. *Airway and breathing support equipment*
    - Self-inflating bag (240 mL) with a mask with an oxygen reservoir
    - T-Piece resuscitator (preferred)
    - Compressed air source, oxygen source and oxygen blender, if available, to set FiO_2 levels.
    - Laryngoscope and batteries and straight blade (size 0,1)
    - Endotracheal tubes (size 2.5, 3,3.5)
    - Suction machine

- Suction catheter (Fr 5,6,7,8,10,12)
- Pulse oximeter and neonatal probe
- Feeding tube (size 6,7,8)

4. *Circulation*

- Umbilical catheterization set (umbilical catheters 3.5,4,5, sterile gloves, alcohol swabs, cord ties, mosquito forceps, povidone iodine swabs)
- Neonatal IV cannula (24G - 26 G) and related supplies for venous access
- Syringes (1cc, 2cc, 5cc, 10cc, 20cc)
- 3-way stop-cock
- Needles 25, 21 and 18 G

5. *Medication and fluids*

- Epinephrine (1:10,000) 0.1 to 0.3 mL/kg
- Ampoules or vials labelled with neonatal emergency drugs (e.g., adrenaline, vitamin K, antibiotics like ampicillin/gentamicin, dextrose).
- Normal saline
- Injection caffeine
- Dextrose solutions with infusion sets

6. *Monitoring Equipment*

- Cardiorespiratory monitor to display heart rate, respiratory rate, and oxygen saturation (SpO_2).
- Monitor to measure blood pressure with BP cuff (optional)
- ECG leads (optional)

7. *Additional supplies*

- Documentation forms (e.g., observation charts).
- Role-specific props for team members (e.g., nurse's notes, doctor's orders)
- Software and screen to project simulated vitals (desirable)
- Whiteboard, marker pen

8. *Cognitive AID: NRP algorithm, oxygen saturation target chart, X-ray abdomen (Scenario 12)*

9. *Miscellaneous items*

- Gloves, timer, cord clamp, scissors, stethoscope, cord clamp and cord tie, measuring tape, shoulder roll, adhesive tape, sterile gauze, hand rub, transport incubator (if available and for specific scenarios only)

10. *Environment Setup*

- Labour room simulation environment.
- Radiant warmer for resuscitation

11. *Personnel required in the scenario:* Two to three

12. *Embedded Participant/s(EP):* 1-2; *details* in each scenario

V. Debriefing

Debriefing Process

1. Set the Tone
    - Begin with a reminder of psychological safety: *"This is a safe space. We are here to learn from each other, not to judge."*
2. Clarify Structure
    - State the flow: *"We'll start with your reactions, then review what went well, followed by what could be improved, and finally summarise key takeaways."*
3. Encourage Learner-Led Reflection First
    - Instead of jumping in, ask: *"How did that feel? What went through your mind as the scenario unfolded?"*
4. Normalize Mistakes
   Reinforce that errors are learning opportunities: *"If something didn't go as planned, that's completely okay - this is where we learn safely."*

Debriefing Using the Plus-Delta Approach

The Plus-Delta approach focuses on identifying positive behaviors (Plus) and areas for improvement (Delta) in a non-confrontational manner. Make it learner-centred and after the participants share their own Plus and Delta points, the facilitator can add observations. Prioritize some issues if many arise, pick 1–2 clinical and 1–2 teamwork themes to focus on.

Plus (What went well)

1. Clinical Management [the lines below just list possible examples]
    - Prompt recognition of baby not breathing and acting immediately
    - Recognizing when to initiate initial steps and bag and mask ventilation
    - Timely

2. Team Dynamics
    - Clear communication among team members using closed-loop communication.
    - Effective leadership with defined role allocation and coordination.

Delta (What could be improved; these are just examples!)

1. Clinical Management
    - Earlier recognition of bradycardia and desaturation.
    - Fine-tuning oxygen titration to avoid hyperoxia.
2. Team Dynamics
    - Improving the efficiency of task delegation and role adherence.
    - Reducing instances of overlapping communication or confusion.

Debriefing Using Advocacy-Inquiry

The Advocacy-Inquiry model fosters reflection by combining observations with open-ended questions to understand learners' decision-making processes. Consider using the 3-step conversational frame:

1. Observation (*what I saw/heard*)
2. Advocacy (*what I think/feel about it*)
3. Inquiry (*invite the learner's perspective*)

Example Statements

Clinical Management

Advocacy: "I noticed that you initiated bag-mask ventilation promptly. That was a great response."

Inquiry: "What led you to decide on bag-mask ventilation then? Would you have considered other interventions?"

Team Dynamics

Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."

Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"

Additional Facilitator Tips

- Avoid leading questions (instead of *"Why didn't you check oxygen earlier?"* better to speak *"What was guiding your decision on oxygen at that point?")*

- Balance clinical and human factors (teamwork, communication, leadership).
- Close with Key Takeaways: Ask each learner: *"What is one thing you'll take forward from this scenario into your practice?"*

VI. Facilitator's Guide: Using Simulation Scenarios for Optimal Team Learning

Simulation-based learning in neonatology is most effective when facilitators actively structure, observe, and debrief the experience. The facilitator's role is not to "instruct in real time" but to create a psychologically safe, technically sound, and reflective environment where learners practice both clinical and non-technical skills. The following list suggests quick tips for the facilitators conducting simulation scenarios.

1. Pre-Briefing (details earlier)
2. Facilitation During the Scenario
   - ❖ Allow the team to manage the scenario autonomously while noting key decision points, leadership, and communication patterns.
   - ❖ Use embedded participants (e.g., nurse, parent) to provide cues, simulate stressors, and highlight the importance of family communication.
   - ❖ Ensure that critical actions (e.g., early recognition of bilious vomiting, initiating IV fluids, OG tube placement, surgical referral) and teamwork behaviours are addressed.
   - ❖ Observe both clinical performance and human factors such as situational awareness, closed-loop communication, and task delegation.
3. Structured Debriefing – The Core of Learning
   - ❖ This guide has some general instructions for debriefing and then specific instruction after each scenario.
4. **Facilitator's Goal**
   - ❖ To transform scripted neonatal emergencies into immersive, reflective learning experiences that strengthen both technical competence and team dynamics-ensuring safer, more effective neonatal care in real clinical settings.
5. Handling cross-talk between dominant participants
   - ❖ Here are some strategies you can use to handle it smoothly while keeping the learning environment safe and productive

- Before the Simulation (Pre-briefing): Set clear ground rules, assign roles, normalise participation: Let participants know that everyone's input is valuable.
- During the Simulation, gently redirect if one person is dominating. Use prompts like "Let's also hear from X" or "What does the nurse/another team member think?"
- Use structured communication tools: Encourage closed-loop communication ("I gave 10 mL NS" followed by speaking, "Received 10 mL NS") and Situation Background Assessment Recommendation (SBAR).
- Pause if necessary: If cross-talk is disrupting, briefly pause to remind the team to speak one at a time and to clarify priorities.
- During Debriefing address the behaviour constructively and point out how cross-talk or dominance affected team performance and decision-making.
- Ask the team, "How did communication feel? Did everyone get a chance to contribute?"
- Highlight moments when quieter participants added valuable input.

✅ Key tip: Use facilitation skills to balance participation-acknowledge the dominant voices but actively draw out quieter members. Over time, participants learn to self-regulate.

VII. **Do's** and **Don'ts** for Simulation Facilitators

Do's

- Create psychological safety: Remind learners that mistakes are expected and are valuable learning opportunities.
- Clarify expectations: Define objectives, roles, and ground rules before starting.
- Observe: Note both clinical performance and teamwork/communication behaviours.
- Use structured debriefing: Apply Plus–Delta or Advocacy–Inquiry frameworks consistently.
- Encourage learner reflection: Let participants share their perceptions before adding feedback.
- Balance focus: Address technical accuracy (resuscitation, stabilisation, referral) and non-technical skills (leadership, closed-loop communication, situational awareness).
- Promote inclusivity: Ensure all team members, including nurses and juniors, contribute during debrief.
- Close with key takeaways: Ask each learner for one practice point they will apply in real settings.

Don'ts

- Don't judge or shame: Avoid blaming language; frame errors as opportunities.
- Don't dominate the debrief: Resist lecturing; guide reflection instead of providing all answers.
- Don't intervene unnecessarily: Avoid "coaching" during the scenario unless safety/focus is compromised.
- Don't overload feedback: Prioritise 1–2 clinical and 1–2 teamwork issues instead of covering everything.
- Don't ignore emotions: Acknowledge learner stress, anxiety, or frustration as part of the process.
- Don't skip the pre-brief: Without a clear setup, learners may feel unsafe, confused, or disengaged.
- Don't neglect family communication role-plays: In neonatal care, engaging with anxious parents is as critical as managing the baby.
- Don't assume learning happened: Always debrief; the scenario alone does not guarantee retention.

CONTENTS

Scenario 1: Neonate not breathing at birth

Scenario description [Case study]

You are the paediatrician on duty and called to attend the delivery of a mother in the labour room. The liquor is noted to be meconium-stained.

Learning Objectives

In addition to demonstrating effective team communication and exhibiting leadership and role allocation skills, the primary objective is:

- To identify and initiate timely and effective management of a neonate who does not breathe or cry at birth.

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. Any neonatal manikin that can depict chest rise and the ability to intubate is acceptable

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor or speak out the relevant reports if the team fails to ask for them)
2. NICU or SNCU nurse or doctor acting as a patient relative and expressing concern for the care and interventions being done during the scenario.

Supplemental information [to be given to the learner team if asked]: This is a singleton pregnancy. There are no antenatal risk factors; the fetus is a vertex presentation. Membranes have ruptured for 6 hours. Liquor is meconium-stained.

Scenario scripting*

Stage of scenario and duration	Clinical scenario/ Monitor display	Expected response from learners	Facilitator to respond	Expected response from EP
Stage 1 Preparation for birth (5 to 10 minutes)	Mother in labour room	1. Prepare for resuscitation of a neonate 2. Check self-inflating bag and other equipment needed 3. Identify roles and team members and do team briefing 4. Allocate roles and responsibilities –(in a two-person scenario, the learner tells what the nurse is expected to perform and anticipatory preparedness) 5. Both perform equipment check (TABC) 6. Ask for brief quick history (Term, number of babies, antenatal risk factors, color of liquor) 7. Make preparations for PPV and intubation (as the liquor is meconium stained) 8. Team also checks for umbilical lines and medications 9. Switch on warmer and prewarms linen	• This is a singleton pregnancy. • There are no antenatal risk factors • Fetus is a vertex presentation • Membranes have ruptured for 6 hours. • The liquor is meconium stained.	EP 2 i.e., mother is crying and imitating as if about to deliver
Stage 2 Delivery of the baby and initial steps (1 minute)	Mother delivers the baby, received by obstetrician, announced by facilitator as limp and not crying	1. Switches on the timer 2. Asks cord to be clamped and cut immediately 3. Places the baby under the radiant warmer 4. Opens airway 5. Suctions if required (asks the nurse to suction) 6. Dries and stimulates baby 7. Assesses heart rate and breathing efforts simultaneously 8. Asks for heart rate	Facilitator speaks baby is not breathing and heart rate is 80/min.	

Stage of scenario and duration	Clinical scenario/ Monitor display	Expected response from learners	Facilitator to respond	Expected response from EP
Stage 3 Initiation of positive pressure ventilation (1-2 minutes)	Baby on radiant warmer • Not breathing • HR 80/min	1. Calls for help 2. Initiates PPV with room air 3. Asks nurse to attach SpO_2 probe to the right hand 4. Looks for chest rise 5. After 15 seconds of PPV*, asks for heart rate 6. Asks nurse to check heart rate	Heart rate of 80 per minute [on the monitor; app] Facilitator speaks that chest is not moving SpO_2 80% [if pulse oximeter connected]	EP 1 prompts that we need to attach the pulse oximeter if the team has not already done it.
Stage 4 Initiates ventilation corrective steps (1-2 minute)	Baby on radiant warmer, SpO_2 connected • HR 80/min • SpO_2 60%	Initiates ventilation corrective steps M- Mask reapply R-Reposition head S-Suction O-PPV with mouth open P-PPV with more pressure A- Intubate if skilled Checks SpO_2 target 1. Ask the nurse to increase the FiO_2 on the blender based on SpO_2.	MR After 5 inflations- SO After 5 inflations- P Now chest starts moving	EP prompts: 1. Chest is not rising after MR 2. Chest is not rising after SO 3. Chest rises after increasing pressure on bag and mask
Stage 5 Provides effective PPV x 30 seconds (1-2 minutes)	Baby on radiant warmer, SpO_2 connected • HR 140/ min • SpO_2 80%	1. Provides effective PPV x 30 seconds 2. Looks for heart rate	After 30 seconds of effective PPV, HR is 140/min Spontaneous breathing efforts present	
Stage 6 Post-resuscitation care (1 min)	Baby on radiant warmer, SpO_2 connected • HR 140/min • SpO_2 90%	1. Decreases FiO_2 based on pre-ductal oxygen saturation targets 2. Stops PPV 3. Since PPV was needed more than 1 minute, indicates post-resuscitation care in the SNCU 4. Monitors breathing, HR and checks temperature 5. Counsels parents		
Can extend if required *5 breaths according to FBNC module				

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management [the lines below just list possible examples]
    - Prompt recognition of baby not breathing and acting immediately
    - Recognising when to initiate initial steps and bag and mask ventilation
    - Timely
2. Team Dynamics
    - Clear communication among team members using closed-loop communication.
    - Effective leadership with defined role allocation and coordination.

Delta (What could be improved; these are just examples!)

1. Clinical Management
    - Earlier recognition of bradycardia and desaturation.
    - Fine-tuning oxygen titration to avoid hyperoxia.
2. Team Dynamics
    - Improving the efficiency of task delegation and role adherence.
    - Reducing instances of overlapping communication or confusion.

