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FACILITATOR GUIDE

COMPREHENSIVE MANAGEMENT OF EMERGENCY OBSTETRICS AND NEWBORN CARE

TRAINING PROGRAM: MEDICAL OFFICERS

Facilitator Guide for Comprehensive Management of Emergency Obstetrics and Newborn Care (CEmONC)

Training Program: Medical Officers

August 2024

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ABBREVIATIONS

S. No.	Abbreviation	Full Form
1	ABG	Arterial Blood Gas
2	ACS	Antenatal Corticosteroids
1	ANC	Antenatal Care
2	BOH	Bad Obstetric History
3	BP	Blood Pressure
4	CEmONC	Comprehensive Management f Emergency Obstetrics And Newborn Care
5	CPAP	Continuous Positive Airway Pressure
6	CXR	Chest X Ray
7	D&C	Dilation And Curettage
8	DH	District Hospital
9	DSC	Developmentally Supportive Care
10	ECV	External Cephalic Version
11	EDD	Expected Due Date
12	ENBC	Essential Newborn Care
13	FiO2	Fraction Of Inspired Oxygen
14	FP	Family Planning
15	FRU	First Referral Unit
16	GDM	Gestational Diabetes Mellitus
17	hCG	Human Chorionic Gonadotropin (Hcg)
18	HIV	Human Immuno Deficiency Virus
19	HOD	Head Of Department
20	IPTp	Intermittent Preventive Treatment In Pregnancy
21	ITN	Insecticide-Treated Net
22	IUCD	Intra Uterine Contraception Device
23	KMC	Kangaroo Mother Care
24	LBW	Low Birth Weight
25	LR	Labour Room
26	LSAS	Life Saving Anesthesia Skills
27	LSCS	Lower Segment Caesarean Section

S. No.	Abbreviation	Full Form
28	MMR	Maternal Mortality Ratio
29	MO	Medical Officer
30	NMR	Neonatal Mortality Ratio
31	NRP	Newborn Resuscitation
32	OGT	Orogastric Tube
33	OPD	Outpatient Department
34	OSCE	Objective Structured Clinical Examinations
35	OT	Operation Theatre
36	PaCO2	Partial Pressure Of Carbon Dioxide In Arterial Blood
37	PaO2	Partial Pressure Of Oxygen
38	PEEP	Positive End-Expiratory Pressure
39	PNC	Post Natal Care
40	PPH	Post Partum Hemorrhage
41	PPIUCD	Post Partum Intra Uterine Contraception Device
42	PPTCT	Prevention Of Parent-To-Child Transmission Of HIV
43	PPV	Positive Pressure Ventilation
44	PROM	Premature Rupture Of Membranes
45	RDS	Respiratory Distress Syndrome
46	RIA	Rapid Initial Assessment
47	SDG	Sustainable Development Goals
48	SNCU	Sick And Newborn Care Unit
49	SP	Sulfadoxine-Pyrimethamine
50	SpO2	Saturation Of Peripheral Oxygen
51	SRS	Sample Registration System
52	TABC	Temperature, Airway, Breathing, Circulation
53	TFTs	Thyroid Function Tests
54	UTI	Urinary Tract Infection
55	VCT	Voluntary Counselling And Testing

Context and Problem Statement

Context

The Comprehensive Management of Emergency Obstetrics and Newborn Care (CEmONC) training program is a critical initiative aimed at reducing maternal and neonatal mortality rates in India. Despite significant progress, India still accounts for a substantial proportion of global maternal and neonatal deaths. According to the Sample Registration System (SRS) 2018, the Maternal Mortality Ratio (MMR) in India is 97 per 100,000 live births, and the Neonatal Mortality Rate (NMR) is 28 per 1,000 live births as per SRS 2020. These figures highlight the urgent need for effective interventions to further reduce these rates.

While India has made strides in improving maternal and child health, challenges remain, particularly in ensuring equitable access to quality care. Significant disparities exist across different regions, with higher MMR and NMR in states like Uttar Pradesh, Bihar, Madhya Pradesh, and Assam. These disparities are often more pronounced at the sub-state level, with certain districts and blocks, known as aspirational districts, contributing disproportionately to the national burden of maternal and neonatal mortality.

Traditionally, the Indian healthcare system has faced a shortage of human resources, with many facilities operating below capacity due to a lack of skilled professionals. Those present often require skill refreshment or lack the confidence to perform high-stakes procedures independently. The shortage of specialist care, particularly at First Referral Units (FRUs), exacerbates these challenges. As a result, many FRUs are either non-functional or only partially functional, leading to overcrowding at District Hospitals (DH) and Medical Colleges and contributing to poor quality of care and healthcare inequities.

In response to these challenges, the CEmONC training program was developed to train MBBS Medical Officers (MOs) in emergency obstetric and newborn care as part of a task-shifting strategy to make FRUs functional. Both CEmONC and Life Saving Anesthesia Skills (LSAS) were conceived together to ensure that surgeries and anesthesia services could be effectively provided at FRUs. This combined approach ensures that surgical and anesthesia services walk hand in hand, enabling comprehensive emergency care.

To ensure the success and sustainability of programs like CEmONC, partnerships with key stakeholders are essential. Academic institutions play a vital role in these capacity-building programs by providing the necessary infrastructure, expertise, and resources to train healthcare professionals effectively. Collaboration with healthcare facilities and government bodies helps scale up training programs and ensure their sustainability. Additionally, academic research contributes to the continuous improvement of training methodologies and the development of evidence-based practices.

Mentorship is a cornerstone of the CEmONC training program. Effective mentorship strategies are crucial for translating theoretical knowledge into practical skills and fostering behaviour change. Mentors provide ongoing support, guidance, and feedback, helping trainees develop

confidence and proficiency in emergency obstetric and newborn care. This mentor-mentee relationship is essential for the long-term retention of skills and the professional growth of healthcare providers.

Problem Statement

Healthcare providers in India often struggle with maintaining proficiency in emergency obstetric and newborn care due to the infrequent nature of certain high-stakes procedures. According to a study published in BMC Medical Education, skills that are not regularly practiced tend to deteriorate over time, leading to a decline in performance and confidence (Cook et al., 2012). To address this challenge, regular refresher courses are essential for reinforcing knowledge and skills. A systematic review in Simulation in Healthcare found that periodic simulation-based training significantly enhances the retention of clinical skills (McGaghie et al., 2014). However, refresher training alone may not be sufficient without ongoing mentorship and support.

Another significant issue is the deployment of trained officers post-training. It has been observed that after completing CEmONC and LSAS training, trained officers are often randomly assigned to FRUs. This random assignment results in some facilities having CEmONC-trained officers and others having LSAS-trained officers, rendering both groups underutilized without the presence of each other. This deployment issue undermines the effectiveness of the training and the functional capacity of FRUs. To address this, some states, such as Uttar Pradesh, have initiated group counselling sessions for CEmONC and LSAS-trained officers to ensure they are deployed together at FRUs, maximizing their utility and the overall effectiveness of the training programs.

Retention strategies involve the implementation of structured refresher courses and mentorship programs. Simulation-based training, regular simulation sessions, and hands-on workshops focusing on high-risk, low-frequency skills are essential components. Building on these strategies, mentorship programs should establish structured mentor-mentee relationships where experienced clinicians provide ongoing support to trainees. Regular check-ins and scheduled mentoring sessions to discuss progress, challenges, and areas for improvement are necessary, along with continuous feedback on clinical performance and guidance on skill enhancement.

Facilitators play a crucial role in enhancing skill retention by guiding the mentorship process and building relationships based on trust, respect, and open communication. They must set clear objectives for the mentorship program and ensure that both mentors and mentees have access to the necessary resources and training materials. Effective training methodologies such as skill demonstration and reverse demonstration, interactive sessions, role plays, case studies, and peer learning promote critical thinking and collaborative learning to deepen knowledge and application.

The CEmONC training program, through its structured training and mentorship strategies, aims to significantly reduce maternal and neonatal mortality rates. The integration of continuous refresher training and formal mentorship programs is essential for ensuring that healthcare providers maintain their skills and provide high-quality care. By leveraging the expertise and resources of academic institutions and emphasizing the role of mentorship, the CEmONC program can achieve its goals and contribute to the broader objectives of the Sustainable Development Goals.

A key component in realizing these objectives is the involvement of medical officers. Medical officers are pivotal in the success of the CEmONC training program and in achieving SDGs,

especially in underserved and rural areas. They are often the first point of contact for pregnant women and newborns and play a critical role in early identification and management of complications. By participating in CEmONC training, medical officers can enhance their skills, leading to improved patient outcomes. Their involvement ensures that high-quality obstetric and newborn care is available in every part of the country, making healthcare more inclusive and equitable.

By improving the skills and competencies of healthcare providers, the CEmONC training program directly contributes to achieving SDG 3, which focuses on ensuring healthy lives and promoting well-being for all at all ages. The program also indirectly supports other SDGs by fostering a stronger healthcare system, reducing inequalities in healthcare access, and promoting lifelong learning opportunities through continuous training and mentorship.

Overview of the Training Program

The CEmONC course spans over 24 weeks:

- First 16 Weeks: Divided into two parts, mainly
  - Weeks 1-8: Theoretical learning and simulation sessions
  - Weeks 9-16: Hands-on training, applying theoretical knowledge in practical settings
- Next 4 weeks: Practical application at District Hospitals (DH)
- Next 2 weeks: Further practical experience at attached Functional FRUs
- Final 2 Weeks: Skill strengthening and sharing challenges of working at DH and FRU back at the Medical College

Introduction to the Facilitator Guide

Welcome to the Facilitator Guide for the Comprehensive Management of Emergency Obstetrics and Newborn Care (CEmONC) training program. This guide is designed to equip facilitators with a robust framework and necessary tools for delivering effective and consistent training sessions.

The CEmONC training program is structured to ensure facilitators can utilize effective training methodologies, measure training outcomes accurately, and evaluate both trainees and the program systematically. Facilitators are encouraged to reference the detailed guidelines provided within this guide for various aspects of the training program, from methodologies to evaluation and documentation.

Facilitators play a pivotal role in the success of the CEmONC program. This guide includes comprehensive instructions on conducting training sessions and adhering to essential housekeeping rules.

The guide provides a standardized weekly schedule, complete with session objectives. This allows facilitators to effectively plan duty rosters and night duties. The weekly schedules are designed to adhere to adult learning principles, emphasizing learning through direct observation and assistance before independent case handling (Refer to the Box 1 for Weekly Outline).

During Weeks 1-8, the focus is on theoretical and simulation-based learning, with an emphasis on critical observation, a key component of adult learning. Visual memory is crucial, and it is

important that selected Medical Colleges maintain high standards of care to facilitate proper learning.

From Weeks 9 - 16, the facilitators may allow trainees to handle certain cases independently or with assistance, based on their confidence in the trainee's abilities. However, the decision to permit case handling lies solely with the facilitator.

Box 1: Weekly Schedule Outline

- **Week 1:** Maternal and Neonatal Mortality - An Overview; Routine Antenatal Care and Special Situations during Pregnancy
- **Week 2:** Special Situations during Pregnancy
- **Week 3:** Rapid Initial Assessment (RIA) and Hypertensive Disorders of Pregnancy
- **Week 4:** Vaginal Bleeding in Early and Late Pregnancy, and Contraception
- **Week 5:** Pre-term Labour, Normal Labour and Delivery, and Supportive Care
- **Week 6:** Assisted Delivery and Post-Partum Care of Mother and Newborn
- **Week 7:** Care of Newborn
- **Week 8:** PPH and Obstetric Surgeries
- **Weeks 9 – 15:** Rotational Shifts in Labour Room, Operation Theatre, Wards, and SNCU
- **Week 16:** Summary/Recap and Evaluation

The Night duty starts in the second week, with the first two weeks focused on observing cases in the emergency area and Labour Room. From the third week onwards, trainees will actively assist in managing emergency cases, including triage and response.

The standard daily training structure during the coursework is divided into three main sessions: morning, afternoon, and evening.

During the morning sessions, trainees will work with specialists in various settings such as OPD, LR, OT, Wards, and SNCU. ***The Morning Sessions Focus Area is 'Clinical Skills Improvement'*** refer to as 'Clinical Hours' in this manual. They will initially observe and then conduct cases under guidance. The emphasis will be on differentiating between normal and high-risk pregnancies, understanding when to seek specialist opinions, and managing referrals appropriately.

Adult learning principles of observation, communication, and respectful care will be applied. Facilitators should encourage active observation, ensure trainees rotate through different roles to gain comprehensive experience, and emphasize respectful communication with patients and their families

Afternoon Sessions Focus Area is 'Theoretical Knowledge and Simulation Exercises'. The afternoon sessions include classroom learning with theoretical knowledge, simulation-based learning, and role plays. These sessions are essential for understanding concepts and practicing skills in a controlled environment. Facilitators should use interactive tools and methods to engage trainees during theoretical sessions and provide constructive feedback during reverse demonstrations to reinforce learning

Evening Sessions Focus Area is mainly 'Bedside Learning, Case Documentation, and Presentation Preparation'. Preparing case presentations helps reinforce the day's learning and ensures trainees are ready to discuss and share their experiences. Facilitators can assign

cases to trainees for preparation and presentation, reflecting on skills learned during the simulation exercises. Two trainees can prepare and present cases together. Emphasis will be on documentation, effective communication with patients and families, and practicing both essential and prohibited (NOT TO DO) skills. Facilitators should emphasize the importance of accurate documentation and effective communication and encourage collaborative learning and peer feedback during case preparation

Facilitators are encouraged to provide additional reading resources to supplement learning, including textbooks, peer-reviewed journal articles, online courses, and instructional videos relevant to obstetrics and newborn care.

Mentorship is an integral component of this training program. Throughout the weekly schedules, there are opportunities for mentors and mentees to interact, ensuring continuous support and guidance. Mentors are expected to conduct regular check-ins, provide feedback, and facilitate peer learning sessions. This mentorship is crucial for translating theoretical knowledge into practical skills and fostering professional growth.

After completing the initial 16 weeks of training, trainees will be posted to District Hospitals for 4 weeks and First Referral Units (FRUs) for 2 weeks. The final 2 weeks of the 24-week training program will be spent back at the Medical Colleges, reflecting on experiences and challenges encountered at the District Hospitals and FRUs. Trainees will prepare a report detailing their experiences, which will be shared with the course coordinator and Head of the Institution. This feedback will be used to prioritize areas for action and follow-up during supportive supervision and continued mentoring, ensuring the smooth functioning of FRUs.

During weeks 17-20 at District Hospitals, facilitators will monitor trainee activities via weekly individual/group calls, provide feedback and guidance based on trainee reports, and conduct one physical visit to ensure adherence to protocols. For weeks 21-22 at First Referral Units, facilitators will monitor high-risk labour management and emergency obstetric and newborn care remotely, provide guidance and support during weekly calls, and conduct one physical visit to evaluate and provide feedback on performance.

In weeks 23-24 at Medical Colleges, facilitators will facilitate case presentations and peer discussions during weekly calls, conduct mentor feedback sessions remotely, and guide trainees in addressing self-identified gaps during physical visits.

After 24 weeks of following structured training course, the mentor-mentee relationship continues with monthly calls and quarterly physical visit of mentor to the Trainees facility. The regular refresher courses and supportive supervision visits have also been placed and mentioned in operational plan.

Effective Training Approaches for CEmONC Program

In the CEmONC training program, selecting the right training methodologies and methods is critical for ensuring that trainees gain the necessary skills and knowledge.

This section outlines the context, effectiveness, and rationale for the chosen approaches to make the training comprehensive and impactful.

Training Methodologies and Methods:

1. **Mentorship** is a cornerstone of the CEmONC training program, pairing experienced practitioners with trainees to provide guidance and support. This mentorship fosters

professional growth and skill acquisition through personalized learning. It pairs experienced practitioners with trainees to provide guidance and support. This methodology involves regular check-ins, structured feedback sessions, and continued support beyond the training period. By integrating mentorship into the training program, we ensure that trainees receive continuous professional development and hands-on learning experiences even after the training program gets over.

Mentorship is an ongoing relationship throughout the training period. Mentors provide feedback and guidance during daily sessions and facilitate reflective practice sessions weekly. A batch size of four trainees with a 1:2 mentor-to-trainee ratio is maintained for effective individual mentoring. Group mentoring is also introduced to address common issues and foster collaborative learning. Group sessions allow mentors to discuss common challenges and solutions, while individual sessions focus on unique, personalized feedback.

Facilitators should create a supportive environment where trainees feel comfortable discussing their challenges and successes. This dual approach (individual and group mentoring) ensures that both personal and shared issues are addressed, promoting a well-rounded learning experience.

Measuring Effectiveness:

- **Individual Level:** Track progress through regular assessments and feedback forms
- **Group Level:** Monitor participation and engagement during group discussions and peer feedback sessions

Facilitator Cues: Focus on personal growth, skill gaps and tailored feedback. If certain problems are common problems than address common challenges in a group setting, encourage peer support and teamwork. Use case studies or common scenarios to discuss solutions.

2. **Interactive Sessions** engage trainees through discussions, questions, and interactive activities. This methodology promotes active learning, keeps trainees motivated, and involves them directly in the learning process.

a. Interactive sessions are conducted daily through discussions, quizzes, and group activities during theoretical and simulation-based learning.

b. Facilitators should encourage active participation by creating an open environment where trainees feel valued and heard. Interactive sessions help in retaining knowledge and understanding complex concepts.

c. Measuring Effectiveness:

   - **Individual Level:** Use quiz results and participation metrics
   - **Group Level:** Assess group activity outcomes and quality of discussions

Facilitator Cues: Use open-ended questions or quiz to stimulate critical thinking and encourage debate.

