Daksh Skills Lab

For RMNCH+A Services

Training Manual for Participants

Pleasure to inaugurate Skills Lab (Daksh) which is certainly a class example of a training centre. Sky best wishes to all the trainers and trainees.

J.P.Nadda
Hon'ble Union Minister of Health and Family Welfare
Government of India

Today I had the privilege of inauguration of the Skills Lab at LHMC. The trainers explained in great detail the process of hands on training. I was really impressed by the quality of training. I am sure that it would go a long way in reducing MMR & IMR in the country.

B.P. Sharma
Secretary, Ministry of Health & Family Welfare
Government of India

I have been closely associated with the establishment of Skills Lab for the past two years. In true sense, it has culminated into a Centre of Excellence for promoting quality of health care under the ambit of RMNCH+A. This will surely help ending the preventable maternal & newborn death in the country.

Dr Rakesh Kumar
Joint Secretary (RCH), Ministry of Health & Family Welfare
Government of India

Daksh has transitioned from being a novel initiative to an end result that I am proud of. I am privileged to have been associated with this path breaking project and the absolutely amazing team that made it possible.

Dr Dinesh Baswal
Deputy Commissioner, Maternal Health

It was a pleasure for me to have visit this lab and learnt about the services it is providing for the community. I wish you all the success.

Saud Alsafi
Ambassador of Saudi Arabia

I visited the Skills Lab on 28/8/2015. I am very impressed to learn new skills.

Marton Eleas
Private Secretary
Ministry of Health and Social Welfare, Zambia

It was very educative.

Dr. Buni
The Minister Emerine Kabanshi
Ministry of Community Development
Mother & Child Health, Zambia

Well organised structure.

Dr. Nay Aunglinn, Dr. May Sandi
Honb Aang Technicial Advisor MNCH, Jhpiego, Myanmar

So nice to see your Skills Lab and hear of the work. Great will share/send our experience from Cambodia.

Jerker Liljestrand
Reproductive Health Expert
Gates Foundation, Cambodia

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GOVERNMENT OF INDIA
MINISTRY OF HEALTH & FAMILY WELFARE
NIRMAN BHAVAN, NEW DELHI - 110011

Preface

Delivering quality healthcare in a timely manner through public health facilities is one of the main goals of the National Health Mission (NHM). For this to happen, it is of paramount importance to augment the knowledge and skills of health professionals to deliver quality services in essential maternal and newborn healthcare practices.

Periodic assessment and enhancement of the competencies of ANMs and staff nurses who form the pillars of quality healthcare services is critical for achieving NHM goals. It is essential that opportunities for reorientation and reinforcement of knowledge and skills should be inbuilt in the health system so that the health professionals are updated regularly.

The decision to create and operationalize skills labs and undertake training and assessment of these workers who are providing RMNCH + A services in the public health institutions is a major step taken by the Government of India.

Many states have now established standalone skills labs in the country and are now initiating the training for their health workers. This participant's manual brought out by the Maternal Health Division will be a job aid which will help healthcare providers to comply with the training requirements for acquiring key RMNCH + A skills.

I am sure that this manual will provide comprehensive resource material to learn key RMNCH + A skills and improve the quality healthcare services.

C.K. Mishra

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Foreword

Improving maternal and newborn health services in the country has been the focus of the Government of India for the last decade. It is well known that quality of care provided at the time of child birth has strong influence on maternal and newborn mortality and morbidity. The quality of care is highly dependent upon the skill of health workers and the enabling environment at health facilities.

As part of the Government of India's commitment to ensure availability of quality services through public health institutions, the National Health Mission has introduced a competency based training and certification programme to be implemented through skills laboratories. Skills labs will provide a platform for augmentation of the skills of health personnel involved in the delivery of RMNCH + A services across public health institutions. Until now, the Government of India has established five national skills labs 'Daksh' in Delhi and the NCR region. At the state level, 30 standalone skills labs have been established. Additionally, 188 MCH wings have been approved across the country which have inbuilt skills labs.

The programme will cover the training requirements of auxiliary nurse midwives, staff nurses, medical officers and obstetricians serving in high caseload public health facilities. Standardized skill stations comprising of quality mannequins, pedagogy and Objective Structured Clinical Examinations (OSCE) will be an integral part of this training and these have been explained in detail in this manual.

The Maternal Health Division has done a commendable job coming out with this participant's manual which deals with skills checklists, powerpoint presentations, FAQs and other reading material.

I am confident that this participant manual will be useful for trainees as a job aid to acquire key RMNCH + A skills during their training.

Dr. Rakesh Kumar

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Program Officer's Message

Ensuring the quality of services in public health facilities is one of the most important mandates under the National Health Mission. To achieve this, it is important that service providers working at health facilities are proficient in the skills necessary to provide better quality services at health facilities particularly with reference to pregnant women, mothers and newborns. At present, pre-service teaching and in-service training are largely focused upon knowledge and provides limited opportunities for practicing the necessary skills. Therefore, there is a need to create a simulated environment for practicing upon mannequins before the trainees are allowed to manage cases independently.

The operational guidelines on skills labs disseminated to the states helped in operationalizing standardized skills stations across the country. The participant manual has been developed to guide trainees on how to undertake the training as envisaged in the operation guidelines.

The participant's manual elaborates session plans, giving details of skills checklists, powerpoint presentations, FAQs and other suggested reading material.

The initiative and guidance of Shri C.K. Mishra, AS and MD, NHM, GoI has helped us in the preparation of this participant's manual for skills labs. I would also like to thank Dr. Rakesh Kumar, JS (RCH), MoHFW for his constant technical and administrative support in the development of this participant's manual.

I would like to acknowledge the support given by the expert group which consisted of Dr. Bulbul Sood, JHPIEGO; Dr. Poonam Shivkumar, MGIMS; Dr. Sushama Nangia, LHMC; Dr. Pratima Mittal, Safdarjung Hospital; Dr. Abha Singh, LHMC; Dr. Rashmi Asif, JHPIEGO; Dr. Manju Chuggani, Rufaida College of Nursing, Jamia Hamdard; Dr. Malalay Ahmadzai, UNICEF; Dr. Ritu Agrawal, LSTM; and K.S. Prasanth, NHSRC; for their technical inputs.

I must also acknowledge the state experts particularly Dr. Aboli Gore, Vision Performance Unit; Dr. Archana Mishra, Government of MP; and Dr. C Ravichandran, MMC, Chennai; all of whom participated in the deliberations and gave their valuable inputs.

I also appreciate the contributions of Dr. P.K. Prabhakar, DC(CH) and Dr. Renu Srivastava, Consultant (CH) for their active contributions in framing these guidelines. The technical and programmatic support given by Dr. Pushkar Kumar, Dr. Rajeev Agarwal, Dr. Tarun Singh Sodha and Ms. Jenita Khwairakpam, Consultants in the Maternal Health Division helped in the finalizing of the participant's manual.

It is my earnest request that all the State Mission Directors and Programme Officers take a personal initiative in operationalization of skills labs in order to ensure that service providers have a platform for harnessing their skills for provision of quality RMNCH + A services.

Dr. Dinesh Baswal

Acknowledgements – Liverpool School of Tropical Medicine

The curriculum and manual for the skills-based training in Reproductive, Maternal, Newborn, Child and Adolescent Services (RMNCH + A) have been developed after extensive consultation and with the help of many experts based both in India and the United Kingdom. I wish to thank them all for their dedication and for their honest appraisal of the content of the manual and advice on what works well in 'real-life settings' (and what does not!).

The overall aim was to ensure that the recommended practices included in this manual to support Facilitators, Master Trainers and Participants of Skills Lab-based training are evidence-based, woman- and baby-friendly and in line with the essential interventions that need to be in place to reduce reproductive, maternal, newborn and child mortality and morbidity and promote reproductive health.

The traditional model of learning clinical skills in medicine has largely used apprenticeship, with skills acquisition generally being obtained via supervised patient contact. While Skills Lab-based training is not a substitute for apprenticeship or experience, incorporating this as part of clinical training has a number of advantages. Simulation or 'skills-and-drills' based training accommodates the different learning styles of participants, helps diminish the gap between theory and practice and may allow for a better integration of theoretical concepts. 'Skills-and-drills'-based training has been shown to be more effective than lectures and classroom-based training only, especially when the skills-and-drills training is provided as 'on-the-job' or in-service training. Simulation-based training is safe and means there is no longer a need to 'learn on the patient'.

A number of conditions in a Skills Lab that facilitate learning have been identified: provision of feedback, opportunity to practice skills repeatedly, a wide variety of tasks and range of difficulty in the practice sessions and scenarios offered and encouragement of active participation and teamwork during the training wherever possible. This curriculum is designed to enable facilitators of training to create and support these conditions.

This RMNCH + A training manual is an expansion of the earlier skills-based training manual for Basic Emergency Obstetric Care developed with the Government of India under the Making it Happen programme funded jointly by the Government of India and the Department of International Development – UKAID.

The aim of the Making it Happen programme is to increase availability and quality of Skilled Birth Attendance and Emergency Obstetric Care and Early Newborn Care.

Within the context of the Making it Happen programme in India, the Centre for Maternal and Newborn Health at the Liverpool School of Tropical Medicine is working in partnership with the Government of India and participating institutes in the setting up and organization of Skills Labs across India and in training Master Trainers who will be delivering and coordinating the training in these Skills Labs. This is complemented by supportive supervision and monitoring and evaluation for effectiveness of the approach.

Professor Nynke van den Broek

Centre for Maternal and Newborn Health, Liverpool School of Tropical Medicine


SKILLS
LAB

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List of Abbreviations

ANC	Ante Natal Care
ANM	Auxiliary Nurse Midwife
ANMTC	Auxiliary Nurse Midwife Training College
AMSTL	Active Management of Third Stage of Labour
BCA	Breathing Circulation Airway
BEmOC	Basic Emergency Obstetric Care
BMW	Bio Medical Waste
CAB	Circulation, Airway, Breathing
CHC	Community Health Centre
CMHO	Chief Medical Health Officer
CMO	Chief Medical Officer
CTI	Central Training Institute
DH	District Hospital
DC	Deputy Commissioner
DEO	Data Entry Operator
DNO	District Nodal Officer
DPM	District Programme Manager
DPMU	District Programme Management Unit
EDD	Expected Date of Delivery
EmOC	Emergency Obstetric Care
ENBC	Essential New Born Care
FHS	Fetal Heart Sound
FRU	First Referral Unit
GO	Government Order
GoI	Government of India
HLD	High Level Disinfection
I/C	In Charge
IMEP	Infection Management & Environmental Plan
KMC	Kangaroo Mother Care
LAM	Lactation Amenorrhoea Method
LHV	Lady Health Visitor
LR	Labour Room
MCP Card	Mother Child Protection Card
MDI	Metered Dose Inhaler
MO	Medical Officer
MoHFW	Ministry of Health and Family Welfare
MVA	Manual Vacuum Aspiration
NBCC	New Born Care Corner
NHSRC	National Health Systems Resource Centre
NIHFW	National Institute of Health and Family Welfare
NRHM	National Rural Health Mission
NRP	Neonatal Resuscitation Programme
NSV	Non-Scalpel Vasectomy
Obs/ Gyn	Obstetrician and Gynecologist
ORS	Oral Rehydration Salt
OSCE	Objective Structured Clinical Examination
PHC	Primary Health Centre
PIP	Project Implementation Plan
PNC	Postal Natal Care
PPE	Personal Protective Equipment
PPH	Post-Partum Haemorrhage
PPIUCD	Post-Partum Intrauterine Contraceptive Device
PPT	Power Point Presentation
QA	Quality Assurance
RCH	Reproductive and Child Health Programme
RCHO	Reproductive Maternal Neonatal and Child Health
RDT	Rapid Diagnostic Test
RMNCH	Reproductive Maternal Neonatal and Child Health
SBA	Skilled Birth Attendant
SCs	Sub Centre
SDM	Standard Days Method
SIHFW	State Institute of Family Welfare
SN	Staff Nurse
SPMU	State Programme Management Unit
TA/DA	Travel Allowance / Dearness Allowance
UPT	Urine Pregnancy Test

Introduction

Ensuring the health of women and children is a universally acknowledged priority and is a basic human right. Improving the survival and health of mothers and children is central to the achievement of India's national health goals under the National Health Mission (NHM) as well as achievement of the Millennium Development Goals (MDG) 4 and 5. In recent years, India has made significant progress in its quest to improve maternal and child health. As per Registrar General of India – Sample Registration System (RGI-SRS) Report, Maternal Mortality Ratio (MMR) in India has decreased from 212 (2007-09) to 167 (2011-13) per 100,000 live births. Similarly, as per the RGI-SRS Report 2014, the overall infant mortality rate declined from 64 to 40 per 1000 live births.

In India, the percentage of women who deliver at a health facility has increased from 47.1 to 74.4 percent between 2008 and 2013 and the Total Fertility Rate has decreased from 2.9 to 2.4 per woman between 2005 and 2012 reflecting a significant improvement in maternal and reproductive health services coverage.

The quality of services during and after child birth is a key determinant of the rate of reduction in maternal and infant mortality rates. Improvement in quality of health care services can only take place if the healthcare delivery system has technically competent health professionals able to provide RMNCH + A services.

Currently, the content and method of pre and in-service training has not been able to ensure that healthcare professionals (including SNs/ANM and Medical Officers) acquire all the required skills

that are essential to be able to provide quality RMNCH + A services. Capacity building of these healthcare providers to ensure they are proficient with regard to both technical skills and knowledge is therefore a key intervention.

In light of the above observations, comprehensive skills labs with skills stations have been designed to facilitate the training of healthcare providers in the necessary skills with a view to improving the quality of RMNCH + A services.

Skills labs serve as prototype demonstration and learning facilities for healthcare providers and focus on competency based training. Skills labs provide the opportunity for repetitive skills practice, simulation of clinical scenarios and training under the supervision of a qualified trainer.

Skills Lab Operational Guidelines have been previously published and disseminated to the States and these provide detailed guidelines for the planning and establishment of Skills Labs, training plans, job responsibilities of designated officers, monitoring and evaluation methods and a budget for these activities.

It is expected that this training manual will be useful reference material for the participants to effectively follow the training as per the methodology and schedule so that requisite skills are imparted for provision of quality RMNCH + A services.

Session Plan for Basic Skills RMNCH + A

Basic Level – RMNCH+A skills Lab Training Programme Schedule

DAY 1

Time	Space	Activity
09.00-09.30	Seminar Room	Registration: The participants will be divided into 4 groups (IA, IB, IIA, IIB) and each participant will be provided with a name tag with a coloured ribbon representing a group. Four participants will be in each group.
09.30-10.00	Seminar Room: Plenary	Introductory lecture about the skills lab Presentation on OSCE
10.00-10.15		Tea
10.15-12.15	Seminar Room Skills Cabins	Pre Test - Knowledge test Videos ▪ Antenatal care (EDD, BP, weight recording) ▪ Hand washing, PPE, Chlorine preparation and Processing of equipment & instruments Skills evaluation Test
12.15-13.00	Skills Cabin	PPE, Hand Washing and Wearing & removal of sterile gloves
13.00-13.45	Lunch	
13.45-14.15	Seminar Room	Plenary Session: Autoclave
14.15-15.15	Skills Cabin	Antenatal care (EDD, BP, weight & height recording)
15.15-15.30	Tea Break	
15.30-16.15	Skills Cabin	Chlorine preparation and Processing of equipment & instruments
16.15-16.45	Seminar Room	Feedback and allocate assignment/s for next day
16.45-17.30	Skills Cabin	Supervised Skills Practice time
17.30-18.00	Seminar Room	Faculty meeting

Time	Space	Activity
09.00-11.00	Skills Cabins	Skills Evaluation of previous day learned Skills Videos ▪ HB, Urine, UPT, RDT ▪ Abdominal palpation and FHS ▪ Organising Labour room ▪ Suction machine, administration of oxygen and radiant warmer OSCE Presentations of the day for planned sessions (Handouts only)*
11.00-11.15		Tea Break
11.15-12.45	Skills Cabin	Concurrent sessions : ▪ Group IA: **HB, UPT, RDT, Urine (Albumin/Sugar)**, (Cabin 1) ▪ Group IB: **HB, UPT, RDT, Urine (Albumin/Sugar)**, (Cabin 3) ▪ Group IIA: **Abdominal palpation and FHS** (Cabin 2) ▪ Group IIB: **Abdominal palpation and FHS** (Cabin 4)
12.45-13.30	Lunch	
13.30-13.45	Seminar room	Presentation on partograph
13.45-15.15	Skills Cabin	Concurrent sessions: **Group IA & Group IB: Partograph plotting (Seminar Room)** **Group IIA & Group IIB: Organising Labour room and NBCC**
15.15-15.30	Tea Break	
15.30-17.00	Skills Cabin	Groups would swap and practice the next session
17.00-17.45	Skills Cabin	Supervised Skills Practice time
17.45-18.00	Seminar Room	Feedback of the day/Faculty meeting

*Kindly ensure to take handouts of next day session for group reading.

Time	Space	Activity
09.00-11.00	Skills Cabins Seminar Room	Skills Evaluation of previous day learned Skills Video session on Cervical dilatation, Normal delivery AMTSL and ENBC Presentations of the day for planned sessions (Handouts only)*: **Cervical dilatation and Normal Delivery**
11.00-11.15	Tea Break	
11.15-12.45	Skills Cabins & Labour Room	Concurrent sessions on: Cervical Dilatation ▪ Normal Delivery ▪ ENBC ▪ AMTSL
12.45-13.45	Lunch	
13.45-15.15	Skills Cabins & Labour Room	Concurrent sessions on: Cervical Dilatation ▪ Normal Delivery ▪ ENBC ▪ AMTSL
15.15-15.30	Tea Break	
15.30-16.30	Skills Cabin	Session on NRP
16.30-17.30		Supervised Skills Practice of Cervical dilatation, Normal Delivery, ENBC, NRP and AMTSL
17.30-18.00	Seminar Room	Feedback/ Faculty meeting
Note: Share 1 case scenario of role play with each group (4 learners) on counselling - Family Planning, Adolescent health, BF + RI + nutrition, complication readiness		

*Kindly ensure to take handouts of next day session for group reading.

Time	Space	Activity
09.00-11.00	Skills Cabin Seminar Room	Skills Evaluation of previous day learned Skills Videos Management of Hypovolemic shock (CAB approach) PPH Presentations of the day for planned sessions (Handouts only)*
11.00-11.15	Tea Break	
11.15-11.30	Seminar Room	PowerPoint Presentation: **Management of Hypovolemic shock** (CAB approach)
11.30-13.00	Skills Cabin Seminar Room	Concurrent session at skills station: Group IA: **Management of Hypovolemic shock** (CAB approach) (Cabin 1) Group IB: **Management of Hypovolemic shock** (CAB approach) (Cabin 2) Group IIA & IIB: Video & plenary session: BF + KMC, MDI & Nebuliser (Seminar Room)
13.00-13.45	Lunch	
13.45-15.15	Skills Cabin	Concurrent session at skills station: Group IA & IB: **IV Insertion & Catheterization** (Cabin 2) Group IIA: **PPH** (Cabin 4) Group IIB: **PPH** (Cabin 1)
15.15-16.00	Seminar Room	Plenary session on BMW segregation & management
16.00-16.30		Tea break & Preparation for role plays
16.30-17.50	Seminar Room	Role play by each group followed by discussion
17.50-18.30	Skills Cabin	Supervised skill practice
18.30-19.00	Seminar Room	Feedback of the day/Faculty meeting

*Kindly ensure to take handouts of next day session for group reading.

Time	Space	Activity
09.00- 11.00	Skills Cabin	Skills Evaluation of previous day learned Skills Videos Eclampsia Interval IUCD Presentations of the day for planned sessions (Handouts only)*
11.00-11.15	Tea Break	
11.15-13.15	Skills Cabin	Concurrent session at skills station: Group IIA & Group IIB: **Eclampsia** (dose preparation, deep IM, Knee jerk reflex) (Cabin 1) Group IA: **Interval IUCD** (Cabin 2) Group IB: **Interval IUCD** (Cabin 3)
13.15-14.15	Lunch	
14.15-15.15	Skills Cabin	Each group practice first skill for 30 minutes and then swap with another group. Cabin 1: **2nd stage of labour** Cabin 2: **AMTSL** Cabin 3: **NRP** Cabin 4: **CAB**
15.15-15.30		Tea break
15.30-17.15		Supervised Skills Practice time
17.15-17.45	Seminar Room	Feedback of the day/Faculty meeting

*Kindly ensure to take handouts of next day session for group reading.

Time	Space	Activity
09.00-11.00	Skills cabin	Skill evaluation of previous day learned skills
11.00-12.00	Skills Cabin	Supervised practice session
12.00-12:20	Seminar Room	Post test knowledge assessment questionnaire (KAQ)
12.20 – 13:00	Seminar Room	Valedictory - Certificates of participation TA/DA disbursement (State level)
13.00 onwards		Lunch

DAY 1

SKILL 1: UNIVERSAL PRECAUTIONS

1A – Personal protective equipment

1C – Hand-washing

1B – Wearing and removal of sterile gloves

Skill 1A & 1B – Personal protective equipment

Cabin Numbers 1 to 4

Objective

By the end of this exercise the participant will be able to demonstrate use of personal protective equipment.

Steps	
1.	Wear footwear before entering the Labour Room
2.	Put on PPE in the following sequence: ▪ Shoe covers ▪ Waterproof apron ▪ Eye cover ▪ Cap ▪ Mask ▪ Gown ▪ Gloves
3.	Wash hands thoroughly with soap and water and air-dry them Put on sterile gloves as per the following steps: ▪ Ask assistant to open the outer package of the gloves ▪ Open the inner wrapper exposing the cuffed gloves with the palm facing upwards ▪ Pick up the first glove by the cuff, touching only the inside portion of the cuff ▪ Hold the cuff in one hand and slip the other hand into the glove ensuring that the fingers enter the corresponding finger of the glove ▪ Pick up the second glove by sliding the fingers of the gloved hand under the cuff of the second glove ▪ Put the second glove on the ungloved hand by maintaining a steady pull through the cuff until the fingers reach the end of the corresponding finger of the glove ▪ Adjust the cuff until the gloves fit comfortably and cover both the wrists ▪ Avoid interlacing fingers to pull and adjust gloves
4.	Remove soiled gloves as per the following steps: ▪ Dip the soiled fingers of the gloved hands in 0.5% solution to remove the blood/fluid stains ▪ Grasp one of the gloves with one hand near the cuff and pull it inside out and leave it in the 0.5% chlorine solution ▪ Place the fingers of the ungloved hand inside the cuff of the glove on the other hand and pull the glove inside out and dip it in the 0.5% chlorine solution ▪ Leave the gloves in the chlorine solution for 10 minutes for decontamination

Key points to remember:

- Be careful not to touch any unsterile items with gloved hands
- Keep gloved hands above waist level
- Do not use gloves that are cracked or peeled or have detectable holes or tears
- Wash hands with soap and water immediately after removing gloves and air-dry them.