Debriefing Using Advocacy-Inquiry

Example Statements

1. Clinical Management
    - Advocacy: "I noticed that you initiated bag-mask ventilation promptly. That was a great response."
    - Inquiry: "What led you to decide on bag-mask ventilation then? Would you have considered other interventions?"
2. Team Dynamics
    - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
    - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"

Scenario 2: Neonate not responding to positive pressure ventilation

Scenario description [Case study]

You are the paediatrician on duty and have been called for the resuscitation of a term neonate 3 kg who is not responding to PPV which was initiated at birth after the clinical team documented no response to initial steps. The mother is a primigravida who was admitted in labour with poor foetal movements.

Learning Objectives

In addition to demonstrating effective team communication and exhibiting leadership and role allocation skills; the primary objective is:

- To identify and initiate timely and effective management of a neonate who does not breathe even after positive pressure ventilation (PPV)

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. Any neonatal manikin that can depict chest rise and the ability to intubate is acceptable

Embedded participant [1 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)
2. Acting tips for nurse:

   If any equipment or drugs are requested ask" what size or how much?" Ensure role allocation is done.

Supplemental information [to be given to the learner team if asked]: This is a singleton pregnancy. The weight is 3 kg. There are no antenatal risk factors, the fetus is a vertex presentation. Membranes have ruptured for 6 hours. Liquor is meconium stained.

Scenario scripting*

Stage of scenario and duration	Clinical scenario/ Monitor display	Expected response from learners	Facilitator to respond	Expected response from EP
Stage 1 Neonate receiving PPV, and there is no improvement • Nurse Calls for help (1 to 2 min)	• Baby on radiant warmer • Nurse is doing PPV and calling for help • Not breathing	Assess the situation and take over the Positive Pressure Ventilation (PPV) 1. Asks the nurse to attach the SpO_2 probe to the right hand 2. Look for the chest rise 3. After 15 seconds of PPV*, asks for heart rate 4. Asks the nurse to check the heart rate	• Heart rate of 80 /min • Chest is MOVING	EP asks: • Is the bag size appropriate • Is the mask size appropriate
Stage 2 Identify the need for intubation and perform it (2 min)	Baby on radiant warmer, SpO_2 connected • HR 80/ min • SpO_2 40%	1. Learner indicates the need for intubation as PPV exceeds a few min and HR is < 100/min 2. Asks nurse to increase the FiO_2 on the blender to target SpO_2 3. Continues to provide PPV while asking the team to get supplies ready for intubation 4. Asks for blade size 1 with a laryngoscope 5. Asks for ET size 3.5 mm 6. Asks if suction is ready 7. Asks the assistant to inform HR 8. Team member intubates 9. Learner asks to deliver free-flow oxygen during intubation# 10. Post intubation, check air entry and ask for the heart rate 11. Asks naso-tragal distance measurement to be taken and ET to be fixed NTL+1 cm	• HR 80/ min • SpO_2 60% *To be told only if the team asks for it.* After 30 seconds of effective PPV delivered through ETT • HR is 80/ min and SpO_2 60%.	EP prompts: 1. If the learner doesn't check the NTL 2. Does Not check the air entry
Stage 3 Ongoing PPV with ET in situ indicating need of chest compressions (2 min)	Baby on radiant warmer, SpO_2 connected Learner is doing PPV via ET tube • HR 50/ min • SpO_2 40%	Learner does PPV via ETT 1. Learner indicates need for initiating chest compression 2. Asks the nurse to increase FiO_2 to 100% (makes sure that reservoir and oxygen tubing are connected if doing with self-inflating bag) 3. Coordinates chest compression with PPV at the ratio of 3:1 for 1 min	Facilitator says HR is improving • HR 80/ min • SpO_2 80%	EP prompts regarding the need of chest compressions if not initiated

Stage of scenario and duration	Clinical scenario/ Monitor display	Expected response from learners	Facilitator to respond	Expected response from EP
		4. Team checks HR after 1 minute of coordinated CC and PPV		
Stage 4a Improvement after chest compressions (1-2 min)	Baby on radiant warmer, SpO_2 connected Learner is doing PPV via ET tube and another providing CC • HR 80/ min • SpO_2 80%	1. Team says HR is > 60/ min, and stops chest compression but continues PPV for another 30 sec 2. After 30 sec of PPV asks for HR and SpO_2 3. Team continues PPV and plans transfer to NICU	HR is 120/ min, SpO_2 is 90%	
Stage 4b No improvement Ongoing CC; Ongoing PPV Identify the need of adrenaline (2-3 min)	Baby on radiant warmer, SpO_2 connected Learner is doing PPV via ET tube and another providing CC • HR 40/min • SpO_2 60%	1. HR is < 60/ min, team prepares for UVC insertion and administer adrenaline while continuing coordinated CC and PPV 2. Senior member inserts an umbilical venous catheter. Position is checked in place by free flow of blood 3. Team leader asks 1.5 mL of 1:10,000 adrenaline to be given via ET tube 4. Then 0.6 ml of 1:0,000 adrenaline to be given via UVC and followed up with 2 ml NS flush. Continues CC/PPV for 1 minute and asks for HR 5. Learner asks coordinated CC and PPV to be continued and asks 30 ml of NS bolus to be given via UVC over 10 minutes 6. Learner asks CC to stop and to continue PPV	Facilitator should provide baby weight as 3 kg Response to point number 3 Facilitator says HR is 50/min Response to point number 4 Facilitator says HR is improving and HR is now 80/min but baby is pale Response to point number 5 HR is 120/min and baby is making few breathing efforts	EP prompts regarding the dose and dilution of medication if not indicated
Stage 5 Clinical improvement and scenario closure (1-2 min)	Baby on radiant warmer, SpO_2 connected HR 140/ min, breathing is making breathing efforts and SpO_2 is 90%	1. Decreases FiO_2 to maintain target SpO_2 2. Continues PPV via ET tube 3. Since neonate required extensive resuscitation, indicates the need for post-resuscitation care 4. Monitors breathing, HR and checks temperature 5. Updates family 6. Transfers in a transport incubator		EP may prompt regarding information to family

[#] NRP MOH, India, 2023

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
   - Prompt recognition of neonate not responding to PPV
   - Calling for additional help
   - Timely administration intubation and initiation of CC
   - Team identified need for bolus in a pale neonate after administering adrenaline
2. Team Dynamics
   - Team leader maintained a global perspective
   - Clear communication among team members using closed-loop communication.
   - Team acted with calmness and composure in a crisis situation

Delta (What could be improved; these are just examples!)

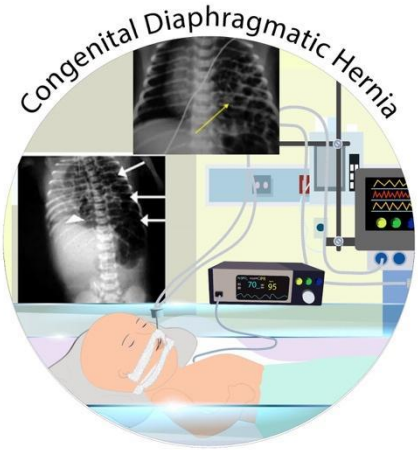
1. Clinical Management
   - Were there issues with the clinical environment and staffing? If so, what are they?
   - Were there issues with availability or functionality of equipment?
2. Team Dynamics
   - Improving the efficiency of task delegation and role adherence.
   - Reducing instances of overlapping communication or confusion.

Debriefing Using Advocacy-Inquiry

Example Statements

1. Clinical Management
   - Advocacy: "I noticed that you intubated promptly when the neonate was not improving with bag and mask ventilation. That was a great response."
   - Inquiry: "What led you to continue giving repeated doses of adrenaline while giving CPR ? Would you have considered a fluid bolus earlier given that the baby was pale?"
2. Team Dynamics
   - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
   - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"

Scenario 3: Inborn neonate with antenatal diagnosis of Congenital Diaphragmatic Hernia (CDH) (Scenario1), OR a term neonate referred from PHC/private nursing home with CDH (Scenario 2)



Scenario description [Case study]

Scenario 1:
A primigravida at 39 weeks gestation walks into the obstetric emergency of SNCU, in active labor. The obstetrician calls you (Paediatrician on call) with the information that the woman is 8 cm dilated and about to deliver in the next hour. You reach the labor room and on inspecting the antenatal records, you find the antenatal USG at 32 weeks suggestive of a congenital diaphragmatic hernia.

Scenario 2:
You are the Paediatrician on call in SNCU. You have two nursing colleagues with you on duty. You receive a 38-week term neonate at 1 hour of life, referred from a private hospital suspected as a case of antenatally diagnosed CDH. The neonate is transported on oxygen by nasal prongs and has respiratory distress.

Learning Objectives
Some term neonates may be detected with malformations like CDH in the delivery room. Timely interventions like gastric decompression by orogastric tube insertion and intubation in a neonate with CDH can be crucial and life-saving for the baby.

- To identify and initiate timely and effective management of a term neonate with antenatally diagnosed CDH.
- Demonstrate effective communication with the family: Learners will provide empathetic, accurate, and appropriate information to the neonate's family about the clinical condition, management plan, and expected outcomes, addressing any concerns or questions.

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. Any neonatal manikin that can depict chest rise and the ability to intubate is acceptable

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)
2. Acting tips for nurse:
   If any equipment or drugs are requested ask" what size or how much?" Ensure role allocation is done.

Any supplemental information
The mother had leaking per vaginum for 8 hours. Antenatal detection of CDH was first done at 28 weeks of gestation. The LHR ratio is 2.4. No cardiac defects on antenatal USG. This information has to be divulged only if requested by the team.

Scenario scripting*

Scenario Stages	Patient condition And Simulation parameters	Expected Interventions or Actions	Simulator response	If used [actor response]
Stage 1 Mother in labour room; preparing for resuscitation (2 minutes)	Mother in active labor [embedded participant]	1. Prepare for resuscitation of a neonate with anticipated CDH [Scenario 1]; to be omitted if [Scenario 2] 2. Check PPV and other equipment needed 3. Identify roles and team members and do team briefing 4. Allocate roles and responsibilities –(in a two-person scenario, the learner tells what the nurse is expected to perform and anticipatory preparedness) 5. Both perform equipment check (TABC) 6. Ask for brief quick history (Term, number of babies, antenatal risk factors, color of liquor) 7. Team also checks for umbilical lines and medications 8. Switch on warmer and prewarms linen 9. Inform NICU team for arrangement of bed and ventilator	None	EP indicates the requirement of following if not asked. • T Piece resuscitator • Appropriate size of endotracheal tube • Suction catheters • Infant feeding tubes • Ask about details of CDH, LHR and O/E LHR ratio** • Associated malformations, if any on antenatal US
Stage 2 Delivery of the baby and initial steps (2 to3 minutes)	Baby delivered Baby limp and apneic	1. Receives the baby in pre-warmed linen 2. Indicates the need for immediate cord clamping 3. Takes the baby to radiant warmer	Baby not breathing or crying	EP indicates the requirement of following if not asked- Immediate cord clamping
Stage 3* Indicates the need for intubation Avoids PPV (3 minutes)	Baby under radiant warmer Initial steps are performed baby continues to be limp and apneic	1. Indicates the need for intubation directly instead of a bag and mask 2. Starts PPV through ET on room air 3. Inserts orogastric tube and keep it open	Heart rate: 120/ minute Spontaneous breathing efforts present SpO_2 is 60% at 3 min.	EP indicates the requirement of following if not done.

Scenario Stages	Patient condition And Simulation parameters	Expected Interventions or Actions	Simulator response	If used [actor response]
	• Temperature: 36.8 degree Celsius • No respiratory effort • Heart Rate 90 /minute	4. Connects SpO_2 probe on right upper limb	Heart rate does not increase if bag and mask is used. Close the scenario	Would you like to insert an orogastric tube?
Stage 4 Hypoxia indicates the need for increasing the FiO_2 based on SpO_2 Identifies likely PPHN (3 to 5 minutes)	To be told when the learner asks for the vitals • Temperature: 36.7 degrees Celsius • RR: 81/minute • Left side air entry reduced • SpO_2 right upper limb at 5 minutes is 70% • Silverman respiratory distress scoring 3/8 Circulation • HR : 148/min • CFT < 3 seconds • Extremities warm, Heart sound audible on right side	1. Indicates target oxygen saturation 2. Increases FiO_2 3. Express the intent to check for pneumothorax 4. Expresses the intent to check for circulatory status and manage PPHN 5. Then increases the FiO_2 in proportions of 5% each minute 6. Expresses the intent to put in an intravenous line immediately before transport to SNCU/NICU	• HR : 150/ min • Spontaneous breathing efforts present • No pneumothorax Circulation • HR : 158/ min • SpO_2 is now 91% at 10 minutes at FiO_2 of 40% pneumothorax	
Stage 5 The decision to transport to SNCU/ NICU on bag and tube ventilation and arrange for a ventilator in SNCU/NICU (5 minutes)	Same status	Expresses the intent to communicate with parents about the 1. Likely underlying diagnosis 2. Likely investigations or steps of diagnosis 3. Overall prognosis 4. Subsequent managerial plan		

*Start at Stage 3 for an outborn neonate presenting to emergency (with an antenatal or postnatal diagnosis of CDH).

**Measure the area of the contralateral lung (the lung not affected by the hernia). Divide this by the head circumference (HC) measured simultaneously.

$$\text{LHR} = \frac{\text{Contralateral Lung Area (cm}^2\text{)}}{\text{Head Circumference (cm)}}$$

Higher LHR → better lung development, better prognosis.
Lower LHR → more severe pulmonary hypoplasia, poorer prognosis.

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
   - Prompt recognition of baby not breathing and acting immediately
   - Recognising when to initiate intubation
   - Timeliness
2. Team Dynamics
   - Clear communication among team members using closed-loop communication.
   - Effective leadership with defined role allocation and coordination.
3. Family Communication
   - Empathetic approach when addressing the family.
   - Clear explanation of the clinical situation and next steps in simple terms.