3. **Experiential Learning** focuses on learning through direct experience and reflection. This approach helps trainees understand the practical applications of theoretical knowledge.

a. Experiential learning occurs daily through hands-on practice in clinical settings, observation, and participation in real-life scenarios.

b. Facilitators should ensure that trainees are exposed to a variety of clinical situations to build competence and confidence. Reflective practice is crucial for internalizing lessons learned.

c. Measuring Effectiveness:

- **Individual Level:** Evaluate skills through direct observation and feedback.
- **Group Level:** Use reflective journals and group debriefs to assess collective learning.

Facilitator Cues: Rotate trainees through different roles and responsibilities. Also, encourage trainees to observe and reflect on best practices.

4. **Simulation**-based learning involves learning and practicing skills in a controlled environment. This will provide trainees to practice skills, receive feedback, build confidence and competence in a risk-free setting.

- Skill demonstration and reverse demonstration are conducted for selected cases during simulation sessions to ensure accurate skill performance.
- Facilitators should provide clear, step-by-step demonstrations and ensure that trainees have ample opportunities to practice and receive feedback.

Simulations have been provided for important skills (details are given in weekly schedule)

a. Measuring Effectiveness:

- **Individual Level:** Evaluate performance through simulation checklists and feedback
- **Group Level:** Assess teamwork and communication during group simulations

Facilitator Cues: Clearly explain each step and its importance and ask trainees to demonstrate the skill back to ensure comprehension. Provide immediate, constructive feedback and conduct debriefing sessions to discuss performance and areas for improvement.

5. **Peer Learning** involves collaborative learning among trainees, encouraging teamwork and knowledge sharing. Facilitators should foster an environment of mutual respect and collaboration. Peer learning enhances understanding through diverse perspectives and shared experiences.

Peer learning sessions are integrated with simulation exercises

Measuring Effectiveness:

- **Individual Level:** Monitor individual contributions and progress in group settings.
- **Group Level:** Evaluate group dynamics and the quality of collaborative work.

Facilitator Cues: Encourage trainees to work in pairs or small groups to solve problems and promote constructive peer feedback to reinforce learning. Ask Trainees' to practice on weekends especially simulation.

6. **Presentations** using visual aids, slides, and handouts effectively convey information. Presentations are conducted daily to enhance understanding and retention. Facilitators use visual aids to support complex topics.

   Facilitators should ensure that presentations are clear, concise, and engaging. Visual aids should enhance, not overwhelm, the content.

a. **Measuring Effectiveness:**

- **Individual Level:** Use comprehension tests and feedback forms
- **Group Level:** Assess engagement through participation and discussion quality

Facilitator Cues: Use simple, clear language and visuals. Encourage questions and discussions during presentations. Provide handouts for later reference.

7. **Case Studies** Case studies present real-life scenarios for analysis and discussion, promoting critical thinking. Case studies are used in selected sessions as per the weekly schedule, allowing trainees to analyze and discuss real-life scenarios.

   Facilitators can make the case studies further complex that challenge trainees to think critically and apply their knowledge. This helps in developing problem-solving skills.

8. **Role Plays** Role plays simulate patient interactions and emergency responses, improving communication and clinical skills. Role plays are incorporated in selected sessions mentioned in the weekly schedule to practice handling difficult conversations and emergency scenarios. Facilitators can also design role plays that address common and challenging scenarios trainees may face. This practice helps improve communication and decision-making skills.

a. **Measuring Effectiveness:**

- **Individual Level:** Assess performance through observation and feedback.
- **Group Level:** Evaluate the overall effectiveness of the role play and group dynamics.

Facilitator Cues: Discuss realistic and challenging scenario. Define clearly the roles and expectations for each participant.

9. **E-Learning Modules** E-learning modules could be any online modules, video lectures, and interactive quizzes to complement in-person training. The E-learning modules are good resource for self-paced learning and help to reinforce. The Facilitators should ensure that e-learning modules are comprehensive and user-friendly.

a. **Measuring Effectiveness:**

- **Individual Level:** Track progress through module completion rates and quizzes.
- **Group Level:** Monitor overall engagement and performance trends.

Facilitator Cues: Ensure the content is up-to-date, relevant and make sure resources are easily accessible to all trainees.

10. **Weekly Drills** Weekly drills practice emergency response scenarios, such as handling unconscious women, massive bleeding, obstructed labour, and abnormal breathing in newborns. Weekly drills can be conducted from Week 12 onwards on fixed topics to ensure preparedness for emergency scenarios. The Facilitators should use these drills to simulate real emergency situations, fostering teamwork and clarifying roles and responsibilities.

a. Measuring Effectiveness:

- **Individual Level:** Assess individual performance and readiness.
- **Group Level:** Evaluate team coordination and overall effectiveness in handling emergencies.

Facilitator Cues: Clearly define roles and responsibilities for each participant and conduct thorough debriefs to discuss performance and improvement areas.

Table showing frequency of different training approaches during the course work

Training Approach	Frequency
Mentorship	Ongoing throughout training
Simulation-Based Learning: Skill Demonstration and Reverse Demonstration	For selected sessions as mentioned in weekly schedules. For practice these sessions, use peer-approach
Presentations	Daily
Case Studies	For selected sessions as mentioned in weekly schedule
Role Plays	For selected sessions as mentioned in weekly schedule
E-Learning Modules	Self-paced, monthly
Weekly Drills	Weekly from Week 12 onwards

Continuous Evaluation System

Weekly Feedback Sessions

Weekly feedback sessions are an integral part of the continuous evaluation system. These sessions are designed to create a space where trainees can openly share their experiences, discuss challenges, and suggest improvements. Facilitators should emphasize the importance of these sessions in fostering a constructive learning environment. Feedback should be critical yet respectful, aiming to enhance both the learning process and outcomes. Real-time verbal feedback during these sessions can help measure immediate outcomes and guide future improvements.

These sessions can be scheduled every Saturday or as determined by the facilitator.

Simulation Exercises and Evaluations

During simulation exercises, regular self and peer evaluations are conducted to promote reflective practice and continuous improvement. Trainees are encouraged to assess their own performance and that of their peers, fostering a culture of self-awareness and mutual support. Facilitators should highlight the importance of these evaluations in building confidence and competence in handling real-life scenarios.

Simulation practices on manikins, especially with advanced and complex scenarios, stimulate critical thinking and decision-making skills, which are core to this entire program. Facilitators should encourage trainees to practice shock management and other life-saving skills such as CPR, newborn resuscitation, emergency response to a pregnant woman with convulsions, bleeding, high fever, and other critical conditions.

Objective Structured Clinical Examinations

Objective Structured Clinical Examinations (OSCE) are a crucial part of the evaluation system, designed to test trainees' skills and knowledge through practical exams. These exams include advanced scenarios that require critical thinking and decision-making skills. Facilitators should emphasize the importance of practicing these scenarios during simulation sessions to ensure trainees are well-prepared for the OSCEs.

Three-Tier Evaluation Framework

The three-tier evaluation framework is designed to progressively assess trainees' skills and knowledge throughout the training program.

- Routine Cases Evaluation (Tier 1): During the first six weeks, the focus is on evaluating basic skills and understanding through routine case assessments. Trainees should also maintain daily workbooks recording activities, including observed, assisted, and independently performed CEmONC skills (refer to operational guidelines P19-20 for details). Facilitators conduct these evaluations and submit reports to the course coordinator and program director at the end of the 6th week. Trainees' records will also be reviewed as part of this and further evaluation phases.
- Intermediate Evaluation (Tier 2): Conducted between the 8th and 10th weeks, this evaluation focuses on complex situations and skills related to comprehensive emergency care. Trainees continue to maintain their daily workbooks, documenting cases, presentations, and seminars attended. Facilitators carry out these evaluations, considering the documentation in the workbooks, and report their findings to the course coordinator and program director at the end of the 10th week.
- Comprehensive Evaluation (Tier 3): During the last phase of the training, in the 16th week, the evaluation assesses trainees' ability to handle complex and emergency cases. Trainees' workbooks which should include detailed records of all activities and skills practiced will be reviewed as part of this comprehensive evaluation. Facilitators perform the evaluations and submit reports to the course coordinator and program director at the end of the 16th week.

By clearly outlining the purpose and importance of each evaluation component, facilitators can emphasize the role of these assessments in ensuring the trainees' readiness for real-world clinical scenarios.

Summary of Continuous Evaluation System

Evaluation Component	Description	Frequency
Weekly Feedback Sessions	Trainees share experiences, discuss challenges, and suggest improvements.	Weekly (Every Saturday)
Routine Cases Evaluation/ Tier 1	Focus on basic skills (first 6 weeks). Facilitators submit reports at the end of the 6th week. Trainees maintain daily workbooks.	End of the 6th week
Intermediate Evaluation/ Tier 2	Focus on complex situations (8th to 10th week). Facilitators submit reports at the end of the 10th week. Trainees continue to maintain daily workbooks.	End of the 10th week
Comprehensive Evaluation/ Tier 3s	Assessing ability to handle complex cases (16th week). Facilitators submit reports at the end of the 16th week. Trainees continue to maintain daily workbooks.	End of the 16th week
Objective Structured Clinical Examinations (OSCE)	Exams include advanced scenarios stimulating critical thinking and decision-making skills. Facilitators should encourage practicing shock management, CPR, newborn resuscitation, and emergency responses.	During simulation sessions

Record Keeping and Documentation

Trainees shall maintain a daily workbook recording activities such as cases seen, assisted/ operated, theory, practical classes, presentations, seminars, and meetings attended. This documentation serves multiple purposes:

- **Case Presentations:** Trainees are required to present at least one obstetric case and attend four obstetric cases. Presentations should progress from routine cases to complex situations. Facilitators will guide trainees on proper discharge, follow-up care, and recognizing danger signs.
- **Seminars and Workshops:** Trainees must present on an emergency obstetric condition and attend at least five seminars/workshops. Presentations should progress from routine cases to complex situations, with facilitators providing guidance on discharge advice, follow-up care, and recognizing danger signs.
- **Accountability and Appropriate Documentation:** Facilitators will emphasize the importance of thorough and accurate documentation in all case records and prescriptions across various settings, including the Labour Room (LR), Outpatient Department (OPD), Special Newborn Care Unit (SNCU), Operating Theatre (OT), Wards, and Emergency. Incomplete notes and prescriptions are a common issue, particularly in OPD and postoperative care.

Therefore, special attention will be given to ensuring that all patient notes, prescriptions, and postoperative records are complete and meet the necessary standards of care. Facilitators should also demonstrate proper documentation techniques and encourage trainees to follow these practices diligently.

- **Certification:** Certification involves providing evidence of completing required activities as per the minimum skills requirement outlined in the operational guidelines. Daily records should be maintained by trainees and submitted monthly to the course coordinator, signed by the facilitator. The course coordinator maintains these records and shares them with relevant stakeholders for review.

Facilitator Roles and Responsibilities

Facilitators play a crucial role in the success of the CEmONC training program. Their responsibilities are divided into three main stages: before sessions, during sessions, and after sessions.

Before each session, facilitators should:

- Review the session plans and prepare necessary materials.
- Ensure all equipment and resources are available.
- Familiarize themselves with the specific learning objectives for each session.

During the sessions, facilitators should:

- Welcome trainees warmly and introduce the training program.
- Define the problem statement and set clear expectations.
- Outline the basic principles of the training program.
- Conduct demonstrations and supervise reverse demonstrations.
- Provide clear, step-by-step explanations and engage trainees.
- Monitor Trainees performance and provide constructive feedback.
- Allow trainees to practice procedures in pairs or small groups, ensuring each Trainees takes turns performing the skill while others observe and provide feedback.

After each session, facilitators should:

- Facilitate a debrief session where trainees reflect on what they learned, discuss challenges faced, and share key takeaways. Encourage open discussion and note any areas requiring further clarification.
- Participate in feedback sessions to address challenges and improve training.
- Review Trainees performance and provide additional support where needed.

To maintain a productive learning environment, facilitators and trainees should adhere to the following housekeeping rules:

- Arrive on time for all sessions.
- Participate actively and respectfully.
- Silence mobile phones during sessions.

- Ask questions and engage in discussions.
- Respect different opinions and learning styles.
- Provide constructive feedback to peers.
- Ensure all trainees know the location of restrooms, emergency exits, and break areas. Provide contact information for any assistance needed during the session. Confirm the schedule for breaks and lunch and maintain a clean and organized training environment.
- Ensure a backup of all digital presentations and materials.
- Have alternative methods for demonstrating skills, such as printed manuals or videos.
- Provide catch-up sessions or additional materials for trainees who miss sessions.

CEmONC Weekly Schedule

Week
01

Overview of Maternal and Neonatal Mortality, Respectful Care, Gender and Routine Antenatal Care

Weekly Facilitator Objectives:

- Provide an overview of maternal and neonatal mortality, relevant national/state programs.
- Describe importance of respectful maternity care and gender sensitivity.
- Introduce training methodologies, including the mentor-mentee concept, and oversee infection prevention protocols.
- Explain the components, timing, and assessment methods of routine antenatal care (ANC), including General Physical Examination and Abdominal Examination.
- Facilitate hands-on practice, observation, and case discussions in clinical settings (OPD, ANC ward, LR, PNC ward, and SNCU).
- Ensure smooth registration, introduction, and orientation of trainees, and effective communication with patients and their families during evening duties.

Note: Refer to Annexure 1/ Week 1 for listed resources. *denote common presentation on the topic.

Theme	**Overview of Maternal and Neonatal Mortality, Respectful Care, Gender and Routine Antenatal Care**			
Week 1	**Day 1**			
Session Timing	Title/ Sub-Title	Suggested Trainer	Methodology	Key Points for Facilitators
8:30-9:30	▪ Registration ▪ Overview of the Training Program	Course Coordinator	Presentation Registration and other Forms	▪ Welcome all the participants ▪ Introduction ▪ Provide an overview of the training program and certification details. ▪ Ensure clarity on the agenda and objectives of each week

9:30-10:30	Welcome Session	Institution Head and HODs	Presentation on MMR and NMR	Emphasize the importance of understanding maternal and neonatal mortality rates and their implications.
10:30 – 11:30	Adapting a gender responsive approach for health-system strengthening	HOD, Communication and Gender Expert	Presentation, video, Activity	Discuss understanding of presentation content. Show video and facilitate Gender-Activity.
11:30-12 noon	Training methodologies with emphasis on Mentor-Mentee Concept	Institutional Head/ HODs	Presentation	Discuss various training methodologies and assign mentor-mentee and discuss the concept.
12:00:12:15	**Tea Break**			
12:15-13:15	Respectful Care	HODs - Obstetrics and Gynecology and Pediatrics	Presentation	Discuss respectful care and presentation
13:15 – 14:00	**Lunch Break**			
14:00- 14:30	Infection Prevention practices: Hand Washing, Segregation & Disposal of Waste, Processing of Instruments	Infection Prevention Expert	Presentation*	Highlight the importance of strict adherence to infection prevention practices.
14:30-15:00	Records and Register	Course Coordinator	Handout	Emphasis appropriate documentation in case records and prescription (LR, OPD, SNCU/ MNCU, OT, Wards, Emergency)

15:00-16:00	Tour and Orientation of the Department/ Facility	Course Coordinator with Maternal, Pediatrics and Nursing Personnel	Guided tour	
16:00-17:00	▪ Developing duty roaster as per the weekly schedules for 16 weeks ▪ Understanding log book	Maternal and Pediatrics Faculty and Course Coordinator	Log book format	Ensure duty rosters are clear and manageable. Circulate the roster to concerned departments and faculties

Week 1	**Day 2 -3 -4: Understanding Routine Antenatal Care** **Facilitator : Obstetrician**		
Session Timing	Title/ Sub-Title	Methodology and suggested Trainer	Key Points for Facilitators
09:00-13:00	Clinical Hours	Observation, hands-on practice	▪ Ensure trainees rotate through OPD, ANC ward, LR, PNC ward, and Special Newborn Care Unit (SNCU)/Mother Newborn Care Unit (MNCU) as per the weekly theme. ▪ Encourage active observation and participation ▪ Provide feedback on performance during rounds
14:00-17:00	Objective: Understanding Routine Antenatal Care (ANC) Explain the importance and components of routine ANC ▪ Discuss the goals of ANC	▪ Presentation* on routine ANC ▪ Simulation for Abdominal examination	Demonstrate: History Taking and Risk Differentiation ▪ Demonstrate how to take a comprehensive history from pregnant women. ▪ Guide trainees on differentiating between low and high-risk cases based on history.