Skill 1C – Hand washing

Cabin Numbers 1 to 4

Objective

By the end of this exercise, the participant will be able to demonstrate the steps correctly.

Steps	
1.	Remove rings, bracelets and watch
2.	Wet hands in clean running water then apply soap
3.	Vigorously rub hands on both sides in the following manner: ▪ Palms, fingers and web spaces ▪ Back of hands ▪ Fingers and knuckles ▪ Thumbs ▪ Fingertips and creases ▪ Wrist
4.	Thoroughly rinse hands in clean running water
5.	Dry hands using a clean towel or a paper towel, or allow them to air-dry, keeping the hands above waist level

Key points to remember:

- Alcohol rub can also be used if the hands are not soiled by blood or any other secretions. However, alcohol rub is not a substitute for proper hand-washing; hence, use it judiciously in places where there is no water in-between examining babies
- Alcohol hand rub to be used on both sides of the hands for 30 seconds or till the solution is dry, in the same manner as hand-washing is performed.

Wet hands with water

Apply enough soap.
Cover all hand surfaces

Rub hand palm to palm

Right palm over left dorsum with interlaced fingers and vice versa

Palm to palm with fingers interlaced

Backs of finger to opposing palms with fingers interlocked

Rotational rubbing of left thumb clasped in right palm and vice versa

Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice-versa

Rinse hands with water

Dry hands thoroughly with a single use towel

Use towel to turn off faucet

Your hands are now safe

DAY
1

SKILL 2: ANTENATAL CARE 1

2A – Calculation of expected date of delivery (EDD)

2B – Weight and height recording

2C – Blood pressure recording

Skill 2A – Calculation of expected date of delivery (EDD)

Cabin Numbers 1 to 4

Objective

By the end of this exercise, the participant will be able to calculate the EDD for an antenatal woman as a part of an assessment and examination.

You will now calculate EDD using the following exercises:

Exercise 1

Seema, who is 30 years old, tells you that she has not had a period for the past 3 months. Her last period started on the day before Holi, i.e., March 10. Calculate her due date.

Answer: 9 calendar months + 7 days, i.e., December 17

Exercise 2

Laxmi, who is 18 years old, says her last period started on January 2. She wants to know when she will deliver. Calculate her due date.

Answer: 9 calendar months + 7 days, i.e., October 9

Exercise 3

Kusum, who is 22 years old, tells you that her last period was on 29 March. She wants to know her due date. Calculate her due date.

Answer: 9 calendar months + 7 days, i.e., January 5

Exercise 4

Archana comes to the ANC clinic on 20 September and says that she completed 8 months of her pregnancy 10 days ago. Calculate her due date.

Answer: She will be completing her ninth month on 10 October and her EDD (9 months plus 7 days) is 17 October

Skill 2B – Weight and height recording

Cabin Numbers 1 to 4

Objective

By the end of this exercise, the participant will be able to measure the weight and height of an adult woman.

Weight Recording

Steps	
1.	Keep the weighing scale on a hard, flat surface and check for zero error before taking the weight
2.	Ask the woman to stand straight on the weighing scale, looking ahead and holding her head upright
3.	Read the scale from the top
4.	Record the weight to the nearest 100 g
5.	Record the findings on the MCP card

Height Recording

Steps	
1.	Keep the stadiometer (height measuring scale) on the floor against wall. Identify how much is each division.
2.	Ask the woman to stand straight on the stadiometer, looking ahead and holding the head upright.
3.	Tell the woman to place the legs together, bringing the ankles and knees together.
4.	Read the scale.
5.	Record the height to the nearest 0.1 cm/mm (depending upon the stadiometer used).
6.	Explain results to the patient and record on MCP card
7.	What is the importance of checking height during ANC visit

Key points to remember:

- A pregnant woman's weight must be recorded during each visit. First visit/registration weight should be treated as the baseline weight
- Normally, the total weight gain during pregnancy is between 9 kg and 11 kg and, after the first trimester, a pregnant woman gains around 2 kg every month
- Low weight gain usually leads to intrauterine growth restriction (IUGR) and results in a baby with a low birth weight
- Excessive weight gain (more than 3 kg in a month) should raise suspicion of pre-eclampsia, twins (multiple pregnancies) or diabetes
- Readings must be entered on the MCP card.

Skill 2C – Blood pressure recording

Cabin Numbers 1 to 4

Objective

By the end of this exercise the participant will be able to correctly measure the blood pressure of a pregnant woman.

Steps	
1.	Select the type of blood pressure instrument
2.	Check that the bulb is properly attached to the tubing and there are no cracks or leakage
3.	Ask the person to sit on a chair or lie down on her left side or slightly tilt to the left on a flat surface
4.	Place the apparatus on a horizontal surface at the level of the person's heart
5.	Note any zero error, and replace with a functional sphygmomanometer
6.	Tie the cuff 3 cm above the elbow, placing both the tubes in front
7.	Raise the pressure of the cuff to 30 mmHg above the level at which pulse is no longer felt
8.	Release pressure slowly and listen with stethoscope keeping it on brachial artery at the elbow
9.	Note the reading where the sound is heard (systolic pressure)
10.	Follow the sound and note reading where the sound disappears (diastolic)
11.	Deflate and remove the cuff; close the mercury column knob
12.	Record the reading on the MCP card
13.	In the case of an electronic sphygmomanometer, tie the cuff in the same way and keep the arms stable
14.	Press the ON button and both systolic and diastolic pressure will be displayed automatically on the screen

Key points to remember:

- A pregnant woman's BP must be recorded during each visit
- Hypertension is diagnosed when 2 consecutive readings taken 4 hours or more apart show the systolic blood pressure to be 140 mmHg or more and/or the diastolic blood pressure to be 90 mmHg or more, signifying pregnancy-induced hypertension (PIH) and/or chronic hypertension
- If the woman has high blood pressure of140/90 mmHg on 2 consecutive readings 4 hours apart, check her urine for the presence of albumin. The presence of albumin (+2) together with high blood pressure is sufficient to categorize her as having pre-eclampsia. Refer her to a higher facility, if further facilities for treatment are not available on-site
- If the diastolic blood pressure is above 110 mmHg, the woman should be referred immediately to the higher facility, regardless of the level of protein in her urine, as she will need antihypertensive drugs
- Readings must be entered on the MCP card.

DAY
1

SKILL 3: CLEANING AND DISINFECTION OF EQUIPMENT & INSTRUMENTS

3A – Preparation of 0.5% chlorine solution

3B – Processing of instruments

Skill 3A – Preparation of 0.5% chlorine solution

Cabin Numbers 1 to 4

Objective

By the end of this exercise the participant will be able to demonstrate preparation of 0.5% chlorine solution.

Steps	
1.	Keep the necessary items ready(plastic bucket/tub of at least 10–15 L capacity for the Labour Room and 1 L capacity plastic jug, wooden stirrer, teaspoon, bleaching powder in an airtight container, 1 L water, plastic apron, utility gloves)
2.	Wear plastic apron and both utility gloves
3.	Take 1 L water in a plastic jug and pour it into the plastic bucket
4.	Take some water from the bucket in the plastic jug and add 3 level teaspoons of bleaching powder (15 gms) to the plastic jug and stir with the wooden or plastic stirrer to make a thick paste
5.	Add this paste to the 1 L water in the bucket to make 0.5% chlorine solution
6.	Stir the solution with a wooden stirrer – a milky, white solution will appear with some precipitate. Keep the bucket or tub covered after preparing the solution

Key points to remember:

- Store the bleaching powder in an airtight container away from sunlight
- Always prepare the solution using a plastic spoon and jug, wearing utility gloves
- Keep the 0.5% chlorine solution in a wide-mouthed plastic tub/container
- Change the chlorine solution after 24 hours or if it appears turbid due to multiple/ frequent use and prepare a fresh solution
- Ensure the instruments are submerged in the 0.5% chlorine solution for 10 mins for decontamination
- Depending on the quantity of the instruments, the required quantity of 0.5% chlorine solution can be arrived at by proportionately increasing the quantity of water and bleaching powder at the rate of 3 level teaspoons/L of water.

Skill 3B – Processing of instruments

Cabin Numbers 1 to 4

Objective

By the end of this exercise the participant will be able to demonstrate the steps for processing instruments.

Steps	
1.	**Decontamination** ▪ Place the used items/instruments unlocked and in an open position in 0.5% chlorine solution in a plastic container. Let them soak for 10 mins ▪ Wear utility gloves, remove instruments from chlorine solution and rinse them in water
2.	**Cleaning** ▪ Clean the instrument with detergent and cold water using a soft brush. Scrub the instruments, with special attention to toothed areas and locks, in a container filled with water to avoid splashing ▪ Rinse them thoroughly to remove all detergent and air-dry them
3.	**Sterilization** ▪ Fill the bottom of the autoclave with water up to the ridge ▪ Place the items in the autoclave drum loosely, close the lid and adjust the temperature and pressure and put on the stove or into an electrically connected system ▪ Note the time when steam emits from the pressure valve. Keep the items wrapped for 30 mins and unwrapped for 20 mins at 15 lbs/sq. inch(106 kPa)at121°C ▪ Open the pressure valve to release the steam and allow the autoclave to cool for 15-30 mins before opening ▪ For chemical sterilization –completely immerse instruments like bag and mask, etc. in Glutaraldehyde solution for at least 10 hours. Prepare the 2% Glutaraldehyde solution as per the manufacturer's instruction on the bottle and label the date of reconstitution on the container for reference, as the solution has to be changed after 15 days or as per the instructions on the bottle ▪ Rinse the items with sterile water to remove the Glutaraldehyde solution
4.	**Storage** Store the instruments in a clean, dry, sterile container with a lid. If the container is not opened, the instruments can be used within 7 days. If the lid is opened, re-sterilize the remaining instruments within 24 hours.

Key points to remember:

- Place the items loosely in the autoclave to allow steam to circulate
- The sterilization method is preferred over HLD
- For chemical sterilization, immerse instruments in 2% glutaraldehyde for 10 hours
- While autoclaving, use a steam indicator to ensure the items are sterilized
- Periodically take samples from the autoclave and send them for lab investigation to rule out bacterial/viral/fungal presence
- For the HLD by boiling method, allow 20 mins after water starts boiling
- While boiling the instruments, make ensure that the lid is closed and the instruments are well covered in water, and that there is no adding or taking out of water and/or instruments during the process
- Avoid splashing while decontaminating or cleaning instruments
- Do not use soap while cleaning the instruments.

DAY
2

SKILL 4: ANTENATAL CARE 2 - LABORATORY TESTS

4A – Pregnancy detection test
4B – Haemoglobin estimation
4C – Urine testing
4D – Rapid diagnostic test (RDT) for malaria

Skill 4A – Pregnancy detection test

Cabin Numbers 1 & 3

Objective

By the end of this exercise, the participant will be able to perform a urine pregnancy test.

Steps	
1.	Keep the necessary items ready: pregnancy test kit, disposable dropper, clean container to collect urine
2.	Check expiry date and read instructions
3.	Take sample of urine
4.	Remove the pregnancy test card and place it on a flat surface
5.	Use the dropper to extract urine from the container
6.	Put 2–3 drops in the well-marked 'S' and wait for 5 mins
7.	If one red band appears in result window R, the pregnancy test is negative
8.	If 2 parallel red bands appear in result window R, the pregnancy detection test is positive
9.	Inform the mother of the results; if positive, give the mother an MCP card

Pregnancy test result: Positive

Skill 4B – Haemoglobin estimation

Cabin Numbers 1 & 3

Objective

By the end of this exercise, the participant will be able to perform haemoglobin estimation with Sahli's haemoglobinometer.

Steps	
1.	Keep all the necessary items ready: Sahli's haemoglobinometer, N/10 HCl, gloves, spirit swabs, lancet, distilled water and dropper, puncture-proof container, 0.5% chlorine solution
2.	Wash hands and wear gloves
3.	Clean the Hb tube and pipette
4.	Fill the Hb tube with N/10 HCl up to 2 g with the dropper
5.	Clean tip of the person's ring finger with the spirit swab
6.	Prick the ring finger with the lancet and discard the first drop of blood
7.	Allow a large blood drop to form on the fingertip
8.	Suction with the pipette up to the 20 mm3 mark(connect pipette to syringe and pull the barrel instead of mouth-suctioning by pipette)
9.	Take care that air does not enter while suctioning the blood
10.	Wipe the tip of the pipette and transfer the blood to the Hb tube containing N/10 HCl
11.	Rinse the pipette 2–3 times with N/10 HCl.
12.	Leave the solution in the test tube for 10 mins
13.	After 10 mins, dilute the acid by adding distilled water drop by drop and mix it with a stirrer
14.	Match with the colour of the comparator
15.	Note down the reading (lower meniscus)
16.	Dispose of the used lancet in a puncture-proof container
17.	Immerse the used gloves in 0.5% chlorine solution

Key points to remember:

Interpretation of findings:

- Hb > 11 g% – 1 IFA tablet once a day
- Hb 7-11 g% – 2 IFA tablets a day
- Hb <7 g% – refer to higher facility.

Skill 4C – Urine testing

Cabin Numbers 1 & 3

Objective

By the end of this exercise, the participant will be able to conduct urine testing for the detection of glucose and albumin.

Steps	
1.	Keep all the necessary items ready: urine specimen collection bottles/containers and dipsticks
2.	Check the expiry date on the kit and carefully read the instructions before use
3.	Remove one strip from the bottle and screw the cap tightly
4.	Completely immerse the reagent area of the strip in the urine and remove it immediately
5.	Remove the strip of the urine and tap at the edge of container to remove excess urine
6.	For glucose: compare the blue reagent area against the colour chart area on the bottle and record the finding (time as per manufacturer's instruction)
7.	For urine albumin: compare the yellow reagent area against the colour chart area on the bottle and record the finding (time as per manufacturer's instruction)
8.	Dispose of strip and urine as per GoI protocol

Key points to remember:

- Urine testing for protein and sugar must be done during each visit
- Testing urine for the presence of sugar is used to screen for gestational diabetes
- Testing urine for the presence of protein (albumin) is very important to detect pre-eclampsia, which (along with eclampsia) is one of the 5 major causes of maternal mortality
- The presence of albumin (+2) together with high blood pressure is sufficient to categorise a woman as having pre-eclampsia. Refer her immediately to a higher-level facility for further treatment.
- If urine is positive for sugar, refer her to a higher facility to test her blood sugar, and a glucose test should be carried out if required
- Inform mother of test results
- Enter findings on the MCP card
- Store the tightly sealed bottle in a cool, dark place
- Each strip should be used only once.

Skill 4D – Rapid diagnostic test (RDT) for malaria

Cabin Numbers 1 & 3

Objective

By the end of this exercise, the participant will be able to perform a rapid diagnostic test to detect malaria.

Steps to prepare the thick and thin smear	
1.	Select the ring finger of the left hand
2.	Clean with antiseptic or sterile wipes
3.	Dispose of the cotton swab as per GoI protocol
4.	Allow the finger to air-dry
5.	Puncture at sides of the flesh pad of the finger avoiding the centre and the tip of the finger
6.	Allow the blood to come up automatically
7.	Don't squeeze the finger
8.	Hold the slide by the edges
9.	Touch the drop of blood with a clean slide
10.	Collect 3 drops to prepare a thick smear and 1 drop for a thin smear. Place the thin and thick smear at either end of the slide
11.	To prepare a thin smear, touch a single drop of blood with the edge of the slide
12.	Keep the slide in front of the second drop and allow the blood to spread
13.	Hold it at an angle of 45 degrees and spread with a rapid but not brisk movement
14.	Write the slide number on the same side as the thin smear
15.	Spread the drop of blood with the corner of the slide to make a circle or a square of approximately 1 cm in diameter
16.	Wrap and send the slide to the laboratory for staining and to be examined under the microscope

Key points to remember:

- Store the kits at the recommended temperature
- Never read the result beyond 30 mins (read instructions carefully)
- In malaria-endemic areas, pregnant women should be routinely tested for malaria at the first antenatal visit
- Screen the woman for malaria every month by conducting the RDT even if she does not manifest any symptoms of malaria
- If a pregnant woman shows symptoms of malaria at any time, she should be tested. If the result is positive, refer her to a higher facility for further treatment
- Insecticide-treated bed nets or long-lasting insecticidal nets (LLIN) should be given on a priority basis to pregnant women in malaria-endemic areas as per the state recommendations.

Malaria test result



Steps for malaria testing using the rapid diagnostic test kit (RDT)	
1.	Store the kits at the recommended temperature
2.	Check that the RDT kit is not damaged
3.	Check the expiry date on the kit
4.	Remove the RDT packaging and take the dropper from the foil pouch and place it on a flat, dry surface
5.	Label the RDT with the patient's ID and the date the test was performed
6.	Allow the reagents to reach room temperature if kept in cold chain
7.	Select the finger for puncture, clean with spirit swab and allow to air-dry
8.	Puncture the finger with a sterile lancet
9.	Slowly add 1 drop of blood to the sample well and add 2 drops of the assay diluents
10.	As the test begins to work, a purple colour will be seen moving across the result window in the centre of the test device
11.	Interpret test* result at 5-20 mins (do not interpret after 20 mins) as per the manufacturer's instructions

*Interpretation of the result for monovalent RDT kit:	
Negative result	If only one line (band) appears, the test has worked and the patient is negative for malaria
Positive result	If 2 lines (bands) appear within15-20 mins, the person is suffering from P. falciparum malaria
Invalid result	If no line appears within 15-20 mins, discard and repeat the test

*Interpretation of the result for bivalent RDT kit:	
Negative result	If only 1 line (band) appears at C (control),the test has worked and the patient is negative for malaria
Positive result	If 2 lines (bands) appear within 15-20 mins at C (control) and T1, the person is suffering from P. falciparum malaria
Positive result	If 2 lines (bands) appear within 15-20 mins at C (control) and T2, the person is suffering from P. vivax malaria
Positive result	If 3 lines (bands) appear within 15-20 mins at C (control), T1 and T2, the person is suffering from both P. falciparum and P. vivax malaria
Invalid test	If no line appears within 15-20 mins, discard and repeat the test

DAY
2

SKILL 5: ABDOMINAL PALPATION AND AUSCULTATION OF FETAL HEART SOUNDS (FHS)

Cabin Numbers 2 & 4

Objective

By the end of this exercise, the participant will be able to carry out abdominal examination/palpation on a pregnant woman.

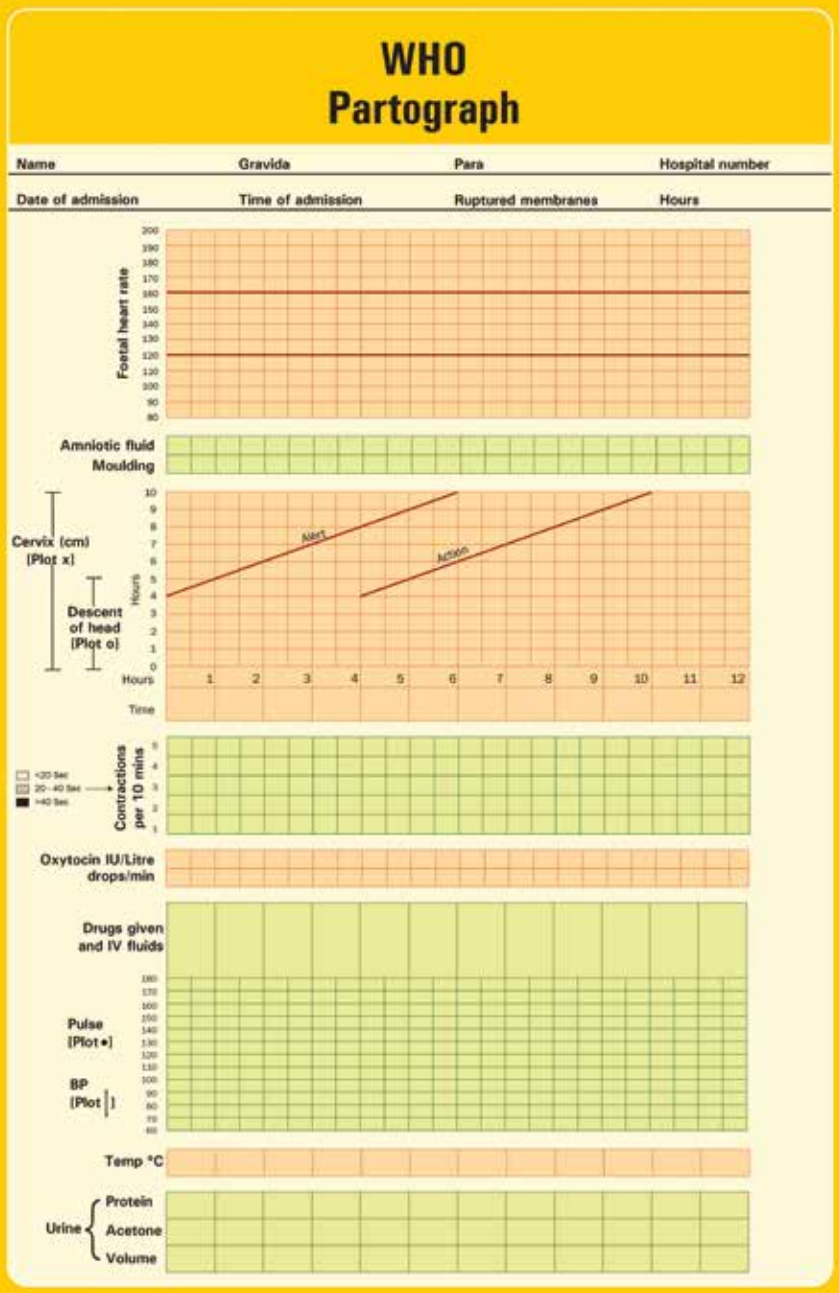
Steps	
1.	Keep the necessary items for abdominal palpation and auscultation of FHS ready: measuring tape, stethoscope/ fetoscope, watch with a second hand
2.	Maintain the privacy and dignity of the woman
3.	Ask the woman, if her bladder is empty and instruct her to keep her legs and thighs in a semi-flexed position with slight opening of the thighs
4.	Stand on the right-hand side of the woman
5.	Ask the woman to loosen her clothing
6.	Observe the abdomen for any scars, size, shape and contour
7.	Rub hands together to warm them
8.	Feel and centralize the uterus
9.	Using ulnar border of left hand, start palpating from xiphisternum gently downwards until you meet the first resistance. That is the fundus of the uterus.
10.	Measure SFH (symphisio fundal height) in cm
11.	Palpate the abdomen with the following grips: ▪ Fundal grip (to find out pole of the fetus at the fundus) ▪ Lateral grip (to find out the side of fetal back) ▪ Pelvic grips(to find out the fetal head engagement) Fundal grip: keep both hands over the fundus and try to palpate the part of the fetus there Lateral grip: keep hand on one side of the abdomen and palpate other side of the abdomen with other hand and repeat the manoeuvre First pelvic grip: Keep the right hand on the lower part and hold the presenting part and assess whether there is cephalic presentation or not and also confirm whether presenting part is mobile or not Second pelvic grip: Turn towards the feet of the patient and slightly extend the patients' legs. Keep both hands on either side of the presenting part.
12.	Place the fetoscope/stethoscope on the midpoint of the spino-umbilical line.Feel maternal pulse while listening to the fetal heart rate, to be able to differentiate between them
13.	Count the fetal heart rate (FHR) for 1 minute using a watch with a second hand
14.	Inform the mother of the result
15.	Record the findings in the patient's record

Key points to remember:

- An abdominal examination and auscultation of FHS must be recorded during each visit to monitor progress of pregnancy, fetal viability and growth
- Maintain privacy and obtain verbal consent before examination
- Expose only the area to be examined, i.e., abdomen
- The bladder should be emptied before examination
- During palpation, ensure that the woman partially flexes her legs and knees
- Fetal lie and presentation may be ascertained in palpation during the third trimester
- The normal lie at term in the majority is longitudinal, with a cephalic presentation.
- Any other lie/presentation is abnormal and the woman must be referred to a higher facility for delivery care
- Correlate the fundal height in weeks with LMP and also correlate with fundal–symphysis pubic height in cm
- If the FHR is between 120 and 160 beats/min, it is normal. If it is <120 beats/min OR >160 beats/min, the woman should be referred to a higher facility for emergency delivery care
- FHS can be heard easily through the abdomen with the help of a stethoscope or fetoscope after 24 weeks of pregnancy. All findings must be entered on the MCP card
- If fetal parts are not palpable on both poles then it may be a transverse lie so refer the woman to a higher facility.

