KINGDOM OF CAMBODIA

Nation - Religion - King

Ministry of Health

Safe Motherhood Clinical Management National Protocols

Health Centers

2016

English translation

Preface

The Safe Motherhood Clinical Management National Protocols for Health Centers, which cover antenatal, labor and delivery, postpartum and newborn care, were officially introduced for the first time in May 2010. New techniques were added and the Protocols reintroduced in July 2010.

Because of numerous developments and new findings, the Safe Motherhood Clinical Management Protocols for Health Centers needed to be reviewed and updated in accordance with recommendations from World Health Organization.

In the process of updating the Safe Motherhood Clinical Management Protocols for Health Centers, technical input was received from clinical health officers, including those from the National Maternal and Child Health Center, relevant national programs, Cambodian Association of Gynecology and Obstetrics, NGOs and agencies that work on reproductive, maternal and newborn health.

The Ministry of Health believes that these national protocols will help providers at health centers implement their duties appropriately and effectively with high quality of care.

Phnom Penh, September 28, 2016

(Signature)

Professor ENG HUOT

Secretary of State

Acknowledgments

The Ministry of Health deeply thanks staff from National Reproductive Health Program (NRHP), National Nutrition Program (NNP), National Immunization Program (NIP), National Program for Prevention of Mother-to-Child Transmission of HIV, National TB and Leprosy Control Program, National Malaria, Parasitology and Entomology Control Program, clinical health officers of National Maternal and Child Health Center (NMCHC), Cambodian Association of Gynecology and Obstetrics (CSGO), and officials from WHO, UNFPA, JICA, UNICEF, URC, PSL, CARE, RACHA and RHAC for their contributions to the update of these protocols.

Our special thanks goes to WHO for also providing financial support for the revision and printing of these Safe Motherhood Clinical Management Protocols and to USAID Quality Health Services/URC Cambodia for this English translation.

This English translation is made possible by the support of the American People through the United States Agency for International Development (USAID). The contents of the Safe Motherhood Clinical Management National Protocols for Health Centers 2016 are the sole responsibility of the Royal Government of Cambodia Ministry of Health and do not necessarily reflect the views of USAID or the United States Government.

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Acronyms

AB	Antibiotic
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ARM	Artificial Rupture of Membrane
ART	Antiretroviral Therapy
ARV	Anti Retro Viral
BCG	Bacille Calmette–Guérin
BF	Breastfeeding
BP	Blood Pressure
CBO	Community Based Organization
COC	Combined Oral Contraceptives
CoC	Continuum of Care
CPA	Complementary Package of Activities
CS	Caesarean Section
CSF	Cerebro-spinal Fluid
D&C	Dilation and Evacuation
DNA PCR test	Deoxyribonucleic Acid Polymerase Chain Reaction test
DPT	Diphtheria, Pertussis, Tetanus toxoid
EVA	Electric Vacuum Aspiration
FP	Family Planning
G	Gram
HAART	Highly Active Anti Retroviral Therapy
HC	Health Center
Hep B	Hepatitis B
Hib	Haemophilus Influenzae type B
HIV	Human Immunodeficiency Virus
HR	Heart rate
HSSP	Health Sector Support Project
ICT	Infection Control Team
IM	Intramuscular
IMCI	Integrated Management of Childhood Illness

IMPAC	Integrated Management of Pregnancy & Childbirth
IUD	Intra Uterine Device
IV	Intravenous
J.E.	Japanese Encephalitis
JICA	Japan International Cooperation Agency
KMC	Kangaroo Mother Care
L	Liter
LAM	Lactation Amenorrhea Method
LMP	Last Menstruation Period
Mg	Milligram
MgSO4	Magnesium Sulfate
Ml	Milliliter
MNH	Maternal and Newborn Health
MOH	Ministry of Health
MVA	Manual Vacuum Aspiration
NCHADS	National Center for HIV/AIDS and STD
NCU	Neonatal Care Unit
OD	Operational District
OI	Opportunistic Infection
OPD	Out-patient Department
OPV	Oral Polio Vaccine
PHD	Provincial Health Department
PMTCT	Prevention from Mother to Child Transmission
POP	Progestin-only Pills
PPH	Post Partum Hemorrhage
RACHA	Reproductive and Child Health Alliance
RAM	Rapid Assessment and Management
RDT	Rapid Diagnosis Test
RHAC	Reproductive Health Association of Cambodia
RPR	Rapid Plasma Reagent
STI/RTI	Sexually Transmitted Infection/Reproductive Tract Infections
TBA	Traditional Birth Attendant
TT	Tetanus toxoid

UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
URC	University Research Cooperation
WBC	White Blood Cell
WHO	World Health Organization

Introduction

Purpose of this document

The clinical management protocols in this document outline the care to be provided to mothers and newborns at health centers (HCs) throughout Cambodia. The protocols were developed by a technical team based on the three WHO IMPAC guides and the Safe Motherhood Clinical Management Protocols for Referral Hospitals 2013 to ensure the HC and RH levels complement one another. The protocols are not to be used as modules; their users are required to read other national protocols for further information on any Appropriate topic (e.g. malaria, abortion, prevention and control of infections or HIV).

To be able to provide quality health services for women, service providers (e.g. doctors, physicians, midwives and nurses) must have the knowledge and skills reflected in the protocols, and that HCs have the necessary supplies and equipment to provide the care outlined in the protocols. A functioning referral system, for example from a HC to an RH, must be in place to enable the safe and timely referral of mothers and/or newborns, when necessary.

The protocols are a key source of information on maternal and newborn care in Cambodia and are used by other agencies and NGO partners that engage in providing care. These include agencies or partners that are involved in training health workers on mother and newborn care to ensure that clinical techniques in these protocols are reflected in maternal and newborn care training programs.

Other topics in the introduction to this document include communication, relationships with other health facilities, referral and transfer of mother and newborn, infection prevention and control, quick check, and rapid assessment and management (RAM).

Section 1

Section 1 covers antenatal assessment and care, including the number of visits, assessment of pregnancy status, checking for common problems, responding to observed signs, giving preventive measures, advising and counseling the woman on nutrition and self-care, developing a birth and emergency plan (birth and emergency preparedness), advising and counseling on family planning, and advising her on routine and follow-up visits. Management of the following antenatal problems is also included: anemia in pregnancy, vaginal bleeding in early and later pregnancy, pre-eclampsia and eclampsia, fever during pregnancy, loss of fetal movements, and pre-labor rupture of membranes.

Section 2

Section 2 covers labor and delivery care, including assessment of the woman in labor, supportive care throughout labor, management of the first, second and third stages of labor, care of the mother and newborn, and assessment of the mother after delivery. Management of the following problems is also included: unsatisfactory progress in labor, malpositions and malpresentations (including breech), shoulder dystocia, fetal distress in labor, prolapsed cord, multiple births, and birth asphyxia.

Section 3

Section 3 covers postpartum and newborn care, including assessment of the postpartum woman and baby, preventive measures, advice and counselling on postpartum and newborn care, care of the low and normal birth weight baby, newborn immunization, kangaroo mother care, and routine and follow up visits for mother and baby. Management of the following problems is also included: vaginal bleeding after childbirth, fever after childbirth, breathing difficulty, jaundice, local infections (skin pustules, umbilical infection, thrush, eye infection), and diarrhoea.

Section 4

Section 4 covers safe abortion care and management of post abortion complications, including clinical assessment, diagnosis and options for treatment, counseling and informed consent, pain management, uterine evacuation methods, follow-up care, and contraceptive counselling and services.

Section 5

Section 5 summarizes the need for special care for mother and newborn when the mother has such medical conditions as HIV/AIDS, diabetes, tuberculosis, heart disease, malaria and adolescent pregnancy.

Section 6

Section 6 defines the terms Basic Emergency Obstetric and Newborn Care (BEmONC) and Comprehensive Emergency Obstetric and Newborn Care (CEmONC) and provides brief instructions on quality of care improvement, including meeting and discussing, analysis of death cases and practices in emergency cases in order to improve the management of emergency obstetric and newborn cases.

Section 7

Section 7 outlines selected practical procedures, including the management of the airway and breathing, giving IV fluid, artificial rupture of membrane, giving appropriate antibiotics, episiotomy and repair, cervical and vaginal inspection, repair of vaginal or perineal tears, repair of cervical tears, breech delivery, vacuum extraction, manual removal of the placenta, aortic compression, external and internal bimanual compression of the uterus, manual vacuum aspiration, and newborn resuscitation.

Finally, the appendices include lists of the equipment, supply and drugs necessary to implement the care outlined in these protocols.

Communication:

The following information describes how all health care providers must communicate with women and their families at every contact with them:

Communicating with the woman (and her partner/companion) at every contact:

Make the woman (and her companion) feel welcome, be friendly, respectful and non-judgmental; use simple and clear language; encourage the woman to ask questions; provide information related to the woman's needs; help the woman to understand her options and make decisions; seek the woman's permission before any examination or procedure and inform her of what is being done during the examination or procedure; summarize the most important information, including the results of routine tests and the details of treatments; and verify that the woman understands emergency signs, treatment instructions, and when and where to return for follow-up care.

Maintaining privacy and confidentiality at every contact:

- ensure a private place for examination and counseling
- ensure that discussions, especially about sensitive subjects, cannot be overheard
- ensure that the woman has given her consent before discussing matters with her partner and family
- never discuss confidential information about clients with other providers or outside of the health facility
- organize the examination area so that, during examinations, the woman is protected (with a curtain, screen, or wall) from the view of other people
- ensure all records are confidential and kept locked away
- limit access to logbooks and registers to responsible health care providers only

Prescribing and recommending treatments and preventive measures for the woman/baby

When prescribing and recommending treatments and preventive measures:

- explain to the woman what the treatment is, why it is necessary, that it will not harm her or her baby
- give clear and helpful advice on how to take a medication regularly
- explain any side effects and their management to the woman
- demonstrate procedures or treatments that the woman will carry out at home and have her do a return demonstration
- advise the woman to return to the clinic if she has any problems or concerns about the procedures or treatments
- for a mother or baby receiving treatment for severe complications, ensure that the condition is clearly explained to the woman and her family and that her treatment choice is respected, and, if necessary, a consent for treatment is obtained.
- for any Appropriate follow-up, ensure that the woman is clearly informed of the time and place that she needs to return for the next visit.
- explore any barriers that the woman or her family might have about particular treatments and help her to overcome these barriers

Improving relationships with other health facilities by comprehensively working to improve interactions between health centers and referral hospitals. This requires cooperation with OD and PHD MCHs (and partners, if any), which includes:

- attending regular meetings with OD and PHD MCHs, doctors and midwives from hospitals (MCATs) in order to strengthen complication management capacity and skills and improve referrals.
- HCs can call RH's Obstetric Ward and RH staff can answer any questions related to complications and get ready to receive emergency referral cases and give feedback to HC staff regarding the medical outcome of the woman referred.
- strengthening referrals by paying attention to communication (telephone, walkie-talkie, Referral Slip, Referral Feedback Form, etc.), transport means (ambulance, community contracted private transportation, etc.), budget for referral and care (HEF, User Fees Emergency Fund Financing, etc.), recording and feedback between health facilities at all levels (MCATs for quarterly feedback and other meeting mechanisms for regular feedback).

Community linkage

Everyone in the community should be encouraged to involve in the process of improving the health of mothers and newborns. In particular, it is important to establish links with community workers such as traditional birth attendants (TBAs) and village health support groups, and local authorities such as village and commune chiefs.

Establishing Community Linkages

- Strengthen communication between HC midwife and TBAs and community health volunteers to improve MNH by encouraging them to refer pregnant women to health facility.
- Respect their knowledge, experience and influence in the community
- Share with them the information you have and listen to their opinions
- Provide them with copies of health education materials that you distribute to community members and discuss the content with them with a view to expanding knowledge in the community
- Review how together you can provide support to women, families and groups for maternal and newborn health
- Involve TBAs and community health volunteers in counseling sessions in which advice is given to families and other community members
- Include TBAs and community health volunteers in meetings with community leaders and maternal and newborn support groups
- Discuss the recommendation that all births should be assisted by a skilled birth attendant
- Encourage TBAs to participate in planning for delivery and emergency and come to health facility with women
- Make sure TBAs are included in the referral system, clarify how and when to refer a woman, and provide TBAs with feedback on women they have referred

Referral and Transfer of Mother/Newborn

When a mother or newborn presents with a problem requiring more than the services available at the facility, the health care provider must weigh the potential risks and benefits of referring/transferring the mother and newborn to a healthcare facility that has the capabilities and resources to effectively manage the problem, e.g. from a health center to a referral hospital for appropriate care, the guidelines below must be followed:

Guidelines for Referral/Transfer of the Mother and Newborn

Always:

- stabilize the mother/newborn before referral/transfer
- explain to mother and/or family the reason for the referral/transfer
- quickly organize transport (e.g. private transport, pre-identified contracted transport, ambulance) and possible financial help
- notify the referral hospital about the condition of the mother/newborn and their estimated time of arrival
- send mother's/newborn's records and Referral Slip with them to the referral hospital
- if the mother is in labor, ensure availability of supplies needed for a clean and safe birth during transfer
- ensure an adequate supply of appropriate drugs/medications as needed during transfer. Give oxygen if the mother or baby is having breathing difficulty or if the mother is in shock or has any other problem requiring oxygen
- must have a skilled provider, especially a trained midwife, accompany the mother/newborn to the referral hospital
- ensure that mother's/newborn's conditions (e.g., vital signs, intake, output) is monitored before and during transfer, and that all findings are recorded

For the mother, also:

- cover the woman with a blanket to prevent hypothermia, but ensure that she is not overheated
- allow one family member (in addition to the healthcare provider) to accompany the mother or newborn

For the newborn, also:

- ensure that s/he is kept warm before and during transfer
  - maintain warmth of newborn by keeping in skin-to-skin contact with mother or relative and covering both with clothes
  - ensure that baby's head is covered as well
- protect the baby from direct sunlight
- encourage the mother to breastfeed her baby during the journey.

Infection Control and Prevention

To protect the woman, her baby, and themselves from infection with bacteria and viruses including HIV, health care providers must observe the following precautions when providing care:

Hand Hygiene

Wash hands with soap and water or alcohol and dry with a clean paper or cloth:

- before and after contact with a woman and/or her baby
- before and after any treatment procedure
- after exposure to blood and bodily fluids
- after touching anything surrounds the patient
- after removing gloves

Gloves

Wear sterile gloves when performing:

- delivery and cord cutting
- repair of episiotomy or tears

Wear elbow-length sterile gloves for:

- manual removal of placenta

Wear clean examination gloves when:

- drawing blood, performing urine dipstick, in contact with bodily fluids, or when the mother or newborn have infected wound or cellulitis.

Wear utility gloves when:

- handling and cleaning medical instruments
- handling contaminated waste
- cleaning blood and body fluid spills

Protection from blood and other body fluids during deliveries For all deliveries:

- cut fingernails, take off jewelry and watch
- wear sterile gloves
- cover any cuts, abrasions or broken skin with a waterproof bandage
- handle sharp instruments carefully
- practice safe sharp disposal into safety box
- wear a long waterproof apron or gown and cap
- wear waterproof, closed shoes or boots
- wear eye protection or a face shield if available

Safe handling and disposal of sharps

- have a safety box close to the area they are used
- use single-use needles and syringes
- do not separate needle from syringe
- do not recap, bend, or break needles after giving an injection
- drop all used (disposable) needles, plastic syringes and blades directly into safety box
- when safety box is three-quarters full, stop throwing any sharps, needle or syringe into it, and then seal it properly before sending it for incineration.

Safe medical waste disposal: waste must be properly separated according to categories

1. Medical waste management:

- dispose of items contaminated with blood or other body fluids into a yellow bag or a yellow leak-proof rubbish bin labeled as infectious waste (see National Infection Prevention and Control Guidelines)

- transport contaminated solid waste to a kiln for incineration (see National Infection Prevention and Control Guidelines)
- pour liquid waste down a drain or flushable toilet
- highly infectious liquid waste, such as blood, must be disinfected first before pouring down a drain
- dispose the placenta into placenta pit

2. Disposal of general waste (kitchen waste and non-infectious waste): they must be placed in a green rubbish bin and disposed of at a public dumpsite.

3. Waste collection: wear thick gloves, boots, gown and mask and wash hands after disposal.

Safe handling of contaminated laundry

- Wear thick gloves, boots, mask, gown and eye protection, if necessary, to collect and wash contaminated laundry/clothing and medical materials.
- Keep clothing or sheets stained with blood or other body fluids separate from other laundry
- Rinse blood or other body fluids off contaminated clothing or sheets before washing them with laundry detergent (see National Infection Prevention and Control Guidelines)

Appropriate Management of Medical Instruments for Patient Care

Soaking:

- Place all instruments in a plastic container with water or soapy water immediately after use
- Soak for 10 minutes

Cleaning:

- Use a soft brush or new toothbrush to scrub and completely remove all blood, other body fluids, tissue and other foreign matter.
- Wash with detergent and clean water (running water).

Drying:

- Leave to dry – away from other dirty items. It is also possible to dry with a paper towel or clean regular towel.

Packing:

- Pack cleaned instruments in double layer wrapping materials and put sterilization tape on outside and inside of the pack.

Sterilizing:

- Use high-pressure steam sterilizer (autoclave or pressure cooker).
- Arrange all packs and drums in the chamber of the autoclave/pressure cooker in a way that allows steam to circulate freely.
- Follow manufacturer's instructions. If no instruction, ensure temperature kept at 121ºC and 106Kp for 20 minutes if the instruments are open and unpacked, or 30 minutes if packed.

Storing:

- Place sterile packs in closed cabinets. Packs can be kept for one week unless they become wet or contaminated which would require repeated sterilization.

High-level sterilization:

For any instrument that cannot be sterilized (such as a suction tube and manual vacuum aspirator), high-level sterilization is required:

- Boil for at least 20 minutes in boiling water
- Soak in chemical solution:
  - Peracetic acid 0.2% for 10 minutes
  - Glutaraldehyde 2% for 45 minutes and then wash the instruments with clean or boiled water, and dry them well before storing.

Note: *Following the high-level disinfection, instruments can be kept inside a sterile box for 24 hours only.*

Environmental Cleaning

Each morning:

- Damp wipe or mop countertops, tables, trolleys and floors with soapy water to remove dust and lint that has accumulated overnight. Between each patient: [sic]
- Wipe any area with obvious blood spillage immediately with paper or cloth towels, then disinfect with 0.05% chlorine solution (eau de Javel) and wash with soap and water
- After cleaning, disinfect by wiping all patient contact surfaces (examination tables, delivery tables, IV stand, floor, etc.) with 0.05% chlorine solution
- Clean visibly soiled areas of the floor with a mop soaked in 0.05% solution, and then with soapy water.

At the end of each day:

- Remove soiled laundry; remove contaminated waste and dispose of it as soon as possible to reduce risk of infection
- After cleaning, disinfect by wiping down all surfaces related to patient care including IV stands, bedside tables, sinks etc. with a cloth saturated with 0.05% chlorine solution
- Pay particular attention to delivery tables, making sure to thoroughly wash the sides, base and legs, and then to disinfect using a 0.05% chlorine solution. Mop visibly contaminated floors with 0.05% chlorine solution and then repeat with soapy water
- Do not forget to disinfect your hands using alcohol hand-rub, or by washing with soap and water, between each patient care.

Quick Check

The person responsible for the initial reception of mother and newborns seeking care at a health facility must do a Quick Check by asking the following questions and making the following observations:

Ask, Check Record	Look, Listen, Feel
Ask the woman why she has come to the clinic • Ask about the baby: – Convulsion? – Breastfeeding difficulty? – Signs of bleeding (including bloody stool)	**For the woman:** – vaginal bleeding – convulsing – looks very ill – unconscious – in severe pain – in labor – delivery imminent **For the baby:** – Count respiratory rate: fast breathing (over 60 per minute)? – Look for severe chest in-drawing – Look and listen for grunting – Look for baby movement: spontaneous movement? – Measure and record temperature in case of hypothermia or hyperthermia – Look for signs of bleeding (including bloody stool) – Look for redness or draining pus of umbilicus – Look for any pustule or bullae

Action/Intervention: if emergency sign(s) are present, transfer woman to treatment room and do a rapid assessment and management:

- if imminent delivery, call for immediate assistance
- if in labor, transfer to labor ward
- if no emergency sign(s), woman can wait to see a health care provider
- if baby emergency sign(s) are present, transfer to treatment room and do a rapid assessment and management. If no emergency sign(s), the baby can wait with his/her mother to see a health care provider.

Note: the Quick Check should be repeated periodically if the woman or the sick baby has a long wait to see a health care provider.

Rapid Assessment and Management

Rapid assessment and management by a midwife or doctor involves the diagnosis of emergency signs, as follows:

Emergency Signs	Measure	Treat
Airway and Breathing: - Very difficult breathing or - Cyanosis		- Take care and treat airway and breathing
Circulation and Shock: - Cold moist skin or - Weak and fast pulse	- Measure blood pressure - Count pulse	If systolic BP is <90 mmHg or pulse >110 per minute: - Position woman on left side with legs higher than chest - Insert an IV line by catheter, 16G or 18G - Give fluids (Ringer's Lactate or Normal Saline) rapidly - If not able to insert an IV, use alternative (oral rehydration, if women can drink) - Keep woman warm (cover her)

Vaginal Bleeding in Early Pregnancy: – Uterus NOT above umbilicus – Heavy bleeding: pad or cloth soaked in < 5 minutes	Take vital signs	Heavy bleeding probably caused by inevitable abortion: • Insert an IV catheter, 16G or 18G line. Give fluids (Ringer's Lactate or Normal Saline) rapidly. • Confirm diagnosis by vaginal exam (manually or with speculum) • Perform uterine evacuation by MVA • Give ergometrine 0.2 mg or oxytocin 10 IU IM. Repeat in 15 minutes if bleeding continues. • If suspect possible complicated abortion, give appropriate IM/IV antibiotics. • Refer to a referral hospital
• Light bleeding		• Examine woman • Treat accordingly if pregnancy unlikely

Vaginal Bleeding in Late Pregnancy: • Uterus above umbilicus • Any bleeding is dangerous	Take vital signs frequently	**Do not perform vaginal examination:** • Insert IV by catheter, 16G or 18G line • Give fluids (plasma expander, Ringer's lactate or normal saline) rapidly if heavy bleeding or shock (see p. 168) • Refer to a referral hospital
Vaginal Bleeding during Labor: • Bleeding more than 100 ml since labor began	Take vital signs	• Do not perform vaginal examination • Insert IV by catheter, 16G or 18G line. Give fluids rapidly if heavy bleeding or shock. Refer urgently to a referral hospital.
Postpartum bleeding: • Heavy bleeding: – Pad or cloth soaked in <5 minutes – Constant trickling of blood – Bleeding >250 ml and still bleeding	– Take vital signs frequently – Measure amount of blood loss	• Call for help • Massage uterus until it is hard and give oxytocin 10 IU • Give IV fluids (1 liter) with 20 IU oxytocin at 60 drops/minute • Empty bladder, catheterize if necessary • Measure and record blood pressure and pulse every 15 minute • If heavy bleeding continues or shock, refer the woman to a referral hospital urgently.

Check and ask if placenta is delivered. Management:

❖ **Placenta not delivered:**

- When uterus is hard, deliver placenta by controlled cord traction (see p. 77)
- If unsuccessful, remove placenta manually (see p. 183) (for BEmONC facility)
- Give appropriate IM/IV antibiotics. After manual removal, continue IV infusion with oxytocin 20 IU/liter at 30 drops/minute. If unable to remove placenta manually, refer the woman to a referral hospital urgently.

❖ **Placenta delivered:**

- ***If placenta is complete:***
  - Massage uterus to expel clots
  - If uterus remains soft, give Oxytocin 10 IU or Ergometrine 0.2 mg IM
  - DO NOT give Ergometrine to women with eclampsia, pre-eclampsia or known hypertension
  - Continue IV fluids with 20 IU oxytocin/liter at 30 drops/minute
  - Continue massaging uterus until it is hard
- ***If placenta is incomplete:***
  - Remove placental fragments
  - Give appropriate IM/IV antibiotics
  - Continue IV fluids with 20IU of oxytocin at 30 drops/minute
  - If unable to remove placenta manually, refer the woman to a referral hospital urgently.

Check for perineal and vaginal tears:

Treatment for perineal and vaginal tears:

- In case of third level tear, refer the woman to a referral hospital urgently.
- In case of other level tear, apply pressure over tear with sanitary pad or gauze and bind the two legs together
- Examine in five minutes; if bleeding continues, repair the tear (see p. 174)

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Check if bleeding continues

- ***If heavy bleeding:***
  - Continue IV fluids with 20 IU oxytocin/liter at 60 drops/minute; insert second IV line and give it rapidly. Give Ergometrine 0.2 mg or Oxytocin 10 IU IM
  - Apply bimanual uterine compression (see p. 186/187)
  - Give appropriate IM/IV antibiotics
- ***Check if continued bleeding:*** Continue oxytocin infusion with 20 IU oxytocin per liter of IV fluid at 20 drops/minute for at least 1 hour after bleeding stops and observe every 30 minutes for 4 hours; keep the woman at facility for at least 24 hours.

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Convulsions or unconsciousness (mostly eclampsia):

- Convulsions (now or recently)
- Unconscious

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- Take vital signs
- Assess pregnancy status
- Do malaria rapid diagnostic or blood smear test if she lives in or had been to malaria area.

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- Protect the woman from fall or injury
- Get help
- Manage airway: (see p. 168)
  - If she is not breathing, assist ventilation using Ambubag and mask
  - If she is breathing, give oxygen at 4-6 L per minute by mask or nasal cannula if available (for BEmONC facility).
- After convulsion ends, help woman on to her left side
- Insert an IV line and give fluids slowly at 30 drops/min
- Give magnesium sulfate (see p. 25)
- If diastolic BP >110 mmHg, give antihypertensive after MgSO4 (see p. 26)
- If temperature >38˚C or history of fever, also give treatment for dangerous fever. Refer the woman to a referral hospital urgently.

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Severe Abdominal Pain: – Not normal labor	• Take vital signs	• Insert an IV line and give fluids • If temperature is > 38˚C, give first dose of appropriate IM/IV antibiotics • Refer the woman to a referral hospital urgently.
High Fever: • Temperature > 38˚C • Very fast breathing • Stiff neck • Lethargy • Very weak/not able to stand	• Take vital signs • Do malaria rapid diagnostic or blood smear test if she lives in or had been to malaria area.	• Insert an IV line and give fluids slowly • Give first dose of appropriate antibiotics • Give antimalarial according to national guidelines • Refer the woman to a referral hospital urgently.

Chapter 1: Antenatal Care

Antenatal care must address both the medical and psychosocial needs of the pregnant woman, within the context of the health care delivery system and the culture in which the woman lives. Periodic visits to a health care provider are necessary during pregnancy for the following reasons:

- assessment of pregnancy status (health of mother and fetus)
- early detection and treatment of complications
- establishment of a supportive relationship between the woman and the health care provider
- development of a birth and emergency plan (perinatal preparedness) with assistance of provider
- provision of preventive measures, and
- provision of advice and counseling

It is recommended that all pregnant women have four routine antenatal visits. The first antenatal visit should take place as soon as possible after a missed period. The woman should be asked to return if she does not give birth within 2 weeks after her expected date of birth. More frequent visits or different schedules may be required based on the woman's needs.

The recommended visits are scheduled as follows:

1. 1st visit: might be before 16 weeks
2. 2nd visit: should be between 24-28 weeks
3. 3rd visit: should be between 30-32 weeks
4. 4th visit: should be between 36-38 weeks

Note: If a woman is found to be non-pregnant, the provider should check for anemia and body mass index for appropriate management and nutrition counseling.

1.1. Assess Pregnancy Status (Mother and Fetus)

The person responsible for the initial reception of the woman at the health center must do a Quick Check (see p. 13), followed, if necessary, by rapid assessment and management (RAM) (see p. 14). Then assess the woman and baby, as follows. At the first visit, a birth and emergency plan (perinatal preparedness) is prepared with the woman. At the following visits the plan is reviewed and, if necessary, modified.

Ask, Check Record	Look, Listen, Feel
All Visits • Ask and check duration of pregnancy • Where do you plan to give birth? • Have you had any vaginal bleeding since last visit? • Is the baby moving? (after 4 months) Do you have any concerns or problem? • Are you able to eat normally? • Check record for previous complications and treatments during this pregnancy • Check for any allergies with medicines previously used	**All Visits** • Measure weight • Take vital signs (BP, pulse, temperature, breathing) • Check for goiter • Check for anemia, edema • Breast examination • Check for kidney pain and pelvic inflammatory disease by tapping the waist and check reflex by tapping the knee • Check fundal height • Check for fetal presentation and movement • Listen to fetal heart beat (after four months of gestation) • Check vulva for cyst or tumor or abnormal vaginal discharge, etc. • Urine test: protein • Other tests as needed.
First Visit (in addition to the above), ask: • How many months pregnant are you? • When was your last period? • When do you expect to give birth? • How old are you? • Have you had a baby before? If yes, ask for MCH Book and check record for: – Number of prior pregnancies/births	**First Visit (in addition to the above)** • Measure height • Calculate for expected delivery date • Look for caesarean and other surgery scar on abdomen. • Check vulva for tear • Blood test: blood group, hemoglobin/ hematocrit (if any), syphilis, HIV test, malaria if needed • Urine pregnancy test (if any) in case clinical examination is not clear.

– Prior caesarean section, forceps, vacuum extraction – Prior severe tear (third degree) – Heavy bleeding during/after birth – Convulsions – Stillbirth or death first day • Do you smoke, use tobacco, drink alcohol or use any drugs?	
Third Trimester (in addition to the above) Have you been counseled on family planning?	**Third Trimester (in addition to the above)** • Feel for obvious multiple pregnancy • Feel for transverse lie or malpresentation • Listen to fetal heart

Pregnant woman weight gain: Pregnant woman with normal, low and high body mass index (BMI) should gain weight 11.5-16kg, 12,5-18kg, and 7-11.5kg, respectively, during the pregnancy (Fast Track Initiative Roadmap for advanced nutrition improvement).

1-2. Check for Danger Signs and Management of Complications

1-2-1. Check for Pre-eclampsia, Severe Pre-eclampsia and Eclampsia and Management

Screen all pregnant women for pre-eclampsia at every antenatal visit, as follows:

Ask, Check Record	Look, Listen, Feel
• Blood pressure at last visit?	• Measure blood pressure • If diastolic blood pressure is 90 mmHg or more, repeat after 1 hour rest • If diastolic blood pressure is still 90 mmHg or more, ask the woman if she has: – Severe headache – Blurred vision – Epigastric pain, and – Check urine for protein

☆Management of pre-eclampsia, severe pre-eclampsia and eclampsia

Severe pre-eclampsia and eclampsia are managed similarly, with the exception that delivery must occur within 12 hours of onset of convulsions in eclampsia. All cases of severe pre-eclampsia should be managed actively.

Assessment and management of the woman who presents with pre-eclampsia, severe pre-eclampsia or eclampsia requires stabilization and urgent referral to a referral hospital with proper management and treatment as follows:

General Management:

- If the woman is unconscious or convulsing, shout for help from nearest personnel
- Perform a rapid evaluation of the general condition of the woman, including vital signs
- If the woman is not breathing or her breathing is shallow, check airway and manage as required (see p. 168)
- If the woman is unconscious:
  - Check airway and temperature
  - Position her on left side,
  - Check for neck rigidity
  - Protect her from injury and provide constant supervision
- If woman is convulsing:
  - Position her on her left side if possible as this could reduce the risk of aspiration of secretions, vomit and blood
  - Protect her from injuries and trauma
  - Provide constant supervision
  - If severe pre-eclampsia or eclampsia is diagnosed, give magnesium sulfate as indicated in the following table
  - If the cause of convulsions has not been determined, manage as eclampsia and continue to investigate other causes.

Assessment/Signs and Symptoms	Appropriate Management
High blood pressure: • Diastolic blood pressure • 90 mmHg (15 minutes apart) on two readings	**High blood pressure:** • Advise to take rest and reduce workload • Advice on the danger signs • Reassess the next antenatal visit in 1 week if > 8 months pregnant • If hypertension persists at next visit, please refer to a referral hospital urgently.
Pre-eclampsia: • Two readings of diastolic blood pressure 90-110 mmHg (15 minutes apart) and proteinuria (++)	**Pre-eclampsia:** • Refer to a referral hospital urgently.
Severe pre-eclampsia: • Diastolic blood pressure 110 mm Hg or more and proteinuria +++ OR • Diastolic blood pressure 90 mmHg or more on two readings and proteinuria ++ and any of: – Severe headache – Blurred vision – Epigastric pain	**Severe pre-eclampsia:** • Start an IV infusion and give fluids (e.g. ringer lactate) (the amount of fluids should be determined based on the need) • Give Magnesium Sulfate (see below) • Monitor vital signs and knee reflexes**.** If diastolic blood pressure remains above 110 mmHg, give Magnesium Sulfate as per p. 25-26 • Insert a urinary catheter to monitor urine output and proteinuria • Record strictly fluid intake and output • Refer to a referral hospital urgently.
Eclampsia: • Convulsions • Diastolic blood pressure 90 mmHg or more • Proteinuria ++ or more	**Eclampsia:** • Manage as severe pre-eclampsia case • Stabilize the woman • Arrange transport and transfer to a referral hospital urgently.

Giving Magnesium Sulfate for Treatment of Severe Pre-eclampsia and Eclampsia

Giving the dose of Magnesium Sulfate: (Total loading dose to give at the beginning is 15g)

This is the most effective drug to give to severe pre-eclamptic mothers to prevent fits and to eclamptic mothers to make blood flow to the brain better and prevent further fits.

Use 50% Magnesium sulfate 10 ml amps = 5 g per ampoule. Draw up 5 g (10 ml) dilute 20 ml of solution for IV injection (total 30 ml): best given slowly over 15-20 minutes either through a scalp vein 25 G needle into the rubber tubing of a fast flowing IV infusion (this latter method dilutes the drug entering the body of the woman very effectively). Draw up two syringes of 5 g (10 ml) each for IM injection (deep IM). Inject into each buttock of the patient. Refer woman immediately to a referral hospital and record the time of injections and dosage given.

* **Important considerations in caring for a woman with pre-eclampsia and eclampsia:**
  - Do not leave the woman alone.
  - Help her into the left side position and protect her from fall and injury
  - Place padded tongue blades between her teeth to prevent a tongue bite, and secure it to prevent aspiration (DO NOT attempt this during a convulsion)
  - DO NOT give MgSO4 rapidly, it can cause apnea and death.
  - If respiratory rate is slow (<12/minute) after giving MgSO4, stop giving MgSO4.
  - If respiratory rate is slow (<10/minute) after giving MgSO4, stop giving MgSO4 and give calcium gluconate 1g IM slowly
  - DO NOT give intravenous 50% magnesium sulfate without diluting.
  - If delivery is imminent, manage as normal childbirth (see page 67) and accompany the woman during transport
  - Keep her in the left side position

Remark: After receiving magnesium sulfate, a woman may feel flushing, thirst, headache, nausea or vomiting.

Formulation of magnesium sulfate

		Solution magnesium sulfate 50%: 5 g/10ml ampules
IV	5 g	Dilute with injectable solution: total 30 ml (10 ml of magnesium sulfate + 20 ml of injectable solution)
IM	10 g	deep IM (buttock) without dilution, each site 5 g
Reconvulsion/ maintaining dosage	2 g	4 ml of magnesium sulfate diluted with injectable solution 6 ml IV slowly

Giving appropriate antihypertensive drug after MgSO4:

If diastolic blood pressure is >100 mmHg:

- Give hydralazine 10mg IV slowly (3-4 minutes). If IV is not possible, give IM.
- Record dose and time of injection on Referral Slip and prepare for urgent referral.
- If after 30 minutes (while waiting for ambulance or transport) diastolic blood pressure remains >90 mmHg, repeat the dose again until diastolic BP is around 90 mmHg. Do not give more than 20 mg in total.

1-2-2 Check for Anemia and Management

Recent studies have shown that severe anemia not only leaves the woman at risk of death, but also anemia at any level could lead to fatality. Anemia among pregnant women reduces the chance of survival when the women bleed at and after birth. For babies, this might result in preterm or low weight birth and possible death. It is believed that anemia around the globe has contributed to around 20% of maternal mortality; micronutrients for prevention and control of micronutrient deficiency in Cambodia [sic].

When women come for ANC, they should be screened for anaemia.

Ask, Check Record	Look, Listen, Feel
• Are you tired easily? • Are you breathless (short of breath) during routine household work?	• Measure hemoglobin (if possible) • Look for conjunctival pallor • Look for palmar pallor (severe or moderate pallor) • Count the number of breaths in one minute

☆ Assessment and management of anemia

General Management:

- Measure hemoglobin
- Look for conjunctival and palmar pallor
- Check if breaths per minute > 30 (short of breath)
- Give the normal standard dose of iron/folic acid to all non-anemic women (90 tabs over the course of pregnancy, one tab/day). Provide additional care as below for severe or moderate anemia.

Assessment/Signs and Symptoms	Appropriate Management

Severe anemia:
• Hemoglobin < 7 g/dL AND/OR
• Severe palmar and/or conjunctival pallor
• with any of:
  – >30 breaths per minute
  – Woman is dizzy or tired
  – Difficult to breathe at rest
	Severe anemia:
	• If malaria is diagnosed, give appropriate antimalarial (see national treatment guidelines for malaria)
	• If < 36 weeks gestation and after birth, refer urgently to a nearest referral hospital to find cause.
	• If ≥ 36 weeks gestation, refer the woman to a hospital until delivery (see National Policy and Guidelines for Micronutrient Supplementation to Prevent and Control Deficiencies in Cambodia).

Mild to moderate anemia: • Hemoglobin 7-11 g/dL OR hematocrit at/between 21% and 31% • Palmar or conjunctival pallor	**Mild to moderate anemia:** • If malaria is diagnosed, give appropriate antimalarial (see national treatment guidelines for malaria) • Give double dose of 60 mg iron/400 micrograms folic acid twice daily (1 tablet in the morning and 1 tablet after dinner) for 3 months following up after 14 days. • Counsel on compliance with treatment

1-2-3 Check for Syphilis and Management

Do a rapid syphilis test for all pregnant women at first antenatal visit and check status at every visit. If a test is not done during pregnancy, do a test at labor. Provide information about the advantages of a syphilis test.

Ask, Check Record	Look, Listen, Feel
• Have you been tested for syphilis during this pregnancy? • Have you or your partner been treated for syphilis? • Are you allergic to penicillin?	**Look for any genital ulcer or blister:** If it is present, diagnose and treat the woman and her partner according to National Guidelines on STI/RTI case management) – If not present, do rapid test – Take blood from finger prick for a rapid syphilis test if the test result is negative meaning that she has no syphilis. Educate on use of condom and give male condoms for prevention of HIV/STI transmission and pregnancy. – If a rapid on-site syphilis test is positive, refer woman to a family health clinic for RPR test.

1-2-4 Check for HIV Status

Prevention and care activities for PMTCT are integrated into existing MNCH and HIV services, in order to facilitate access to health services for women and their families and to reduce stigmatization and discrimination. All women receiving antenatal care should be offered confidential counseling and rapid testing for HIV as a standard part of ANC, preferably at the first ANC visit. Counselors should encourage the partners of pregnant women (particularly of women found to be HIV-infected, women with STIs and women whose partners have a history of high risk behaviors) to participate in counseling and rapid testing.

Pregnant women, whose HIV status at delivery is unknown, should be offered counseling and rapid testing during labor. All women must undergo HIV testing during pregnancy, but they could decline such a test as well.

Ask, Check Record

General:

- Ask for the level of knowledge of the woman about HIV/AIDS and the mode of transmission
- Provide key information on HIV/AIDS and the advantage of knowing HIV status, then ask: Have you ever been tested for HIV during this pregnancy?