	▪ Describe the recommended schedule of ANC visits ▪ Identify risk factors for high-risk pregnancies through: ▪ History taking ▪ Perform General Physical Examination ▪ Measure BP, checking urine for protein, and performing other routine tests. ▪ Discuss other recommended tests ▪ Assess fetal growth and well-being. ▪ Discuss significance of supplementation and vaccination during pregnancy. ▪ Discuss appropriate referrals and follow-up for high-risk cases. Identifying and Managing Common ANC Physiological Issues ▪ Recognize common discomforts and minor disorders in pregnancy like Nausea and vomiting,	▪ Case scenarios for EDD Calculation ***Note: *denotes common slide deck on this topic***	▪ Emphasize the importance of thorough and accurate history taking ▪ Facilitate Practice EDD calculation on different scenarios Clinical Assessment during General Physical Examination: ▪ Demonstrate clinical assessments during the general examination, such as checking for pallor, pedal edema, and other signs. ▪ Discuss the implications of findings from the general examination and their impact on pregnancy management. ▪ Demonstrate proper techniques for measuring BP, checking urine for protein, and performing other routine tests Demonstrate: Abdominal Evaluations ▪ Emphasize accurate and thorough abdominal evaluations, including the measurement of fundal height. ▪ Encourage the use of gestational age during abdominal examination ▪ Ensure trainees understand how to identify a large and

	Back pain, Varicose veins etc. ▪ Provide appropriate guidance and management strategies for common ANC Physiological issues		small size uterus and their clinical implications. Discuss Physiological Problems during Pregnancy ▪ Highlight key physiological changes during pregnancy and common problems. Overall, ▪ Encourage hands-on practice under supervision to build confidence and proficiency. ▪ Highlight the importance of consistent and accurate documentation of clinical findings. ▪ Emphasize the significance of supplementation (e.g., iron, folic acid) and vaccination during pregnancy. ▪ Discuss appropriate referrals and follow-up protocols for high-risk pregnancies to ensure timely and effective care. ▪ Facilitate active discussions to enhance understanding and retention
17:00-19:30	Evening Duty	Demonstrate Bedside assessment of ANC cases and communication with women and her family, Review case records of admitted patients and discuss.	

Week 1	Day 5: Antenatal Care Counselling Facilitator : Obstetrician and Counselling Specialist		
Session Timing	Title/ Sub-Title	Methodology and suggested Trainer	Key Points for Facilitators
09:00-13:00	Clinical Hours	Observation, hands-on practice	Emphasize learning through observation, hands-on practice, and bedside learning. Encourage trainees to actively engage and ask questions during clinical hours. Ensure adherence to clinical rotation schedules and provide guidance as needed.
14:00-17:00	Antenatal Care Counselling Facilitator Objectives: 1. Develop effective communication skills for antenatal counselling. ▪ Educating pregnant women and families about healthy pregnancy practices. ▪ Counselling on nutrition, exercise, and lifestyle modifications. 2. Provide psychological support to pregnant women, especially those with high-risk pregnancies.	Case studies and Role Play Obstetrician	Key Points for Facilitators: Developing Effective Communication Skills ▪ Demonstrate clear and empathetic communication techniques. ▪ Role-play scenarios to practice counselling skills. ▪ Emphasize the importance of active listening and addressing patient concerns. Educating on Healthy Pregnancy Practices ▪ Provide comprehensive information on maintaining a healthy pregnancy. ▪ Discuss the importance of balanced nutrition and recommend dietary guidelines. ▪ Encourage appropriate physical activity and explain its benefits.

			Counselling on Lifestyle Modifications ▪ Discuss lifestyle changes that promote a healthy pregnancy, such as avoiding harmful substances. ▪ Provide strategies for stress management and promoting mental well-being. ▪ Emphasize the importance of regular prenatal visits and adherence to medical advice. Providing Psychological Support ▪ Train trainees to recognize signs of psychological distress in pregnant women. ▪ Discuss ways to provide emotional support and reassurance. ▪ Highlight the importance of referring women to mental health services when needed.
17:00-19:30	Evening Duty	Demonstrate Bedside assessment of ANC cases and communication with women and her family, Review case records of admitted patients and discuss.	
	Weekly Feedback Session: At the end of each week, review trainee performance, discuss challenges faced during the week, and provide feedback. Use the checklist for standardizing all clinical steps (refer to Annexures for resources of the day).		

Week 1: Summary Note – Overview of Maternal and Neonatal Mortality, Respectful Care, Gender and Routine Antenatal Care

During Week 1, trainees focused on understanding maternal and neonatal mortality, respectful maternity care, gender sensitivity, and routine antenatal care (ANC). The week began with registration and an overview of the training program and certification details. Trainees were informed about the weekly feedback sessions to share their challenges.

The program covered maternal and neonatal mortality rates, respectful care, and gender sensitivity. Training methodologies, including the mentor-mentee concept, were introduced alongside infection prevention practices. Key components of routine ANC, such as General Physical and Abdominal Examinations, were covered in detail. Trainees learned to differentiate between low-risk and high-risk pregnancies and the importance of screening tests, supplementation, and vaccination.

Throughout the week, trainees participated in hands-on practice, clinical observation, and case discussions in various settings. Evening duties included bedside assessments and reviewing case records.

Facilitators emphasized that the first 8 weeks would focus on theory and simulation-based sessions, followed by hands-on training. Trainees would progress from observation to assisted and independent handling of cases. Morning sessions were dedicated to clinical hours, with trainees reporting on time to designated areas as per the duty roster. Afternoon sessions focused on theory and simulation exercises, while evening duties involved bedside learning and discussions. Night duties were set to begin from the second week onwards.

The week concluded with a feedback session to review performance, discuss challenges, and provide constructive feedback. By the end of Week 1, trainees should have a strong foundation in maternal and neonatal health, respectful care, gender sensitivity, and routine antenatal care, ready to apply their knowledge in clinical settings. Facilitators ensure that trainees are well-prepared and confident in their skills.

Week
02

Special Care during Pregnancy

Week 2	**Day 1: Special Situations during Pregnancy: Gestational Diabetes Mellitus(GDM) and Bad Obstetric History** **Facilitator : Obstetrician**		
Session Timing	Title and Facilitator Objectives	Methodology and suggested Trainer	Key Points for Facilitators
09:00-13:00	Clinical Hours	Observation, hands-on practice. Obstetrician	Training roster, clinical rotation schedule
14:00-15:15	GDM: ▪ Highlight the importance of managing gestational diabetes during pregnancy. Counselling on nutrition, exercise, and lifestyle modifications. ▪ Guide trainees on initiating insulin therapy for gestational diabetes.	Presentation	GDM: ▪ Provide comprehensive information on the risks and complications associated with gestational diabetes. ▪ Stress the significance of early diagnosis and intervention. ▪ Facilitate discussions on personalized care plans for managing gestational diabetes. ▪ Outline the steps and protocols for initiating insulin therapy. ▪ Discuss the role of lifestyle modifications, including diet and exercise, in managing gestational diabetes.

	▪ Discuss lifestyle modifications and dietary management for patients. ▪ Emphasize the importance of regular monitoring and follow-up.		▪ Highlight the importance of continuous monitoring and follow-up to ensure maternal and fetal well-being. ▪ Emphasize the need for multidisciplinary care involving obstetricians, endocrinologists, and dietitians. ▪ Facilitators can use presentations during the session.
15:30 – 17:00	Bad Obstetric History (BOH) ▪ Facilitate understanding of managing special conditions during pregnancy, such as bad obstetric history. ▪ Guide trainees on management strategies during delivery for such conditions.	Presentation	▪ Provide information on the implications and challenges of bad obstetric history. ▪ Discuss the importance of thorough antenatal care and history-taking. ▪ Highlight individualized care plans tailored to each patient's specific needs. ▪ Facilitate discussions on when and how to refer cases with special conditions to higher centers. ▪ Emphasize the significance of timely and appropriate referrals to ensure optimal maternal and fetal outcomes. ▪ Guide on specific management strategies during labor and delivery for women with bad obstetric history. ▪ Stress the importance of multidisciplinary collaboration to address the complex needs of these patients.

	▪ Emphasize the importance of individualized care plans for these cases. ▪ Highlight the need for timely and appropriate referrals.		▪ Facilitators can use presentations during the session. ▪ Facilitate bedside learning (If any case available) and simulations to practice management strategies and referral protocols.
17:00-19:30	Evening Duty	Demonstrate Bedside assessment of ANC cases and communication with women and her family, Review case records of admitted patients and discuss.	

Week 2	**Day 2: Special Situations during Pregnancy: Hyperemesis Gravidarum**		
Session Timing	Title and Facilitator Objectives	Methodology and suggested Trainer	Key Points for Facilitators
09:00-13:00	Clinical Hours	Observation, hands-on practice. Obstetrician	Continue rotations as per the training roster. Emphasize learning through observation and hands-on practice.
14:00-17:00	Hyperemesis Gravidarum: ▪ Highlight the importance of early identification and management of hyperemesis gravidarum.	Presentation	▪ Provide detailed information on the symptoms, causes, and complications of hyperemesis gravidarum. ▪ Stress the significance of early diagnosis and intervention to prevent complications.

	▪ Guide trainees on effective treatment protocols for managing hyperemesis gravidarum. ▪ Discuss strategies for providing supportive care to affected patients. ▪ Emphasize the importance of monitoring and follow-up to ensure maternal and fetal well-being.		▪ Facilitate discussions on the use of pharmacological and non-pharmacological treatments. ▪ Outline protocols for hospital admission and intravenous fluid therapy when necessary. ▪ Discuss the role of dietary modifications and nutritional support in managing hyperemesis gravidarum. ▪ Emphasize the importance of psychological support and counseling for affected women. ▪ Highlight the need for regular monitoring of maternal weight, hydration status, and electrolyte balance. ▪ Stress the importance of multidisciplinary care, including obstetricians, nutritionists, and mental health professionals. ▪ Facilitators can use presentations during the session.
17:00-19:30	Evening Duty	Demonstrate Bedside assessment of ANC cases and communication with women and her family, Review case records of admitted patients and discuss.	

Week 2	**Day 3: Special Situations during Pregnancy: Anaemia during Pregnancy** **Facilitator : Obstetrician**		
Session Timing	Title and Facilitator Objectives	Methodology and suggested Trainer	Key Points for Facilitators
09:00-13:00	Clinical Hours	Observation, hands-on practice.	Continue rotations as per the training roster. Emphasize learning through observation and hands-on practice.
14:00-17:00	Anaemia: ▪ Emphasize the importance of diagnosing and managing anaemia during pregnancy and the post-partum period. ▪ Guide trainees on effective treatment and prevention strategies for anaemia.	Presentation*, Simulation Case study discussion Obstetrician	▪ Provide detailed information on the causes, symptoms, and complications of anaemia during pregnancy and the post-partum period. ▪ Stress the significance of early diagnosis and timely intervention to prevent adverse outcomes. ▪ Facilitate discussions on the use of iron supplements, dietary modifications, and other treatment options. ▪ Outline protocols for the management of severe anaemia, including blood transfusions when necessary. ▪ Highlight the role of regular antenatal check-ups in monitoring Hb levels and overall maternal health. ▪ Discuss the impact of Thalassemia and other local prevalent issues on pregnancy, including increased risks of anaemia and related complications. ▪ Emphasize the importance of genetic counselling and screening for Thalassemia, especially in high-risk populations.

	▪ Discuss the impact of local prevalent issues like Thalassemia on pregnancy and its outcomes. ▪ Highlight the importance of monitoring and follow-up to ensure maternal and fetal health.		▪ Stress the need for a multidisciplinary approach involving obstetricians, haematologists, and nutritionists to manage anaemia effectively. ▪ Highlight the importance of post-partum follow-up to ensure recovery and prevent recurrence of anaemia. ▪ Emphasize the importance of checking and following up on Hb estimation, especially in the last trimester, to avoid PPH or any emergency. ▪ Facilitators can use presentations during the session. ▪ Facilitate bedside learning and simulations to practice differential diagnosis and treatment protocols. ▪ Include practice and follow-up on calculating doses for IV and IM iron administration (includes calculation of dosage, monitoring during administration and Follow up) ▪ Bedside learning should include the administration of iron doses.
17:00-19:30	Evening Duty	Demonstrate Bedside assessment of ANC cases and communication with women and her family, Review case records of admitted patients and discuss.	

Week 2	Day 4: Special Situations during Pregnancy: Fever during Pregnancy, Malaria and UTI		
Session Timing	Title and Facilitator Objectives	Methodology and suggested Trainer	Key Points for Facilitators
09:00-13:00	Clinical Hours	Observation, hands-on practice. Obstetrician	Continue rotations as per the training roster. Emphasize learning through observation and hands-on practice.
14:00-17:00	Fever during pregnancy: ▪ Highlight the importance of identifying and managing fever during pregnancy. ▪ Guide trainees on differentiating between common causes of fever, such as malaria and urinary tract infections (UTIs).	Presentation Obstetrician	▪ Provide information on potential causes and complications of fever during pregnancy. ▪ Stress the significance of early diagnosis and appropriate treatment to prevent adverse outcomes. ▪ Facilitate discussions on differentiating between malaria, UTIs, and other causes of fever based on clinical presentation and diagnostic tests. ▪ Outline treatment protocols for malaria in pregnancy, including antimalarial drugs and mosquito bite prevention. ▪ Discuss management of UTIs in pregnancy, including antibiotics and adequate hydration. ▪ Emphasize the need for routine screening for malaria and UTIs in endemic areas and during antenatal visits. ▪ Highlight the importance of patient education on recognizing symptoms and seeking timely medical care.

	▪ Discuss effective management and treatment protocols for fever during pregnancy. ▪ Emphasize the importance of malaria prophylaxis in endemic areas and follow-up to ensure maternal and fetal health.		▪ Discuss potential complications of untreated fever, such as preterm labour and fetal distress, and the importance of close monitoring. ▪ Stress the need for a multidisciplinary approach, involving obstetricians, infectious disease specialists, and primary care providers. ▪ Highlight the importance of post-treatment follow-up to ensure infection resolution and monitor maternal and fetal well-being. ▪ Emphasize the importance of malaria prophylaxis in endemic areas, including intermittent preventive treatment in pregnancy (IPTp) with sulfadoxine-pyrimethamine (SP) and insecticide-treated nets (ITNs). ▪ Discuss the timing and dosing schedule for malaria prophylaxis during pregnancy and the importance of adherence to the regimen. ▪ Facilitators can use presentations during the session. ▪ Facilitate bedside learning and simulations to practice differential diagnosis and treatment protocols.
17:00-19:30	Evening Duty	Demonstrate Bedside assessment of ANC cases and communication with women and her family, Review case records of admitted patients and discuss.	
Weekly Feedback Session: At the end of each week, review trainee performance, discuss challenges faced during the week, and provide feedback. Use the checklist for standardizing all clinical steps (refer to Annexures for resources of the day).			

Week 2	**Day 5: Special Situations during Pregnancy: HIV Infection in Pregnancy & PPTCT and Hypothyroidism** **Facilitator : Obstetrician**		
Session Timing	Title and Facilitator Objectives	Methodology and suggested Trainer	Key Points for Facilitators
09:00-13:00	Clinical Hours	Observation, hands-on practice.	Continue rotations as per the training roster. Emphasize learning through observation and hands-on practice.
14:00-15:15	HIV Infection in Pregnancy & PPTCT: ▪ Highlight the importance of early identification and management of HIV infection during pregnancy. ▪ Guide trainees on the strategies and protocols for the prevention of parent-to-child transmission (PPTCT) of HIV.	Presentation discussion	▪ Provide information on the impact of HIV infection during pregnancy and the risks of vertical transmission. ▪ Stress the significance of early diagnosis through routine antenatal screening and voluntary counselling and testing (VCT). ▪ Facilitate discussions on the use of ART to reduce viral load and prevent transmission to the fetus. ▪ Outline protocols for initiating and managing ART in pregnant women, including drug selection, adherence, and monitoring. ▪ Highlight the importance of safe delivery practices, including elective C-section when indicated, to reduce the risk of transmission. ▪ Discuss strategies for safe infant feeding, including formula feeding or exclusive breastfeeding with maternal ART. ▪ Emphasize regular follow-up and monitoring of both mother and infant to detect and manage complications. ▪ Highlight the role of partner testing and counselling in preventing further

	▪ Discuss effective antiretroviral therapy (ART) management during pregnancy. ▪ Emphasize the importance of monitoring, follow-up, and support services to ensure maternal and fetal health.		transmission and supporting the mother's health. ▪ Discuss the importance of a multidisciplinary approach involving obstetricians, infectious disease specialists, Pediatricians, and counsellors. ▪ Stress the need for providing psychosocial support to HIV-positive pregnant women to address stigma, mental health issues, and adherence challenges. ▪ Highlight the importance of linking mothers and infants to long-term care and support services post-delivery to ensure ongoing health and well-being. ▪ Encourage the use of training methods such as presentations and discussions to reinforce knowledge and skills.
15:30 – 17:00	Managing Hypothyroidism ▪ Highlight the importance of diagnosing and managing hypothyroidism during pregnancy. ▪ Guide trainees on effective treatment protocols and monitoring strategies for hypothyroidism in pregnant women.	Presentation discussion	▪ Provide information on the symptoms, causes, and complications of hypothyroidism during pregnancy. ▪ Stress the significance of early diagnosis through routine screening and timely intervention. ▪ Facilitate discussions on using levothyroxine as the primary treatment for hypothyroidism in pregnancy. ▪ Outline protocols for dosage adjustment and regular monitoring of thyroid function tests (TFTs) throughout pregnancy. ▪ Discuss potential impacts of untreated

	▪ Discuss the potential impacts of hypothyroidism on maternal and fetal health. ▪ Emphasize the importance of follow-up and adjusting treatment throughout pregnancy.		hypothyroidism on pregnancy outcomes, i ncluding preterm birth, preeclampsia, and impaired fetal development. ▪ Highlight the importance of educating patients on recognizing symptoms of hypothyroidism and adhering to prescribed medication. ▪ Emphasize the role of prenatal vitamins and avoiding medications and supplements that interfere with thyroid hormone absorption. ▪ Stress the importance of a multidisciplinary approach involving obstetricians, endocrinologists, and primary care providers. ▪ Discuss the importance of postpartum follow-up to reassess thyroid function and adjust treatment as necessary. ▪ Highlight the need for patient education on maintaining optimal thyroid function for both maternal and fetal health. ▪ Encourage the use of training methods such as presentations and discussions to reinforce knowledge and skills.
17:00-19:30	Evening Duty	Demonstrate Bedside assessment of ANC cases and communication with women and her family, Review case records of admitted patients and discuss.	
Weekly Feedback Session: At the end of each week, review trainee performance, discuss challenges faced during the week, and provide feedback. Use the checklist for standardizing all clinical steps (refer to Annexures for resources of the day).			