DAY 2

SKILL 6: PLOTTING AND INTERPRETING THE PARTOGRAPH



SKILL 6: PLOTTING AND INTERPRETING THE PARTOGRAPH

Seminar Room

Objective

By the end of this exercise, the participant will be able to plot the Partograph correctly.

Steps	
1.	Record identification data
2.	Fetal heart rate, condition of amniotic fluid and membranes, cervical dilatation position of presenting part and frequency and duration of uterine contractions should be recorded on the Partograph. Maternal parameters shall be properly recorded with respect to time
3.	Plot cervical dilatation when it is 4 cm and above on the alert line along with the time Note: The first plotting on the Partograph is always on the alert line. A Partograph is started once labour has commenced.
4.	Plot the following every half hour: frequency and duration of uterine contractions, fetal heart rate, condition of the membranes, colour of amniotic fluid and maternal pulse
5.	Plot the following every four hours: cervical dilatation, descent of head or presenting part, maternal temperature blood pressure and urinalysis (should be performed every time the woman passes urine).
6.	Record any medications or interventions carried out on the Partograph in the relevant sections with time noted.
7.	Interpret the findings and make a decision on necessary action If referral is required, refer the client further with a duly completed referral slip and copy of the Partograph.
8.	Record the date, time of birth, condition at birth, sex and weight of the baby and type of delivery on the Partograph

Key points to remember:

- Labour has started when there are regular uterine contractions – usually 3-4 in 10 minutes – with progressive effacement and dilation of the cervix. The Partograph is started when cervical dilation is 3-4 cm.
- The first plotting on the Partograph is always on the alert line
- The progress of labour is satisfactory when the cervical plotting falls on or to the left of the alert line
- The progress of labour is not satisfactory when the cervical plotting falls to the right of the alert line. In this case, the woman needs to be referred to a higher facility for further intervention
- Ideally, the woman should reach the higher referral centre within 2 hours (time taken from alert to action line)
- Actions for ANMs/SNs:
  - □ Refer when the plotting on the Partograph moves to the right side of the alert line
  - □ Refer when the FHR is less than 120 beats/min or more than 160 beats/min
- Be alert when the amniotic fluid is stained with meconium.

Partograph Case 1

Objective

By the end of the session the participants will be able to:

- Describe the importance of Partograph
- Fill in Partograph
- Discuss the subsequent actions to be taken by the service provider.

PARTOGRAPH SCENARIO 1 – AN EXAMPLE OF LATENT PHASE/FALSE LABOUR

Case 1

Name :	Mrs KA
Hospital No.:	462432 XY
Age (Years):	20
Parity:	Para 0 + 0
Gestational age(Weeks):	38

History
▪ Lower abdominal pain
▪ No drainage of liquor

Time	Cervix (cm)	Membranes/ Liquor	Lie	Presentation	FHR (/Min.)	Descent	Contractions (/10 Min.)
9 am	2 cm	Intact	Longitudinal	Cephalic	140	5/5	2(< 20 seconds)

Questions

1. Will you plot on the graph? Why?
2. When will you start plotting on the Partograph?
3. What are the two possible diagnosis in the case?
4. What is usually the maximum accepted duration of the latent phase?
5. If the latent phase is delayed what intervention should be done?
6. Can we assess the descent of the head in the latent Phase?
   Yes/No
7. How do we assess the descent of the head abdominally?

Time	9 am
Pulse rate(/Min.)	90
Blood pressure(mmHg)	120/80
Temperature (°C)	37.1°

Answer key:

1. No, we start plotting the Partograph in the active phase (cervix dilated 4 cm) and presently she is 2 cm dilated, i.e., in the latent phase.
2. When the cervical dilatation is 4 cm, we will draw the Partograph.
3. Latent phase or false labour, so continue observation and support.

   Supportive care during latent phase:
   - □ Encourage and reassure the woman
   - □ Maintain and respect the privacy of the woman
   - □ Keep the woman informed about the progress of labour
   - □ Encourage the woman to keep herself clean and mobile during the first stage of labour
   - □ Enema should NOT be routinely given during labour
   - □ Presence of birth companion is beneficial
   - □ Let her choose any position she feels comfortable in during labour
   - □ Encourage her to have light, easily digestible, low-fat food and drink plenty of fluids.
4. This is usually 8 hours.
5. Rupture of membranes if head descended, and intervention should be in the form of augmenting uterine contractions by giving oxytocics or ARM with oxytocin (to stimulate contractions). However, the amount of oxytocin to be given should be determined by a trained medical officer only.
6. Yes
7. By fifth palpation of head, keep the palm horizontally in such a way that the little finger is just above the pubic symphysis and consider each finger including thumb as one fifth, if the whole head fits in the palm with five fingers it is 5 by 5 palpable, if 4 fingers grips the head it is 4 by 5 palpable and so on

Partograph Case 2 (1/2)

Objective

To find out whether the participant is able to plot a partograph in its various components successfully and know what actions need to be taken depending on the level of their facility.

PARTOGRAPH SCENARIO 2 – AN EXAMPLE OF NORMAL LABOUR

Case 2

Name :	Mrs AD
Hospital No.:	462432 XY
Age (Years):	18
Parity:	Para 2 + 0
Gestational age(Weeks):	38

History
▪ Lower abdominal pain for 2 hours
▪ No drainage of liquor for 1 hour

Time	Cervix (cm)	Membranes/ Liquor	Lie	Presentation	FHR (/Min.)	Descent	Contractions (/10 Min.)
4 p.m.	4 cm	Intact	Longitudinal	Cephalic	144	3/5	3(35 sec each)

Questions or actions (Part 1 scenario)

1. Enter the observations on the graph?
2. What should be the first observation on the graph?
3. Where should this be?
4. What observations should you then plot?
5. What action will you have at 4.00 p.m.?
6. By fifth palpation of head how will one know that head is at 0 station.
7. What is the expected dilatation of cervix hourly?

Time	4 pm	8 pm
Pulse rate(/Min.)	88	90
Blood pressure(mmHg)	120/70	120/70
Temperature (°C)	37°	37°

Answer key:

1. The trainer shall check each Partograph for correct documentation.
2. Progress of labour.
3. On the alert line at 4 cm. First finding of cervical dilatation has to be plotted on the alert line, and only then can comparison be made as to whether the graph shifts to the right in abnormal labour cases or remains to the left in normal labour cases.
   (Note: The alert line is a line on the Partograph which starts from 4 cm and progresses to 10 cm with cervical dilatation of 1 cm/hr. which means that there is normal progression of labour. If the graph starts shifting to the right of the alert line this means labour progression is not satisfactory and we need to assess uterine contractions and cervical dilatation and intervene in the form of drugs to increase contractions or for cervical dilatation. The action line is a line parallel to the alert line, 4 hours apart. If the graph crosses the action line it means that mother and fetus are at risk and immediate intervention is required to save the mother and fetus from complications.
4. The timeline and all observations on progress of labour, fetus and mother condition then be plotted on partograph.
5. Observe the progress of labour, which involves assessment of fetal descent (abdominally) and fetal heart rate. After 4 hours, repeat per vaginum examination for further assessment.
6. When it is 2/5 palpable it means head is at 0 station.
7. 1 cm/hr

Partograph Case 2 (2/2)

Name :	Mrs AD
Hospital No.:	462432 XY
Age (Years):	18
Parity:	Para 2 + 0
Gestational age(Weeks):	38

History
▪ Lower abdominal pain for 2 hours
▪ Drainage of liquor for 1 hour

Time	Cervix (cm)	Membranes/ Liquor	Lie	Presentation	FHR (/Min.)	Descent	Contractions (/10 Min.)
4 p.m.	4 cm	Intact	Longitudinal	Cephalic	144	3/5	3(35 sec each)
8 p.m.	8 cm	clear	Longitudinal	Cephalic	145	2/5	4(45 sec each)

Questions or actions (Part 2 scenario)

1. Enter the given observations in your sheet.
2. Where do you plot cervical dilatation and other observations at 8 pm?
3. What do these observations tell you?
4. Do you think she will proceed to normal delivery?

Time	4 pm	8 pm
Pulse rate(/Min.)	88	90
Blood pressure(mmHg)	120/70	120/70
Temperature (°C)	37°	37°

Answer key:

1. Trainers to check all Partograph on an individual basis and ensure they are filled in correctly.
2. At 8 cm on the alert line, which is the line representing cervical dilatation of 1 cm/hr.
   (**Note:** Observe and record:
   - □ Every half an hour – FHR, uterine contractions, pulse rate
   - □ Every 4 hours – BP
   - □ Every 4 hours– cervical dilatation, condition of membrane and colour of amniotic fluid.
3. Cervical dilatation and strength and frequency of contractions indicate good progress in labour. Also, abdominal palpation to assess head descent also helps in the assessment of progress of labour.
   The observations on fetus and mother do not show any signs of distress.
4. Yes, if the head descends and labour progresses.

Partograph Case 3

Objective

This session will focus on the use of the Partograph during cases of prolonged labour due to inadequate uterine contractions – continued suboptimal progress in labour – distinguishing it from obstructed labour (Case 4).

PARTOGRAPH SCENARIO 3 – PROLONGED LABOUR DUE TO INADEQUATE UTERINE ACTION

Case 3

Name :	Mrs DG
Hospital No.:	462432 XY
Age (Years):	19
Parity:	Para 0 + 1
Gestational age (Weeks):	38

History
▪ Lower abdominal pain for 10 hours
▪ No drainage of liquor

Time	Cervix (cm)	Membranes/ Liquor	Lie	Presentation	FHR (/Min.)	Descent	Contrations (/10 Min.)
6 a.m.	5 cm	Intact Membranes	Longitudinal	Cephalic	140	4/5	3(40 sec. each)
10 a.m.	5 cm	Artificial rupture of membranes clear	Longitudinal	Cephalic	145	3/5	2(20 sec each)
12 p.m. Noon	6 cm	Clear	Longitudinal	Cephalic	140	1/5	2(10sec. each)
2 p.m.	9cm	Clear	Longitudinal	Cephalic	140	1/5	4(10 sec. each)

Time	6 a.m.	10 a.m.	12 p.m.	2 p.m.
Pulse rate(/Min.)	80	84	88	92
Blood pressure(mmHg)	110/70	130/70	140/70	140/70
Temperature (°C)	37.5°	37	37.5	37.5

Questions:

1. Plot the information on the Partograph.
2. What is the cervical dilatation at 10am?

   Which other abnormal feature do you notice?
3. What actions would you take?
   a. At a Basic centre?
   b. At a Higher centre?
4. If the head descent does not occur in spite of good uterine contractions and 6cms cervical dilatation for 5 hours and partograph shows straight line what does it suggest?

Answer key:

1. Trainers should ensure correct plotting of all observations on the Partograph.
2. Cervical dilatation is now on the action line, a line 4 cm to the right of the alert line, so progress of labour is delayed.

   Contractions are weak as well so there is uterine dysfunction.

   (Note: Dysfunctional labour – descent of head not as desired. Patient was admitted in labour but labour not progressing well – cervical dilatation to the right of alert line. No signs of obstruction or fetal distress.)
3. a) At a sub-centre level, a decision to transfer the patient should be made: action is needed because of the delay in progress of labour indicated by cervical dilatation reaching the action line. If the head has descended, artificial rupture of the membranes could be performed while waiting for the ambulance.

   b) At the higher centre, action should also be taken to stimulate labour and a decision made to examine again in 2 hours, after the intervention.

   Rate of descent of head will help in reaching a diagnosis and deciding on management.
4. The most probable diagnosis should be Cephalo-pelvic disproportion

Note: In some settings there will be debate about augmentation.

Partograph Case 4

Objective

The case provides another exercise relating to plotting as well as help in both assessment and clinical decision-making.

PARTOGRAPH SCENARIO 4 – OBSTRUCTED LABOUR AND FETAL DISTRESS

Case 4

Name :	Mrs HA
Hospital No.:	462432 XY
Age (Years):	16
Parity:	Para 0 + 0
Gestational age(Weeks):	38

History
▪ Lower abdominal pain at home for 6 hours
▪ Membrane ruptured 4 hours before admission.

Time	Cervix (cm)	Membranes/ Liquor	Lie	Presentation	FHR (/Min.)	Descent	Contractions (/10 Min.)
10 a.m.	4 cm	Spontaneous rupture/clear	Longitudinal	Cephalic	150	3/5	3 (30 sec. each)
2 p.m.	6 cm	Blood stained	Longitudinal	Cephalic	156	3/5	4 (40 sec. each)
4 p.m.	6 cm	Meconium stained	Longitudinal	Cephalic	154	3/5	4(45 sec.each)

Time	10 a.m.	2 p.m.	4 p.m.
Pulse rate(/Min.)	80	92	92
Blood pressure(mmHg)	120/70	130/70	140/70
Temperature (°C)	37	37.2	37.5

Questions

1. Plot the information.
2. What decision comes to you at 2.00 p.m.?
   a. At Sub-Centre level?
   b. At higher centre?
3. What is the diagnosis at 4.00 p.m. and what action is necessary?
4. In case of arrest of head diagnosed at PHC what should be she assessed for and what should be the management?

Answer key:

1. Check accuracy of plotting.
2. At a basic centre, this patient should be transferred, as cervical dilatation is to the right of the alert line. Contractions are strong and frequent and the patient needs pain relief.

   Watch the progress of labour; as fetal heart rate accelerates, assess the correct time for inj. oxytocin infusion.

   From the Partograph we can tell there is delay in progress of labour and fetal distress (meconium and fetal heart rate of 164 beats/min).

   Descent of head or presence of mal presentation must be ascertained. This will confirm that the cause of delay is obstructed labour.
3. The action is immediate operative delivery by caesarean section. If you are in a BEmOC level of facility – transfer urgently with ANM or MO along with her referral slip.

   (Note: Arrest of labour is unlikely to be due to inefficient contractions; therefore, oxytocin should not be considered and actually could be harmful (rupturing uterus.)

   Assess:
   - □ Size of fetus
   - □ Presence of molding
   - □ Amount of head palpable abdominally
   - □ Application of presenting part to cervix
   - □ Station

   Look for other signs of CPD: cervix poorly applied to presenting part, edematous cervix, ballooning of lower uterine segment, formation of retraction band (Bandl's ring), maternal and fetal distress, ketonuria.
4. She should be assessed for obstructed labour and immediately referred to the higher centre.

Partograph Case 5

Objective

This case will help in decision-making while reaching a diagnosis and managing complications in a timely manner.

PARTOGRAPH SCENARIO 5 – A CASE OF SECONDARY ARREST

Case 5

Name :	Mrs 5A
Hospital No.:	462432 XY
Age (Years):	24
Parity:	Para3 + 1
Gestational age(Weeks):	39

History
▪ Lower abdominal pains for 3 hours
▪ Drainage of liquor for 2 hour

Time	Cervix (cm)	Membranes/ Liquor	Lie	Presentation	FHR (/Min.)	Descent	Contractions (/10 Min.)
10 a.m.	4 cm	Spontaneous rupture 2 hours ago,clear	**Longitudinal**	Cephalic	140	3/5	3 (30 seconds)
2 p.m.	8 cm	Clear	**Longitudinal**	Cephalic	156	3/5	3 (40 seconds)
4 p.m.	9 cm	Clear	**Longitudinal**	Cephalic	120	1/5	4(45 seconds)

Questions

1. Plot the findings
2. How will you manage the case at 2.00 p.m.?
3. What action will you take at 4.00 p.m.?
4. If both cervical dilatation and head descent is not occurring what should be observed?

Time	10 a.m.	2 p.m.	4 p.m.
Pulse rate(/Min.)	85	90	92
Blood pressure(mmHg)	130/70	130/70	130/70
Temperature (°C)	37°	37°	37°

Answer key:

1. Check observations are correctly plotted.
2. Progress is normal with no maternal or fetal distress, so continue observations. She should deliver in 2 hours; if not, another vaginal examination should be done.
3. Mother and baby are still well. However, progress is delayed despite strong contractions. As this is a multiparous mother, this is a dangerous situation and she should be transferred immediately to a higher centre.

   At the higher centre the mother should be assessed immediately and appropriate action taken depending on cervical dilatation, descent of head, presentation and position.
   (Note: When obstruction occurs in a multiparous mother, it often results in a ruptured uterus.)
4. One should observe for inefficient uterine contractions and she should be augmented by oxytocin/ misoprostol.

DAY
2

SKILL 7: ORGANISING THE LABOUR ROOM

Labour Room

Objective

By the end of this exercise, the participant will be able to set up/ organize the Labour Room in a systematic manner.

Each trainee will be asked to organize a Labour Room where material has been purposely displaced by facilitators.

Steps	
1.	The appropriate environment in the Labour Room is to be maintained with adequate lighting, cleanliness, appropriate temperature depending on the surroundings, curtains/screens, windows with intact panes, attached functional toilet with running water. All the important protocols shall remain displayed in an appropriate place in the Labour Room
2.	The equipment needed in the Labour Room is available and functional
3.	Ensure that all the instrument trays are sterilized and available for each case
4.	The drugs and other trays should always be kept ready
5.	All surfaces are cleaned with bleaching powder solution, including the labour tables
6.	**Arranging the newborn care corner:** ▪ Radiant warmer plugged in, functional and switched on at least half an hour before the time of delivery ▪ Pre-tested, disinfected and functional newborn resuscitation bag and mask is kept ready on the shelf just below the radiant warmer ▪ A clock with a second hand should be placed in a prominent place
7.	Suction apparatus: For the newborn: Dee Lees in the tray For the mother: Foot-operated/electric suction is functional along with disposable suction catheter
8.	Oxygen cylinder: Check that oxygen is available and flow is checked under water (in a bowl) before inserting the tube and that the knobs are pre-checked A new disposable tube should be used every time oxygen is administered
9.	IP practices: The hand-washing area must have soap and running water, and a long-handled tap which can be operated with the elbow Drums to store sterilized items such as gloves, instruments, linen, swabs and gauze pieces Autoclave exclusively for the Labour Room is available and functional, delivery instruments are wrapped in a sheet and autoclaved in enough numbers (one set per delivery), autoclaving is done at least twice a day (at the end of morning and evening shifts), soiled items are first put into 0.5% chlorine solution before processing, PPE issued while working in the Labour Room
10.	Waste disposal – colour-coded bins are available
11.	Records – partographs, case sheets, labour registers, refer-in/refer-out registers are available and completed for each case

Key points to remember:

- A temperature of between 26°C and 28°C must be maintained in the Labour Room and chilly areas will need heaters during winter
- Equipment must be checked for its functionality during the change in nursing staff shifts
- The privacy (use plastic curtains between tables) and dignity of the woman must be ensured
- Use sterilized instruments for every delivery
- The Labour Room should be draught-free
- 20% buffer stock of drugs needed in the Labour Room must be available at all times
- NBCC should not be subject to direct air currents from any source
- Breastfeeding should be initiated within 1hour
- Injectable oxytocin should be kept in the fridge (not freezer)
- Ensure all members of staff – doctors, nurses, cleaning staff – practise and adhere to infection prevention protocols
- The colour-coded bins are emptied at least once a day or as and when they are three quarters filled up.

DAY
2

SKILL 8: NEWBORN CARE CORNER (NBCC)

8A – Using a bag and mask
8B – Radiant warmer
8C – Suction machine
8D – Oxygen administration
8E – Oxygen concentrator

Skill 8A – Using a bag and mask

Labour Room

Objective

On completion of this section, the participant will be able to:

- Describe the parts of a bag and types of masks
- Use the bag
- Describe cleaning of a bag and mask

Indication

- To provide positive pressure ventilation

Contraindications (for referral centres)

- Congenital diaphragmatic hernia
- Meconium aspiration syndrome (relative contraindication)

Steps	
1.	Assemble bag
2.	Check bag (for this, occlude the patient outlet tightly with your palm and then squeeze the bag and look for the release of the pop-off valve – the pop-off valve goes up along with a hissing sound which indicates that the pop-off valve is functioning normally)
3.	Check quick refilling of the bag (if not filling – indicates hole/tear in the bag)
4.	Connect to an oxygen source, if required
5.	Attach the reservoir, if oxygen source is connected
6.	Fix appropriate-size mask (00 for extremely preterm,0 for pre-term and 1 for term)

Key points to remember:

- Always keep a clean, disinfected and functional bag and mask in the appropriate size ready while organizing for delivery
- Its use is contraindicated in congenital diaphragmatic hernia and meconium aspiration syndrome (relative contraindication)
- The rim of the mask should cover the tip of chin, the mouth and the base of the nose, but not the eyes
- Always look for adequate seal and chest rise.

Skill 8B – Radiant warmer

Labour Room

Objective

By the end of this exercise, the participant will be able to:

- Identify parts of the radiant warmer
- Operate the radiant warmer.