  If not, provide her with information on the benefit of knowing her status and encourage her to test.

  If yes, check the test result (explain to the woman that she has the right to test confidentially). If the test result is positive, ask: Are you on any ARV treatment? If yes, check the ARV treatment and ask: Has your partner had undergone the test? Do you have any other concerns?

Pre-test counseling:

The following topics should be covered in the pre-test counseling:

- Basic HIV/AIDS information, including HIV transmission and prevention
- Advantages of routine HIV counseling and rapid testing
- Risks of contracting of HIV and risk reduction options

- MTCT and available options for prevention, including infant feeding options
- Confidentiality of HIV rapid testing: Test results are confidential and will not be shared with anyone other than health care workers directly involved in providing services to the patient
- With regard to negative test results, including an explanation of the "window period"
- With regard to a positive test, refer to a hospital with Pre-ART/ART services for test confirmation
- Importance of disclosure of test results
- Availability of HIV treatment and support services

(**Note:** each individual can decline a test)

Post-test counseling in case of HIV-negative status:

- Ensure the woman understands the "window period" and advise repeat testing in 3 months if there has been recent or ongoing high risk exposure
- Review the woman 's plans for risk reduction in the future
- Explore the woman's perceptions of her husband or partner's behaviors and HIV status. If the woman thinks that her husband or partner may have HIV infection or high risk behaviors, husband or partner's testing should be advised
- Explain the high risk of transmitting HIV to the infant if HIV infection is acquired during pregnancy or breastfeeding and how to minimize this risk
- Inform the client that further counseling is available if needed

HIV Test Positive:

In case of rapid HIV test positive, the counselor must not give the test result to the woman, but advise her to have a confirmation test at VCCT service of a nearby referral hospital with Pre-ART/ART service.

If test result positive:

- Counselor at VCCT service must send the woman for registration with Pre-ART/ART service in order to receive ARV Option B+.
- HIV-positive women must receive routine antenatal care like HIV-negative women
- Explain the importance of safe delivery and help the client to plan for delivery at the hospital where treatment and support facilities are available.
- Provide information about safe abortion services
- Discuss the benefits and risks of disclosure and encourage partners and children to go for testing and counseling
- Provide counseling on living and coping with HIV (psychosocial support)
- Provide information on how to prevent transmission of HIV
- Clearly explain infant feeding options and follow-up services.

* Management and Education

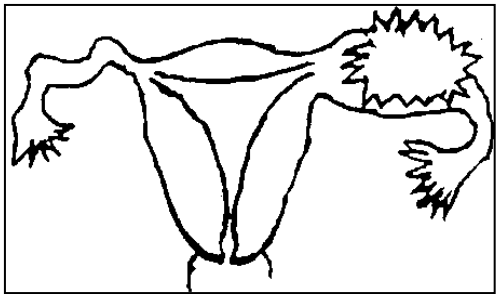
Management:

- Check for signs and symptoms of STIs and HIV
- If the facility for rapid testing is available, perform a rapid HIV test if not performed in this pregnancy

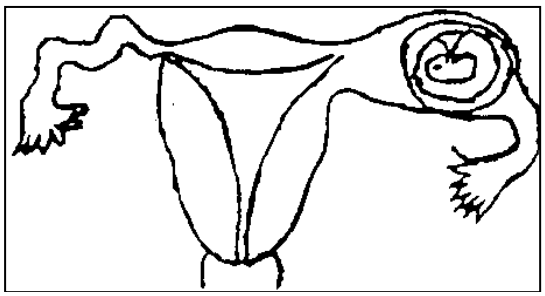
1.2.5 Management of Vaginal Bleeding in Early Pregnancy

Vaginal bleeding in early pregnancy is bleeding that occurs during the first 26 weeks of pregnancy.

Ectopic pregnancy is one in which implantation occurs outside the uterine cavity with the fallopian tube is the most common site of ectopic implantation. An ectopic pregnancy should be considered when identifying the cause of vaginal bleeding in early pregnancy in any mother with anemia, pelvic inflammatory disease (PID), threatened abortion, or unusual complaints about abdominal pain.



Rupture Ectopic



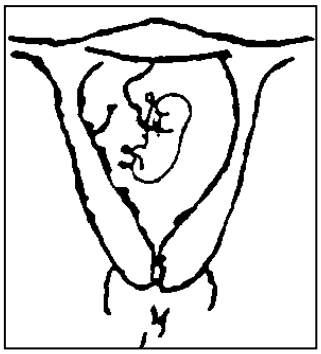
Unruptured Ectopic

Abortion should be considered in any woman of reproductive age who has a missed period (delayed menstrual bleeding with more than a month having passed since her last menstrual period) and has one or more of the following: bleeding, abdominal cramping, partial expulsion of products of conception, dilated cervix, or smaller uterus than expected.

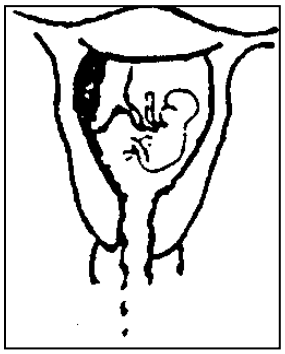
- **Spontaneous abortion** is defined as the loss of pregnancy before fetal viability (26 weeks gestation).

  The stages of spontaneous abortion may include:

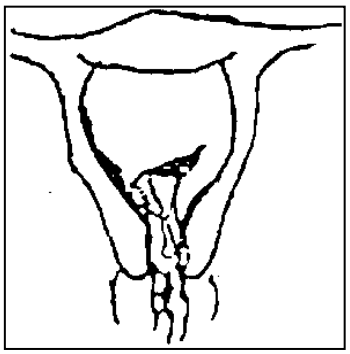
  - Threatened abortion (pregnancy may continue);
  - Inevitable abortion (pregnancy will not continue and will proceed to incomplete/complete abortion);
  - Incomplete abortion (products of conception are partially expelled);
  - Complete abortion (products of conception are completely expelled).
- **Threatened Abortion:** the fetus is dead (no heart beat), uterus is small compared to the gestational age, light bleeding or no bleeding and closed cervix**.**
- **Induced abortion** is a process by which pregnancy is terminated in a medical procedure or by any other method before fetal viability (26 weeks gestation).
- **Unsafe abortion** is a procedure performed either by persons lacking the necessary skills or in an environment lacking minimal medical standards.
- **Septic abortion** is an abortion complicated by infection. Sepsis is infection arising from the lower genital tract following either spontaneous or unsafe abortion. Sepsis is more likely to occur if there are retained products of conception and evacuation has been delayed. Sepsis is a frequent complication of unsafe abortion involving unclean instrumentation.



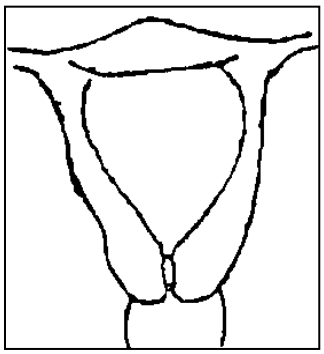
Threatened abortion



Inevitable abortion



Incomplete abortion



Complete abortion

- **Molar pregnancy** is characterized by an abnormal proliferation of chorionic villi.

Assess and manage the woman who presents with vaginal bleeding in early pregnancy, as follows OR stabilize and refer the woman to a hospital with appropriate management.

General Management (all cases) • Rapidly assess the woman's general condition • If shock is suspected, begin treatment immediately • If the mother is in shock, consider ruptured ectopic pregnancy • Assess if IV fluid is needed and start an IV infusion and infuse IV fluids (see p. 168) • Consider antibiotics if needed/indicated based on the condition of the woman.	
Assessment/Signs and Symptoms	**Appropriate Management**
Threatened Abortion: • Light bleeding • Closed cervix	**Threatened Abortion:** • Medical treatment is not usually necessary • Advise the mother to avoid strenuous activity and sexual intercourse, but bed rest is not necessary

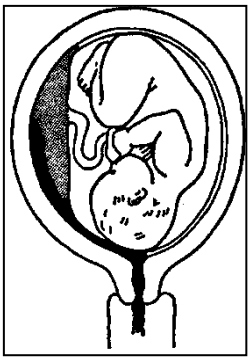
• Uterus corresponds to gestational age	If bleeding stops, follow-up in antenatal clinic. If bleeding persists and gestational age > 12 weeks, refer the woman to a referral hospital urgently.
Inevitable Abortion: • Heavy bleeding • Dilated cervix • Uterus corresponds to gestational age	**Inevitable Abortion:** • If pregnancy is less than 12 weeks, evacuate uterine contents by MVA. • Follow up of the mother after procedure and treatment. • If gestational age > 12 weeks, refer the woman to a referral hospital urgently.
Incomplete Abortion: • Heavy bleeding • Dilated cervix • Uterus smaller than gestational age	**Incomplete Abortion:** • If gestational age < 12 weeks, use manual vacuum aspiration for evacuation of uterus (see national protocol for post abortion care) • follow-up of the woman after treatment • If gestational age > 12 weeks, refer the woman to a referral hospital urgently.
Complete Abortion: • Light bleeding • Closed cervix • Uterus smaller than gestational age • Uterus softer than normal	**Complete Abortion:** • Evacuation of the uterus is not usually necessary • Observe for heavy bleeding • Follow-up of the woman after treatment
Missed Abortion: • Bleeding –stopped or slight brownish discharge • Pain-none • Cervix-closed • Uterus is small compared to the gestational age	**Missed Abortion:** • Provide emotional support • Counsel woman on the need of referral to a referral hospital

Ectopic Pregnancy: • Light bleeding • Abdominal pain • Closed cervix • Uterus slightly larger than normal • Uterus softer than normal • Abdominal distension • Rebound tenderness • Shock (ruptured)	**Ectopic Pregnancy:** • Stabilize • Prepare blood donor • Arrange transport for referral of the woman to a referral hospital urgently.
Molar Pregnancy: • Severe vomiting • Moderate or heavy bleeding • Closed or dilated cervix • Uterus is larger than the gestational age • Uterus softer than normal • Partial expulsion of products of conception which resemble grapes	**Molar Pregnancy:** • Stabilize the woman • Prepare blood donor • Arrange transport for referral of the woman to a referral hospital urgently.

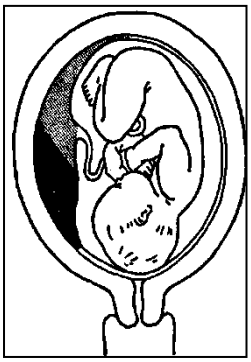
1-2-6 Management of Vaginal Bleeding in Later Pregnancy and Labor

Vaginal bleeding in late pregnancy is bleeding that occurs after 26 weeks of pregnancy. The probable causes are abruptio placenta, ruptured uterus, and placenta previa; all three of these conditions may be accompanied by shock.

Abruptio placenta is the detachment of a normally located placenta from the uterus before the fetus is delivered, and is characterized by bleeding after 26 weeks gestation and intermittent or constant abdominal pain.



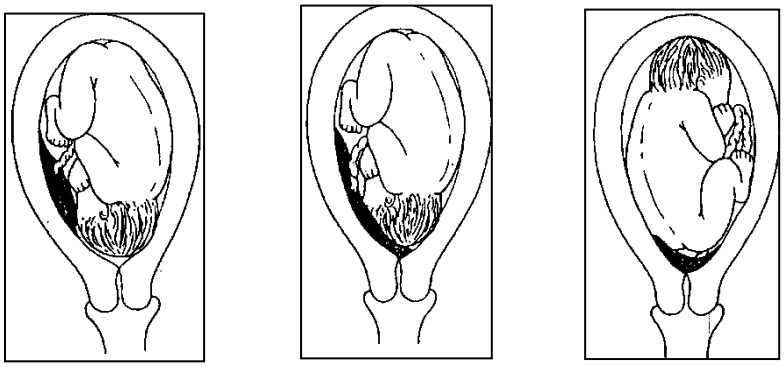
External Haemorrhage



Internal/Concealed Hemorrhage

Ruptured uterus is characterized by intra-abdominal and/or vaginal bleeding and severe abdominal pain that may decrease after rupture.

Placenta previa is implantation of the placenta at or near the cervix and is characterized by bleeding after 26 weeks gestation.



Marginal **Partial** **Total**

Assess and manage the woman who presents with vaginal bleeding in later pregnancy (> 26 weeks gestation) and labor as follows and stabilize the woman and refer urgently to hospital where appropriate management is available.

General Management:

- Shout for help urgently from all available personnel
- Rapidly assess the woman's general condition including vital signs (pulse, blood pressure, respiration and temperature).
- DO NOT do a vaginal examination at this stage (as this may cause heavier bleeding)
- If shock is suspected, begin treatment immediately
- Start an IV infusion and infuse IV fluids (see p. 168)

Assessment/Signs and Symptoms	Appropriate Management
Abruptio Placenta: • Bleeding after 26 weeks (may be retained in uterus) • Intermittent or constant abdominal pain • Shock • Tense/tender uterus • Decrease/absent fetal movements • Fetal distress or absent fetal heart	**Abruptio Placenta:** • Stabilize the woman • Prepare blood donor • Arrange transport for referral of the woman to a referral hospital urgently.

sound	
Ruptured Uterus: • Bleeding (intra-abdominal and/or vaginal) • Severe abdominal pain (may decrease after rupture) • Shock • Abdominal distension • Abnormal uterine contour • Easily palpable fetal parts • Absent fetal movement and fetal heart sounds • Rapid maternal pulse	**Ruptured Uterus:** • Stabilize the woman • Prepare blood donor • Arrange transport for referral of the woman to a referral hospital urgently.
Placenta Previa: • Bleeding after 26 weeks gestation • Shock • Bleeding may be precipitated by intercourse • Relaxed uterus • Fetal presentation not in pelvis/ lower uterine pole feels empty. • Normal fetal condition	**Placenta Praevia:** • DO NOT perform a vaginal examination • Stabilize the woman • Prepare blood donor • Arrange transport for referral of the woman to a referral hospital urgently.

1-2-7 Management of Fever during Pregnancy and Labor

Fever (temperature 38ºC or more) during pregnancy and labor is a sign of infection and must be managed appropriately. Any woman who presents with fever during pregnancy and at labor must be assessed and managed or stabilized and referred urgently to a hospital where appropriate management is available.

<table>
<tr><td colspan="2">General Management:
Encourage increased fluid intake by mouth
Encourage bed rest
Use a wet towel to help decrease temperature
Start an IV infusion if necessary</td></tr>
<tr><td>Assessment/Symptoms and Signs</td><td>Appropriate Management</td></tr>
<tr><td>Lower urinary tract infection:
Burning on urination</td><td>Lower urinary tract infection:
Amoxicillin 500 mg by mouth three times per day for 5 days or Trimethoprim/ Sulfamethoxazole one tablet (80/400 mg) by mouth two times per day, two tablets each time, for five days.
Encourage her to drink more fluids. If no improvement within 2 days or condition worsens, refer the woman to a referral hospital urgently.</td></tr>
<tr><td>Cystitis</td><td>Cystitis
Amoxicillin 500 mg by mouth three times per day for 5 days or Trimethoprim/ Sulfamethoxazole one tablet (80/400 mg) by mouth two times per day, two tablets each time, for five days.
Refer the woman to a referral hospital if necessary.</td></tr>
</table>

Upper urinary tract infection: • Fever with temperature over 38ºC and any of the following: – Dysuria – Spiking fever/chills – Increased frequency and urgency of urination – Abdominal pain	**Upper urinary tract infection:** • If shock is present or suspected, initiate immediate treatment (refer to the section on shock management on page 14). • Start an IV infusion and infuse fluids at 150 ml/hour • Give initial dose of Ampicillin 2 g IV/IM (for BEmONC facility) and refer the woman to a referral hospital urgently.
Pneumonia: • Fever • Difficulty breathing • Cough with expectoration • Chest pain	**Pneumonia:** • Give initial dose of Ampicillin 2 g IV/IM (for BEmONC facility) and refer the woman to a referral hospital urgently.
Mild malaria symptoms: • Fever • Chills (rigors) • Sticky sweat • Headache, muscle/joint pain	**Mild malaria symptoms:** • For *P. falciparum, P.Vivax, and P.Malariae* in 1st trimester, give quinine only for seven days (see p. 162) • For *P. falciparum, P.Vivax, and P.Malariae or mixed* in 2nd and 3rd trimester, give Dihydroartemisinin + Piperaquine for 3 days.
Severe malaria symptoms: • Symptoms and signs of mild malaria PLUS one or more of the following signs: – Severe anemia, very tired – Mental distress, breathing difficulty – Multiple convulsions, decreased blood circulation – Abnormal bleeding – Severe jaundice	**Severe malaria:** • Refer the woman to a referral hospital urgently.

1-2-8 Management of Loss of Fetal Movement

If the woman reports that the fetus has stopped moving, she should be assessed and referred to a hospital where appropriate management is available.

General management: • **Comfort the woman**	
Assessment/Signs and Symptoms	**Appropriate Management**
Likely fetal death • Feel the abdomen: no fetal movements • Listen for the fetal heart (after six months of pregnancy): If no heart beats, listen again after 1 hour. If still no heart beats, baby probably dead.	**Likely fetal death** • Inform mother and husband about the possibility of dead baby • Refer the woman to a referral hospital.
Normal fetus: • No fetal movement but fetal heart beat present	**Normal fetus:** • Inform the women that fetus is fine, but if the fetus still has no movement, must return.

1-2-9 Management of Preterm Labor

Preterm delivery is highly linked with illness and death around birth. Management of preterm labor involves referral of the woman to a hospital where appropriate management is available.

1-2-10 Management of Pre-labor Rupture of Membranes

Pre-labor rupture of membranes (PROM) is rupture of the membranes before labor has begun. PROM can occur either when the fetus is immature (preterm or before 37 weeks) or when it is mature (term). The typical odor of amniotic fluid and the examination can confirm the diagnosis. If the membrane rupture is not recent or when leakage is gradual, confirming the diagnosis may be difficult:

- A pad can be placed over the vulva and examined (visually and by odor) one hour later
- A sterile speculum can be used for vaginal examination: Amniotic fluid may be seen coming from the cervix or forming a pool in the posterior fornix or the woman can be asked to cough, which may cause a gush of amniotic fluid. Assess and manage the woman who presents with pre-labor rupture of membranes or stabilize the woman and refer to hospital where appropriate management is available.

General management:	
Assessment/Signs and Symptoms	**Appropriate Management**
Pre-labor rupture of membranes: • Look at the pad or underwear for signs of amniotic fluid or foul-smelling vaginal discharge • If no evidence, check again after 1 hour	**Pre-labor rupture of membranes:** • Confirm diagnosis • If rupture of membranes for over 18 hours, give antibiotics: + Ampicillin 1g IV or IM every eight hours + Gentamicin 80 mg IM every 12 hours • Give Dexamethasone 12 mg IM and refer if gestational age < 37 weeks (26-36). • If rupture of membranes at > 37 weeks of pregnancy, manage as for normal childbirth • If rupture of membranes at < 37 weeks of pregnancy, refer the woman to a referral hospital.
Pre-labor rupture of membranes with infection: • Foul-smelling vaginal discharge after 26 weeks • Fever/chills; abdominal pain	Pre-labor rupture of membranes with infection: • Refer the woman to a referral hospital.

1-2-11 Respond to Identified Symptoms or Problems

A- Persistent Vomiting

If the woman has persistent vomiting, assess and provide care as follows:

Ask, Check Record	Look, Listen, Feel
• How many times do you vomit? • How much do you vomit each time?	• Check for dehydration: eyes, skin, mouth, blood pressure, pulse

☆Management and advice

- Hyperemesis gravidarum without dehydration (frequent vomiting):
  - Reassure the woman
  - Advise her to rest
  - Advise her to eat small amounts of food and drink at a time, but frequently
- **Hyperemesis gravidarum with severe dehydration** (frequent vomiting with signs of dehydration)
  - Treat dehydration with IV fluid infusion
  - Give anti-emetic (Metoclopramide)
  - When rehydrated: Advise her to eat small amounts of food and drink at a time, but more often.

B- Vaginal Discharge

If the woman is troubled by vaginal discharge, assess and provide care as follows:

Ask, Check Record	Look, Listen, Feel
• Have you noticed any vaginal discharge? • Do you have vaginal itching? • Has your partner had a urinary problem? – If the woman's partner is present in the clinic, can ask her partner the same questions? If yes, ask him if he has urethral discharge or pus? Burning on passing urine? – If the partner is not present with her, explain the importance of partner assessment and treatment to avoid re-infection – Schedule a follow-up appointment for the woman and her partner (if possible)	• Separate the labia and look for abnormal vaginal discharge: – amount – color – odor/smell • If no discharge is seen, perform vaginal examination with a clean gloved finger and look at the discharge on the glove.

☆ Management and advice

- **If gonorrhoea or chlamydia** (abnormal discharge; especially discharge from cervix, partner has urethral pus discharge or burning on urination)
  - give appropriate antibiotics to the woman according to national STI/RTI guidelines
  - treat partner with appropriate antibiotics according to national STI/RTI guidelines
  - counsel on safer sex, including use of condoms
- **If candida infection** (curd like vaginal discharge, severe vaginal itching):
  - give Clotrimazole according to national STI/RTI guidelines
  - counsel on safer sex, including regular use of condoms
- **If bacterial and or trichomonas infection** (abnormal vaginal discharge with bubble and foul odor):
  - treat according to national STI/RTI guidelines
  - counsel on safer sex, including use of condoms

C- Tuberculosis

If the woman appears to have signs of tuberculosis, assess and provide care as follows.

Ask, Check Record:
• Are you taking anti-tuberculosis drugs? If yes, since when? • Does treatment include injections?

☆ Management and advice

- If cough for 2-3 weeks, the woman should have sputum testing for tuberculosis.
- Woman positive for tuberculosis (is taking anti-tuberculosis drugs)
- If treatment includes streptomycin injection, refer woman to a referral hospital to switch treatment (because streptomycin may affect the fetus).
- If she is being treated with other medications, assure the woman that the drugs are not harmful to her fetus. Advise her to continue taking treatment and, if she is smoking, advise her to stop.

1.3. Give Preventive Measures

Advise and counsel all pregnant women who come for antenatal visit about the following preventive measures:

Assess, Check Record	Intervention
• Check tetanus toxin (TT) immunization status – When was TT last given? – Which dose of TT was this? – Encourage woman to bring her Mother Card and TT card to every health facility visit	• Give tetanus toxin if due • If immunization status unknown, give TT1 • If giving TT1 at first visit, plan to give TT2 at next visit • Counsel a woman to get a total of 5 TT injections
• Check woman's supply of the prescribed dose of iron/folic acid	• Give 90 tablets of iron/folic acid during pregnancy (1 tablet of iron/folic acid contains 60 mg iron and 400 µg folic acid) and counsel on how to use and safe place to keep
• Check when mebendazole was given	• Give mebendazole 500 mg once in the second or third trimester of pregnancy • DO NOT give mebendazole in first trimester of pregnancy
• Ask the woman if she (and her children) are sleeping under insecticide treated bednets	• Encourage sleeping under insecticide treated bednets

Tetanus Toxoid Schedule

Dose	Due date of injection	Effectiveness period
TT1	At first contact or at early pregnancy if possible	N/A
TT2	At least 1 month after TT1 (at next antenatal visit)	3 years
TT3	At least 6 months after TT2 or at next antenatal visit	5 years
TT4	At least 1 year after TT3 or at next antenatal visit	10 years
TT5	At least 1 year after TT4 or at next antenatal visit	Lifetime

Iron/Folic Acid (1 tablet = iron 60 mg and folic acid 400 µg)		
	Women without anemia	**Women with severe or mild-moderate anemia**
In pregnancy	1 tablet to be taken daily for 90 tablets throughout the pregnancy	2 tablets to be taken daily for a period of 3 months* Repeat 3 more months if still anemic
Postpartum and post abortion	1 tablet to be taken daily for a period of 42 days	2 tablets to be taken daily for a period of 3 months* Repeat 3 more months if still anemic

* Individuals should be reassessed and receive alternative treatment for anemia if their condition has no improvement.

1-4 Advice and Counseling

1-4-1 Nutrition and Self-Care

Advise and counsel the pregnant woman at every antenatal visit on the following topics:

Nutrition	**Self-Care**
• Advise the woman to eat all kinds of food and many times per day during pregnancy. She should eat four meals a day which are locally available such as meat, fish, oils, cereals, dark green vegetables and yellow fruits to make her and foetus healthy and strong. • Advise the use of small amount of iodized salt when cooking foods • Spend more time on nutrition counseling with very thin women and adolescents. • Determine if there are important taboos about foods which are nutritionally healthy; advise the woman against these taboos • Advise the woman that she should gain weight at least 1 kg per month in the	**Advise the woman to:** • Take iron tablets as directed: – take at bedtime or with meal if side effect. – do not worry about black stools – this is normal – if constipated, drink more water • Rest more and avoid heavy lifting • Sleep under insecticide impregnated bednet, wear long shirts and trousers to prevent mosquito bites, eliminate shelters for aedes and anopheles mosquitoes, which are the agents of transmission of dengue fever, malaria and zika virus • Practice safer sex (correct and regular use of condoms; remaining faithful in

2nd and 3rd trimesters of pregnancy • Talk to family members to encourage them to help ensure the woman eats enough and avoids hard physical work during pregnancy.	a relationship with an uninfected partner with no other risk behaviour) • Avoid drinking alcohol and smoking • Avoid medication that is not prescribed.

1-4-2 Birth Preparation and Emergency Plan

Develop a birth and emergency plan with the woman at the first antenatal visit, then review and, if necessary, revise the plan at subsequent visits. To help the woman develop a birth and emergency plan, discuss the following:

Health Facility Delivery
Explain why birth in a health facility is recommended: • Complications in pregnancy are not always predictable • A facility has staff, equipment, supplies and drugs available, and a referral system • If HIV positive, she will need ARV treatment for herself and baby • Complications are more common in HIV positive women and newborns
Advise how to prepare: • Ask woman to prepare transport and money for transportation to appropriate facility • Ask woman to prepare money for delivery care at the facility • Prepare who will go with her as support during labor and delivery • Prepare who will help at home while she is away at the facility • Determine and write down in her Mother's Health Book the phone numbers: for transportation means, for her skilled attendant, and for the facility where she plans to deliver

Advise when to go for delivery :

- If near the facility, go at the first signs of labor
- If far from the facility, go before baby is due or stay near the facility or at waiting house, if possible
- Ask for help from the community, if needed (remind her to bring along a ID Poor card, if any).

Advise what to bring:

- Mother Health Book
- Four clean and highly water absorbent cloths, each at least one square meter, two for the resuscitation surface, one for drying and one for covering the baby
- Additional clean cloths and sanitary pads for after birth
- Clothes for mother and baby, especially a hat to cover newborn's head
- Food and water for mother and support person

1-4-3 Labor Signs and Danger Signs

Advise to go to a health facility or to contact skilled birth attendant for the following labor signs:

- A bloody sticky discharge from vagina
- Painful (uterine contractions) every 20 minutes or less
- Rupture of membrane

Advise to go to health facility immediately, day or night, without delay for the following danger signs:

- Vaginal bleeding
- Convulsions
- Severe headache with blurred vision
- Fever and too weak to get out of bed
- Severe abdominal pain
- Shortness of breath or difficult breathing

Advise to go to health facility as soon as possible for the following danger signs:

- Fever
- Abdominal pain
- Feels ill
- Swelling of face, hands, legs

Emergency Preparation

Discuss emergency issues with the woman and her husband/family:

- Where to go
- Transportation means
- How much will it cost for the services and transport
- Who will go with her and who will help at home while she is away

1-4-4 Birth Spacing Methods

The woman should be counseled, during the third trimester of pregnancy, on the importance of birth spacing including suitable methods for breastfeeding and non-breast-feeding women.

- Explain that exclusive breastfeeding can prevent pregnancy. If she has sex and is not exclusively breastfeeding, she can become pregnant as soon as four weeks after delivery; therefore, it is important to start thinking early about what family planning method to use
- Ask about plans for having more children
- Ensure counseling on birth spacing methods available and informed consent prior to labor and delivery if she chooses tubal ligation.

Birth spacing method	When to start
Lactation Amenorrhea Method (LAM) This method is effective only if the three following conditions are met: 1. Woman's menstrual cycle has not returned after childbirth, 2. Baby is less than 6 months of age, 3. She is breastfeeding exclusively (no complementary foods given and breastfeeding frequently day and night, at least 8 times a day)	Can start immediately until 6 months after delivery
Calendar This method is effective only if the woman fulfills the three following conditions: 1. Woman has regular menstrual cycle, which is 28 days, 2. Woman recognizes dates of possible fertility 3. She avoids sex during the fertility period or her partner uses condom when having sex during this period.	• The woman must take note of her 1st day of menstruation on the calendar. Her sex is safe from the 1st to the 9th day (including the 1st and the 9th day) and the 20th to the 28th day of her menstruation's calendar month. • Besides those periods, she and her partner must avoid sex for 10 days from the 10th to the 19th day of the cycle.
POP	• If not breastfeeding: – start at any time before 4 weeks after delivery – start at once after 4 weeks if she does not have menstruation yet (Make sure that the woman is not pregnant); a condom must be used for 7 days if having sex. • If breastfeeding: – Start 6 weeks after birth; make sure that the woman is not pregnant and encourage the woman to continue breastfeeding.

COC	• **If exclusive breastfeeding (from 6 months after birth)**, start at 6 months after delivery and make sure that the woman is not pregnant (this drug may reduce breast milk production); a condom must be used for 7 days if having sex. • **If not breastfeeding (less than 4 weeks after birth)**, start within 21st and 28th day after delivery. After the 28th day, the drug may be given provided that the woman is not pregnant and a condom must be used for 7 days if having sex.
Injectable	• If not breastfeeding: – start at any time before 4 weeks after delivery – start at once after 4 weeks if she does not have menstruation yet (Make sure that the woman is not pregnant); a condom must be used for 7 days if having sex. • If breastfeeding: – start 6 weeks after birth and make sure that the woman is not pregnant.
Implant (Implanon NXT)	• If not breastfeeding, – start within 21st to 28th day after delivery. After the 28th day, the implant may be inserted provided that the woman is not pregnant and a condom must be used for 7 days if having sex. • If breastfeeding, – start at 4 weeks after delivery and make sure that the woman is not pregnant and a condom must be used for the first 7 days after implant if having sex.

Male condom	Can use immediately after delivery when having sex
IUD	• Can use at once within 48 hours after delivery (provider must be specially trained in IUD insertion according to national protocol on family planning). If after 48 hours, delay the IUD insertion until after 4 weeks or more • For woman who had a C-section, can insert after 6 months and make sure that the woman is not pregnant
Female sterilization	• Immediately or within 7 days after birth. • Can also be done 6 weeks or more after delivery and make sure that the woman is not pregnant

1-4-5 Routine and Follow-up Visits

Encourage the woman at antenatal visit to bring her partner or a family member to at least one antenatal visit.

Routine Antenatal Visits	Follow-up Visits
• 1st visit: before 16 weeks (the sooner the better, in particular after missed menstruation) • 2nd visit: preferably in 24-28 weeks • 3rd visit: ideally in 30-32 weeks • 4th visit: ideally in 36-38 weeks	• If >32 weeks pregnant and hypertension, return in 1 week • If <36 weeks pregnant and severe anemia, return in 2 weeks • If >36 weeks pregnant and severe anemia, refer to a referral hospital • If HIV positive, return in 2 weeks after HIV testing • The woman should come any time before date of appointment if she has problems.

Chapter 2: Labor and Delivery Care

2-1 Assessment and Care during Labor and Delivery

The person responsible for the initial reception of the women at the health facility (HC) must do a Quick Check (see p. 13) and rapid management (see p. 14).

<table>
<tr><td colspan="2">Assess the woman in labor or with ruptured membranes</td></tr>
<tr><td>Ask, Check Record</td><td>Look, Listen, Feel</td></tr>
<tr><td>History of labor:
– When did contractions begin?
– How frequent are contractions?
– How strong are contractions?
– Has water broken? If yes, when? How much? What color?
– Vaginal bleeding? If yes, When? How much?
– Is the baby moving?
– Do you have any concerns?
Check Mother’s Pink Book and record, or if no record:
– Ask when delivery is expected
– Determine if term or preterm
– Review the birth plan
If prior pregnancies, ask:
– Number of pregnancies/deliveries, number of abortions/miscarriages?
– Any prior caesarean sections, vacuum, or other complications such as postpartum hemorrhage?
– Any prior third degree tear?</td><td>• Observe the woman’s response to contractions:
– Is she coping or is she distressed?
– Is she pushing or grunting?
• Check abdomen for:
– Caesarean section scar
– Horizontal ridge across lower abdomen (because of full bladder, empty bladder and observe again)
• Feel abdomen for:
– Contraction frequency, duration, any continuous contraction
– Fetal lie; longitudinal or transverse?
– Fetal presentation: head, breech, other?
– More than one fetus?
– Fetal movement?
• Listen to the fetal heart beat:
– Count number of beats in 1 minute
– If less than 120 beats per minute, or more than 160, turn woman on her left side and count again</td></tr>
</table>

Current pregnancy: – Syphilis status, if not yet tested during pregnancy process of management of syphilis as during antenatal care visit. – Hemoglobin results – Tetanus immunization status – HIV status (note: if the woman is HIV positive, refer her to a hospital where ARV prophylaxis can be provided at onset of labor, as per national PMTCT guidelines) – Infant feeding plan – Receiving any medicines	• **Take vital signs:** measure blood pressure, count pulses, measure temperature, count respiratory rate • **Check for anemia:** Measure hemoglobin. If hemoglobin measure is unavailable, check for pallor of palms and conjunctivae. • **Look for dehydration:** Sunken eyes, dry mouth, pinch the skin on forearm; does it go back quickly? • **Check urine for proteinuria**

2-2 Decide Stage of Labor

Perform a vaginal examination and decide on the stage of labor, as follows:

Ask, Check Record	Look, Listen, Feel
• Explain to the woman that you will do a vaginal examination and ask for her consent	• Look at perineum for: – bulging perineum with enlarged vein • Look at the vulva for: – any visible fetal parts – vaginal bleeding – leaking amniotic fluid; if yes, is it meconium stained, foul-smelling? – warts, keloid tissue or scars that may interfere with delivery • DO NOT perform vaginal examination if bleeding now or at any time after 7 months pregnancy • DO NOT perform vaginal examination if premature rupture of membrane and no labor signs • Otherwise, perform gentle vaginal examination (do not start during a contraction) to: – Determine cervical dilatation in centimeters

	– Feel for presenting part: is it hard, round, soft (the head)? If not, identify presenting part – Feel for membranes; are they intact? – Feel for cord; is it felt? Is it pulsating? If so, act immediately

☆ Management

Latent phase (cervical dilatation 0-3 cm; contractions weak and <2 in 10 minutes):

- record in partograph

Active phase (cervical dilatation >3 cm, cervix fully effaced, regular contractions)

- manage as first stage of labor (see p. 59)
- record in partograph in the front part.

Imminent delivery (bulging thin perineum, vagina gaping and head visible, full cervical dilatation): manage as for second stage of labor (see p. 67) and record on partograph at the back page.

2.3 Respond to Obstetrical Emergencies to be referred

Signs	Treat and Advise
Obstructed labor • transverse lie • continuous contractions (constant pain between contractions) • sudden and severe abdominal pain • horizontal ridge across lower abdomen (above pubis) dividing the abdomen into two (sign of nearly uterine rupture) • labor > 15 hours	**Obstructed labor** • insert IV (prepare for life saving measures) if in labor >15 hours with signs of infection, – Initially give Ampicillin 2g IM/IV – Gentamicin 80mg IM • if cannot give antibiotic IV, give antibiotic IM • refer the woman to a hospital immediately.

Uterine and fetal infection • ruptured membranes and any of the following: – fever >38°C – foul smelling vaginal discharge	**Uterine and fetal infection** • give combination of antibiotics – initially give Ampicillin 2 g IM/IV (for BEmONC facility) then 1 g in every 8 hours together with – Gentamicin 80 mg IM every 12 hours together with – Metronidazole 500 mg PIV every 8 hours • if nearly in 2nd stage of labor, deliver in place • if in latent phase of labor, refer the woman to a hospital immediately.
Risk of uterine and fetal infection: • rupture of membranes at <37 weeks of pregnancy	**Risk of uterine and fetal infection:** • if in latent phase of labor, refer the woman to a hospital immediately. • if in 2nd stage of labor, deliver. For BEmONC facility, give antibiotics together. – initially give Ampicillin 2 g IV and then one tablet of 500 mg every 8 hours with – Gentamicin 80 mg IM every 12 hours, Dexamethasone 12 mg IM and then refer.
Pre-eclampsia: • diastolic blood pressure >90 mmHg • proteinuria ++ or more	**Pre-eclampsia:** • assess further and manage as on p. 22 OR refer urgently to hospital.
Severe anemia: • severe palmar and conjunctival pallor and/or hemoglobin <7g/dl	**Severe anemia:** • if in latent phase, refer the woman to a hospital where appropriate management is available.

	• if nearly in second stage of labor, monitor intensively – minimize blood loss (avoid cutting perineum unnecessarily and prepare for AMTSL) – refer the woman to a hospital where appropriate management is available.

Provide a supportive, encouraging atmosphere for the woman throughout labor as follows:

Communication • explain all procedures, seek permission, and discuss findings with the woman • encourage her partner or relative to stay with her throughout labor • keep her informed about the progress of labor • praise her, encourage and reassure her that things are going well • ensure and respect privacy during examinations and discussions
Cleanliness • encourage the woman to empty her bowels, bathe or shower or wash herself and genitals at the onset of labor • clean the vulva and perineal area before each examination • wash hands with soap and water/alcohol hand rub before and after each examination • use clean gloves for every vaginal examination • ensure cleanliness of birthing areas • clean up any spills or stains immediately
Mobility • encourage the woman to walk around freely during labor • support the woman's choice of appropriate position for each stage of labor
Urination • encourage the woman to empty her bladder every 2 hours
Eating and Drinking • encourage the woman to eat and drink as she wishes throughout labor • nutritious liquid drinks are important, even in late labor

Breathing Technique

- teach the woman to notice her normal breathing
- encourage her to breath out more slowly and to relax with each breath
- to prevent pushing at the end of first stage, teach her to pant, to breathe with an open mouth, to take short breaths followed by a long breath out
- during delivery of the head, ask her not to push, but to breathe normally

Pain and Discomfort

- suggest change of position
- encourage mobility
- encourage birth companion to massage the woman's back if she finds this helpful, and hold the woman's hand and sponge her face between contractions
- encourage woman to apply breathing technique
- encourage warm bath or shower, if available

Birth Companion

- encourage woman to choose a birth companion throughout labor
- describe to birth companion what he or she should do:
  - always be with the woman
  - encourage her
  - help her to breathe and relax
  - rub her back, wipe her with a wet cloth
  - give support using local practices that do not disturb labor and delivery
  - encourage woman to move around freely as she wishes and to adopt the position of her choice
  - encourage her to drink and eat as she wishes
  - assist her to the toilet when needed
  - ask the birth companion to call for help from midwife if:
  - the woman is bearing down with contractions
  - there is vaginal bleeding
  - she is suddenly in much more pain
  - she loses consciousness or has fits
  - there is any other concern

- tell the birth companion;
  - NOT to encourage the woman to push
  - NOT to give the woman advice other than that outlined by the health care provider
  - NOT to keep the woman in bed if she wants to move around

2-4 First Stage of Labor

2-4-1 Latent Phase (Not >8 hours)

When cervix dilated 0-3 cm, cervix not fully effaced, or contractions are weak, less than 2 in 10 minutes, she should be monitored as follows:

Monitor Every Hour	Monitor Every 4 Hours
• for emergency signs (see p. 55) • frequency of contraction in 10 minutes and duration of each contraction • fetal heart rate every 30 minutes • mood and behavior (distressed, anxious) • record findings on partograph • give supportive care	• cervical dilatation: unless otherwise indicated, DO NOT do vaginal examination more frequently than every 4 hours • begin plotting partograph • measure temperature, pulse, blood pressure every 2 hours or more frequently if necessary.
Assess Progress in Labor	**Treat and Advise**
After 8 hours, if: • contractions stronger and more frequent no cervical dilation and no membranes ruptured	• refer urgently to a hospital.
After 8 hours, if: • no increase in contractions and no blood stained fluid, • membranes are not ruptured, and • no progress in labor	• discharge the woman and advise her to return if: – too painful – vaginal bleeding – membranes rupture
• cervical dilatation 3 cm or greater	• continue plotting on partograph and manage the woman as active phase (see below)

2-4-2 Active Phase (Not >7 Hours)

When the cervix is fully effaced and dilated 3-10 cm, plot progress on the partograph.