Week 2: Summary Note: Special Care during Pregnancy

During Week 2, trainees focused on managing special situations during pregnancy. Afternoon sessions provided detailed information on various conditions and their management:

- Gestational Diabetes Mellitus (GDM): Highlighted the importance of managing GDM, initiating insulin therapy, lifestyle modifications, and continuous monitoring.
- Bad Obstetric History (BOH): Covered management strategies, individualized care plans, and timely referrals.
- Hyperemesis Gravidarum: Discussed early identification, treatment protocols, dietary modifications, and psychological support.
- Anaemia: Emphasized diagnosing and managing anaemia, including the impact of Thalassemia, treatment options, and follow-up care.
- Fever During Pregnancy (Malaria and UTI): Differentiated between causes of fever, outlined treatment protocols, and stressed malaria prophylaxis in endemic areas.
- HIV Infection in Pregnancy & PPTCT: Provided strategies for preventing parent-to-child transmission, managing ART, and ensuring safe delivery practices.
- Hypothyroidism: Focused on diagnosing and managing hypothyroidism, treatment protocols, and the importance of follow-up.

Each session emphasized the importance of early diagnosis, effective treatment, multidisciplinary care, and continuous monitoring to ensure maternal and fetal well-being. Evening duties included bedside assessments and case discussions, reinforcing practical learning. The week concluded with a feedback session to review trainee performance and address challenges.

Week
03

Rapid Initial Assessment (RIA) and Hypertensive Disorders of Pregnancy

Week 3	**Rapid Initial Assessment (RIA) and Hypertensive Disorders of Pregnancy** **Details of Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Emergency Medicine Specialist**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 1	Rapid Initial Assessment (RIA), Triage & Management of Shock: ▪ Highlight the importance of rapid initial assessment (RIA) and triage in managing emergency situations. ▪ Guide trainees on the protocols and techniques for effective triage.	▪ Presentation*, ▪ Simulation, ▪ Case study ▪ Bedside learning	▪ Provide information on the principles and steps of rapid initial assessment (RIA) and triage. ▪ Stress the significance of early identification and prioritization of critical cases to improve outcomes. ▪ Facilitate discussions on different types of shock (hypovolemic, septic, cardiogenic, etc.) and their specific presentations in pregnancy. ▪ Outline protocols for the initial assessment using the ABCDE approach (airway, breathing, circulation, disability, and exposure). ▪ Discuss the importance of obtaining a thorough history and performing a focused physical examination. ▪ Highlight key signs and symptoms of shock, including altered mental status, tachycardia, hypotension, and poor perfusion.

	▪ Discuss the identification, assessment, and management of shock in pregnant women. ▪ Emphasize the importance of timely intervention and multidisciplinary coordination in managing shock. ▪ Discuss referral and stabilization protocols to ensure appropriate care and transfer of patients.		▪ Provide information on the management of shock, including fluid resuscitation, vasopressors, and addressing the underlying cause. ▪ Emphasize continuous monitoring and reassessment to ensure effective management. ▪ Discuss the role of point-of-care testing and imaging in the rapid diagnosis and management of shock. ▪ Highlight the importance of a multidisciplinary approach, involving obstetricians, anaesthesiologists, critical care specialists, and nurses. ▪ Stress the need for training on emergency response protocols and drills for managing shock and other obstetric emergencies. ▪ Emphasize the importance of documentation and communication with the healthcare team and the patient's family during emergencies. ▪ Provide guidelines on referral and stabilization protocols, ensuring appropriate care and timely transfer to higher-level facilities. ▪ Emphasize the importance of stabilizing the patient before referral, including securing the airway, managing breathing and circulation, and addressing immediate life-threatening conditions.

			▪ Encourage the use of training methods such as presentations, simulations, case studies, and bedside learning to reinforce knowledge and skills. ▪ Oversee bedside learning and simulations to ensure practical application and comprehension.

Week 3	**Rapid Initial Assessment (RIA) and Hypertensive Disorders of Pregnancy** **Details of Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Emergency Medicine Specialist**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 2	Fluid Therapy and Blood Transfusion: ▪ Highlight the importance of fluid therapy and blood transfusion in managing obstetric emergencies. ▪ Guide trainees on the indications, protocols, and techniques for administering fluid therapy.	Presentation*, simulation, bedside learning	▪ Provide information on the role of fluid therapy in managing hypovolemia, dehydration, and shock. ▪ Discuss different types of fluids (crystalloids, colloids) and their appropriate use in various scenarios. ▪ Outline protocols for initiating fluid therapy, including calculation of fluid requirements and infusion rates. ▪ Highlight the importance of monitoring fluid balance, including input/output charts and signs of fluid overload or deficit. ▪ Facilitate discussions on indications for blood transfusion, including severe anaemia, haemorrhage, and coagulopathy.

	▪ Discuss the indications, protocols, and procedures for blood transfusion in obstetric care. ▪ Emphasize the importance of monitoring, documentation, and follow-up in fluid therapy and blood transfusion.		▪ Provide information on types of blood products (whole blood, packed red cells, plasma, platelets) and their specific indications. ▪ Outline protocols for blood transfusion, including cross-matching, consent, and pre-transfusion testing. ▪ Emphasize recognizing and managing transfusion reactions and steps to take in case of an adverse reaction. ▪ Discuss the importance of continuous monitoring during and after transfusion to detect complications early. ▪ Highlight the role of documentation in fluid therapy and blood transfusion, recording type, volume, rate, and any adverse events. ▪ Emphasize a multidisciplinary approach, involving obstetricians, anaesthesiologists, haematologists, and nursing staff. ▪ Stress the importance of patient education on the reasons for fluid therapy or blood transfusion, procedures, and potential risks. ▪ Discuss protocols for post-transfusion follow-up, including monitoring Hb levels, vital signs, and overall patient recovery. ▪ Provide clear guidelines on when and how to refer patients for higher-level care if complications arise.

			▪ Encourage the use of training methods such as presentations, simulations, and bedside learning to reinforce knowledge and skills.

Week 3	**Rapid Initial Assessment (RIA) and Hypertensive Disorders of Pregnancy** **Details of Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 3-4-5	Hypertensive Disorders of Pregnancy: ▪ Highlight the importance of early identification and management of hypertensive disorders in pregnancy. ▪ Guide trainees on the differentiation and diagnosis of gestational hypertension, pre-eclampsia, eclampsia, and chronic hypertension. ▪ Discuss the management protocols for each hypertensive disorder during pregnancy.	Presentation*, Simulation bedside learning	▪ Provide information on the pathophysiology, symptoms, and complications of hypertensive disorders in pregnancy. ▪ Discuss diagnostic criteria for gestational hypertension, pre-eclampsia, eclampsia, and chronic hypertension. ▪ Outline management protocols for gestational hypertension, including lifestyle modifications, pharmacological treatment, and monitoring. ▪ Provide details on managing pre-eclampsia, including antihypertensive therapy, indications for delivery, and magnesium sulphate for seizure prophylaxis. ▪ Discuss emergency management of eclampsia, including seizure control, magnesium sulphate administration, and blood

	▪ Emphasize the importance of monitoring, timely intervention, and multidisciplinary care to ensure maternal and fetal well-being. ▪ Oversee bedside learning and simulations.		pressure management. ▪ Highlight management of chronic hypertension during pregnancy, including preconception counselling, medication adjustments, and close monitoring. ▪ Emphasize continuous monitoring and follow-up, including regular blood pressure checks and assessment of maternal and fetal well-being. ▪ Discuss potential complications of untreated or poorly managed hypertensive disorders, such as placental abruption, preterm birth, and fetal growth restriction. ▪ Highlight the importance of a multidisciplinary approach, involving obstetricians, maternal-fetal medicine specialists, anaesthesiologists, and nursing staff. ▪ Stress the need for patient education on recognizing symptoms of worsening hypertension and seeking timely medical care. ▪ Discuss postnatal follow-up, including blood pressure monitoring and long-term cardiovascular health management. ▪ Provide guidelines on when to refer patients to higher-level care or specialist services. ▪ Facilitate discussions on risk factors and strategies for prevention and early detection of hypertensive disorders in pregnancy.

			▪ Include education on identifying risk factors and implementing prevention strategies in patient education sessions. ▪ Encourage the use of training methods such as presentations, simulations, and bedside learning to reinforce knowledge and skills. ▪ Oversee bedside learning and simulations to ensure practical application and comprehension.

Week 3	**Rapid Initial Assessment (RIA) and Hypertensive Disorders of Pregnancy** **Details of Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 6	Weekly Feedback Session: At the end of each week, review trainee performance, discuss challenges faced.		

Week 3: Summary: Rapid Initial Assessment (RIA) and Hypertensive Disorders of Pregnancy

During Week 3, trainees focused on rapid initial assessment (RIA), triage, and the management of shock, along with hypertensive disorders of pregnancy.

Day 1: Facilitators highlighted the importance of RIA and triage in emergencies, guiding trainees through protocols and techniques for effective triage, shock management, and stabilization protocols through presentations, simulations, and case studies. Emphasis was placed on early identification, prioritization, and multidisciplinary coordination.

Day 2: The focus was on fluid therapy and blood transfusion in obstetric emergencies. Trainees learned about the indications, protocols, and techniques for administering fluids and blood products. The session included detailed discussions on monitoring, documentation, and managing complications, reinforced through presentations and simulations.

Days 3-5: The sessions covered hypertensive disorders of pregnancy, including gestational hypertension, pre-eclampsia, eclampsia, and chronic hypertension. Facilitators provided information on diagnostic criteria, management protocols, and the importance of monitoring and timely intervention. Multidisciplinary care and patient education were emphasized, along with simulations and bedside learning to ensure practical application.

Day 6: The week concluded with a feedback session to review trainee performance, discuss challenges, and provide constructive feedback. Trainees were encouraged to reflect on their learning experiences and identify areas for improvement.

Week
04

Vaginal Bleeding in Early and Late Pregnancy, and Contraception

Week 4	**Vaginal Bleeding in Early and Late Pregnancy, and Contraception** **Details of Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 1- 2	Vaginal Bleeding in Early Pregnancy (Abortions, Ectopic Pregnancy, Molar Pregnancy): ▪ Highlight the importance of early identification and management of vaginal bleeding in early pregnancy. ▪ Guide trainees on the differential diagnosis of causes of vaginal bleeding, including abortions, ectopic pregnancy, and molar pregnancy.	Presentation, Case discussion, Simulation, Bedside learning	▪ Provide information on potential causes and complications of vaginal bleeding in early pregnancy. ▪ Discuss diagnostic criteria and clinical presentations for abortions, ectopic pregnancy, and molar pregnancy. ▪ Outline management protocols for abortions, including expectant management, medical management with misoprostol, and surgical management with dilation and curettage (D&C). ▪ Highlight emergency management of ectopic pregnancy, including the use of methotrexate and surgical intervention. ▪ Discuss management of molar pregnancy, including uterine evacuation and follow-up for monitoring hCG levels.

	▪ Discuss the management protocols for each condition causing vaginal bleeding in early pregnancy. ▪ Emphasize the importance of timely intervention, monitoring, and multidisciplinary care to ensure maternal health and safety.		▪ Emphasize continuous monitoring and follow-up, including ultrasound evaluations and serial hCG measurements. ▪ Educate patients on recognizing danger signs and seeking timely care. ▪ Stress the importance of compassionate care and psychological support for women experiencing pregnancy complications. ▪ Provide guidelines on when to refer patients to higher-level care or specialist services. ▪ Emphasize the importance of documentation and maintaining accurate records. ▪ Use selected training methods such as presentations, case discussions, simulations, and bedside learning to enhance understanding and skills.

Week 4	**Vaginal Bleeding in Early and Late Pregnancy, and Contraception** **Details of Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology and Suggested Trainer	Key Points for Facilitators
Day 3- 4	Vaginal Bleeding in Late Pregnancy (Placenta Previa, Abruptio Placentae, Coagulopathy): ▪ Highlight the	Presentation, case study, bedside learning Obstetrician	▪ Provide information on potential causes and complications of vaginal bleeding in late pregnancy. ▪ Discuss diagnostic criteria and clinical presentations for placenta previa, abruptio placentae, and

	importance of early identification and management of vaginal bleeding in late pregnancy. ▪ Guide trainees on the differential diagnosis of causes of vaginal bleeding, including placenta previa, abruptio placentae, and coagulopathy. ▪ Discuss the management protocols for each condition causing vaginal bleeding in late pregnancy. ▪ Emphasize the importance of timely intervention, monitoring, and multidisciplinary care to ensure maternal and fetal health.		coagulopathy. ▪ Outline management protocols for placenta previa, including pelvic rest, monitoring, and planning for C-section delivery if necessary. ▪ Highlight emergency management of abruptio placentae, including maternal stabilization, fetal monitoring, and deciding on delivery timing and mode. ▪ Discuss management of coagulopathy in pregnancy, including identifying causes, correcting coagulopathies, and preparing for delivery complications. ▪ Emphasize continuous monitoring and follow-up, including ultrasound evaluations and fetal monitoring. ▪ Educate patients on recognizing symptoms of complications and seeking timely care. ▪ Stress the importance of compassionate care and psychological support for women experiencing pregnancy complications. ▪ Provide guidelines on when to refer patients to higher-level care or specialist services. ▪ Emphasize the importance of documentation and maintaining accurate records. ▪ Use training methods such as presentations, case studies, and bedside learning to enhance understanding and skills.

Week 4	**Vaginal Bleeding in Early and Late Pregnancy, and Contraception** **Details of Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 5	Contraception: Postabortal IUCD and PPIUCD administration and Postpartum Contraception-Counselling: ▪ Highlight the importance of contraception counselling and options in the postpartum period. ▪ Guide trainees on the administration and removal of Postabortal intrauterine contraceptive devices (IUCD) and postpartum intrauterine contraceptive devices (PPIUCD). ▪ Discuss effective counselling techniques for postpartum contraception. ▪ Emphasize the importance of follow-up and monitoring for women using postpartum contraception.	▪ Presentation, ▪ case-studies (FP, PPIUCD), simulation (PPIUCD), ▪ bedside learning	▪ Provide information on the benefits and effectiveness of postpartum contraception, including Postabortal IUCD and PPIUCD. ▪ Discuss the timing and techniques for the insertion of Postabortal IUCDs and PPIUCDs. ▪ Facilitate hands-on training on the safe administration and removal of IUCDs. ▪ Highlight the importance of thorough counselling before IUCD insertion, including discussing potential side effects and benefits. ▪ Emphasize patient education on recognizing signs of complications and seeking timely medical care. ▪ Provide information on other postpartum contraceptive options, including hormonal and barrier methods. ▪ Stress the importance of follow-up visits to monitor IUCD placement and address any complications. ▪ Encourage involving partners in contraceptive counselling to support informed decision-making.

			▪ Provide guidelines on when and how to refer patients to higher-level care or specialist services if complications arise during the use of postpartum contraception. ▪ Emphasize the importance of documentation and maintaining accurate records of contraceptive counselling and procedures. ▪ Incorporate case studies and simulation practices to enhance practical understanding and application of PPIUCD and family planning concepts.

Week 4	**Vaginal Bleeding in Early and Late Pregnancy, and Contraception** **Details of Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 6	Weekly Feedback Session: At the end of each week, review trainee performance, discuss challenges faced to assess Trainees understanding of the subject.		

Week 4: Summary: Vaginal Bleeding in Early and Late Pregnancy, and Contraception

During Week 4, trainees focused on managing vaginal bleeding in both early and late pregnancy, as well as postpartum contraception.

Days 1-2: Facilitators covered the early identification and management of vaginal bleeding in early pregnancy, including abortions, ectopic pregnancy, and molar pregnancy. Emphasis was placed on differential diagnosis, management protocols, timely intervention, and providing compassionate care.

Days 3-4: The focus shifted to vaginal bleeding in late pregnancy, such as placenta previa, abruptio placentae, and coagulopathy. Sessions included diagnostic criteria, management strategies, and the importance of continuous monitoring and multidisciplinary care.

Day 5: Trainees learned about postpartum contraception, including the administration and removal of Postabortal IUCDs and PPIUCDs. The importance of effective counselling, follow-up, and patient education was stressed.

The week concluded with a feedback session to review performance, discuss challenges, and assess trainee understanding.

Week
05

Pre-term Labour, Normal Labour and Delivery, and Supportive Care

Week 5	**Pre-term Labour, Normal Labour and Delivery, and Supportive Care** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 1	Pre-term Labour and Premature Rupture of Membranes: ▪ Teach management of pre-term labour and premature rupture of membranes ▪ Providing tocolytic therapy for preterm labour	Obstetrician	▪ Emphasize the importance of monitoring and follow-up care for both mother and fetus. ▪ Discuss the potential complications of pre-term labour and PROM and their impact on maternal and fetal health. ▪ Guide trainees on the protocols for administering corticosteroids to enhance fetal lung maturity. ▪ Highlight the importance of infection prevention and management in cases of PROM. ▪ Stress the need for individualized care plans and timely intervention to optimize outcomes. ▪ Facilitators can use presentations during the session. ▪ Facilitate case studies to discuss scenarios and management of PROM. ▪ Supervise simulations and practice scenarios on pre-term labour and PROM management.