Steps	
1.	Connect radiant warmer to main source and switch on and check display for mode, air temperature and the temperature bars
2.	Check whether the probe is attached to the machine
3.	Keep hands below the heater and check whether there is flow of warmth
4.	Identify servo and manual modes and select the manual mode
5.	Keep the heater output to maximum for 20-30 mins to pre-warm the bassinet and linen
6.	Switch to servo mode and set the desired skin temperature to 36.5°C as soon as baby is received and skin probe is attached to the baby skin

Key points to remember:

- Use only mild soap and water wipes. Do not use spirit or other chemicals to clean the plastic/acrylic parts
- Use manual mode setting:
  - □ Two pre-warm clothes (or towels) for wrapping the baby
  - □ To manage a hypothermic baby – monitor axillary temperature every 15 mins and if there is any other complication such as hypotension, etc., monitor continuously
- Use servo mode setting:
  - □ After initial stabilization of a sick/hypothermic baby or a baby admitted to SNCU/ NBSU, check periodically that the probe is in position.

Skill 8C – Suction machine

Labour Room

Objective

By the end of this exercise, the participant will be able to:

- Identify the parts of the machine
- Operate the suction machine
- Enumerate the steps of disinfection.

Checklist: Use of the suction machine (electrical)

Steps	
1.	Connect to the mains
2.	Switch on the unit
3.	Identify the pressure gauge
4.	Occlude the distal end to check the pressure reading
5.	Adjust the pressure knob to keep suction pressure in the range 80–100 mmHg
6.	Wash hands correctly and wear gloves
7.	Take disposable suction catheter and connect to suction tubing
8.	Switch off the suction machine

Checklist: Use of the suction machine (foot-/hand-operated)

Steps	
1.	Place the foot suction machine on floor in front of resuscitation trolley, with bellows on right side (if you use your right foot) and fluid collection jar on left side
2.	Place right foot on bellows and press down, ensuring that it slides down in contact with the central vertical metal plate
3.	Block the suction tubing, press the bellows and check for suction pressure
4.	Wash hands, wear gloves and connect suction catheter to patient end of suction tubing of the machine and perform gentle suction, first mouth and then nose

Key points to remember:

- For safety of the newborn, maximum suction pressure is limited to 100 mmHg, irrespective of foot pressure.
- If the suction inlet becomes blocked by a thick mucus plug, switch the suction tubing to an alternative suction inlet provided on the rubber stopper.
- The foot suction machine must be cleaned immediately after use. Empty the fluid jar immediately when filled more than half and wash with soap and water
- The fluid collection jar and silicon tubing should be autoclaved
- The rubber lid of the fluid collection jar cannot be autoclaved. Wash thoroughly with soap and water, rinse, reassemble when dry
- If the fluid jar is full and cannot be emptied immediately, open the alternative suction inlet to prevent outflow of fluid into bellow
- Use gentle rather than vigorous suction
- Use only disposable suction catheters
- Check adequacy of suction pressure
- Change bottle solution (0.5% hypochlorite solution) every day in the electric suction machine

Skill 8D – Oxygen administration

Labour Room

Objective

By the end of this exercise, the participant will be able to:

- Check and assemble parts of an oxygen cylinder/oxygen concentrator
- Check for adequate flow of oxygen
- Demonstrate how to give oxygen on a mannequin.

Steps: Checking functionality	
1.	Ensure all the parts are available
2.	Ensure the oxygen cylinder is secured on a flat surface on a trolley
3.	Attach regulator, flow meter and humidifier to the cylinder
4.	Attach the humidification bottle to the flow meter and fill with clean water up to the mark level on the bottle (between 1/3 and2/3)
5.	Use a spanner/key to open the cylinder
6.	Check whether the flow indicator moves along with the bubbles in the humidifier when the flow meter is opened
7.	Attach the oxygen tube to the humidifier
8.	Connect the oxygen tube to the nasal prongs/oxygen hood/face mask/catheter to deliver oxygen to the patient

Steps: Administration of oxygen	
1.	Check for oxygen flow
2.	Check the expiry date of the nasal prong
3.	Wear PPE
4.	Take nasal prong, connect it to oxygen source
5.	Introduce nasal prong to the nostrils
6.	Apply the plaster
7.	Hold it in position (if needed)
8.	Give the amount of oxygen which is needed to reach an oxygen saturation of between 90 to 95 % for newborns and between 95 to 100 % for older children.
9.	If using nasal catheter, select 8 Fr. catheter for infants Measure distance from the side of the nostril to the inner margin of the eyebrow and mark the distance on the catheter
10.	Insert the catheter in one nostril up to the mark level. Tape the catheter on child's cheek.

Key points to remember:

- With nasal prongs, oxygen rate should not exceed 2 L/min
- For hood, maximum rate is 5 L/min
- Oxygen key to be tied along with the cylinder.
- Minimum oxygen flow required for oxygen hood is 3 L/min and maximum is 5 L/min and for prongs it is 0.5 L/min and maximum is 2 L/min. Give the amount of oxygen which is needed to reach an oxygen saturation of between 90 to 95 % for newborns and between 95 to 100% for older children.

Skill 8E – Oxygen concentrator

Labour Room

Objective

By the end of this exercise, the participant will be able to check and assemble the parts of an oxygen concentrator and check for the adequate flow of oxygen.

Steps	
1.	Plug in the power cable and a green light indicating 'power on' comes on
2.	Switch on the concentrator and a red/yellow light will come on
3.	The red/yellow light will be on until the desired concentration of oxygen is achieved
4.	Check the distilled water level in the humidifying jar and ensure that it is filled up to the mark
5.	Adjust the oxygen flow as needed
6.	Place the nasal prongs inside the baby's nostrils and fix them with tape, ensuring that they fit snugly

Key points to remember:

Maintenance:

- Coarse filter – ensure it is free of dust and is washed daily
- Zeolite granules – change every year/ as per manufacturer's recommendation
- Bacterial filter – change as per the manufacturer's recommendation.

Oxygen hood:

- It is used for delivery oxygen to baby
- Has 2 port holes, O2 inlet and baby port
- Delivers FiO2, 90% with port closed, 60% with port opened and 30% with both ports opened
- Clean the hood using soap and water. Never use spirit for cleaning
- Nasal prong is disposable
- Minimum oxygen flow required for oxygen hood is 3 L/min and maximum is 5 L/ min and for prongs it is 0.5 L/ min and maximum is 2 L/min. Give the amount of oxygen which is needed to reach an oxygen saturation of between 90 to 95% for newborns and between 95 to 100% for older children

DAY
3

SKILL 9: CARE OF MOTHER AND BABY AT BIRTH

9A – Assessment of cervical dilatation and effacement
9B – Normal delivery
9C – Essential newborn care (ENBC)
9D – Active management of the third stage of labour (AMTSL)
9E – Recording temperature of the newborn
9F – Weighing the newborn

Skill 9A – Assessment of cervical dilatation and effacement

Cabin Number 2 and Labour Room

Objective

By the end of this exercise, the participant will be able to correlate between assessment of cervical dilation, effacement & station of head with Partograph and likelihood of normal labour.

Steps	
1.	Wash hands and wear HLD/sterilized gloves on both hands
2.	Take an antiseptic solution swab in a sponge holder and clean both labia from above downwards. Repeat the step again using another swab
3.	Discard the swabs in the yellow bucket
4.	Separate the labia, clean with a swab from above downwards
5.	Insert index and middle finger to perform the vaginal examination. Rotate the hand 90 degrees so that palm faces upwards and gently stretch the fingers till the rim of cervix is felt (usually at 3–9 o'clock position)
6.	Assess cervical dilatation (record in cm) e.g. 7cm, dilated
7.	Similarly, feel the rim of the cervix with the index and middle finger, assess the cervical effacement mention in %, or can be reordered as: not effaced, partly effaced, fully effaced
8.	Membranes – Present/Absent. If absent colour of liquor
9.	Check/confirm Presentation – Vertex/breech/empty pelvis*
10.	If Vertex – check- caput (boggy feeling) or moulding*
11.	Station – at spines/above/below
12.	Remove the glove inside out for decontamination in 0.5% chlorine solution.

*It could be fetal malpresentation/obstructed labour so refer the patient to higher centre.

Key points to remember:

- Ensure complete aseptic precaution and gentleness throughout the procedure
- If in active stage of labour (when cervical dilatation is 4 cm and regular contractions), start using the partograph
- Ensure proper disposal of swabs and used material.
- If a woman comes with a complain of preterm labour - differentiate between true and false labour pains by history and per abdomen examination. True Labour pains increase in frequency, intensity and duration of contractions and the pain does not subside even after rest. They are associated with show , dilatation and effacement of cervix and formation of bag of membranes.
- If period of gestation is more than 28 weeks and woman is complaining of labour pains then give Injection Dexamethasone 6 mg, intra-muscularly, 4 doses, 12 hourly to enhance fetal lung maturity and transfer the women to higher centre with facility of SNCU.

Skill 9B – Normal delivery

Cabin Number 2 and Labour Room

Objective

By the end of this exercise, the participant will be able to conduct a normal delivery.

Steps	
1.	Ensure privacy and dignity of the woman. Make her feel comfortable. A male doctor needs a female assistant while performing the examination. Ask if she has understood what is going to be done and ask her permission before undertaking the examination
2.	Put on personal protective attire (wear goggles, mask, cap, shoe covers, plastic apron) Place the plastic sheet or kelly's pad under the women's buttocks and two clean towels on mother's abdomen. Place the perineal sheet/leggings, if available.
3.	Palpate the supra pubic region to ensure that the woman's bladder is not full. If it is full, encourage her to empty the bladder or catheterize
4.	Wash hands and put on sterile gloves
5.	Clean the woman's perineum with sterile swabs
6.	Talk to the woman and encourage her to take breaths through her mouth after every contraction
7.	When the head is visible, encourage her to bear down during contractions
8.	Support the perineum with one hand using a clean pad and control the birth of the head with the fingers of the other hand to maintain flexion, allowing natural stretching of the perineal tissue to prevent tears
9.	Feel around the baby's neck for the cord and respond appropriately if the cord is present
10.	Allow the baby's head to turn spontaneously, then, with the hands on either side of the baby's head, deliver anterior shoulder by gently moving head a little downward which allows shoulder to drop down the symphysis pubis
11.	When the axillary crease of anterior shoulder is seen, deliver the posterior shoulder, lifting the baby upwards towards the mother's abdomen
12.	Support the rest of the baby's body with one hand as it slides out and note the time of birth and sex of the baby and show the mother Place the baby on the mother's abdomen over a clean, dry, pre-warmed towel in a prone position with the head turned to one side.
13.	Quickly dry the baby with a pre-warmed towel, discard the wet towel. Wrap the baby loosely in the second pre-warmed dry towel. Delay cord clamping for 1-3 mins if the baby is crying or breathing well
14.	Palpate the mother's abdomen to rule out the presence of an additional baby/babies and proceed with active management of the third stage (AMTSL) and ENBC
15.	Look for any vaginal or perineal tears; if present, assess the degree of tear and manage accordingly*

Key points to remember:

- All equipment, medicine, and disposables should be made ready before the pregnant women is brought into the delivery room
- The woman is to be moved to the labour table in the active stage of labour
- Unnecessary pushing in-between contractions should be avoided
- Ensure the woman is hydrated and the bladder is empty before encouraging the woman to push
- Avoid routine augmentation of labour before delivery without indication
- If indicated, augment only if facilities for caesarean section are available
- All neonatal equipment for ENBC and resuscitation should be pre-checked and kept ready until the pregnant woman is brought in
- The room temperature should be maintained in the range 26–28°C in the Labour Room and chilly areas will need heaters during winter
- Provide emotional support and reassurance, as feasible
- Encourage presence of a birth companion
- Maintain aseptic technique throughout the procedure
- Cleaning of the labour table should be done immediately after the transfer of mother to the postnatal/observation ward.

*For third-degree perineal tears, refer the woman immediately for higher specialized care with proper, sterilized perineal dressing

Skill 9C – Essential newborn care (ENBC)

Cabin Number 2 and Labour Room

Objective

By the end of this exercise, the participant will be able to demonstrate the steps of essential newborn care.

Steps	
1.	Call out the time of birth and sex of the baby and show the baby to the mother, ensure that details are recorded
2.	Deliver the baby on the mother's abdomen in a prone position with face to one side
3.	If the baby is not crying or not breathing, resuscitate as per GoI guidelines
4.	If the baby is crying, delay cord clamping 1–3mins before cutting
5.	Dry baby with a pre-warmed towel while over mother's breast
6.	Encourage breastfeeding
7.	Check cord for any oozing of blood
8.	Place an identity wristband on the baby
9.	Cover the baby's head with a cap and cover the mother and baby with a warm cloth/sheet
10.	Give the baby an injection of vitamin K
11.	Weigh the baby and record the weight
12.	Check for any congenital malformations

Key points to remember:

- The Labour Room must be warm (maintain room temperature in the range 26–28°C) to avoid hypothermia
- Assess the baby's breathing; if the baby is not breathing or has difficulty in breathing, initiate resuscitation
- Dose of vitamin K in neonates with birth weight < 1000 g – 0.5 mg IM
- Dose of vitamin K in neonates with birth weight > 1000 g – 1.0 mg IM

Skill 9D – Active management of the third stage of labour (AMTSL)

Cabin Number 2 and Labour Room

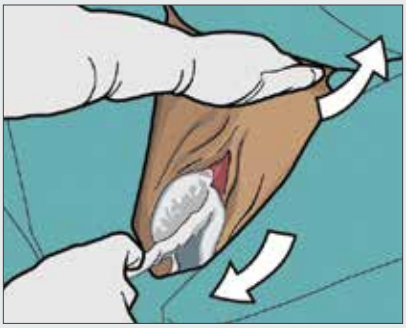
Objective

To build capacity of the participant to perform active management of the third stage of labour.

Steps	
1.	Palpate the mother's abdomen to rule out the presence of an additional baby
2.	Administer inj. oxytocin, 10 IU, IM* OR tab. misoprostol 600 micrograms orally
3.	Clamp the cord with artery clamps at 2 places when cord pulsation stops. Put one clamp on the cord at least 3 cm away from the baby's umbilicus and the other clamp 5 cm from the baby's umbilicus
4.	Cut the cord between the artery clamps with sterile scissors by placing a sterile gauze over the cord and scissors to prevent splashing of blood
5.	Apply the disposable sterile plastic cord clamp tightly to the cord 2 cm away from the umbilicus just before the artery clamp (instrument) and remove the artery clamp
6.	Place the baby between the mother's breasts for warmth and skin-to-skin care
7.	Perform routine steps of ENBC
8.	Re-clamp the cord close to the perineum. Perform controlled cord traction during a contraction by placing one hand on the lower abdomen to support the uterus and gently pulling the clamped cord with the other hand close to the perineum until the placenta and membranes have been delivered appropriately
9.	Perform uterine massage with a cupped palm until uterus is contracted
10.	Examine the placenta, membranes and umbilical cord: a. Maternal surface of placenta b. Fetal surface c. Membranes d. Umbilical cord
11.	Examine vagina, labia and perineum for tears. If found, refer the woman for appropriate care
12.	Discard the placenta in the yellow bin for contaminated waste and place instruments in 0.5% chlorine solution for 10 mins for decontamination
13.	Dispose of the syringe, needle and oxytocin ampoule in a puncture-proof container. The needle should be cut by a hub cutter before disposal
14.	Immerse both gloved hands in 0.5% chlorine solution and remove the gloves inside out; leave them for decontamination for 10 mins
15.	Wash both hands thoroughly with soap and water and dry them with a clean, dry cloth or air-dry them
16.	Perform post procedural task as follows: Advise mother on immediate post-partum care for her and baby Record delivery notes in case file

Key points to remember:

- Check for uterine contraction and vaginal bleeding every 15 mins for 2 hours after delivery
- Never apply CCT without contraction and without applying counter traction (push) above the symphysis pubis with the other hand
- If placenta is not delivered after 30 mins, refer to higher facility for treatment if not available at this facility.



Controlled Cord Traction

Skill 9E – Recording temperature of the newborn

Cabin Number 2

Objective

By the end of this exercise, the participant will be able to record the temperature of a baby correctly. Consider defining a normal range of temperature, i.e. 36.5°C to 37.5°C by rectal measurement.

Using a digital thermometer

Steps	
1.	Take the thermometer out of its storage case
2.	Hold it at the broad end and clean the bulb with a cotton swab soaked in spirit
3.	Press the on/off switch once to turn on the thermometer
4.	Hold the thermometer and place the bulb at the apex of the axilla (ensure that it is dry), keeping it parallel to the body
5.	Check that the baby's arm is by the side of the chest
6.	When the long beep is heard, remove the thermometer and record the displayed temperature
7.	Inform the mother
8.	Turn the thermometer off by pushing the on/off button once
9.	Return the thermometer to its case

Key points to remember:

- The thermometer should be kept dry in the box
- Disinfect the thermometer with alcohol after use – the best method is to wipe the bulb with a cotton spirit swab
- Do not wash the tip of a digital thermometer
- Read the manufacturer's instructions as some digital thermometers have both Celsius and Fahrenheit options.

Note:

- Do not wash the tip of the digital thermometer
- Read the manufacturer's instruction as some digital thermometers have both Celsius and Fahrenheit options

Skill 9F – Weighing the newborn

Seminar Room and Cabin Number 2

Objective

By the end of this exercise, the participant will be able to weigh the newborn using an infant weighing scale and sling scale.

Using the infant weighing scale

Steps	
1.	Place the weighing scale on a flat and stable surface
2.	Identify how much each division represents
3.	Ensure that the pan is centrally placed
4.	Place towel/autoclaved paper on the pan
5.	Adjust the meter to '0'
6.	Before undressing the newborn, ensure that the room temperature is maintained
7.	Undress and place the baby on the centre of the weighing pan
8.	Take a reading when the pointer is still
9.	Mother can gently keep a hand on the baby to pacify and then momentarily withdraw hand at the time of reading
10.	Record the reading in the register
11.	Inform the mother of the baby's weight
12.	Remove the baby from the weighing scale and dress the baby again quickly
13.	Give the baby to the mother/place back in the baby bassinet (radiant warmer)
14.	Remove the used towel/autoclaved paper
15.	Clean the pan

Key points to remember:

- Ensure the weighing machine is placed on a flat surface and the pan is placed centrally
- Adjust the scale to '0' each time before measuring the weight of the baby
- Take care to prevent hypothermia by quickly undressing and dressing the baby during weighing
- Record the weight accurately

Using the colour-coded sling scale

Steps	
1.	Hook the sling on the scale
2.	Hold the scale by the top bar, keeping the adjustment knob at eye level
3.	Turn the screw until '0' is visible
4.	Remove the sling from the hook and place it on a clean cloth
5.	Place baby in the sling with minimum clothes on and put the sling back on the hook
6.	Hold top bar carefully, lift the scale and sling along with the baby until the knob is at eye level
7.	Read the weight
8.	Gently unhook the sling with baby
9.	Remove the baby from the sling and handover the baby to the mother
10.	Record the weight and inform the mother

DAY
3

SKILL 10: NEWBORN RESUSCITATION

Labour Room

Objective

By the end of this exercise, the participant will be able to resuscitate a newborn baby.

Steps	
1.	If baby is not breathing, clamp and cut the cord immediately AND Call for help
2.	Shift the baby under the radiant warmer
3.	Position the baby in slight neck extension using a shoulder roll
4.	If there is thick meconium AND the baby is unresponsive, suction should be carried out before drying the baby. If there is no meconium, there is no need to do suction.
5.	Dry the baby
6.	Reposition
7.	Assess the breathing and heart rate for 6 seconds
8.	Apply appropriately sized mask (0 for preterm and 1 for term baby) correctly covering the mouth and nose up to chin
9.	Start providing positive pressure ventilation (PPV) or bagging. Start with 5 prolonged inflation breaths (lasting 2-3 seconds)
10.	When chest rise is seen, this indicates good ventilation technique
11.	If chest does not rise, check for correct position, look for leaks from the face mask/seal and give a further 5 inflation breaths
12.	Assess breathing and heart rate for 6 seconds. If available, apply pulse oximeter probe and connect it to the machine
13.	If baby not breathing well and/or HR < 100: continue PPV (bagging) for 30 seconds at a rate of 40–60 breaths/min (calling out '1, 2, squeeze')
14.	Provide oxygen if available. For newborns, give the amount of oxygen which is needed to reach an oxygen saturation of between 90 to 95 %. To administer too much oxygen to a newborn, particularly a preterm, can cause serious damage to the retina and blindness
15.	If baby breathing well and HR > 100:refer for observational care, asking for help to fill in the details of resuscitation
16.	If no improvement, continue bag and mask ventilation and prepare to refer to appropriate centre. Continue bagging

Key points to remember:

- Suction of the mouth and nose in newborn babies can be harmful and should only be carried out if there is thick meconium and the baby is unresponsive
- Routine suction is not recommended if the newborn is crying even if the liquor is meconium stained
- If the baby is not breathing, call for help
- Ensure that the bag and mask is functional and ready for use.
- The masks are available in sizes 0 and 1 for preterm and term babies
- Normal newborn respiration is 40–60 breaths/min.
- For newborn oxygen should be given to reach an oxygen saturation of between 90-95%. To administer a fixed flow of oxygen without ensuring this is checked can cause serious damage to the retina and blindness.