Patient information: fill out name, number of pregnancies, number of deliveries, facility (HC) number, date and time of admission, and time of ruptured membranes.

Fetal heart rate: record every half hour. Normal fetal heart rate: 120-160 bpm. Listen to the fetal heart rate for one full minute immediately following uterine contraction.

Amniotic fluid: record one of five observations on the partograph at every vaginal examination:

I: membranes intact;

C: membranes ruptured, clear fluid;

M: membranes ruptured, meconium-stained fluid;

A: absence of amniotic fluid;

B: blood stained fluid.

Molding (overlapping):

It is very important to notice a change in the molding in order to know whether the head of the fetus can pass through the pelvis. If fetal head is still high, not engaged in the pelvis, and the overlapping has increased, consider disproportion of the fetal head and the mother's pelvis. The change in molding is recorded under the amniotic fluid.

Record molding as following:

0: not yet opposed, can feel the suture easily;

+: sutures opposed;

++: sutures overlapping a bit;

+++: sutures strongly overlapping and not reducible with examining figure.

Need to check head molding at every vaginal examination and record under amniotic fluid.

Note: If breech presentation, no need to fill this part.

Cervical dilatation: Mark the cervical dilation with a cross (X). The cross should be put at the left side of the graph in the box with number 0-10 at the vaginal examination. Vaginal examination should be conducted every four hours. In the active phase, it can be conducted more often according to the status of the woman. For a multiparous woman, the examination can be conducted more often along with feeling for descent of fetal head.

Alert line: starts at 3 cm of cervical dilatation to the point of expected full dilatation (10 cm) at the rate of at least 1 cm per hour. If the cross passes the alert line, reassess the woman and intervene as advised in the table below.

Action line: parallel and 4 hours to the right of the alert line.

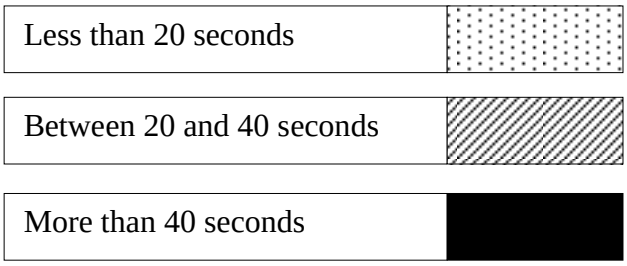
Descent: assessed by abdominal palpation before vaginal examination is conducted. It refers to the part of the head (divided into five parts) palpable above the symphysis pubis, recorded as a (O) at every abdominal examination.

Hours: refers to the time elapsed since the onset of the active phase of labor.

Time: record actual time of examination.

Contractions: palpation for contractions is conducted hourly during the latent phase and every 30 minutes during the active phase; count the number of contractions in a 10-minute time period, and their duration in seconds.

- How to mark contractions on a partograph



Oxytocin: record the amount of oxytocin per volume IV fluids in drops per minute to help contraction. Oxytocin in IV fluid is given to help contraction by a doctor/ physician at a facility with surgical capacity only.

Drugs given: record any drugs given.

Pulse: record every 2 hours and mark with a dot (•).

Blood pressure: record every 2 hours and mark with arrows (↕) (more often if necessary).

Temperature: record every 2 hours and record the value.

Urine: record protein and glucose level at the admission. Keep record of the urine volume throughout labor when urine is passed.

Recording on the back of the partograph (record the progress of stages 2, 3 and 4 of birth)

In box: record any care provided which is not mentioned on the front page of the partograph. In the note box, we record time of full cervical dilation, descent of fetal head, amniotic fluid color, and other problems, and monitor fetal heart beat every 5 minutes in Stage 2.

Time of delivery: record exact time and date of delivery

Any problem during delivery: record any problem related to delivery e.g. delivery by vacuum extraction, long expulsion, C-section.

Perineum: tick the box if laceration or episiotomy

Birth attendant: record name and title of person who assisted delivery

Delivery of the placenta:

- Tick (√) the controlled cord traction box if delivery of the placenta by AMTSL (with oxytocin injection in the 1st minute) was performed.
- Tick (√) the natural management box if the placenta was delivered without injection of oxytocin.
- Tick (√) the manual removal of placenta box if the placenta was manually removed.

Placenta weight: after delivery of the placenta, weigh and record the weight, e.g 350 grams.

- Tick (√) the maternal part (Duncan): if the placenta came out with the maternal part first (inverted placenta)
- Tick (√) the fetal part (Beaudelauque): if the umbilical cord came out first.
- Tick (√) the uterine evacuation box: if manual removal of retained products or MVA, and so on.

Newborn:

Apgar score

- Record Apgar score in the 1st, 5th and 10th minute (normal Apgar score is 7-10)
- Tick the box for male or female

- Record baby's weight in grams, length, and circumference of head and chest using a measuring tape in centimeters.
- Breastfeeding:
  - Tick (√) the first hour box, if first breastfeed was within 1 hour of delivery
  - Or tick (√) the 2 hours after delivery box, if breastfeeding was within 2 hours of delivery

Mother:

- Volume of bleeding: tick the box "Profuse" (>300ml) if bled more than 300 ml or the box "Little" (<300ml) if bled less than 300 ml.
- Uterine contractions: Tick the box "Good" if the uterus contracts well or the box "Not good" if the uterus does not contract well.

Monitor for 2 hours after delivery:

Take blood pressure and pulse every 15 minutes in the first hour and every 30 minutes in the next hour. Record actual time and BP/pulse.

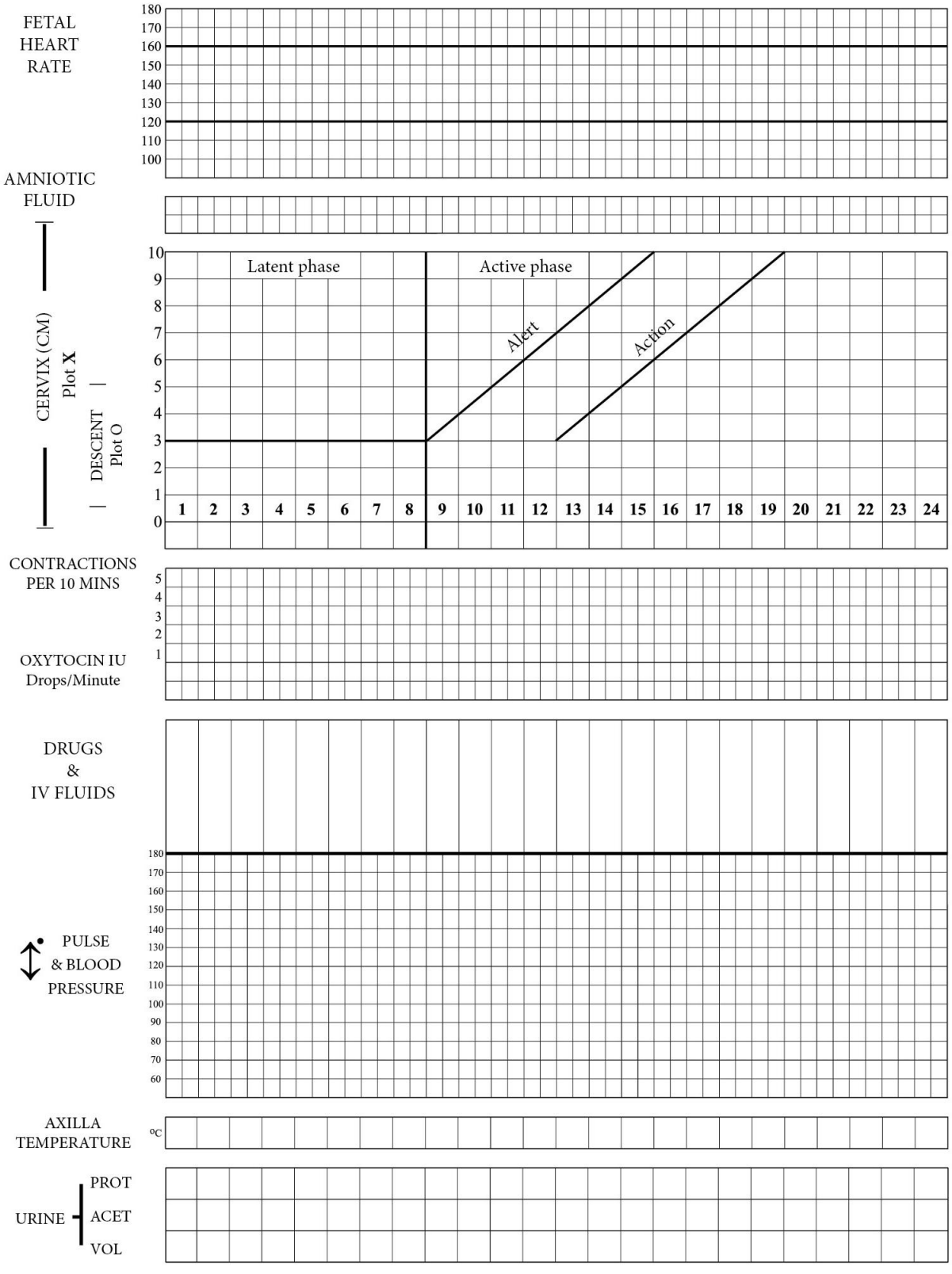
Assess Progress in Labor	Treat and Advise
• Partograph passes to the right of the ALERT LINE	• Reassess the woman and consider referral requirements • Call senior provider if available and alert emergency transport • Encourage woman to empty bladder • Ensure adequate hydration but omit solid foods • Encourage upright position and walking if woman wishes. Monitor closely, reassess in 2 hours and refer if no progress – DO NOT wait until partograph passes to the right of the ACTION LINE

• If membranes do not rupture, rupture when cervix dilation is nearly complete. • Cervix dilated to 10 cm or bulging perineum	• Manage as in second stage of labor

PARTOGRAPH (First stage of labor)

Name (Last, First).....# of pregnancy..... # of Delivery.....Registration No.....

Date of admission..... Time of Admission..... Time of rupture of membrane.....



Record of Delivery (Second stage of labor)

Time	Fetal Heart Rate	Pulse	Blood Pressure	Note

Time of Delivery..... Date..... Month..... Year.....

Other Problems During Delivery.....

Perinium: Laceration ☐ or Episiotomy ☐ Delivered by:.....

Delivery of Placenta (Third stage of labor)

Time:.....

Weight of Placenta:.....

☐ Delivered by control cord traction

☐ Delivered by natural management

☐ Manual removal of placenta

☐ DUNCAN (Mother Side)

☐ Beaudelauque (Baby Side)

Uterine evacuation: ☐ Yes ☐ No

MOTHER

Blood Loss

☐ Heavy >300ml ☐ a little <300ml

Uterine Contractions

☐ Good ☐ Not Good

Monitoring 2 hours after delivery (Fourth stage of labor)

Take B/P & Pulse every 15mn within the 1st hour and every 30mn after the 2nd hour

1st hour every 15mns		2nd hour every 15mns	
Time	Blood pressure/pulse	Time	Blood pressure/pulse

Before transfer to ward:

Contraction: ☐ Good ☐ Not good

Quantity of bleeding: ☐ Heavy ☐ A little

BABY

APGAR

Factors	After Delivery			Other
	1 mn	5 mn	10 mn	
Heart rate (Listen)				
Breathing rate				
Color				
Tone				
Reflexes				

☐ Male ☐ Female

Weight.....

Length.....

Head circumference.....

Chest circumference.....

Breast Feeding

☐ Within first hour ☐ 2 hours after delivery

2-5 Second Stage of Labor: Pushing, and Immediate Newborn Care

When the cervix is dilated to 10 cm, perineum is bulging and head is visible, the woman should be monitored and managed as follows:

Monitor Every 5 Minutes:

- for emergency signs (see p. 55)
- count frequency of contractions over 10 minutes and duration of each contraction
- count fetal heart rate for 1 minute
- check for thin and bulging perineum
- feel for descent of fetal head
- observe mood and behavior (distressed, anxious)
- record findings on partograph
- give supportive care
- DO NOT leave the woman alone

Pushing to Deliver the Baby	Treat and Advise
• Preparation for every delivery: ensure a clock (with a second hand) in the delivery room • Close all windows and turn off fan to ensure there is no airflow in the room. If air-conditioning is available, ensure room temperature is over 25°C. • Ensure all delivery equipment and supplies are available and ready to use. Lay out in sequence: gloves, gauze, betadine, 4 cloths, baby hat, oxytocin, needle and syringe, 1 cord clamp/tie, 2 forceps, 2 sterile scissors and suction bulb. One cloth should be placed on the mother's bare abdomen for drying the baby and one additional cloth is put near the mother for covering the baby after drying (remove the wet cloth for skin-to-skin contact). • Ensure equipment (ventilation bag and	

mask and stethoscope) and 2 cloths for resuscitation are placed near the delivery table (not over 2 meters away from the table). 1st cloth is placed on a firm surface for the baby resuscitation while the 2nd cloth should be folded and placed on the edge of this cloth on the firm surface for covering the baby immediately before ventilation. All equipment should be tested before delivery. * If only one provider handles the delivery, 2 pairs of sterile gloves should be worn and the soiled pairs should be taken off prior to handling the cord. * Where clamps are not available, use disinfected tie.	
• Ensure bladder is empty • Assist the woman into a comfortable position of her choice, i.e. sitting upright, hands and knees, squatting, laying on side • Allow birth companion to be present and stay with her and offer emotional and physical support.	• If unable to pass urine and bladder is full, catheterize the bladder • DO NOT let the woman lie flat • If she is distressed, encourage her for pain and discomfort relief (see p. 57)
• Allow her to push during contractions	**DO NOT urge the woman to push:** • if after 45 minutes (for first gestation) or 30 minutes (for more than second gestation) of spontaneous expulsive efforts, the perineum does not begin to thin and stretch with contractions, do a vaginal examination to confirm full dilatation of cervix • if cervix is not fully dilated, await second stage; place the woman on her left side and discourage pushing; and encourage breathing technique

• Wait until head visible and perineum distending	• If second stage lasts 1 hour or more without visible steady descent of the head, prepare for vacuum extraction or refer the woman to a hospital urgently • If obvious problem preventing progress (warts, keloid tissue, previous third degree tear), perform an episiotomy • If breech or any other malpresentations, see p. 84
Ensure controlled delivery of the head: • keep one hand gently on the head as it advances with contractions • support perineum with other hand and cover anus with disinfected gauze • leave the perineum visible • ask the woman to breathe steadily and not to push during delivery of the head • encourage rapid breathing with mouth open	• If potentially damaging expulsive efforts, exert more pressure on perineum • Do not perform an episiotomy until any problems arising to prevent delivery (see indications in chapter 7.3, p.169)
Feel gently around the baby's neck for the cord **Note:** when the head is delivered, DO NOT use suction or wipe the newborn's face with gauze.	• If cord is around newborn's neck and loose, deliver the baby through the loop of the cord or slip the cord over the baby's head • If cord is tight, clamp the cord with two artery forceps placed approximately 3 cm apart and cut cord between the two clamps

- Await spontaneous rotation of shoulders and deliver (within 1-2 minutes)
- Apply gentle downward pressure to deliver top shoulder first
- Then lift baby up, towards the mother's abdomen to deliver lower shoulder
- Call out and record time of delivery (precise to the second)
- Upon delivery, place baby directly onto a dry towel on the mother's bare abdomen to eventually allow for skin-to-skin contact after wet cloth is removed.
- Dry the newborn immediately (within 5 seconds after birth) by wiping in sequence order: the eyes, face, head, forehead, body, arms, legs and back. Thorough drying takes about 30 seconds.
- Assess baby's breathing while drying.
- Remove the wet cloth so that the baby is in direct skin to skin contact with the mother's bare abdomen. Cover but do not wrap both baby and mother with another clean dry cloth. This keeps the skin of baby's abdomen directly in contact with the skin of mother's abdomen. Cover newborn's head with a hat.
- Keep newborn warm, monitor breathing, keep in direct skin-to-skin contact with mother until first breastfeeding (at least 60 minutes after birth).

- If delay in delivery of shoulders:
  - call for help
  - manage as shoulder dystocia (see p. 90)

Note: All babies, except macerated stillbirths, should receive routine care and, if needed, resuscitation.

1. If baby is crying, then follow routine care.
2. If baby is not crying, assess breathing. If breathing well, then follow routine care.
3. If newborn is gasping or not breathing after a thorough drying, check if airway is blocked. Suction airway only if block is present.
4. If newborn is gasping or not breathing, call for help. Clamp and cut the cord quickly, stimulate by rubbing the back, while carrying the baby to the newborn resuscitation area to start bag and mask ventilation within the golden minute (see p. 72).

Note: Never use suction unless airway obstruction is observed.

• Palpate mother's abdomen to exclude second baby; give oxytocin 10 IU IM to mother within the 1st minute.	• If there is a second baby, DO NOT give oxytocin. Call for help. • Deliver second baby.
• Remove a pair of gloves and check if the cord is pulsating. After the cord stops pulsating (usually 1-3 minutes), clamp or tie the cord at about 2 cm and 5 cm from umbilical base. • Cut cord between the ties/clamps while the newborn is on the mother's abdomen **Note: This avoids the need for secondary trimming.**	• DO NOT milk the cord toward the baby. • DO NOT apply anything to the cord. • DO NOT bandage or bind the cord.
• Leave baby on mother's chest in direct skin-to-skin contact for at least 60 minutes after birth by extending baby's head to a side, putting woman in semi-sitting upright or lying on side. • Inform the mother about feeding cues (drooling, mouth opening, tonguing, licking, rooting and biting of fists) which typically occur between 20 and 60 minutes. When feeding cues occur, encourage mother to start breastfeeding. • Provide breastfeeding support to ensure good attachment • When the baby can breastfeed well, advise the mother of the following: – Ensure that the baby's body is not flexed or twisted – Ensure that the baby is facing the mother's breast with the baby's nose and chin facing and touching the mother's breast – The baby's body, not only its neck and shoulders, should be held close to the mother's body	• DO NOT separate baby and mother unless either needs emergency care. • DO NOT force the breast into the newborn's mouth or the mouth onto the breast or attempt breastfeeding before feeding cues occur (typically between 20 and 60 minutes). • DO NOT put ice on the mother's abdomen. • DO NOT bathe the baby even if the baby looks dirty. Bathing a baby is allowed 24 hours after birth. **Note:** Breastfeeding is a learning of mother's and baby's behaviors. The baby will try breastfeeding in vain and success will follow. Health worker must avoid any intervention during this stage (e.g. forcefully aim the baby's head onto breast).

– Wait until the baby's mouth is wide open and – Latch the baby onto the breast by having the lower lip attached with the nipple [sic] **Look for signs of good positioning and attachment:** – Baby's mouth open wide – Lower lip turned outwards – Baby's chin touches breast – Slow, deep sucks with pauses • Deliver the placenta (see below).	

* Newborn Resuscitation and Post Resuscitation Care

Prior to all deliveries, ensure delivery area and equipment are available and ready to use. Ensure equipment (ventilation bag and mask and stethoscope) and 2 cloths for resuscitation are put near the delivery table (not over 2 meters away from the delivery table) with one cloth placed on a firm surface of the resuscitation area while the 2nd one should be folded and placed on the edge of the cloth on the firm surface for covering the baby immediately before ventilation. The ventilation bag, mask and stethoscope should be tested before delivery.

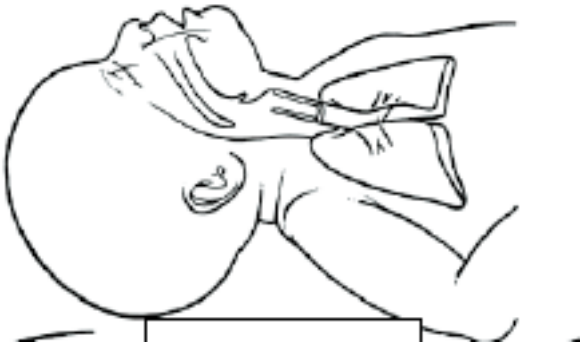
Notes: Ventilation should be done with room air using a bag and mask. A series of swift steps must be carried out on all babies immediately after birth to ensure that babies requiring assisted ventilation receive this within one minute (golden minute) after birth.

Actions:

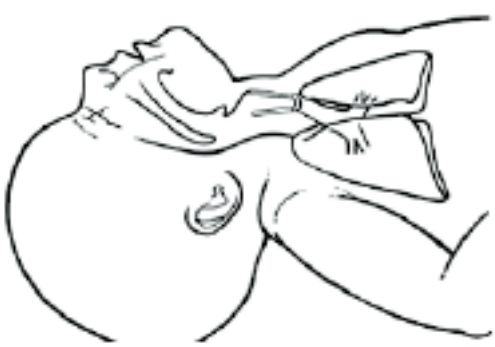
- Dry the newborn immediately (within 5 seconds after birth) and thoroughly by wiping the eyes, face, head, forehead, body, arms and legs. Thorough drying takes at least 30 seconds.
- Assess baby's breathing while drying.
- Remove the wet cloth and put the baby in direct skin to skin contact. Cover the baby's body and head with a dry cloth.
- If newborn is gasping or not breathing after a thorough drying, check if airway is blocked with secretions.
- Only if block is present, introduce the suction tube or bulb into the baby's mouth and nostrils to suction.
- In case of meconium-stained amniotic fluid, routine suctioning is not recommended when the baby head is delivered.

- If not breathing, call for help, clamp and cut the cord rapidly and briefly give extra stimulation by rubbing the baby's back with a cloth while transferring the baby to the resuscitation area. Tell the mother that you are trying to help her newborn breathe.
- Keep the baby covered with a dry cloth with chest exposed and head covered with a cloth.
- Position the head so that the neck is slightly extended and chin lifted up and forward to open the upper airway (sometimes newborns will start breathing following these actions).

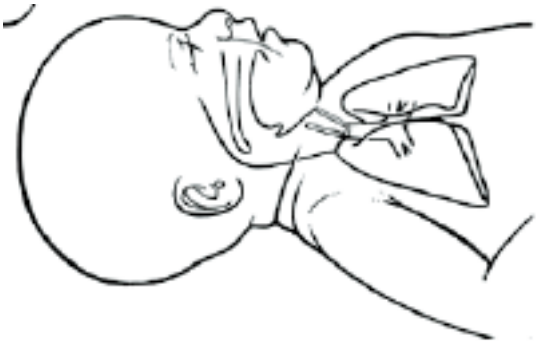
Note: Do not overextend the neck or use rolls under the neck or shoulders as this will narrow the airway.



Correct position

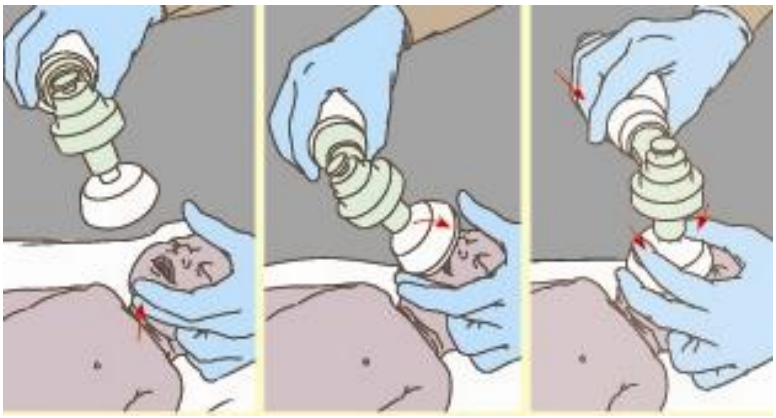


Incorrect position (too extended)



Incorrect position (too flexed)

- Place the mask over the baby's chin, mouth and nose. Do not cover eyes with the mask.
- Start bag and mask ventilation within the golden minute



Placing the mask and check for mask size

- For term or preterm babies (>32 weeks gestation), squeeze the bag with positive pressure, preferably using room air.
- Put the circular rubber of the mask over the baby's nose and mouth with the index and middle fingers keeping the chin lifted up while using the ring finger and baby finger to prevent the neck from touching the mask as shown in the above picture (use mask size 1 for normal birth weight newborn and size 0 for low birth weight newborn).

- Squeeze the bag and observe the rise of the chest; if the chest does not rise when the bag is squeezed at any time, take steps to improve ventilation:
  - reposition head, to ensure the neck neither overextended nor flexed.
  - ensure that the chin is lifted up and forward and mouth is open slightly
  - check the seal to ensure there are no air leaks from around the mask.
  - squeeze the bag harder with whole hand.
- Squeeze the bag 30 – 50 times a minute (optimum 40 times a minute). Squeeze-two-three, squeeze-two-three.
- Some babies may improve quickly and begin breathing well after brief bag and mask ventilation

Assess breathing while ventilating with bag and mask.

- At any time if baby starts breathing or crying, stop ventilation and observe to ensure that the baby continues to breathe well, listen for any grunting and observe for any chest in-drawing.
- If baby gasping or not breathing well, continue bag and mask ventilation for 1 minute, then assess heart rate by feeling for cord pulsations or by using a stethoscope just long enough to assess beats per minute.
- If heart rate is <100 bpm, this is slow, so continue ventilation at 30-50 breaths per minute.
- Assess the heart rate at 1, 3, 5 and 10 minutes. If heart rate remains <100 bpm and the baby is not breathing well, continue bag and mask ventilation and transfer for specialized care. During transfer, baby must receive continued bag and mask ventilation, oxygen if necessary and available, thermal care and be accompanied by a health worker and caregiver.
- If heart rate is >100 bpm, this is normal but continue bag and mask ventilation until the baby is breathing well. Observe for breathing effort and improvement in color and stop ventilation when the baby is breathing, pink and the heart rate stays > 100 beats per minute.
- In babies who have a normal heart rate (>100 bpm), improved color but are not breathing, continue bag and mask ventilation. A trial of a **slow decrease in the rate of ventilation may allow the baby to breathe spontaneously.** Stop bag and mask ventilation when baby breathing well.
- Bag and mask ventilation should be stopped if after 20 minutes of proper ventilation, the heart rate is <60 bpm and the baby is not breathing.
- If after 10 minutes of ventilation with good chest rise the baby is not breathing and has no heart rate: Stop bag and mask ventilation. Explain to the mother that the baby is dead and give emotional support.
- Post resuscitation care for babies breathing well with 30-60 breaths per minute without

severe chest in-drawing or grunting or cyanosis: Reassure the mother.

- Put the baby in direct skin-to-skin contact on the mother's chest and do routine newborn care including observation for feeding cues.
- Monitor the baby every 15 minutes for 2 hours:
  - Look at the chest for in-drawing.
  - Take vital signs: heart rate, respiratory rate and temperature
  - Listen for grunting
  - Observe for cyanosis
- Babies breathing >60 or <30 breaths per minute or with severe chest in-drawing or grunting or cyanosis may benefit from supplemental oxygen. Prepare to transfer to specialized services accompanied by SBA:
  - Put baby in direct skin-to-skin contact with the mother to keep baby warm
  - Continue to give oxygen by nasal cannula or face mask until breathing 30 – 60 breaths per minute and no severe chest in-drawing; monitor oxygen saturation if equipment available.
  - When the respiratory rate becomes normal (30-60 breaths per minute) and chest in-drawing, grunting, or cyanosis resolves, decrease and eventually stop giving the oxygen.
  - Newborns breathing <20 breaths per minute need bag and mask ventilation
  - Explain to mother what care is being given and why.
  - Management of Newborns with breathing difficulties (see p. 137).

2-6 Third Stage of Labor-Delivery of the Placenta

The placenta must be delivered using active management as follows:

Deliver the Placenta	Treat and Advise
• Ensure that 10-IU oxytocin has been given to mother within the 1st minute • Use controlled cord traction, as follows: – change the clamp position to close to the perineum. hold clamped cord and end of the forceps with one hand – place side of the other hand just above the pubic bone with palm facing toward the mother's umbilicus and gently push upwards on the uterus (this applies counter traction to the uterus during controlled cord traction) – when the uterus contracts (becomes rounded and the cord lengthens), **gently pull downwards on the cord to deliver the placenta:** – first gently pull downward – then gently pull horizontally (straightly) – lastly when the placenta is seen at the vagina, gently pull upward • If the placenta does not descend during 30-40 seconds of controlled cord traction, release both cord traction and counter traction on the abdomen and wait until the uterus contracts again; then repeat controlled cord traction as above • As the placenta comes out, catch it with both hands and twist them into a rope and move them up and down to assist separation and to prevent tearing	• If, after 30 minutes of giving oxytocin, the placenta is not delivered and the woman is NOT bleeding: – empty bladder – repeat controlled cord traction and if the placenta still does not come out and no bleeding, suspect placenta accrete. Refer to a referral hospital immediately **For BEmONC health center** • If vaginal bleeding and placenta is not delivered in another 30 minutes (in total 1 hour after delivery): – remove placenta manually (if available) (see p. 183) – give appropriate IM/IV antibiotic + Initially give Ampicillin 2g IM/IV and then 1g every 8 hours together with + Gentamicin 80mg IM every 12 hours together with + Two tablets of Metronidazole 250mg orally every 8 hours

of the membranes **Note** • DO NOT use excessive traction on the cord • DO NOT squeeze or push the uterus to deliver the placenta	
• Check that placenta and membranes are complete **DO NOT remove placental fragments manually during every delivery except placental fragments exist after the check (for BEmONC HCs)**	If placental fragments are found, refer to a referral hospital immediately. **For BEmONC health center** • If placenta is not delivered completely: – remove placenta manually – give combination of antibiotics until woman has no fever 48 hours + Initially give Ampicillin 2g IM/IV and then 1g every 8 hours together with + Gentamicin 80mg IM every 12 hours together with+ Two tablets of Metronidazole 250mg orally every 8 hours
• Check that the uterus is well contracted and there is no heavy bleeding • **UTERINE MASSAGE** – Immediately massage the fundus of the uterus until the uterus is contracted firmly. – Repeat uterine massage every 15 minutes for the first hour and every 30 minutes for the 2nd hour. – Ensure that the uterus does not become relaxed (soft) after you stop uterine massage.	• If heavy bleeding: – massage uterus to expel clots until it is hard – give oxytocin 10 IU IM – call for help – insert an IV and give NNS or Lactate Ringer IV fluids 1000ml and Oxytocine 20IU at 60 drops per minute – empty bladder • If bleeding persists and uterus is soft:

	– continue massaging uterus until it is hard – apply bimanual compression of uterus or aortic compression (see p. 187) – continue NNS IV fluids 1000ml with 20 IU of oxytocin at 30 drops per minute – if bleeding continues in spite of compression and any signs of shock, wear NASG garment and refer woman urgently to hospital.
• Examine perineum, vagina and vulva for tears	• If third degree tear, apply pressure over tear with sterile gauze and pad and put legs down flat and refer woman urgently to a hospital • If tear without heavy bleeding, apply pressure over tear with sterile pad or gauze and put the two legs in the same direction. Check after 5 minutes, if bleeding persists, repair the tear
• Collect, assess and record blood loss throughout third stage and immediately afterwards	• If blood loss ≈ 250 ml but bleeding has stopped: – keep woman at HC for at least 24 hours for monitoring and care – monitor intensively for 2 hours (every 15 minutes for the first hour and every 30 minutes for the 2nd hour): – BP, pulse – vaginal bleeding – uterus, to make sure well contracted • Assist the woman when she first walks after delivery.

• Clean the woman and the area beneath her buttocks • Put a sanitary pad or folded cloth under her buttocks to estimate blood loss • Help her to change clothes when necessary	
• Keep the mother and the baby in direct skin to skin contact in the delivery room for a minimum of two hours after delivery of the placenta	
• Properly dispose of placenta according to the MOH Infection Control guidelines.	• Use gloves when handling the placenta

2.7. Management of Labor and Delivery Problems

2.7.1. Unsatisfactory Progress in Labor

Latent phase is considered prolonged latent phase when the cervix is not dilated beyond 3 cm and/or the cervix is not fully effaced after 8 hours of regular contractions.

A diagnosis of prolonged active phase is made when cervical dilatation moves to the right of the alert line on the partograph. This can be due to inadequate contractions or cephalopelvic disproportion.

Cephalopelvic disproportion is said to be present when continued cervical dilatation stops without descent of the presenting part in the presence of good contractions. Cephalopelvic disproportion occurs because the fetus is too large or the head is deflexed or the maternal pelvis is too small. If labor persists with cephalopelvic disproportion, it may become obstructed. Signs of obstruction include secondary arrest of cervical dilatation and of descent of the presenting part, a large caput, (third-degree) molding, an edematous cervix, a cervix that is poorly applied to the presenting part, ballooning of the lower uterine segment, formation of a retraction band (sign of nearly ruptured uterus), and fetal distress.

The partograph must be used for all women in labor for the early detection and management of unsatisfactory progress in labor.

Assess and manage the woman who experiences unsatisfactory progress in labor as follows, or stabilize and refer the woman urgently to a hospital where appropriate management is available.

<table>
<tr><td colspan="2">General Management:
Rapidly assess the condition of the mother and fetus and provide supportive care
Review partograph, referral letter and mother’s health record</td></tr>
<tr><th>Assessment/Signs and Symptoms</th><th>Appropriate Management</th></tr>
<tr><td>Prolonged Latent Phase:
The cervix is not dilated beyond 3 cm after 8 hours (from the labor onset) of regular contractions.</td><td>Prolonged Latent Phase:
Assess the cervix.
If no change in the cervix (effacement or dilation) and no fetal distress, labor may not have yet started.
If the woman has any sign of infection, give appropriate antibiotic(s) and refer to a referral hospital.</td></tr>
<tr><td>Prolonged Active Phase:
Cervical dilatation to the right of the alert line on the partograph</td><td>Prolonged Active Phase:
If no signs of cephalopelvic disproportion or obstruction and membranes intact, must not rupture membranes.
Provide support.
Assess uterine contractions:
If contractions are inefficient (less than three contractions in 10 minutes, each lasting less than 40 seconds), suspect inadequate uterine activity. Refer to a hospital with surgical capacity.</td></tr>
</table>

	– If contractions are efficient (three or more contractions in 10 minutes, each lasting more than 40 seconds), suspect cephalopelvic disproportion, obstruction, malposition, or malpresentation. Refer to a hospital with surgical capacity regardless of whether the fetus is alive or dead.
Prolonged Expulsive Phase: • Cervix fully dilated and woman has urge to push, but there is no descent (for a period of not over one hour)	**Prolonged Expulsive Phase:** • Refer to a referral hospital or deliver by vacuum extraction if the requirements to do so are met.

2.7.2 Fever (Temperature ≥38°C)

Fever (temperature 38ºC or more) during pregnancy or labor is a risk sign of uterine infection or newborn infection which requires appropriate management. Assess and manage or refer the woman to a referral hospital. The woman who presents with fever during pregnancy and labor should be assessed and managed as follows:

Assessment and Management of Fever During Pregnancy and Labor
General Management: • Encourage increased fluid intake by mouth • Use a wet towel to help decrease temperature • Start an IV infusion, if necessary

Assessment/Symptoms and Signs	Appropriate Management
Acute pyelonephritis: • Dysuria • Spiking fever/chills • Increased frequency and urgency of urination • Abdominal pain	**Acute pyelonephritis:** • Refer to a referral hospital urgently.
Pneumonia: • Fever • Difficulty breathing • Cough with expectoration • Chest pain	**Pneumonia:** • Refer to a referral hospital urgently.
Uncomplicated malaria: • Fever • Chills/rigors • Sweats • Headache • muscle/joint pain	**Uncomplicated malaria:** • For *P. falciparum, P.Vivax, P.Malariae or mixed* in 3rd trimester, give Dihydroartemisinin + Piperaquine for 3 days or Artesunate + mefloquine for 3 days (see p. 162)
Complicated malaria: • Symptoms and signs of mild malaria PLUS one or more of the following signs: – Anemia, very tired, mental distress – Breathing difficulty, Multiple convulsions, – Decreased blood pressure – Abnormal blood flow – Jaundice, little urination, frequent vomits	**Complicated malaria:** • Refer to a referral hospital urgently.

2-7-3 Malpositions (Face and Brow) and Malpresentations

Malpositions are abnormal positions of the vertex of the fetal head (with the occiput as the reference point) relative to the maternal pelvis.

Malpresentations are all presentations of the fetus other than vertex.

Occiput posterior position occurs when the fetal occiput is posterior in relation to the maternal pelvis.

Occiput transverse position occurs when the fetal occiput is transverse to the maternal pelvis. If an occiput transverse position persists into the later part of the first stage of labor, it should be managed as an occiput posterior position.

Brow presentation is caused by partial extension of the fetal head so that the occiput is higher than the sinciput. In brow presentation, engagement is usually impossible and vaginal delivery cannot be done.

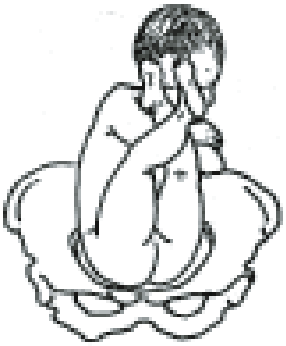
Face presentation is caused by hyper-extension of the fetal head so that neither the occiput nor the sinciput are palpable on vaginal examination. The chin serves as the reference point in describing the position of the head.

Compound presentation occurs when an arm prolapses alongside the presenting part. Both the prolapsed arm and the fetal head present in the pelvis simultaneously.

Breech presentation occurs when the buttocks and/or the feet are the presenting parts:

- **Complete (flexed) breech presentation** occurs when both legs are flexed at the hips and knees.

- **Frank (extended) breech presentation** occurs when both legs are flexed at the hips and extended at the knees.



- **Footling breech presentation** occurs when a leg is extended at the hip and the knee.

Transverse lie and shoulder presentation occur when the long axis of the fetus is transverse of uterus. The shoulder is typically the presenting part.