Week 5	**Normal Labour: Clinical Assessment and Management (Include Induction and Augmentation of Labour and Fetal distress)** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 2-3	Normal Labour: Clinical Assessment and Management (Include Induction and Augmentation of Labour and Fetal distress): ▪ Cover the stages of normal labour, including induction and augmentation of labour. ▪ Teach clinical assessment and management of labour. ▪ Emphasize the importance of fetal heart rate monitoring throughout the process. ▪ Discuss the role of mobility, nutrition, and support for women during labour.	Presentation, simulation (Induction and Monitoring during Labour), Case study Bedside learning Obstetrician	▪ Provide an overview of the stages of normal labour. ▪ Discuss clinical assessment techniques and management strategies during each stage of labour. ▪ Emphasize the importance of fetal heart rate monitoring to reduce birth asphyxia and early neonatal mortality. ▪ Outline protocols for induction and augmentation of labour. ▪ Highlight the role of mobility, nutrition, and support for women during different stages of labour. ▪ Stress the importance of continuous monitoring and timely decision-making to ensure maternal and fetal well-being. ▪ Discuss common interventions and their indications during labour. ▪ Emphasize individualized care and support to enhance the ▪ Facilitators can use presentations during the session. ▪ Facilitate simulations on induction, augmentation, and monitoring during labour. ▪ Conduct case study discussions on various scenarios related to labour management.

	▪ Highlight the importance of continuous monitoring and management.		▪ Oversee bedside learning to practice clinical assessment and management skills.

Week 5	**Normal Labour: Clinical Assessment and Management (Include Induction and Augmentation of Labour and Fetal distress)** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 4	Plotting of Partograph: ▪ Emphasize the significance of the Partograph in monitoring labour. ▪ Teach the proper techniques for plotting and interpreting the Partograph	Presentation, Case –Scenarios practice	▪ Provide an overview of the partogram and its components. ▪ Explain the significance of the Partograph in monitoring the progress of labour and identifying deviations from the normal ▪ Demonstrate the proper techniques for plotting key parameters, such as cervical dilation, fetal heart rate, uterine contractions, and maternal vital signs. ▪ Emphasize the importance of real-time monitoring and timely interventions based on Partograph findings. ▪ Highlight the role of the Partograph in improving maternal and fetal outcomes by facilitating early detection and management of labour complications ▪ Discuss common scenarios and how to use the Partograph to guide clinical decisions ▪ Stress the importance of regular updates and

	▪ Discuss the importance of real-time monitoring using the Partograph to ensure maternal and fetal well-being. ▪ Use case scenarios to practice and reinforce the use of the Partograph		accurate plotting to ensure the effectiveness of the Partograph ▪ Encourage a multidisciplinary approach involving obstetricians, midwives, and nursing staff in the use of the Partograph ▪ Facilitators can use presentations to introduce the Partograph and its significance. ▪ Facilitate hands-on simulations to practice plotting and interpreting the Partograph ▪ Conduct case study discussions on various scenarios where the Partograph was used for monitoring and decision-making. ▪ Oversee bedside learning to practice real-time monitoring and plotting on the Partograph during actual labour.

Week 5	**Normal Labour: Clinical Assessment and Management (Include Induction and Augmentation of Labour and Fetal distress)** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 5	Normal Delivery: Clinical Assessment and Management: ▪ Cover the clinical assessment and management of normal delivery, including the fourth stage of labour.	Presentation, Simulation, Case study, Bedside learning	▪ Provide an overview of the stages of normal delivery, including the fourth stage of labour. ▪ Discuss the clinical assessment and management techniques during each stage of delivery. ▪ Emphasize the importance of active management

	▪ Emphasize the importance of active management of the third stage of labour (AMTSL) and blood loss estimation to prevent postpartum hemorrhage (PPH). ▪ Mention essential newborn care and newborn resuscitation, newborn screening at birth, noting these are covered in detail in Newborn		of the third stage of labour to prevent PPH. ▪ Highlight the importance of accurately estimating blood loss after delivery and being prepared for PPH response. ▪ Mention essential newborn care practices, newborn screening at birth and newborn resuscitation, noting these topics will be covered in detail in Newborn. ▪ Stress the importance of continuous monitoring and support for the mother throughout the delivery process. ▪ Discuss the importance of communication and collaboration with the multidisciplinary team during delivery. ▪ Facilitators can use presentations to introduce the stages of normal delivery and key management techniques. ▪ Facilitate simulations to practice clinical assessment, management of normal delivery, and active management of the third stage of labour. ▪ Conduct case study discussions on various scenarios related to normal delivery and PPH management. ▪ Oversee bedside learning to practice real-time clinical assessment and management skills during delivery.

Week 5	**Normal Labour: Clinical Assessment and Management (Include Induction and Augmentation of Labour and Fetal distress)** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 6	Weekly Feedback Session: At the end of each week, review trainee performance, discuss challenges faced to assess Trainees understanding of the subject.		

Week 5 Summary: Pre-term Labour, Normal Labour and Delivery, and Supportive Care

During Week 5, trainees focused on the management of pre-term labour, normal labour and delivery, and supportive care practices.

Day 1: The session covered the management of pre-term labour and premature rupture of membranes (PROM). Facilitators emphasized risk factors, tocolytic therapy, infection prevention, and individualized care plans through presentations, case studies, and simulations.

Days 2-3: Trainees learned about the clinical assessment and management of normal labour, including induction and augmentation. The importance of fetal heart rate monitoring, maternal support, and timely interventions was highlighted through presentations, simulations, and case discussions.

Day 4: The significance of the Partograph in monitoring labour was emphasized. Trainees practiced plotting and interpreting the Partograph through case scenarios and simulations to ensure real-time monitoring and timely interventions.

Day 5: Focus was on the clinical assessment and management of normal delivery, including the fourth stage of labour. Active management of the third stage to prevent postpartum hemorrhage (PPH) and the importance of blood loss estimation were covered. Essential newborn care and resuscitation including newborn screening at birth were introduced, with detailed coverage planned for Newborn.

Day 6: The week concluded with a feedback session.

Week
06

Assisted Delivery and Post-Partum Care of Mother

Week 6	**Assisted Delivery and Post-Partum Care of Mother** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 1	Instrumental Delivery/ Ventouse and Outlet Forceps: ▪ Teach the indications, techniques, and clinical assessment for instrumental delivery using Ventouse and outlet forceps. ▪ Emphasize the importance of proper technique and safety in performing instrumental deliveries. ▪ Discuss the potential complications and management strategies associated with instrumental deliveries.	Presentation, simulation	▪ Provide an overview of the indications for instrumental delivery, including maternal and fetal indications. ▪ Discuss the selection criteria for using Ventouse versus outlet forceps. ▪ Demonstrate the proper techniques for applying Ventouse and outlet forceps, including positioning and traction. ▪ Emphasize the importance of fetal heart rate monitoring and maternal assessment during instrumental delivery. ▪ Discuss the potential complications of instrumental delivery, such as trauma to the mother and baby, and how to manage these complications. ▪ Highlight the importance of informed consent and communication with the patient and family.

			▪ Stress the need for a multidisciplinary approach, involving obstetricians, nurses/ midwives, and Pediatricians, to ensure the safety and effectiveness of instrumental deliveries. ▪ Facilitators can use presentations to introduce the principles and techniques of instrumental delivery using Ventouse and outlet forceps. ▪ Facilitate simulations to practice the application and management of Ventouse and outlet forceps deliveries, focusing on technique and safety. ▪ Oversee bedside learning to practice real-time application and clinical assessment skills during instrumental deliveries.

Week 6	**Assisted Delivery and Post-Partum Care of Mother** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 2	Prolonged/Obstructed Labour, Breech, Transverse Lie, Shoulder Presentation, Twins, Prolapsed Cord: ▪ Teach the identification and management of prolonged/ obstructed labour and various	Presentation, Simulation, Case studies, Bedside Learning	▪ Provide an overview of prolonged/obstructed labour, including its causes, diagnosis, and management. ▪ Discuss the identification and management of breech presentation, , including external cephalic version (ECV) and delivery techniques.

	malpresentations, including breech, transverse lie, shoulder presentation, twins, and prolapsed cord. ▪ Emphasize the importance of timely intervention and appropriate management strategies to ensure maternal and fetal well-being ▪ Discuss potential complications and emergency management techniques ▪ Prepare trainees for referral and life-saving support when necessary		▪ Explain the management of transverse lie and shoulder presentation, highlighting the importance of diagnosis and appropriate delivery methods. ▪ Outline the management of twin pregnancies, including monitoring, delivery planning, and potential complications. ▪ Discuss the identification and emergency management of a prolapsed cord, emphasizing the need for immediate intervention to prevent fetal hypoxia. ▪ Emphasize the importance of continuous fetal heart rate monitoring and maternal assessment during labour. ▪ Highlight the significance of a multidisciplinary approach, involving obstetricians, nurses/ midwives, and Pediatricians, to manage these conditions effectively. ▪ Stress the need for proper documentation and communication with the patient and family throughout the process. ▪ Ensure protocols are in place for timely referral and life-saving support when required. ▪ Facilitators can use presentations to introduce the principles and techniques for managing prolonged/obstructed labour and various malpresentations.

			▪ Facilitate simulations to practice the management of breech, transverse lie, shoulder presentation, twins, and prolapsed cord scenarios, focusing on technique and safety. ▪ Oversee bedside learning to practice real-time identification and management skills during labour

Week 6	**Assisted Delivery and Post-Partum Care of Mother** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 3	Episiotomy and Its Care: ▪ Teach the indications, techniques, and clinical assessment for performing an episiotomy. ▪ Guide trainees on the proper care and management of episiotomies post-delivery. ▪ Discuss potential complications and strategies for prevention and management.	Presentation, simulation, bedside learning	▪ Provide an overview of episiotomy, including its purpose and indications. ▪ Discuss the anatomical landmarks and proper techniques for performing an episiotomy. ▪ Emphasize the importance of pain management and comfort measures during and after the procedure. ▪ Outline the steps for suturing and ensuring proper healing of the episiotomy wound. ▪ Highlight the importance of infection prevention, including hygiene and wound care practices.

			▪ Discuss potential complications, such as infection, excessive bleeding, and delayed healing, and how to manage them. ▪ Emphasize the need for patient education on episiotomy care, including signs of infection and when to seek medical attention. ▪ Highlight the importance of follow-up visits to monitor healing and address any complications. ▪ Ensure protocols are in place for timely referral and life-saving support if complications arise. ▪ Facilitators can use presentations to introduce the principles and techniques of performing and caring for an episiotomy. ▪ Facilitate simulations to practice the techniques of performing an episiotomy and suturing. ▪ Conduct case study discussions on various scenarios related to episiotomy care and management. ▪ Oversee bedside learning to practice real-time application and clinical assessment skills during and after the procedure.

Week 6	**Assisted Delivery and Post-Partum Care of Mother** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 4	Post-partum Care: ▪ Teach the principles and practices of comprehensive post-partum care. ▪ Guide trainees on monitoring and managing common post-partum complications. ▪ Emphasize the importance of emotional and psychological support for new mothers. ▪ Discuss strategies for educating new mothers on self-care and newborn care. ▪ Highlight the importance of follow-up visits and care for preterm and low birth weight babies.	▪ Presentation, simulation, ▪ Case study ▪ Bedside learning ▪ Obstetrician	▪ Provide an overview of the post-partum period and its significance for maternal and newborn health. ▪ Discuss the common physical and emotional changes that occur during the post-partum period. ▪ Highlight the importance of regular monitoring for post-partum complications, such as haemorrhage, infection, and thromboembolic disorders. ▪ Outline the protocols for managing common post-partum complications and when to refer to higher-level care. ▪ Emphasize the importance of breastfeeding support, including techniques, benefits, and addressing common challenges. ▪ Discuss the role of nutrition and hydration in post-partum recovery. ▪ Highlight the importance of emotional and psychological support, including recognizing signs of post-partum depression and anxiety. ▪ Provide strategies for educating new mothers on self-care practices, including perineal care, pain management, and recognizing signs of complications.

			▪ Emphasize the importance of newborn care education, including feeding, bathing, wrapping & covering of newborn and sleep practices. ▪ Birth dose immunization and administration of Vitamin K to the newborns. ▪ Discuss the specific care needs of preterm and low birth weight babies, including temperature regulation, feeding support, Kangaroo Mother Care (KMC) and monitoring for complications. ▪ Stress the need for follow-up visits to monitor the health of both mother and baby and provide ongoing support. ▪ Educate new mothers on recognizing danger signs in both themselves and their babies, such as excessive bleeding, fever, signs of infection, and feeding difficulties. ▪ Facilitators can use presentations to introduce the principles and practices of post-partum care. ▪ Facilitate simulations to practice managing common post-partum complications and providing support to new mothers. ▪ Conduct discussions on various post-partum care scenarios using case-studies to reinforce learning ▪ Oversee bedside learning to practice real-time application of post-partum care techniques and monitoring.

Week 6	**Assisted Delivery and Post-Partum Care of Mother** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 5	Puerperal Pyrexia and Puerperal Sepsis: ▪ Teach the identification, management, and prevention of puerperal pyrexia and puerperal sepsis. ▪ Emphasize the importance of early diagnosis and timely intervention to prevent complications. ▪ Discuss strategies for educating new mothers on recognizing symptoms and seeking timely medical care	▪ Presentation, ▪ Bedside learning.	▪ Provide an overview of puerperal pyrexia and puerperal sepsis, including definitions and causes. ▪ Highlight the risk factors and common pathogens associated with puerperal sepsis. ▪ Discuss the clinical presentation and diagnostic criteria for puerperal pyrexia and puerperal sepsis. ▪ Emphasize the importance of early diagnosis through regular monitoring of maternal vital signs and clinical assessment. ▪ Outline the management protocols, including antibiotic therapy, fluid management, and supportive care. ▪ Highlight the importance of infection prevention strategies, such as hygiene practices and proper wound care. ▪ Discuss the potential complications of untreated puerperal sepsis, including septic shock and organ failure. ▪ Emphasize the need for a multidisciplinary approach involving obstetricians, midwives, and infectious disease specialists.

			▪ Provide strategies for educating new mothers on recognizing symptoms of infection and seeking timely medical care. ▪ Stress the importance of follow-up visits to monitor recovery and address any ongoing concerns. ▪ Facilitators can use presentations to introduce the principles and practices of managing puerperal pyrexia and puerperal sepsis. ▪ Facilitate simulations to practice identifying and managing cases of puerperal pyrexia and sepsis. ▪ Conduct discussions on various scenarios related to puerperal infections to reinforce learning. ▪ Oversee bedside learning to practice real-time identification, management, and patient education skills.

Week 6	**Assisted Delivery and Post-Partum Care of Mother** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Obstetrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 6	Weekly Feedback Session: At the end of each week, review trainee performance, discuss challenges faced to assess Trainees understanding of the subject.		

Week 6 Summary: Assisted Delivery and Post-Partum Care of Mother

During Week 6, trainees focused on assisted delivery techniques and comprehensive post-partum care.

Day 1: The session covered instrumental delivery using Ventouse and outlet forceps. Facilitators emphasized indications, techniques, safety, and managing complications through presentations and simulations.

Day 2: The focus was on managing prolonged/obstructed labour and various malpresentations, such as breech, transverse lie, shoulder presentation, twins, and prolapsed cord. Trainees learned identification, management strategies, and the importance of timely intervention through simulations and case studies.

Day 3: The session addressed episiotomy, including indications, techniques, and post-procedure care. Emphasis was placed on infection prevention, managing complications, and patient education through presentations and bedside learning.

Day 4: Post-partum care principles were covered, including monitoring for complications, providing emotional support, educating new mothers on self-care and newborn care, and emphasizing follow-up visits, especially for preterm and low birth weight babies.

Day 5: The focus was on identifying and managing puerperal pyrexia and puerperal sepsis. Trainees learned about early diagnosis, management protocols, and educating new mothers on recognizing symptoms and seeking timely care.

Day 6: The week concluded with a feedback session to review trainee performance, discuss challenges, and assess understanding

Week
07

Care of Newborn

Week 7	**Care of Newborn** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Paediatrician**		
Day	Title with Facilitator Objectives	Methodology and Suggested Trainer	Key Points for Facilitators
Day 1	Pre-term and Low Birth Weight (LBW) Babies & Post-natal Care of Neonate (Especially LBW and Pre-term): ▪ Teach the early identification, management, and post-natal care of pre-term and low birth weight (LBW) babies. ▪ Emphasize the importance of early intervention and specialized care to improve outcomes (includes identification of preterm labour case and administration of ANCs)	Presentation, Bedside learning	▪ Provide an overview of the definitions, causes, and risk factors associated with pre-term and low birth weight babies. ▪ Highlight the importance of early identification of preterm labour cases and administration of antenatal corticosteroids (ANCs) ▪ Highlight the importance of early identification and assessment of these babies including thermal care and nutritional support. ▪ Discuss the clinical management and monitoring protocols, such as temperature regulation, respiratory care, and infection prevention. ▪ Emphasize the role of kangaroo mother care (skin-to-skin contact and exclusive breastfeeding) for temperature regulation, increased breastfeeding rate, bonding, better weight gain and overall well-being.