SKILL 11: MANAGEMENT OF SHOCK: PRESENTATION

Shock

Time is the essence to save life

- Failure of circulatory system to maintain adequate perfusion of vital organs
- Life threatening
- Requires immediate and intensive treatment as a team

Rapid Initial Assessment

Assess responsiveness:

- Call by name
- Tap on shoulder/press on sternum
- Rapidly assess using AVPU
  - A - Patient alert
  - V - Responding to voice
  - P - Responding to pain
  - U – Unresponsive
- Performed to determine
  - Degree of illness
  - Need for emergency care/stabilization

Assess Circulation

Signs of circulatory failure

- Cold clammy extremities
- Low volume pulse/no peripheral pulse
- Tachycardia, rapid thready pulse more than 110/min
- BP low/unrecordable < 80mmHg
- Cyanosis
- Pale look

Assess Breathing

- Not breathing
- Rapid breathing (30 breaths/minute or more)
- Obstructed breathing or gasping
- Wheezing or rales
- Cyanosis

Diagnosis of Shock

- Measure pulse and blood pressure
- Diagnose shock if:
  - PR ≥ 110/ min
  - Systolic BP < 80 mmHg
- Look for other S/S of shock
  - Perspiration
  - Rapid breathing (≥ 30 breaths/min)
  - Anxiousness or confusion
  - Unconscious or nearly unconscious
  - Cool and clammy skin
  - Scanty urine(< 30ml/ hr)

Intravenous Replacement of Fluids

- Giving IV fluids is the first line of treatment for hypovolemia
- Intravenous replacement therapy includes giving crystalloid fluids e.g. normal saline, ringers lactate
- IV fluids should normally be given when losses amount to 700 ml **i.e. 15 % of circulating blood volume**
- Limited role of colloids for resuscitation
- In case of heavy bleeding, blood transfusion will be required
- During fluid/blood replacement:
  - Monitor Pulse, BP, temp.
  - Auscultate lungs
  - Look for allergic reactions

Calculation of Intravenous Fluid

Circulating volume lost	Signs
Up to 500 ml	No symptoms or signs
1.5 L	Increase in pulse and respiratory rate, cold, pale
2 L	Increase in pulse and respiratory rate, only now fall in BP, cold, clammy, agitated
Over 2 L	Rapid pulse and respiratory rate, low BP, cold, clammy, confused, agitated, aggressive

Manage specific Cause Haemorrhage

- Check source (reason for bleeding e.g. retained placenta, retained products of conception, atonic uterus
- Start IV drip ASAP
- Give blood transfusion as needed
- Ensure volume replacement – monitor with pulse, BP, urine output
- Oxytonics for atonic uterus
- Manual removal of retained placenta
- Manual vacuum aspiration (MVA) or Dilatation and curettage (D&C) for retained products

Manage Specific Cause-Infection

- If facilities available, collect samples of blood, urine, pus for culture
- Give antibiotics to cover aerobic and anaerobic infections until fever-free for 48 hours (DO NOT GIVE BY MOUTH):
  - Inj. Ampicillin 2 g IV every 6 hours
  - Inj. Gentamicin 5 mg/kg body weight IV every 24 hours
  - Inj. Metronidazole 500 mg IV every 8 hours

Manage Specific Cause-Trauma

Prepare for surgical intervention for:

- Rupture uterus
- Abdominal trauma
- Injuries/ Tears

Shock: Reassessment

- Reassess response within 30 min to determine improvement
  - Stabilizing pulse (rate ≤ 90 beats/min)
  - Increasing blood pressure (systolic ≥100 mmHg)
  - Improved mental status (less confusion/anxiety)
  - Increasing urine output (≥ 30 ml/hour)
- If improving:
  - Adjust IV infusion rate to 1 litre in 6 hours
  - Continue management for cause of shock
- If not improving or stabilizing, refer for further management to higher center

Referral Protocol

- Transfer the woman with IV line intact
- Prepare referral slip with case details
- Inform about the patient to the referral facility
- Arrange transportation and if possible accompany the patient
- Ensure care by emergency medical technician (EMT) during transportation
- IV fluids, Oxygen and other emergency measures to be continued
- Transfer the baby with the mother

Communication With Family

- Talk effectively to woman if she is conscious and her family explaining her condition, diagnosis and prognosis
- Be sensitive, supportive and responsive to her needs
- Respect her dignity and right to privacy
- Be non-judgmental and empathetic
- Provide emotional and psychological support

Summary

- Shock is life threatening for mother directly and for the baby indirectly (maternal deprivation)
- Prevent shock by early identification of risk factors and appropriate management
- Manage the cause of shock as per protocols
- Manage shock as a team promptly by fluid replacement and diagnosis and then treatment of the cause of shock
- Transport the woman when stabilized with head turned to one side and foot end elevated
- During referral make sure IV running and all other management/treatment in place
- During referral of the mother, send the baby with her
- Accompany the woman during referral if possible
- Ensure correct notes/referral notes sent with patient

DAY 4

SKILL 11: MANAGEMENT OF SHOCK:

11A – Rapid initial assessment

11B – Hypovolemic shock – IV fluid replacement

Skill 11A – Rapid initial assessment

Cabin Numbers 1& 2

Objective

To orient the trainees to acquire the different skills for the management of shock using the CAB approach and learn about volume replacement.

(Pulse, blood pressure and respiratory rate should be assessed in a woman in shock.)

Steps	
1.	Shout for help
2.	▪ Start 2 IV lines ▪ Collect blood sample for grouping and cross-matching ▪ Connect NS/RL
3.	Assess rapidly the woman's circulation by monitoring pulse, blood pressure, skin colour and mental state, and record
Here the facilitator would prompt: Giving the values (RR,BP, pulse)	
4.	Assess airway patency by looking at chest movements, listening by stethoscope and/or feeling the air through nostrils
5.	If the airway is not patent, perform 'head tilt–chin lift' and jaw thrust
6.	Observe breathing
7.	Turn patient on her side to minimize risk of aspiration
8.	Give oxygen @ 6–8 L/min by mask
9.	Keep the woman warm
10.	Elevate her legs to increase venous return
11.	Loosen tight clothing
12.	Catheterize the bladder
13.	Monitor vital signs (pulse, blood pressure, breathing) and skin temperature every 15 mins
14.	If the woman is not breathing: ▪ Shout for help ▪ Suction only if vomit or blood present ▪ Positioning ▪ Mouth gag ▪ Give 30 chest compressions followed by 2 breaths using bag and mask @ 100 compressions/min ▪ Press sternum vertically to depress it by 4–5 cm Each breath should be provided for 1 second and should raise the chest
15.	If the woman is breathing: ▪ Rapidly evaluate her vital signs (pulse, blood pressure, breathing) ▪ Prop on left side ▪ Give oxygen at 6–8 L/min ▪ Ensure airway is clear, all the time Once stabilized – manage accordingly

Contd.

Steps for catheterization:	
16.	▪ Check the expiry date on the pack(16–18 Foley's catheter) ▪ Open the pack and leave it partially drawn out on the sterile tray ▪ Wash hands and put on sterile gloves ▪ Clean the vulva with wet cotton swabs soaked in cetrimide solution ▪ Separate the labia major a and insert the tip of Foley's catheter in the urinary meatus ▪ Push the catheter and connect the other end of the catheter to the urobag ▪ Check the flow of urine
17.	Inflate the bulb of the catheter with 10 ml normal saline
18.	Maintain and monitor the input/output chart

Steps for removal of catheter

Steps	
1.	Put on a sterile pair of gloves
2.	Take a 10 ml syringe and attach the barrel of the syringe to the short end of the catheter
3.	Deflate the bulb by withdrawing normal saline with the help of the syringe
4.	Pull out the catheter and dispose ofthe catheter and urobag as per the guidelines

Skill 11B – IV fluid replacement in hypovolemic shock

Cabin Numbers 1 & 2

Steps	
1.	Fluid replacement is the first line of treatment for hypovolemia
2.	Provide time for control of bleeding and obtain blood for transfusion
3.	Intravenous replacement therapy
4.	Crystalloid fluids – normal saline, Ringer's lactate, dextrose or dextrose in normal saline
5.	Volume required is 3 times the volume lost NS/RL is rapidly infused at the rate of 1 L in the first 15 mins followed by 1 L in the next 30-45 mins
6.	In the case of heavy bleeding, blood transfusion will be required

Key points to remember:

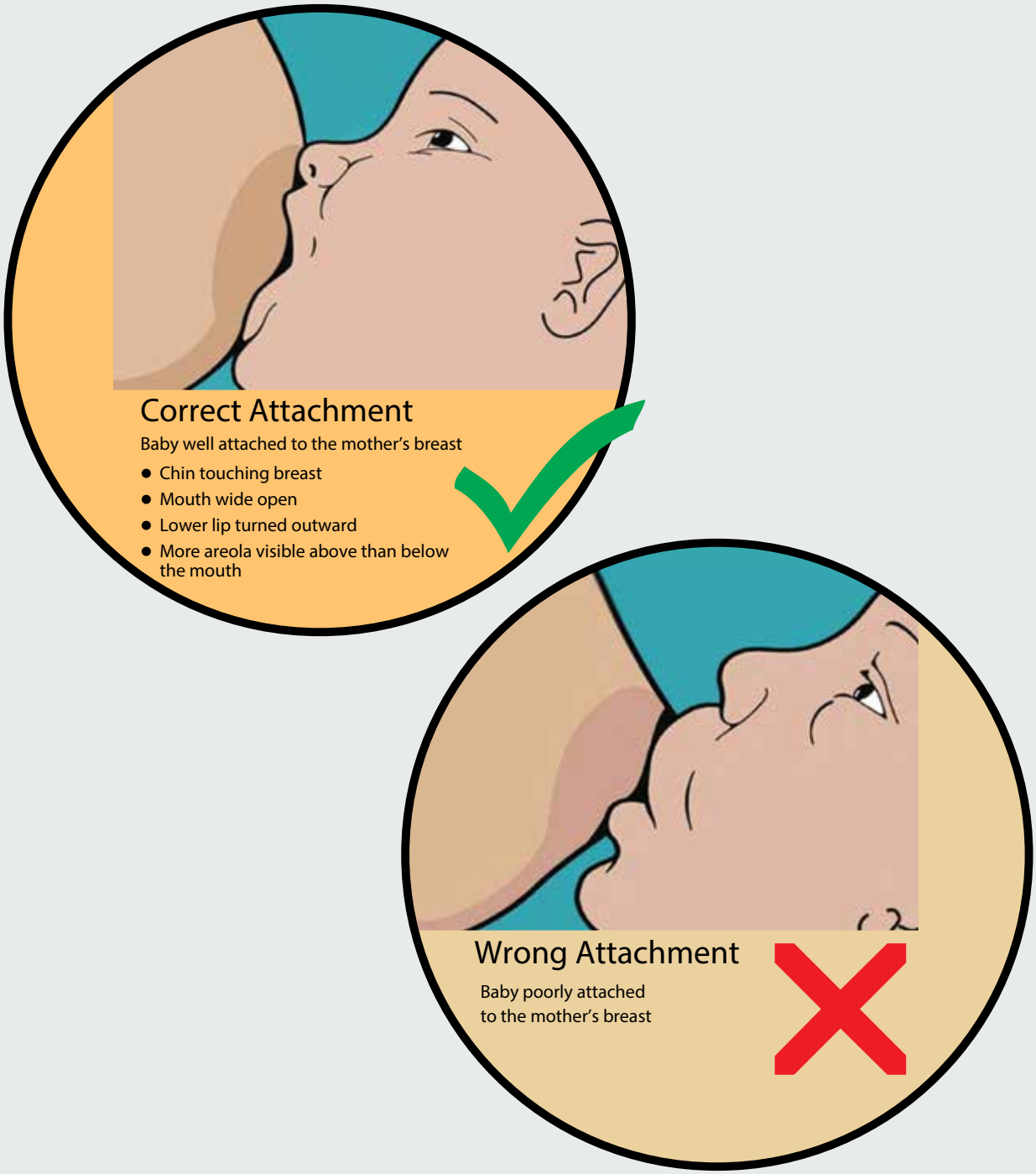
- Emphasize that fall in BP is a LATE sign, pulse goes up first (!)
- IV fluids should normally be given when losses amount to 700 ml, i.e., 15 % of circulating blood volume, at which stage subtle or no signs of hypovolemia will be apparent in the presence of hypovolemia
- Sizes of cannulae: 20 g (pink) can run 1 L in 15 mins, 18 gauge (green) can run 1 L in 10 mins, 16 gauge (grey) can run 1 L in 5 mins
- If available, blood should be given when maternal losses exceed 1.5 L, i.e., 30% of circulating blood volume
- Crystalloids should be given initially and infused rapidly
- Estimated replacement is usually 3x the blood loss as crystalloid, but needs to be guided by clinical condition: pulse, BP, RR. If the patient is shocked then fluid can be run as fast as the drip will allow, remembering to check lung bases to rule out pulmonary oedema
- Colloids are usually given if more severe hypovolemia develops.

DAY 4

SKILL 12: POSTNATAL CARE

12A – Breastfeeding

12B – Kangaroo Mother Care (KMC)



Skill 12A – Breastfeeding

Plenary session in Seminar Room

Objective

By the end of this exercise, the participant will be able to help mother's breastfeed in the correct position.

Steps	
1.	Advise the mother to sit or lie in a comfortable position and help the mother to initiate breastfeeding
2.	Provide advice for the cleaning of nipple and breast as part of routine care
3.	Describe and demonstrate rooting reflex
4.	Describe and ensure correct position: ▪ Baby's body is well supported ▪ The head, neck and the body of the baby are kept on the same plane ▪ The entire body of the baby faces the mother ▪ Baby's abdomen touches mother's abdomen
5.	Describe and ensure good attachment: ▪ Baby's mouth is wide open ▪ Lower lip is turned out ▪ Chin is touching her breast ▪ Larger area of the areola is visible above than below
6.	Describe and ensure effective suckling – slow, deep sucks with pauses, visible signs of swallowing at the throat
7.	Advice on burping after breastfeeding
8.	Inform the mother regarding the frequency of feeding (at least 8 times in 24 hours including night feeds) and the importance of emptying the breast and hind milk
9.	Inspect breasts for sore nipples, cuts and engorgement
10.	Counsel on advantages of colostrum feeding and reinforce exclusive breastfeeding
11.	Counsel regarding correct diet, adequate rest and stress-free environment

Skill 12B – Kangaroo Mother Care (KMC)

Plenary session in Seminar Room

Objective

By the end of this exercise, the participant will be able to demonstrate kangaroo mother care.

Steps	
1.	Counsel the mother, providing privacy to the mother Request the mother to sit or recline comfortably
2.	Undress the baby gently, except for cap, nappy and socks
3.	Place the baby prone on mother's chest in an upright position with the head slightly extended, between her breasts in skin-to-skin contact in a frog-like position
4.	Turn baby's head to one side to keep airway clear
5.	Support the baby's bottom with a sling/binder
6.	Cover the baby with mother's 'pallu' or gown; wrap the baby-mother duo with an added blanket or shawl depending on the room temperature
7.	Advise mother to breastfeed the baby frequently
8.	Ensure the room is warm by using a room heater as necessary (26–28°C)
9.	Advise the mother to provide KMC for at least 1 hour/session. Skin-to-skin contact should be maintained as long as possible

Key points to remember:

- Eligibility criteria for KMC
  - □ All babies of low birth weight
  - □ Sick, haemodynamically stable babies needing special care (even those on IV fluids or on oxygen)
- The 2 components of KMC are:
  - □ Skin-to-skin contact
  - □ Exclusive breastfeeding
- The 2 pre-requisites of KMC are:
  - □ Support to the mother in hospital and at home
  - □ Post-discharge follow-up
- Benefits of KMC
  - □ Reduces risk of hypothermia
  - □ Promotes lactation and weight gain
  - □ Reduces infections and hospital stays
  - □ Better bonding between mother and newborn

DAY
4

SKILL 13: USING MULTI-DOSE INHALER (MDI) WITH SPACER AND NEBULIZER

13A – Metered-dose inhaler with spacer

13B – Nebulizer

Skill 13A – Metered-dose inhaler with spacer

Plenary session in Seminar Room

Objective

To build capacity of the participant to correctly use:

- MDI with spacer
- Nebulizer

Checklist: Multi-dose inhaler with spacer

Note: Inhalation by MDI spacer needs 4 puffs at intervals of 2-3 mins to get an equivalent dose for a single salbutamol nebulization.

Steps	
1.	Check expiry date of the inhaler
2.	Shake the container
3.	Remove the cap from the inhaler
4.	Connect it to the spacer
5.	Attach the mask to the mouthpiece of the spacer
6.	Instruct the mother to hold the child in the proper position
7.	Place the mask over the child's nose and mouth so that it makes a seal with the face
8.	Press down on the inhaler canister to spray 1 puff of medicine into the spacer
9.	Allow the child to breathe in and out slowly for 5 breaths
10.	How to know the medicine is dispersed (prompt by the instructor):
11.	Momentary misting of the spacer and hissing noise
12.	When to administer next dose (prompt by instructor):
13.	Wait for 2-3 mins, shake the inhaler and repeat the steps

Key points to remember:

- Shake canister before use
- Only use recommended dose

You may repeat the exercise with a child of more than 2 years. The following points would be different:

- No mask
- Mouth end of the spacer should be placed in the child's mouth

Skill 13B – Using a nebulizer

Plenary session in Seminar Room

Objective

To demonstrate the correct use of a nebulizer on a mannequin/ volunteer.

Steps	
1.	Wash hands thoroughly before using a nebulizer
2.	Ensure the equipment is clean
3.	Measure the correct dose of medication to be administered and pour into the nebulizer chamber (cup)
4.	Add saline solution to make the volume up to 3 ml
5.	If the medicine is in single-use vials, twist the top off the plastic vial and squeeze the contents into the nebulizer cup
6.	Connect the nebulizer tubing to the port on the compressor Turn the compressor on and check the nebulizer for misting
7.	Connect the mouthpiece, or mask, to the T-shaped elbow (face mask for smaller children and mouthpiece for older children)
8.	Hold the nebulizer in an upright position to avoid spillage while using the mask; ensure that it fits well In older children, ask the patient to keep the mouthpiece inside the mouth and close lips around it
9.	Ask the patient to take slow deep breaths and, if possible, hold their breath for up to 10 seconds before exhaling. Occasionally, tap the side of the nebulizer to help the solution drop to where it can be misted
10.	Consider providing oxygen along with the nebulizer

DAY
4

SKILL 14: SETTING UP AN IV LINE

Cabin Number 2

Objective

By the end of this exercise, the participant will be able to:

- Organize supplies for IV cannulation
- Perform the procedure of IV cannulation
- Fix the cannula.

Steps	
1.	Identify and collect the necessary equipment for IV cannula insertion: sterile cotton swabs, IV cannula – sizes 18 & 20 gauge, povidone Iodine, alcohol/spirit swabs, adhesive tape, 2 ml normal saline flush in a 2/5 ml syringe, splint, sterile gloves, tourniquet
2.	Identify the site of insertion
3.	Apply tourniquet proximal to the identified vein
4.	Wash hands and wear gloves
5.	Clean the site with alcohol and wait for 30 seconds
6.	Apply povidone iodine solution
7.	Remove the povidone iodine using alcohol and allow to air-dry for 30 seconds
8.	Hold the IV cannula and prick the skin at an angle of 15degrees
9.	Advance the stylet with cannula till a gush of blood is seen in the hub of the stylet
10.	Progress the IV cannula slowly while withdrawing the stylet till the cannula is fully inserted
11.	Keep the stylet in a sterile container
12.	Flush with 2 ml of normal saline to check for smooth flow of the fluid
13.	Close the hub end with the stopper
14.	Fix the IV cannula with adhesive tape
15.	Splint the part if required
16.	Stylet is destroyed using needle destroyer/discarded in puncture-proof container

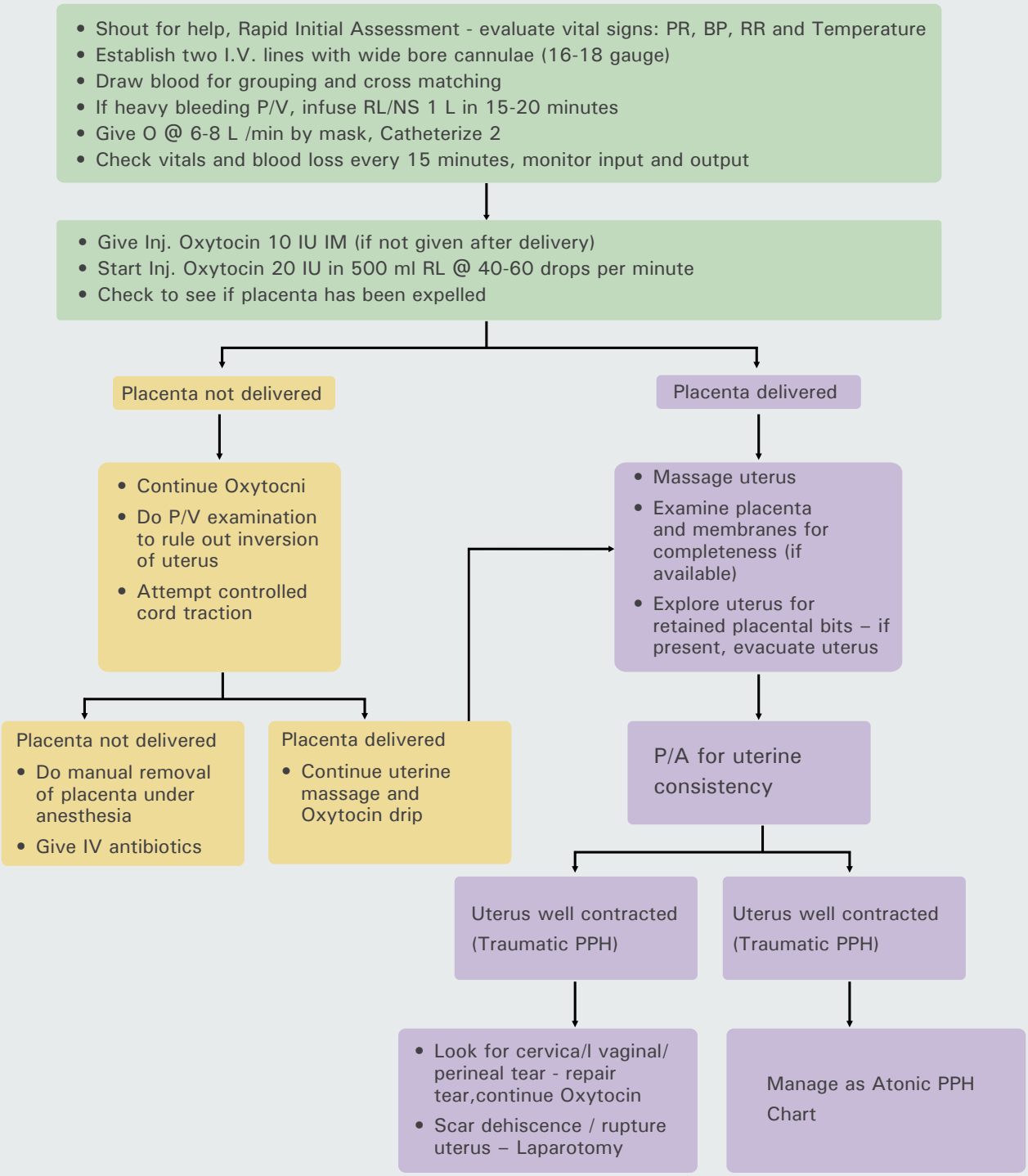
Key points to remember:

- Adopt aseptic precautions and injection safety methods
- Prepare the skin using spirit–betadine–spirit; use the appropriate size of cannula
- Dispose of sharps and plastic waste as per IMEP guidelines
- Do not apply the adhesive in such a way that it encircles the entire arm.

DAY 4

SKILL 15: MANAGEMENT OF POST-PARTUM HAEMORRHAGE (PPH)

Cabin Numbers 1 & 4



Objective

By the end of this exercise, the participant will be able to:

- Identify PPH and its probable cause.
- Provide initial management and refer for specialist care.