Assess and manage the woman who presents with a malposition and malpresentation as follows OR stabilize and refer the woman to a hospital where appropriate management and emergency care is available:

<table>
<tr><th colspan="2">Assessment and Management of Malpositions and Malpresentations</th></tr>
<tr><td colspan="2">General Management:
Rapidly assess the general condition of the mother
Assess fetal condition
Provide encouragement and supportive care</td></tr>
<tr><th>Assessment/Signs and Symptoms</th><th>Appropriate Management</th></tr>
<tr><td>Occiput Posterior Positions:
on abdominal examination, the lower part of abdomen is flattened but a bit inflated over symphysis pubis, fetal limbs are palpable anteriorly and the fetal heart may be heard in the flank</td><td>Occiput Posterior Positions:
If fetal status does not progress or the fetal heart rate is abnormal, refer to a referral hospital for caesarean section</td></tr>
</table>

• on vaginal examination, the posterior fontanel is towards the sacrum and the anterior fontanel may be easily felt if the head is deflexed	
Brow Presentation: • on abdominal examination, more than half the fetal head is above the symphysis pubis and the occiput is palpable at a higher level than the sinciput • on vaginal examination, the anterior fontanel and the orbits are felt; fetal heart may be difficult to be heard.	**Brow Presentation:** • Refer to a referral hospital with surgical capacity
Face Presentation: • on abdominal presentation, a groove may be felt between the occiput and the back • on vaginal examination, the face is palpated, the examiner's finger enters the mouth easily and the bony jaws are felt	**Face Presentation:** • Refer to a referral hospital with surgery capacity
Compound Presentation: • prolapsed arm alongside the presenting part	**Compound Presentation:** • Refer to a referral hospital with surgical capacity
Breech Presentation: • on abdominal examination, the head is felt in the upper abdomen and the breech in the pelvic brim • auscultation locates the fetal heart higher than expected with a vertex presentation • on vaginal examination during labor, the buttocks and/or feet are felt; thick dark meconium is normal	**Breech Presentation:** • If labor starts at ≥37 week gestation, membrane is intact and vaginal delivery is feasible without complications, try to deliver (BEmONC HC) • In case of footling breech presentation and vaginal delivery is impossible, refer to a referral hospital with surgical capacity

Transverse Lie and Shoulder Presentation: • on abdominal examination, neither the head nor the buttocks can be felt at the symphysis pubis and the head is usually felt in the flank • on vaginal examination, a shoulder may be felt, but not always; an arm may prolapse and the elbow, arm or hand may be felt in the vagina	**Transverse Lie and Shoulder Presentation:** • Refer to a referral hospital with surgery capacity

2.7.4 Fetal Distress in Labor

Fetal distress in labor is characterized by abnormal fetal heart rate (less than 120 or more than 160 beats per minute) and thick meconium-stained amniotic fluid.

A **normal fetal heart rate** may slow during a contraction but usually recovers to normal as soon as the uterus relaxes.

A **very slow fetal heart rate** in the absence of contractions or persisting after contractions is suggestive of fetal distress.

A **rapid fetal heart rate** may be a response to maternal fever, drugs causing rapid maternal heart rate (e.g., tocolytic drugs), hypertension, or amnionitis. In the absence of a rapid maternal heart rate, a rapid fetal heart rate should be considered a sign of fetal distress.

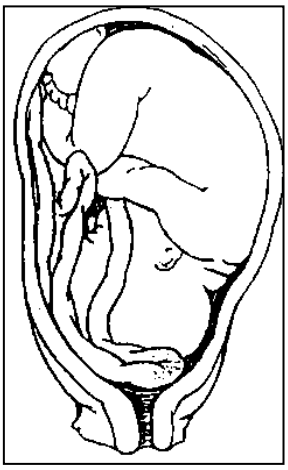
Meconium-stained Amniotic Fluid:

- **Meconium in the amniotic fluid, either thick or thin,** is not an indication for suctioning. A baby's mouth and nose should be suctioned only if there is an airway blockage preventing breathing.
- In breech presentation, meconium is passed in labor because of compression on the fetal abdomen during birth. This is not a sign of distress unless it occurs in early labor.
- Meconium passed by preterms in utero is almost always a sign of infection and needs to be treated with antibiotics before birth for the mother (give immediately) and after birth for the baby.
- Assess and manage the woman who experiences fetal distress in labor as follows or stabilize and refer the woman to a hospital where appropriate management is available:

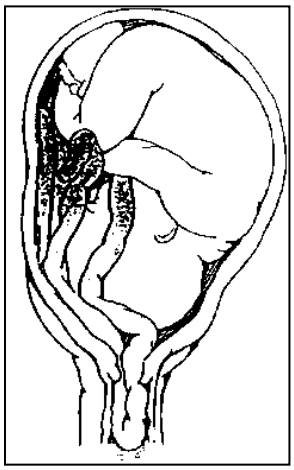
<table>
<tr><th colspan="2">Assessment and Management of Fetal Distress in Labor</th></tr>
<tr><td colspan="2">General Management:
Prop up the mother or place her on her left side
If membranes have ruptured, perform vaginal examination to feel for prolapsed cord.
Check if meconium staining amniotic fluid
Count fetal heart rate 15 minutes later</td></tr>
<tr><th>Assessment/Signs and Symptoms</th><th>Appropriate Management</th></tr>
<tr><td>Prolapsed cord
Cord seen at vulva</td><td>Prolapsed cord
Manage urgently as prolapsed cord as follows</td></tr>
<tr><td>Baby Not well:
Fetal heart rate <120 or >160 bpm after 30 minutes of observation.</td><td>Baby Not well:
If early labor:
Refer the woman urgently to hospital and
Keep her lying on her left side.
If late labor:
Call for help during delivery
Monitor after every contraction. If FHR does not return to normal in 15 minutes, explain to the woman (and her family) that the baby may not be well.
Prepare the newborn resuscitation</td></tr>
<tr><td>Baby well:
Fetal heart rate return to normal</td><td>Baby well:
Monitor fetal heart rate every 15 minutes.</td></tr>
</table>

2.7.5. Prolapsed Cord

The cord is said to have prolapsed when it is visible out of the vagina or can be felt in the vagina below the fetal presenting part following rupture of membranes.



Cord prolapse in front of the head



Cord prolapse into vagina

Assess and manage the woman who experiences prolapsed cord during labor as follows or stabilize and refer the woman to a hospital where appropriate management is available:

Assessment and Management of Prolapsed Cord	
General Management: • Give oxygen at 4–6 L per minute by mask or nasal cannula (if available) • Call for help	
Assessment/Signs and Symptoms	**Appropriate Management**
• Look at or feel the cord gently for pulsations. • Feel for fetal presentation • Perform vaginal examination to determine stage of labor.	• If the woman is in the first stage of labor: – Assist the woman into a kneeling position, buttocks up – In every case, wearing sterile gloves, insert a hand into vagina and push the presenting part up to decrease pressure on the cord and dislodge the presenting part from pelvis. Place the other hand on the abdomen on the suprapubic region to keep the presenting part out of the pelvis. Once the presenting part is firmly held above the pelvic brim, remove the other hand from the vagina. Keep the hand on the abdomen until Caesarean section.

	– Refer the woman urgently to hospital – If transfer is not possible, allow labor to continue. • If the woman is in the last stage of labor: – Call for additional help if possible (for mother and baby) – Ask the woman to assume an appropriate position to help progress the labor. – Expedite delivery by encouraging the woman to push with contractions. – Expedite delivery with episiotomy (see p. 169) and vacuum extraction (see p. 180). – If breech presentation, perform breech extraction (see p.176). • Prepare for resuscitation of newborn (see p. 72).

2.7.6. Shoulder Dystocia

Shoulder dystocia occurs when the fetal head has been delivered but the shoulders are stuck and cannot be delivered. It is a condition that cannot be predicted (mostly large baby).

Assess and manage the woman with shoulder dystocia during delivery as follows or stabilize and refer the woman urgently to a hospital where appropriate management and emergency care is available:

Assessment and Management of Shoulder Dystocia
General Management: • Be prepared for shoulder dystocia at all deliveries, especially if a large baby is anticipated • Have several persons available to help • Refer the woman urgently to a referral hospital. If BEmONC facility, implement as follows:

Assessment/Signs and Symptoms	Appropriate Management
• Fetal head is delivered but shoulders are stuck and cannot be delivered. • The chin retracts and depresses the perineum • Traction on the head fails to deliver the shoulder, which is caught behind the symphysis pubis	• Call for additional help. • Prepare for newborn resuscitation • Explain the problem to the woman and her family. • Place the mother on her back with both thighs flexed, bringing her knees as far up as possible against her chest • Ask assistant to apply continuous downward pressure, with the palm of the hand just above pubic area, while you maintain continuous downward traction on the head to move the shoulder that is anterior under the symphysis pubis • If the shoulder is still not delivered, assist the woman into a kneeling position on all fours • Wearing sterile gloves, introduce the right hand into vagina along the posterior curve of sacrum • Use pressure to hook the posterior shoulder or arm downwards and forwards through the vagina • Complete the rest of delivery as normal • DO NOT pull excessively on the head at any time while attempting to deliver the shoulder • If fails, refer the woman to a hospital urgently.

2-7-7 Multiple Birth

If multiple fetal poles and parts are felt on abdominal examination, suspect multiple pregnancy. Other signs may include: fetal head small in relation to size of uterus; uterus larger than expected for gestation; and more than one fetal heart heard with a Doppler fetal stethoscope.

Assess and manage the woman who presents with a multiple pregnancy as follows or stabilize and refer the woman urgently to a hospital where appropriate management is available:

<table>
<tr><th colspan="2">Management of Multiple Births</th></tr>
<tr><td colspan="2">General Management:
Prepare the mother in a position that makes her comfortable
Prepare the delivery room and materials for 2 or more births
Arrange for a helper to assist with the births and care for the babies</td></tr>
<tr><th>Assessment</th><th>Appropriate Management</th></tr>
<tr><td>First stage of labor</td><td>Manage as for normal labor and delivery (see p. 104)</td></tr>
<tr><td>Second stage of labor</td><td>Deliver the first baby following usual procedure, resuscitate if necessary and warm the baby
Ask helper to attend to first baby
Palpate uterus immediately to determine the lie of second baby
If head presentation, check fetal heart rate, wait for return of strong contractions and rupture of membrane of the second baby, usually within 1 hour of birth of first baby
If transverse or oblique lie, rupture membrane and pull baby’s feet (internal version) to make breech presentation and deliver as breech presentation.
Stay with the woman and continue monitoring her and the fetal heart rate intensively
Remove wet clothes from underneath her and cover her if feeling chilled
When membranes rupture, perform vaginal examination to check for prolapsed cord (see p. 89)
When strong contraction restart, ask woman to bear down
Deliver second baby, resuscitate if necessary and label baby twin 2
Ask helper to attend to second baby
Palpate uterus for third baby; if present, proceed as described above. DO NOT attempt to deliver placenta until all babies are born. DO NOT give the woman oxytocin until after the birth of all babies.</td></tr>
</table>

• Third stage of labor	• Please see the third stage of labor [sic] • Give oxytocin 10 IU IM after making sure there is not another baby • When uterus is well contracted, deliver the placenta and membranes by controlled cord traction, applying traction to all cords together • After delivery of the placenta and membranes, observe closely for vaginal bleeding • Examine placenta and membranes for completeness. **UTERINE MASSAGE:** – Massage the fundus of the uterus until the uterus is contracted well. – Repeat uterine massage every 15 minutes for the first 2 hours. – Ensure that the uterus does not become relaxed (soft) after uterine massage.
• Immediate postpartum	• Monitor intensively as risk of bleeding is increased • Provide immediate postpartum care (see below) • Keep mother in delivery room for further observation • Plan to measure hemoglobin postpartum if possible • Give special support for care and feeding of twin babies

2-8 Fourth Stage of Labor, Monitoring and Actions Needed for Mother and Newborn after Delivery

Ensure the room is maintained at over 25ºC and that there are no drafts in the room. Monitor mother and baby every 15 minutes for 1st hour after delivery of placenta, every 30 minutes during the 2nd hour, every hour in the 3rd and 4th hours and then every four hours until discharge:

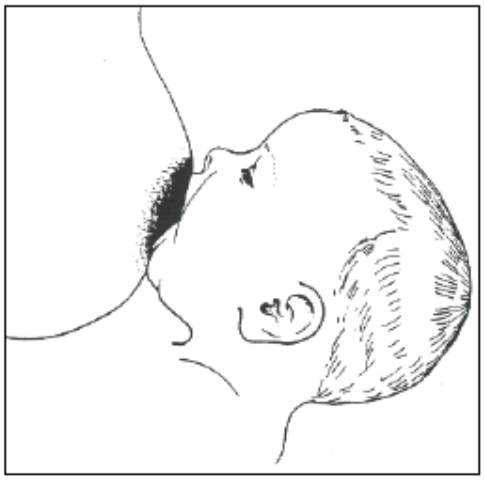
For mother:

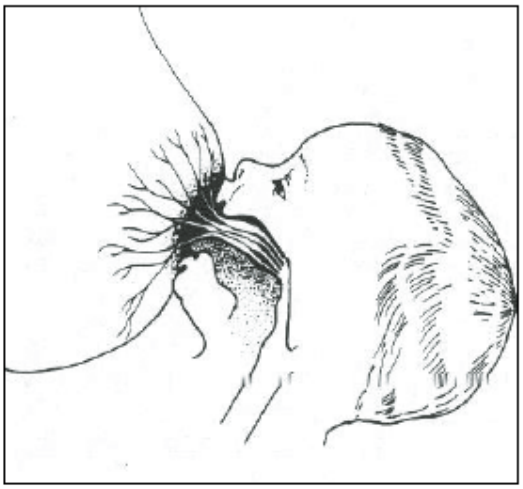
- Check for danger signs
- Feel if uterus is hard and round; if uterus soft, massage
- Assess amount of vaginal bleeding:
- If pad soaked in less than 5 minutes, or constant trickle of blood, manage as for postpartum hemorrhage (see p. 99)
- If bleeding from a perineal tear, repair if required or refer to a hospital
- Record findings, treatments and procedures in mother health book
- Keep mother and baby together; DO NOT separate them unless emergency care needed
- Transfer mother and baby to ward when mother and baby are stable (after 2 hours of observation), keeping in direct skin to skin contact
- Ensure that colostrums and exclusive breastfeeding is supported on postpartum wards
- Encourage her to eat, drink and move freely
- Encourage her to pass urine
- Ask birth companion to stay with mother

For newborn:

- Health workers SHOULD NOT take baby from the mother or handle the baby unless there is a medical need and only after thorough hand washing or Alcohol handrub.
- After birth, let baby rest comfortably on the mother's chest in direct skin-to-skin contact for at least first 60 minutes after birth. Do not separate baby from the mother unless necessary. Maintain direct skin-to-skin contact throughout hospital stay.
- Assess breathing: look/listen for fast breathing, chest in-drawing, grunting and cyanosis (if present) even though the baby is in direct skin-to-skin contact.
- Keep baby warm: check to see if feet are cold to touch
- Encourage mother to initiate breastfeeding as soon as the newborn shows feeding cues indicating readiness to breastfeed: drooling, mouth opening, tonguing, licking, rooting and biting of fists. Do not force the baby to breast feed without any feeding cues, which typically occurs between 20 and 60 minutes of birth.
- Check that position is correct:
  - make sure baby's head and body are in a straight line
  - make sure baby is facing the breast, with nose opposite nipple
  - mother should hold baby's body close to her body
  - support baby's whole body and buttocks, not just neck and shoulders

- Check for 4 correct attachments:
    1. mouth wide open
    2. lower lip turned downward
    3. baby's chin touching breast
    4. more areola visible above baby's mouth than below and the sucks are slow and deep with occasional pauses

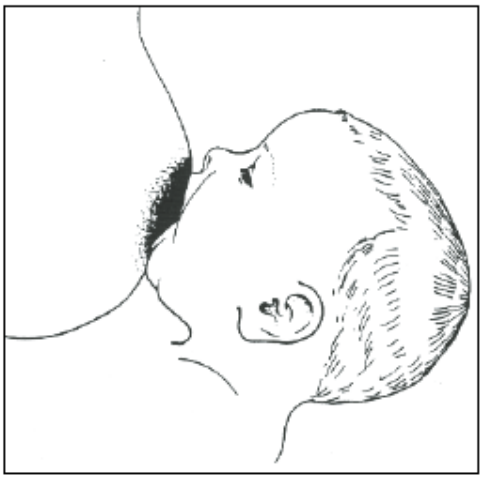


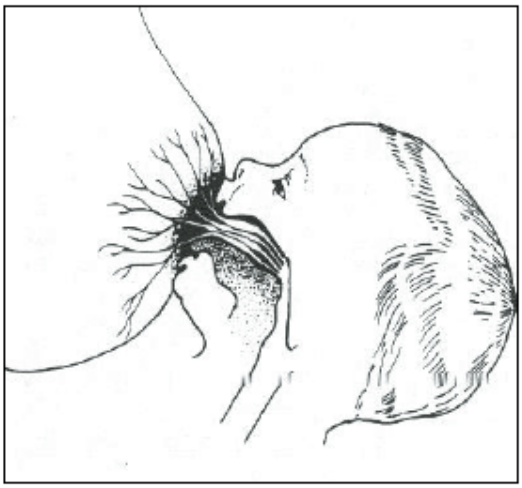


Good Attachment

Signs of ineffective attachment:

1. Baby's mouth not open wide; turned in
2. Lower lip turned outwards
3. Baby's chin not touching breast
4. More areola seen below than the above





Ineffective Attachment

- If the baby does not feed in the first hour and is healthy, keep the baby in direct skin-to-skin contact with the mother to try again when the baby is ready.
- Support exclusive breastfeeding on demand, day and night, for as long as the baby wants.

  Note: If newborn stays asleep for a long time, he/she should be put to breastfeed. Newborn should not be awakened for breastfeeding. If baby wakes, the breast should be offered.

- Advise mother and accompanying persons about newborn breastfeeding:
  - explain importance of feeding colostrums
  - explain the benefits of exclusive breastfeeding

  Note:

  - Do not handle the baby unless necessary
  - There should be NO prelacteal feeds (NO teats, NO water, NO sugar water, NO formula milk and other feeds such as sweet water, borbor…..
  - Do not express and discard the colostrums
  - Facilities should not allow bottles, teats and formula in wards (except in necessary circumstances for medical reasons). This is part of the Baby-Friendly Hospital Initiative.
  - If the mother is HIV-infected, measures for preventing HIV transmission from mother to baby must be taken. Provide counseling and treatment.

The following should be done after newborn is full breastfeeding (typically between 90 minutes to 6 hours):

- Wipe the eyes with a swab or clean piece of cloth
- Apply 1 % tetracycline eye ointment (DO NOT wipe off the eye ointment)
- DO NOT remove vernix or bathe baby
- Weigh newborn and record: weigh baby, timing of first breastfeed and other required information on Mother Health Book and on child card
- Inject vitamin K_1 1mg IM, Hepatitis B vaccine and BCG vaccine after cleaning the sites with clean water,
- Perform physical exam for newborn from head to toe. Check for any congenital disease or birth defect, using routine physical examination. Check the baby's body in order: head, eyes, mouth, ears, neck, chest, abdomen, anus, genitalia, pelvis, limbs and spine (please see the newborn physical exam tool in Appendix).
- In case any congenital disability or defect is found on physical exam, refer the newborn to a hospital for full examination, diagnosis and treatment.

Monitor and assess newborn and mother together during the fourth stage and subsequent contact:

Eye care

- Wash your hands
- Explain to the mother that you will apply eye ointment to prevent infection
- Wipe the eyes with a cotton swab or clean piece of cloth
- Apply 1 % tetracycline eye ointment on the two eyes. The eye application should be started from inwards to outwards (DO NOT wipe off the eye ointment)

For low birth weight babies (twins), provide extra care as follows:

For low birth weight babies: as above, and in addition to the following:

- begin Kangaroo Mother Care immediately (see p. 130)
- cover baby and mother with extra blanket
- do not bathe the baby
- ensure hygiene by using clean clothes after 1 day of birth
- provide extra care for breastfeeding

- If mother cannot put her baby in direct skin to skin contact due to maternal complications, cover the baby with clean cloth to keep warm, put the baby on crib covering with thick cloth and encourage the family to give skin to skin contact care or put the baby in a warmer if the room temperature is <28ºC.

Note:

All the injections above must be available on the maternity ward every day including weekends and holidays. If the mother is HIV-positive, ensure the continuation of treatment for her and initiation of HIV Prophylactic treatment and HIV DNA PCR test for the newborn, preferably at the maternity ward (see National guideline for HIV-Positive Children Care, NCHADS, 2015, and PMTCT guidelines, 2016) and initiate appropriate feeding method.

2.9 Assess the Mother after Delivery

Assess the mother during or beyond 2 hours after delivery and again before discharge (which should not be before 24 hours) as follows:

Ask, Check Record	Look, Listen, Feel

Check record:
• Bleeding more than 250 ml?
• Completeness of placenta and membranes?
• Complications during delivery and postpartum?
• Special treatment needs?
• Needs tubal ligation or IUD?
• Ask mother about:
  – Feeling, pains, concerns
  – Baby, breast problems
	• Measure blood pressure
	• Measure temperature
	• Measure pulse
	• Feel the uterus; is it hard and round?
	• Look for vaginal bleeding
	• Look at perineum:
	  – Is there a tear or cut?
	  – Is it red or swollen?
	  – Look for conjunctival and palmar pallor

☆Treatment and advice

Mother well (uterus hard, little bleeding), no perineal problem, no fever, no pallor, blood pressure normal, pulse normal. Keep mother and baby at health center for at least 24 hours after delivery. Perform pre-discharge assessment for her and also for her newborn before discharging them:

- Ensure preventive measures, including iron/folic acid (42 tablets) and mebendazole (see p. 117)
- Provide tetanus toxoid immunization if needed
- Observe a breastfeed and assess positioning, attachment and suckling. Teach mother correct positioning and attachment (see p. 85)
- Counsel on feeding colostrums and exclusive breastfeeding
- Advise on postpartum care and hygiene (see p. 118)
- Counsel on mother's nutrition (see p. 118)
- Counsel on birth spacing (see p. 119)
- If desired tubal ligation, refer to a hospital with tubal ligation service
- If IUD desired, advise to go to family planning section four weeks after birth
- Advise on when to seek care and next routine postpartum visit (see p. 110)
- Perform pre-discharge assessment prior to discharge and keep the mother and newborn at the facility if any problem is identified
- Continue any treatments initiated earlier
- Tell mother to return if she or her baby has danger sign
- Advise mother to bring mother's and baby's records with her to every visit

2-10 Management of Selected Postpartum Problems

2-10-1 Vaginal Bleeding after Childbirth

Postpartum hemorrhage (PPH) is defined as vaginal bleeding in excess of 500 mL after childbirth. There are, however, some problems with this definition. For instance, estimates of blood loss are notoriously low, often half the actual loss. Blood is mixed with amniotic fluid and sometimes urine, and is often dispersed on sponges, towels and linens, in buckets, and on the floor.

The importance of a given volume of blood loss varies with the mother's hemoglobin level. A mother with a normal hemoglobin level will tolerate blood loss that may be fatal for an anemic mother. Bleeding may occur at a slow rate over several hours, and the condition may not be recognized until the mother suddenly enters shock.

Active management of the third stage of labor should be practiced on all women because it reduces the incidence of PPH due to uterine atony (failure of the uterus to contract after delivery).

- Immediate PPH is increased vaginal bleeding within the first 24 hours after childbirth.
- Delayed PPH is increased vaginal bleeding following the first 24 hours after childbirth.
- Assess and manage the woman who presents with vaginal bleeding after childbirth as follows or stabilize and refer the woman urgently to a hospital where appropriate management is available:

<table>
<tr><th colspan="2">Assessment and Management of Vaginal Bleeding After Childbirth</th></tr>
<tr><td colspan="2">General Management:
Shout for help, urgently from all available personnel
Rapidly assess the mother's general condition
If shock is suspected, immediately begin treatment
Check to see if the placenta has been expelled, and examine it for completeness
Massage the uterus to expel blood clots and give oxytocin IM 10IU
Start an IV infusion and infuse IV fluids
Catheterize the bladder
Examine the cervix, vagina, and perineum for tears</td></tr>
<tr><th>Assessment/Signs and Symptoms</th><th>Appropriate Management</th></tr>
<tr><td>Atonic Uterus:
immediate postpartum hemorrhage
uterus soft and not contracted</td><td>Atonic Uterus:
Continue to massage the uterus; give oxytocin together or in rotation (see the below table)
If bleeding continues, check placenta again for completeness and if there are signs of retained placenta fragments, remove remaining placenta tissue.
If bleeding continues in spite of management outlined above, perform bimanual compression of uterus (see p. 186/187) or aortic compression (see p.</td></tr>
</table>

	187) and refer the woman to a hospital urgently.
Tears of Cervix, Vagina or Perineum: • immediate postpartum hemorrhage	**Tears of Cervix, Vagina or Perineum:** • Examine and determine degree of tears. In case of a third degree tear (to anus and rectum), refer woman urgently to a hospital. For any other tear, apply pressure over tear with sterile pad or gauze and put legs together. If bleeding continues after 5 minutes, suture the tear.
Retained Placenta: • placenta not delivered within 30 minutes after delivery	**Retained Placenta:** • If the placenta is felt in the vagina, remove it • Ensure the bladder is empty; catheterize the bladder if necessary • If placenta is not expelled, give oxytocin 10 IU IM. • DO NOT give Ergometrine because it causes tonic uterine contraction, which may delay expulsion of placenta • If placenta is undelivered after 30 minutes of giving oxytocin and uterus is contracted, repeat controlled cord traction • If this is unsuccessful and no bleeding, refer to a hospital urgently. If bleeding, attempt manual removal of placenta (see p. 183) (For BEmONC facility) Note: efforts to extract a placenta that does not separate easily may result in heavy bleeding or uterine perforation, which usually requires hysterectomy • If there are signs of infection, give antibiotics as for metritis.

Retained Placental Fragments: • Retained placental fragments hinder good contraction of uterus	**Retained Placental Fragments:** • feel inside the uterus for placental fragments. Manual exploration of the uterus is similar to the technique described for removal of the retained placenta **Note:** efforts to extract a placenta that does not separate easily may result in heavy bleeding or uterine perforation, which usually requires hysterectomy
Inverted Uterus: • uterine fundus not felt on abdominal palpation • slight or intense pain.	**Inverted Uterus:** • refer woman to a hospital urgently.

How to use Oxytocic drugs:

	Dose and route	Continuing Dose	Maximum Dose	Precautions and contra-indications
Oxytocin	IV: Infuse 20 IU in 1 L IV fluids at 60 drops/minute IM: 10 IU	IV: Infuse 20 IU in 1 L IV fluids at 30 drops/minute	Not more than 3 L of IV fluids	Do not give directly as an IV bolus
Ergometrine/ Methyl-ergometrine	IM: 0.2 mg	Repeat 0.2 mg IM after 15 minutes. Give 0.2 mg IM every 4 hours if necessary	5 doses (a total of 1 mg)	High blood pressure Pre-eclampsia and heart disease

Note: For details of PPH management, please see MOH PPH Management Protocol.

2-10-2 Elevated Diastolic Blood Pressure

If woman had elevated blood pressure, assess and provide care as following:

Look, Ask, Listen, Feel	Signs	Treatment and advice
• If diastolic blood pressure is ≥90mmHg, repeat after 15 min rest. • If diastolic blood pressure is still ≥90mmHg, ask the woman if she has: – Severe headache – Blurred vision – Epigastric pain – And check protein in urine	• Diastolic blood pressure≥ 110 mmHg or • Diastolic blood pressure ≥90 mmHg and 2+ proteinuria and any sign of: – Severe headache – Blurred vision – Epigastric pain **Pre-eclampsia:** • Diastolic BP ≥ 90-110 mmHg on two readings and 2+ proteinuria (on admission)	Severe Preeclampsia: • Give magnesium sulfate (See p. 25) • Refer urgently to hospital. **Pre-eclampsia:** • Refer urgently to hospital
	Hypertension: • Diastolic BP ≥90 mmHg on 2 readings	**Hypertension:** • Monitor BP every hour • Do not give Ergometrine after delivery • If BP remains elevated after delivery, refer woman to hospital urgently.

2-10-3 Fever after Childbirth

Fever (temperature 38ºC or more) occurring more than 24 hours after delivery is a sign of infection. Main causes of fever after childbirth include metritis, pelvic abscess and mastitis.

Assess and manage the woman who presents with fever after childbirth as follows OR if unresolved, **refer urgently to a hospital** where appropriate management is available.

<table>
<tr><th colspan="2">Assessment and Management of Fever After Childbirth</th></tr>
<tr><td colspan="2">General Management:
Encourage bed rest
Ensure adequate hydration by mouth or IV
Use a cold compress to help decrease temperature
If shock is suspected, immediately begin treatment.</td></tr>
<tr><th>Assessment/Signs and Symptoms</th><th>Appropriate Management</th></tr>
<tr><td>Metritis:
Fever/chills
Lower abdominal pain
Purulent foul-smelling lochia
Tender uterus</td><td>Metritis:
Refer urgently to a hospital.</td></tr>
<tr><td>Pelvic Abscess:
Lower abdominal pain and distention
Persistent spiking fever/chills
Tender uterus</td><td>Pelvic Abscess:
Refer urgently to a hospital.</td></tr>
<tr><td>Peritonitis:
spiking fever/chills
Lower abdominal pain
Absent bowel sounds</td><td>Peritonitis:
Refer urgently to a hospital.</td></tr>
<tr><td>Breast engorgement:
Breasts are firm, painful and red.
Occurs 3-5 days after delivery
Breast engorgement is an obstruction of the lymphatic and venous engorgement that occurs before lactation. It is not the result of over distension of the breast with milk.</td><td>Breast engorgement:
Observe breastfeeding.
Demonstrate correct positioning and attachment
Encourage the mother to breastfeed more frequently with the two breasts each feed. Newborns should be fed 8 or more times in 24 hours.</td></tr>
</table>

	➢ **Relief measures before feeding may include:** ❖ Massage the women's neck and back to warm prior to breastfeeding to help stimulate reflex ❖ Have the women hand express some milk manually before breastfeeding and wet the nipple area to help the baby latch on properly and easily, ❖ Breastfeed more frequently ❖ Massage the breasts while breastfeeding ➢ **Relief measures after feeding may include:** ❖ Apply cold compress to the breasts between feedings to reduce swelling and pain. ❖ Give paracetamol 500 mg (tablets) as needed. ❖ Follow up in 3 days: If the baby is not suckling effectively, help the mother to position and attach the baby correctly.
Nipple soreness or fissure • The baby not well attached	**Nipple soreness or fissure** • Assess if the baby has good condition and well attached • Teach and help with correct positioning and attachment • Encourage mother to continue breastfeeding and explain that the nipple soreness will disappear with correct attachment • Reassess after 2 feeds
Mastitis: • Breast pain and tenderness • Reddened, wedge-shaped area on breast • Temperature >38ºC • 3-4 weeks after delivery	**Mastitis:** • Give Erythromycin 250mg by mouth three times per day for 10 days. • Encourage the women to continue breastfeeding and apply cold compresses to the breasts between feedings • Give Paracetamol 500mg by mouth as needed. • If mother is HIV+, let her breastfeed on

	the healthy breast. Express milk from the affected breast and discard until no fever • Prior to discharge, follow up at every breastfeed. • Follow up in three days.
Breast Abscess: • Firm, red and painful breast	**Breast Abscess:** • Refer urgently to a hospital.

2.10.4 Postpartum Anemia

If the woman is pale, check for anemia as follows:

Ask, Check Record	Look, Listen, Feel
• Check record for bleeding in pregnancy, delivery or postpartum • Have you had heavy bleeding since delivery? • Are you tired easily? • Are you breathless (short of breath) during routine housework?	• Measure hemoglobin if history of bleeding • Look for conjunctiva pallor • Look for palmar pallor: • Is it severe? • Some pallor? • Count number of breaths in 1 minute

* Treat and Advise

Severe anemia: • Hemoglobin <7 g/dL AND/OR • Severe palmar and/or conjunctival pallor • Any of the following signs: – Shortness of breath (>30 breaths per minute) – Woman is easily tired – Difficult to breathe at rest	**Severe anemia:** • If malaria is diagnosed, give appropriate antimalarial (see national treatment guidelines for malaria) • If after birth, refer urgently to a nearest referral hospital to find cause. • Counsel on compliance with prescription

Mild to Moderate anemia: • Hemoglobin 7-11 g/dL OR hematocrit at between 21% to < 33% • Palmar or conjunctival moderate pallor	**Mild to Moderate anemia:** • If malaria is diagnosed, give appropriate antimalarial (see national treatment guidelines for malaria) • Give dose of 60 mg iron/400 mg folic acid twice daily (1 tablet in the morning and 1 tablet after dinner) for 3 months following up after 14 days. • Counsel on compliance with prescription

2-11 HIV Testing at Labor

Some women coming to health facilities in labor will not know their HIV status, or have been tested only in a previous pregnancy. If HIV-infected pregnant women with unknown HIV status at delivery are not identified, the opportunity for providing the mother and her infant with ARV drugs and other PMTCT services to reduce the risk of vertical transmission of HIV is missed.

Therefore, HIV test information should be recorded on the mother's health book to allow identification of women whose status is unknown. Hospitals and HCs with large numbers of deliveries and PMTCT services and OI/ART services co-located or linked, should provide HIV testing in labor to women with unknown HIV status.

Therefore, health facilities should provide the following services:

- Maternity Ward with staff trained in PMTCT and HIV rapid testing for women in labor
- Co-located HIV testing services for confirming initial reactive first assays. Provision should also be made for confirmatory testing at night or weekends.
- Co-located Maternity Ward with the appropriate ARVs for prophylaxis for both HIV-infected mothers and HIV-exposed infants and the ability either to:
  - Dispense drugs to HIV-infected mothers who did not receive the drugs during pregnancy (Option B+) and instruct the woman to receive continued pre-ART/ART service
  - Dispense ARV drugs to HIV-imposed infants.

Safe Delivery for HIV Positive Women

All HIV-infected pregnant women should deliver in a health facility in order to get appropriate ARV drugs during labor and after delivery for both mother and baby - usually a referral hospital (RH) with a comprehensive package of activities and linked OI/ART services. CBOs should support and follow up HIV-infected pregnant women to reach a RH for delivery and remind HIV-infected pregnant women always to carry their mother health record and ARV drugs with them - especially as they get nearer to the time of expected delivery. Adherence to ARV drugs should be supported throughout labor and after delivery.

Universal Precautions

Health workers (including cleaning staff) should follow universal precautions on all women in labor, irrespective of their HIV status.

Standard Precautions include the following practices:

- Washing hands with soap and clean water after contact with blood and body fluids
- Disinfecting or sterilizing all devices and equipment used after procedures
- Avoiding needle recapping to reduce needle stick injuries
- Using single used needles, syringe on one patient only
- Safely disposing of needles in safety boxes
- Wearing gloves when in contact with body fluids, skin, or mucous membranes
- Covering broken skin or open wounds with waterproof dressings
- Wearing impermeable plastic apron, boots and eye shields during operations and deliveries
- Promptly and carefully clean spills involving blood or other body fluids
- Using appropriate systems for safe waste collection and disposal

Adapted from:

WHO/CDC. 2008. Prevention of Mother-to-Child Transmission of HIV Generic Training Package

Caesarean Section and other Approaches to Safe Delivery of HIV-positive Women

Elective caesarean section can reduce the risk of MTCT when compared to vaginal delivery; however, the procedure carries the risk of surgical complications, including infection. **Caesarean section is therefore not recommended on a routine basis and should only be performed for standard obstetric indications.** Some other obstetric procedures are associated with an increased risk of HIV transmission during delivery and should be avoided wherever possible (see box below).

Measures to minimize the risk of HIV transmission during a vaginal delivery include the following:

- Avoid artificial rupture of membranes unless necessary
- Avoid episiotomies unless absolutely necessary
- Minimize the use of forceps or vacuum extractors
- Minimize the risk of postpartum haemorrhage
- Practice universal precautions

Adapted from: WHO/CDC. 2008. Prevention of Mother-to-Child Transmission of HIV Generic Training Package

Chapter 3:
Postpartum and Newborn Care

The aim in postnatal care is to provide a package of health-related services to the mother and newborn during four visits after delivery. Postnatal care must be given by trained health staff providers. Community volunteers and TBAs can help health staff in providing health education and conducting referrals to the health facility in case any maternal and neonatal danger signs occur.

PNC visit timing recommendations are as follows:

- PNC1: within 48 hours after birth, check the mother and the newborn together (discharge before 24 hours is not allowed because it poses high risk and is not counted as PNC2 if performed before 48 hours)
- PNC2: during the first week, preferably on day 3 (>48 to 72 hours after birth, check the mother and the baby together)
- PNC3: during the second week after birth, check the mother and the newborn (between day 7^{th} -14th)
- PNC4: at 6 weeks after birth, check the mother and the baby together (at the same time with baby vaccination schedule).

Additional PNC visits during the 6 weeks postpartum are conducted as needed if there is any problem related to mother and newborn.

Following vaginal birth without complication, healthy mothers and newborns should receive postnatal care in the health facility for at least 24 hours after birth; the 1st postnatal care should be provided to mothers and newborns before discharge. Following discharge, mothers and newborns must receive PNC2, PNC3 and PNC4 at the health facility (HC or RH) on the schedule listed above.

The person responsible for initial contact with the woman and baby at the health facility (HC or RH) must do a Quick Check (see p.13) for any danger sign.

This should be followed, if any danger sign exists, by rapid assessment and management (RAM) (see p. 14). If no danger sign, assess the woman and baby as follows:

3.1 Assessment and Care of the Postpartum Woman until 6 weeks

Assess the woman after discharge from a health facility or after a home delivery as follows:

<table>
<tr><th>Ask, Check Record</th><th>Look, Listen, Feel</th></tr>
<tr><td>

- When and where did you deliver?
- How are you feeling?
- Have you had any pain or fever?
- Have you had any bleeding after delivery?
- Do you have any problems passing urine?

</td><td rowspan="2">

- Measure blood pressure
- Measure temperature
- Measure pulse
- Look for pallor
- Check breast and nipples for:
  - Engorgement
  - Fissures redness at any area
- Palpate if uterus is round and hard. Compared the fundal height to the pubis, is uterine involution appropriate? (Ensure that the bladder is empty.)
- Look at the vulva and perineum for:
  - Tears
  - Swelling
  - Pus
- Look at pad for bleeding and lochia:
  - Does it smell?
  - Is it profuse?
- If no HIV/syphilis test done during this pregnancy, process testing as during antenatal care visit.

</td></tr>
<tr><td>

- Have you decided on any contraception?
- How do your breasts feel?
- Do you have any other concerns?
- Check records:
  - Any complications during pregnancy and delivery?
  - Receiving any treatments?
  - HIV status, if known before?
  - Syphilis status?

</td></tr>
</table>

★ Treat and Advice

Normal postpartum (mother feeling well, no problems identified):

- Make sure woman and family know what to watch for and when to seek care in (see p. 120).
- Advise on postpartum care and hygiene and counsel on nutrition (see p. 118)
- Counsel on birth spacing (see p. 119)
- Counsel on breast feeding (see p. 126)

- Dispense 42 day supply of iron/folate and counsel on compliance
- Give TT immunization if due
- Give mebendazole 1 tablet of 500mg
- Promote use of insecticide-treated bednet for mother and baby (if in malaria infection risk area)
- Record in Mother Health Record
- Advise when to return for routine and follow-up visits
- Instruct mother to register her baby at commune office

Positive Syphilis Test:

- For mother (see treatment as ANC)
- For baby: inject Benzathine Penicillin G 50.000 units/kg via IM only once to newborn whose mother has syphilis positive, no matter the mother got the syphilis treatment or not during pregnancy or the newborn is asymptomatic of congenital syphilis. The newborn must receive RPR quantitative (RPR tire) test to keep the test result; base line test result can be kept and compared with follow up test, which is supposed to be performed in month 3, month 6 and month 9 (if the test in month 6 is still positive) in order to confirm the treatment effectiveness of the congenital syphilis (if the test is not available, refer the mother to where the test is available). The child must be followed up subsequently.
- Encourage the woman to bring her partner to get treatment
- Advise her how to use condom correctly and regularly for re-infection prevention

For more details on postpartum care package, please see Annex on page 203.

3-2 Respond to observed signs and volunteered problems

3-2-1 Elevated Diastolic Blood Pressure

If the woman has had high blood pressure, assess and provide care as follows:

Look, Listen, Feel	Sign	Treat and Advise
• History of pre-eclampsia or eclampsia in pregnancy, delivery or after delivery? • If diastolic blood pressure is 90mmHg, repeat after 15 min rest.	• Diastolic blood pressure ≥110 mmHg	**Severe hypertension:** • Give proper antihypertensive (see p. 26) • Refer urgently to hospital
	• Diastolic blood pressure ≥90 mmHg on 2 readings	**Moderate hypertension:** • Reassess in 1 week • If hypertension persists, refer urgently to hospital.