Delta (What could be improved; these are just examples!)

1. Clinical Management
   - Earlier recognition of bradycardia and desaturation.
   - Fine-tuning oxygen titration to avoid hyperoxia.
2. Team Dynamics
   - Improving the efficiency of task delegation and role adherence.
   - Reducing instances of overlapping communication or confusion.
3. Family Communication
   - Providing more time for the family to ask questions.
   - Simplifying medical terminology further.

Debriefing Using Advocacy-Inquiry

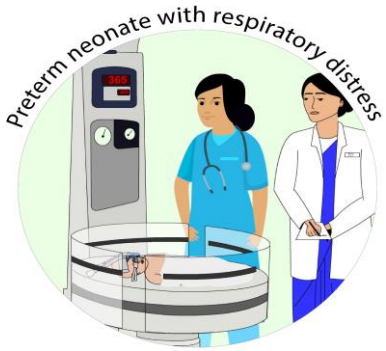
Example Statements

1. Clinical Management
   - Advocacy: "I noticed that you initiated direct ventilation and not bag and mask promptly. That was a great response."
   - Inquiry: "What led you to decide on direct intubation then? Would you have considered other interventions?"
2. Team Dynamics
   - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
   - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"
3. Family Communication
   - Advocacy: "You explained the neonate's condition to the family in a way that seemed to reduce their anxiety."
   - Inquiry: "What was your strategy for choosing how much information to share with the family? Did you feel they understood the explanation fully?"

Facilitator's Tips

- Balance observations with questions to encourage reflective thinking.
- Ensure learners feel safe discussing their reasoning without fear of judgment.
- Use "what" and "how" questions to deepen understanding and uncover thought processes.

Scenario 4: Preterm Neonate with Respiratory Distress immediately after birth



Scenario description [Case study]

You are called to attend the delivery of a 31-weeker neonate being born by caesarean section to a primigravida with placenta praevia and antepartum haemorrhage. The neonate is born limp and apneic and requires PPV for 30 seconds, following which it attains spontaneous breathing. You attach a pulse oximeter and find the heart rate above 100/min, but is having laboured breathing.

Learning Objectives

In addition to demonstrating effective team communication and exhibiting leadership and role allocation skills, the primary objective is:

- To identify and initiate timely and effective management of respiratory distress in a preterm neonate.

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. The CPAP machine being used for the scenario run should be functional.
3. The audio of grunting is a must.
4. Any neonatal manikin that can depict chest rise and the ability to intubate is acceptable

Embedded participant [1 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)

Any supplemental information (this information is to be divulged only if requested by the team)

Received one dose of dexamethasone

Scenario scripting*

Scenario Stages	Patient condition	Simulation parameters (visible on the screen/ prompted)	Expected Interventions or actions	Simulator response	If used [actor response]
Stage 1 Neonate at 10 minutes of life and initial evaluation (3-4 minutes)	• Neck flexed, visible oral secretions • (use agitated soap solution to show) • Grunting • (grunting noise played on a speaker/ phone) • Moderate chest retractions (speak) • Peripheral cyanosis	HR 156/min SpO_2 84% RR 64/min	1. Performs oronasal suctioning and positioning 2. Auscultates and assesses the Silverman score 3. Starts CPAP (5 cm H_2O, FiO_2 25-30%, nasal interface as available) 4. Checks adequate delivery of CPAP (manometer T piece/ bubbling n bubble CPAP) 5. Inserts OG tube 6. Asks for air entry, nasal flare	• Silverman's score is 6/10. • Bilateral air entry is equal	If oral suctioning was not done, EP asks, "Doctor, should I suction out the visible secretions?" EP asks for the settings of CPAP, interface to be used
Stage 2 Post-CPAP initiation 5 minutes have passed (2 minutes)	• On CPAP (5 cm H_2O/ 25%) • Moderate chest retractions • No audible grunting • No cyanosis	HR 168/ min SpO2 88% RR 60/min	1. Rechecks for effective CPAP delivery- rechecks equipment and interface. 2. Expresses intent to increase FiO_2 and CPAP pressure if equipment and interface are optimal. 3. Rechecks Silverman score 4. Calls for help	"Silverman's score is 4/8."	EP: asks how much to increase FiO_2 and pressure
Stage 3 Ongoing monitoring and	On CPAP (6 cm H_2O/40%) Moderate retractions	HR 162/min SpO_2 89% RR 66/min	1. Increase FiO_2 and CPAP pressure 2. Repeats Silverman score	"Silverman's score is 3/8. The baby has moderate retractions."	EP: asks for size of the laryngoscope, ET tube

Scenario Stages	Patient condition	Simulation parameters (visible on the screen / prompted)	Expected Interventions or actions	Simulator response	If used [actor response]
consideration for transfer 10 minutes have passed (2-3 minutes)	No grunting/ cyanosis		3. Informs senior team member 4. Calls the SNCU and asks nurse to prepare bed in SNCU and keep equipment for intubation ready 5. Expresses the intent to consider administering surfactant and states the rationale for an indication of giving surfactant		
Stage 4 Clinical improvement after increasing CPAP pressure 10 minutes have passed (2 minutes)	On CPAP (7 cm H_2O/50%) Mild retractions	HR 158/min SpO_2 93% RR 60/min	1. Repeats silverman score 2. Plans shifting to SNCU 3. Expresses the intent to counsel the parents, including possible underlying diagnosis, steps of management already instituted, overall prognosis, subsequent management plan 4. Expresses the intent to decrease FiO_2 immediately 5. (No need to include the counselling session in the scenario)	Silverman's score is 1/8. Mild retractions are present." Announce that the neonate is looking comfortable SpO_2: 95% HR 162/min RR 58/min Congratulate the team.	

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
   - Prompt recognition of respiratory distress and monitoring.
   - Suctioning done
   - Initiation of CPAP
   - Escalation of CPAP pressure and FiO_2
2. Team Dynamics
   - Clear communication among team members using closed-loop communication.
   - Effective leadership with defined role allocation and coordination.

Delta (What could be improved; these are just examples!)

1. Clinical Management
   - Earlier recognition of distress and desaturation.
   - Fine-tuning oxygen titration to avoid hyperoxia.
2. Team Dynamics
   - Improving the efficiency of task delegation and role adherence.
   - Reducing instances of overlapping communication or confusion.

Debriefing Using Advocacy-Inquiry

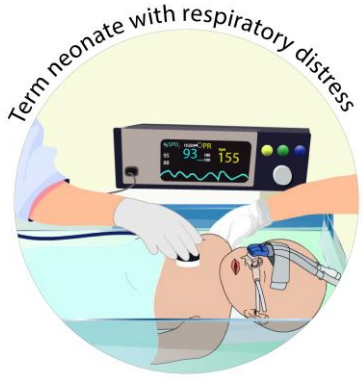
Example Statements

1. Clinical Management
   - Advocacy: "I noticed that you promptly suctioned the mouth on noticing visible secretions. That was a great response."
   - Inquiry: "Do you think you could have done any other prompt intervention?"
2. Team Dynamics
   - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
   - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"

Facilitator's Tips

- Balance observations with questions to encourage reflective thinking.
- Ensure learners feel safe discussing their reasoning without fear of judgment.
- Use "what" and "how" questions to deepen understanding and uncover thought processes.

Scenario 5: Term Neonate with Respiratory Distress



Scenario description [Case study]

You are the paediatrician on duty in the SNCU/NICU. You and two clinical staff nurses are on duty as a team. A 39-week gestation term neonate presents to the SNCU/NICU at 12 hours of life. The mother has noticed rapid breathing and breathing difficulty.

Learning Objectives

In addition to demonstrating effective team communication and exhibiting leadership and role allocation skills, the primary objective is:

- To identify and initiate timely and effective management of a term neonate with distress

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. The CPAP machine being used for the scenario run should be functional.
3. The audio of grunting is a must.
4. Any neonatal manikin that can depict chest rise and the ability to intubate is acceptable

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)
2. The second EP is the mother who seems concerned regarding her baby's condition and asks the clinical team intermittently for their plan and respective intervention being done.

Any supplemental information

- The mother had a leaking per vaginum for 6 hours. Liquor was clear. No asphyxia. Apgar scores 8, 9 at 1 and 5 minutes of life. This information has to be divulged only if requested by the team.

Scenario scripting*

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or Actions	Simulator response	If used [actor response]
Stage 1 Initial assessment by the team (2 to 3 minutes)	Term neonate with grunting (background noise is audible) Vitals to be told when the learner asks for them	• Asks for the temperature and the status of the airway • Connects the pulse oximeter • Expresses the intent to monitor the degree of respiratory distress (Downe's score) (RR, retractions, grunt, air entry, and SpO_2) • Expresses the intent to look for shock and asks for features of shock (HR, pulse volume, cold extremities) • Identifies the neonate as having respiratory distress	• Temperature: 36.7°C The monitor displays the following once pulse oximeter is attached correctly. • SpO_2 right upper limb 88% • HR: 148/min • RR: 81/min • Air entry equal (to be spoken) • CFT< 3 seconds • Extremities warm, Pulse volume normal • Respiratory distress scoring 5/10	EP 1 as NICU/SNCU nurse prompts to ask for degree of distress if needed.
Stage 2 Initiation of CPAP (10 minutes)	Term neonate with grunting (background noise is audible) • Antenatal history to be asked • Asphyxia • Meconium-stained liquor (No) • Risk factors of sepsis in mother (No)	• Suction mouth for visible secretions • Insert an orogastric tube • Expresses the intent to start CPAP • Asks for appropriate size CPAP interface, Tegaderm, and cannulaide • Team members prepare and assemble the CPAP. • Indicates the setting of CPAP with appropriate 5 cm H_2O pressure and FiO_2 30% (suggests	• SpO_2 increases once suction is done and CPAP is connected • On monitor: SpO_2 94% • To speak: No abnormality was noted on systemic examination	• EP 1 asks for CPAP settings if not stated by the team.

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or Actions	Simulator response	If used [actor response]
		the need for increased pressure based on retractions) • Expresses the intent to rule out malformations (air entry, heart sounds, scaphoid abdomen)		
Stage 3 Monitoring on CPAP (5 minutes)	Neonate on CPAP at 5 cm H_2O CPAP 30% FiO_2 Intent to continue the monitoring; reassess the Downes score To speak: RR 64/minute; Downe's score 5/8; (Moderate retractions) Air entry equal; SpO_2 85%	• Expresses the intent to increase CPAP from 5 cm H_2O to 6 cm H_2O. • FiO_2 to be increased if SpO_2 does not improve with an increase in pressure • Expresses the intent to communicate with the parents	The neonate responds to a change in pressure Distress reduces to 2/8 over the next 15 to 20 minutes	EP 2 as mother asks: Doctor, how is my baby now?

Can extend if required*

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
   - Prompt recognition of respiratory distress and monitoring.
   - Suctioning done
   - Initiation of CPAP
   - Escalation of CPAP pressure and FiO_2
2. Team Dynamics
   - Clear communication among team members using closed-loop communication.
   - Effective leadership with defined role allocation and coordination.

Delta (What could be improved; these are just examples!)

1. Clinical Management
   - Earlier recognition of bradycardia and desaturation.
   - Consider alternative causes of respiratory distress (e.g., infection) earlier in the scenario.
   - Fine-tuning oxygen titration to avoid hyperoxia.
2. Team Dynamics
   - Improving the efficiency of task delegation and role adherence.
   - Reducing instances of overlapping communication or confusion.

Debriefing Using Advocacy-Inquiry

Example Statements

1. Clinical Management
   - Advocacy: "I noticed that you promptly suctioned the mouth on noticing visible secretions. That was a great response."
   - Inquiry: "Do you think you could have done any other prompt intervention?"
2. Team Dynamics
   - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
   - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"

Facilitator's Tips

- Balance observations with questions to encourage reflective thinking.
- Ensure learners feel safe discussing their reasoning without fear of judgment.
- Use "what" and "how" questions to deepen understanding and uncover thought processes.

Scenario 6: Neonate with Severe Hypothermia

Scenario description [Case study]

You are posted in the emergency department. You received a term low birth weight neonate (1700 g) wrapped in a single layer of clothing in an auto-rickshaw. You notice that the baby is cold to touch and has peripheral cyanosis.

Learning Objectives

In addition to demonstrating effective team communication, exhibiting leadership and role allocation skills, and establishing effective communication with the family, the primary objective is:

- To identify and initiate timely and effective management of severe hypothermia.

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. Any neonatal manikin that can depict chest rise and the ability to intubate is acceptable

Embedded participant [1/2 required]:

1. The EP is the mother/father who seems concerned regarding her baby's condition and asks the clinical team intermittently for their plan and the respective intervention being done
2. For physician training; an embedded nurse may interrupt at stage 3 and ask the drug dosage.

Any supplemental information (this information is to be divulged only if requested by the team)

- Multigravida mother with a history of previous preterm birth. There is a history of leaking per vaginum for 6 hours. No maternal fever or foul-smelling liquor.

Scenario scripting*

Scenario Stages	Patient condition Simulation parameters (shown on monitor/ prompted)	Expected Interventions or actions	Simulator response	If used [actor response]
Stage 1 Initial assessment and evaluation (3-4 minutes)	Cold to touch; wrapped in wet clothes • Lethargic • Breathing spontaneously, no retractions • Pulse palpable Once the pulse oximeter probe is attached: HR 106/min SpO_2 88% RR 36/min	1. Checks temperature 2. Removes wet clothing 3. Shifts to radiant warmer (manual mode at heater 100% output), attaches temperature probe. 4. Assess airway, breathing, circulation 5. Attach pulse oximeter 6. Starts oxygen by prongs	• Baby's axillary temperature is 31.5°C • Airway patent, breathing spontaneously • CRT 2-3 sec, pulses palpable, • BP (if checked): 56/34 mmHg	EP 2keeps asking about the baby's well-being.
Stage 2 Ongoing management 10 minutes have passed (2-3 minutes)	Lying on the radiant warmer, on oxygen by prongs HR 116/min SpO_2 93% RR 38/min	1. Rechecks temperature 2. Expresses intent to check RBS 3. Expresses the intent to secure IV access (cannula) 4. Expresses the intent to give Vitamin K1 mg IM 5. Expresses the intent to start IV fluids (10% dextrose @ 4.6 mL/hr) 6. Expresses the intent to have a talk with the father	• "Baby's axillary temperature is now 32.3°C." • "RBS is 56 mg/dL."	EP 2 asks, "What are you doing to my baby?". If RBS is not checked, the embedded participant says, "I checked the RBS, and it is 56 mg/dL."