	▪ Discuss strategies for educating parents on the care, monitoring, and recognition of danger signs in pre-term and LBW infants. ▪ Highlight the importance of regular follow-up visits to monitor growth, development, and overall health.		▪ Discuss common complications like birth asphyxia, respiratory distress syndrome, jaundice, infections, and feeding difficulties, along with their management. ▪ Outline protocols for assessment of the newborns, monitoring vital signs, growth parameters, and developmental milestones. ▪ Highlight the multidisciplinary team's role, including neonatologists, paediatricians, nurses, and nutritionists, in providing comprehensive care. ▪ Educate parents on recognizing danger signs such as difficulty breathing, poor feeding, lethargy, and signs of infection, and stress the importance of seeking timely medical care. ▪ Emphasize the need for regular follow-up visits and the importance of vaccinations and other preventive measures. ▪ Facilitators can use presentations to introduce the principles and practices of managing and caring for pre-term and low birth weight babies, both in the immediate post-natal period and beyond. ▪ Oversee bedside learning to practice real-time identification, management, and parent education skills.

Week 7	**Care of Newborn** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Paediatrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 2	Essential Newborn Care(ENBC): ▪ Teach the principles and practices of essential newborn care to ensure the health and well-being of newborns. ▪ Emphasize the importance of immediate and ongoing care for newborns. ▪ Highlight the importance of recognizing and responding to danger signs in newborns	Presentation, Bedside learning Paediatrician	▪ Provide an overview of essential newborn care and its significance in improving newborn health outcomes. ▪ Discuss the components of immediate newborn care, including delayed cord clamping, thorough drying, clearing the airway if required, skin-to-skin contact, and early initiation of breastfeeding. ▪ Emphasize thermal care, resuscitation when needed, and support for breast milk feeding. ▪ Highlight infection prevention measures and proper cord care. ▪ Discuss the protocols for newborn screening and early detection of congenital conditions. ▪ Stress the importance of monitoring and maintaining the newborn's temperature, especially in low birth weight and preterm babies. ▪ Highlight the role of kangaroo mother care (skin-to-skin contact and exclusive breastfeeding) in promoting bonding, thermal regulation, improving breastfeeding rate and adequate weight gain.

			▪ Discuss the signs of common newborn problems, such as birth asphyxia, jaundice, difficulty breathing, poor feeding, and how to address them. ▪ Emphasize the importance of regular follow-up visits to monitor the newborn's growth, development, and health. ▪ Educate parents on delivery of newborn at mothers abdomen, essential newborn care practices, recognizing danger signs, and seeking timely medical care. ▪ Facilitators can use presentations to introduce the principles and practices of essential newborn care. ▪ Facilitate simulations to practice immediate and ongoing newborn care techniques. ▪ Oversee bedside learning to practice real-time application of essential newborn care practices and parental education.

Week 7	**Care of Newborn** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Paediatrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 3	Newborn resuscitation (NRP): ▪ Teach the principles	Simulation	▪ Provide an overview of

	principles and steps of newborn resuscitation according to ▪ the Neonatal Resuscitation Program (NRP) guidelines. ▪ Emphasize the importance of timely and effective intervention to improve neonatal outcomes. ▪ Discuss strategies for ensuring team readiness and coordination during resuscitation.		the Neonatal Resuscitation Program (NRP) and its significance in neonatal care. ▪ Discuss the initial steps of newborn resuscitation, including warmth provision, position, airway clearance if needed, and stimulation. ▪ Emphasize the assessment of heart rate and breathing as critical steps in determining the need for further intervention. ▪ Outline the procedures for positive pressure ventilation (PPV), chest compressions, and administration of medications. ▪ Highlight the importance of continuous monitoring and reassessment during resuscitation. ▪ Discuss common complications and their management during the resuscitation process. ▪ Emphasize the role of teamwork, communication, and leadership during resuscitation efforts. ▪ Identification and prompt referral of asphyxiated newborn to the newborn care unit. ▪ Provide strategies for debriefing and reviewing resuscitation events to improve future performance. ▪ Stress the need for ongoing training and skill maintenance for all team members involved in newborn resuscitation. ▪ Facilitate simulations to practice resuscitation techniques and team coordination.

Week 7	**Care of Newborn** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Paediatrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 4	Continuous Positive Airway Pressure (CPAP) – 1 day-training program: ▪ Teach the principles and application of CPAP in neonatal care. ▪ Emphasize the importance of CPAP in managing respiratory distress in neonates. ▪ Discuss strategies for monitoring and troubleshooting CPAP therapy	▪ Presentation, ▪ Simulation/ OSCE ▪ Bedside learning	▪ Provide an overview of early initiation of CPAP therapy and its significance in neonatal respiratory support. ▪ Discuss the indications for CPAP use, including respiratory distress syndrome and other breathing difficulties. ▪ Explain the components of the CPAP system and their functions. ▪ Demonstrate the proper technique for applying CPAP, including fitting the nasal prongs and securing the headgear. ▪ Emphasize the importance of maintaining proper pressure settings and humidification. ▪ Highlight the need for continuous monitoring of the infant's respiratory status, oxygen saturation, and overall condition. ▪ Discuss potential complications of CPAP therapy, such as nasal injury, gastric distension, and air leaks, and how to manage them. ▪ Provide strategies for troubleshooting common issues with CPAP therapy.

	Inserting and Securing the Orogastric Tube (OGT) in Newborns on CPAP Note: CPAP set up and administration, follow up is 1-day training program. The facilitator can refer to the detail in Annexure.		▪ Demonstrate the proper technique for inserting and securing the OGT to manage gastric distension and ensure effective feeding while on CPAP. ▪ Stress the importance of parental education and support when their infant is receiving CPAP therapy. ▪ Highlight the role of a multidisciplinary team in the effective management of CPAP therapy. ▪ Facilitators can use presentations to introduce the principles and application of CPAP. ▪ Identification of signs of CPAP failure and further course of action or referral of the newborn to the newborn care unit. ▪ Facilitate simulations to practice the application and management of CPAP therapy.

Week 7	**Care of Newborn** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Paediatrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 5	Breastfeeding Support and Lactation Management (esp. in Mothers of Preterm or Low Birth Weight (LBW) Babies): ▪ Highlight the importance of breastfeeding esp. for preterm and LBW babies, focusing on benefits and challenges ▪ Provide strategies to initiate and maintain lactation, addressing common issues like latching and milk supply ▪ Teach to support mothers in SNC/ MNCU/NICU including educating on expressing milk and managing stress		▪ Highlight the importance of exclusive breastfeeding till 6 months of age for growth, immunity, and meeting nutritional needs. ▪ Address issues like poor position and latching (attachment), low milk supply, and frequent feeding, common breast conditions. ▪ Provide techniques for initiating and maintaining lactation, including pumping and managing stress. ▪ Emphasize the role of skin-to-skin contact and supporting milk expression. ▪ Offer guidance on latching, expressing, and storing breast milk. ▪ Educate parents on recognizing hunger cues and ensuring successful breastfeeding. ▪ Stress the importance of collaboration with healthcare professionals for comprehensive support.

Week 7	**Care of Newborn** **Afternoon Session (2:00 pm - 4:00 pm)** **Facilitator : Paediatrician**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 6	Weekly Feedback Session: At the end of each week, review trainee performance, discuss challenges faced to assess Trainees understanding of the subject.		

Week 7 Summary: Care of Newborn

During Week 7, trainees focused on comprehensive care for newborns, particularly pre-term and low birth weight (LBW) babies.

Day 1: The session covered the identification and management of pre-term and LBW babies. Facilitators emphasized early intervention, specialized care, and parental education on monitoring and recognizing danger signs.

Day 2: Trainees learned about Essential Newborn Care (ENBC), including immediate and ongoing care practices, infection prevention, and recognizing danger signs. Parental education was highlighted.

Day 3: The focus was on newborn resuscitation (NRP). Trainees practiced resuscitation techniques and team coordination through simulations.

Day 4: Post-natal care for neonates, particularly LBW and pre-term infants, was discussed. Emphasis was placed on Kangaroo Mother Care, thermal care, nutritional support, infection prevention, and parental education.

Day 5: Continuous Positive Airway Pressure (CPAP) therapy was covered, with trainees learning its application, monitoring, and troubleshooting through presentations and simulations.

Day 6: The week concluded with a feedback session.

Week
08

PPH and Obstetric Surgeries

Week 8	PPH and Obstetric Surgeries		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 1	PPH and its management (includes Bimanual Compression of Uterus, Abdominal Aortic Compression and Manual Removal of Placenta): ▪ Teach the identification and management of PPH ▪ Guide trainees on performing bimanual compression of the uterus, abdominal aortic compression, and manual removal of the placenta. ▪ Emphasize the importance of timely intervention and multidisciplinary teamwork to manage PPH effectively.	Presentation, simulation, Case study discussion, Bedside learning	▪ Provide an overview of PPH, including its causes, risk factors, and clinical presentation. ▪ Emphasize the importance of early identification and rapid response to PPH. ▪ Demonstrate the technique of bimanual compression of the uterus to control bleeding. ▪ Explain the procedure for abdominal aortic compression as an emergency measure. ▪ Discuss the steps and precautions for the manual removal of the placenta. ▪ Highlight the importance of uterotonic drugs in the management of PPH. ▪ Discuss the role of fluid resuscitation, blood transfusion, and other supportive measures in managing severe PPH. ▪ Emphasize the importance of monitoring vital signs and ongoing assessment of blood loss. ▪ Highlight the need for proper documentation and

			communication with the healthcare team and the patient's family. ▪ Stress the significance of debriefing and reviewing PPH cases to improve future responses. ▪ Facilitators can use presentations to introduce the principles and techniques of PPH management ▪ Facilitate simulations to practice bimanual compression, abdominal aortic compression, and manual removal of the placenta ▪ Conduct discussions on various PPH scenarios to reinforce learning using case studies

Week 8	**PPH and Obstetric Surgeries**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 2	Operative Care Principles: ▪ Teach the fundamental principles of operative care in obstetrics. ▪ Guide trainees on preoperative, intraoperative, postoperative care, and discharge planning.	Presentation, simulation, Case study discussion, Bedside learning	▪ Provide an overview of key principles of operative care, including aseptic techniques, patient positioning, and anesthesia considerations. ▪ Discuss preoperative assessment and preparation, including informed consent, patient education, and fasting guidelines. ▪ Highlight intraoperative management, including sterile techniques, instrument handling, and maintaining

	▪ Emphasize the importance of patient safety and effective communication within the surgical team.		hemodynamic stability. ▪ Explain steps for common obstetric surgical procedures, such as c-sections and operative deliveries. ▪ Emphasize continuous monitoring and timely interventions during surgery to manage complications. ▪ Discuss postoperative care principles, including pain management, wound care, and monitoring for complications like infection and thrombosis. ▪ Highlight discharge planning, including patient education on wound care, activity restrictions, and signs of complications. ▪ Stress the importance of follow-up care to monitor recovery and address any ongoing concerns. ▪ Emphasize effective communication and teamwork among the surgical team. ▪ Facilitators can use presentations to introduce the principles and practices of operative care.

Week 8	**PPH and Obstetric Surgeries**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 3	C-Section: ▪ Teach the indications,	Presentation, simulation,	▪ Provide an overview of the indications for a C-section,

	techniques, and clinical assessment for performing a C-section. ▪ Guide trainees on preoperative, intraoperative, and postoperative management specific to C-sections. ▪ Emphasize the importance of patient safety and effective communication within the surgical team.		including maternal and fetal indications. ▪ Discuss preoperative assessment and preparation, including informed consent, patient education, and fasting guidelines. ▪ Explain the steps involved in performing a C-section, including anesthesia, incision types, and delivery of the baby. ▪ Emphasize sterile techniques, proper instrument handling, and maintaining hemodynamic stability during the procedure. ▪ Highlight the importance of monitoring fetal heart rate and maternal vital signs throughout the surgery. ▪ Discuss postoperative care principles, including pain management, wound care, and monitoring for complications such as infection and thrombosis. ▪ Highlight the importance of discharge planning, including patient education on wound care, activity restrictions, and signs of complications. ▪ Stress the importance of follow-up care to monitor recovery and address any ongoing concerns. ▪ Emphasize effective communication and teamwork among the surgical team. ▪ Include direct observation of cases in the operating theater (OT) and assisted observation to enhance learning.

Week 8	PPH and Obstetric Surgeries		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 4	Repair of Perineal and Cervical Tear: ▪ Teach the identification and repair techniques for perineal and cervical tears. ▪ Guide trainees on preoperative, intraoperative, and postoperative management specific to perineal and cervical tear repairs. ▪ Emphasize the importance of patient safety, effective communication, and meticulous surgical technique.	Presentation, simulations	▪ Provide an overview of perineal and cervical tears, including their causes, classification, and clinical presentation. ▪ Discuss the importance of thorough assessment and accurate diagnosis of the extent of tears. ▪ Explain the steps involved in repairing perineal and cervical tears, including anesthesia, suture materials, and techniques. ▪ Emphasize the importance of maintaining a sterile field and proper tissue handling to prevent infection and ensure optimal healing. ▪ Highlight the importance of postoperative care, including pain management, wound care, and monitoring for complications such as infection or dehiscence. ▪ Stress the importance of patient education on perineal and cervical tear care, including hygiene practices and signs of complications. ▪ Discuss the role of follow-up visits to monitor healing and address any ongoing concerns. ▪ Facilitate simulations to practice repair techniques and postoperative care.

Week 8	PPH and Obstetric Surgeries		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 5	Postpartum Sterilization/ Minilap tubal ligation: ▪ Teach the principles and techniques of postpartum sterilization using minilap tubal ligation. ▪ Guide trainees on preoperative, intraoperative, and postoperative management specific to minilap tubal ligation. ▪ Emphasize the importance of patient counselling, informed consent, and effective surgical techniques.	Simulation	▪ Provide an overview of postpartum sterilization and minilap tubal ligation, including indications and contraindications. ▪ Discuss the importance of thorough preoperative assessment and patient counselling to ensure informed consent. ▪ Explain the steps involved in performing minilap tubal ligation, including anesthesia, incision techniques, and tubal occlusion methods. ▪ Emphasize the importance of maintaining a sterile field and proper surgical technique to prevent infection and ensure successful outcomes. ▪ Highlight the importance of postoperative care, including pain management, wound care, and monitoring for complications such as infection or bleeding. ▪ Stress the importance of patient education on postoperative care, activity restrictions, and signs of complications.

			▪ Discuss the role of follow-up visits to monitor recovery and address any ongoing concerns. ▪ Include direct observation of minilap tubal ligation procedures in the operating theatre (OT) and assisted observation to enhance learning.

Week 8	**PPH and Obstetric Surgeries**		
Day	Title with Facilitator Objectives	Methodology	Key Points for Facilitators
Day 6	Weekly Feedback Session: At the end of each week, review trainee performance, discuss challenges faced to assess Trainees understanding of the subject.		

Week 8 Summary: PPH and Obstetric Surgeries

During Week 8, trainees focused on managing postpartum haemorrhage (PPH) and various obstetric surgeries.

Day 1: The session covered PPH identification and management, including bimanual compression, abdominal aortic compression, and manual removal of the placenta. Emphasis was on early intervention, multidisciplinary teamwork, and timely management strategies.

Day 2: Trainees learned operative care principles, covering preoperative, intraoperative, and postoperative care, with an emphasis on patient safety and effective communication.

Day 3: The focus was on C-section procedures, including indications, techniques, and comprehensive perioperative management. Trainees observed and assisted in the operating theatre.

Day 4: The session addressed the identification and repair of perineal and cervical tears. Emphasis was on meticulous surgical techniques, patient safety, and postoperative care.

Day 5: Postpartum sterilization using minilap tubal ligation was discussed. Trainees learned about preoperative assessment, surgical techniques, and patient counselling.

Day 6: The week concluded with a feedback session

Week

09–15

Rotational Duty in Labour Room, Operation Theatre, Wards, and SNCU/MNCU

Facilitator Objectives:

Ensure trainees apply skills learned in previous weeks

Monitor completion of observed and assisted case work as outlined on pages 19-20 of the operational plan

Guide trainees to independently manage routine and some complicated cases

Discuss night duty placements with trainees and create a schedule

Proposed Weekly Routine from Week 10 onwards: Week-by-Week Focus

Week	Area	Key Activities	Facilitator Objectives
Weeks 10 -11	Labour Room	Manage normal and complicated deliveries. Proper documentation and follow-up care.	Oversee trainees managing normal and complicated deliveries. Ensure proper documentation and follow-up care.
Weeks 12-13	Operation Theatre	Perform surgical procedures. Postoperative care and surgical notes documentation.	Facilitate trainees in performing surgical procedures. Supervise postoperative care and surgical notes documentation.
Week 14-15	Emergency Triage & Response Area	Rapid assessment, triage, and management of obstetric emergencies. Proper documentation and communication.	Guide trainees in rapid assessment, triage, and management of obstetric emergencies. Ensure proper documentation and communication.

Day 6 of Each Week	Weekly Feedback Session	Conduct feedback sessions, provide constructive feedback, and document progress.	Review trainee performance, discuss challenges faced to assess understanding.
Week 16	Summary/Recap and Evaluation	Consolidate knowledge and skills. Engage in self-reflection and preparation. Conduct practical and theoretical evaluations.	Consolidate knowledge and skills acquired during training. Engage in self-reflection and preparation for independent practice. Conduct practical and theoretical evaluations.