3-2-2 HIV status

If the woman has not been previously HIV tested, provide counselling and care as follows:

Ask, Check Record	Look, Listen, Feel
• Provide key information on HIV/AIDS – what it is, how it is transmitted, advantages of knowing HIV status • Explain about HIV testing and counselling, including confidentiality of results • Ask the woman: – Have you been tested for HIV? – If not, tell her that she will be tested for HIV unless she refuses – If yes, check result (she has a right not to disclose result) if the result is positive, then ask: ✚ Are you taking any ARV treatment? ✚ Check treatment plan ✚ Has partner been HIV tested?	• If she consents, perform a rapid HIV test or refer woman to PMTCT site where test can be done.

★ Treat and Advise

HIV Positive:

- Refer woman and baby to a clinic that offers pre-ART/ART services and child HIV treatment service (see national PMTCT guidelines 2016 for further information) as soon as possible (within 6 weeks).

HIV Negative:

- Counsel on the importance of staying negative by practicing safer sex, including correct use of condoms
- Counsel on benefits of testing the partner

Unknown HIV status (the woman refuses test or is not willing to disclose test results):

- Counsel on safe sex, including correct use of condoms
- Counsel on benefits of testing partner

3-2-3 Dribbling Urine

If the woman has dribbling or leaking urine, provide care as follows:

Ask, Check Record	Look, Listen, Feel
When does the problem happen?	Look for dribbling or leaking urine

★ Treat and advice

Urinary Incontinence:

- Check for vaginal trauma that may occur during the urge to deliver baby. Any leakage from the bladder to vagina is a diagnosis worth of consideration.
- Give appropriate oral antibiotic for lower urinary tract infection: Give amoxicillin orally 500 mg 3 times daily for 5 days or Trimethoprim/Sulfamethoxazole 1 tablet (80/400mg) orally 2 times daily, 2 tablets each time, for 5 days. If no improvement for over 1 week, refer to hospital.

3.2.4. Pus or Perineal Pain

If the woman has perineal pain, provide care as follows:

Ask, Check Record	Look, Listen, Feel	Treat and Advise
• Ask the woman when problem began	• Look for swelling of vulva or perineum	Perineal trauma (excessive swelling of vulva or perineum), refer woman to hospital
	• Look for perineal swelling • Any pus? Any pain?	• Perineal infection or pain (pus in perineum, pain in perineum): • Remove sutures if present • Clean wound • Give antibiotic: Give Amoxicillin orally 500mg 3 times daily for 5 days or Trimethoprim/Sulfamethoxazole 1 tablet (80/400mg) orally 2 times daily, 2 tablets each time, for 5 days. • Give Paracetamol 500mg orally, 1 tablet each time, for pain • Counsel on care and hygiene • Follow-up in 2 days • If no improvement, refer to hospital.

3.2.5. Feeling Unhappy or Crying Easily

If the woman is unhappy or cries easily, assess and manage as follows:

Ask, Check Record	Treat and Advise
• How have you been feeling recently? • Have you been in low spirits? • Have you been able to enjoy the things you usually enjoy? • Have you had your usual level of energy or have you been feeling tired? • How has your sleep been? • Have you been able to concentrate (e.g. on radio programs, newspaper articles)?	**Postpartum Depression** (usually after first week), (2 or more symptoms during 2-week period: inappropriate guilt or negative feelings towards self, cries easily, decreased interest or pleasure, feels tired, agitated all the time, disturbed sleep, diminished ability to think, loss of appetite): • Provide emotional support • Refer woman to facility with psychological treatment service **Postpartum Blues** (usually in first week) (any of the above symptoms for less than 2 weeks): • Reassure the woman that this is common • Listen to her concerns • Give emotional support • Counsel partner and family to provide support to the woman • Follow up in 2 weeks • If no improvement, refer woman to facility with psychological treatment service.

3.2.6 Vaginal discharge 4 weeks after delivery

If the woman has vaginal discharge, assess and provide care as follows:

Ask, Check Record	Look, Listen, Feel
Ask • Have you noticed any vaginal discharge? • Do you have vaginal itching? • Do you have a urinary problem? – urethral discharge?	**Examine** • Separate the labia and look for abnormal vaginal discharge: – amount – colour – odour/smell

– burning on passing urine? • If the woman's partner is present in the clinic, ask him if he has urethral discharge or pus, burning on passing urine? • If the partner is not present with her, explain the importance of partner assessment and treatment to avoid re-infection • Schedule a follow-up appointment for the woman and her partner (if possible)	• If no discharge is seen, perform vaginal examination with a gloved index finger and look at the discharge on the tip of the finger.

☆ Management and advice

Possible gonorrhoea or chlamydia (abnormal discharge especially from cervix; partner has urethral discharge or burning on urination)

- Treat the woman and her partner with appropriate antibiotics according to national STI/RTI guidelines
- Counsel on safer sex, including correct use of condoms

Possible candida infection (curd like vaginal discharge, intense vaginal itching):

- Give Clotrimazole according to national STI/RTI guidelines
- Counsel on safer sex, including correct use of condoms

Possible bacterial or trichomonas infection (abnormal vaginal discharge with bubbles and foul odour):

- Treat according to national STI/RTI guidelines
- Counsel on safer sex, including correct use of condoms

3.3. Give preventive Measures

Advise and counsel the woman about preventive measures as follows:

Assess, Check Record	Intervention
• Check tetanus toxoid (TT) immunization	• Give tetanus toxoid if due
	• Give mebendazole one tablet (500mg).
• Check woman's supply of prescribed	• Give 42 tablets of iron/folate acid and

dose of iron/folate	counsel on how use
• Counsel and advise all woman	• Encourage sleeping under insecticide treated bednet • Advise on postpartum care • Counsel on nutrition as below • Counsel on birth spacing (see p. 119) • Counsel on breast feeding (see p. 126) • Counsel on safer sex, including correct use of condoms • Advise on regular follow-up (see p. 121) • Advise on danger signs (see p. 120) • Advise how to prepare for a postpartum emergency (see p. 120)
• Check HIV status in the Mother's Pink Book	***If HIV positive:*** • Refer mother and baby to receive pre-ART/ART services for further treatment
• Record all the information in the Mother's Pink Book	

3.3.1 Hygiene and Nutrition

Advise and counsel all postpartum women as follows:

Postpartum Care and Hygiene	Nutrition
Advise and explain to the woman: • To always have someone near her for the first 24 hours after birth • Not to insert anything into her vagina • To have enough rest and sleep • Clean body to prevent infection of mother and baby but not bathe the baby before 24 hours of birth • Wash hands before touching baby • Wash and dry perineum daily and after going to the toilet,	• Advise the woman to eat many times per day (at least 4 times) and as much as needed and all types of food such as meat, fish, oils, nuts, seeds, , beans, vegetables, to help her feel well and strong • Reassure her that she can eat any foods as normal; these foods will not harm the breastfeeding baby • Spend more time on nutrition counselling with very thin women and adolescents

• Change perineal pads every 4 to 6 hours or more frequently • Wash used pads or dispose of them safely; wash the body daily; avoid sexual intercourse until perineal wound heals **Harmful practices** • It is dangerous for mother and baby to be roasted. • Don't drink alcohol (traditional medicine) following delivery • Don't get injections to try to make the woman hot or try to give her strength • Don't place ice or stones on the abdomen	• Determine if there are important taboos about foods which are nutritionally healthy; advise the woman against these taboos • Talk to family members to encourage and help her to eat enough and avoids hard work

3.3.2 Birth Spacing by Breastfeeding

For general information on birth spacing counselling, please see page 48. The following information details Lactation Amenorrhea Method (LAM).

Lactation Amenorrhea Method (LAM)
• This method is effective only if: 1. woman's menstrual cycle has not returned after childbirth, 2. baby is less than 6 months of age, 3. she is breastfeeding exclusively (no complementary foods given) and frequently day and night, 8 or more times a day, • An exclusive breastfeeding woman can also choose any other family planning method, either to use alone or together with LAM.

3.3.3. Danger Signs and Emergency Preparation

Advise the woman on danger signs and how to prepare for a postpartum emergency as follows:

Danger Signs	Emergency Preparation
*** Advise to go to the health facility immediately, day or night, without delay, for the following danger signs:** • Vaginal bleeding: – more than 2 pads soaked in 20-30 minutes after delivery – bleeding increases rather than decreases after delivery, • Convulsions • Fast or difficult breathing • Fever or too weak to get out of bed • Severe abdominal pain *** Advise to go to the health facility as soon as possible for the following danger signs:** • fever • abdominal pain • feels ill • breasts swollen, red or tender breasts, or sore nipples • urine dribbling or pain on passing urine • pain in the perineum or draining pus • foul-smelling lochia	**Discuss preparation for emergency issues with the woman and her partner/family** • Advise always to have someone nearby for at least 24 hours after delivery • Discuss: – where to go if danger signs arise – how to get there – costs involved – family and community support and ask for help from community if necessary • Advise the woman to bring her Mother's Pink Book with her

3.3.4. Routine and Follow Up Visits

Encourage the woman to bring her partner or family member to at least one postnatal visit.

Routine follow-up visit:

- **PNC2:** during the first week after the birth [preferably on day 3 (> 48 to 72 hours), check mother and the newborn together
- **PNC3:** between day 7^{th} -14^{th} after birth, check mother and the newborn together
- **PNC4:** at 6 weeks after the birth, check mother and the baby together (the same time with baby vaccination schedule).

Additional PNC visits during 6 weeks are conducted as needed and if there is any problem related to mother and baby.

Note:

- PNC visits may increase as needed.
- In case of delivery at home, a routine PNC package is provided but counted as 1^{st} visit.

Follow-up visit after treatment:

Problems	Follow-up visit within
Fever	2 days
Urinary tract infection	2 days
Perineal infection or pain	2 days
Hypertension	1 week
Urinary incontinence	1 week
Severe anemia	2 weeks
Moderate anemia	4 weeks
Postpartum blues	2 weeks
HIV-positive	2 weeks
In case of facility treatment of complications	As per instruction of the facility, but not over 2 weeks

3.4. Assessment and Care of the Newborn

Schedule and service package of routine visit after birth:

- **PNC1:** within 48 hours after birth, check the mother and the newborn together (discharge before 24 hours is not allowed because it poses high risk and is not counted as PNC2 if performed before 48 hours)
- **PNC2:** during the first week, preferably on day 3 (> 48 to 72 hours after birth, check the mother and the newborn together)
- **PNC3:** during the second week after birth, check the mother and the newborn together (between day 7^{th} -14^{th})
- **PNC4:** at 6 weeks after birth, check the mother and the baby together (at the same time with baby vaccination schedule).

Additional PNC visits during the 6 weeks postpartum are conducted as needed if there is any problem related to mother and baby.

- Vaccination based on a baby's age:
  - **At birth:** Newborn will receive BCG and initial dose of Hepatitis B vaccines within 24 hours of birth,
  - **6 weeks:** baby will receive OPV1, DPT-HepB-Hib1 and PCV1 and GMP
  - **10 weeks**: receive second dose of OPV, DPT-HepB-Hib and PCV2 and GMP
  - **14 weeks:** receive third dose of OPV, DPT-HepB-Hib, PCV3, IPV and GMP
  - **9 months:** receive **first** dose of measles and rubella (MR) and JE vaccines and GMP

    18 months: receives **second** dose of measles and rubella (MR) vaccine and GMP
- If there are problems related to infant, other visits may be necessary. For all routine visits, infant's feeding assessment should be performed. Mother should be encouraged to exclusively breastfeed her child for the first six month of his/her life. The child should be weighed and the weight should be plotted on the Child Health Card (Yellow Card). If the child loses weight or has static weights or is low weight-for-age, advise the mother to breastfeed as often and for as long as the infant wants, day and night (breastfeed at least 8 times in 24 hours). if the child is severely underweight (the weight is in the red zone of the Child Health Card, use the SD table or weight-for-height chart), the child should be carefully assessed for possible causes including such illnesses as anemia and respiratory distress and such feeding problems as incorrect positioning and latch, and appropriate actions should be taken.

Note: Growth monitoring and promotion (GMP) must be performed for all children on a monthly basis until 2 years of age.

3.4.1 Danger Signs of Newborn before Discharge

If any danger sign develops at any time following birth or at pre-discharge PNC, the newborn must be treated immediately.

Danger signs to be examined for at pre-discharge PNC:

- Fast breathing (>60bpm)
- Slow breathing (<30bpm)
- Severe chest in-drawing
- Grunting
- Convulsions
- No spontaneous movement
- Floppy or stiff body
- Fever (T. >37.5^{0}C)
- Temperature <36.5^{0}C (axillary) or temperature does not increase after trying to re-warm
- Refuses to breastfeed or history of difficulty breastfeeding
- Draining pus or redness of umbilicus or swelling of skin around umbilicus
- Bleeding from umbilical cord
- Pustules or bullae (count >10), swelling, redness or hardness of skin
- Pallor
- Jaundice in baby within 24 hours of birth, or yellow on palms and soles at any age
- Patent anus [sic]

3.4.2 Care of the Newborn for All Babies until Discharge

3.4.2.1 General Instructions

Hand hygiene: The most significant risk for babies born at a health facility is nosocomial infection caused by health workers. Touching or holding a baby unnecessarily is the most common way of introducing infection. Health workers should touch a baby only when it is clinically required to do so. Health workers must wash their hands at the five moments of handwashing below:

1. Before touching a baby
2. After touching a baby
3. Before performing a procedure
4. After bodily fluid exposure
5. After coming in contact with the mother or newborn's surroundings

Health workers must take off their rings and jewellery and then wash their hands when arriving at the workplace, before and after wearing gloves, after toileting or before leaving for home. All items that health workers touch may be sources of infection, including a stethoscope surface, medical materials and supplies, documents, pens and mobile phones.

Ensuring warmth: Ensure the room is warm (25-28ºC) and that there is no draught. Explain to the mother the importance of keeping her newborn warm to ensure he/she is healthy. Put the newborn in the same room in skin-to-skin contact with mother without separation for at least 60 minutes after birth or until first breastfeeding is completed, and then as long as possible on the bed with mother (under mosquito net). If skin-to-skin contact is impossible, examine the cause, e.g. baby or mother needs emergency care that requires separation. If a proper cause is determined, make sure the baby is properly clothed or covered with hat or put in skin-to-skin contact with a family member or relative, such as the father. If no thermometer is available, measure temperature every 4 hours by touching his/her foot. If the baby's foot is cold, provide warmth with skin-to-skin contact immediately and give more piece(s) of cloth before reassessment.

Teach mother: how to determine and identify newborn danger signs. Support exclusive breastfeeding without limitation, both day and night (at least 8 times per 24 hours). (See further details below.)

3.4.2.2 Assess Breastfeeding and Counselling (1 hour after the birth)

For breastfeeding within the first hour, please see page 94.

Assess breastfeeding as follows:

Ask the mother:

- How is breastfeeding going?
- Is there any difficulty for the mother or baby?
- Is your baby satisfied with the feed?
- Do you feed on only one or both breasts?
- Have you fed your baby any other foods or water, or formula milk since birth?
- How do your breasts feel before and after the feed?
- Do you feel pain in the breast or nipple?
- Do you have any concerns about breastfeeding the baby?
- If baby more than 1 day old: how many times have you fed your baby in 24 hours?
- How long is between each feed?
- Ask the mother to alert you when the baby is to start breastfeeding. Observe breastfeeding for about 5 minutes:
- Is the baby able to attach correctly, well positioned, and suckling effectively? (Page 95)

Feeding well (suckling effectively; well positioned and attach correctly; breastfeeding ≥8 times in 24 hours on demand day and night):

- Praise mother for proper breastfeeding
- Encourage exclusive breastfeeding on demand (8 or more times per 24 hours), which is a feeding method to protect newborns from serious illness.

Feeding difficulty (not yet breastfeeding; not well positioned and attached; not suckling effectively; breastfeeding less than 8 times per 24 hours for baby aged > 1 day; receiving other foods or drinks)

- Reassure the mother that she will produce enough breast milk if she frequently and effectively breastfeeds her baby
- Teach correct positioning and attachment (See p. 95)
- Does the baby feed on both breasts at each breastfeeding?
- If the woman has breast engorgement, manage as per p. 104
- Advise to feed more frequently day and night at least 8 times per 24 hours
- If the baby is fed with other foods or drink including formula milk, advise mother to stop as it can make the baby unwell. And advise her turn to exclusive breastfeeding.
- Check the mouth for any thrush
- Remove any nasal mucus because it may interfere with nasal breathing and breastfeeding.
- Reassess at the next feed or follow-up visit in 2 days

There are a very few contraindications for breastfeeding (table below)

- Mother has herpes simplex virus type 1 (See STI algorithm)
- Mother is on special treatment:
  - Mother is receiving tranquilizer drugs for mental diseases
  - Blood cancer
  - Goitre and she is using antithyroid drugs

Provide counselling on exclusive breastfeeding as follows:

Explain the importance of keeping newborn in skin-to-skin contact with mother for as long as possible even after discharge.

Explain to mother the importance of colostrums breastfeeding as follows:

- Encourage breastfeeding on demand, day and night, as long as the baby wants. 24 hours following the birth, a baby needs to be fed 8 or more times per day.
- The breast milk produced within the first few days after delivery is called colostrums, yellow and thick milk.
- Colostrums is very important for newborn as it contains proteins and calories much more than normal milk and full of vitamin A and antibodies that can help protect the baby from infection.
- A newborn's stomach is very small so just little amount of colostrum is quite enough for the newborn and provides him/her with many benefits.
- If the mother keeps breastfeeding exclusively, the more milk will be produced within a few

days.

Explain to mother the proper breastfeeding practice

- A baby should be exclusively breastfed until 6 months of life. Exclusive breastfeeding is a diet of ONLY breast milk, including expressed breast milk. Do not give other fluids such as (formula milk, water, sugar water, condensed milk, borbor) and other food that might be dangerous to the baby. Breast milk contains of nutrients and fluids that a baby needs until 6 months of life, so it is not necessary to give any other additional food and fluids.
- Breast milk helps protect a baby against infections.
- It is normal that a baby cries sometimes; thus, it does not necessarily mean the baby is hungry. The mother may breastfeed the baby but do not give him/her any other foods. If the baby cries because of any other reasons than hungriness, it is important to identify the causes, which might include wet diaper, sickness, startling sound, or unhappiness.
- Empty 1 breast before offering the second breast to the baby
- Following the 6-month exclusive breastfeeding, complementary feedings should be given gradually with further breast milk until the child is at least 2 years of age.

All HIV-exposed infants (HEIs) must be exclusively breastfed until 6 months of age and continue breastfeeding until 12 months of age along with complementary feeding. Feeding the infants other than breast milk (for example, formula milk) increases the risk of neonatal death. Feeding the infants with mixed foods (breast milk plus formula milk) increases the risk of HIV infection for infants who are born from HIV mother. (see Instructions on Infant and Young Child Feeding Counselling)

3.4.3 Identify Any Problem that Needs Special Management

A newborn should be assessed during delivery and within 1 hour after birth and every day during the rest and prior to discharge (not before 24 hours) and at every follow-up visit.

Ask mother about medical history and conduct physical examination by asking mother, checking records, looking, listening and touching. If any problem is found, see interventions below:

Medical history and physical examination, classifications and actions to be taken:

Medical history and physical exam	Classifications	For actions, see sections below
Gestational age (full term is 37-42 weeks) • 32-36 weeks • <32 weeks	• Preterm • Very preterm	3-4-4
Birth weight (normal weight is 2500g-4000g) • >4000g • 1500 - <2500g • <1500g	Overweight Low weight Very low weight	3-4-4
Difficult birth: • Breech presentation • Birth asphyxia • Newborn convulsing	Difficult birth	2-7-3 3-5-6 3-5-3
Mother very ill or transferred	Newborn care	3-5-8
Breathing: • Check respiratory rate (normal rate 30-60bpm) and respiratory rate : <30bpm or >60bpm • Gasping • Chest in-drawing	Difficult breathing	3-5-1

Temperature: • >37.5 ºC • <36.5 ºC	Hyperthermia Hypothermia	 3-5-2
Red and swollen eye or eye draining pus	Possible eye infection	3-5-9
Umbilical cord: check for redness, draining pus and hard, red skin around umbilicus **Swollen and red skin around umbilicus:** • measure < 1cm beyond umbilicus • measure >1cm beyond umbilicus; swollen and red skin around umbilicus, draining pus or foul-smelling; abdominal distention	Possible: • Local infection of umbilicus • Severe infection of umbilicus	3-5-10
Skin: Observe for jaundice (at sites of sufficient light; jaundice looks more serious of observed under lamp light and might be not uncovered if observed under insufficient light): yellow on face for newborn less than 24 hours of birth, or yellow on palms and soles at any age	Severe jaundice	3-5-11
Skin pustules: look around the neck, armpit and groin • Count <10 • Count >10	 Local skin infection Possible serious illness	 3-5-12
Thrush in the mouth and skin	Thrush	
Cuts or abrasions	Injuries on skin	

Check newborn's head, body and limbs: • Bruise, swelling on buttocks, bump on one or both sides, abnormal position of legs (after breech delivery) • Arm immobility or asymmetry	Birth injury	3-5-13
Club foot Cleft palate or lip, open tissue on head, stomach and back	Congenital malformations	3-5-13
Diarrhea		3-5-14
Identify risk factors of mothers within 48 hours of birth: • Fever >38.5 ºC • Infections that need treatment with antibiotics • Rupture of membrane for >18hours	Risk of bacterial infection	3-5-5
Mothers with positive syphilis test	Risk of congenital syphilis	3-5-7

3.4.4 Provide Additional Care for Low Birth Weight (<2.5kg) or Premature (<37 Weeks Gestation) Newborn, including KMC both at Facility and Home

Low birth weight (<2.5kg) or premature (<37 weeks gestation) newborns are at higher risk of getting sick and death if compared to normal birth weight or mature newborns. Low birth weight newborns tend to experience breastfeeding difficulty, hypothermia, breathing difficulty and other serious issues, including sepsis. It is therefore required that special care is given in response to these issues.

Note: Maintaining hands and materials hygienic is critical.

For very low birth weight newborns (<1500g and/or <32 weeks gestation or >2 months premature birth)

- refer urgently to hospital with referral sheet completed and sent with the newborn
- ensure warmth for baby before and during the transfer, preferably in skin-to-skin contact with mother, with hat and socks. Mother and baby are covered with clean and dry cloth while ensuring skin-to-skin contact.

For low birth weight newborns (1500 g to 2500 g and/or preterm 32-36 weeks or 1-2 months early; feeding difficulty)

- If baby has any danger signs, refer urgently to hospital with referral sheet completed and sent with the newborn. Ensure warmth for baby before and during the transfer, preferably in skin-to-skin contact with mother, with hat and socks. Mother and baby are covered with clean and dry cloth while ensuring skin-to-skin contact.
- If baby is healthy without any danger signs, ensure extra warmth for the baby:
  - ensure room is warm (over 25°C), close windows and door and turn off fan to ensure no air drafts
  - teach mother how to keep small baby warm in skin-to-skin contact with KMC
  - make sure that hat and socks are always put on for baby
  - provide extra blankets for mother and baby and keep skin-to-skin contact with mother
  - teach mother to change baby pad more often so that baby is not in contact with wet or dirty cloths.

Check for feeding cues: drooling, mouth opening, tonguing/licking, rooting, biting hand and crawling. Feeding cues have never arisen immediately after birth; it normally occurs between 20-60 minutes after birth.

When feeding cues are noticed, encourage mother to breastfeed. A preterm baby tends to breastfeed less but more often than a term baby.

Note: Do not bathe a small baby. Wipe off any soiled areas and dry thoroughly.

Kangaroo Mother Care (KMC) helps keep the baby warm, breathe effectively, breastfeed on demand, gain weight, has close bond with mother and colonise with his/her family natural, useful bacteria.

With this method, babies have been shown to cry less and sleep better and have fewer breathing problems than baby whose mother does not use this method. The more hours the babies are provided with KMC care, the more benefits the babies will receive.

Tell the mother and other family members about the benefits of KMC

- Remove the baby's clothing except a nappy, a hat, and socks
- Place the baby upright in skin-to-skin contact between the mother's breasts
- Make sure the baby's hips and elbows are flexed into a frog-like position and the baby's head and chest are on the mother's chest. The baby's stomach is near the mother's upper stomach, with the head in a slightly extended position.
- Keep the baby in place with a piece of cloth or scarf or sarong tied around the mother's and baby's body. The upper part of the cloth must be under the baby's ears.
- Make sure it is tied firmly enough to prevent the baby from slipping out when the mother stands up, but not so firmly that the baby cannot move or breathe well
- Explain to the mother that she can keep the baby in this position day and night, if possible
- Tell her that shorter periods are also helpful, but the longer the better
- Have the mother attempt to breastfeed whenever the baby wants to suckle
- If the baby is not suckling effectively, do demonstration or tell the mother about proper positioning and attaching (do not touch the baby or the mother).

Daily life for the mother:

Emphasize to the mother the following:

- Should wash her hands frequently, particularly after toileting and before eating, and always keep the baby clean, dry
- Exclusively breastfeed the baby; any other food and fluids may harm the baby
- Not to cover or apply anything to the cord
- Keep the baby away from sick children and adults
- She can do whatever she likes: she can stand, walk, sit, or lie down, which she feels comfortable while using KMC
- Sleep with skin-to-skin contact in any position that is comfortable for both the mother and the baby
- Encourage other family members, including the father, to give KMC to the baby as well

- Mother must eat and drink adequately.

Newborn Feeding

- Give special support for breastfeeding:
  - Encourage mother to breastfeed on demand. Note that following the birth, all newborns will lose weight and regain by 7-10 days of age.
  - Assess breastfeeding daily: proper positioning, attachment, suckling, duration and frequency of feeds, and baby satisfaction with feeds; record the time and duration of each breastfeed.
  - Weigh baby daily and assess weight gain
- If the baby is not suckling effectively, demonstrate or tell mother about proper positioning and attachment (do not touch baby or mother)
- Check her with each breastfeed and offer suggestion if needed.
- If the baby is not suckling effectively after good efforts by mother and health worker,
  - Teach mother how to express milk and cup feed baby (see p. 195) and record amount given.
  - Because baby becomes physically stronger, we can give expressed breast milk with various such means as cup, spoon, syringe or nasogastric tube. Continue giving expressed breast milk until the baby can suckle well.
  - When the baby can suckle better, increase frequencies of giving until the baby can breastfeed effectively.

Monitoring: assess and record various findings three times a day

- Assess breathing (baby should be calm and not crying)
  - Count respiratory rate per minute: repeat count if RR is over 60 or less than 30 per minute.
  - Listen for grunting and panting breathing
  - Look for chest in-drawing
  - Ask about history of apnea (not breathing over 20 seconds)

In case of any signs above, confirm that the newborn has breathing difficulty (see p. 137)

- Measure temperature
  - Wear hat for the newborn and put in skin-to-skin contact to ensure normal range of temperature (36.5-37.5 ºC)
  - If keeping baby warm at normal temperature is difficult, see section 3-5-2 on page 138
- Check for jaundice (see p. 145)

Care of Newborns with Complication

If baby cannot suckle effectively, has health problem or any danger signs despite attempts as above, refer the baby and mother to hospital urgently with a referral sheet. Keep the newborn in skin-to-skin contact with mother, with hat and socks before and during transfer. Cover mother and baby with cloth.

Discharge criteria: If mother and baby are not able to stay at health facility, ensure daily home visits. Allow the baby to discharge when:

- Exclusively breastfeeding well
- Gaining weight at least 15 grams per day
- Mother is able and confident in caring for baby
- No maternal concerns about newborn's health
- If mother and baby are not able to stay at health facility, ensure daily home visits
- Teach the mother to recognize danger signs: severe chest in-drawing, rapid breathing (over 60 times per minute), slow breathing (less than 30 breaths per minute), decreased movement, convulsion, breastfeeding difficulty, hypothermia, hyperthermia, purulent bleeding, or redness around umbilicus it has yet to fall
- Make sure that the mother feels comfortable with her ability to continue KMC at home

Follow-up:

- Advise her to immediately return to the health facility day or night if the baby is not feeding well or has any danger sign
- Try to see the mother (either at home or at the health center) twice a week until the baby weighs 2.5kg.
- Advise her on newborn care before discharge.

3.4.5 Advise the Mother on Post-Discharge Newborn Care

Warmth

Explain to mother that keeping the baby warm is important for the baby to remain healthy and that babies usually need one more layer of clothes than older children or adults:

- Direct skin-to-skin contact can be done as desired and is helpful to mother and baby. It is essential to rewarm a baby who is cold to the touch. Direct skin-to-skin contact can be done by any family member if mother is not present. If direct skin-to-skin contact is not possible, dress baby or wrap in a dry cloth. For all babies, cover the head with a hat for the first few weeks after birth, especially if baby is small and during traveling on vehicles or bicycle.
- Keep baby and mother together day and night. If mother and baby must be separated (e.g. mother is ill), either keep baby in direct skin-to-skin contact with other family members, or make sure baby is dressed or wrapped and covered with a blanket.
- Keep the room warm and free of drafts (i.e., airflow).
- DO NOT put/leave baby on cold or wet surfaces including wet cloths.
- DO NOT swaddle baby (wrap too tightly) when not in direct skin-to-skin contact as this will make her/him cold.
- DO NOT leave baby in direct sun.

Cord Care

- Do not touch, wrap or bandage around the cord stump and abdomen or apply anything on the cord stump.
- Only clean dry clothes should be covered cord stump.
- If stump is soiled, wash it with clean water and soap and dry it thoroughly with a clean cloth.
- If umbilicus is bleeding, red draining pus, take the baby to a health facility.

Sleeping

- Use a bednet day and night for the baby when not in direct skin-to-skin contact with the mother.
- Let baby sleep on her/his back.
- Keep baby away from indoor air smoke or people smoking.
- Keep baby away from sick children and adults.

Hygiene

- Never bathe a baby within 24 hours of birth.
- When washing, use warm water to wash face, neck, underarms daily.
- Dry thoroughly and keep in direct skin-to-skin contact with mother or dress the baby.

Danger Signs

Advise mother to take baby **to the health facility immediately**, day or night, without delay, for the following danger signs:

- Difficulty feeding or feeding < 8 times in24 hours in the first week of life.
- No spontaneous movement
- Temperature <36.5°C.
- Temperature > 37.5°C.
- Respiratory rate ≥ 60 per minute.
- Respiratory rate ≤ 30 per minute.
- Severe chest in-drawing
- Wheezing or grunting
- Floppy or stiff body
- Convulsions
- Pus from eyes
- Skin pustules
- Cord stump which is bleeding, red or draining pus
- Jaundice within 24 hours of birth or yellow on palms and soles at any age

Routine follow-up visits:

Encourage the woman to bring her baby to routine postnatal visits so as to receive vaccinations: Hepatitis B, BCG, OPV, DPT, measles, flu and JE, if any. In addition: the baby will receive monitoring and evaluation of his/her development.

- PNC2: during the first week, preferably on day 3 (>48 to 72 hours after birth, check the mother and the baby together)
- PNC3: during the second week after birth, check the mother and the newborn (between day 7^{th} -14_{th})
- PNC4: at 6 weeks after birth, check the mother and the baby together (at the same time with baby vaccination schedule). Additional PNC visits during the 6 weeks postpartum are conducted as needed if there is any problem related to mother and newborn.

Note: In case of delivery at home, a routine PNC package is provided but counted as 1st visit.

3.5 Management of Newborn Problems

3-5-1 Breathing Difficulty

A baby who has breathing difficulty has one or more of the following problems: a respiratory rate >60 or <30 breaths per minute, chest in-drawing, grunting, or apnea (pause in breathing >20 seconds).

Classification of Breathing Difficulty		
Respiratory Rate (breaths per minute)	**Grunting or Chest In-drawing**	**Classification**
More than 90	Present	Severe
More than 90	Absent	Moderate
60 to 90	Present	Moderate
60 to 90	Absent	Mild

Assess and manage the baby with breathing difficulty by attempting to provide general management and refer the baby urgently to a facility **where specialized care is available.**

Assessment and Management of Breathing Difficulty

General Management:

- Give oxygen at a moderate flow rate (0.5 to 1 L per minute) if possible.
- If the baby's respiratory rate is <30 breaths per minute, observe carefully.
  - If the baby's respiratory rate is <20 breaths per minute, resuscitate using a bag and mask. (see p. 72)
- If the baby has apnea, stimulate breathing by rubbing the baby's back for 10 seconds.
- If the baby does not begin to breathe, resuscitate using a bag and mask.
- If the baby's respiratory rate is >60 breaths per minute and the baby has cyanosis (even if receiving oxygen at a high flow rate), suspect a congenital heart abnormality and refer to a hospital immediately.

- Check for any other indication of newborn complications (e.g. small baby, asphyxia, sepsis)
- Refer urgently to a hospital with a referral letter for appropriate treatment.
- Mother must go to the hospital with her baby.

3.5.2 Hypothermia (<36.5°C) or Hyperthermia (>37.5°C)

Baby with hypothermia mother and baby should remain in the hospital for at least 24 hours.

Moderate hypothermia (<36.5°C):

- Remove cold or wet clothing, if present.
- The mother is the most important person to re-warm the baby using direct skin-to-skin contact. The woman's body temperature will automatically warm the baby. The father can replace the mother if the mother is not available. The last alternative is to dress the baby in warm clothes and a hat, and cover with a warm blanket.
- Encourage the mother to breastfeed more frequently. If the baby is having difficulty breastfeeding, provide assistance (see p. 126).
- If the temperature is not rising after 2 hours, refer the baby in direct skin-to-skin contact with his/her mother to a hospital immediately.

Hyperthermia (>37.5 °C)

Do not give antipyretic drugs to reduce the baby's temperature.

- If the hyperthermia is due to exposure to a high ambient temperature or sun exposure:
  - Place the baby in a normal temperature environment (25 °C to 28 °C);
  - Undress the baby partially or fully for 10 minutes, then dress and cover the baby;
- If the baby's respiratory rate is > 60 breaths per minute or there is chest in-drawing or grunting, give appropriate drug(s) per IMCI guidelines before urgently referring to a hospital for appropriate care. During the transfer, the baby must remain in direct skin-to-skin contact with the mother as this will help reduce the baby's body temperature and KMC helps him/her breastfeed better.
- **If the baby's temperature is more than 39 °C:**
  - Give appropriate drug(s) per IMCI guidelines before urgently referring to a hospital for appropriate care.

3.5.3. Convulsions or Spasms

If the **baby is currently having a convulsion/spasm**, give appropriate drug(s) per IMCI guidelines before urgently referring to a hospital for appropriate care.

3.5.4. Tetanus

Suspect neonatal tetanus if:

- The disease arises between the 3rd and 14th day of life.
- Mother did not receive tetanus toxoid
- Unhygienic delivery
- Put or applied something on umbilical cord (e.g. animal waste)
- The baby does not feed well or feeds less than before
- Refer the baby to a hospital urgently with his/her mother and a referral letter.

3.5.5. Sepsis

Neonatal sepsis is difficult to diagnose due to the absence of timely laboratory evaluation, leading to a higher risk of severe illness or death from delayed treatment.

If neonatal sepsis is suspected, give appropriate drug(s) according to IMCI guidelines before urgently referring the baby and his/her mother with a referral letter to a hospital for appropriate care.

3.5.5.1 Well Newborns but Suspected of Sepsis

- For well newborns at risk for sepsis are required to check for signs of sepsis and their parents are counselled for consent on antibiotic use before referring for further evaluation until sepsis is ruled out. Signs of sepsis include the following (if possible, refer to a hospital for delivery):
  - Maternal fever >38.5°C
  - Prolonged rupture of membranes >18 hours, or
  - Foul-smelling, purulent appearing amniotic fluid

If a woman has any of the signs above, refer her to a hospital for delivery.

Note: provide standard care for all newborns (e.g. thorough drying, immediate skin-to-skin contact, delayed cord clamping, keeping baby on mother's chest for at least 60 minutes after birth or until after first breastfeeding and observe for feeding and fullness cues).

- Well newborns at risk for sepsis should be kept in the delivery room with their mother for monitoring, and needs
- Continued skin-to-skin contact for as long as possible and continued breastfeeding on demand. If there are any danger signs above, give appropriate drug(s) according to IMCI guidelines before urgently referring the baby and his/her mother with a referral letter to a hospital for appropriate care.

3.5.5.2 Newborns Suspected of Developing Sepsis

Signs of sepsis:

For inborn babies (discharge not allowed)
a. Respiratory rate ≥60/minute (count for 1minute)
b. Chest in-drawing
c. Grunting that does not settle after a period of skin-to-skin contact and rest
d. Hypothermia <35°C (axillary temperature) that does not settle after warming
e. Hyperthermia >37.5°C (axillary temperature)
f. Temperature instability (axillary temperature changes even if the baby is put in environment with stable temperature)
g. Occasional apnea (stops breathing >20 seconds)
h. Bradycardia (<100/minute)
i. Episodes of cyanosis or extreme pallor (white) skin color changes
j. Convulsions
k. Bulging fontanel
l. Hypotonic (floppy)
m. Any jaundice (yellow skin) within 24 hours old or jaundice on palms and soles at any time

n. Blood in vomit or stool
o. Abdominal distension
p. Pus from umbilical cord base
q. Very poor or no feeding causing moderate dehydration (dry mucous membrane, capillary refill >3 seconds, sunken eyes and fontanel, loss of normal skin elasticity)
r. Preterm small ≤34 weeks GA delivering with thick meconium (might be infected with Listeria monocytogenes)
For outborn babies sent to health centers
a. History of difficulty or poor feeding
b. Movement only when stimulated
c. Temperature < 35.5°C (axillary temperature)
d. Temperature > 37.5°C (axillary temperature)
e. Respiratory Rate ≥ 60
f. Severe chest in-drawing
g. History of convulsions
h. Any jaundice within 24 hours old or jaundice on palms and soles at any time

If there are any danger signs above, give appropriate drug(s) according to the IMCI guidelines before urgently referring the baby and his/her mother with a referral letter to a hospital for appropriate care.

3.5.6 Neonatal Asphyxia

Suspect neonatal asphyxia if:

- Partograph shows fetal distress
- History of prolonged labor/delivery with complications or difficulty
- Poor neonatal conditions or skin color (cyanosis, pale or pallor)
- Slow heart rate (<100/minute)
- Occasional apnea episode (breathing stops >20 seconds)

- Hypotonic, floppy, lethargy
- Breathing difficulty, grunting and chest in-drawing (respiratory rate < 30 or >60/minute)
- No breathing or gasping
- No or poor suckling
- No or poor reflex (gag reflex)
- No normal response to touching (e.g. no or abnormal response)
- Hypertonic, increased response, hyperactive, partial contractions

  Convulsion

Help mother to breastfeed her newborn. If the baby's condition is not improving, refer the baby urgently to a facility with proper care.

3-5-7 Syphilis Conditions

3-5-7-1 Diagnosis of Congenital Syphilis for Inborn Babies

- The diagnosis of congenital syphilis is complicated by the transplacental transfer of maternal antibodies to the fetus. This transfer of antibodies makes the interpretation of reactive serologic tests for syphilis in infants difficult. Routine screening of newborn umbilical cord blood is not recommended because the blood may be infected with syphilis through the mother's blood. So, no test is currently used to screen newborns for congenital syphilis. The diagnosis depends on checking for clinical signs, medical history and treatment of mothers.
- Thoroughly examine newborns for any symptoms of suspected congenital syphilis
- If there is any symptom below, refer the baby to a paediatric facility or referral hospital:
- Premature or low birth weight babies
- Chronic nasal discharge
- Jaundice (yellow in conjunctiva)
- Hepatosplenomegaly or enlarged lymph nodes
- Skin rash sometimes with dry skin and small blisters or rhagades, especially at extremities or around the mouth or anus
- Saddle nose or legs deformity legs
- Even if the newborn has none of the symptoms above, a baby whose mother is infected with syphilis needs treatment with Benzathine-Penicillin IM only once.
- Then, refer him/her for vaccines and DNA-PCR test for HIV when he/she is age 6 weeks.