Scenario Stages	Patient condition Simulation parameters (shown on monitor/ prompted)	Expected Interventions or actions	Simulator response	If used [actor response]
Stage 3 Reassessment after 15 min 15 minutes have passed (2-3 minutes)	Under a radiant warmer HR 124/min SpO_2 95% RR 40/min	1. Asks nurse to reassess temperature at 15 min 2. Suggests the room temperature be maintained at 25-28°C 3. Suggests gradual rewarming after 34°C 4. Asks to take a blood culture and start IV antibiotics 5. Consider referral to a higher centre	"Baby's axillary temperature is now 34°C."	For physician training, an embedded nurse asks about the dose of medications
Stage 4 Gradual rewarming (2 minutes)	Under a radiant warmer Temp 34.1°C HR 130/min SpO_2 95% RR 42/min	1. Expresses the intent for gradual rewarming in servo mode (target rewarming by 0.5°C/hr) 2. Expresses the intent to counsel the parents of possible underlying diagnosis, steps of management instituted, overall prognosis, and subsequent plan	Announce that the neonate is getting rewarmed appropriately. Advise to continue monitoring.	

*Please note that the FBNC guidelines identify a temperature below 35.5°C as significant hypothermia.

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
   - Prompt recognition of severe hypothermia and initiation of rewarming.
   - 2-step rewarming (rapid followed by gradual)
   - Glucose measurement and initiation of IV fluids.
   - Timely initiation of oxygen support.
   - Suspicion of sepsis and initiation of antibiotics
2. Team Dynamics
   - Clear communication among team members using closed-loop communication.
   - Effective leadership with defined role allocation and coordination.
3. Family Communication
   - Empathetic approach when addressing the family.
   - Provide a clear explanation of the clinical situation and next steps in simple terms.

Delta (What could be improved; these are just examples!)

1. Clinical Management
   - Earlier recognition of severe hypothermia.
   - Consider complications of severe hypothermia, such as hypoglycemia and coagulopathy.
   - Suspect neonatal sepsis and start antibiotics.
2. Team Dynamics
   - Improving the efficiency of task delegation and role adherence.
   - Reducing instances of overlapping communication or confusion.
3. Family Communication
   - Providing more time for the family to ask questions.
   - Simplifying medical terminology further.

Debriefing Using Advocacy-Inquiry

Example Statements

1. Clinical Management
   - Advocacy: "You promptly shifted the baby to the radiant warmer. That was a great response."
   - Inquiry: "Do you think you could have considered any prompt intervention?"
2. Team Dynamics
   - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
   - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"
3. Family Communication
   - Advocacy: "You explained the neonate's condition to the family in a way that seemed to reduce their anxiety."
   - Inquiry: "What was your strategy for choosing how much information to share with the family? Did you feel they understood the explanation fully?"

Scenario 7: Sudden Deterioration on CPAP due to Worsening Respiratory Distress

Scenario description [Case study]

You are the paediatrician on duty posted in the NICU/SNCU and attending to a preterm neonate (33 weeks); birth weight 1800 g, who received early rescue surfactant and thereafter developed worsening respiratory distress at 18 hours of life. You have performed hand hygiene already.

Learning Objectives

In addition to demonstrating effective team communication and exhibiting leadership and role allocation skills, the primary objective is:

- To identify and initiate timely and effective management of worsening distress in a preterm neonate on CPAP.

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. Any neonatal manikin that can depict chest rise and the ability to intubate is acceptable

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)
2. The second EP is the mother who seems concerned regarding her baby's condition and asks the clinical team intermittently for their plan and respective intervention being done.

Any supplemental information (to be divulged only if requested by the team)

- Respiratory support is being provided with a bubble CPAP using short binasal prongs. The mother has not received antenatal steroids.

Scenario scripting*

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	Simulator response	If used [actor response]
Stage 1 Clinical deterioration on CPAP (5 min)	A neonate initially stable on bubble CPAP at 5 cm and FiO_2 21% develops worsening. ● HR: 140 bpm ● SpO_2: 85%, ● RR: 70/min ● Worsening nasal flaring, retractions The nurse calls to say that the baby is having respiratory distress.	Recognises deterioration: ● Looks at the patient and specifically the respiratory status, including chest rise ● Look at the monitor screen ● Looks at the adequacy of bubbling and checks the nasal interface application ● Check for interface fixation and displacement. ● Gradually increases FiO_2 in aliquots of 5% based on the target oxygen saturation ● Shoulder roll placement and neck position ● Performs oral and nasal suction ● Check the equipment for leaks or disconnection ● Auscultates for air entry to rule out an air leak	No significant improvement	EP 1 says, "Baby is not improving."
Stage 2 Acute deterioration with signs of pneumothorax (5 min)	● HR drops to 100 bpm, SpO_2 75% ● Asymmetric chest rise, Decreased air entry on one side.	● Recognises pneumothorax ● Mentions that will use transillumination to confirm ● Prepares and performs needle decompression at	No improvement until needle decompression is performed	In case the needle compression is intended but cannot be done, the facilitator announces, 'Needle

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	Simulator response	If used [actor response]
		the 2nd intercostal space in the midclavicular line. • Asks the team to prepare for intubation in case there is no improvement		decompression done'
Stage 3 Post-intervention improvement (5 min)	A gush of air confirms pneumothorax, SpO_2 improves to 85%, and HR returns to 130 bpm.	1. Request a chest x-ray 2. Continuous clinical monitoring 3. Assesses the need for a chest tube drainage	Stabilization continues with SpO_2 >90%	EP 1 reassures the team.
Stage 4 Stabilisation, no further respiratory worsening (5 min)	HR: 140 bpm, SpO_2: 92%, BP: 55/40 mmHg	1. Monitors and reassesses regularly.	The patient is stabilised.	EP 1 says, "We should counsel the parents about the event.

Can extend if required*

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
   - Prompt recognition of acute deterioration on CPAP
   - Timely identification of pneumothorax and performance of needle decompression
2. Team Dynamics
   - Clear communication among team members using closed-loop communication.
   - Effective leadership with defined role allocation and coordination.

Delta (What could be improved; these are just examples!)

1. Clinical Management
   - Earlier recognition of worsening distress and desaturation.
   - Consider alternative causes (e.g., sepsis, pulmonary hemorrhage) in the scenario.
   - Fine-tuning oxygen titration to avoid hyperoxia.
2. Team Dynamics
   - Improving the efficiency of task delegation and role adherence.
   - Reducing instances of overlapping communication or confusion.

Debriefing Using Advocacy-Inquiry

Example Statements

1. Clinical Management
   - Advocacy: "I noticed that you identified pneumothorax promptly when the neonate's SpO_2 did not improve with initial measures. That was a great diagnosis."
   - Inquiry: "What led you to suspect pneumothorax? Would you have considered other differentials?"
2. Team Dynamics
   - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
   - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"

Scenario 8: Sudden Deterioration in a Neonate on Ventilator

Scenario description [Case study]

You are the paediatrician on duty posted in the NICU/SNCU and monitoring a preterm neonate (31 weeks, 1400g). She required invasive mechanical ventilation and surfactant. At 48 hours of life, the neonate suddenly deteriorates with oxygen desaturation up to 70%, requiring increasing ventilator pressures and FiO_2. You have performed hand hygiene already.

Learning Objectives

In addition to demonstrating effective team communication and exhibiting leadership and role allocation skills, the primary objective is:

- To identify and initiate timely and effective management of a ventilated preterm neonate with sudden deterioration.

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. Any neonatal manikin that can depict chest rise and the ability to intubate is acceptable

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)
2. The second EP is the mother who seems concerned regarding her baby's condition and asks the clinical team intermittently for their plan and the respective intervention being done

Any supplemental information (to be divulged only if requested by the team)

- Ventilation Mode: Assist Control Ventilation
- Maternal history: No antenatal steroids, maternal fever 2 days prior to delivery, spontaneous onset of labour.

Scenario scripting*

Scenario Stages	Patient condition and Simulation parameters	Expected Interventions or actions	Simulator response	If used [actor response]
Stage 1 Sudden desaturation (5 to 10 min)	SpO_2 drops to 70% HR: 90 bpm, PIP 16 cm H_2O, PEEP-5 cm H_2O and $FiO_2$25%	1. Recognises deterioration 2. Calls for help 3. Forms team 4. Increases the FiO_2 5. Begins systematic assessment using the DOPE acronym a. Checks ETT depth at the lip b. Look for any ventilator disconnection c. Indicates the need for ETT suction d. Expresses the intent to check for air entry	SpO_2 and HR remain low, ventilator pressures and FiO_2 are high	• EP 1 prompts if the participants forget to increase the settings • Prompts: "Have you checked the ETT marking at the lip?" "There might be a circuit disconnection." "I am preparing for suctioning; which catheter size should I select?"
Stage 2 Recognition of the underlying cause of acute deterioration (5 to 10 min)	ETT blocked with thick secretions High PIP persists, with minimal to no chest rise.	1. Disconnects from the ventilator and performs bag (or T-piece) and tube ventilation. 2. Performs airway suction and expresses the intent to use sterile saline only if required	Partial improvement in chest rise, SpO_2 - 77%	EP 2 says, 'Please call a senior doctor; my baby is not improving'
Stage 3 Persistent obstruction (5 min)	High-pressure requirement (bag/ T-piece/ ventilator), HR: 90 bpm, SpO_2: 70%, PIP 20 cm H_2O, PEEP-5 cm H_2O and FiO_2 55% Poor air entry	1. Decides to replace ETT 2. Re-intubates with a 3 mm size ETT	Airway improves, SpO_2 increases to 90%, HR returns to 140 bpm	The facilitator enters if the team fails to intubate on the first attempt and closes the scenario
Stage 4 Post-intervention stabilisation (5 min)	HR: 140 bpm, SpO_2: 92%, BP: 55/30 mmHg, normal ventilator parameters	1. Monitors and assesses regularly. 2. Ensures ETT securement	The patient stabilises and remains on the ventilator	

Can extend if required*

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
   - Prompt recognition of deterioration in the ventilated neonate.
   - Correct evaluation using a structured approach (DOPE acronym)
   - Timely intervention and decision for reintubation when there was no improvement after suctioning the ETT
2. Team Dynamics
   - Clear communication among team members using closed-loop communication.
   - Effective leadership with defined role allocation and coordination.

Delta (What could be improved; these are just examples!)

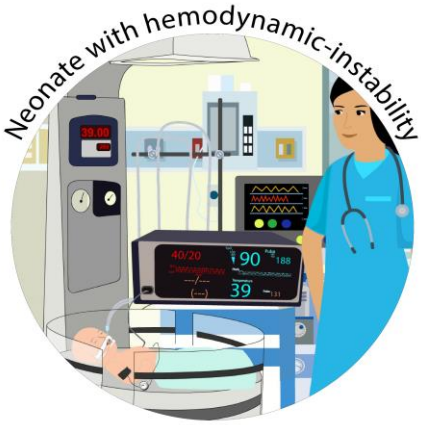
1. Clinical Management
   - Earlier recognition of bradycardia and desaturation.
   - Consider alternative causes (e.g., pneumothorax, tube displacement) earlier in the scenario.
   - Fine-tuning oxygen titration to avoid hyperoxia.
2. Team Dynamics
   - Improving the efficiency of task delegation and role adherence.
   - Reducing instances of overlapping communication or confusion.

Debriefing Using Advocacy-Inquiry

Example Statements

1. Clinical Management
   - Advocacy: "I noticed you promptly suctioned ETT when the neonate's SpO_2 dropped. That was a great response."
   - Inquiry: "What led you to decide to suction ETT? Would you have considered other interventions?"
2. Team Dynamics
   - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
   - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"

Scenario 9: Neonate with Hemodynamic instability



Scenario description [Case study]

You are the paediatrician on duty and called on for a lethargic baby; born term with birth weight 2100g. The mother checked on the baby this morning and found her lying in bed dull and difficult to arouse.

Learning Objectives

In addition to demonstrating effective team communication and exhibiting leadership and role allocation skills, the primary objective is:

- To identify and initiate timely and effective management of a neonate with shock.

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. Any neonatal manikin that can depict chest rise and the ability to intubate is acceptable

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)
2. The second EP is the mother who seems concerned regarding her baby's condition and asks the clinical team intermittently for their plan and the respective intervention being done

Any supplemental information (to be divulged only if required by team)

- The baby was born low birth weight and was being fed both breast milk and formula milk by bottle.