Week
17–20

Posting at District Hospital

Facilitator Objectives:

- Monitor trainee activities via weekly individual/group calls.
- Provide feedback and guidance based on trainee reports.
- Conduct one physical visit to ensure adherence to protocols.

Week-by-Week Focus

Week	Area	Key Activities	Facilitator Objectives
Week 17	Labour Room and Maternity Ward	Monitor labour management and patient documentation. Conduct mentor feedback sessions. Supervise normal and complicated deliveries.	Monitor labour management and patient documentation through weekly calls. Provide feedback and guidance during one physical visit. Ensure trainees conduct normal and complicated deliveries independently.
Week 18	Emergency Department and SNCU/MNCU/ NICU	Conduct emergency response drills. Oversee neonatal care practice. Evaluate real-time case management and follow-up.	Oversee emergency response drills and neonatal care practices remotely. Evaluate real-time case management and follow-up during weekly calls.
Weeks 19-20	Surgical Theatre and Postoperative Care	Supervise surgical procedures. Postoperative care. Ensure accurate surgical notes documentation.	Supervise surgical procedures and postoperative care through remote communication. Ensure accurate documentation and case record updates during physical visits.

Week

21-22

Posting at First Referral Unit

Facilitator Objectives:

- Monitor high-risk labour management and emergency obstetric and newborn care remotely.
- Provide guidance and support during weekly calls.

Week-by-Week Focus

Week	Area	Key Activities	Facilitator Objectives
Weeks 21-22	Labour Room, Emergency Triage, and Response Area, OT	High-risk labour management. Emergency obstetric and newborn care. Guidance and support during weekly calls. Conduct physical visit for evaluation and feedback.	Monitor high-risk labour management and emergency obstetric and newborn care remotely. Provide guidance and support during weekly calls. Conduct one physical visit to evaluate and provide feedback on performance.

Week
23–24

Posting at District Hospital

Facilitator Objectives:

- Facilitate case presentations and peer discussions.
- Conduct mentor feedback sessions remotely during weekly calls.

Week-by-Week Focus

Week	Area	Key Activities	Facilitator Objectives
Weeks 23-24	Case presentations from DH and FRU	Facilitate case presentations. Conduct peer discussions. Provide mentor feedback sessions. Guide practice on self-identified gaps.	Facilitate case presentations and peer discussions during weekly calls. Conduct mentor feedback sessions remotely. Guide trainees in addressing self-identified gaps during physical visits.

Beyond 24 Weeks: On-going Support and Follow-up

- Regular refresher courses, peer support groups, and online resources to reinforce learning and ensure continuous improvement.
- Regular mentorship and follow-ups to monitor trainee progress and address challenges in professional practice.

Annexures

Comprehensive View of Simulation Exercises and Required Items

Note for the Facilitators

Each session is designed to be conducted with a Facilitator to Trainee ratio of 1:4. This ensures that every trainee gets hands-on experience and personalized attention during skill demonstrations and reverse demonstrations. In scenarios where more than one simulation session is scheduled on the same day, and additional facilitators are available, concurrent sessions can be conducted to maximize learning opportunities. Emphasis should be placed on skill demonstration according to the provided checklist, followed by reverse demonstrations by the trainees to reinforce learning.

Facilitators should also incorporate self-learning practice sessions and peer-led practice sessions into the training schedule. These sessions allow trainees to practice independently or with their peers, enhancing their skills through repetition and collaboration. Self-learning sessions enable trainees to review and practice at their own pace, while peer-led sessions encourage teamwork and mutual learning.

The below table provides an overview of titles and sub-titles along with the simulation exercises for this course work. The items required to conduct each session has also been listed.

Week	Sessions	Facilitator Objectives
Week 1	Overview of Maternal and Neonatal Mortality, Respectful Care, Gender and Routine Antenatal Care - MMR NMR - Gender and Respectful Care - Infection Prevention Practices - Routine Antenatal Care	
Week 2	Special Care during Pregnancy - Gestational Diabetes Mellitus (GDM) - Bad Obstetric History - Hyperemesis Gravidarum - Anaemia during Pregnancy	IV/IM Iron Administration (includes calculation of dosage, monitoring during administration and Follow up)

	- Fever during Pregnancy, Malaria and UTI - HIV Infection in Pregnancy & PPTCT - Hypothyroidism	
Week 3	Rapid Initial Assessment (RIA) and Hypertensive Disorders of Pregnancy - Rapid Initial Assessment (RIA), Triage & Management of Shock - Fluid Therapy and Blood Transfusion - Gestational Hypertension - Pre-eclampsia - Eclampsia - Chronic Hypertension	Little Anne/CPR manikin (adult) - 1, Female catheterization manikins - 1, Adult IV arm manikins - 1, Suction apparatus with accessories - 1, Blood transfusion sets - 1, Oral airway - 1, Catheterization sets - 1, Foley's catheters (16 & 18) - 1 each, Syringes (10ml) - 2, Lignocaine jelly - 1, Urobags - 1, Adult ambu bags and masks - 1, Blanket - 1, Guedel airway - 1, IV set - 2, Sterile gloves - 2 pairs, Bottle of Ringer lactate - 2, Bottle of Normal saline - 2, Large SS tray - 4 As above IM Injection manikin - 1, Ampoules of Inj 50% MgSO4 - 10, Syringes (10ml syringe and 22G needle) - 2, Alcohol/ spirit swabs in a bowl, Colour coded waste disposal bins - 3, Kidney tray - 1, Knee hammer - 1, Stethoscope - 1, BP Apparatus - 1, Catheterization set - 1, Ampoule of 10% Calcium gluconate - 1, Large SS tray - 1, Sterile gloves - 5 pairs
Week 4	Vaginal Bleeding in Early and Late Pregnancy, and Contraception - Abortions - Ectopic Pregnancy - Molar Pregnancy - Placenta Previa - Abruptio Placentae - Coagulopathy - PPIUCD Administration and Removal - Postpartum Contraception-Counselling	Mama Natalie - 1, Long surgical gloves - 5 pairs, Catheter - 1, IV stands - 1, Sterile cotton swabs - 1 pack, Blood concentrates - 1 unit, Large SS trays - 1, PPES - 5 sets, Blood sample collection containers - 2, Alcohol swabs - 4 Zoe model with postpartum uterus - 1, Copper 375 or 380 A - 5 pcs, PPIUCD Forceps - 1, Sim's speculum - 1, Sponge holding Forceps - 1, Sterile swabs - 1 pack, Sterile bowl - 2, Kidney tray - 1, Betadine solution - 1, Large SS tray - 1 As above

Week 5	Pre-term Labour, Normal Labour and Delivery, and Supportive Care - Pre-term Labour and Premature Rupture of Membranes - Clinical Assessment and Management of Normal Labour - Induction and Augmentation of Labour - Fetal distress - Plotting of Partograph	Cervical dilatation models - 1, Sterile gloves - 5 pairs, Small size bowls with lids - 4, Containers of antiseptic solution - 1, Sponge holders - 2, Plastic tubs (12-inch diameter at base) for 0.5% Chlorine Solution - 1, Colour coded waste disposal bins - 5 sets, Waste bins - 4, Kidney trays - 1, Bowl for cotton swabs - 1, Child birth simulators - 1, Mama Natalie - 1, Drape sheets (to cover mother) - 4, Kelly's pads with inflating bulb - 1, V drape - 1, Measuring plastic mugs - 1, Delivery trays (Scissor 1, Artery forceps 2, Speculum 1, Urinary catheter, Kidney tray, Gauze pieces) - 1 set, Pre-warmed clean towels - 2, Normal saline - 2 bottles, Inj. Oxytocin (to be kept in fridge) - 1 vial
Week 6	Assisted Delivery and Post-Partum Care of Mother - Instrumental Delivery (Ventouse and Outlet Forceps) - Prolonged/Obstructed Labour - Breech, Transverse Lie, Shoulder Presentation, Twins, Prolapsed Cord - Episiotomy and Its Care - Post-partum Care - Puerperal Pyrexia - Puerperal Sepsis	Lucy and Lucy's Mum manikin - 1, Wrigley's forceps - 1, Vacuum equipment - 1, Foley's catheter - 1, Stethoscope - 1, Lubricating gel - 1 Obstetric Phantom - 1, Doll - 1, Lubricating oil - 1, Foley's catheter - 1, Vacuum Pump - 1, Vacuum Cup - 1, Normal delivery articles - 1 set As above Episiotomy suturing manikin - 1, Inj. Xylocaine 2% - 1 vial, Disposable syringe with needle (10 ml) - 1, Episiotomy scissor - 1, Artery forceps - 1, Allis forceps - 1, Sponge holding forceps - 1, Toothed forceps - 1, Thumb forceps - 1, Kidney tray - 1, Needle holder - 1, Needle (round body and cutting) - 1, Chromic catgut no. 0 - 1, Gauze pieces - 1 pack, Cotton swabs - 1 pack, Antiseptic lotion - 1, Gloves - 1 pair

Week 7	Care of Newborn	KMC gown - 1, Reclining chair - 1, Neonatalie manikin - 1, Cap - 1, Socks - 1 pair, Diaper - 1, Blanket - 1, Mittens - 1 Neonatal manikin - 1, Towels - 2, Cord clamp - 1, ID band - 1, Scissors - 1, Cap - 1, Weighing machine - 1, Syringe - 1, Needle - 1, Injection of vitamin K - 1
	Pre-term and Low Birth Weight (LBW) Babies & Post-natal Care of Neonate (Especially LBW and Pre-term) Essential Newborn Care (ENBC) Newborn Resuscitation (NRP) Breastfeeding Support and Lactation Management in Mothers of Preterm or Low Birth Weight (LBW) Babies Continuous Positive Airway Pressure (CPAP)	Suction Machine (electrical/foot operated) - 1, Neonatal Probe - 1, NRP Manikin - 1, Disposable Suction Catheter - 1, Oxygen Cylinder Spanner/ Key - 1, Humidifier - 1, Stethoscope (neonatal) - 1, Paediatric Ambu bag - 1, Mask Size (0 & 1) - 1 each, Radiant Warmer - 1, Mucus Extractor - 2, Shoulder Roll - 1, Pre Warmed Towel - 2 Baby Manikin - 1, CPAP Machine - 1, CPAP Circuit - 1, CPAP Mask (various sizes) - 1 set, Humidifier - 1, Filters - 1, Headgear (various sizes) - 1 set, Pressure Relief Valve - 1, Oxygen Cylinder - 1, Air-Oxygen Blender - 1, Flow Meter - 1, Bubble Chamber - 1, Distilled Water Bottle - 1, Nasal Prongs (various sizes) - 1 set, Orogastric Tube (OGT) - 1, Suction Catheter - 1, Syringe (5ml/10ml) - 1 set, Tape (Tegaderm/ Micropore) - 1 roll, Scissors - 1, Safety Pins - 1 set, Rubber Bands - 1 set, Gloves (sterile) - 1 box.

Week 8	PPH and Obstetric Surgeries - PPH and its Management (Bimanual Compression of Uterus, Abdominal Aortic Compression, Manual Removal of Placenta) - Operative Care Principles - C-Section	PPH Simulation Manikin (Mama Natalie) - 1, BP Apparatus - 1, Stethoscope - 1, IV RL – 500 ml - 1, IV set - 1, IV cannula (16, 18, 20 & 22 size) - 1 each, IV syringe (2, 5 & 10 ml + needle) - 1 each, Inj. Oxytocin - 1 vial, Surgical Gloves (Long) - 2 pairs, Catheter (Foleys and Plain) - 1, Sterile cotton swabs - 1 pack, Bowl for cotton swabs - 1, Povidone iodine solution (in a bowl) - 1, IV stand - 1, Bucket for 0.5% chlorine solution - 1, Adhesive tape - 1, PPE - 5 sets, Hub cutter - 1 (as available in labour room), Colour Coded Waste disposal bin - 4 (as available in the cabins), Uro bag - 1, Blood Concentrate - 1 bottle, Tourniquet - 1 Sponge holding forcep - 1, Green Armytage forceps - 4, Curved artery forceps - 6, Straight artery forceps - 6, Allis forceps medium & large - 4 each, Babcock forceps - 2, Toothed forceps - 2, Non toothed forceps - 2, Needle holder - 1, Klik clamp - 4, Suction tip - 1, Tissue cutting scissor - 1, Bp handles - 2, Towel clip - 4, Doyen retractor - 1, Morris retractor - 1, Deavers retract hysterectomy set - 1, Green Armytage force, Inj ergometrine - 1, Inj oxytocin - 1, Umbilical cord cutting scissors - 1, Cord clamp - 1

		Scalpel - 1, Scissors - 1, Needle Holder - 1, Needles - 1, Hemostats - 1, Allis Forceps - 1, DeBakey Forceps - 1, Surgical Sponge - 1, Cervical Dilators - 1, Surgical Suction Device - 1, Retractor - 1, Balfour Retractor - 1, Heaney Retractor - 1, Sutures - 1, Suture Needle - 1, Sterile Gloves - 1, Sterile Drapes and Towels - 1, Sterile Solutions - 1, Local Anaesthetic - 1, Haemostatic Agents - 1
	- Repair of Perineal and Cervical Tear - Postpartum Sterilization (Minilap Tubal Ligation)	Scalpel - 1, Scissors - 1, Needle Holder - 1, Needles - 1, Hemostats - 1, Allis Forceps - 1, DeBakey Forceps - 1, Surgical Sponges - 1, Laparotomy Retractors - 1, Richardson Retractor - 1, Deaver Retractor - 1, Suction Device - 1, Tissue Graspers - 1, Bipolar Electrocautery Device - 1, Surgical Drapes and Towels - 1, Sterile Gloves - 1, Sterile Solutions - 1, Sutures - 1, Suture Needle - 1, Local Anaesthetic - 1, Haemostatic Agents - 1, Sterile Dressing - 1

Annexures- Week wise Facilitator Checklists to Facilitate Simulation Sessions (for Demonstration and Reverse Demonstration Purpose)

Week 7:
CPAP Checklist - One-Day CPAP Training Guide

This guide is designed for a one-day CPAP training session with a single facilitator and four trainees. The training will include classroom sessions covering theoretical aspects and simulations, followed by a practical demonstration in the NICU for real-time CPAP application.

1. Preparation for CPAP Session Before Start of Training

Materials Required: Classroom Session: Laptop, projector, screen.

Simulation Equipment: Baby Manikin - 1, CPAP Machine stand - 1, CPAP Circuit including bubble chamber- 1, Humidifier (preferably with autofill mechanism) - 1, Headgear (various sizes) - 1 set each, central manifold/Oxygen Cylinder and air compressor - 1, Air-Oxygen Blender - 1, Flow Meter - 1, Infant nasal tubing (various sizes)- 1 set each, Sterile Water Bottle (500 ml)- 2, Nasal Prongs (various sizes) - 1 set each, Nasal Mask (various sizes) - 1 set each, Orogastric Tube (5 Fr., 6 Fr) – 1 set each, Suction Catheter - 1, Syringe (5ml/10ml) - 1 set each, Scissors - 1, Safe ty Pins - 1 set, Rubber Bands - 1 set, Gloves (sterile) - 1 box.

SNCU/MNCU/NICU Session: Real-time CPAP setup in SNCU/MNCU/**NICU**. Access to a baby requiring CPAP (if available) or observation of ongoing CPAP therapy.

Instructions for Facilitator:

- Prepare the classroom with all necessary materials, ensuring the equipment is functional.
- Pre-set all skill stations in the classroom for simulations.
- Coordinate with **SNCU/MNCU/NICU** staff to arrange access for trainees to observe and participate in the real-time CPAP demonstration.

2. Overview of CPAP Therapy

Objective: To provide an overview of CPAP therapy and its significance in neonatal respiratory support.

Instructions for Facilitator:

- Begin the session with an overview of CPAP therapy, emphasizing its role in neonatal care.
- Explain how CPAP helps to maintain positive airway pressure, preventing alveolar collapse during end expiration, and improving oxygenation in infants with respiratory distress.

Note: Refer to the table below for a detailed protocol on how to initiate, titrate, and wean CPAP in different indications.

3. Indications and Contraindications to Introduce CPAP

Indications:

- Respiratory distress syndrome (RDS)
- Apnea of prematurity
- Transient tachypnea of the newborn
- Early onset sepsis presenting with respiratory distress
- Post extubation in preterm VLBW babies
- Pneumonia with respiratory failure
- Meconium Aspiration Syndrome

Note: Those showing signs of respiratory distress. The therapy should be started immediately upon identification of respiratory issues to prevent alveolar collapse and improve oxygenation

Contraindications:

- Choanal atresia
- Cleft palate
- Tracheo - oesophageal fistula (Including type C)
- Congenital diaphragmatic hernia
- Severe cardiovascular instability (includes Hypotension requiring a second inotrope)

4. Components of the CPAP System and Their Functions

Objective: To explain the components of the CPAP system and their specific functions.

Instructions for Facilitator:

- Walk trainees through each component of the CPAP system, including the CPAP machine, air-oxygen blender, flow-meter, circuit, humidifier, bubble chamber and pressure relief valve.
- Discuss the function of each component and how they work together to deliver effective CPAP therapy.

5. Step-by-Step Clinical Guide to Administer CPAP

Instructions for Facilitator:

- Demonstrate the setup and initiate CPAP using simulation.
- Demonstrate how to monitor a baby on CPAP, discussing the importance of each parameter and complications.
- Discuss about follow up care and weaning process.
- Discuss troubleshooting common issues and solutions.