3.5.7.2 Neonatal Syphilis Treatment

- A newborn whose mother is infected with syphilis needs treatment with Benzathine-Penicillin G 50,000 units/kg IM only once, even if the newborn has none of the symptoms above.

3.5.7.3 Children Follow-up

- A newborn infected with syphilis through his/her mother might not show any symptom at birth, but the clinical signs of congenital syphilis may develop later.
- Therefore, at every immunization visit (weeks 6, 10, 14, 9 months and 18 months), physicians must examine children for such clinical symptoms of congenital syphilis as chronic nasal discharge, jaundice (yellow in the whites of the eyes), hepatosplenomegaly or enlarged lymph nodes, skin rash sometimes with dry skin and small blisters or rhagades, especially at the extremities or around the mouth or anus. In case of any of these symptoms, the child must be referred to a facility with proper care or any nearest referral hospital for prompt assessment, diagnosis and treatment.

3.5.8 Care for a Newborn whose Mother is Very Ill or Transferred

- Help the mother express breast milk so that the baby can be given expressed breast milk by cup, spoon or nasogastric tube. Consider alternative feeding methods until mother is well (page 195)
- Provide care for the baby, ensure warmth (father can give skin-to-skin contact or KMC if available)
- Ensure mother can see the baby regularly.
- Transfer the baby with the mother if possible.
- Ensure a knowledgeable and informed caretaker is available to care for the baby at home if the baby cannot be kept with his/her mother.

3.5.9 Eyes Red, Swollen or Draining Pus

General management

- Wash hands and wear clean examination gloves:
  - Clean the eyelids using sterile normal saline or clean (boiled and cooled) water and a clean swab, cleaning from the inside edge of the eye to the outside edge and discard after a single use;
  - Take off the gloves after cleaning the eyes.
  - Have the mother do this whenever possible;
  - Repeat four times daily until the eye problems have cleared.
  - Have the mother wash the baby's face every day using clean water, and dry with a clean cloth.

If the condition is not improving, refer the baby urgently to a hospital with his mother and referral letter.

Conjunctivitis due to gonorrhea

- Give Ceftriaxone 50mg/kg IM in a single dose (maximum 125mg).
- There is no need for antibiotic eye ointment.
- Continue to clean the baby's eyes and wash the baby's face as described under general management.
- If the mother and baby can stay near the health care facility, the baby does not have to be admitted to the hospital for this treatment.
- Treat the mother and her partner(s) for gonorrhea if not already treated according to national STI/RTI guidelines.

Conjunctivitis due to chlamydia

- Give erythromycin syrup 25mg/kg by mouth four times daily for 14 days.
- After cleaning the eyes, apply 1% tetracycline ointment to both eyes four times daily until the eyes are no longer red, swollen, sticky, or draining pus.
- If the mother and baby can stay near the health care facility, the baby does not have to be admitted to the hospital for this treatment.
- Treat the mother and her partner(s) for chlamydia if not already treated according to national STI/RTI guidelines.

Note: If there is no laboratory for determining infections caused by gonococcus and chlamydia, provide care and treatment based on symptom cluster according to national STI/RTI guidelines.

3.5.10. Umbilical Infections

Umbilicus or nearby skin red and swollen, draining pus, or foul-smelling

Local infection of umbilicus

- Wash hands and wear clean examination gloves:
  - Wash the umbilicus using an antiseptic solution (see below) and clean gauze sponges:
- Clean the umbilicus and the area around it with 0.5% gentian violet four times daily until there is no more pus coming from the umbilicus. Take off the gloves and wash hands. Have the mother do this whenever possible.
- If the area of redness and swelling extends more than 1cm beyond the umbilicus, observe the baby for 2 days. If the baby's condition not improving or worsen, refer to a hospital immediately. Refer the baby with his/her mother and a referral letter.

3.5.11. Severe Jaundice

In case of any jaundice <24 hours old (for preterm baby, jaundice may occur on the second day) or jaundice on palms and soles at any time, refer the baby in direct skin-to-skin contact with his/her mother to a hospital immediately.

Encourage breastfeeding on the way. If feeding difficulty, give expressed breast milk by cup or spoon.

3.5.12. Skin Infection

- Wash hands with clean water and soap. Wear clean examination gloves:
  - gently wash off pus and crusts with boiled and cooled water using swap and soap.
  - dry the area with clean cloth.
- Apply with 0.5% gentian violet solution.
- Observe for any signs of sepsis (e.g. poor feeding, vomiting, breathing difficulty, temperature >37.5 or <36.5 °C) and treat accordingly (see p. 139).
- Count the number of pustules or blisters to determine whether they cover less or more than half of the body, and treat as described below.

Fewer than 10 pustules/blisters or covering less than half the body with no signs of sepsis:

- Observe the baby for two days. If the baby's condition not improving or worsen, refer to a hospital immediately.

Ten or more pustules/blisters or covering more than half the body:

- Refer the baby to a hospital immediately.

Thrush in napkin area

- Apply nystatin cream to the lesions or swab the lesions with 0.5% gentian violet solution at every napkin change, continuing for three days after the lesions have healed.
- Ensure that the napkin is changed whenever it is wet or soiled.
- Check mouth for any thrust.

Thrush in mouth

- Swab the thrush patches in the baby's mouth with nystatin oral solution or 0.5% gentian violet solution four times daily, continuing for two days after the lesions have healed.
- Have the mother put nystatin cream or 0.5% gentian violet solution on her breasts after breastfeeding for as long as the baby is being treated.

Cut

- Clean the cut using gauze soaked in antiseptic solution (2.5% polyvidone iodine; note that other antiseptic solutions may burn).
- If the edges of the cut are open, pull them closed with a butterfly strips.
- Cover the area with a simple bandage to keep the cut clean and dry.
- If no other problems require hospitalization, discharge the baby.
- Explain to the mother what the signs of local infection are (e.g. redness, heat, and swelling of the skin around the cut):
- Ask the mother to bring the baby back if she sees signs of local infection;
- If signs of local infection are seen, remove the bandage/strips and treat with a topical antibiotic ointment three times daily for five days, leaving the cut uncovered.
- Have the mother return with the baby in one week to remove the bandage/strips, if necessary. If there is no infection, no further follow-up is needed.

Abrasion

- Clean the abrasion using cotton-wool balls soaked in antiseptic solution (2.5% povidone iodine; note that other antiseptic solutions may burn).
- Keep the wound clean and dry, and instruct the mother how to do so.
- If no other problems require hospitalization, discharge the baby.
- Explain to the mother what the signs of local infection are (e.g. redness, heat, and swelling of the skin around the cut):

Ask the mother to bring the baby back if she sees signs of local infection.

3.5.13. Treatment for Birth Injury and Malformations

If the baby has signs consistent with birth injury or malformation, provide treatment and advice as follows:

Signs	Treat and Advise
Birth Injury: • bruises, swelling on buttocks • swollen head – bump on one or both sides • abnormal position of legs (after breech presentation) • asymmetrical arm movement; arm does not move	**Birth Injury:** • Explain to parents that it does not hurt the baby; it will disappear in a week or two and does not usually require special treatment • DO NOT force legs into a different position (in breech presentation) • gently handle the limb that is not moving; DO NOT pull • If broken bone suspected, refer to a hospital immediately.
Malformation: • club foot (talipes) • cleft palate or lip • strabismus; abnormal eye appearance • open tissue on head, abdomen or back	**Malformation:** • Refer for special treatment if available • Help mother to breastfeed; if not successful, teach her other breastfeeding techniques such cup or spoon feeding and plan to follow up • Advise on correction surgery if available • Refer for special evaluation if available, cover with sterile gauze soaked in sterile saline, or refer for special treatment if available.

Severe Malformation: • other abnormal appearance	**Severe Malformation:** • Refer for special treatment if available

3.5.14. Diarrhea

There are non-infectious causes of diarrhea, but sepsis is the most common cause during the newborn period. Strict infection prevention practices must be observed at all times when caring for a baby with diarrhea to prevent the spread.

General Management:

- Continue to breastfeed baby.
- If the baby cannot breastfeed, give expressed breast milk with cup, spoon or nasogastric tube.
- If the mother is giving the baby any food or fluid other than breast milk, tell her to stop.
- Request the mother to breastfeed more often.
- If the baby has signs of dehydration (e.g. sunken eyes, loss of skin elasticity, or dry tongue and mucous membranes) or sepsis (e.g. poor feeding, vomiting, breathing difficulty), establish an IV line and give fluids (Lactated Ringer) and encourage mother to continue to breastfeed. Refer the baby in direct skin-to-skin contact with his/her mother to a hospital immediately with a referral letter.

Note: For assessment, signs, symptoms and management of diarrhea, e.g. one initial dose of antibiotic, please see IMCI guideline.

3.5.15. Low Blood Glucose

A baby's blood glucose is less than 25mg/dl (1.1mmol/l)

Risk factors for low blood glucose:

- Prematurity
- Low birth weight (less than 2500g)
- Diabetic mother
- Poor or no breastfeeding
- Infection (suspected or proven)
- Asphyxia
- Hypothermia (<36.5 ºC)

Signs of blood glucose less than 45mg/dl (2.6mmol/l)

- Jittery (shaky)
- Lethargic
- Refer the baby in direct skin-to-skin contact with his/her mother to a hospital immediately with a referral letter.

Chapter 4:

Comprehensive Safe Abortion Care

This section contains a brief overview of safe abortion care and post abortion care in Cambodia, the details of which are available in *The Comprehensive Abortion and Post Abortion Care protocol*.

4.1. Clinical Assessment, Diagnosis and Options for Management

Prior to an abortion procedure or management of post abortion complication, it is essential to clinically assess the woman to determine her medical history and pregnancy status. Clinical assessment must include a history, physical examination and various laboratory tests. This allows the health care provider to properly diagnose the woman's situation and help her to decide on the best option for her situation.

<table>
<tr><th>Safe Abortion Care</th><th>Post Abortion Care</th></tr>
<tr><td>Client history:
first day of last menstrual period (LMP)
signs of pregnancy
bleeding disorders
history of pregnancies (e.g. ectopic pregnancy, miscarriage, live births, fetal deaths)
sexual history
contraceptive use
use of abortifacient medicines (Chinese or traditional medicines)</td><td>Client history:
first day of last menstrual period (LMP)
bleeding (duration, quantity, products of conception).
Pain (duration, intensity, location: abdominal or shoulder pain need to think about ectopic pregnancy)
history of any recent abortion
ongoing contraceptive use
history of fever or chill, or flu like symptoms
nausea, vomiting</td></tr>
<tr><td colspan="2">General health condition:
any medical status (bleeding diabetes, asthma, hypertension, heart disease)
surgical history (C-section, pelvic, abdominal)</td></tr>
</table>

<table>
<tr><td colspan="2">

- HIV status and presence of STI
- current medication
- drug allergies
- alcohol or drug use, including smoking

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Psychosocial status:

- knowledge and understanding of pregnancy related issues
- social and family support (marital status, job, presence of family member)
- screen for violence
- physical and cognitive disability, including mental illness

</td></tr>
<tr><td>

Physical examination:

1. General health assessment:

- Take vital signs
- Check for anemia
- Listen to heart rate and lung
- Palpate abdomen for any mass and tenderness
- Look for scars of domestic violence

2. Pelvic examination:

- Examination by speculum:
  - Check cervix
  - Note any abnormal vaginal discharge
  - Check for any infection or STD at cervix
- Bimanual examination:
  - Assess the gestational age
  - Assess location and position of uterus
  - Check for ectopic pregnancy

</td><td>

Physical examination:

- General health (e.g. malnutrition, anemia, poor health) and vital sign
- Lung, heart, abdomen and extremity
- Abdominal examination by listening to bowel sounds
- Palpate for abdominal distension, rigidity and abdominal mass. If abdominal mass is present, press gently (Pain? Intensity, location) and rebound tenderness.
- Pelvic examination:
  - Look at external vaginal and perineum and record if any sign of STD exist
  - Examination by speculum for:
    - Presence of any object or products of conception at vagina or cervix)
    - Any foul smelling vaginal bleeding or discharge
    - Quantity of bleeding
    - Dilation of cervix
    - Any tear at cervix or vagina
  - Carefully perform bi-manual examination and note:
    - Size of uterus
    - Present of abnormal pelvic mass
    - Pain: severity, location, cause of pain (at rest, with touch or pressure, with movement of cervix)

</td></tr>
</table>

Laboratory Tests: • Urine pregnancy test (helpful if typical signs of pregnancy unclear or unsure about whether the woman is pregnant) • Hemoglobin or hematocrit (if anemia).	

4-2 Management Options

The appropriate option for the woman is based on the clinical assessment and the woman's desires and consent:

- **Continue with the pregnancy** (for woman seeking abortion care) – refer for antenatal care and other services.
- **Abortion** – manual vacuum aspiration (MVA) or medication abortion (for gestational age less than 9 weeks). Explain the procedure that will be performed to the woman so that she knows what to expect and can consent to the procedure.

4.3 Counseling and Informed Consent

All women should be provided with high-quality safe abortion or management of complication of abortion counseling that includes the following:

- Counseling and decision-making with regard to pregnancy options (for women seeking abortion care)
- Pre-procedure counseling and pain management method
- Informed consent after receiving accurate information
- Post-abortion recovery and follow up
- Post-abortion contraceptive counseling
- Any concern related to woman's health

Counseling sessions should cover the following:

- Accurate information about the woman's medical condition, test results, pregnancy options, the abortion or post abortion care procedure, and pain management options.
- The benefits and risks of the abortion or post abortion care procedure and pain management.
- Recheck to ensure that the woman understands her diagnosis, the procedure and pain management plan, and any follow up care that is needed.
- Give emotional support about her pregnancy, the abortion, her options for care, her future reproductive health.

4.4 Pain Management

The purpose of pain management is to ensure that the woman experiences the minimal possible amount of anxiety and discomfort, while also ensuring the least risk to her health. It is important to assess the needs of each woman individually when determining appropriate pain management strategies. Under no circumstance should pain control medication be withheld nor should the woman be treated roughly. In almost all instances involving uterine evacuation, some pain and cramping will occur during cervical dilatation, instrumentation of the uterus, manual vacuum extraction and post-procedural cramping. For medication abortion, pain usually begins after administration of the drug(s), often within 1 to 3 hours and diminishes after the abortion is complete. As the uterus contracts and its contents are expelled through the cervix, women generally feel some cramping. The two categories of pain medication are as follows:

- Analgesia – which can be given as a standard measure for cramping and pain before the procedure as well as for post-procedure pain
- Anesthetics – which numb all physical sensations either locally or generally

4.5 Uterine Evacuation Methods

Uterine evacuation is removal of the contents of the uterus. The methods used for uterine evacuation in the first trimester of pregnancy include:

- Medications (for gestational age less than 9 weeks)
- Vacuum aspiration (MVA)

  * MVA is described on page 190 of the procedures section.
  * Medication abortion is done in the first trimester below 9 weeks by first giving mifepristone 200 mg orally and 24 hours later giving misoprostol 800 ug (1 tablet = 200ug) vaginally. This drug combination in Cambodia is called Medabon and Mariprist.

4-6 Recovery and Follow-up Care

Observation: The woman should be observed until she has a stable pulse and blood pressure, is able to walk comfortably on her own and can eat and drink fluids without vomiting. The woman's pulse and blood pressure should be monitored immediately after the procedure, again in 30 minutes and again before she is discharged to confirm that bleeding and cramping have diminished.

Aftercare Information

Prior to discharge, the woman must be provided with the following information:

- She will experience some vaginal bleeding for 2-3 weeks, which is normal.
- She may have some abdominal cramping, which is normal.
- She should return for a follow-up appointment (1 week after the procedure for abortion by evacuation and 14 days after for abortion by medicine).
- She can become pregnant again almost immediately 10 days after abortion and contraceptive methods are available to help her prevent future unwanted pregnancies.

The following danger signs should also be explained to the woman and, if these occur, she should return to the health facility immediately:

- fever and chills
- heavy vaginal bleeding
- foul-smelling lochia
- severe abdominal pain
- unconscious
- inability to tolerate oral intake; vomiting or feeling nauseous

4-7 Contraceptive Counseling and Services

Birth spacing counseling is a critical aspect and must be provided at the time of abortion and post abortion care. Women should start birth spacing right after abortion or post abortion care even she wishes to have another child for at least 6 month before becoming pregnant again. If the woman chooses IUD, the IUD normally should be inserted at the same time as a MVA.

The aim of contraceptive counseling for women who undergo an abortion or receive post abortion care is to help the woman and her partner:

- Understand the factors which led to an unwanted pregnancy.
- Understand that she could become pregnant again soon after her abortion/post abortion care
- Understand that she can delay or prevent another pregnancy by using contraception.
- Understand that various methods are available.
- Choose an appropriate method.
- Obtain an appropriate contraceptive method and use it effectively.
- Understand that emergency contraception can be used within 3 days of unprotected sexual intercourse to prevent pregnancy.

Chapter 5:
Sick Mother and Newborn Care

This section provides brief summaries of recommended care for mothers and their newborns, when the mother has a Appropriate medical condition.

5.1 Care of Mothers who are HIV-positive

Before pregnancy: HIV-positive women and their partners should, at pre-ART/ART service centers, be counseled on contraception, including the need to use condoms to reduce viral transmission; they should, after counseling, also be provided with the contraceptive method of their choice.

If the couple has questions about a possible future pregnancy, they should be counseled on the prognosis for mother and baby, in the particular with regard to pregnancy outcome, and with regard to the risk of vertical HIV transmission. As much as possible, any pregnancy should be planned in order to benefit from anti-retrovirals to minimize HIV transmission.

During pregnancy: Early in pregnancy, an HIV-positive woman should be counselled on the health condition for her and her baby if she chooses to continue the pregnancy. If she decides to continue, she should be supported and monitored by the pre-ART/ART clinic as well as ANC. If ARVs have not been initiated previously, the woman will receive ARVs to reduce the risk of vertical transmission. In order to reduce the case that HIV is detected

during pregnancy, the same procedure – counseling on prognosis for mother and baby; discussion on continuation of pregnancy, and ARVs for prevention of mother to child transmission (PMTCT) – will be carried out. The mother will also, during ANC, get information on baby feeding options and of contraceptive options after pregnancy, including post-partum sterilization.

At birth: The HIV-infected woman will receive ARVs according to protocol. For vaginal birth, it is important to minimize potentially traumatic interventions such as difficult vacuum extraction.

Postpartum: The mother will, as during pregnancy, need emotional support, continued PMTCT regimen, and support with baby feeding. If breast feeding is the best option for a woman, exclusive breast feeding is strongly recommended, since any kind of mixed feeding increases the risk of viral transmission from mother to child.

The baby will be followed at a special clinic to determine if s/he remains HIV-negative.

The mother will need good counseling and provision of family planning services; she should also get continued support as regards her need for ARVs.

Care for Newborn of HIV-Positive Mother

The following is brief information on the care and support for HIV infected mothers. For details, please refer to PMTCT guidelines. All women, regardless of their HIV status, should receive appropriate postpartum care and health education for themselves and their infant, including information about maternal nutrition and infant feeding, general health education, signs and symptoms of postnatal infection and other danger signs in mothers and their newborns, immunizations, and birth spacing. In addition, HIV-infected women need to be provided with ARV prophylaxis for themselves and their infants, and to be supported to access HIV-exposed infant follow-up and ongoing treatment, care and support for themselves and their family.

Breastfeeding:

From birth until 6 months:

- All women, regardless of their HIV status, should be encouraged to exclusively breastfeed their babies for the first six months of life. Exclusive breastfeeding means giving only breast milk to the babies without giving any other things, including water. Mixed feeding increases the risk of the infant getting HIV and reduces the benefits of delaying conception for mother and health benefits for newborns.
- HIV-infected mothers on ARV prophylaxis must receive continued, lifetime treatment for their health.

After 6 months of age:

- **HIV-negative mother and mother with HIV status unknown** must begin giving complementary feeding and continue breastfeeding until at least 24 months.
- **HIV-infected mother whose newborn is HIV infected** (HIV-DNA PCR test positive) must begin giving complementary feeding and continue breastfeeding until at least 24 months as recommended for all other people.
- **HIV-infected mother whose newborn is not HIV infected** (HIV-DNA PCR test negative) or with unknown HIV status must begin giving complementary feeding and continue breastfeeding until at least 24 months along with continued, lifetime ARV prophylaxis of the mother and support for consistent and regular treatment.

Breastfeeding substitute:

HIV-infected mothers who choose not to breastfeed their babies should give their HIV-negative or unknown HIV status babies formula milk of international standards instead, if appropriate conditions are satisfied. Do not give raw milk, soy milk or condensed milk. Community follow-up should include counseling and support for the mother to maintain her infant feeding choice and to avoid mixed feeding; reminder and referral support for the mother and infant to attend their 6-week postnatal appointment(s) for immunization, early infant diagnosis, review of ART eligibility, nutrition assessment and counseling.

Birth spacing:

To avoid future unintended pregnancies among all women, including HIV-infected women, contraceptive methods should be started at week 6 after birth. Birth spacing information and referral to BS services should be provided to the women to choose, especially for HIV-infected women who can find short-term contraceptives at pre-ART/ART service as well (see HIV contraceptive training protocol). The communication with local CBOs should be conducted immediately to ensure that follow-up appointments are kept.

5.2. Care of Mothers with Diabetes

Before pregnancy: For women of reproductive age with diabetes, it is important to counsel on possible future pregnancy on time. The health condition for a future pregnancy will depend very much on the overall status of the woman, and notably on whether she has vascular complications of her diabetes or not. A woman with kidney insufficiency and significant proteinuria, retinal damage and high blood pressure, runs much higher risk of pregnancy complications – pre-eclampsia, perinatal death – than a woman with a short history of well-controlled diabetes.

During pregnancy: Her insulin requirements will increase gradually over the course of the pregnancy, and her obstetric risks – of pre-eclampsia, excessive fetal growth, vascular complications, also of her eyes – are significant. If the diabetic woman decides to continue the pregnancy, she should be referred to a hospital for appropriate management by a diabetes specialist and an obstetrician.

During pregnancy, the diabetic mother should be counselled on family planning, including on post-partum sterilization. If the diabetes is only first discovered during pregnancy, so called gestational diabetes, she may not require medication but only diet. She should be monitored as recommended above, however.

At birth: Vaginal birth is normally recommended, and CS only on usual indications. During the day of giving birth, the insulin needs of the woman fall drastically and her blood glucose therefore should be closely monitored and managed. The baby runs an increased risk of hypoglycaemia in the first few days, particularly if the mother has had too high blood sugar levels during pregnancy. It should be carefully monitored in a newborn ward, so the mother should be admitted to a hospital before labor begins.

Postpartum: Birth spacing counselling and provision are essential during the post partum period.

Care of Newborns with Diabetic Mothers

The newborns of diabetic mothers runs an increased risk of hypoglycaemia in the first three days of birth despite the baby adequately breastfeeds. Encourage and support mother to begin breastfeed her newborn immediately and frequently for at least 8 times per 24 hours.

5.3. Care of Mothers with Tuberculosis

Before pregnancy: It is advisable to complete ongoing tuberculosis treatment before starting a pregnancy; it is thus important that staff of tuberculosis clinics ensure that women of reproductive age get birth spacing counselling to prevent from pregnancy.

During pregnancy: A mother who gives birth while still being in a contagious state of pulmonary tuberculosis runs a very high risk of infecting her newborn baby. The strains of carrying untreated tuberculosis also are a burden for the woman, in terms of nutrition, foetal growth, and even maternal mortality. It is thus important to ask very thin pregnant women if they have a cough more than 2 weeks. They should be examined for pulmonary tuberculosis as soon as possible, usually through sputum examination. If found positive, antituberculotic treatment should be initiated at once. The only anti-tuberculotic drug that should not be used during pregnancy is streptomycin. Two weeks after initiation of treatment, the mother is no longer contagious and thus no longer a threat for a newborn baby. The mother should complete her treatment and controls according to instruction of National Tuberculosis Control Program.

Care of Newborn of Mother with Tuberculosis

- If the mother has active lung tuberculosis and was treated for less than two months before birth or was diagnosed with tuberculosis after birth:

  - Give baby BCG vaccination at 24 hours after birth.

  - Do not give the tuberculosis vaccine (BCG) for newborn with deficient immune system (AIDS) or HIV-infected children

  - If baby is ongoing TB treatment, BCG vaccination must be delayed until the treatment is completed.

- If the baby is doing well and tests are negative, continue prophylactic isoniazid to complete six months of treatment.
- Delay BCG vaccine until two weeks after treatment is completed. If BCG was already given, repeat BCG two weeks after the end of the isoniazid treatment.
- Reassure the mother that it is safe for her to breastfeed her baby.
- Follow-up in two weeks to assess weight gain.

5.4. Care of Mothers with Heart Disease

Before pregnancy: Women of reproductive age with severe heart disease should receive counseling on possible future pregnancy by their physician. If pregnancy is counter-indicated due to the severity of heart disease, the woman should receive good family planning counselling and contraceptive methods.

During pregnancy: If the woman decides to continue her pregnancy, she should be monitored at a hospital on regular basis. A woman with a severe cardiac condition risks becoming decompensated and will require very careful monitoring and treatment to ensure a successful outcome for mother and baby. During pregnancy, she should be counselled on family planning options, including post-partum sterilization.

At birth: Vaginal delivery is preferred. If the woman has severe fatigue/incipient cardiac decompensated, ending birth by vacuum extraction is an option. Great care should be taken not to give the woman too much fluids, which might initiate cardiac decompensated. The woman with heart disease must deliver her baby at a referral hospital.

Postpartum: Family planning counselling and provision are very important.

5.5 Care of Mothers with Malaria

5.5.1 Check for Malaria for Pregnant Women without Symptoms

Check all pregnant women for malaria at every antenatal visit to a health facility in malaria areas.

5.5.2 Clinical Diagnosis in Pregnant Women

The clinical features are the same as in adult malaria except that the risk of evolution into severe or complicated malaria, in case of infection with P. falciparum, is faster and relapses in infections by P. vivax and malaria are more common.

Adequate treatment is important because of high risks of premature delivery, congenital infection, low birth weight and stillbirth.

Hypoglycemia, anemia and pulmonary edema are common complications of malaria in pregnant woman.

5.5.3 Treatment of Uncomplicated Malaria in Pregnant Women

1- P. falciparum P. vivax or P. malaria**:**

- Quinine is safe for pregnant women in all trimesters.
- DHA + PIP is safe only for pregnant women during the 2nd and 3rd trimester of pregnancy but not during the 1st trimester.

2- During the 1st trimester of pregnancy:

The 1st line treatment for P. falciparum, P. vivax or P. malariae or mixed:

Give Quinine alone for 7 days.

Dosage of Quinine (30mg/kg/24h) 300mg tablets

Age	Weight (kg)	Dose/8h	Total/day	Total/7days
9-15 years	31-40	1½	4½	31½
>15years	>40	2	6	42

Do not give Doxycycline/tetracycline to pregnant women and children <8 years of age.

3- During the 2nd and 3rd trimester of pregnancy:

The 1st line treatment for P. falciparum, P. vivax or P. malariae or mixed:

Dihydroartemisinin + Piperaquine (DHA + PIP) for three days or to achieve 2-4 mg/kg Dihydroartemisinin and 20mg/kg Piperaquine

Weight (kg)	Age (years)	Day 1	Day 2	Day 3	Total tablets
31≤W<40	10 years ≤ age <15 years	2	2	2	6
40≤W<80	≥15 years	3	3	3	9
≥ 80		4	4	4	12

Dosage of Artesunate (A) 50 mg tablets and mefloquine (M) 250mg tablets

Weight (kg)	Age (years)	Number of tablets		
		A=Artesunate; M=Mefloquine		
		Day 1	Day 2	Day 3
25kg≤W<40 (A+M3)	11 years ≤ age <15 years	3A + 1M	3A+1M	3A+1M
W≥40kg (A+M5)	≥15years	4A + 2M	4A + 2M	4A + 1M

In case of severe malaria, refer the woman to a hospital.

5.6 Care for Asymptomatic Newborn of Mother with Hepatitis B or Syphilis

If a baby is born to a mother with one or more of the problems mentioned in this chapter, there is a higher probability that the baby will develop a problem at some time after birth, even if the baby appears entirely normal at birth.

Hepatitis B

Mothers who had acute hepatitis during pregnancy or who are carriers of the hepatitis B virus, as demonstrated by a positive serologic test for the hepatitis B surface antigen (HbsAg), may transmit the hepatitis B virus to their babies.

- Give the first dose of hepatitis B vaccine (HBV) 0.5ml IM in the upper thigh as soon after birth as possible and after full breastfeed, preferably within 12 hours of birth.
- If available, give hepatitis immune globulin 200 units IM in the other thigh within 24 hours of birth, or within 48 hours of birth at latest.
- Reassure the mother that it is safe for her to breastfeed her baby.

Syphilis

- If the mother tested positive for syphilis and was treated adequately (2.4 million units of Benzathine Penicillin IM in only one injection). For patient who could not receive Penicillin, use Erythromycin 500mg orally twice per day for 14 days and if the treatment started at least more than 30 days before birth, no any other treatment is necessary.
- ***If the mother was not treated for syphilis, or she was treated inadequately, or her treatment status is unknown or uncertain and the baby has no signs of syphilis:***
  - Give the baby Benzathine penicillin 50,000 UI/Kg/dose in only one injection (IM).
  - Give the mother and her partner(s) Benzathine penicillin G 2.4 million units in only one injection (IM), and if the mother and partner(s) cannot withstand penicillin, give Erythromycin 500mg orally four times per day for 14 days and refer the mother and her partner(s) to a clinic that offers family health services for follow-up.
- Follow up in four weeks to examine the baby for growth and signs of congenital syphilis (see p. 143).

Chapter 6: Assessing and Improving Quality of Basic Emergency Obstetric and Newborn Care

6.1. Emergency Obstetric and Newborn Care (EmONC)

Even in cases where pregnant women are in good health and antenatal care is good, about 15% of pregnant women will experience maternal complications. In this case, women should have access to a strong referral network that ensures timely access to emergency obstetric and newborn care.

Emergency Obstetric and Newborn Care (EmONC) will be gradually developed at health centers and hospitals in Cambodia. EmONC is divided into Basic and Comprehensive Obstetric and Newborn Care, called BEmONC and CEmONC.

They are defined as continuous availability, 24/7, of the following interventions.

6.1.1 Basic Emergency Obstetric and Newborn Care (BEmONC)

Is defined as the ability to always, as needed,

- Administer parenteral antibiotics (IM/IV)
- Administer parenteral oxytocic drugs (IM/IV)
- Administer MgSO4 for pre-eclampsia and eclampsia (IM/IV)
- Perform manual removal of retained products
- Manage post abortion complications (MVA)
- Perform assisted vaginal delivery (by vacuum extraction)
- Resuscitate asphyxiated newborn babies

6.1.2 Comprehensive Emergency Obstetric and Newborn Care (CEmONC)

Includes all the above, and also includes two below interventions

- Perform caesarean section
- Perform blood transfusion
- The above should be seen as "signal functions" for the classification as a BEmONC or CEmONC hospital.
- Establishing and maintaining a continuous capacity, day and night, every day of the week, to provide either BEmONC or CEmONC requires long term planning, both in terms of infrastructure, equipment, commodities, staff competence, and monitoring. This requires the involvement not only of maternal care staff and pediatric staff, but also the leadership of the health facility, the OD and the PHD.

6.2. Quality Improvement

Staff of every health centers needs to discuss and assess its own outcomes regularly in order to improve the quality of care.

Some basic indicators to collect, as the basis for staff discussions, are

- Contraception
- Abortion/spontaneous abortion
- Antenatal care
- Vaginal deliveries, vacuum extraction and complications
- Out of babies born, number of live-born, stillborn, and early newborn deaths
- Number of referral cases due to maternal and newborn causes
- Number of maternal deaths

Improving quality means stepwise changing of maternal and newborn care, usually on the basis of the outcomes. It is important to involve all staff in such work, in order to discuss the results (outcomes), suggests ways to change/improve, prioritize among these actions. After some months of interventions, the results of the actions need to be followed up.

There are two initial steps in this process:

1. Regular staff meetings are organized to discuss results/outcomes and seek resolutions to the issues encountered during the provision of care. Minutes from such meetings are kept for next meeting and implementation follow-up.

2. Capacity and skills of the midwives are developed in accordance with the midwifery code of conduct set out by the midwifery council, the Safe Motherhood Protocol and other related protocols. All these documents must be kept available to all staff at accessible areas of health centers.

Chapter 7:
Practical Procedures for the Mother

7.1. Management of the Airway and Breathing

If the woman has great difficulty breathing and:

If you suspect obstruction:

- Try to clear the airway and dislodge obstruction
- Help the woman to find best position for breathing
- Refer the woman to a hospital urgently

If the woman is unconscious:

- Keep her on her back, arms at the side and tilt her head at the side (unless trauma is suspected)
- Lift her chin to open airway
- Inspect her mouth for foreign body; remove if found
- Clear secretions from throat
- Refer the woman to a hospital urgently

7.2. IV Fluid Administration

- Insert an intravenous line using a 18 gauge needle
- Attach Ringer's lactate or normal saline. Ensure infusion is running well.

* Give fluids at rapid rate if shock (systolic BP <90 mmHg and pulse >110/minute) or heavy vaginal bleeding, refer the woman to a referral hospital by giving **primary care** as follows:

- Infuse 1 liter in 15-20 minutes (as rapidly as possible)
- Then infuse 1 liter in 30 minutes at 30ml/minute. Repeat if necessary.

- Monitor every 15 minutes for: blood pressure, pulse and respiratory rate (Shortness of breath or rapid breath)
- Reduce the infusion rate to 3 ml/minute (1 liter in 6-8 hours) when pulse slows to less than 100/minute, systolic increases to 100 mmHg or higher.
- Reduce the infusion rate to 0.5ml/minute if breathing difficulty or rapid breath develops.
- Monitor urine output every hour.
- Record time and amount of fluid given.

***** Give fluids at moderate rate if severe abdominal pain, obstructed labor, ectopic pregnancy, high fever or dehydration: Infuse 1 liter in 2-3 hours.

* Give fluids at slow rate if severe anemia/severe pre-eclampsia/eclampsia: Infuse 1 liter in 6-8 hours.

Note: Calculation of number of drop per minute

Number of drops per minute = Volume of fluids (in ml) / 3T (T: is duration, in hours)

7.3. Episiotomy and Repair

Indications:

Episiotomy should NOT be performed routinely. It should be considered only in the following cases:

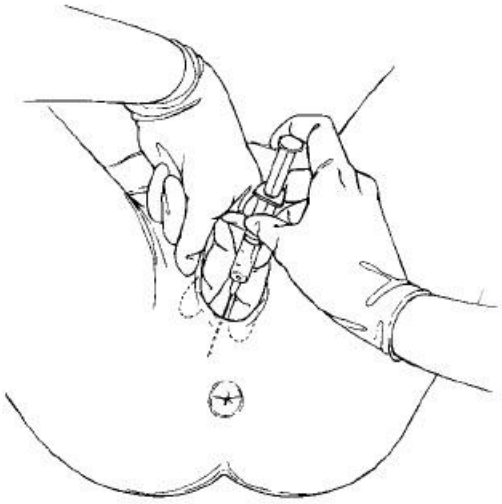
- Complicated vaginal delivery (breech, shoulder dystocia, vacuum extraction).
- Scarring from a previous 3rd or 4th degree tear.
- Fetal distress.

Note: Not all the first pregnant women are targets of episiotomy.

Making the Episiotomy:

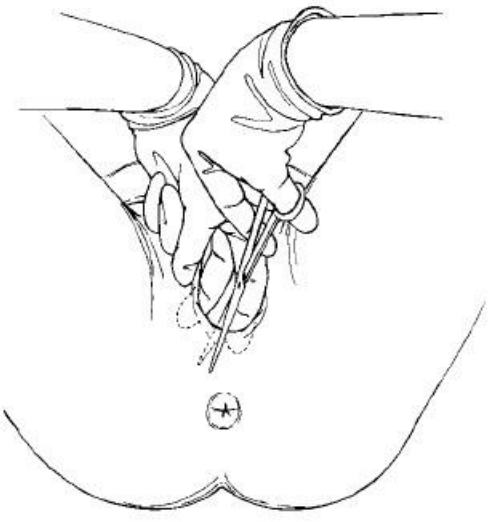
- Adhere to the principles of good care (communication and infection prevention).
- Apply antiseptic solution to the perineal area.
- Use local infiltration with lidocaine. Make sure there are no known allergies to 2% lidocaine or related drugs
- Infiltrate under the vaginal mucosa, under the skin of the perineum, and deeply into the perineal muscle with approximately 10 ml of 2% lidocaine solution.

Note: Aspirate (pull back on plunger of the syringe) to be sure that no blood vessel has been penetrated: If blood enters the syringe with aspiration, remove the needle, recheck position carefully, and try again. Never inject if blood is aspirated. After local anaesthetic injection wait 2 minutes and then pinch the injected site with forceps. If the woman feels the pinch, wait 2 more minutes and then retest. Wait to perform the episiotomy until the perineum is thinned out and 3-4 cm of the baby's head is visible during a contraction.



Infiltration of Perineal Tissue with Local Anaesthetic

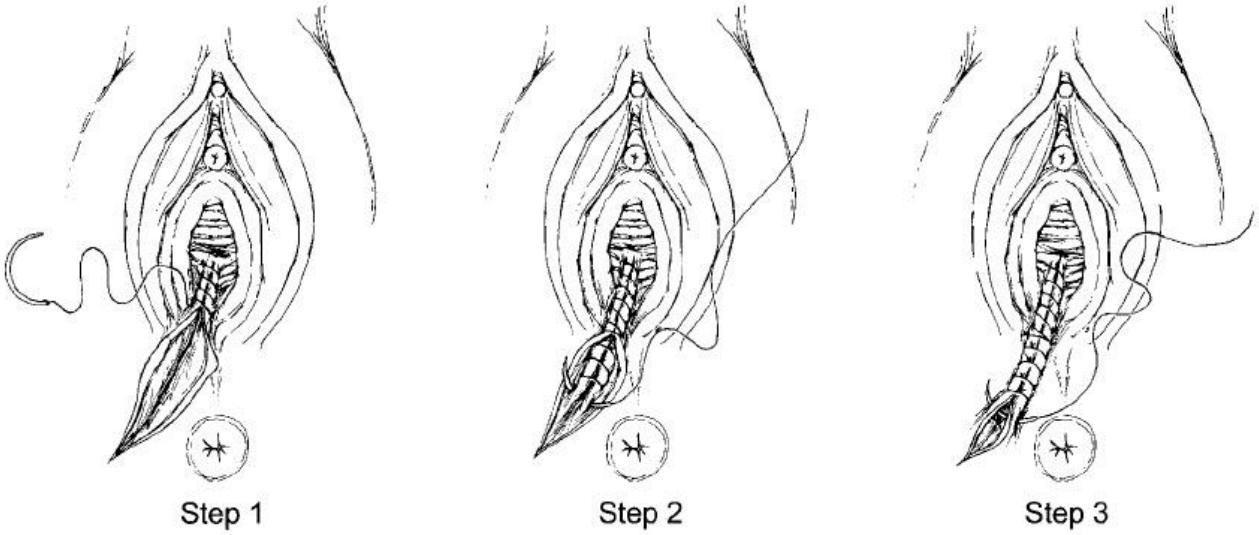
- Wash hands and wear sterile gloves, place two fingers between the baby's head and the perineum.
- Use scissors to cut the perineum 3-4cm in the direction from center to the left or right side in the (mediolateral) direction.
- Control the baby's head and shoulders as they deliver, ensuring that the shoulders have rotated to the midline to prevent an extension of the episiotomy incision.
- Carefully examine for tears of the vagina, perineum and cervix, or extension of the episiotomy incision.