Scenario scripting*

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or Actions	Simulator response	If used [actor response]
Stage 1 Initial recognition and immediate management (5 min)	Temp: Warm trunk with cool peripheries Temp: 39°C HR 188 bpm, feeble pulses RR 70/ min SPO_2: 89% on room air BP: 40/20 (31) CFT ~ 5 secs	1. Call for help 2. Assesses TABC 3. Checks weight 4. Keep the baby under a radiant warmer and attach the temperature probe in servo mode, set at 36.5°C 5. Attaches the pulse oximeter, and starts oxygen 6. Examine signs of poor perfusion- Capillary fill time, pulses, BP 7. Establishes IV access 8. Checks blood sugar 9. Sends blood culture (If the facility is available) 10. Gives ~20mL NS bolus over 30 minutes	HR -170 bpm RR 70/ min SpO_2: 94% in room air BP- 44/26 (34) CFT~ 4 secs	EP 1 • In case the participants fail to check CFT, say, 'child looks mottled' should we check CFT or say • RBS 100 mg/dL EP 2 - What is happening? Please call the senior doctor
Stage 2 Stabilisation after initial management (5 min)	Temp: Warm trunk with cool periphery. Airway: Stable Breathing: less rapid breathing, no retractions Circulation: tachycardia is less. Feeble pulses HR- 170 bpm RR -65/min SpO2: 94% in room air BP- 44/26 (34) CFT- 4 secs	1. 2^{nd} f~20mL NS bolus over 30 minutes 2. Considers antibiotics 3. Asks to monitor urine output 4. Requests inotropes (dopamine/ dobutamine/ adrenaline) 5. Communicates with parents	HR-152 bpm RR - 46/min BP 52/31 (39) SpO_2- 96% CFT < 3 sec	If poor management occurs, the faculty may step in to close the scenario once key takeaways are listed Faculty may discuss cyanotic congenital heart disease and inborn error of metabolism at this stage

Can extend if required*

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
   - Prompt recognition of baby in shock
   - Recognising when to administer normal saline boluses and inotropes
   - Timeliness
2. Team Dynamics
   - Clear communication among team members using closed-loop communication.
   - Effective leadership with defined role allocation and coordination.

Delta (What could be improved; these are just examples!)

1. Clinical Management
   - Earlier recognition of bradycardia and desaturation.
   - Consider alternative causes of respiratory distress (e.g., infection) earlier in the scenario.
   - Fine-tuning oxygen titration to avoid hyperoxia.
2. Team Dynamics
   - Improving the efficiency of task delegation and role adherence.
   - Reducing instances of overlapping communication or confusion.

Debriefing Using Advocacy-Inquiry

Example Statements

1. Clinical Management
   - Advocacy: "I noticed that you checked blood sugar promptly and gave a normal saline bolus promptly. That was a great response."
   - Inquiry: "Do you think you could have done any other prompt intervention?"
2. Team Dynamics
   - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
   - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"
3. Family Communication
   - Advocacy: "You explained the neonate's condition to the family in a way that seemed to reduce their anxiety."
   - Inquiry: "What was your strategy for choosing how much information to share with the family? Did you feel they understood the explanation fully?

Scenario 10: Difficult Communication (Impending conflict)

Scenario description [Case study]: A baby doing well in the step-down, now deteriorated

Baby Reena was born at 31 weeks with a birth weight of 1550 grams, is currently 16 days old, and was rushed to SNCU/NICU from home with complaints of vomiting followed by bluish discolouration of limbs while feeding. The baby required intubation along with one fluid bolus for stabilisation. The parents were informed the previous day that their baby was recovering and doing well and the neonate was discharged.
You have to counsel the parents regarding this unexpected event. Baby's mother and father have visited the SNCU/NICU for counselling.

Learning Objectives

- Demonstrate effective communication with the family: Learners will provide empathetic, accurate, and appropriate information with consistent and professional approach to the neonate's family about the critical clinical condition and unexpected outcomes, addressing any concerns or questions with strategies for navigating conflict and emotional responses.
- **Managing Parents' Emotional Reactions:** Learners will effectively take leadership in handling parents' emotional reactions with professionalism, offering support and comfort.
- Demonstrate a strategic way to communicate: Learners will be able to apply frameworks such as GALPAC (Greet, Ask, Listen, Praise, Advice, and Check) to communicate effectively with parents in challenging situations.

Manikin and other equipment required for scenario preparation:

1. Environment Setup:
   - A quiet place away from the patient care area
   - Table with four chairs
2. Additional supplies:
   - Patient file/notes, pen, counselling sheet, some water bottles, tissue paper, whiteboard, whiteboard pens
3. Cognitive aid: GALPAC protocol

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)
2. The second EP is the mother who seems concerned regarding her baby's condition and asks the clinical team intermittently for their plan and the respective intervention being done

Other Potential scenario examples:

1. A baby, already admitted to SNCU/NICU, was improving and now deteriorated.
2. A complaint of dissatisfaction made by parents (e.g., No doctor/nurse is available in NICU/SNCU when the baby gets sick).
3. A baby born with disorders of sexual development (DSD).
4. Baby born with perinatal asphyxia with severe hypoxic-ischemic encephalopathy on prolonged ventilatory support with expected poor neurological outcome.
5. A newborn requires transfer to a tertiary care facility, but the parents are refusing the transport.
6. Parents do not desire to continue the treatment in the hospital for a few more days, even when the baby is recovering and wants to take the baby home.

Scenario scripting*

Scenario Stages	Condition Simulation parameters	Expected Interventions or Actions	If used [actor response]
Stage 1 Parents are entering the counselling room (Greet) (2 minutes)	Parents are anxious, agitated and shocked. None	Learners: 1. Greet the parents and offer them a seat to sit comfortably. 2. Introducing himself/herself. 3. Switch off/silence his/her mobile phone. 4. Intends to counsel parents on priority. 5. Invite them to call any other family member if they want to join the conversation. 6. In case of another emergency, the learner (doctor) intends to request the parents/family to wait for some time, stating the reason for the same.	EP 1 (nurse) tells the doctor, 'Doctor, grandfather insists on talking to you'. EP 2 (grandfather) prompts and insists the doctor to talk to him rather than talking to the parents. EP 1 distracts the doctor by saying 'Doctor, one baby has come for a follow-up visit''. OR 'Doctor, one baby in the triage/ER has become sick and they want you there' *(Distractions are optional and to be provided based on facilitator instructions)*
Stage 2 Parents in the counselling room with the caregiving team who is discussing with them. (Ask and Listen) (3-5 minutes)	The mother explained the sequence of events that happened during the course. Parents wanted to know: a. Current status of the baby. b. Why did such an event happen despite taking all precautionary measures? c. Has the treatment started? d. Until when will the baby recover? e. Can such an event occur again?	1. Participants ask the parents what they already know about the baby's condition and the sequence of events that occurred during feeding. 2. Learners intend to 'listen', rather than 'interrupt' the patient/relatives during their conversation. 3. Learners express their intent to ask family members not to record any videos politely. 4. Indicate softly to the nursing staff to call the administrative cell immediately.	EP 2 is furious and starts blaming the nursing staff, 'Doctor, this is because your nurses don't see the baby and leave everything to the mother. They just don't want to work. Mother was repeatedly telling them that my baby was not feeding properly and vomiting, but they were least bothered to see.' EP 1 prompts, 'Doctor, he is trying to do video recording. Should I call the hospital administration?'
Stage 3 The caregiving team appreciates the efforts	Family members anxiously wait for the doctor's answers.	1. The participant intends to begin the conversation by summarising the key facts about the baby before this event and	EP 2 tries to interfere, 'You first tell us, why did it happen, doctor'? Do you think this is because the mother was

Scenario Stages	Condition Simulation parameters	Expected Interventions or Actions	If used [actor response]
made by the parents. (Praise) (5 minutes)		commending the patience and dedication shown by parents in caring for the baby. 2. I appreciate the mother's involvement in the baby's care. 3. Requests that the family member calm down and let them explain the condition thoroughly. 4. The participant expresses the intent to be compassionate and empathetic towards the parents.	careless while feeding the baby? He raises his voice and says, 'Why are you not telling clearly about the baby's condition?' EP 1 points out, 'Doctor, there are three other members of their family who want to join the conversation. They are creating a nuisance outside SNCU and want to talk to you and see the baby.'
Stage 4 The caregiving team explains the complete situation and the current status. (Advice) (5 minutes)	The doctor explained the current status of the baby and the recent concerns. Parents curiously wait for their answers.	1. Learners intend to explain the condition to the parents and relatives in simple language, including a. Possible causes b. Immediate management c. Treatment plan and investigation sent d. Outcome expected e. Overall prognosis 2. Tactfully dealing with the relatives and explaining the situation clearly in a simplified language without overburdening them with too much knowledge.	EP 2 repeatedly questions, 'Why did you tell earlier that the baby will be good at home? Now you are saying that the baby needs to be put on a ventilator?'
Stage 5 Closing the conversation. (Check Understanding) (2 to 3 minutes)	The doctor clarifies the concerns of the parents and closes the conversation.	1. The learner intends to ask parents about their further doubts and clarify them. 2. The learner intends to keep parents updated about the baby's condition on a timely basis as the condition evolves.	EP 2 says, 'I need the summary and reports of the baby for a second opinion'. 'When and where should we meet you again to know the baby's status?' 'After what time do you think our baby can be taken off from the ventilator?'

Note: This is just a scenario. The communication might differ in a real-life scenario. The idea is to remember the basic principles that need to be followed.

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)-Based on the GALPAC approach

1. Greet
   - Greet the parents.
   - Made them sit comfortably.
2. Ask and Listen
   - Follow the Golden Rule of Communication- 'Ask Before You Tell'.
   - Building the conversation based on what the parents already know or understand.
3. Praise
   - I appreciate the family's involvement in the care of the baby.
   - Commend the mother for her deep commitment and devotion to her baby's well-being.
4. Advice
   - Clear explanation of the clinical situation and next steps in simple terms.
   - Empathetic approach when addressing the family.
   - Pauses given in between the conversation to allow the family to ask questions and clarify their doubts.
5. Check to understand
   - Parental concerns were acknowledged, and reassurance was provided about the baby's care.
   - Make sure that the family clearly understands the situation.
   - Provided more time for the family to ask questions.

Delta (What Could Be Improved)

1. Greet
   - Avoid any distractions (I could have told the nurse beforehand to avoid any distractions in between the conversation).
   - Invite the participation of any other family member if interested in joining the conversation.
2. Ask and Listen
   - Giving parents sufficient time to narrate the events.
   - Improving efficiency by avoiding interruptions while parents are narrating the sequence of events.
3. Praise
   - Recognise the efforts of the mother.
   - Acknowledge the parents' emotions earlier and offer reassurance before diving into medical facts.
4. Advice
   - Slower delivery of information and more pauses could help prevent overwhelming the family and allow time for processing.
   - Simplifying medical terminology further allows time for the family to accept the information.
   - Reducing instances of overlapping communication or confusion.
   - More proactive emotional support by involving additional team members (e.g., social workers) to offer targeted emotional and grief support and ensure the family feels fully supported.
5. Summary
   - Address any parental resistance or concerns more thoroughly by exploring their feelings and perspectives.
   - Providing more time for the family to ask questions.
   - Scheduling the next appointment with the parents regarding the progress of the baby

Debriefing Using Advocacy-Inquiry- Example statements

1. Greet
   - Advocacy: "I noticed that you have greeted the parents and made them comfortably seated before initiating the conversation."
   - Inquiry: "What was your thought process behind taking this approach to start the conversation?"
2. Ask and Listen
   - Advocacy: "I believe understanding the parents' perception of the situation is crucial, especially when delivering difficult news. I noticed you let the parents recite their concerns uninterruptedly."
   - Inquiry: What led you to give the parents the space to voice their concerns without interruption, and how do you think it influenced their emotional response or understanding of the news?"
3. Praise
   - Advocacy: "I noticed that you acknowledged the mother's efforts in caring for her baby so well, which helped ease her anxiety and reassured her that she was doing the right things."
   - Inquiry: "Do you think acknowledging her efforts helped her feel more confident in the care she's providing for her baby?"
4. Advice
   - Advocacy: "I noticed that you clearly explained the medical situation to the parents, even though it was a difficult topic to discuss"
   - Inquiry: "What factors influenced your approach to explaining the diagnosis to the family, and were there any aspects of the explanation that you felt might have been challenging for them to understand?"
5. Check Understanding
   - Advocacy: "You made sure to provide clear next steps for the family, including offering them the conversation a little later after a while, which gave them a sense of direction during a difficult time."
   - Inquiry: "Did you feel they were receptive to the information provided, or that they might need more time or reassurance before discussing the next steps?"
6. Parent Communication
   - Advocacy: "You allowed the parents to ask questions and process the news. This allowed them to feel more in control of the situation."
   - Inquiry: "How did you gauge when to allow the parents to ask questions versus when to continue with the medical explanation?"

Scenario 11: Breaking the Bad News

Scenario description [Case study]: A neonate with terminal illness in NICU/SNCU

A 25-day-old, 34-week, 1900-gram neonate was brought to SNCU/NICU with cold peripheries and apnea requiring immediate intubation and chest compression. After 15 minutes of resuscitation, the baby's heart rate is around 30/minute and has the least chance of survival. You have to counsel the parents regarding this event. Baby's mother and father have visited the SNCU/NICU for counselling.

Learning Objectives

- Demonstrate effective communication with the family: Learners will provide empathetic, accurate, and appropriate information with consistent and professional approach to the neonate's family about the critical clinical condition and unexpected outcomes, addressing any concerns or questions with strategies for navigating conflict and emotional responses.
- **Managing parents' emotional reactions:** Learners will effectively take leadership in handling parents' emotional responses with professionalism, offering support and comfort.
- Demonstrate a strategic way to communicate: Learners will use established frameworks (e.g., SPIKES: Situation, perception, information, knowledge and summary) to deliver bad news clearly and coherently.

Manikin and other equipment required for scenario preparation:

1. Environment Setup:
   - A quiet place away from the patient care area
   - Table with four chairs
2. Additional supplies:
   - Patient file/notes, pen, counselling sheet, some water bottles, tissue paper, whiteboard, whiteboard pens
3. Cognitive aid: SPIKES protocol

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)
2. The second EP is the mother who seems concerned regarding her baby's condition and asks the clinical team intermittently for their plan and the respective intervention being done

Any Supplemental information

- The baby had fever, lethargy and decreased oral acceptance for the last 4 days. The treatment was administered in the form of oral medication from a private clinic. The condition worsened this morning when the baby became unresponsive.