Steps	
1.	Shout for help
2.	Reassure the woman
3.	Give inj. oxytocin 10 IU IM if not given after delivery
4.	Start 2 IV lines, collect blood sample Start Ringer's lactate
5.	Add inj. oxytocin 20 IU in 500ml Ringer's lactate @ 40–60 drops/min
6.	Check the woman's vitals (pulse, blood pressure, respiration)
Here the facilitator would prompt: Giving the values for pulse, BP and respiratory rate	
7.	Assess whether she is in shock
8.	Catheterize the bladder
9.	Check for hardening of uterus
10.	If the uterus is floppy and soft and not contracted (atonic). If atonic start uterine massage
11.	Wash hands and wear surgical gloves
12.	Check for retained placenta or perineal tears
13.	Continue to massage the uterus
14.	Inform woman and her attendant of need for bimanual compression.
15.	Wear long gloves and perform bimanual compression of the uterus
Here the facilitator would prompt: How long should you do the compression?	
16.	Till the uterus is felt like a cricket ball and there is no fresh bleeding
17.	Monitor pulse, BP and RR every 10 mins until condition improves
18.	Ask for help to fill in the referral form
19.	Call for an ambulance
20.	If possible at level of facility, organize uterine tamponnade e.g. using condom catheter before referral if needed.
21.	Refer to a higher facility for specialist care with accompanying trained personnel

Key points to remember:

- While starting the IV line, a blood sample must be withdrawn for cross-matching
- If the patient needs to be referred, a detailed referral note must be prepared about vital signs, medication given, blood group (if known), etc.
- If PPH is due to retained placenta, refer to an FRU for specialist care (manual removal of placenta)
- If bleeding is from lacerations, compress with swab or piece of gauze for a few seconds until it is controlled.
- If bleeding is from tears or an episiotomy, and if skilled to do so, carry out a repair.
- If uterus is not contracted even after massage and no retained placenta – repeat oxytocin 10 IU, IM or IV.

DAY 5

SKILL 16: ADMINISTRATION OF MAGNESIUM SULPHATE FOR MANAGEMENT OF SEVERE PRE-ECLAMPSIA/ECLAMPSIA

Cabin Number 1

Immediate Management

1. **Keep her in quiet room in bed with padded rails on sides**
2. **Position her on left side, Oropharyngeal airway to be kept patent.**
3. **Ensure preparedness to manage maternal and foetal complications**

Oxygen by mask at 6-8 l/min, Start IV uids-RL/ NS at 60 ml/hr, Catheterize with indwelling catheter

Anti Hypertensive

- If Diastolic BP 100 mmHg
- Strict BP monitoring
- Oral Nifedepine 10 mg stat, repeat after 30 minutes if needed (if pt unconscious through ryles tube) OR
- Inj Labetalol 20 mg IV bolus, repeat 40 mg after 10 minutes again repeat 80 mg every 10 minutes if needed (maximum 220 mg) with cardiac monitoring

Anti Convulsants

- **Magnesium Sulfate is drug of choice**
- **Loading dose:**
  - □ 50% of 4 gm diluted to 20% (8 ml drug with 12 ml NS) to be given slowly IV in 5 minutes
  - □ 5 gm IM (50%) each buttock with 1 ml of 2% Xylocaine (Total 10 gm)
  - □ If recurrent ts after 30 minutes of loading dose – repeat 2 gm 20% (4 ml drug with 6 ml NS) slow IV in 5 minutes
- **Maintenance dose:**
  - □ 5 gm IM (50%) alternate buttocks after monitoring every 4 hourly
- **Monitor:**
  - □ Presence of patellar jerks
  - □ Resp. rate (RR) 16/min
  - □ Urine output 30 ml/hr in last 4 hours
- **Continue till** 24 hours after last t/ delivery which ever is later
- If Patellar jerk absent or urine output < 30 ml/hr withhold Magsulf and monitor hourly– restart maintenance dose if criteria fullled
- If RR < 16/min, withhold Magsulf, give antidote – Calcium Gluconate 1 gm IV 10 ml of 10% solution in 10 minutes

- Deliver the baby irrespective of gestational age
- Admission-delivery interval should not be more than 12 hours

Favourable Cervix	Unfavourable Cervix
• Induction with ARM and Oxytocin • 2nd stage to be cut short by Forceps/ Ventouse	• Ripening with Dinoprostone gel/ intracervical indwelling catheter and after 6 hours

Objective

To build capacity of the participant to perform initial management of pre-eclampsia/eclampsia by administering magnesium sulphate.

Steps	
1.	Wash hands thoroughly with soap and water, and dry before and after the procedure. Wear gloves before starting the procedure
2.	Keep ready 10 ampoules of 50% magnesium sulphate (I ampoule = 2 ml = 1 g)
3.	Prepare 2 syringes (10 ml syringe and 22 gauge needle) with 5 g (10 ml) of 50% magnesium sulphate solution. if lignocaine is available, administer the magnesium sulphate solution with 1 ml 2% lignocaine to each buttock to prevent pain associated with the injection
4.	Carefully clean the injection site with an alcohol wipe
5.	Give 5 g (10 ml) by DEEP IM injection in one buttock (upper outer quadrant) and give the same dose on the other buttock as well
6.	Cut the needle with a hub cutter and dispose of the used syringes in a proper disposal box
7.	Record the drug administration and findings on the woman's record

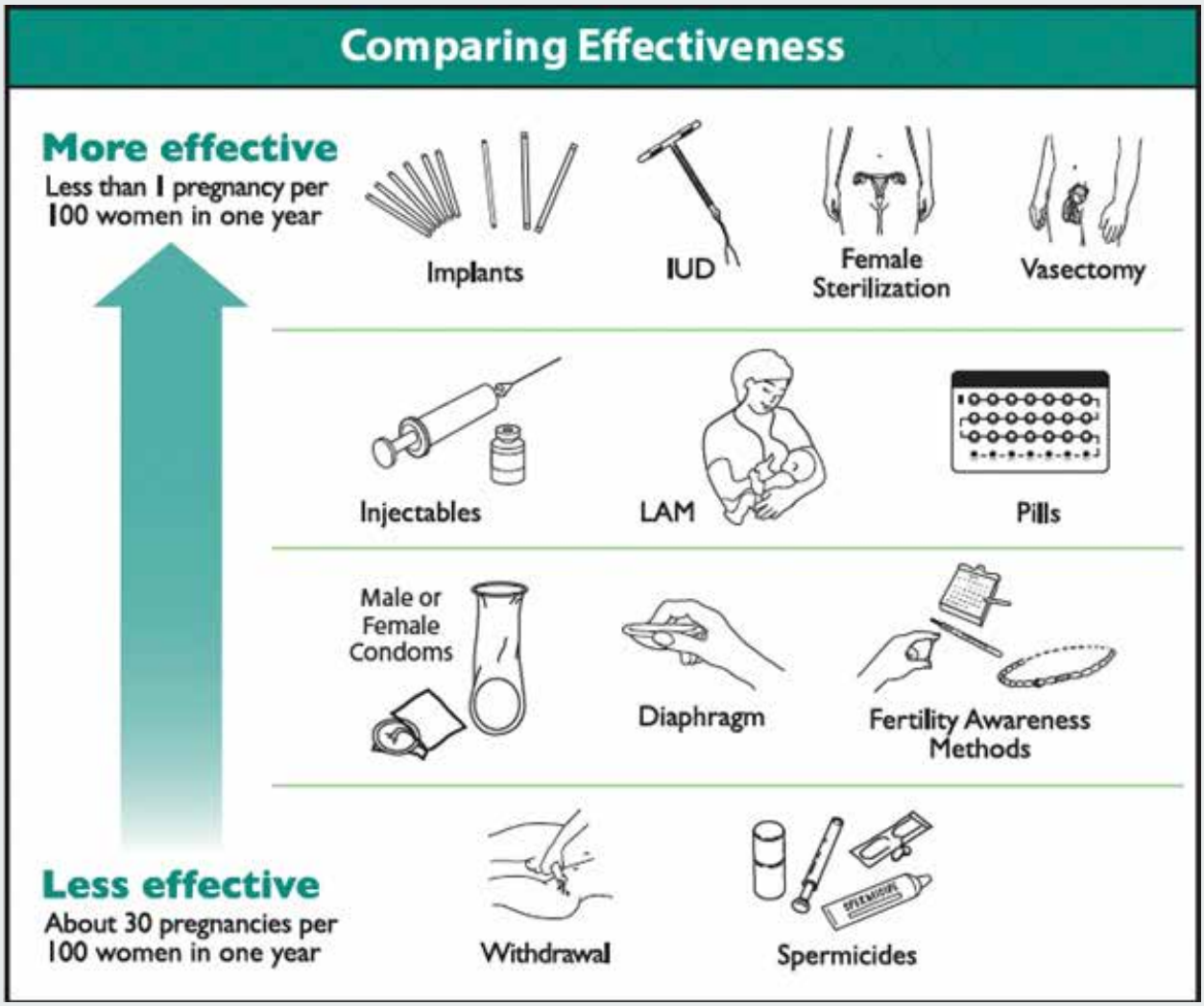
Key points to remember:

- If the woman is conscious, tell her that she may experience a feeling of warmth when magnesium sulphate is administered
- Cases of eclampsia should be referred to a higher facility if the treatment is not available at your facility
- Ensure that any patient being referred is transported with the basic life support required to manage eclampsia including initial dose of magnesium sulphate
- In the case of eclampsia, put on a mouth gag to ensure patent airway.
- Steps for preparing 4 g of 20% MgSO4 from 50% MgSO4are given below:
- Add 12 ml of distilled water/ normal saline to 8 ml of 50% MgSO4. This can be administered slowly by IV over 5 mins

DAY 5

SKILL 17: INTERVAL INTRAUTERINE CONTRACEPTIVE DEVICE (IUCD)

Cabin Number 3 & 4



Objective

By the end of this exercise, the participant will be able to demonstrate insertion and removal of interval IUCD.

Steps	
1.	Confirm the eligibility of the client for IUCD. Note the date of last menstrual period
2.	Check the IUCD pack and the necessary instruments. Check the IUCD pack for expiry date and for tears in the pack. Read the instructions
3.	Explain the procedure to the client and ask her if she has any questions
4.	Ask the woman to empty her bladder and wash the perineal area
5.	Wear PPE (cap, mask, goggles, apron, shoe cover)
6.	Wash hands thoroughly, dry them and put on sterile gloves
7.	Inspect the external genitalia and perform bimanual examination, and note the size and position of the uterus
8.	Remove the outer gloves and discard in the appropriate bin
9.	Perform speculum examination and check the cervix and vagina for any signs of infection
10.	Clean the cervix and vagina with an antiseptic solution
11.	Hold the anterior lip of the cervix with volsellum forceps
12.	Introduce the uterine sound gently, using the no-touch technique, into the uterine cavity and advance it as far as the uterine fundus. Remove the sound and note the length of uterine cavity
13.	▪ IUCD is loaded using the no-touch technique ▪ Before opening the sterile pack, adjust the IUCD over the paper scale in the packet ▪ Open the pre-sterilized package containing the IUCD from the lower end, halfway ▪ Put the plunger rod inside the insertion tube without touching it ▪ Place it on a hard surface ▪ Adjust the blue gauge over the insertion tube at the level decided by the utero-cervical length ▪ The horizontal limbs of the IUCD are folded and manipulated inside the inserter tube inside the sterile package ▪ Align the length-gauge and folded arms of the T to a horizontal position ▪ Now the loaded IUCD is ready for insertion (Loading and plunger rod steps are not required in Cu 375 insertion)

Key points to remember:

- Ask the woman to report it if:
- She misses her menstrual period
- The device is expelled
- There is heavy vaginal bleeding
- There is significant pain in the lower abdomen
- Fever and purulent vaginal discharge occur.

14.	Carefully insert the loaded IUCD into the cervical canal and gently advance it into the uterine cavity till a resistance is felt and the gauge comes to the level of the external cervical os
15.	While holding the plunger rod stationary, withdraw the insertion tube with one hand, until it touches the circular thumb grip of the plunger rod. Hold the insertion tube stationary and remove the plunger rod
16.	Withdraw the insertion tube from the cervical canal locate the strings
17.	Cut the strings at 3 to 4 cm from the cervical opening using sharp scissors
18.	Gently remove the volsellum and the speculum
19.	Put all the used instruments and used gloves in 0.5% chlorine solution for 10 mins for decontamination before further processing
20.	Wash hands thoroughly and dry them
21.	Provide post-insertion instructions – warning signs (PAINS), possible side effects, etc.
22.	Maintain the record and fill in the IUCD card

Steps for the removal of the IUCD

Steps	
1.	Check the IUCD tray contains long straight artery forceps
2.	Ask the woman to empty her bladder; wash the perineal area
3.	Wash hands thoroughly with soap and water and put sterile gloves on both hands
4.	Insert an HLD/sterile speculum and locate the IUCD strings at the cervical opening
5.	Clean the cervix with an antiseptic solution
6.	Hold the anterior lip of the cervix with a vulsellum
7.	Grasp the strings of the IUCD with sterile straight artery forceps
8.	Gently pull the strings by applying steady but gentle traction with the artery forceps
9.	Show the IUCD to the woman and place it in 0.5% chlorine solution for 10 mins for decontamination
10.	Gently remove the vulsellum and speculum
11.	Put all the used instruments, gloves and IUCD in a 0.5% chlorine solution for 10 mins for decontamination before further processing
12.	Wash hands thoroughly and dry them
13.	Maintain the record and fill in the IUCD card.

Scenarios for Role Play

Introduction to Role Play

Introduction

Role plays are simulation exercises which mimic real life situations. They are a good medium to teach and learn counselling skills. The trainees can home their skills under the expert guidance and mentorship of the trainers. Themes such as active listening, positive body language, respectful tone, privacy and confidentiality, respect for clients rights and provision of relevant and correct information as per the clients' needs can be better demonstrated and practiced through role play than through didactic training. The role plays promote a participatory, interactive approach to accentuate dual communication, interaction and dialogue.

Objectives

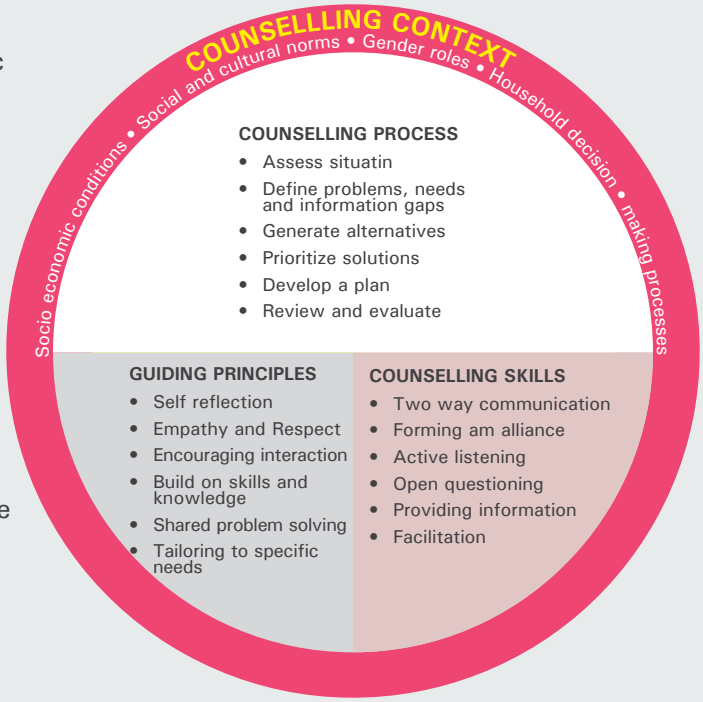
By the end of this session, the trainees will be:

- Aware of the elements of good interpersonal communication including verbal and non-verbal communication, and the clients' rights to quality health care services.
- Able to help the client to make her own decisions in the best possible way, respecting a woman's privacy and right to take her own decision.
- Able to provide correct and relevant information regarding family planning, adolescent health care, diet and nutrition for women during pregnancy and care of children, including immunization.
- Able to help her find solutions and generate alternatives.

General information on Counselling Clients

Counselling principles including self-reflection, empathy and respect and where possible shared problem-solving are emphasized. The value of forming an alliance with the pregnant woman and her family (or the community at large) is discussed and ways of facilitating a two-way discussion through open questioning and active listening are explored.

Figure 1. Schematic Overview of the Counselling Process



The above figure details the counselling processes, guiding principles and counselling skills.

Developing excellent communication skills is extremely important for service providers to initiate a cognitive process in the client, educating her about her rights to healthcare, and facilitating her to make decisions that are the most appropriate for her.

The rights of clients

- **Right to information:** clients have the right to know the choice of services available to them and the details of the service they opt for. All their questions must be answered honestly and accurately and in a language and manner that they can understand.
- **Right to access to health services:** All clients have a right to obtain health services regardless of sex, age, religion, socio-economic status, marital status, or location.

- **Right to informed choice:** individuals and couples should be given the information needed to enable them to decide freely whether or not to use a particular service. Even within a service, if there are options available, such as contraceptive options, clients should be assisted in choosing an option based on their preferences and medical eligibility.
- **Right to safety:** the services offered to the clients must be of good quality and not endanger the life and health of the clients.
- **Right to privacy:** both auditory and visual privacy should be ensured. This will also ensure honest and open communication.
- **Right to confidentiality:** all information provided by the client should be kept confidential (unless required in the court of law). For adolescents, the relevant laws regarding parent/guardian consent should be followed.
- **Right to dignity:** clients should be treated with full respect to maintain their dignity.

The GATHER Approach

It is recommended that providers follow the GATHER approach. The six elements are:

G-Greet:

- Greet the client with respect and kindness and introduce yourself.
- Confirm client's name, address and other required information.
- Offer the client(s) a place to sit and ensure her/their comfort.
- Reassure the client/relatives that the information received during and after any counselling session will be confidential.

A-Ask:

- Ask the client the purpose of the visit, inform her what will be done and encourage her to ask questions
- Respond to the client's questions and concerns.
- Establish a two-way conversation with the client. Never interrupt when the client is talking.
- Show empathy and be non-judgemental, do not force own view or opinion on the client's situation or thoughts.
- Listen actively and patiently.
- Ask relevant questions and wait for the client to respond. Ask about previous experience related to the issue the client has.
- Ask about the need for protection from STIs if relevant.
- Ask what the client know about the health issue of concern.
- Ask appropriate questions respectfully.
- Ask open-ended questions to elicit client's information and thoughts (e.g. What is the purpose of your visit? How can I help you? What information about you or your relative's care do you want?)
- Ask closed-questions only where necessary (e.g. How long have you been married? How many children do you have? How old was your baby at the last immunization visit?)
- Use positive body language to show interest and concern for the client such as occasional gestures like nods to acknowledge the client, smile to show empathy when relevant etc..
- Maintain eye contact throughout interaction.
- Use simple language which the client can understand. Do not use technical terms or a language with which the client is not comfortable.
- Rephrase statements which the client has made to confirm that you have understood her/him correctly.

T-Tell:

- Provide the client with general, relevant and correct information required.
- Discuss the health benefits of the chosen option of services for the client
- Appropriately use visual aids, such as posters, flipcharts, drawings, samples of methods and anatomic models to explain and clarify information.

H-Helps:

- Assist the client to arrive at a choice or give her additional information she may need to make a decision.
- Encourage her and answer questions, doubts, concerns and misconceptions to help her understand the information.
- Assess her knowledge regarding the selected opinion.
- Help the client to make an informed choice or come to an informed decision for the option of care required.
- Support the client's choice.

E-Evaluate and Explain:

- Determine through screening questions and/or examination if the chosen option is appropriate for the client.
- Provide key information on how to use the option/service.
- Discuss advantages, limitations, side effects and warning signs of the chosen option and what to do if side effects or warning signs appear.

R-Return:

- Ask the client to explain what she understand to be the key information discussed during the counselling session and instructions for the use of the service to ensure she has understood correctly.
- Clarify and correct any misinformation or doubts related to the issue or service and provide correct information as needed.
- If the client cannot arrive at a decision on this visit, ask her to plan for a discussion with her family and come for a follow-up discussion on her next visit.
- Make notes in the client's card on the conclusion of the counselling session for reference during the next visit.
- Plan a date for the next visit for follow-up.
- Thank the client for coming and reassure her that she can come back to the clinic anytime even before the date of the return visit if she has any problems or concerns.

At a return or follow-up visit:

- Perform the required follow-up care.
- Ask if the client is satisfied with the services she has received or if she has any problems, questions or doubts.
- Ask her to repeat the key instructions provided earlier to ensure she remembers them correctly. Repeat them if she has forgotten.
- Clarify all questions and doubts promptly and reassure her or provide/refer her for further care if required.

Role Play Scenarios

Role Play 1:

Family planning for a mother who is breastfeeding

Situation

Anjana is a 21 year old woman with a 11-month old child. She is still breastfeeding. She would like to delay having another child for 2 to 3 years, and has come to the health center for information regarding which family planning/ contraceptive methods she can use. Anjana's husband has agreed to try a family planning method to delay the next pregnancy, but he does not want to use condoms. One of her friend is using the copper-T IUCD and is satisfied with it. However, Anjana is nervous about the safety of family planning methods as she has heard that some methods cause infertility. She approaches Sheela who is an ANM at the health centre.

Material required:

Family planning poster, family planning flip book, counseling kit with relevant models, samples and stock of contraceptives, job-aids for counseling, job-aid about return of fertility.

Focus of the counseling session

- Sheela should appreciate Anjana's decision to approach her for contraceptive options and reinforce the benefits of spacing her pregnancies.
- Sheela should provide brief information (advantages, limitation, common side effects) on all the possible contraceptive options to Anjana keeping the latter's breastfeeding status in mind.
- Sheela should discuss the myths and misconceptions regarding IUCD side effects and complications and share with Anjana the correct knowledge.
- Once Sheela helps Anjana choose a method, she must provide detailed information on how to use the method, when to return for follow-up, if required, what to do in case a method is not used as recommended, how to watch for potential complications, return to fertility etc.
- Information that is relevant to this specific situation includes:
  - » Condoms have a dual benefit. Not only are they a contraceptive if used correctly but they also offer protection against STIs, including HIV/AIDS. They may be used alone or in combination with other methods for dual protection.
  - » Even though Anjana is still breastfeeding, she cannot rely on breastfeeding alone as a contraceptive method, whether or not she has started her menstrual cycle again. Exclusive breastfeeding, with the presence of amenorrhoea can be used as an effective contraceptive method for the first 6 months after delivery only.
  - » IUCDs do not result in infertility. However, it is important to rule out the presence of any reproductive tract infection before insertion. Also, Insertion must be done by a skilled provider ensuring all aseptic precautions. Hence, Sheela should refer Anjana to a trained provider (if Sheela herself is not one).
  - » Excessive and irregular bleeding is a known side effect of IUCD. However, the symptoms usually subside within the first 6 months. However, if this persists longer or Anjana feels weak, she should come for a follow up visit, and also feel free to change the method as there are other options available including the progesterone only pill and Depo-Provera.

Role Play 2:

Family Planning for a Newly Married Couple

Situation:

Seema (18 years) and Prateek (22 years) are newly married. Prateek works as an assistant at a village shop and earns just enough to take care of their needs. As there are no savings from the income, the couple realise that it will be very difficult to manage the expenses if Seema gets pregnant. They have seen some advertisements on the TV related to family planning. However Seema does not know where to go and is too shy to seek help.