Making Incision while Inserting Two Fingers to Protect the Baby's Head

Repairing the Episiotomy

- Apply antiseptic solution to the area around the episiotomy.
- If the episiotomy is extended through the anal sphincter or rectal mucosa, manage as third or fourth degree tears, respectively.
- Close the vaginal mucosa using continuous polyglycolic 2-0 suture:
  - Start the repair about 1 cm above the apex (top) of the episiotomy. Continue the suture to the level of the vaginal opening.
  - At the opening of the vagina, bring together the cut edges of the vaginal opening.
  - Bring the needle under the vaginal opening and out through the incision and tie.
- Close the perineal muscle using interrupted 2-0 vicryl or catgut suture.
- Close the skin using interrupted 2-0 vicryl or catgut suture.



Repair of Episiotomy

Aftercare

- Clean the perineum with antiseptic solution, use dry gauze and place a sanitary pad over the vulva and perineum.
- Place the woman in comfortable position
- Make sure that she knows how to care for the wound:
  - pour clean water over the perineum after urinating
  - clean with mild soapy water and rinse the perineum after each bowel movement
  - change perineal pads/cloths frequently ensuring the wound is dry.

7-4 Cervical and Vaginal Inspection (for BEmONC facilities)

Indications:

- Continued vaginal bleeding despite a firmly contracted uterus.

Procedure:

- Adhere to the principles of good care (communication and infection prevention).
- Provide emotional support and encouragement.
- Ensure that there is a good source of light.
- Separate the woman's labia with one hand and carefully look for tears or hematomas.
- Press firmly on the back wall of the vagina with the fingers of the other hand and look deep into the vagina. Bleeding from a vaginal or cervical tear may be detected by slow but continuous bleeding or by spurts from an artery.
- Slowly press against the vaginal wall and move your fingers up the side wall of the vagina, one side at a time. Repeat on the other side.
- Next, have an assistant press gently and firmly down on the woman's uterus. This will move the cervix lower into the vagina so that you may examine it carefully. Press firmly on the back wall of the vagina with one hand to visualize the entire circumference of the cervix, moving in a systematic way around the cervix.
- If you cannot see the entire cervix, or if you see bleeding or tears on the cervix, take a sponge forceps (ring forceps) and clamp the entire rounded part of the forceps onto the anterior lip of the cervix. Pull on the forceps gently toward you.
- Look carefully at all sides of the cervix. Tears occur most frequently on the sides of the cervix at the 3 or 9 o'clock position (mid-right and mid-left).
- Assess and repair tears if necessary (see below); a tear that bleeds persistently must be repaired.

7-5 Repair of Vaginal and Perineal Tears

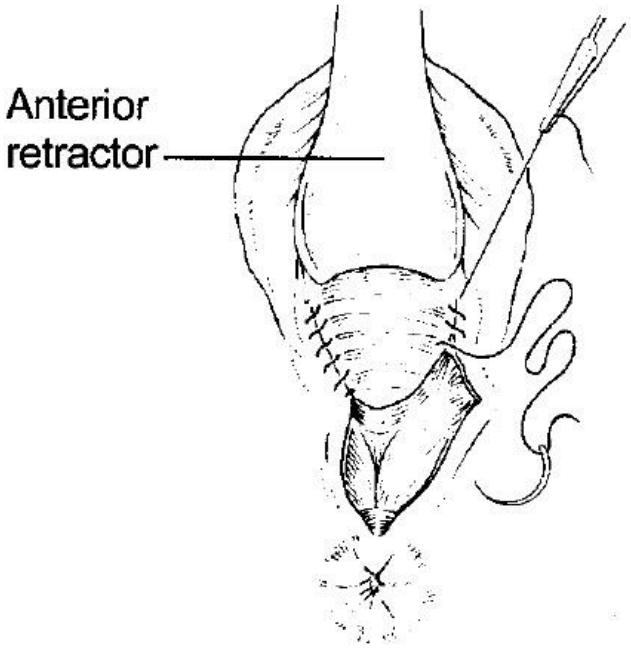
Indications:

- First degree tears involve the vaginal mucosa and connective tissue.
- Second degree tears involve the vaginal mucosa, connective tissue and underlying muscle.

Procedure:

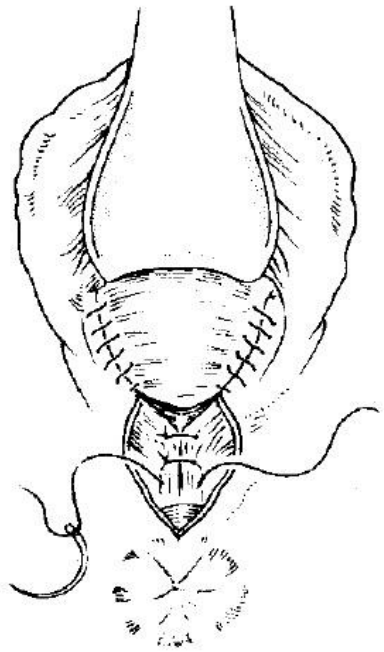
Repair of First and Second Degree Tears:

- Adhere to the principles of good care (communication and infection prevention).
- Provide emotional support and encouragement.
- Ask an assistant to check that the uterus is firmly contracted.
- Carefully examine the vagina, perineum and cervix.
- Apply antiseptic solution to the area around the tear.
- Make sure there are no known allergies to lidocaine or other anaesthetic
- Infiltrate under the vaginal mucosa, under the skin of the perineum, and deeply into the perineal muscle with approximately 10 ml of 2% lidocaine solution.
- Aspirate (pull back on plunger of the syringe) to be sure that no blood vessel has been penetrated.
- If blood enters the syringe with aspiration, remove the needle, recheck position carefully, and try again. Never inject if blood is aspirated.
- After anaesthetic injection, wait 2 minutes and then pinch the injected site with forceps. If the woman feels the pinch, wait 2 more minutes and then retest.
- Repair the vaginal mucosa using continuous 2-0 vicryl or catgut suture.
- Start the repair 1 cm above the apex (top) of the vaginal tear. Continue the suture to the level of the vaginal opening (introitus).
- At the opening of the vagina (introitus), bring together the cut edges of the vaginal tear.
- Bring the needle into the introitus and out through the perineal tear and tie.



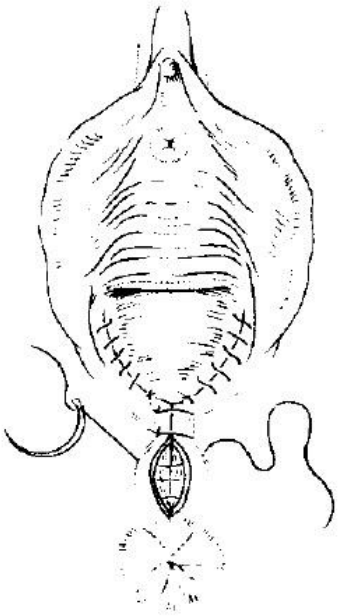
Repairing the vaginal mucosa

- Repair the perineal muscle using interrupted 2-0 vicryl or catgut suture. If the tear is deep, place a second layer of the same stitch to close the gap.



Repairing the perineal muscles

- Repair the skin using interrupted 2-0 vicryl or catgut sutures starting at the vaginal opening.
- If the tear was deep, perform a rectal examination. Make sure there are no stitches in the rectum.



Repairing the skin

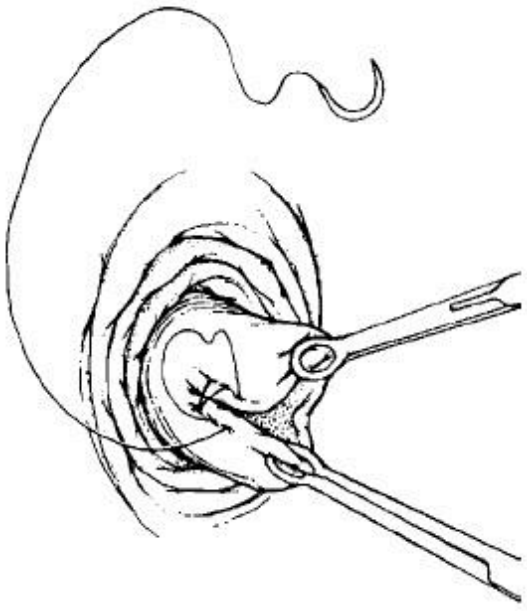
7-6 Repair of Cervical Tears (for BEmONC facilities)

Indications:

- It is necessary to repair a tear in the cervix if it is large and bleeds persistently.

Procedure:

- Adhere to the principles of good care (communication and infection prevention).
- Provide emotional support and encouragement.
- For tears that are high and extensive, start an IV infusion.
- Ask an assistant to massage the uterus and provide fundal pressure.
- Apply antiseptic solution to the vagina and cervix.
- Gently grasp the cervix with sponge forceps (ring forceps).
- Apply the forceps to both sides of the tear and gently pull in various directions to see the entire cervix. There may be several tears.
- Close the cervical tear with continuous 0 chromic catgut (or vicryl) suture starting at the apex (upper edge of tear), which is often the source of bleeding.
- If a long section of the rim of the cervix is tattered, under-run it with continuous 0 chromic catgut (or vicryl) suture. If the apex is difficult to reach and ligate, refer the woman.



Repair of a Cervical Tear

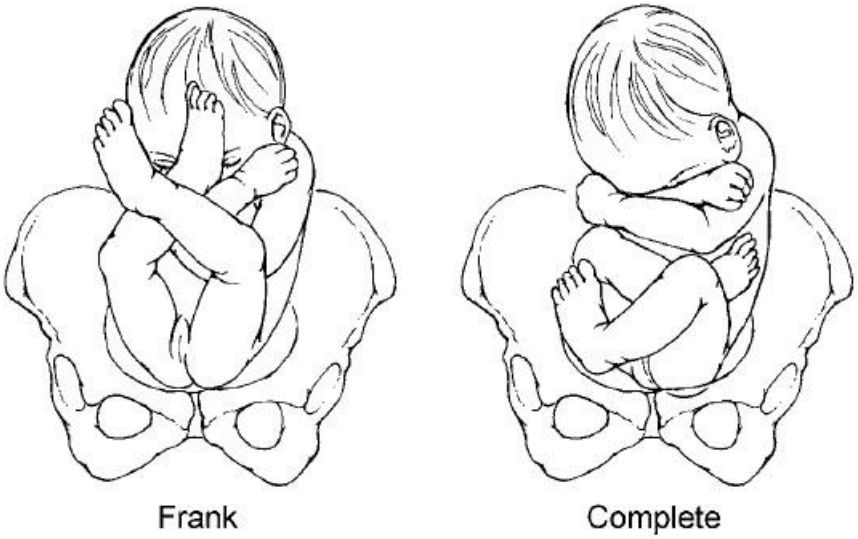
Aftercare

- Wash the perineum with antiseptic solution, pat dry, and place a sanitary pad over the vulva and perineum.
- Place the woman in a comfortable position
- Monitor vital signs.
- Monitor vaginal bleeding.

7-7 Breech Delivery (for BEmONC facilities)

Indications:

This procedure should only be performed in the case of frank or complete breech presentation, when the cervix is fully dilated and there is no evidence of cephalopelvic disproportion and the woman experienced in cephalic birth.



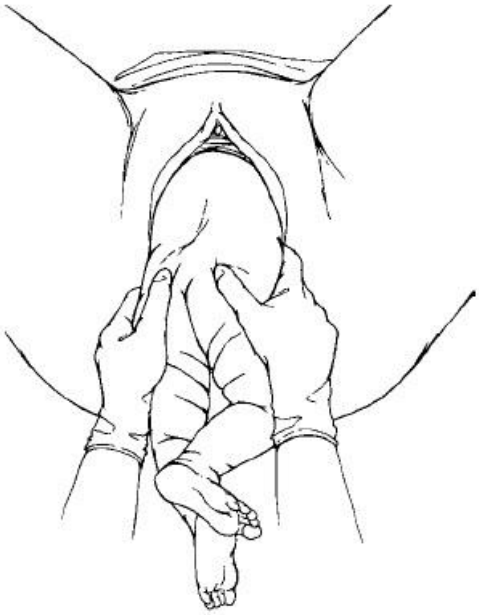
Breech Presentation: Frank and Complete

Procedure:

- Adhere to the principles of good care (communication and infection prevention).
- Plot progress of labor on a partograph as would be done for a cephalic presentation.
- Start an IV infusion.
- Provide emotional support and encouragement.
- Perform all maneuvers gently and without undue force.

Delivery of the Buttocks and Legs:

- Once the buttocks have entered the vagina and the cervix is fully dilated, inform the woman that she can bear down with contractions.
- If the perineum is tight, perform an episiotomy.
- Allow the buttocks to deliver until the lower back, back, and then the shoulder blades are seen.
- Gently hold the buttocks in one hand, but do not pull.
- If the legs do not deliver spontaneously, deliver one leg at a time:
  - push behind the knee to bend the leg
  - grasp the ankle and deliver the foot and leg
  - repeat the above two steps for the other leg
- DO NOT pull the baby while the legs are being delivered
- Hold the baby by the hips (see diagram below). DO NOT hold the baby by the flanks or abdomen, as this may cause kidney or liver damage.



Holding the Baby at the Hips

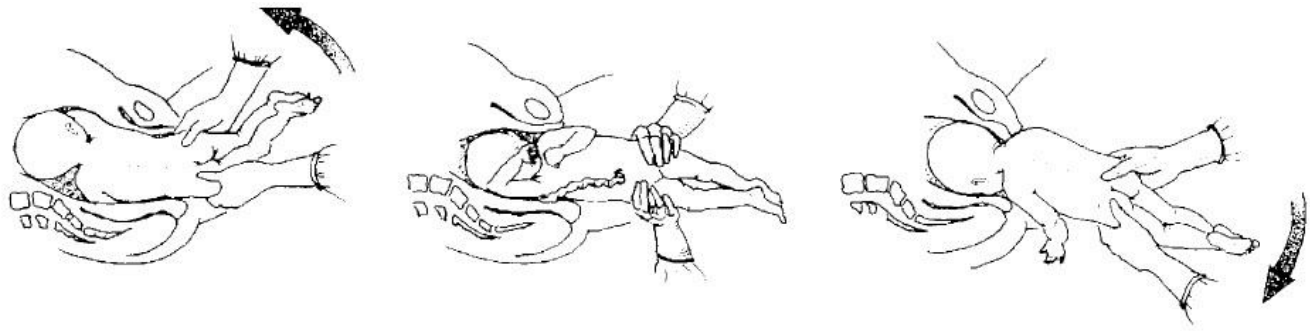
Delivery of the Arms:

If the arms are felt on the chest:

- Allow the arms to disengage one by one. Only assist if necessary.
- After spontaneous delivery of the first arm, lift the buttocks toward the woman's abdomen to allow the second arm to deliver spontaneously. If the arm does not deliver spontaneously, place one or two fingers in the elbow and bend the arm, bringing the hand down over the baby's face.

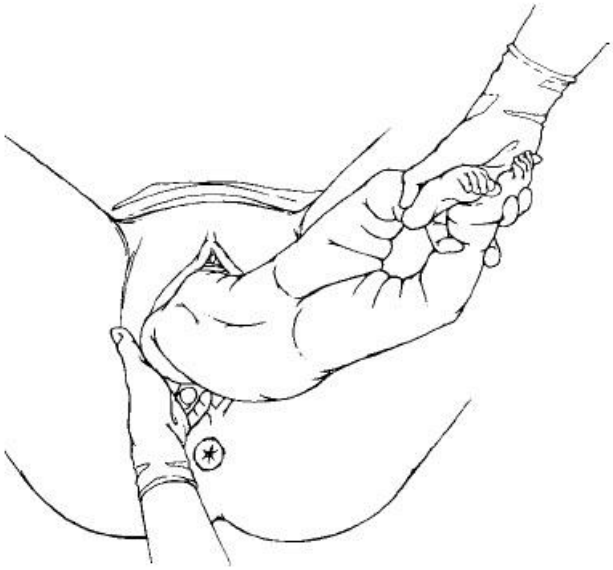
If the arms are stretched above the head or folded around the neck, use Lovset's maneuver as follows:

- Hold the baby by the hips and turn half a circle, keeping the back uppermost while applying downward traction to allow the arm that was posterior to become anterior and be delivered under the pubic arch.
- Assist delivery of the arm by placing one or two fingers on the upper part of the arm. Draw the arm of the baby down over the chest as the elbow is flexed, allowing the hand to sweep over the face.
- To deliver the second arm, turn the baby back, back half a circle, keeping the back uppermost while applying downward traction, and deliver the second arm in the same way under the pubic arch.



Lovset's Maneuver

- If the baby's body cannot be turned to deliver the anterior arm first, deliver the shoulder that is posterior as follows:
  - Hold and lift the baby up by the ankles.
  - Move the baby's chest toward the woman's inner leg. The shoulder that is posterior should deliver.
  - Deliver the arm and hand with another hand.
  - Lay the baby back down by holding the ankles. The shoulder that is anterior should now deliver.
  - Deliver the arm and hand with another hand.



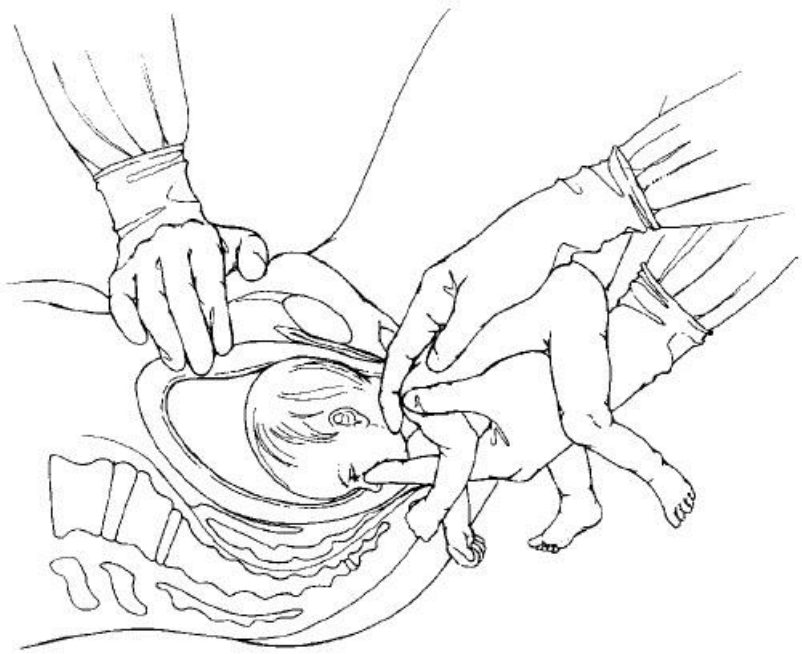
Delivery of the Shoulder that is posterior

Delivery of the Head:

Deliver the head by the Mauriceau Smellie Veit maneuver as follows:

- Lay the baby face down with the length of the body over your hand and arm of the midwife.
- Place the thumb and third finger of this hand on the baby's cheekbones and place the index finger in the baby's mouth to pull the jaw down and flex the head.
- Use the other hand to grasp the baby's shoulders.
- With two fingers of this hand, gently flex the baby's head toward the chest while pulling on the jaw to bring the baby's head down until the sideburn visible.
- Pull gently to deliver the head.
- Lift the baby with your arms until mouth and nose are delivered

Note: Ask an assistant to push above the woman's pubic bone as the head delivers; this helps to keep the baby's head flexed.



Mauriceau Smellie Veit Maneuver

Aftercare:

- Provide immediate newborn care.
- Clamp and cut the cord when placenta stop pulsating.
- Give oxytocin 10 units IM within first1 minute of delivery and perform active management of the 3rd stage of labor.
- Examine the woman carefully for tears of the vagina and cervix or repair episiotomy.

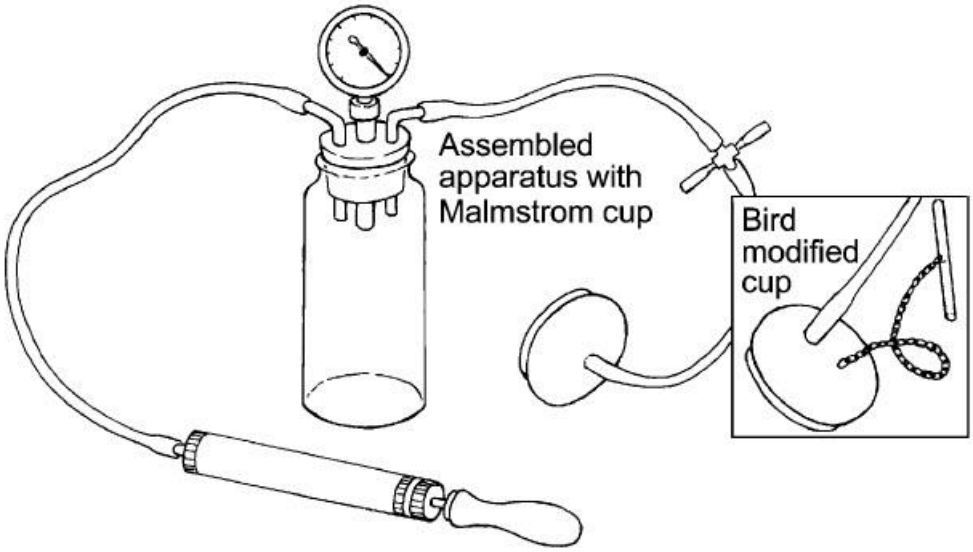
7-8 Vacuum Extraction (for BEmONC facilities)

Vacuum extraction is performed in cases of protracted labor and/or fetal distress, but only when the following conditions are met:

- Vertex presentation
- Term pregnancy
- Cervix fully dilated
- Fetal head at least at +1 or +2 station or no more than 1/5 palpable above symphysis pubis or visible at vagina which is 2-3 cm opened when the mother pushes
- Membranes ruptured
- No cephalopelvic disproportion
- Provider is trained, and familiar with equipment

Procedure:

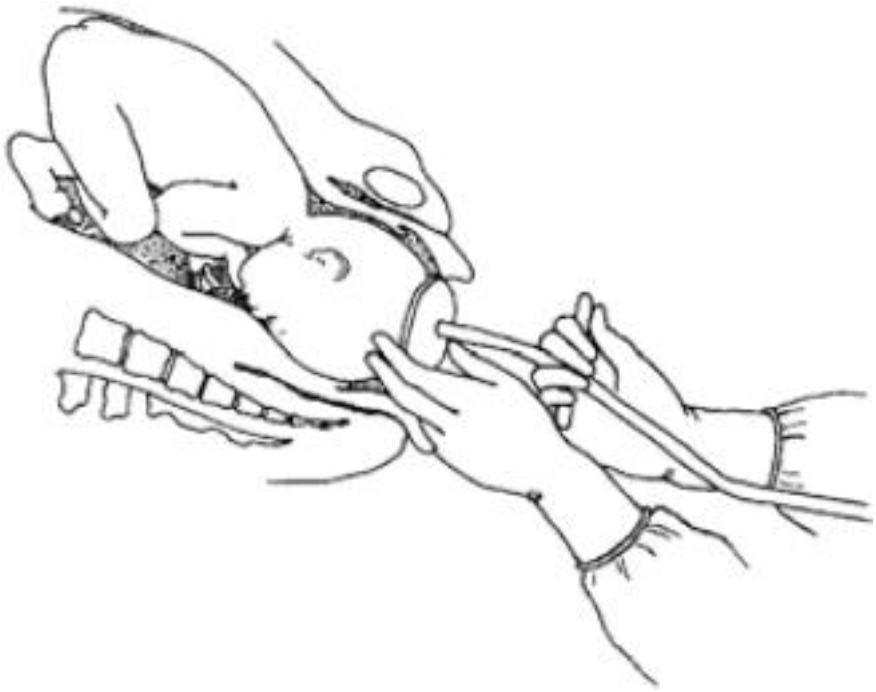
- Adhere to the principles of good care (communication and infection prevention)
- Check all connections and test the vacuum on a gloved hand
- Provide emotional support and encouragement



Vacuum Extractor

- Wash hands and wear sterile gloves, assess the position of the fetal head by feeling the sagittal suture line
- Identify the posterior fontanel
- Apply the cup under the fetal head, with the center of the cup over the flexion point, 1 cm anterior to the posterior fontanel. This placement will promote flexion, descent, and autorotation with traction.
- An episiotomy is not usually required for proper placement of the cup; however, an episiotomy may be required if the perineum threatens to tear as the head distends the perineum. Later timing of the episiotomy will avoid unnecessary blood loss. Check the application and ensure that there is no maternal soft tissue (cervix or vagina) within the rim. Keep the index finger on the fetal head and your thumb on the cup.
- With the pump, create a vacuum of 0.2kg/cm^2 or 20 Kpa negative pressure and check the application.

- Increase the vacuum to 0.8-0.9kg/cm^2 or 80-90 Kpa and check the application. After the negative pressure reaches the maximum level, pull downwards in the line of the pelvic axis and perpendicular to the cup).



Applying Traction with the Malmstrom Cup

- If the fetal head is tilted to one side or not flexed well, traction should be directed in a line that will try to correct the tilt of deflexion of the head (i.e. to one side or the other, not necessarily in the midline).
- With each contraction, apply traction in a line perpendicular to the plane of the cup rim. Place a finger on the scalp next to the cup during traction to assess potential slippage and descent of the vertex.
- Between contractions check:
  - fetal heart rate
  - application of the cup

Important points:

- **NEVER** use the cup to actively rotate the baby's head. This will occur with traction.
- The first pulls help to find the proper direction for pulling.
- **DO NOT** continue to pull between contractions and expulsive efforts.

- With progress, and in the absence of fetal distress, continue the "guiding" pulls for a maximum of 30 minutes.
- If any of the following occur, discontinue vacuum extraction:
  - The head does not advance with each pull or the fetus is undelivered after 30 minutes
  - The cup slips off the head twice at the proper direction of pull with a maximum negative pressure.

Aftercare:

- Provide immediate newborn care
- Clamp and cut the cord when it stops pulsating.
- Check the fetal head for site of the chignon (to check that correct cup application was made (self-audit) and for the presence of a sub-galeal haemorrhage (if a significant sub-galeal hemorrhage is present, the baby will need IV NS resuscitation; otherwise, the baby will go into shock and may die in spite of being in good condition at birth),
- Give oxytocin 10 units IM within 1 minute of delivery and perform active management of 3rd stage of labor.
- Examine the woman carefully for tears of the vagina and cervix or repair episiotomy.

7-9 Manual Removal of Placenta (for BEmONC facilities)

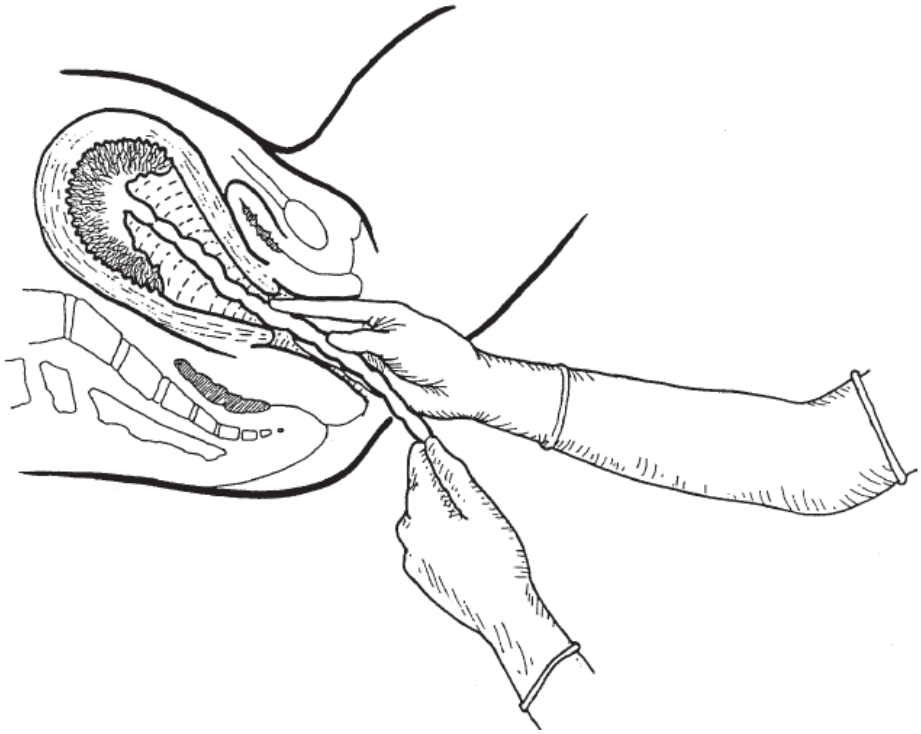
Indication:

- This procedure should only be performed when the placenta is not delivered after 3rd stage management.

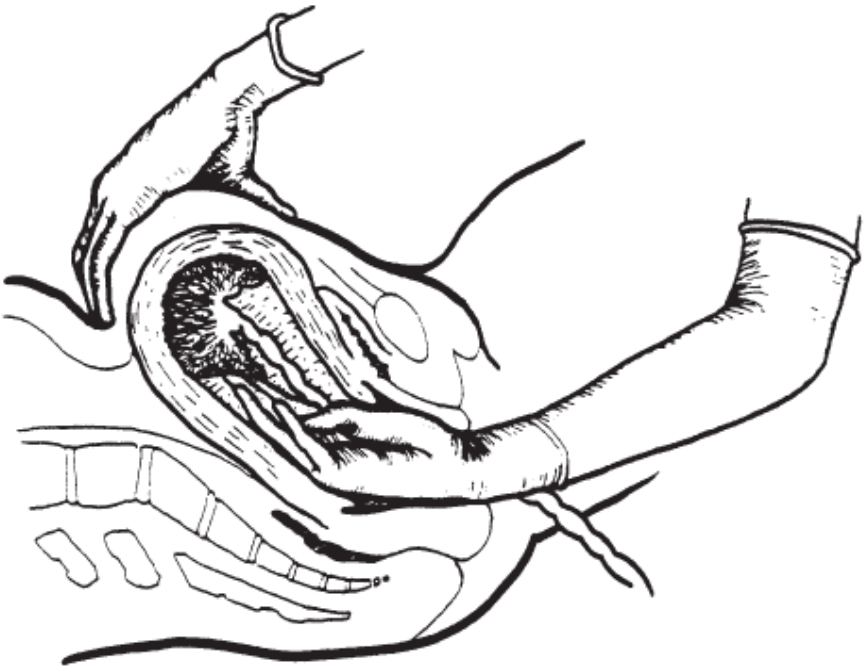
Procedure:

- Adhere to the principles of good care (communication and infection prevention).
- Provide emotional support and encouragement.
- If the mother is bleeding heavily, it may be necessary to perform the removal in the delivery room (if possible).
- If there is no bleeding, there is no urgency, and the procedure should be done in the operating theater (at a referral hospital) since it may be a case of placenta accreta.
- Start an IV infusion and give diazepam (10mg) slowly IV, and atropine ¼ mg IM 15 min before the procedure. If possible, use Ketalar medicine and perform the procedure in the operating theater (at a referral hospital).
- Ensure the bladder is empty; catheterize if necessary.
- Give a single dose of prophylactic antibiotics: Ampicillin 2 g IV PLUS Metronidazole 500 mg IV ;

- Wash hands and wear high-level disinfected or sterile gloves (use elbow length gloves). Hold the umbilical cord with a clamp and pull the cord gently until it is parallel to the floor.
- Insert the other hand into the vagina and up into the uterus.

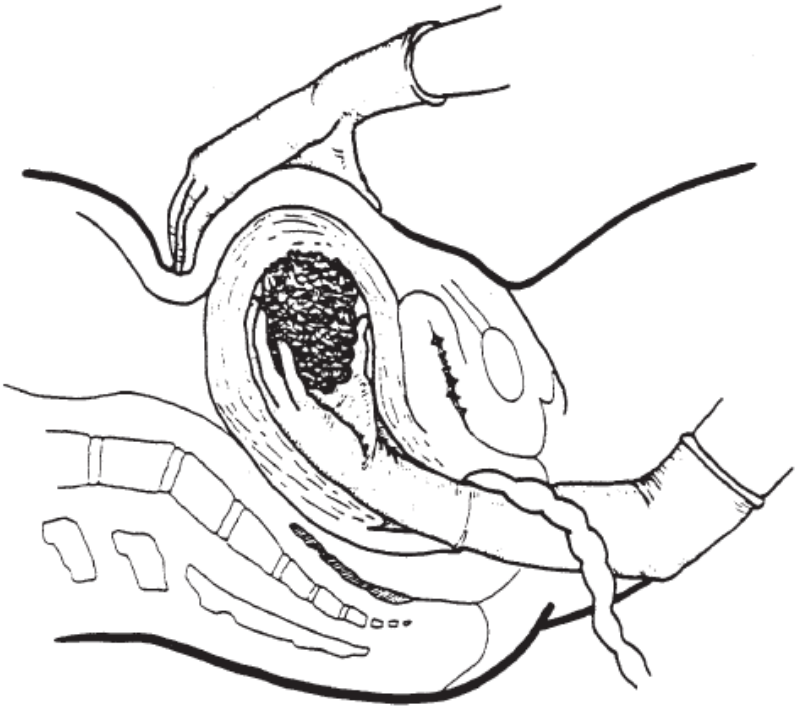


Introducing One Hand into the Vagina along the Cord



Supporting the Uterus while Detaching the Placenta

- Let go of the cord and move the hand up over the abdomen in order to support the uterus and to provide counter traction during removal to prevent uterine inversion. If uterine inversion occurs, reposition the uterus.
- Move the fingers of the hand in the uterus laterally until the edge of the placenta is located. (If the cord had been detached previously, insert a hand into the uterine cavity and explore the entire cavity until a line of cleavage is identified between the placenta and the uterine wall.)
- Detach the placenta from the implantation site by keeping the fingers tightly together and using the edge of the hand to gradually make a space between the placenta and the uterine wall.
- Proceed slowly around the placental bed until the whole placenta is detached from the uterine wall.
- Hold the placenta and slowly withdraw the hand from the uterus, bringing the placenta with it.
- With the other hand, continue to provide counter-traction to the uterus by pushing it in the opposite direction of the hand that is being withdrawn.
- If the placenta does not separate from the uterine surface by gentle lateral movements of the fingertips, suspect placenta accreta that requires subtotal hysterectomy; refer to a referral hospital urgently.



Withdrawing the Hand from the Uterus

- Palpate the inside of the uterine cavity to ensure that all placental tissue has been removed (must be done at once and ensured).
- Give oxytocin 20 units in 1 L IV fluid (normal saline or Ringer's lactate) at 60 drops per minute.
- Ask an assistant to massage the uterus to encourage uterine contraction.
- If there is heavy bleeding, give ergometrine 0.2 mg IM or oxytocin 10 units
- If bleeding continues, refer to a referral hospital urgently
- Examine the uterine surface of the placenta to ensure that it is complete; if any placental lobe or tissue is missing, explore the uterine cavity to remove it. If available, use manual vacuum aspiration (MVA) with cannula 10-12 mm diameter, to ensure that all placental material is evacuated.
- Examine the vagina, perineum and cervix for tears and repair or repair episiotomy.

Aftercare:

- Observe the woman closely until the effect of IV sedation has worn off.
- Monitor vital signs every 15 minutes for the 1st hour, every 30 minutes for the 2nd hour, and every hour from the 3rd to 6th hour until stable.
- Palpate the uterus every 15 minutes for the next 4 hours to ensure that it remains contracted.
- Continue infusion of IV fluids.

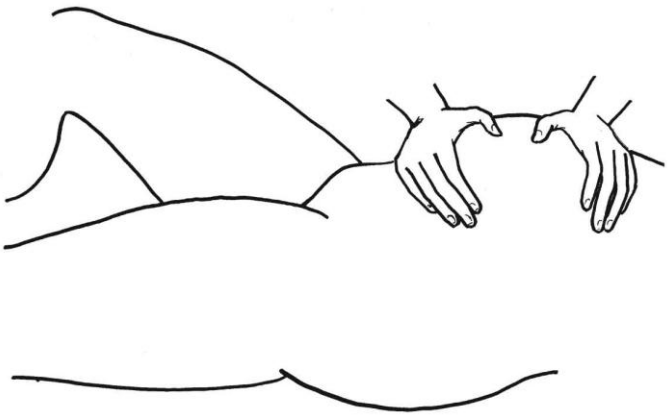
7-10 External Bimanual Compression of the Uterus

Indications:

Continued heavy vaginal bleeding in spite of manual removal of the placenta or during transfer as a result of bleeding

Procedure:

1. Place one hand on the fundus and compress down as far as possible behind the uterus.
2. Place another hand flat on the abdomen between the umbilicus and the symphysis pubis.
3. Press the hands towards each other in order to compress the uterus and thereby the blood vessels at the uterine site.



External Bimanual Compression of Uterus

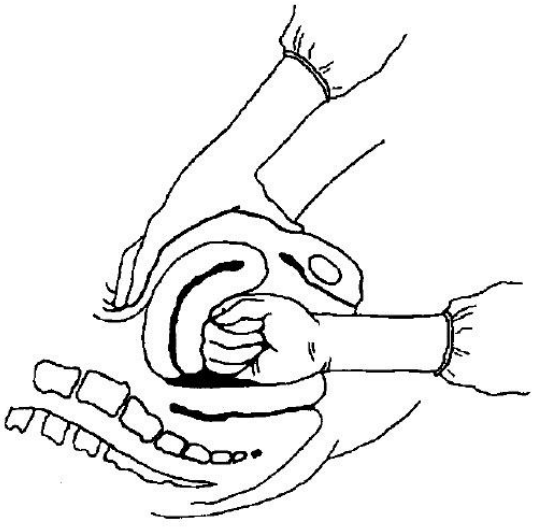
7-11 Internal Compression of the Uterus

Indications:

Continued heavy vaginal bleeding in spite of other interventions (e.g. manual removal of the placenta and external bimanual compression of the uterus)

Procedure:

- Adhere to the principles of good care (communication and infection prevention).
- Provide emotional support and encouragement.
- Wash hands and wear long-sleeved sterile gloves. Insert a hand into the vagina and remove all the clots from the uterus and cervix.
- Place the fist into the anterior fornix and apply pressure against the anterior wall of the uterus.
- With the other hand, press deeply into the abdomen behind the uterus, applying pressure against the posterior wall of the uterus.
- Maintain compression until bleeding is controlled and the uterus contracts.