Scenario Examples:

1. Sudden expected/unexpected collapse of the neonate in emergency/SNCU/NICU resulting in death (including SIDS).
2. Aspiration of feeds needing extensive resuscitation in a healthy term neonate or growing preterm in the step-down unit.
3. Preterm neonate with a life-threatening condition with poor prognosis- Bilateral Grade IV intraventricular haemorrhage, Necrotizing Enterocolitis Stage 3.
4. Baby born with major congenital malformation, not diagnosed antenatally – e.g. Severe spina bifida, congenital diaphragmatic hernia etc.

Scenario scripting*

Scenario Stages	Condition	Expected Interventions or Actions	If used [actor response]
Stage 1 Situation Parents are entering the counselling room. (5 minutes)	Parents are anxious, agitated and shocked.	Learners express the intent to: 1. Greet the parents and offer them a seat to sit comfortably. 2. Introduce himself/herself. 3. Switch off/silence his/her mobile phone. 4. Intends to counsel such parents on priority. 5. Invite them to call any other family member if they want to join the conversation.	EP 1 tells the doctor, 'Doctor, maternal uncle is insisting on talking to you'. EP 2 insists that the doctor talk to him rather than talk to the parents. EP1 distracts the doctor by saying 'Doctor, one baby has come for a 1.5-month vaccination.'
Stage 2 Perception and Interpretation Parents in the counselling room with the caregiving team who are discussing with them (5 to 7 minutes)	The mother explains how the baby's condition has evolved in the last few days.	1. Learners intend to ask the parents what they already know about the baby's condition and how it evolved. 2. Learners intend to 'listen', rather than 'interrupt' the patient/relatives during their conversation. 3. Learners express the intent to politely ask family members not to record any videos. 4. Indicate softly to the nursing staff to call the administrative cell immediately.	EP 2 (Maternal uncle) 1. Repeatedly insisted on knowing the current status of the baby. 2. Asks the doctor to reassure him that the baby will be fine. EP 1: prompts, 'Doctor, he is trying to do a video recording'. "What medication was given at the previous hospital" in case the doctor forgets by giving him/her the referral slip.
Stage 3 The doctor explains the situation and the current status. Knowledge and Information (5-7 minutes)	The doctor explained the baby's current status and recent concerns.	Learners express the intent to explain the condition in simple language, including 1. Possible causes 2. Treatment was given, and an investigation was sent 3. Outcome expected 4. Overall prognosis	EP2 prompts 'Are you making the right diagnosis?' 'How can this happen suddenly?' 'Express the urge to take the baby to another hospital if the condition cannot be controlled here.' EP 1 prompts, 'Doctor, the X-ray and some reports of the baby have just arrived'.

Scenario Stages	Condition	Expected Interventions or Actions	If used [actor response]
Stage 4 Emotions and Empathy **Parents'** emotional breakdowns and doctors empathising with them (5 minutes)	The doctor emotionally supports the parents.	1. Learners intend to express empathy towards the parents yet avoid over-empathy. 2. He intends to express his concern for the parents' difficult situation. 3. Learners express the intent to allay the anxiety and guilt of parents. 4. The learner intends to give time to parents to express their grief between the conversations.	EP 2 'Call the senior doctor to see the baby.' 'Please check whether your staff has given appropriate treatment or not.'
Stage 5 Summary The doctor closes the conversation. (4-5 minutes)	The doctor clarifies the parents' concerns and closes the conversation.	1. The learner intends to ask parents about their further doubts and clarify them. 2. The learner intends to keep parents updated about the baby's condition on a timely basis as the condition evolves.	EP 2 says, 'I need the summary and reports of the baby for a second opinion'. 'When and where should we meet you again to know the baby's status?'

Note: This is just a scenario. The communication might differ in a real-life scenario. The overall idea is to remember the basic principles that need to be followed.

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)-Based on the SPIKES approach

1. Situation
   - Greet the parents, made them sit comfortably.
2. Perception and Interpretation
   - Follow the Golden Rule of Communication- 'Ask Before You Tell'.
   - Building the conversation based on what the parents already know or understand.
3. Knowledge and Information
   - Provide a clear explanation of the clinical situation and next steps in simple terms.
4. Emotions and Empathy
   - Empathetic approach when addressing the family. Reassurance was provided about the patient's care.
5. Summary
   - Provided more time for the family to ask questions.

Delta (What could be improved; these are just examples!)

1. Situation
   - Avoid any distractions or Invite any other family member who is interested in joining the conversation (I could have told the nurse beforehand to avoid any distractions between the conversations).
2. Perception and Interpretation
   - Providing parents with sufficient time to recount the events leading to the current situation.
   - Improving efficiency by avoiding interruptions while parents are narrating the sequence of events.
3. Knowledge and Information
   - Slower delivery of information and more pauses could help prevent overwhelming the family and allow time for processing.
   - Providing more time for the family to ask questions.
   - Simplifying medical terminology further.
   - Reducing instances of overlapping communication or confusion.
4. Emotions and Empathy
   - More proactive emotional support by involving additional team members (e.g., social workers) to offer targeted emotional and grief support and ensure the family feels fully supported.
   - Allow time for the family to accept the information.
5. Summary
   - Scheduling of the next appointment with the parents regarding the baby's progress.

Debriefing Using Advocacy-Inquiry- Example statements

1. Situation
   - Advocacy: "I noticed that you have greeted the parents and made them comfortably seated before initiating the conversation."
   - Inquiry: "What was your thought process behind taking this approach to start the conversation?"
2. Perception and Interpretation
   - Advocacy: "I believe understanding the parents' perception of the situation is crucial, especially when delivering difficult news. I noticed you let the parents recite the sequence of events uninterruptedly."

- Inquiry: "What led you to give the parents the space to voice their concerns without interruption, and how do you think it influenced their emotional response or understanding of the news?"

3. Knowledge and Information
   - Advocacy: "I noticed that you clearly explained the medical situation to the parents, even though it was a difficult topic to discuss"
   - Inquiry: "What factors influenced your approach to explaining the diagnosis to the family, and were there any aspects of the explanation that you felt might have been challenging for them to understand?"
4. Emotions and Empathy
   - Advocacy: "I observed that you acknowledged the family's emotional responses with empathy, giving them time to express their feelings without interrupting."
   - Inquiry: "How did you decide when to offer emotional support or provide more information?"
5. Summary
   - Advocacy: "You made sure to provide clear next steps for the family, including offering them the conversation a little later, which gave them a sense of direction during a difficult time."
   - Inquiry: "Did you feel they were receptive to the information provided, or that they might need more time or reassurance before discussing the next steps?"

Scenarios 12: Term neonate with abdominal distension/bilious vomiting

Scenario description [Case study]

You are the paediatrician on duty and called on for a baby with abdominal distension. The baby, 3 days old, was brought to the SNCU with complaints of greenish vomiting and abdominal distension since yesterday. The baby has been exclusively breastfed so far and is no longer accepting feeds.

Learning Objectives

In addition to demonstrating effective team communication, exhibiting leadership and role allocation skills, and establishing effective communication with the family, the primary objective is:

- To identify and initiate timely and effective management of a neonate with intestinal obstruction/surgical abdomen

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. Any neonatal manikin that can depict chest rise and the ability to intubate is acceptable

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)
2. The second EP is the mother who seems concerned regarding her baby's condition and asks the clinical team intermittently for their plan and the respective intervention being done

Any supplemental information

- Baby was so far on breast feeds and now on day 3, has been brought with complaints of greenish vomiting and abdominal distension since yesterday. There are no features of lethargy, fever, or reduced activity.

Scenario scripting*

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	Simulator response	If used [actor response]
Stage 1 At admission assessment (5 min)	Temp: Warm peripheries Airway: patent Breathing: normal Circulation: Normal pulses and CFT < 3 sec A distended abdomen with clothes smeared with bilious vomitus HR 170/ min RR 58/ min SpO_2 93% BP: 50/30 (42) Temp 37°C	• Call for help • Assesses TABC • Keep the baby under a radiant warmer and attach the temperature probe in servo mode, set at 36.5°C • Attach the pulse oximeter • Checks blood sugar • Performs abdominal examination • Intends to listen for bowel sounds • Instructs to keep Nil per oral • Puts IV-line and starts IV fluid • Puts the OG tube and aspirates the stomach contents • Asks for X-ray Abdomen	• Distended abdomen • The OG tube is showing a bilious aspirate.	• EP 1 shows bilious aspirate. • EP 2 (Mother) is anxious. What is happening? • X-ray of the abdomen shows dilated bowel loops suggestive of obstruction
Stage 2 Ongoing monitoring and evaluation (5 min)	Baby continues to have abdominal distension. HR 160 /min RR 58/ min SpO_2 95% BP: 50/30 (42) Temp 37C	• Checks for quality of aspirates in the past 6-24 hours • Checks for the volume of aspirates • Asks for urgent surgical review • Considers replacing the lost fluids through IV route • Considers antibiotics • Asks to monitor urine output • Communicates with parents	Distended abdomen The OG tube is showing a bilious aspirate	EP 1 calls the surgeon if asked and if not, then says the surgeon is on the way

Can extend if required*

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
    - Prompt recognition of baby with abdominal distension and bilious vomiting
    - Recognising when to stop feeds and start IV fluids
    - Prompt surgical referral
    - Timeliness
2. Team Dynamics
    - Clear communication among team members using closed-loop communication.
    - Effective leadership with defined role allocation and coordination.

Delta (What could be improved; these are just examples!)

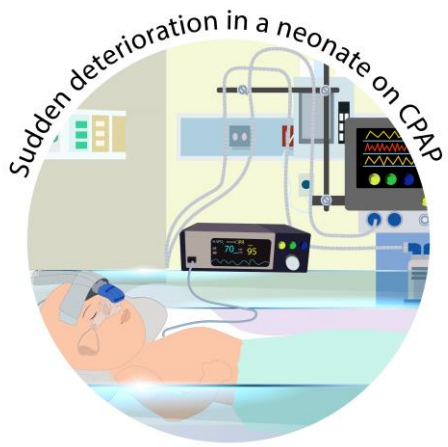
1. Clinical Management
    - Earlier recognition of bradycardia and desaturation.
    - Consider alternative causes of respiratory distress (e.g., infection) earlier in the scenario.
    - Fine-tuning oxygen titration to avoid hyperoxia.
2. Team Dynamics
    - Improving the efficiency of task delegation and role adherence.
    - Reducing instances of overlapping communication or confusion.

Debriefing Using Advocacy-Inquiry

Example Statements

1. Clinical Management
    - Advocacy: "I noticed that you aspirated stomach contents. That was a great response."
    - Inquiry: "Do you think you could have done any other prompt intervention?"
2. Team Dynamics
    - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
    - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"

Scenario 13: Sudden deterioration of a preterm neonate on CPAP (Apnea)



Scenario description [Case study]

A 30-week preterm neonate, with a birth weight of 1200 g, requiring CPAP of 6 cm H_2O and FiO_2 of 30% develops apnea at 28 hours of life. You have already performed hand hygiene.

Learning Objectives

In addition to demonstrating effective team communication and exhibiting leadership and role allocation skills, the primary objective is:

- To identify and initiate timely and effective management of a preterm neonate with apnoea.

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. Any neonatal manikin that can depict chest rise and the ability to intubate is acceptable

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)
2. The second EP is the mother who seems concerned regarding her baby's condition and asks the clinical team intermittently for their plan and the respective intervention being done

Any supplemental information

- The mother had leaked for 16 hours, received an incomplete course of antenatal steroids and had received one dose of $MgSO_4$. This information has to be divulged only if requested by the team.

Scenario scripting*

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	Simulator response	If used [actor response]
Stage 1 Recognition of apnea and immediate management (5-8 min)	Neonate attached to CPAP machine at PEEP of 6, FiO_2 at 35% Heart rate 80 bpm, SpO_2 85%	1. Recognises the presence of apnea 2. Performs tactile stimulation and simultaneously performs the following: • Check for interface fixation and displacement • Shoulder role placement and neck position • Performs oral and nasal suction • Auscultates for air entry to rule out air leak (if cold light available: performs transillumination test to rule out air leak) • Check the equipment for leaks or disconnections, • Says that PPV needs to be started if there is no response to tactile stimulation. • Checks monitor	Saturation 78%, heart rate 70 bpm	EP 1 says, "Baby is not breathing."
Stage 2 Initiation of PPV (5 min)	Apnea, Heart rate 70/ min, SpO_2 78%	1. Initiates PPV with a self-inflating bag @ 40-60 breaths/minute. (if T-piece resuscitator available: PIP/PEEP of 10-20/5-6 cm H_2O; if blender available: 30% FiO_2) 2. Calls for help 3. After 15 seconds of PPV*, asks for heart rate 4. Look for the chest rise 5. Performs corrective steps: MR/S/P-M: Mask adjustment, R: Reposition airway, S: Suction mouth and nose, O: Open mouth, P: Pressure increase 6. Performs effective PPV for 30 seconds 7. Secures IV line	Saturation increases to 85%; heart rate increased to 120 bpm Baby not breathing	EP 1 prompts • 'Baby is not on Caffeine, " if the team fails to inject caffeine. • "Xray call is sent if the participant fails to ask for an Xray."

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	Simulator response	If used [actor response]
		8. Administers Injection caffeine citrate 24mg slowly over 30 minutes		
Stage 3 Intubation and securing the airway (5 to 8 min)	The neonate is being administered PPV. Baby is still not breathing spontaneously Saturation 85%, Heart rate 120 bpm	1. Prepares to intubate: 2. Asks for help if not already arrived 3. Intubates baby with no 3 ET tube, fixes after checking NTL 4. Checks air entry	Neonate stabilises, HR 140, SpO_2 94%	Nurse (EP) reassures the team
Stage 4 Planning for transport and referral (5 min)	Neonate intubated on PPV HR 140, SpO_2 94%	Prepares for referral Communicates with family		The nurse (EP) says, "Parents want to meet the doctor."