Deepa, the ANM at the health centre, comes to congratulate them during her routine visit to the village and uses the opportunity to counsel them about the benefits of delaying the first pregnancy and addresses the couple's concerns.

Material required:

Family planning poster, family planning flip book, counseling kit with models, samples and stock of contraceptives, job-aids for counseling methods, job-aid about return of fertility.

Focus of the counseling session

- As the couple is shy, and the concept of delaying first pregnancy is still not very acceptable socially, Deepa needs to break the ice. Visiting the home to congratulate the couple is a good way of doing this. Deepa should explore what they know regarding family planning, its benefits, and the options available and where to get the products from. Given the situation, both the health and economic benefits of delaying first birth should be emphasized.
- The focus of the options is on reversible methods of contraception. For products such as condoms and the oral contraceptive pill, regular use should be emphasized.
- When she helps the couple select a method, detailed information should be provided Seema about the method, especially return to fertility, in this case.
- As Deepa is the ANM, she should provide a supply of the chosen method for about 3 months, and ask the couple to come back for more supplies before 3 months are over, in order to ensure continuity.
- Emergency contraception may be provided as a back-up in case of unprotected sex or contraceptive failure such as a burst condom. However, it must be emphasized that Emergency contraception is not meant for "regular" use, and is much less effective than regular contraceptive methods.
- This is also an opportunity to emphasize the importance of honest and open communication between the couple.
- She should assure them that if they decide to switch over to another method, they can come to her sub-centre or meet her when she comes for the field visits to the village or during the Village Health and Nutrition Day services.
- Deepa should assure them about the confidentiality of the information they have shared.

Role Play 3:

Problems of Adolescence-menstrual problems

Situation

Kusum, a 40-year old mother of two children, came to know that her neighbour's unmarried daughter is three months pregnant. So, she is very worried about her younger daughter Nisha, as her menstrual periods are irregular and come after 2-3 months and she is also friendly with the neighbour's daughter as they are of the same age group. Nisha, a 14 year old teenager, is not very energetic and feels weak and looks pale. Kusum takes Nisha to the PHC to show her to the staff nurse Pratima, because of her irregular periods and to allay her fears that Nisha may be pregnant like her neighbour's daughter.

Material required:

Posters/Pictures of development of girls and boys during adolescence; job-aid of services available for adolescents (ARSH); pictures of healthy food items for adolescents; posters/ pictures and samples of contraceptives, poster/ job-aid for menstruation and menstrual hygiene.

Focus of the role play:

- In this role play, Pratima deals with two clients – the teenage girl Nisha as well as her mother Kusum.
- Pratima should take a detailed menstrual history from the beginning of Nisha's menarche to understand the menstrual pattern. She should explain the development process for girls during adolescence and reassure Nisha and Kusum that it is normal to have irregular periods in the beginning which usually regularise after a few months or one year. In case it does not happen then Kusum must take Nisha to the specialist / gynaecologist at the CHC for further management.
- Given the symptoms, Pratima should examine Nisha for anaemia. She should use this opportunity to counsel both Nisha and Kusum about the importance of a healthy nutritious diet during adolescence. If found anaemic, appropriate treatment should be started depending on the severity of the anaemia. Otherwise a prophylactic dose of IFA (WIFS) should be given.
- To ally Kusum's fears of Nisha being pregnant, Pratima should do a urine pregnancy test after explaining the same to the mother-daughter duo.
- Pratima should use this opportunity to explain to Nisha about relationships, physical intimacy and safe sex practices to prevent unwanted pregnancies and STIs, and the ill-effects of early pregnancy on a young girl's physical and mental health. If possible, she should ask Kusum to step outside for a while so she is able to have an open conversation with Nisha on these sensitive issues.
- This should be followed up with a session with Kusum where Kusum must be counselled about her responsibility as a mother and confidante to support Nisha during adolescence, encourage open and honest communication and be a source of correct information. Details of adolescent health care services and their availability should also be shared with Nisha and Kusum.

Role Play 4:

Problems of Adolescence-drug abuse

Situation

Kusum, is a 45-year old mother of 19 year old Akash who has been taking drugs since he was 18 years. Kusum is aware of this issue and is worried. She has also started noticing the impact of drug use on Akash such as lack of concentration on studies and the fact that he stays out of home most of the time. Kusum has tried to discuss his poor academic performance with Akash. But such discussions only cause Akash to become aggressive. Kusum has not openly confronted Akash about his addiction to drugs as she does not know how to broach the subject and fears his aggression. She brings Akash to the PHC to consult staff nurse Pratima for help.

Focus of the role play:

- After rapport building with both the mother and son, Pratima should try and get to the root of the problem. If Akash is unresponsive, she may request Kusum to step outside for a while to allow open, honest and confidential sharing of information.
- The problem as shared by Kusum is one of lack of interest in studies, the causes of which could be many. It is Pratima's task to diligently but gently dig out the causes. It is possible that Akash may not open up in the initial session, and such behavioural issues may require multiple sittings. Sharing possible reasons for such behaviour such as relationship issues, family disturbances, or addictions may help Pratima understand the root cause.
- Once the problem is revealed, it is important to refer Akash to a specialist (such as one at a de-addiction centre) for management of drug abuse and professional counselling and support.
- Pratima must also help Kusum understand the importance of parental support to help Akash get help for his addiction and maintain a drug-free status after therapy.

Role Play 5:

Counseling a pregnant woman for birth preparedness and complication readiness

Situation

Disha, a 28 year old woman is pregnant for the second time and has come to the health center with her husband Mahesh. She is living with her mother and father-in-law in a village. Mahesh is 30 years old and the only earning member in the family. In her first pregnancy Disha had some problems such as severe headache and blurring of vision and her baby had died in 8th month of pregnancy in-utero. Disha had not received any antenatal care during her first pregnancy and had a home delivery. Disha and Mahesh do not know the reason for the death of their first baby. Disha and Mahesh are worried about this pregnancy and their baby. Hence, this time they have come in the third month of pregnancy to the PHC for care. They consult Dr. Anil, who is the medical officer at the primary health centre. They express their concerns to the doctor.

Material required:

Mother and child protection (MCP) card; my safe motherhood booklet for expectant mothers; flipbook for counselling during pregnancy; and posters of diet, rest and danger signs during pregnancy.

Focus of the role play:

- As with every pregnant patient, Dr. Anil should start by taking a routine history, including obstetric history, which will reveal her past obstetric complication of probable severe pre-eclampsia and resultant intra-uterine death.
- Dr. Anil should explain what pre-eclampsia is and how this may have led to the death of their first baby. He should explain that with early detection and good management this problem can be managed well and not result in the loss of their baby.
- Dr. Anil should conduct a full ANC examination.
- Dr. Anil must inform Mahesh and Disha about benefits of regular antenatal care and institutional delivery. He must discuss a birthing plan with the couple, wherein they must decide the facility where they plan to deliver, the skilled care provider and the transportation means to reach the facility. A birth companion and / or a care giver at home should be identified to accompany Disha to the facility or take care of the home in her absence. He should also inform Mahesh and Disha about JSY and JSSK schemes, which ensure no out of pocket expenditure for them. He should also inform them about the free ambulance services (108 or 102) available in the state. He may then ask them to contact the staff-nurse / ANM / ASHA for further information on how they can claim the benefit.
- Given the previous obstetric history, Dr. Anil must inform them about the danger signs of pre-eclampsia and eclampsia during pregnancy and when and where to seek care should these symptoms occur. The couple should have contact numbers and other details of the facility(ies) and the transportation service handy. Though services under JSSK are free, the couple should also consider saving some money to be prepared for additional costs should a complication occur. They should also identify potential blood donors in case Disha requires a transfusion following haemorrhage.

Role Play 6:

Counselling for breastfeeding and routine immunization for the baby

Situation

Rani has delivered a healthy baby girl last night at the FRU. Rani's mother-in-law Sitadevi is with her. This is Rani's first baby and she wants to know how to care for her baby to keep her healthy. She has heard about breastfeeding and immunization for the baby from her ASHA. Rani is interested to know more about these. Meena, the staff nurse at the FRU, counsels her for routine care of both the baby and the mother.

Material required:

MCP card, flip book for counselling on breastfeeding, danger signs for mother and baby during the postpartum and neonatal period, my safe motherhood booklet for expecting mothers, poster of National Routine Immunization Schedule.

Focus of the role play:

- Meena should begin by asking Rani what she has already heard from the ASHA. She must base further information on this and correct any misinformation that Rani may have.
- As Rani's mother-in-law is with her, Meena should involve her in the conversation to ensure that Rani gets the needed support at home, especially if some of the recommended newborn care practices are in contradiction to conventional rural wisdom.
- The focus of the counselling session must be on:
  - » The importance of early initiation of breastfeeding within 1 hour of delivery, including giving colostrum to the baby.
  - » Correct positioning and attachment of the baby to the breast.
  - » Prevention of hypothermia by keeping the baby well covered
  - » Giving the baby her first bath after 24 hours.
  - » Exclusive breastfeeding for the first 6 months (emphasizing that not even water should be given)
  - » How to assess adequacy of breast-milk through urine output and weight gain of the baby.
  - » Initiation of complementary feeding at 6 months of age.
  - » Prevention and management of common breastfeeding problems such as sore and cracked nipples
  - » The importance of post-partum family planning and the choices available for this.
  - » Danger signs for both the mother and baby – when and where to seek care should a potential complication occur.
  - » Vaccines the baby needs before discharge from the hospital: Vitamin K, OBV, BCG, Hep B (within 24 hours).
  - » The complete vaccination schedule after discharge.

Frequently Asked Questions

Antenatal Care

1. **What is ANC?**

   Systematic supervision (examination and advice) of a woman during pregnancy that should be regular and periodic in nature.

2. **Why is anemia common during pregnancy?**

   During pregnancy there is additional need for folic acid, iron and other Micronutrients. A woman's diet may be insufficient to support this. In addition chronic infection or blood loss will lead to anaemia.

3. **Why is lateral position preferred during late pregnancy?**

   To prevent supine hypotension syndrome. During late pregnancy the gravid uterus compresses the inferior vena cava when the patient is in supine position.

4. **What is the importance of tetanus toxoid injection during pregnancy?**

   To prevent tetanus in the mother as well as neonate.

5. **What is the importance of regular weight checking during pregnancy?**

   It is important to detect abnormality. Rapid weight gain may be a manifestation of pre-eclampsia/ diabetes/multiple pregnancy. Low weight gain may suggest IUGR or intrauterine death of fetus. Low weight gain may be also indicative of underlying maternal illness.

6. **Why is folic acid supplementation important during pregnancy?**

   Lowers the risk of birth defects such as NTD (neural tube defects), heart and limb defect, urinary tract anomaly and oral and facial clefts in addition it is important for the prevention of anaemia.

7. **What is the total iron requirement during pregnancy?**

   It is estimated to be approximately as 1000mg. This is distributed in fetus and placenta (300mg) and expanded red cell mass 400mg.

8. **How much is the ideal weight gain during pregnancy?**

   Total weight gain averages 9-11kgs.

9. **Which are the vaccines contraindicated during pregnancy?**

   Live virus vaccines (rubella, measles, mumps, vericella, yellow fever) are contraindicated.

10. **How much is the calorie requirement during pregnancy?**

    The increased calorie requirement is to the extent of 300 kcal per day over the non-pregnancy state (2500kcal).

Abdominal Examination

1. **Why are we asking the pregnant woman to empty her bladder before abdominal examination?**

   A full bladder will make the examination uncomfortable and can reduce the accuracy of assessment of the symphysis-fundal height.

2. **Why should we palpate the uterus with warm hands?**

   It may reduce maternal discomfort and the risk for causing contractions of the uterus.

3. **What is “quickening”?**

   Quickening is the moment in pregnancy when the pregnant woman starts to feel or perceive fetal movements.

4. **Why do pregnant women have striaegravidarum and hyper pigmentation?**

   This is caused by hormonal changes in pregnancy.

5. **What is Polyhydramnios?**

   Polyhydramnios is used to describe an excess of amniotic fluid. It is typically diagnosed when the amniotic fluid index (AFI) is greater than 24 cm.

6. **What is Oligohydramnios?**

   Oligohydramniosis a condition in pregnancy characterized by a deficiency of amniotic fluid (AFI <5cm).

7. **What is the normal fetal heart rate?**

   The normal fetal heart rate is 120-160 beats per minutes.

8. **What is meant by “lightening” in the pregnancy?**

   Towards the end of pregnancy the, baby will move down into the pelvis to prepare for labour. This is called "engagement", "dropping" or "lightening”.

9. **Which is the normal lie?**

   The normal fetal lie is longitudinal with cephalic presentation.

10. **How do I assess the fetal heart rate when the baby is in cephalic presentation?**

    In the cephalic presentation the FHR is best heard midway between the line joining the umbilicus and the anterior superior iliac spine on the side of the back of the baby.

Normal Delivery

1. **What is the duration of second stage of labour?**

   The average duration is 2 hours in primigravida and 1 hour in multigravida

2. **Why is delivery of head controlled by one hand?**

   To maintain flexion and to prevent early extension of the head. To ensure a slow delivery and to prevent perineal and vulval tears.

3. **What is meant by "crowning"?**

   It is the stage where the maximum diameter of the head stretches the vulval outlet without any recession of the head even after the contraction is over.

4. **What is meant by "show"?**

   The expulsion of the cervical mucus plug mixed with blood.

5. **When will the woman be encouraged to bear down?**

   During the second stage of labour, when she has good contractions and has the urge to do so a woman can be asked to 'bear down' or start pushing.

6. **Why is the woman discouraged to push down before full dilatation of the cervix?**

   This can result in oedema of the cervix and also may lead to cervical tears.

7. **Why is cord clamping delayed for 1-3 minutes after delivery?**

   This results in an increased amount of blood being transfused into the fetal circulation and prevents neonatal anemia.

8. **Why is walking encouraged during 1st stage of labour?**

   Helps to accelerate labour and helps in having a shorter and less painful labour.

9. **What is the indication for enema during labour?**

   There are no reasons to give an enema either before or during labour and this practice is now discontinued.

10. **What is the duration of the first stage of labour?**

    The average duration is 12-14 hours in primigravida and 6-8 hours in multigravida.

11. **What are the signs of the second stage labour?**

    The cervix is fully dilated, and the mother has the urge to push or bear down.

The Partograph

1. **Define partograph?**

   A graphic recording of the progress of labour and assessment of maternal and fetal wellbeing.

2. **When and where do we start plotting the paragraph?**

   Begin plotting when active labour starts, at 4 cms cervical dilatation or more and, plot the initial findings on the alert line.

3. **Which are the parameters of labour to be plotted half hourly?**

   Maternal pulse, FHR, uterine contractions, conditions of the membrane and colour of the amniotic fluid.

4. **How frequently will you check or plot cervical dilatation?**

   Cervical dilation is checked 4 hourly.

5. **How do you interpret the partograph if this crosses the alert line?**

   It indicates fetal and maternal risk, so the woman should be referred.

6. **If the FHR is < 120 or > 160/min what action will you take?**

   Refer the patient to a FRU.

7. **How often will you check blood pressure and plot in labour?**

   Blood pressure is checked and recorded 4 hourly

8. **What do you mean by secondary arrest?**

   It is defined as non-progress of labour either due to inadequate cervical dilatation or due to CPD or malposition in a women who was progressing well in labour.

9. **What do the X and Y axis represents in partograph?**

   The X axis represents cervical dilatation in cm and and Y axis represents time in hours.

10. **How will you determine that the mother and fetus are at risk and immediate interventions are required?**

    If the partograph plotted line crosses the alert line.

11. **What are parameters used to assess the progress of labour?**

    Uterine contraction, cervical dilatation, and descent of the head (or breech if breech presentation).

Cervical Dilatation

1. **What is cervical dilatation?**

   This refers to an increase in diameter of the cervical opening.

2. **What is a fully dilated cervix?**

   A fully dilated cervix has a cervical opening that is 10cm in diameter and the cervix is fully effaced (or flattened out).

3. **What is the rate of cervical dilatation in primi and multi-gravida?**

   1cm/hr in primigravida and 1.5cm/hr in multigravidae.

4. **What is meant by cervical effacement?**

   This refers to progressive shortening and thinning of the cervix during labour so that it flattens with progressive dilation.

5. **How is effacement measured?**

   This is usually assessed during vaginal examination and may be recorded as partly effaced, fully effaced or not effaced.

6. **When cervix is said to be fully effaced?**

   When the cervix feels like a thin rim or completely flat, it is fully effaced.

7. **How is the station of the head assessed vaginally?**

   It is assessed in relation to the ischial spines considering it as zero station e.g. 2 cm aboe the ischial spines, 1 cm below ischial spines etc..

8. **What is the pattern of cervical dilatation and effacement in primi and multigravida?**

   In primigravida, the effacement often precedes cervical dilatation, whereas in multigravida, both may occur simultaneously.

9. **At what stage of cervical dilatation does the plotting of the partograph start?**

   It starts at 4 cm dilatation of cervix.

Active Management of the Third Stage of Labour (AMTSL)

1. **What is the importance of doing AMTSL?**
   It prevents PPH by 40-60% at least and is considered essential as part of skilled birth attendance.

2. **Which are the main steps in AMTSL?**
   Administration of uterotonic drugs, controlled cord traction and uterine massage.

3. **What are uterotonic drugs?**
   Drugs that enhance contraction frequency and tone of uterine muscles.

4. **Which are the uterotonic drugs that are given during AMTSL?**
   Oxytocin 10 IU IM, if this is not available misoprostol 600mcg orally can be given.

5. **Why is counter traction important while doing CCT?**
   To prevent inversion of uterus when removing the placenta.

6. **How is the uterus to be massaged during AMTSL?**
   Massage the uterine fundus using circulation motions with cupped palms. Be careful to be as gentle as you can as this is uncomfortable for the mother.

7. **How long should the uterus be massaged?**
   Every 15min for the first 2hours till the uterus is contracted well.

8. **Why is uterine massage important during AMTSL?**
   It helps to contract the uterus and thus prevents PPH

9. **What is a retained placenta?**
   If the placenta is not delivered within 30min of delivery of the baby the placenta is said to be retained.

10. **Why is it important to rule out a second baby before AMTSL?**
    Accidental administration of uterotonic drugs causes fetal asphyxia due to contraction of uterus

Newborn Resuscitation

1. **When should you switch on the radiant warmer?**
   Preferably 30 min prior to receiving the baby.

2. **What is the size (volume) of self-inflation bag and mask for neonates?**
   Size 0 and 1 for mask and volume of bag 250ml.

3. **If the liquor is clear will you apply suction to clean the airway**
   No

4. **What is the purpose of using a shoulder roll?**
   To maintain airway patency

5. **Baby with thick meconium and not breathing at birth what will be the initial step of management?**
   Suctioning the airway

6. **Enumerate harmful resuscitation practices?**
   Slap and turn the baby upside down, squeeze the chest, perform routine stomach wash and giving soda bicarbonate.

7. **How do you stimulate the baby if it does not breathe after clearing the airway?**
   Gently rubbing the back of the baby

8. **At what rate would you ventilate the newborn?**
   40 to 60 breaths /min

9. **What is the ratio of chest compression and breath for the newborn baby during resuscitation?**
   3:1 (3 compression and one breath)

Early Newborn Care (ENBC)

1. **State the components of ENBC?**
   Ensure breathing, vaccination, prevent hypothermia and infection, initiate breast feeding within one hour of birth and detect danger signs.

2. **What is the room temperature for ENBC?**
   26-28 °C

3. **When do you initiate breast feeding?**
   Within one hour after delivery

4. **What is the importance of colostrum for the newborn?**
   Protects from infection (increase immunity power)

5. **Normal temperature and RR of the newborn?**
   36.5 °C to 37.5 °C and RR 40 to 60 breaths / min

6. **List the vaccinations given at birth**
   OPV, BCG, Hep B

7. **What is the frequency of breast feeding per 24 hours?**
   At least 8 times in 24 hours

Kangaroo Mother Care

1. **What is KMC?**

   Kangaroo Mother Care is a method of care of preterm or low birth weight babies. The method involves babies being carried, usually by mother, with skin-to-skin contact.

2. **What are the eligibility criteria for KMC?**

   All low birth weight babies.

   Sick, hemodynamically stable babies needing special care (even those on IV fluids or on oxygen)

3. **Which are the two components of KMC?**
   - Skin to skin contact
   - Exclusive breastfeeding

4. **What are the benefits of KMC?**
   - Reduces risks of hypothermia
   - Promotes lactation and weight gain
   - Reducing infections and hospital stay
   - Better bonding between mother and newborn

5. **Is skin-to-skin contact only for premature babies or for every full term baby?**

   Skin-to-skin contact should be standard care for every baby at birth. For premature or low birth weight babies it is more essential for their stability.

6. **How soon after birth should skin-to-skin contact be done?**

   Skin-to-skin contact should start at birth, for every baby; this helps them stabilize.

   If separation is absolutely necessary for any reason, it should be as short as possible.

7. **Can skin-to-skin contact be done straight after a caesarean section?**

   YES! Skin-to-skin contact can be done in the operating room if the mother has had a spinal or epidural anaesthesia. If she has had a general anesthetic, or feels unwell for any reason, the baby can be put on dad.

Hypovolemic Shock

1. **Define shock. ?**
   Failure of the circulatory system to maintain adequate perfusion of vital organ.

2. **What are the different types of shock?**
   - Hypovolemic shock
   - Cardiogenic shock
   - Septic shock
   - Anaphylactic shock
   - Neurogenic shock

3. **Signs and symptoms of hypovolemic shock.**
   - Cold clammy extremities
   - Low volume pulse/no peripheral pulse
   - Tachycardia, rapid thready pulse more than 110/min
   - BP low/un-recordable, Systolic BP < 60 mmHg
   - Altered consciousness
   - Cyanosis
   - Pale look

4. **List the common causes of hypovolemic shock.**
   - Loss of blood (bleeding)
   - Loss of plasma (severe burns)
   - Loss of body sodium and consequently intravascular water e.g. diarrhea and vomiting
   - Vasodilatation

5. **What is the ratio of chest compression and breath for adults?**
   The ratio of chest compression and breath is 30:2

6. **List the different types of crystalloids.**
   Normal saline, ringer lactate, dextrose and DNS

7. **At what rate we can administer fluid during shock?**
   1 litre in 15 to 20 min then 1 litre in 30 mins

8. **What is the role of the left lateral position in women with shock?**
   To facilitate drainage of secretion from the mouth and prevent compression of the inferior vena cava if pregnant.

9. **When do you re-assess the patient during CPR?**
   After 5 cycles

10. **What is the depth of chest compressions for an adult?**
    The depth of chest compression is 4 to 5cm

Post Partum Haemorrhage (PPH)

1. **Define PPH.**
   Loss of 500 ml or more of blood during delivery or on the post-partum period (up to six weeks after delivery).