Note: *Refer to the table below for a detailed protocol on how to initiate, titrate, and wean CPAP in different indications.*

5a. How to set-up a bubble CPAP

1. Connect the air and oxygen tubing (either central manifold or from air compressor and oxygen cylinder, respectively): Ensure the air and oxygen are connected to the blender to achieve the desired oxygen concentration.
2. Set the flow using flowmeter (usually at 5-8 L/min) and the FiO2 at 30% (Titrate the FiO2 to maintain SpO2 between 91-95%). It is critical to set the initial FiO2 at 30% and titrate it to maintain the SpO2 between 91-95%, ensuring effective oxygenation and avoiding complications related to hypoxia or hyperoxia.
3. Set up the inspiratory limb from the flowmeter to the humidifier and from the humidifier to the patient end (e.g. infant nasal tubing).
4. Fill sterile water in the humidifier by inserting the connecting tubing attached with the humidifier to the sterile water, attach the heater wire and the temperature probe in their respective colour coded slots, and switch it 'ON' to humidify the gases to 37°C: Humidifying the gases to 37°C is essential to maintain airway mucosa integrity and prevent damage to lung tissues, ensuring the comfort and safety of the infant.
5. Set up the expiratory limb from patient end (e.g. infant nasal tubing) to the bubble chamber filled with sterile water and maintain the correct water level to ensure effective functionality. Immerse it under water up to the required depth. Occlude the patient end of the ventilator circuit with your palm and observe if bubbling occurs in the water chamber - If there are no bubbles.
6. Test the System:

- Check for bubbling in the bubble chamber by occluding the patient end with your palm
- If bubbling occurs, the CPAP device is ready for use. If no bubbling occurs, verify all connections and look for any leak in the circuit; if no leak is found, increase the flow by 1 L/min and recheck.

5b. Initiation of CPAP

1. Measure for prong/mask size using the nose guide supplied in each packet. While selecting prongs it is important to select appropriate size so as to snugly fit into the nasal cavity (does not completely occlude the nares) and have appropriate inter-nares distance. The biggest nasal prong, that comfortably fits the nostril, should be used. After selecting the appropriate size prong/mask connect it to the infant nasal tubing.
2. Measure the cap size from the middle of the forehead, around the head to the nape of the neck and then back to the middle forehead. **DO NOT** use a "head circumference" measurement to determine cap size. Place the cap onto the infant's head, checking that the ears are in a normal position. Ensure the cap is pulled well down over the ears and down to the nape of the neck.
3. Apply a skin friendly sticking tape and a small elongated piece of cotton on overlying skin of septum and thereafter place the nasal mask/prong to the nostrils.
4. Attach pulse oximeter
5. Set the initial CPAP pressure at 5-6 cm H2O, as it is fundamental for effective CPAP therapy.
6. Monitor bubbling in the bubble chamber and adjust flow to maintain consistent bubbling. There should be just enough continuous bubbling in the bubble chamber seen both during inspiration and expiration phases of respiration. For a given set pressure, increasing the flow rate of the gases will cause an increase in the delivered pressure of CPAP. So while changing the CPAP pressures on a given patient, the flow rate of the gases must be kept constant.

5c. Clinical Monitoring

1. Continuous monitoring of vital signs, including heart rate, respiratory rate, and oxygen saturation (SpO2), and respiratory distress scoring (Downes or Silverman Andersen, as applicable) should be done continuously. Adjustments to CPAP pressure and FiO2 may be necessary based on respiratory distress scoring and SpO2 readings, respectively.
2. Increase CPAP pressure in steps of 1-2 cm H2O based on respiratory distress scoring, up to a maximum of 7-8 cm H2O. Increase FiO2 in 5% increments as needed, up to a maximum of 80%.
3. For apnea of prematurity, note that increasing CPAP pressure beyond 5 cm H2O may not provide additional benefit.

Note: *Regular evaluation of respiratory status is required as pulmonary air leaks (PAL) can occur when oxygen requirements are decreasing due to improvement in the lung compliance, particularly, when the CPAP pressures are not reduced.*

Clinicians should assess the infant's work of breathing and overall clinical status frequently. Signs of deterioration may necessitate re-evaluation of the need for CPAP or consideration for intubation.

4. X-ray chest – X-ray chest is NOT a must but if performed may be helpful to assess lung inflation. 6 to 8 spaces on the CXR is adequate inflation. If <6 - increase PEEP, and if >8 decrease in PEEP. In case of sudden deterioration, one needs to rule out pneumothorax.

5. Perform ABG, as indicated
6. Neurological status: Assess tone, activity, and responsiveness
7. Nursing care:

- Insert the Orogastric tube. The open end of Orogastric tube should be kept open always if the open end is kept above the level of the baby or if the baby is kept NPO. However, if the open end of Orogastric tube is kept at the level of the baby then it should be opened 30 minutes after the feeds till next feeding (i.e. for 90 minutes, if the baby is fed 2 hrly), to constantly deflate it with the excess gas that enters it during CPAP.
- PFAG (pre-feed abdominal girth) charting every 2 hours: Monitor bowel sounds and abdominal girth to detect CPAP belly.
- Perform gentle nasal suction as and when required.
- Change the baby's position frequently and check the skin condition for any redness and erosions.

8. Complications

Watch for potential complications such as pneumothorax, nasal septal injury*, CPAP belly, agitation, and reduced cardiac output due to decreased venous return. Cardiac output may decrease due to increased intrathoracic pressure and reduced right ventricular stroke volume. These effects can be minimized by ensuring the CPAP pressure is set optimally. Immediate intervention may be required if these occur.

*Discuss 3 stages of Nasal septal injury:

Stage I: erythema not blanching, on an otherwise intact skin

Stage II: superficial ulcer or erosion, with partial thickness skin loss

Stage III: necrosis and full thickness skin loss

5d. Weaning Process

- When to wean- Increase CPAP pressure in steps of 1-2 cm H2O based on respiratory distress scoring, up to a maximum of 7-8 cm H2O. Increase FiO2 in 5% increments as needed, up to a maximum of 80%.
- For apnea of prematurity, note that increasing CPAP pressure beyond 5 cm H2O may not provide additional benefit.

The below table provides snapshot of protocol of three common conditions respiratory distress, apnea of prematurity and Post-extubation for CPAP initiation, titration and weaning.

Table: Protocol for initiation, titration, and weaning of CPAP for three conditions

To guide trainees on how to initiate, make adjustments based on clinical monitoring, and when and how to initiate weaning

Settings	Respiratory distress	Apnea of prematurity
How to initiate? ▪ Pressure ▪ FiO2	▪ Start at 5 cm H2O. ▪ 30% titrated based on target SPO2 (90-95%)	▪ Start at 4-5 cm H2O. ▪ 21% titrated based on target SPO2 (90-95%)
What to change if there is no improvement? ▪ Pressure ▪ FiO2	▪ Increase in steps of 1-2 cm H2O based on respiratory distress scoring upto a maximum of 7-8 cm H2O. ▪ Increase in steps of 5% to maintain the target SPO2 upto a maximum of 80%	▪ Increase upto 5 cm H2O (further increase is not warranted as it may lead to hyperinfaltion ▪ Increase doesn't help much
Failure of CPAP	Worsening respiratory distress scores (SAS/ Downes) and/or Progressive respiratory failure with PaCO2 > 60 mmHg and/ or inability to maintain oxygenation (SPO2<90%) despite the CPAP pressure of 8 cm H2O and FiO2 ≥ 80%	Recurrent episodes of apnea requiring tactile stimulation or positive pressure ventilation
Weaning from CPAP ▪ When to wean ▪ How to wean	▪ When there is no respiratory distress and the SPO2 is maintained in the target range for at least 24 hrs on the same CPAP setting. ▪ Reduce FiO2 in steps of 5% till <25% and thereafter reduce the CPAP pressure in steps of 1 cm H2O till 4-5 cm H2O	▪ When there is no apnea for at least 24 hrs on the same CPAP setting ▪ Same as for respiratory distress

5e. Troubleshooting Common Issues and Solutions

No Bubbling in Bubble Chamber:

- Check for air leaks in the circuit or at the interface
- Ensure that the nasal prong/mask is in-situ and it is snugly fitted inside the nares
- Ensure the water level in the bubble chamber is correct. Confirm that the water level matches the recommended depth to maintain proper CPAP pressure.

- Verify that the flow meter is set correctly and functioning. If the issue persists, check the connections and adjust the flow rate gradually (increase by 1 L/min) to troubleshoot.

Agitated baby:

- Minimal handling
- Inspect for the position of nasal prong/mask
- Check for any nasal secretion
- Check for the timing of the feeding

Condensation in the inspiratory limb:

- Heater wire is not working
- Room temperature is too low
- Distal part of the circuit is outside the warmer

Inadequate Pressure or Oxygenation:

- Optimise CPAP pressure prior to adjusting fio2, if SpO2 is below 91%
- If pressure is adequate but oxygenation is still low, increase FiO2 cautiously. Ensure that FiO2 adjustments maintain SpO2 between 91-95% to prevent hyperoxia while improving oxygenation.

9. Inserting and Securing the Orogastric Tube (OGT) in Newborns on CPAP

The administration of an OGT is crucial for newborns on CPAP because it helps prevent CPAP belly, allows for proper feeding, and facilitates medication administration. Proper insertion and securement of the OGT are essential to ensure the safety and comfort of the newborn, as well as the effectiveness of the CPAP therapy.

Steps:

- Place the baby's head in a neutral position
- Measure the distance from the angle of the mouth to the tragus of the ear, and then to halfway between the xiphisternum and the umbilicus.
- Gently insert the OGT into the baby's mouth to the pre-measured length
- Use appropriate tape to secure the OGT to the baby's chin
- Confirm the placement by listening for a gurgling sound over the abdomen after introducing a small amount of air through the tube.

Instructions for Facilitator:

- Demonstrate the correct method of inserting and securing the OGT in the classroom
- Ensure trainees practice the procedure and understand the importance of correct placement and securement.

10. Parental Education and Support

Objective: To stress the importance of involving and educating parents during CPAP therapy to ensure they understand the treatment and can provide the necessary support.

Instructions for Facilitator:

- Explain the CPAP process to parents, including its purpose and benefits
- Provide information on what parents can expect and how they can support their baby during CPAP therapy.
- Emphasize the importance of maintaining calm and reassuring the parents during the process.

11. Role of the Multidisciplinary Team in CPAP Therapy

Objective: To highlight the importance of a collaborative approach in managing CPAP therapy.

Instructions for Facilitator:

- Discuss the roles of different team members, including neonatologists, nurses, respiratory therapists, and others involved in neonatal care.
- Emphasize the importance of communication and coordination among team members to ensure the best outcomes for the baby.
- Encourage trainees to work collaboratively and respect the expertise of each team member.

12. Case Study Discussions

Objective: To apply the knowledge gained during the session to real-life clinical scenarios.

Instructions for Facilitator:

Facilitate an interactive discussion in the classroom, encouraging trainees to analyze and respond to each case. Use the NICU setting to relate the case studies to real-time observations, enhancing understanding.

Note: *Detailed case studies are given below for further reference during the session.*
Annexure.

Case Studies: Each case study will guide trainees through the decision-making process, monitoring, adjustments, and potential complications during CPAP therapy.

Case Study I: Baby A, 31 weeks of gestation with respiratory distress post-delivery.

Case Study II: Baby B, 30 weeks GA with signs of respiratory distress and a history of PPROM.

Case Study III: Baby C, 30 weeks GA developing recurrent apneas.

1. Case Study I: Baby A

Background:

Baby A, 31 weeks of gestation and weighing 1.4kg at birth, was born by emergency LSCS due to antepartum hemorrhage (placenta previa). The mother was a Gravida 2, received supervised antenatal care, and placenta previa was diagnosed two weeks prior to delivery. The mother received antenatal steroids, with the last dose administered 12 hours before delivery.

Clinical Scenario:

- The baby required initial steps followed by bag and mask ventilation for 30 seconds. Within a few minutes, the baby developed respiratory distress with retractions (Silverman score: 4) and SpO2 of 88% on room air. CRT and temperature were normal.

Discussion Points:

1. Management:

- Discuss the management options, including the choice between CPAP and oxygen therapy.
- Initiate CPAP at 6 cm H2O with FiO2 at 30%, titrating as needed.

2. Feeding:

- Feeds should be started from the beginning as the baby is hemodynamically stable.

3. Imaging:

- CXR showed 6 spaces with reticulo-granularity and air bronchogram. Discuss the utility of X-ray and decision-making for surfactant administration (InSurE approach).
-

4. Progress:

- At 8 hours of life, the baby is on CPAP with a pressure of 6 cm H2O, FiO2 50%, and flow of 5 L/min. Mild retractions and good air entry are noted. Discuss next steps, including FiO2 reduction and weaning.

5. Weaning from CPAP:

- Discuss the process of weaning the baby off CPAP at 48 hours of life.

6. Nursing Role:

- Prone positioning, monitoring for apnea, ensuring asepsis, and maintaining adequate nutrition and DSC (Developmentally Supportive Care).

2. Case Study II: Baby B

Background:

Baby B, 30 weeks gestational age, female, weighing 1.33 kg, was born to a Gravida 2 mother by emergency LSCS due to preterm premature rupture of membranes (PPROM). The mother received one course of antenatal steroids, with the last dose given 8 days before delivery. Baby B cried immediately at birth with Apgar scores of 6 and 8 at 1 and 5 minutes, respectively.

Clinical Scenario:

- At 1 hour of age, Baby B exhibited signs of respiratory distress, including a respiratory rate of 65/min, grunting, retractions, flaring of ala nasi, and decreased air entry bilaterally. SpO2 was 80% on room air, and the baby was euthermic. ABG showed pH 7.12, PaCO2 58.4, PaO2 45, HCO3 12.2, and SBE -10.

Discussion Points:

1. Initial Management:

- TABC (temperature, airway, breathing, circulation), sepsis workup, and initiation of CPAP at 5-6 cm H2O with FiO2 at 30%.

2. Sepsis Considerations:

- Discuss the role of antibiotics in PPROM and the criteria for starting antibiotics in asymptomatic and symptomatic neonates.

3. Imaging:

- CXR showed 6 spaces on the right side and 7 spaces on the left side with bilateral infiltrates. Discuss the likely diagnosis (pneumonia) and management adjustments.

4. Progress:

- After 4 hours on CPAP, Baby B had decreased chest retractions with SpO2 of 96%. Discuss the appropriate adjustments, including FiO2 reduction.

5. Critical Changes:

- At 16 hours of life, Baby B exhibited poor perfusion, requiring assessment for hypovolemia and possible saline bolus. Discuss the steps for further management.

6. CPAP Failure:

- Discuss the criteria for CPAP failure and the indications for escalating respiratory support.

3. Case Study III: Baby C

Background:

Baby C, 30 weeks of gestation, weighing 1.2 kg, was born via LSCS. The baby cried soon after birth and was well for 50 hours, receiving expressed breast milk by Orogastric (OG) tube. The baby then started having recurrent apneas that initially responded to tactile stimulation but later increased in frequency, leading to a heart rate of 160/min and SpO2 of 86%.

Clinical Scenario:

- Baby C was started on CPAP at 4 cm H2O with FiO2 < 25% and caffeine citrate. OG feeds were continued as long as there was no evidence of feed intolerance.

Discussion Points:

1. Initial Management:

- Discuss the importance of caffeine citrate for apnea of prematurity and the initial CPAP setup.

2. Assessment:

- After 2 hours, Baby C again had apnea with SpO2 of 80%. Discuss the steps to assess CPAP adequacy, including checking the interface, temperature, color, perfusion, and SpO2.

3. Progress:

- After 68 hours, the baby's SpO2 improved to 93%. Discuss the approach for FiO2 reduction and gradual weaning from CPAP.

4. Weaning from CPAP:

- Baby C is stable and apnea-free for 24 hours. Discuss the gradual reduction of PEEP and weaning from CPAP.

5. Ongoing Management:

- Continue caffeine until 34 weeks gestation or until the baby has been apnea-free for one week, whichever comes first.

Additional Reading Resources

List of Gender Resources

1. https://reproductive-health-journal.biomedcentral.com/articles/10.1186/1742-4755-11-59.
2. https://eeca.unfpa.org/sites/default/files/pub-pdf/vulnerable%20groups%20book%0.pdf.
3. https://www.unfpa.org/sites/default/files/pub-pdf/srh%for%disabilities.pdf.
4. https://www.paho.org/hq/dmdocuments/2010/Reaching%20Poor%20and%20Vulnerable%20Adolescents%20with%20SRH%Part2.pdf.
5. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6935099/.
6. Facility Based Newborn Care training Module, MoHFW, GoI

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- Cook, D. A., Hatala, R., Brydges, R., Zendejas, B., Szostek, J. H., Wang, A. T., ... & Hamstra, S. J. (2012). Technology-enhanced simulation for health professions education: a systematic review and meta-analysis. JAMA, 306(9), 978-988.
- McGaghie, W. C., Issenberg, S. B., Cohen, E. R., Barsuk, J. H., & Wayne, D. B. (2014). Does simulation-based medical education with deliberate practice yield better results than traditional clinical education? A meta-analytic comparative review of the evidence. Academic Medicine, 89(5), 706-711.
- Sambunjak, D., Straus, S. E., & Marušić, A. (2010). A systematic review of qualitative research on the meaning and characteristics of mentoring in academic medicine. Journal of Continuing Education in the Health Professions, 30(1), 15-18.

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