*Could also look for chest rise after 5 breaths (according to FBNC module)

Acting tips for nurse: if a pulse oximeter is not available, then the nurse has to tell the heart rate and saturation values to the team

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
   - Prompt recognition of baby not breathing and acting immediately
   - Recognising when to initiate Positive pressure ventilation
2. Team Dynamics
   - Clear communication among team members using closed-loop communication.
   - Effective leadership with defined role allocation and coordination.

Delta (What could be improved; these are just examples!)

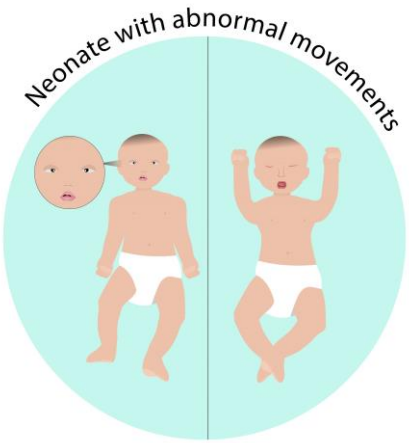
1. Clinical Management
   - Earlier recognition of bradycardia and desaturation.
   - Consider alternative apnea causes (e.g., Hypo/Hyperthermia, infection, hypoglycemia) earlier in the scenario.
2. Team Dynamics
   - Improving the efficiency of task delegation and role adherence.
   - Reducing instances of overlapping communication or confusion.
3. Family Communication
   - Providing more time for the family to ask questions.
   - Simplifying medical terminology further.

Debriefing Using Advocacy-Inquiry

Example Statements

1. Clinical Management
   - Advocacy: "I noticed that you initiated bag-mask ventilation promptly when the neonate was in apnea. That was a great response."
   - Inquiry: "What led you to decide on bag-mask ventilation then? Would you have considered other interventions?"
2. Team Dynamics
   - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
   - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"

Scenario 14: A Neonate with abnormal movements



Scenario description [Case study]

A 37-week-old female baby born to a primigravida mother via expected delivery is brought from home to the SNCU at 48 hours of life with abnormal movements. She weighed 3000 g at birth.

Learning Objectives

In addition to demonstrating effective team communication and exhibiting leadership and role allocation skills, the primary objective is:

- To initiate timely and effective management of a neonate with abnormal movements.
  1. Distinguish seizure from non-epileptiform movements
  2. Prioritise actions based on the severity of illness and derangement of vital signs.
  3. Demonstrate the correct sequence of institutions of anti-epileptic drugs.

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. Any neonatal manikin that can depict chest rise and the ability to intubate is acceptable

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)
2. The second EP is the mother who seems concerned regarding her baby's condition and asks the clinical team intermittently for their plan and the respective intervention being done

Any supplemental information

- The baby cried immediately after birth, and Apgar scores at 1 and 5 min were 8 and 9, respectively.
- The mother had a leaking per vaginum for 36 hours before delivery and had a fever.
- This information must be disclosed only if requested by the team.

Scenario scripting*

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	Simulator response	If used [actor response]
Stage 1A Presentation at admission (3-4 min)	Mother (simulated patient) with a term baby Term baby Abnormal movements (Show clip of jitteriness [video 1])	1. Tries to check if abnormal movement stops after the restraint is applied. 2. Performs a quick exam for TABC	The movement stops after the restraint • SpO_2: 94% • HR: 166/min • RR: 64/min • BP: 62/44 mm Hg • Temp: 36.8°C	If vitals are not asked, the EP 1 prompts, "The vital parameters appear to be normal for this baby".
Stage 1B Presentation at admission (5 to 10 min)	Term baby Abnormal movements (Show clip of seizure [video 2])	1. Attach the pulse oximeter 2. Performs quick exam for TABC 3. Tries to check if abnormal movement stops after the restraint is applied. 4. Places an IV cannula 5. Asks for glucometer 6. Obtains samples for glucose and ionized calcium (if available) 7. Asks for iCa reports 8. Asks for 10% Calcium gluconate at 6 mL IV over 5-10 minutes under cardiac monitoring if calcium low	The seizure doesn't stop after restraint • SpO_2: 90% • HR: 190/min • RR: 68/min • BP: 62/44 mm Hg • Temp: 36.8°C	• EP 1 prompts 'The glucose is 64 mg/dL' after the participant checks the blood glucose. • EP 1 says, "The value of ionised calcium is awaited".
Stage 2 Medication administration and ongoing management (3-5 min)	Baby on radiant warmer, SpO_2 connected Seizures continue HR 178/ min RR 70/ min SpO_2 85%	1. Asks for Inj. Phenobarbitone 60 mg IV in 5 mL NS IV over 20 min	Baby continues to have seizure	1. EP 1 says, "The value of ionized calcium is 1.3 mEq/L". 2. EP 1 asks dose and duration "if participant fails to tell the drug dose.

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	Simulator response	If used [actor response]
Stage 3 Ongoing seizure management (2-3 min)	Baby on radiant warmer, SpO_2 connected Seizures continue HR 190/min RR 66/min SpO_2 85%	1. Calls for help 2. Starts oxygen by nasal prongs at 2 Lpm 3. Asks for another dose of Inj. Phenobarbitone 15 mg over 5-10 min	1. Grunting sound simulated 2. After oxygen, • HR 150/min • RR 60/min • SpO_2 93%	EP 1 prompts, "The SpO_2 is low; should we consider oxygen?"
Stage 4 Communicating with the family and optimizing management (5 min)	Baby on radiant warmer, SpO_2 connected HR 140/min SpO_2 96%	1. Requests communication with the family regarding the baby's status. 2. Asks for a maintenance dose of phenobarbitone after 12 hours.		

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
   - Prompt recognition of seizures
   - Recognizing the need to start first-line anti-epileptic and escalation of treatment if seizures continue.
   - Evaluation of common metabolic causes of seizures before starting specific treatment.
2. Team Dynamics
   - Clear communication among team members using closed-loop communication.
   - Effective leadership with defined role allocation and coordination.

Delta (What could be improved; these are just examples!)

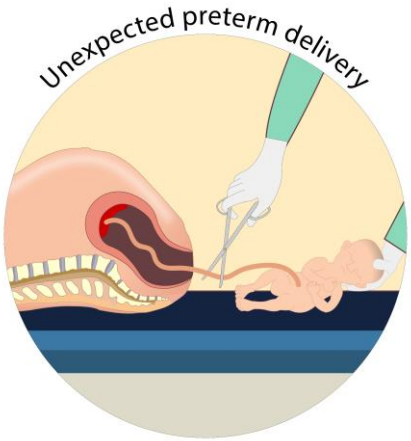
1. Clinical Management
   - Estimation for glucose and calcium values would have been helpful before starting specific treatment.
2. Team Dynamics
   - Improving the efficiency of task delegation and role adherence.
   - Reducing instances of overlapping communication or confusion.

Debriefing Using Advocacy-Inquiry

Example Statements

1. Clinical Management
   - Advocacy: "I noticed that you ordered phenobarbitone in the right dose and the right dilution. That was a great response."
   - Inquiry: "What helped you remember the dose, duration and dilution of the drug?"
2. Team Dynamics
   - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
   - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"

Scenarios 15: Unexpected Preterm Delivery



Scenario description [Case study]

You have received a call from the labour room that a second gravida 30 weeks 6 days gestational age mother with preterm labour has been received in the labour room. The baby has already been delivered. Assume the equipment check has been done.

Learning Objectives

In addition to demonstrating effective team communication and exhibiting leadership and role allocation skills, the primary objective is:

- To identify and initiate timely and effective management of an unexpected preterm birth including ensuring thermoregulation, gentle resuscitation, prompt recognition of respiratory distress, appropriate usage of oxygen and CPAP.
- Demonstrate Effective Communication with the Family: Learners will provide empathetic, accurate, and appropriate information to the neonate's family about the clinical condition, management plan, and expected outcomes, addressing any concerns or questions.

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. Any preterm neonatal manikin that can depict chest rise and the ability to intubate is acceptable

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)
2. The second EP is the mother who seems concerned regarding her baby's condition and asks the clinical team intermittently for their plan and the respective intervention being done

Any supplemental information

- The mother received an incomplete course of antenatal steroids and did not receive $MgSO_4$. Baby's weight is 1300 g. There is no history of leaking per vaginum. This information must be disclosed only if requested by the team.

Scenario scripting

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	Simulator response	If used [actor response]
Stage 1 The baby is delivered. (1 min)	The baby has been delivered and is having a weak cry and poor tone.	1. Asks for immediate cord clamping and cutting 2. Receives the baby in prewarmed linen, shifts to the radiant warmer 3. Place the baby in a plastic wrap 4. Performs initial steps 5. Asks for breathing and auscultates HR for 6 sec	HR 140/ min	Baby is crying/ breathing EP1 reminds the team to wrap plastic in case they have forgotten
Stage 2 Baby is having respiratory distress. (5 min)	Baby is grunting having subcostal retraction and nasal flaring. Audio with grunting sounds	1. Starts delivery room CPAP with PEEP of 5 cm H_20 and FiO_2 of 21 to 30%. 2. Attach a pulse oximeter to the right hand and ask for saturation 3. Increases FiO_2 to attain target minute-wise saturations 4. Asks for help to counsel the mother regarding the baby's condition	Saturation is 60% at 3 min	EP1 again prompts for increasing the FiO_2 as the saturation is below the minute-wise target saturation. EP1 prompts to counsel the mother regarding the baby's condition
Stage 3 Baby received in SNCU (10 min)	Baby receiving PEEP via T-piece resuscitator, grunting still present and is shifted to NICU/SNCU.	1. Ensures that bed is prewarmed with boundaries set up; CPAP ready 2. Check the weight of the neonate and transfer to a radiant warmer. 3. Connects bubble CPAP using an appropriately sized mask/prongs and interface 4. Uses appropriate barrier dressing to prevent nasal injury. Ensures that there is no blanching or	FiO_2 is 25% and saturation is 92%	Mild upper chest retractions present with no grunting Pulse is good volume. EP1 prompts for barrier dressing before placing the CPAP. Confederate prompts for OG tube insertion

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	Simulator response	If used [actor response]
		redness of the skin/ nasal tip/ septum when applying the interface. 5. Place the 6F OG tube after proper measurement. 6. Checks admission temperature, connects the temperature probe to warmer, and changes to skin mode. 7. Titrates the FiO_2 to achieve a target saturation of 90-95% 8. Asks how much is the FiO_2 requirement is and how is the distress 9. Recognises that the case doesn't require surfactant instillation 10. Examines the pulse of the neonate 11. Starts OG feeds @ 80 mL/kg/day 12. Measures glucose as per protocol 13. Gives Inj Vitamin K 0.5 mg I/M		EP1 asks if the baby requires Vitamin K
Stage 3 Communication with parents	-	Learner provides empathetic, accurate, and appropriate information to the neonate's family about the clinical condition, management plan, and expected outcomes, addressing any concerns or questions.	-	EP 1 asks the leaner to talk to the family if this step is missed

Acting tips for nurse:

If any equipment or drugs are requested, ask" What size or how much?" Ensure role allocation is done.

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
   - Prompt initiation of initial steps
   - Prompt recognition of respiratory distress in the neonate
   - Taking good care of maintaining normothermia (application of cling wrap, using transport incubator/embrace, prewarming baby's bed.
   - Ensured strict asepsis during the entire scenario
   - Timely request for additional help and maintaining calm and composure.
2. Team Dynamics
   - Clear communication among team members using closed-loop communication.
   - Effective leadership with defined role allocation and coordination.
3. Family Communication
   - Empathetic approach when addressing the family.
   - Provide a clear explanation of the clinical situation and next steps in simple terms.

Delta (What could be improved; these are just examples!)

1. Clinical Management
   - Earlier initiation of delivery room CPAP
   - Fine-tuning oxygen titration to attain minute-wise target saturation
   - Faster transport of neonate to NICU and initiation of CPAP
2. Team Dynamics
   - Improving the efficiency of task delegation and role adherence.
   - Reducing instances of overlapping communication or confusion.
3. Family Communication
   - Providing more time for the family to ask questions.
   - Simplifying medical terminology further.

Debriefing Using Advocacy-Inquiry

Example Statements

1. Clinical Management
   - Advocacy: "I noticed that you promptly performed initial steps on the neonate.. That was a great response."
   - Inquiry: "What led you to decide on positive pressure ventilation then? Would you have considered other interventions?"
2. Team Dynamics
   - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
   - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"
3. Family Communication
   - Advocacy: "You explained the neonate's condition to the family in a way that seemed to reduce their anxiety."
   - Inquiry: "What was your strategy for choosing how much information to share with the family? Did you feel they understood the explanation fully?"

Scenarios 16: Neonate with Severe Jaundice

Scenario description [Case study]

A mother brings a 3-day-old neonate from home, complaining of yellowish discolouration of palms and soles. The neonate is born at 37 weeks, with a birth weight of 2,800 gms, to a Primigravida, A+ mother. The neonate is on exclusive breastfeeds and is taking feeds well. You have performed hand hygiene.

Learning Objectives

In addition to demonstrating effective team communication and exhibiting leadership and role allocation skills, the primary objective is:

- To recognise and effectively manage severe neonatal jaundice with intensive phototherapy using appropriate standard phototherapy threshold charts.

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. Any term manikin
3. The facilitator may consider using mustard sauce spread over the manikin to mimic yellow color

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)

Any supplemental information: This neonate is a healthy, term (37 weeks) neonate with no risk factors for neurotoxicity. The phototherapy threshold is 18mg/dL and Exchange transfusion threshold is 25mg/dL.