2. **Describe the types of PPH.**
   Immediate and delayed (secondary) PPH

3. **What are the causes of PPH?**
   Atonic uterus, trauma, coagulation defect, retained placenta and membrane fragments.

4. **Differentiate between immediate PPH and delayed PPH?**
   Immediate PPH occurs within 24 hours of delivery and delayed PPH occurs after 24 hours but before 6 weeks after delivery.

5. **How do you diagnose atonic uterus?**
   The uterus does not contract in spite of effective uterine massage and bleeding persists.

6. **The uterus is well contracted, placenta is expelled complete, but the woman is still bleeding, what could be the cause of bleeding?**
   Trauma, coagulation defect (e.g. after eclampsia, abruption placentae, severe PPH)

7. **What do you understand by uterine inversion?**
   Turning of the uterus inside out

8. **If the placenta is not delivered within 30 mins, what is the term used?**
   Retained placenta

9. **What is the route and dose of oxytocin therapy in delayed PPH?**
   10 IU IM and 20 IU IV in 500RL @40-60drops /min

10. **Name the most effective preventive method for PPH?**
    AMTSL

Eclampsia

1. **How do you differentiate between pre-eclampsia and eclampsia?**
   Pre-eclampsia is a condition in which the BP is more than 140/90mmHg and proteinuria is 2+ after 20 weeks of pregnancy and eclampsia is pre-eclampsia with convulsion

2. **What will you do to prevent tongue bite during an eclamptic convulsion?**
   Place padded tongue blade or airway at clonic stage

3. **What is the therapeutic effect of injectable MgSO4?**
   It stops convulsions and prevents these. It also increases the blood supply to the uterus

4. **What is the initial dose of MgSO4?**
   Total 10gm (5gm in each buttocks) IM

5. **What are the side effects of MgSO4?**
   Thirst, flushing of the skin, nausea, vomiting

6. **What is the anti-dote for MgSO4?**
   Calcium gluconate

7. **What will you observe before repeating MgSO4?**
   Respiratory Rate, knee jerk and urine output

8. **When will you repeat MgSo4 and what is the dose?**
   After 4 hour, 5gm in alternate buttocks if given IM

9. **What do you do after giving the 1st dose of MgSO4 at a sub-centre?**
   Refer to FRU

10. **For how long is MgSO4 therapy continued?**
    For 24 hours after delivery or the last convulsion, which ever occurred last

Intrauterine Contraceptive Device (IUCD)

1. **How long is an IUCD effective?**
   This depends on the type of IUCD e.g. Cu 375 for 5 years and Cu 380 A for 10 years.

2. **What is the failure rate of IUCD?**
   Less than 1%

3. **Explain the mechanism of action of IUCD**
   Prevents fertilisation as the copper ions decrease sperm motility and also by altering the uterine and tubal fluid environment, thus preventing sperm from reaching the fallopian tubes and fertilising the egg. The IUCD also prevents implantation as it stimulates a foreign body reaction in the endometrium that releases macrophages.

4. **Will the woman have any side effects after insertion of an IUCD?**
   Menstrual changes and discomfort during cycle – usually women report increased bleeding and more cramps during menses.

5. **Are the side effects harmful and do they resolve?**
   Side effects are not harmful. They often resolve in a few months time. Also simple medication such as regular paracetamol during menses may be helpful to reduce pain.

6. **When will you insert an interval IUCD?**
   Within 12 days of onset of the last menses or any time after ruling out pregnancy.

7. **Are there conditions indicating removal of an IUCD?**
   When the woman is pregnant or she wants to become pregnant.

8. **Within how many days of unprotected sex can an IUCD be used as an emergency contraceptive?**
   The IUCD can be used within 5 days as emergency contraception.

9. **What is the right time to insert PPIUCD?**
   PPIUCD is inserted within 48 hours of delivery.

10. **Which medical and nursing category of personnel can insert an IUCD for a woman in category 1 Medical Eligibility Criteria?**
    MO, SN and ANM can insert IUCD.

Lab Testing

1. **What are the basic lab tests available at sub-centre level?**
   - Pregnancy detection test
   - Haemoglobin test
   - Urine test for sugar and protein
   - Rapid malaria test
2. **How does a pregnancy test work?**

   Quick pregnancy test kits detect the pregnancy hormone HCG in urine. HCG or Human Chorionic Gonadotropin is a hormone that appears in the urine approximately 20 days after the last menstrual period only when a woman is pregnant.
3. **Why is it best to test a morning urine sample when using a pregnancy test?**

   The pregnancy hormone HCG is usually at its highest levels early in the morning,
4. **When is a woman said to be anaemic in pregnancy?**

   Anaemia is diagnosed if the Hb level is <11g/dL at any time during pregnancy
5. **Why is it important to test urine for protein during pregnancy?**

   It is very important to be able to detect pre-eclampsia, (along with eclampsia). Eclampsia is one of the five major causes of maternal mortality. Pre-eclampsia is present when BP $>140/90$ and when there is also protein detected in the urine.
6. **Why is it important to test for the presence of sugar in urine in pregnancy?**

   It is important to screen for Gestational Diabetes in pregnancy.
7. **What are the types of tests that can be done for detection of malaria?**
   - RDT Kit for malaria.
   - Blood smear: Two types of blood film for malaria parasites
     - » Thick Blood Smear – use to determine if parasite is present.
     - » Thin Blood Smear – use to confirm the Plasmodium species present

Universal precautions and infection prevention services

1. **What do you understand by the term 'Universal precautions'?**

   Universal precautions is an approach to infection control to treat all human blood and certain human body fluids as if they were known to be infectious for HIV, HBV and other blood borne pathogens.

2. **What are the various interventions included in Universal Precautions?**
   - Hand washing after any direct contact with patient.
   - Safe collection and disposal of needles (hypodermic and suture) and sharps (scalpel blades, lancets, razors, scissors), with required puncture- and liquid- proof safety boxes in each patient care area.
   - Wearing gloves for contact with body fluids, non-intact skin and mucous membranes
   - Wearing a mask, eye protection and a gown (and sometimes a plastic apron) if blood or other body fluids might splash
   - Covering all cuts and abrasions with a waterproof dressing
   - Promptly and carefully cleaning up spills of blood and other body fluids
   - Using a safe system for health care waste management and disposal
3. **How does IP practice lead to low healthcare costs?**

   By reducing surgical and post procedural infections and also reducing the risk of cross contamination and infection, the number of days spent in a hospital by a patient can be significantly reduced, thus lowering healthcare costs.

4. **What is the difference between disinfection and sterilization?**

   Sterilization kills all the micro-organism including spores. Disinfection does not destroy spores but eliminates most harmful micro-organisms. In practice, sterility is considered to be achieved if the probability of a surviving microorganism is less than one in a million. The sterilization process is fundamental for the safe reuse of instruments in clinical care. High Level Disinfection is an acceptable alternative to sterilization when methods of sterilization are not available or are not possible.

5. **What are High Level Disinfectants?**

   High Level Disinfectants are agents which kill infective organisms but not spores. They are used for items used in invasive procedures which cannot withstand sterilization. E.g. 2% Gluteraldehyde, 7.5% Hydrogen Peroxide.

   Ethyl and Isopropyl alcohol, phenols are Intermediate level disinfectants.

6. **How long should instruments be immersed in gluteraldehyde?**

   8-10 hours ideally for HLD.

7. **For how long should instruments be boiled in water for HLD?**

   For 20 minutes after boiling has started.

8. **Why is a plastic bucket used for chlorine preparation?**

   Sodium hypochlorite solution can react with metal and corrode it if left in contact with it for a long time.

9. **How often should the prepared chlorine solution be changed?**

   Chlorine preparation can be used for 24 hours but should be prepared afresh if it becomes turbid.

10. **Why is scrubbing of toothed surfaces and locks important?**

    Scrubbing removes all biological material stuck on it. If this is not removed, this acts as a sanctuary for residual microorganisms.

11. **While autoclaving, how do we know that the sterilization is satisfactory?**

    The change in colour of the steam indicator strips indicates that the sterilization is complete.

12. **What is the shelf life of wrapped sterile instruments?**

    7 days

13. **What is the temperature, pressure and time required for sterilization in an autoclave?**

    Temp -121 °C, Pressure – 15lb, Time – 20 min for unwrapped items and 30 min for wrapped items.

Processing of Equipment & Instruments

1. **Why is the processing of equipment important?**
   - To minimize risk of microbial and parasitic infection including HIV, Hepatitis B &C
   - To prevent cross infection from soiled and used instruments.
   - To lower the costs of healthcare
2. **What are steps for processing of equipment?**
   - Decontamination
   - Cleaning with detergent and water
   - Sterilization
   - Storage
3. **How do you make a 0.5% chlorine solution?**
   - Take 1 litre of water in plastic bucket
   - Make thick solution with three level teaspoons of bleaching powder and water in a plastic mug
   - Mix this solution in the bucket of water to make 0.5% chlorine solution
4. **What are the three methods of sterilization?**
   - Steam sterilization / Autoclaving / pressure cooker autoclaving
   - Dry heat sterilization
   - Chemical / cold sterilization
5. **What are the three methods of High Level Disinfection (HLD)?**
   - Boiling
   - Chemical HLD
   - Steaming
6. **Why is storage important when processing equipment?**

   To prevent contamination after processing

   Don't store instruments or other items such as scalpel blades and suture needles in solution, always store dry.
7. **What is the main purpose of waste disposal?**
   - To minimize/prevent the spread of infection to hospital personnel who handle waste.
   - Prevent the spread from one person to another.
   - Prevent the spread of infection to the local community.
8. **How often should the autoclave be cleaned?**

   Autoclaves should be cleaned according to the schedule described in the autoclave instructions or operator's manual. Often the manufacturer has provided a specific recommendations on the agents to use for the safest and most effective cleaning.

9. Why is it important to package instruments for sterilization and storage?

Packaging cleaned instruments prior to placing them in the sterilizer is a standard of care that protects instruments and maintains their sterility until they are ready for use on a patient. Unprotected instruments may be re-contaminated with dust and spatter or by coming into contact with any number of non-sterile surfaces during transport, storage, tray set-up etc.

10. Can disposable items be disinfected and reused?

If the item is intended for single use, it should be used on one patient only and then discarded. If a disposable item is intended for more than one use, it must be reprocessed under the same guidelines as those used for any other critical, semi critical, or noncritical item, depending upon its characteristics and intended use. Always follow the product manufacturer's instructions with regard to reuse life and reprocessing of disposable items.

11. Why must instruments be cleaned before being sterilized?

Cleaning should precede all disinfection and sterilization processes. Cleaning involves the removal of debris (organic or inorganic) from an instrument or device. If visible debris is not removed, it will interfere with microbial inactivation and can compromise the disinfection or sterilization process.

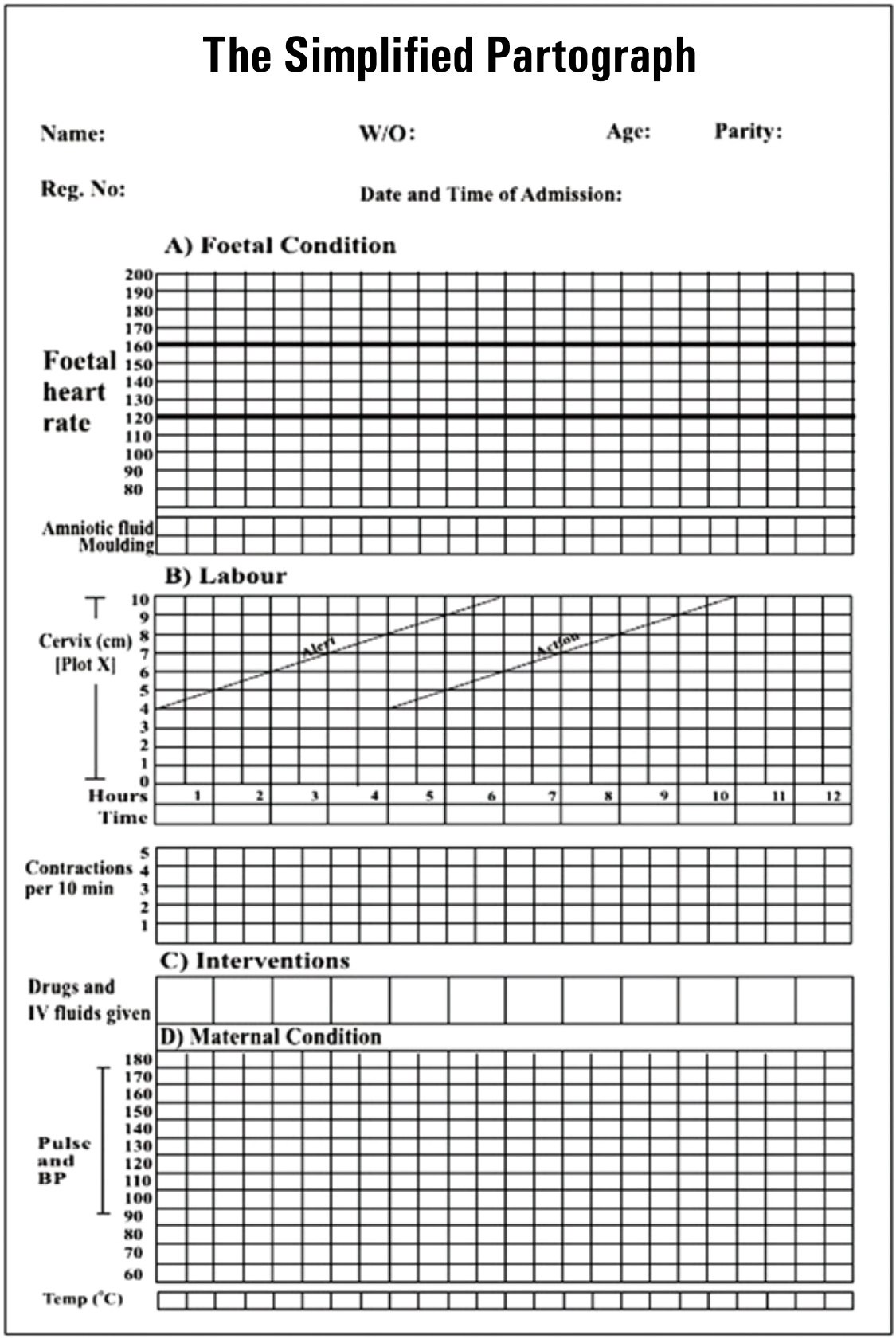
12. How do I perform manual cleaning?

If manual cleaning is not performed immediately, instruments should be placed into a container and soaked with a detergent, a disinfectant/detergent, or an enzymatic cleaner to prevent drying of patient material and make manual cleaning easier and less time consuming. Use long-handled brushes to keep the hand as far away as possible from sharp instruments.

13. What type of personal protective equipment is necessary when cleaning instruments and surfaces?

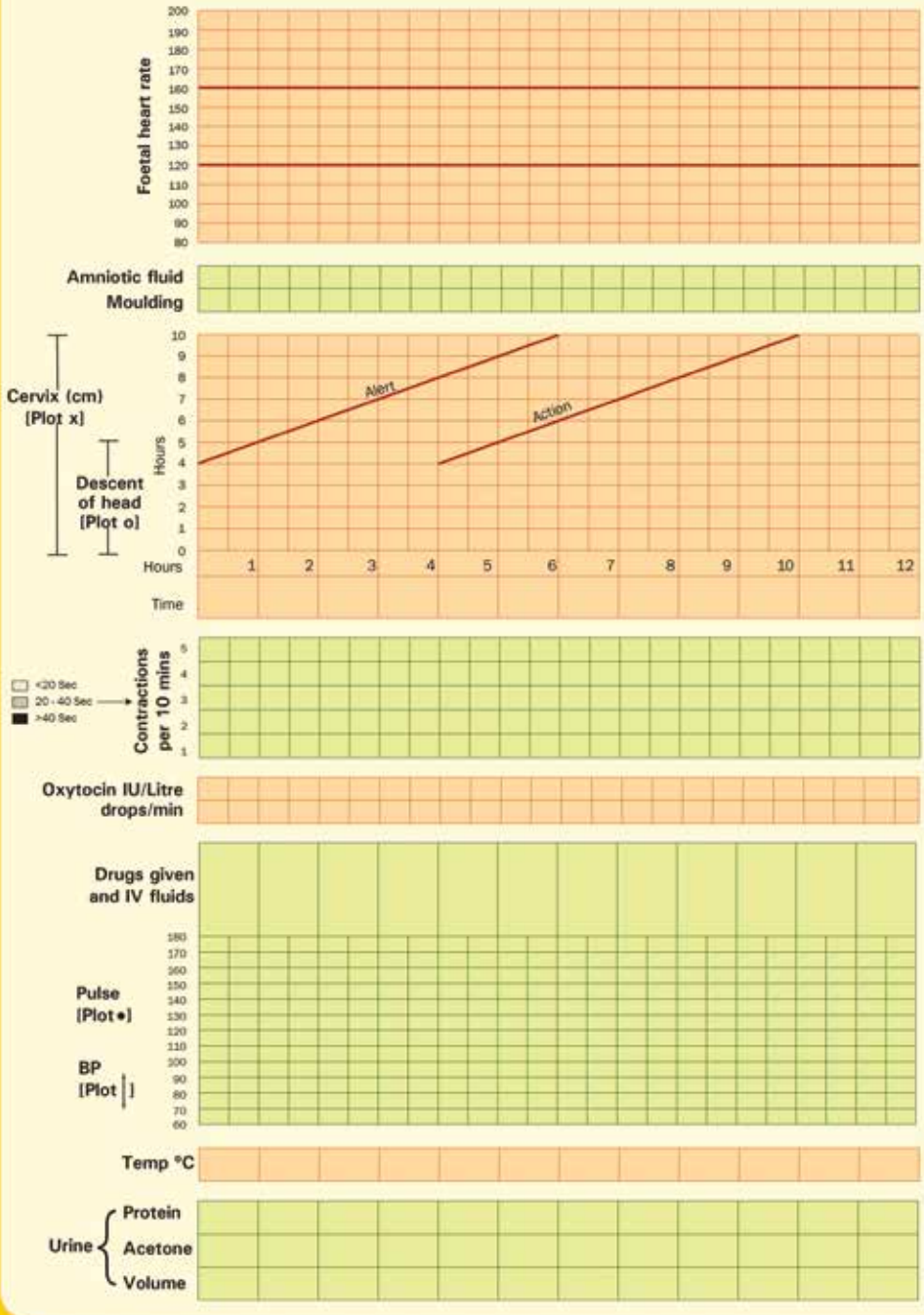
Instruments should be handled as though contaminated until processed through the sterilization cycle (unless the instrument has been processed with a thermal washer/disinfector that has a high-level disinfection cycle). To avoid injury from sharp instruments, personnel should wear puncture-resistant, heavy-duty utility gloves when handling or manually cleaning contaminated instruments and devices. Because splashing is likely to occur, they should also wear a facemask, eye protection or face shield, and gown or jacket. Employees should not reach into trays or containers holding sharp instruments that cannot be seen. To reduce their risk of injury, they should instead remove instruments using forceps or empty them onto a towel.

Annexure


The Simplified Partograph
Name:
W/O:
Age:
Parity:
Reg. No:
Date and Time of Admission:
A) Foetal Condition
Foetal heart rate
200
190
180
170
160
150
140
130
120
110
100
90
80
Amniotic fluid
Moulding
B) Labour
Cervix (cm) [Plot X]
10
9
8
7
6
5
4
3
2
1
0
Alert
Action
Hours
1
2
3
4
5
6
7
8
9
10
11
12
Time
Contractions per 10 min
5
4
3
2
1
C) Interventions
Drugs and IV fluids given
D) Maternal Condition
Pulse and BP
180
170
160
150
140
130
120
110
100
90
80
70
60
Temp (°C)

WHO Partograph

Name	Gravida	Para	Hospital number
Date of admission	Time of admission	Ruptured membranes	Hours



Further Reading

Inter-personal Communication Skills

- http://www.nrhmtn.gov.in/modules/RMNCH-Facilitators-Guide.pdf
- http://www.naco.gov.in/upload/Publication/Basic%20Services/HIV%20Counselling%20Training%20modules/HIV%20Counselling%20Training%20Module/HIV%20Counselling%20Training%20Module.pdf
- http://www.unicef.org/cbsc/files/UNICEF_3-hr__IPC_Session_FacilGuide_for_PAK_TOT-PCV10_Introduction-23-08-12.pdf
- http://www.unicef.org/cbsc/files/UNICEF_IPC-CommunityMobilizationFW_2-DayTraining_27Aug2012.pdf
- https://www2.cortland.edu/dotAsset/c1a635f6-a099-4ede-8f15-79b86e315088.pdf
- http://peer.hdwg.org/sites/default/files/4%20VerbalCommunication-CommunicationSkills-Peer-Training.pdf

Early Newborn Care

- http://www.nhp.gov.in/healthy-lifestyle/pregnancy#accordion-section-xiii
- http://www.who.int/maternal_child_adolescent/documents/who_frh_msm_9624/en/
- http://www.indiannursingcouncil.org/pdf/SBA-MODULE-Guideline-for-Antenatal-Care.pdf
- http://tripuranrhm.gov.in/Guidlines/Maternal_Newborn_Health.pdf
- http://www.commonhealth.in/pdf/8.pdf

Kangaroo Mother Care

- http://www.kangaroomothercare.com/
- http://www.who.int/maternal_child_adolescent/documents/9241590351/en/

Post Partum Haemorrhage

- http://whqlibdoc.who.int/publications/2009/9789241598514_eng.pdf
- http://apps.who.int/iris/bitstream/10665/75411/1/9789241548502_eng.pdf
- http://tripuranrhm.gov.in/Guidlines/Pregnancy_Care.pdf

Intrauterine Contraceptive Device (IUCD)

- http://www.nrhmtn.gov.in/modules/IUCD_Reference_Manual_for_MOs_and_Nursing_Personne_-Final-Sept_2013.pdf

Laboratory Testing

- http://www.nhp.gov.in/maternal/complete-anc/capacity-building
- http://www.indiannursingcouncil.org/pdf/SBA-MODULE-Guideline-for-Antenatal-Care.pdf

Universal Precaution and Infection

- http://www.nhp.gov.in/sites/default/files/anm_guidelines.pdf
- http://www.who.int/gho/urban_health/services/antenatal_care_text/en
- http://apps.who.int/rhl/pregnancy_childbirth/antenatal_care/en/
- http://nrhm.gov.in/nhm/nrhm/guidelines/nrhm-guidelines/infection-management-and-environment-plan-imep.html
- https://www.osha.gov/SLTC/etools/hospital/hazards/univprec/univ.html
- http://www.bmwmindia.org/index_1.htm

Pre-eclampsia

- http://whqlibdoc.who.int/publications/2011/9789241548335_eng.pdf

Antenatal Care

- http://www.childinfo.org/files/antenatal_care.pdf