Scenario scripting

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	If used [actor response]
Stage 1 Initial evaluation (2 min)	Neonate with yellow staining of palms and soles	1. Checks weight 2. Asks for gestational age, feeding pattern, urine (if high coloured) and stool output 3. Does the initial examination on the mother's lap for pallor, icterus, swellings on the scalp, and signs of dehydration. 4. Evaluates vital signs: Heart rate, Respiratory rate, CRT and peripheral pulses 5. Attaches the saturation probe (if the equipment is available) 6. Looks for neurotoxicity risk factors (sepsis, lethargy, hemodynamic instability, Rh Isoimmunization, ABO incompatibility) 7. Evaluates for early signs of bilirubin encephalopathy (poor suck/ feeding, lethargy, hypotonia) 8. Continues exclusive breastfeeding (may say that would like to observe breastfeeding to assess latching and positioning technique)	-
Stage 2 Ascertain the degree of hyperbilirubinemia with TcB (5 min)	Neonate with yellow staining of palms and soles	1. Performs Transcutaneous bilirubinometry (if available) 2. Sends Total Serum bilirubin* 3. Initiates intensive phototherapy 4. Checks the bilirubin chart for both phototherapy and exchange transfusion threshold (for a 37-week-old neonate who is 72 hours old, without neurotoxicity risk factors) 5. Says that, "TsB value is above Phototherapy threshold level"	If TcB is available, EP1 says, "TcB > 20 mg/dL" EP1 says, "TsB is 22 mg/dL)

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	If used [actor response]
Stage 3 Initiation of treatment and decision making for continuation/ referral (1 min)	Neonate on Phototherapy	1. Says, "Would like to repeat TsB after 4 hours of intensive phototherapy" 2. Checks the phototherapy and exchange charts 3. Continues Phototherapy.	EP1 says, "TsB after 4 hours is 19 mg/dL"
Stage 4 Communication with family (3 min)		1. Communicates with family with a focus on adequate breastfeeding, the importance of follow-up and the importance of hearing screening.	EP1 says, "Doctor, the mother would like to speak with you about the baby."

*This simulation scenario presumes that the learners are skilled in blood sampling and sample transport for ascertaining the bilirubin value.

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
   - Prompt recognition that baby had severe jaundice and acting immediately
   - Repeating the Serum bilirubin value to check for efficacy of jaundice.
2. Team Dynamics
   - Clear communication among team members.
   - Effective leadership with defined role allocation and coordination.
3. Family Communication
   - Empathetic approach when addressing the family.
   - Clear explanation of the clinical situation and next steps in simple terms.

Delta (What could be improved; these are just examples!)

1. Clinical Management
   - Evaluation of neonate for features of acute bilirubin encephalopathy
   - Consider evaluation for etiology of severe jaundice.
2. Team Dynamics
   - Improving the efficiency of task delegation and role adherence.
   - Reducing instances of overlapping communication or confusion.
3. Family Communication
   - Providing more time for the family to ask questions.
   - Simplifying medical terminology further.

Debriefing Using Advocacy-Inquiry

Example Statements

1. Clinical Management
   - Advocacy: "I noticed that you started phototherapy as soon as you examined the baby. That was a great response."
   - Inquiry: "What led you to decide on initiating phototherapy? Would you have considered sending a lab investigation earlier?"
2. Team Dynamics
   - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
   - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"
3. Family Communication
   - Advocacy: "You explained the neonate's condition to the family in a way that seemed to reduce their anxiety."
   - Inquiry: "What was your strategy for choosing how much information to share with the family? Did you feel they understood the explanation fully?"

Scenarios 17: Preterm Neonate with Acute Abdomen [NEC]

Scenario description [Case study]:

A 30-week preterm neonate who has been on mixed feeds since birth via OG tube @180 mL/kg/day. The neonate had feed intolerance for the last 12 hours, and on Day 10 of life, presented with sudden abdominal distension with a desaturation up to 70% on CPAP 5 cm H_2O and FiO_2 21%.

Learning Objectives

In addition to demonstrating effective team communication and exhibiting leadership and role allocation skills, the primary objective is:

- To identify and initiate timely and effective management of a preterm neonate with acute abdomen

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. Any neonatal manikin that can depict chest rise and the ability to intubate is acceptable
3. To increase the realism, facilitator may consider using green sauce (chutney) in the OG tube

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)

Any supplemental information:

- No significant prenatal or postnatal history. Baby is not on any antibiotics. Baby's birth weight is 1300 gm and the current weight is 1200 gm

Scenario scripting*

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	Simulator response	If used [actor response]
Stage 1 Identifying an acute abdomen and initiating immediate management (10 min)	The baby had one episode of vomiting and is having severe respiratory distress and retraction. He is noted to have a tense abdomen on examination. SpO_2: 70% CPAP 5 cm / 21% FiO_2.	1. Identifies condition as acute abdomen. 2. Clears the airway of any secretions 3. Increases the FiO_2 in increments of 5% to attain the target saturation of 90-95% 4. Decompresses the abdomen; makes baby NPO 5. Palpates abdomen; auscultates bowel sounds 6. Orders left lateral decubitus X-ray and supine AP view 7. Attempts to intubate the baby. 8. Puts an IV cannula; checks blood glucose, takes samples for blood culture. 9. Starts antibiotics: Appropriate 1st line 10. Starts maintenance IV fluid IsoP @150 mL/kg/day (8.1 mL/hr) 11. Assesses the circulation of the baby by looking at colour, pulse volume, and CFT of the neonate. 12. Given the tender abdomen, advises for analgesia in the form of IV paracetamol.	Saturations improve when the FiO_2 is gradually increased to 50%. HR=180/min SPO_2=93% BP=60/30/44 mm Hg	• EP 1 reminds that a critical step is missed • The X-ray shows a perforation.

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	Simulator response	If used [actor response]
Stage 2 Prepares for transport (5 min)	Baby has HR 140/min now on the ventilator with a tense abdomen.	1. Identifies that the baby requires urgent surgical intervention 2. Calls up the paediatric surgeon at the tertiary care centre and informs the condition of the neonate 3. Stabilises the baby before transport: Checks TOPS: Temperature, Oxygen, Perfusion, Sugar 4. Counsels the parents regarding the baby's condition and the requirement for referral. 5. Also, counsel the mother to continue expressing breast milk 8-10 times per day to maintain her supply. 6. Ensures that the transport incubator and transport ventilator are ready for transport along with personnel who is equipped with re-intubation. 7. Continued maintenance of IV fluid during transport.	Temperature : 36.6°C Saturation 93% on a ventilator Normal perfusion, Blood Glucose: 110 mg/dL	EP 1 prompts contacting a paediatric surgeon, transport check, TOPS, and counselling parents.

Acting tips for nurse: If any equipment or drugs are requested, ask" What size or how much?" Ensure role allocation is done.

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
   - Prompt recognition of acute abdomen in the case
   - Prompt initiation of IV fluids and surgical consult in the case
   - Timeliness
2. Team Dynamics
   - Clear communication among team members using closed-loop communication.
   - Effective leadership with defined role allocation and coordination.
3. Family Communication
   - Empathetic approach when addressing the family.
   - Clear explanation of the clinical situation and next steps in simple terms.

Delta (What could be improved; these are just examples!)

1. Clinical Management
   - Earlier initiation of antibiotics
   - Pre-transport stabilization of the neonate
2. Team Dynamics
   - Improving the efficiency of task delegation and role adherence.
   - Reducing instances of overlapping communication or confusion.
3. Family Communication
   - Providing more time for the family to ask questions.
   - Simplifying medical terminology further.

Debriefing Using Advocacy-Inquiry

Example Statements

1. Clinical Management
   - Advocacy: "I noticed that you decompressed the abdomen promptly. That was a great response."
   - Inquiry: "What led you to decide on increasing the CPAP support? Would you have considered other interventions?"
2. Team Dynamics
   - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
   - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"
3. Family Communication
   - Advocacy: "You explained the neonate's condition to the family in a way that seemed to reduce their anxiety."
   - Inquiry: "What was your strategy for choosing how much information to share with the family? Did you feel they understood the explanation fully?"

Scenarios 18: A Neonate with Sudden Arrest in the Postnatal Ward

Scenario description [Case study]

You are the nurse on duty in the postnatal rounds. You come across a 2-day-old female baby who is being nursed on the mother's side. She was born at 38 weeks via normal vaginal delivery and weighed 3 kg. On examination, you find that the baby is blue, unresponsive, and not breathing.

Learning Objectives

In addition to demonstrating effective team communication and exhibiting leadership and role allocation skills, the primary objective is:

- To identify and initiate timely and effective management of a neonate who is unresponsive in the postnatal ward.

Manikin and other equipment required for scenario preparation:

1. Prepare the equipment as per the list in the introductory pages
2. Any neonatal manikin that can depict chest rise and the ability to intubate is acceptable

Embedded participant [2 required]:

1. NICU/SNCU nurse acting as neonatal nurse (indicates the need to look at the patient monitor if the team fails to do so)
2. The second EP is the mother who seems concerned regarding her baby's condition and asks the clinical team intermittently for their plan and the respective intervention being done

Any supplemental information

- The baby was last fed 1.5 hours ago and is well.
- He was placed supine, and the mother had covered the face of the baby with a blanket given the cold environment in the postnatal ward.
- The baby had cried immediately after birth. Apgar at 1 and 5 min were 8 and 9. There is no family history of sudden deaths in the family.

Scenario scripting

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	Simulator response	If used [the embedded actor as nurse response]
Stage 1 Identification of emergency signs and immediate management (2-3 min)	Baby on the mother's side • Term baby • Oral secretions • No effort	Expresses the intent to • Take the baby to the neonatal resuscitation corner • Start suction • Check HR (auscultation) • Call for help Starts PPV at 40 to 60 breaths per minute • Delegate the roles: Attaches the pulse oximeter • Reassess after 15 seconds	• Color blue • HR not recordable • No heart after PPV	1. EP 1 "Baby is not breathing." 2. EP 1 prompts the user to attach the pulse oximeter if it is not already attached.
Stage 2 Correction steps for PPV (3-5 min)	Baby on warmer, pulse oximeter connected. No breathing HR not recordable	1. Performs MR-SO and increases PIP 2. Calls for additional help 3. Expresses intent to intubate with aseptic precautions and asks for 3.5 size ET and laryngoscope with bag and mask 4. Places an IV cannula 5. Communicate for NICU/SNCU admission	No breathing after PPV Color blue	1. EP 1 asks, "What size ET and mask?" If the participant fails to mention
Stage 3 Identification of the need for intubation and intubation (2-3 min)	Baby on warmer, pulse oximeter connected. No breathing	1. Intubates the baby and asks for NTL 2. Fixes the ET tube at NTL+1 cm, continues PPV at 40-60 breaths per minute	• Breathing efforts present after intubation • HR increases to 120 bpm	EP 1 asks for the length of the ET tube fixation if the participant fails to mention.

Scenario Stages	Patient condition Simulation parameters	Expected Interventions or actions	Simulator response	If used [the embedded actor as nurse response]
	HR not recordable	3. Asks to arrange transport incubator (if available)	• Colour turns pink	
Stage 4 Continuation of PPV and stabilisation (1-2 min)	Baby on warmer, pulse oximeter connected. HR 130/min SpO2 85%	1. Continue PPV at 40-60 breaths per minute 2. Assess the blood sugar 3. Asks for 30 mL Normal saline bolus (10 mL/kg) 4. Transfer the baby to NICU/SNCU in an incubator		• EP 1 states, 'The glucose is 58 mg/dL,' after the participant checks their blood glucose. • EP 1 says, "What dose to give? Over how much time?", if the participant fails to tell the dose of the drug.
Stage 5 Communication with family (1-2 min)		Communication with family		EP 2 says Doctor, I wish to know about the condition of my baby

Debriefing Outline

Debriefing Using the Plus-Delta Approach

Plus (What went well)

1. Clinical Management
   - Prompt recognition of the baby not breathing and acting immediately
   - Recognising when to initiate bag and mask ventilation
   - Evaluation of other causes of sudden arrest
2. Team Dynamics
   - Clear communication among team members using closed-loop communication.
   - Recognising the need for help.
   - Effective leadership with defined role allocation and coordination.
3. Family Communication
   - Empathetic approach when addressing the family.
   - Clear explanation of the clinical situation and next steps in simple terms.

Delta (What could be improved; these are just examples!)

1. Clinical Management
   - Earlier recognition of sudden arrest and prompt positive pressure ventilation.
   - Asking for additional help would have improved management.
2. Team Dynamics
   - Improving the efficiency of task delegation and role adherence.
   - Reducing instances of overlapping communication or confusion.
3. Family Communication
   - Providing more time for the family to ask questions.
   - In this scenario, a detailed enquiry of the events leading to this life-threatening event is critical and not blaming the mother/attendant for covering the face of the baby should be a vital part of the debriefing.
   - Simplifying medical terminology further.

Debriefing Using Advocacy-Inquiry

Example Statements

1. Clinical Management
   - Advocacy: "I noticed that you initiated a bag and mask promptly. That was a great response."
   - Inquiry: "What led you to decide on immediate bag and mask ventilation then? Would you have considered other interventions?"
2. Team Dynamics
   - Advocacy: "I observed that the leader gave clear instructions, which helped the team respond effectively."
   - Inquiry: "How did you decide which roles to assign during the crisis? Were there moments where you felt role confusion?"
3. Family Communication
   - Advocacy: "You explained the neonate's condition to the family in a way that seemed to reduce their anxiety."
   - Inquiry: "What was your strategy for choosing how much information to share with the family? Did you feel they understood the explanation fully?"

For Further Information, please contact

Dr. Anu Sachdeva and Dr. Ramesh Agarwal
Division of Neonatology, Department of Paediatrics
WHO Collaborating Centre for Training and Research in Newborn Care
All India Institute of Medical Sciences
Ansari Nagar, New Delhi-110029, India
Phone: 91-11-29577326, 29577348
E-mail: dranuthukral@gmail.com, ra.aiims@gmail.com
Website: https://pretermcare-eliminatingrop.com
www.newbornwhocc.org
www.pocqi.org, www.ontop-in.org