Internal Bimanual compression of the uterus

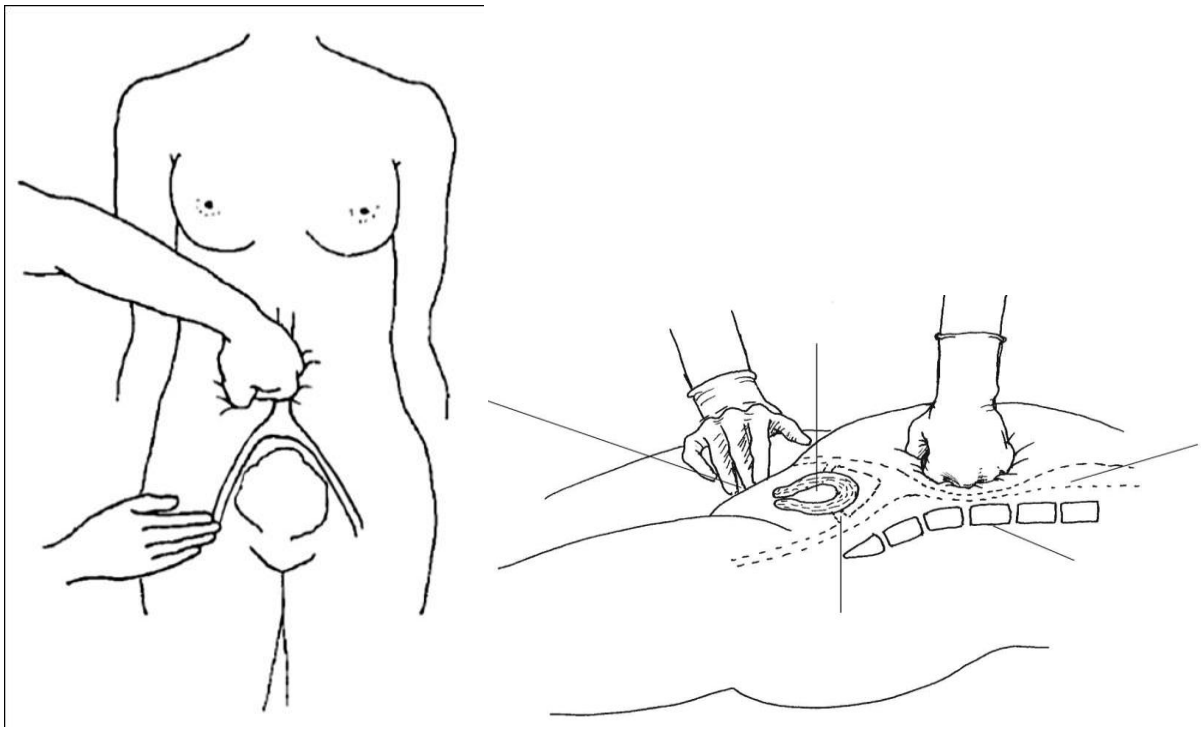
7-12 Aortic Compression

Indication:

- Severe postpartum hemorrhage in spite of other interventions (perform the procedure when referred).

Procedure:

1. Have the woman lie flat on her back.
2. Stand on her side with one hand palpating the femoral pulse (inguinal)
3. With the other hand, place your clenched fist with the thumb covering other fingers over the abdominal aorta just over the fundus (generally on the umbilicus) and lean on the aorta with your body weight.
4. Exert more pressure and move the fist position to the left until the femoral pulse is no longer palpable.
5. Maintain compression until bleeding is controlled.
6. Change hands if needed or instruct an assistant to continue aortic compression while you continue with other measures to stop the bleeding



Aortic Compression

7-13 Use of the Non-pneumatic Anti-Shock Garment (NASG)

Indication:

Postpartum hemorrhage (PPH) continues, in spite of interventions, with any sign(s) of shock. The NASG must be applied immediately and the woman referred to a hospital with an operating theater and blood transfusion capacity (NASG is a needed emergency tool during referral).

Procedure:

Step 1

- The health worker applying aortic compression must stop for a while to help roll the patient to her left side so that the other health worker can place the NASG under the woman's back with its upper edge just below her lowest rib.
- Then the worker who placed the NASG helps roll her onto her right side in order to fully unroll all NASG flaps with the marked NASG spots positioned under her backbone. Then, roll her flat on her back and re-apply aortic compression.
- Ensure correct application of the NASG starting from above the two ankles
- Close segments #1 tightly around both ankles and ensure it is tight enough by sliding a finger underneath.

Step 2

- Close segments #2 tightly around each calf. Ensure it is tight enough by sliding your finger underneath.

  Try to leave her knees free so that she can urinate and it is easy to perform any procedures as she may wear it for an extended period.

Step 3

- Close segments #3 tightly around each thigh. Ensure it is tight enough by sliding your finger underneath. Leave her knees free.

Step 4

- Close segment #4 around the pelvis by aligning the lower edge just above the pubis.

Step 5

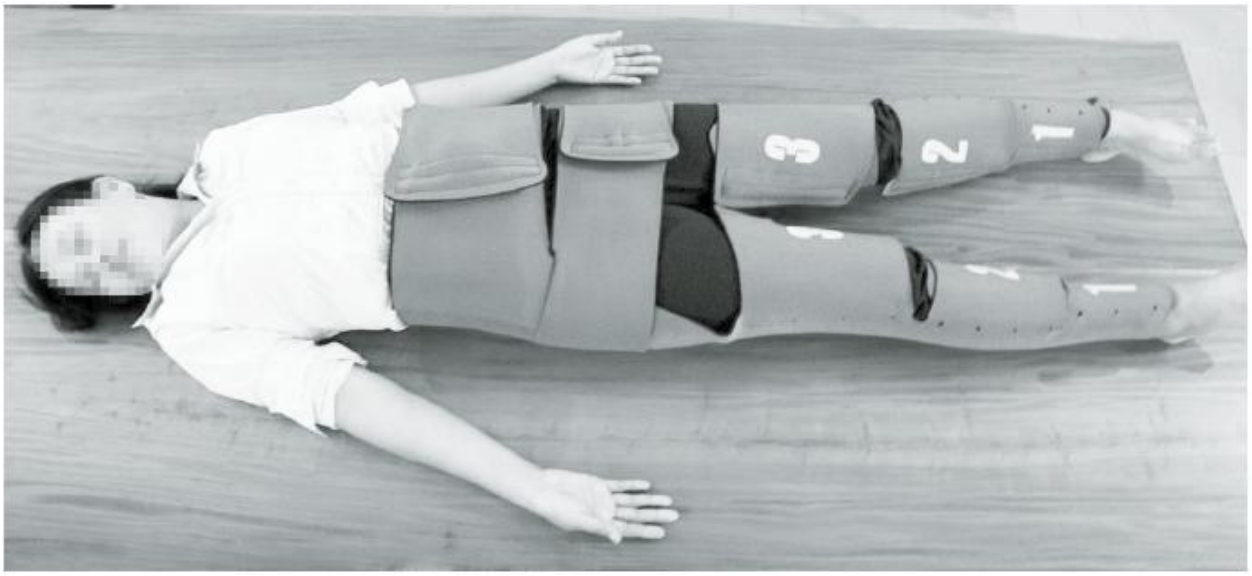
- Close segment #5 with the pressure ball over the abdominal aorta, which generally is at the woman's umbilicus.

  Close segment #6 and refer the woman immediately to a hospital with an operating theater and capacity for blood transfusion, while ensuring that the woman can breathe normally.

CAUTION: DO NOT use the NASG on a woman with > 24 week gestation and a live fetus.

Note:

- Two people can close segments #1, 2 and 3 simultaneously.
- Only one person closes segments #4, 5 and 6.
- Ensure that the woman can breathe normally when closing segment #6.



For a shorter woman:

For a shorter woman, adjustment can be made easily to fit the woman by first folding segment #1 back inside segment #2. Then close segment #2 at the ankles and continue with the segments #3, 4, 5, and 6 as above.

Note:

- This is a temporary procedure that can buy time to execute another intervention (such as surgery and blood transfusion).
- The NASG can be removed only at a referral hospital with an operating theater and capacity for blood transfusion.

7-14 Manual Vacuum Aspiration

Indications:

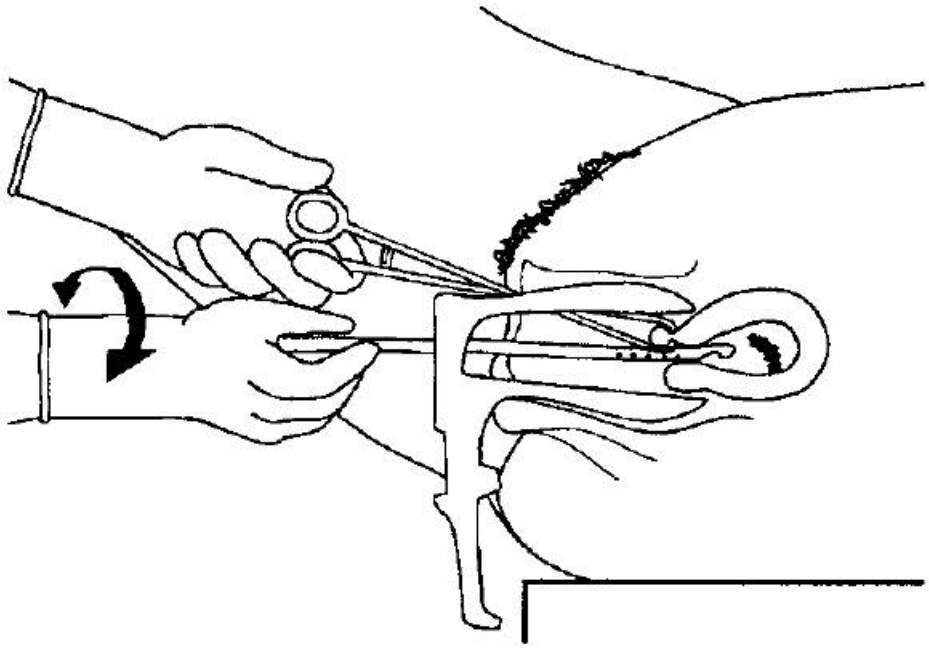
- Abortion up to 12 weeks of pregnancy
- Post abortion care for complete uterine evacuation
- Molar pregnancy (BEmONC facility)
- Postpartum hemorrhage due to retained placental fragments

Procedure:

- Adhere to the principles of good care (communication and infection prevention)
- Provide emotional support and encouragement
- Provide pain management for the procedure (see Safe Abortion Care guideline)
- Prepare the MVA syringe:
  - assemble the syringe
  - close the pinch valve
  - pull back on the plunger until the plunger arms lock

Note: for molar pregnancy, when the uterine contents are likely to be copious, have three syringes ready for use or refer to a referral hospital.

- Even if bleeding is slight (in the case of inevitable or incomplete abortion), give oxytocin 10 IU or ergometrine 0.2 mg IM before the procedure to make the myometrium firmer and reduce the risk of perforation.
- Perform a bimanual pelvic examination to assess the size and position of the uterus and the condition of the fornices.
- Apply antiseptic solution to the vagina and cervix (especially the os).
- Check the cervix for tears or protruding products of conception. If products of conception are present in the vagina or cervix, remove them using sponge forceps (ring forceps).
- Gently grasp the anterior lip of the cervix with a tenaculum.
- Dilatation is not always necessary for induced abortion:
  - gently introduce the widest gauge suction cannula
  - use gradual dilators only if the cannula will not pass; begin with the smallest dilator and end with the largest dilator that ensures adequate dilatation (usually 10-12 mm)
  - take care not to tear the cervix or to create a false opening
- While gently applying traction to the cervix, insert the cannula through the cervix into the uterine cavity just past the internal os (rotating the cannula while gently applying pressure often helps the tip of the cannula pass through the cervical os).

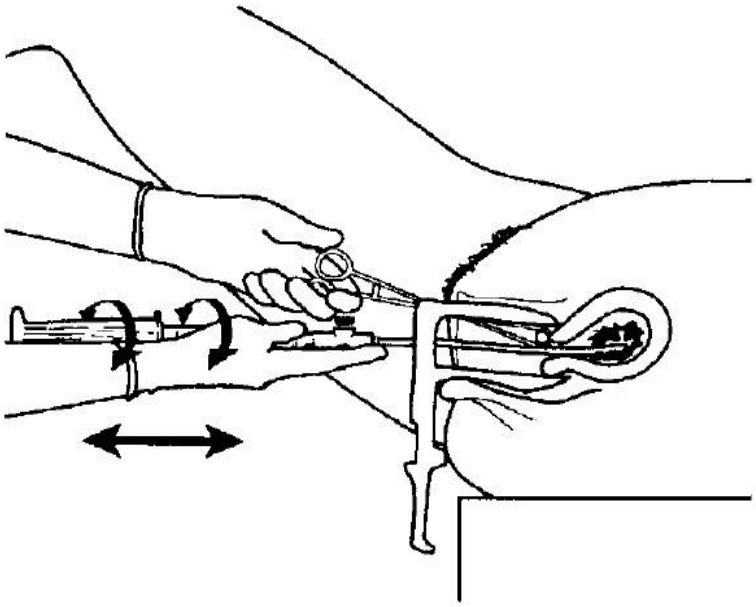


Inserting the cannula

- Slowly push the cannula into the uterine cavity until it touches the fundus, but not more than 10 cm. Measure the depth of the uterus by the dots on the cannula and then withdraw the cannula slightly.
- Attach the prepared MVA syringe to the cannula by holding the tenaculum and the end of the cannula in one hand and the syringe in the other.
- Release the pinch valve(s) on the syringe to transfer the vacuum through the cannula to the uterine cavity.
- Evacuate remaining contents by gently rotating the syringe from side to side on the 180-degree angle from right to left and then moving the cannula gently and slowly back and forth within the uterine cavity.

Note:

- To avoid losing the vacuum, do not withdraw the cannula opening past the cervical os. If the vacuum is lost or if the syringe is more than half full, detach syringe from cannula and empty it then re-establish the vacuum.
- Avoid grasping the syringe by the plunger arms while the vacuum is established and the cannula is in the uterus. If the plunger arms become unlocked, the plunger may accidentally slip back into the syringe, pushing material back into the uterus.



Evacuating the contents of the uterus

- Check for signs of completion:
  - red or pink foam but no more tissue is seen in the cannula
  - a grating sensation is felt as the cannula passes over the surface of the evacuated uterus
  - the uterus contracts around (grips) the cannula
- Withdraw the cannula. Detach the syringe and place the cannula in decontamination solution.
- With the valve open, empty the contents of the MVA syringe into a strainer by pushing on the plunger.

Note: place the empty syringe on a high-level disinfected tray or container until you are certain the procedure is complete before soaking the syringe in the antiseptic solution.

- Perform a bimanual examination to check the size and firmness of the uterus.
- Quickly inspect the tissue removed from the uterus:
  - for quantity and presence of products of conception
  - to assure complete evacuation
  - to check for molar pregnancy (rare)
- If necessary, strain and rinse the tissue to remove excess blood clots, then place in a container of clean water, saline or weak acetic acid (vinegar) to examine. Tissue specimens may also be sent to the pathology laboratory, if indicated.

Aftercare

- Give paracetamol 500 mg by mouth as needed.
- Encourage the woman to eat, drink and walk about as she wishes.
- Offer family planning counseling and methods.
- If there are no complications, discharge the woman in 1-2 hours.
- Advise the woman to watch for danger signs and symptoms requiring immediate attention:
  - prolonged cramping (more than a few days)
  - prolonged bleeding (more than 2 weeks)
  - bleeding more than normal menstrual bleeding
  - Severe abdominal or increased pain
  - fever, chills or lethargy
  - fatigue

Chapter 8:
Practical Procedures for the Newborn

8.1. Expressing Breast Milk

- Teach the mother how to express breast milk herself. The mother should:
  - Obtain a clean (washed, boiled or rinsed with boiling water, and air-dried) cup or container to collect and store the milk.
  - Wash her hands thoroughly.
  - Sit or stand comfortably and hold the container underneath her breast.
  - Express the milk (see picture below):
    - Support the breast with four fingers and place the thumb above the areola.
    - Squeeze the areola between the thumb and fingers while pressing backwards against the chest.
    - Express breast for at least four minutes, alternating breasts until the flow of milk stops (both breasts are completely expressed).

Expressing breast milk

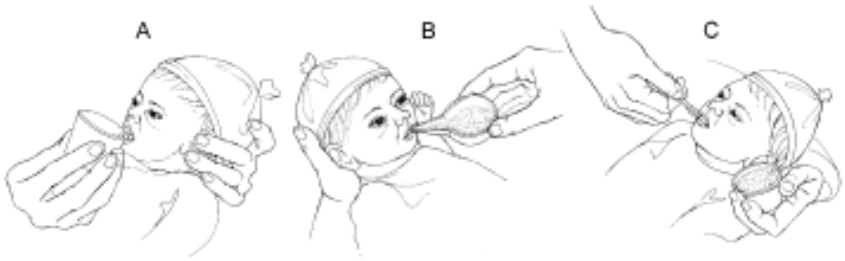
- If the milk does not flow well:
  - Ensure that the mother is using correct technique.
  - Have the mother apply warm compresses to her breasts.
  - Have someone massage the mother's neck and back.

- If the expressed breast milk is not going to be used immediately, label the container and refrigerate the milk and use within 24 hours.
  - If a refrigerator is not available, keep the milk covered at room temperature for up to 8 hours.
  - Ensure that the milk is at room temperature before giving it to the baby:
  - Warm refrigerated milk in a warm water bath (approximately 40°C).
  - Use the re-warmed milk promptly.

8.2 Cup Feeding

Ensure that the mother can properly express breast milk.

- Feed the baby using a cup, spoon and other suitable device (e.g. paladai).
- Use clean (washed, boiled or rinsed with boiled water, and air-dried) utensils and feeding devices for each feed.
- Feed the baby immediately after the milk is expressed, if possible. If the baby does not consume all of the milk, store the remaining milk according to the guidelines for expressed breast milk.



Feeding by cup (A), paladai (B), or cup and spoon (C)

- Have the mother feed the baby unless she is not available. The mother should:
  - wash her hands properly
  - measure the volume of breast milk in the cup, ensuring that it meets the required volume according to the baby's age and weight;
  - hold the baby sitting semi-upright on her lap;
  - rest the cup (or paladai or spoon) lightly on the baby's lower lip and touch the outer part of the baby's upper lip with the edge of the cup;
  - tip the cup (or paladai or spoon) so the milk just reaches the baby's lips;
  - allow the baby take the milk; do not pour the milk into the baby's mouth;
  - end the feeding when the baby closes her/his mouth and is no longer interested in feeding.
- If the baby does not take necessary volume of milk, have the mother encourage the baby to feed for a longer time or feed more often.

- Encourage the mother to begin breastfeeding as soon as the baby shows signs of readiness to suckle.
- If the baby is not feeding well using a feeding device or if the mother prefers not to use it, have the mother attempt to hand-express breast milk directly into the baby's mouth.

8.3 Hand-expressing breast milk into baby's mouth

- Ensure that the mother can properly express breast milk.
- Have the mother:
  - wash her hands properly
  - hold the baby with the baby's mouth close to her nipple;
  - express the breast until some drops of milk appear on the nipple;
  - let the baby smell the nipple and attempt to suck, and allow some breast milk to drip into the baby's mouth;
  - express more drops of breast milk after the baby swallows;
  - end the feeding when the baby closes her/his mouth and is no longer interested in feeding.
- Ask the mother to repeat this process every one to two hours if the baby weighs less than 1,500g or every two to three hours if the baby weighs 1,500g or more.

8.4 Measuring Temperature

Supplies

- Thermometer that measures temperatures as low as 35°C (axillary temperature)
- Thermometer that measures temperatures as low as 25°C (rectal temperature); if not available, use a thermometer that measures temperatures as low as 35°C (regular thermometer)
- Disinfectant solution
- Water-based lubricant

8.4.1 Measuring Axillary Temperature

- Gather necessary supplies
- Wash hands properly
- Ensure that the thermometer is clean
- Keep the baby as warm as possible during the procedure (preferably in direct skin-to-skin contact with mother). If not possible, then warmly wrapped on a warm surface.
- Place the baby on her/his side
- Shake the thermometer until it is below 35°C.
- Place the tip of the thermometer high in the apex of the baby's axilla and hold the arm continuously against the body for at least three minutes.
- Remove the thermometer and read the temperature. If the temperature is too low to be recorded by this thermometer (less than 35°C), measure rectal temperature.
- Wipe the thermometer with a disinfectant solution after use. Wash hands properly.

Measuring axillary temperature

8.4.2 Measuring Rectal Temperature

Only measure the rectal temperature if the temperature is too low to be recorded with a regular thermometer in the axilla.

- Gather necessary supplies.
- Wash hands properly.
- Use a thermometer that measures temperature as below as 25°C.
- Ensure that the thermometer is clean.
- Keep the baby as warm as possible during the procedure (e.g. warmly wrapped or on a warm surface).
- Place the baby on her/his back or side.
- Shake the thermometer until it is below 25°C.
- Lubricate the thermometer using a water-based lubricant.
- Gently grasp the baby's ankle and hold the legs in knee-chest position.
- Place the thermometer in the rectum to a maximum depth of 2 cm and hold it in place for at least three minutes.

Measuring rectal temperature

Do not leave the baby alone with the thermometer in the rectum; any movement of the baby may result in the thermometer perforating the rectum.

- Remove the thermometer and read the temperature.
- Wipe the thermometer with a disinfectant solution after use.
- Wash hands properly.

8.5 Giving Injections

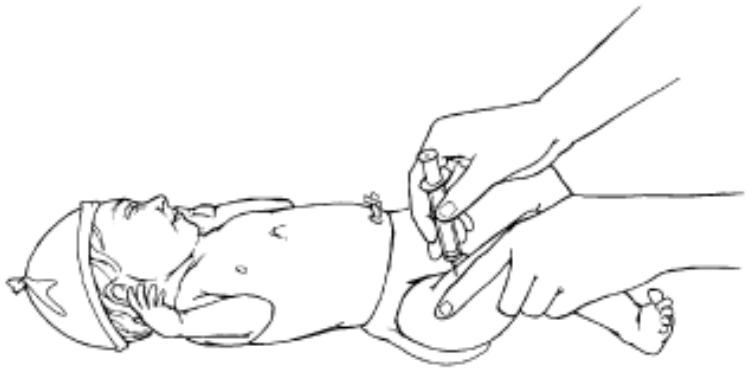
8.5.1 Intramuscular (IM) Injections (for vaccine or vitamin K1)

General principles

- The site for IM injection includes the:
  - Quadriceps muscle group of the upper, outer thigh, preferred due to the low risk of giving the injection intravenously, hitting the femur with the needle, or injuring the sciatic nerve;
- The following sites should be avoided:
  - Gluteus muscle group in the buttock and subcutaneous tissue due to the danger of injury to the sciatic nerve and major blood vessels in the region.
  - Deltoid muscle group. This site can be used for giving immunizations but should not be used for other injections.
- Minimize pain with injection by:
  - Using a sharp needle of the smallest diameter that will allow fluid to flow freely (e.g. 22- to 24-gauge);
  - Ensure that no material for injection is in the needle at the time of insertion into

the skin;
  - Using minimal volume for injection (e.g. 2 ml or less at any single injection site);
  - Avoiding rapid injection of material;
  - Using alternative injection sites for subsequent injections.
- Potential complications of IM injection include:
  - Intravenous injection;
  - Infection from contaminated injection material;
  - Neural injury (typically the sciatic nerve after injections in the buttock);
  - Local tissue damage due to injection of irritants.
- Avoid these complications by:
  - Selecting the safest agents for injection;
  - Choosing the proper injection site;
  - Establishing anatomic landmarks;
  - Cleansing the skin thoroughly;
  - Alternating sites for subsequent injections;
  - Aspirating before injection;
  - Avoiding tracking the drug into superficial tissues;
  - Using a needle of adequate length to reach the intended injection site.
- Supplies
  - Sterile 1-inch needle of the smallest size that will allow fluid to flow freely (e.g. 22- to 24-gauge)
  - Sterile syringe of the smallest size available that has adequate markings for proper dose (e.g. 1-3 ml)
  - Dry sterile cotton-wool ball
- Procedure
  - Gather necessary supplies.
  - Wash hands properly.
  - Select the site for injection.
  - Draw the material for injection into the syringe.
  - Ensure that the drug and dose are correct.
  - Grasp the center of the target muscle between the thumb and forefinger, if possible.
  - Insert the needle at a 90-degree angle through the skin with a single quick motion.

- Withdraw the plunger of the syringe slightly to ensure that the tip of the needle is not in a vein (i.e. no blood should enter the needle):
- If the needle is in a vein:
  - Withdraw the needle without injecting the material;
  - Apply gentle pressure to the site with a dry cotton-wool ball to prevent bruising;
  - Place a new, sterile needle on the syringe;
  - Choose a new site for injection;
  - Repeat the procedure described above.
  - If the needle is in the muscle, inject the material with sufficient strength for three to five minutes [sic].



Intramuscular injection into quadriceps muscle group

- Upon completion of the injection, withdraw the needle and apply gentle pressure with a dry cotton-wool ball.
- Wash hands.
- Record the site of the injection, and rotate the site of subsequent injections.

8-5-2 Intradermal Injections

Only use intradermal injection for the BCG vaccine and when first administering local anesthetic for draining an abscess.

Supplies:

- Sterile 25- or 27-gauge, 5/8 (0.625)-inch needle
- Sterile 21-gauge, 1-inch needle
- Sterile tuberculin syringe (1-ml)
- Dry cotton-wool ball

Procedure:

- Select the site for injection.
- Wash hands.
- Draw the material for injection into the syringe using the 21-gauge needle.
- Ensure that the correct drug and dose are given.
- Replace the 21-gauge needle with a 25- or 27-gauge needle.
- Hold the syringe and needle almost parallel with the skin, with the bevel of the needle facing up.
- Pull the skin taut with one hand, and insert the tip of the needle barely under the skin. Advance the needle slowly until the bevel of the needle has fully entered the skin.
- Gently point the needle upward, without re-piercing the skin.
- Inject the material with steady pressure for three to five seconds (there will be significant resistance) and look for a balancing [sic] of the skin. The baby will probably cry during the injection; a true intradermal injection often burns slightly and should raise a small “bleb” under the skin to pucker similar to the skin of an orange.
- Upon completion of the injection, withdraw the needle and apply gentle pressure with a dry cotton-wool ball.
- Wash hands.

APPENDIX 1:

PNC PACKAGE

PNC1 (within 48 hours of delivery/birth)

✓ Mother

Ask, Check Record	Look, Listen, Feel
Ask about: ➢ General • How are you feeling? • Have you had any fevers? • Do you have any concerns? ➢ Pain • Have you had any pain since delivery? • Ask, are you having any: – Headache – Breast pain or tenderness – Back pain – Uterine/lower abdominal pain – Perineal pain ➢ Bleeding • Have you had any bleeding since delivery? • If bleeding, how much vaginal bleeding since delivery? • Are you having other vaginal discharge? ➢ Urination and stooling • Have you urinated since delivery? • Did you have any problem with passing urine? • Are you leaking urine or experiencing a loss of control? • Have you passed stool? Any problems? ➢ Birth spacing • Have you decided on any contraception? ➢ Emotional well-being • How is your energy level? • How is your mood? • Do you have support and assistance at home? • Observe for any risks, signs and symptoms of domestic abuse	➢ Measure and interpret all vital signs including: • Blood pressure • Temperature • Pulse • Respiratory rate • Oxygen saturation if available ➢ Conduct full physical exam focusing on: • Check for pallor • Check breast and nipples for: – Engorgement – Soreness ➢ Ensure bladder is empty ➢ Check if uterus is firm or soft ➢ Feel if uterus is hard and round ➢ Check fundal height ➢ Look at vulva and perineum for: • Tears • Swelling • Pus • Bleeding

➢ Check Records for: • Complications during delivery • Ongoing treatments or health problems • HIV status, if known before • Syphilis status • Hemoglobin	

Provide Counseling:

- Exclusive breast feeding
  - High risk signs and symptoms
  - PPH - large or ongoing blood loss or dizziness, palpitation/tachycardia
  - Pre-eclampsia/eclampsia – headache with blurry vision, nausea, upper abdominal pain, convulsions
  - Infection – fever, chills, abdominal pain, foul-smelling vaginal discharge
  - Blood clot – one sided calf redness/swelling/pain, shortness of breath, or chest pain
  - Harmful practices (e.g. roasting, drinking alcohol, traditional medicines, placing ice or stone on the abdomen)
- Hygiene (cleaning of hands, breasts, perineum)
- Nutrition
- Impregnated bednet for mother/newborn (in malaria region)
- Activity (Encourage to mobilizes as appropriate following birth and take gentle exercise and rest times; appropriate timing to resume sexual intercourse, >2 weeks and feels ready)
- Family planning and methods (if desired) and safe sex including use of condom
- Recovery process and that some health problems are common
- Register baby at commune office
- Ask birth companion to stay with mother

Importance of attending regular PNC visits for both mother and newborn and date of next visit

Act to:

- Address any abnormal findings
- Manage/refer if emergency or danger signs
- Provide desired family planning method
- Distribute
  - IFA 42 tablets
  - Mebendazole one 500 mg tablet if not already given
- Provide prophylactic antibiotics if 3rd or 4th degree perineal tear or manual removal of retained products of conception was performed
- Provide tetanus toxoid and other immunizations as needed
- Record information in Mother's pink book, PNC register, and MCH Book
- Provide feedback to mother on results of this visit; remind mother when to come back next visit

✓ Newborn

Ask, Check Record	Look, Listen, Feel
Ask about: ➢ General • How is the baby doing? If baby died, then find out date of death and cause. • Has the baby had any fever, or felt cold to touch even after trying to rewarm (skin-to-skin for at least 60 minutes)? • Has the baby been in direct skin-to-skin contact for at least 60 minutes or lying with you under your bednet since delivery? (If the baby has had a valid reason for separation, has the baby been appropriately dressed with a blanket and hat?) • Do you have any concerns? ➢ Feeding • Are you breastfeeding? If not, why not? • How is breastfeeding going? • Is there any difficulty? • Is your baby satisfied with the feed? • Have you fed your baby any other foods or drinks since birth? • How do your breasts feel? Do you have any nipple or breast pain? • How long does your baby go between breastfeeds? • Has the baby had difficulty breastfeeding or refused to breastfeed? • If the baby is more than 1 day old, how many times has your baby fed in 24 hours? • Ask the mother to alert you when the baby is ready to breastfeed. ➢ Breathing • Has the infant ever paused breathing for more than 20 seconds? • Has the infant had trouble with fast or slow breathing, or difficulty breathing with severe chest in-drawing or grunting? ➢ Urination and stooling • How many wet diapers has the baby had since delivery? • How many stools has the baby had since delivery,	➢ Measure and interpret all vital signs including: • Weight • Temperature (normal 36.5^{0}C - 37.5^{0}C) • Pulse • Respiratory rate • Oxygen saturation if available ➢ Conduct full physical exam focusing on: • General energy/lethargy • Check head for swelling, bump on one or both sides, and fontanels • Check skin for: – Pallor or cyanosis – Jaundice (yellow, anywhere, in baby <24 hours old, or yellow on palms and soles, any age) – Pustules or bullae (count >10 or <10), especially around neck, armpits, inguinal area – Thrush on skin – Cuts or abrasions – Bruises – Open tissue on head, abdomen, or back ➢ Check eyes for: – Draining pus – Redness or swelling ➢ Check mouth for: – Cleft palate or lip – Thrush – Sucking reflex ➢ Check breathing for: – Severe chest in-drawing – Grunting – Nasal flaring ➢ Auscultate heart for any harsh or loud

and what color? Any diarrhea? ➢ Other • Has the infant had a convulsion? • Has the infant had any bleeding, pus or redness around the cord stump? • Has the baby seemed pale? • Has the baby been floppy or stiff? • Has the baby had persistent vomiting? **Check Records for:** • Gestational age • Complications during pregnancy or delivery including: – Breech, asphyxia, or convulsions – Maternal fever >38^{0}C within 48 hours of delivery – Maternal infection treated with antibiotics – Membranes ruptured >18 hours prior to delivery – Maternal HIV status – Maternal RPR result – Maternal TB treatment started < 2 months prior to delivery – Any other maternal lab results • Birth weight (normal: 2.5kg-3.4kg) and birth exam (conducted within first 6 hours) • Recorded newborn vital signs (temp, HR, RR) since birth • Record of passage of 1st stool and 1st urine • Ongoing treatments or health problems • Completed administration of eye care with Tetracycline 1%, Vitamin K1(1mg), Hepatitis B vaccine, and BCG vaccine	murmurs ➢ Check umbilicus for: – Draining pus, blood, or foul smell – Redness, swelling, or hardness of skin around umbilicus (measure > 1or < 1cm beyond umbilicus) – Abdominal distension ➢ Check genitalia/perineum for: – Anus (patent anus) – Descended testes – Normal appearance ➢ Check all limbs for: – Swelling on buttocks or abnormal position of legs – after breech – Asymmetry or immobility – Club foot – Correct number and appearance of limbs to fingers and toes – Spontaneous movement ➢ Observe a breastfeed for about 5 minutes for: – Positioning and attachment – Effective suckling – Help mother with positioning and attachment, if needed

Provide Counselling:

- ✓ Nutrition
  - Exclusive breastfeeding now which will ensure she will produce more milk in a few days
  - Importance of feeding her baby colostrum (thick breast milk she produces in the first few days after delivery)
  - Need to exclusively breastfeed on demand 8 or more times in 24 hours, day and night
  - Change to second breast, after first breastfeeding.
  - Correct attachment and positioning and signs of effective suckling
  - Exclusive breastfeeding for the first 6 months of life, regardless of HIV status, and breastfeeding for at least 2 years
  - It is normal for a baby to cry. It does not necessarily mean the baby is hungry. She can offer the breast, but do not give other foods.
- ✓ High risk signs and symptoms
  - Newborn feeling too cold (<36.5^{0}C) or too hot (fever >37.5^{0}C)
  - Any yellow/jaundice in first 24 hours of life
  - Yellow palms and soles at any age
  - Difficulty feeding or feeding <8 times daily in the first week of life
  - Decreased/no spontaneous movement
  - Convulsions
  - Pus from eyes
  - Fast or slow breathing (>60 or <30 times per minute)
  - Severe chest in-drawing
  - Skin pustules
- ✓ Keeping baby warm
  - Importance of direct skin-to-skin contact with mother or other family members
  - Newborn usually needs one or two more layers of clothing than adults and use of hats/caps
  - DO NOT bathe baby within 24 hours of birth, leave baby on cold or wet surface, swaddle too tightly, leave in direct sun
- ✓ Hygiene
  - Use warm water to wash face, neck underarms daily and buttocks when soiled. Always dry thoroughly.
  - Wash her hands frequently
- ✓ Dry cord care:
  - Do not touch, wrap, bandage or apply anything on the cord stump
  - Only dry clothes should loosely cover cord stump
  - If stump soiled, wash it with clean water and soap and dry it thoroughly with a clean cloth
  - If umbilicus is bleeding, red or draining pus, take the baby to the health facility
- ✓ Impregnated bednet for mother/newborn (in malaria region)
- ✓ Let baby sleep on baby's back or on the side, (do not separate)
- ✓ Keep baby away from indoor air smoke and people smoking
- ✓ Keep baby away from sick children and adults
- ✓ Encourage talking and communication with baby
- ✓ Register baby at commune office

✓ Importance of attending regular PNC visits for both mother and newborn and date of next visit
Act to:
• Address any abnormal findings • Manage/refer if emergency or danger signs • Record information in Mother's pink book, Child Health Card/Yellow Card, PNC register, and MCH Book. Plot birth weight in Mother's pink book and Yellow Card. • Actively encourage mother and newborn to stay at least 24 hours after delivery in HC. Discharge only if breastfeeding well, mother able and confident in caring for baby, and no maternal health concerns about the baby's health. • Provide feedback to mother on results of this visit • Remind mother when to come back next visit

PNC2 (Within first week especially on day- 3)

✓ Mother

Ask, Check Record	Look, Listen, Feel
Ask about: ➢ General • How are you feeling? Fatigue? • Have you had any fevers? • Are you taking IFA tablets? • Do you have any concerns? ➢ Pain • Have you had any pain since delivery? • Ask, are you having any: – Headache – Breast pain or tenderness, swelling or hot – Back pain, – Uterine/lower abdominal pain – Perineal pain ➢ Bleeding and vaginal discharge/lochia • Have you had any bleeding since delivery? • If bleeding, how much vaginal bleeding since delivery? • Are you having other vaginal discharge? ➢ Urination and stooling • Did you have any problem with passing urine? • Are you leaking urine or experiencing a loss of control?	➢ **Measure and interpret all vital signs including:** – Blood pressure – Temperature – Pulse – Respiratory rate – Oxygen saturation if available ➢ **Conduct full physical exam focusing on:** • Check for pallor • Check breast and nipples for: • Engorgement • Soreness • Fissures • Redness ➢ Ensure bladder is empty ➢ Check fundal height ➢ Look at vulva and perineum for: – Tears – Swelling – Pus – Bleeding/lochia

• Have you passed stool? Any problems? ➢ Breastfeeding? ➢ Family planning • Have you decided on any contraception? ➢ Emotional well-being • How is your energy level? • How is your mood? • Do you have support and assistance at home? • Observe for any risks, signs and symptoms of domestic abuse **Check Records for:** • Complications during delivery • Ongoing treatments or health problems • HIV status, if known before • Syphilis status • Hemoglobin • Mebendazole one 500 mg tablet given after delivery • Iron tablet given	
Provide Counseling	
• Exclusive breast feeding • High risk signs and symptoms – PPH - ongoing blood loss or dizziness, palpitation/tachycardia – Pre-eclampsia/eclampsia – headache with blurry vision, nausea, upper abdominal pain, convulsions – Infection – fever, chills, abdominal pain, foul-smelling vaginal discharge – Blood clot – one sided calf redness/swelling/pain, shortness of breath, or chest pain • Harmful practices (e.g. roasting, drinking alcohol, traditional medicines, placing ice or stone on the abdomen) • Hygiene (cleaning of perineum, hands, breasts) • Nutrition • Impregnated bed net for mother/newborn (in malaria region) • Activity (Encourage to mobilizes as appropriate following birth and take gentle exercise and rest times; appropriate timing to resume sexual intercourse >2 weeks *and* feels ready) • Family planning and methods (if desired) and safe sex including use of condom • Recovery process and that some health problems are common • Register baby at commune office • Importance of attending regular PNC visits for both mother and newborn and date of next visit • Women should be told whom to contact for advice and management	

Act to:

• Address any abnormal findings
• Manage/refer if emergency or danger signs
• Provide desired family planning method
• Distribute
  – IFA 42 tablets if not receive in first visit
  – Mebendazole one 500 mg tablet if not already given
• Provide prophylactic antibiotics if 3rd or 4th degree perineal tear or manual removal of retained products of conception was performed
• Provide tetanus toxoid and other immunizations as needed
• Record information in Mother's pink book, PNC register, and MCH Book
• Provide feedback to mother on results of this visit
• Remind mother when to come back next visit

Newborn

Ask, Check Record	Look, Listen, Feel

Ask about:
➢ General
• How is the baby doing?
• Has the baby had any fever, or felt cold to touch even after trying to rewarm (skin-to-skin for at least 60 minutes)?
• Has the baby been in direct skin-to-skin contact for at least 60 minutes or lying with you under your bednet since delivery? (If the baby has had a valid reason for separation, has the baby been appropriately dressed with a blanket and hat?)
• Do you have any concerns?
➢ Feeding
• Are you breastfeeding? If not, why not?
• How is breastfeeding going?
• Have you fed your baby any other foods or drinks since birth?
• Do you have any concerns about feeding the baby?
• Has the baby had difficulty breastfeeding or refused to breastfeed?
• How many times has your baby fed in the past 24 hours?
➢ Breathing
• Has the infant ever paused breathing for more than
	➢ **Measure and interpret all vital signs including:**
	• Weight
	• Temperature
	• Pulse
	• Respiratory rate
	• Oxygen saturation if available
	➢ **Conduct full physical exam focusing on:**
	• energy /lethargy
	• Check head for swelling, bump on one or both sides, and fontanels
	• Check skin for:
	  – Pallor or cyanosis
	  – Jaundice (yellow on palms and soles, any age)
	  – Pustules or bullae (count >10 or <10), especially around neck, armpits, inguinal area
	  – Thrush on skin
	  – Cuts or abrasions
	  – Bruises
	  – Open tissue on head, abdomen, or back

20 seconds?
- Has the infant had trouble with fast or slow breathing, or difficulty breathing with severe chest in-drawing or grunting?

➢ Urination and stooling
- How many times has the baby urinated in the past 24 hours?
- How many times has the baby stooled in the past 24 hours?
- What color was the stool?

➢ Other
- Has the infant had a convulsion?
- Has the infant had any bleeding, pus or redness around the cord stump?
- Has the baby seemed pale?
- Has the baby been floppy or stiff?
- Has the baby had persistent vomiting?

Check Records for:
- Gestational age
- Complications during pregnancy or delivery including:
  - Breech, asphyxia, or convulsions
  - Maternal fever >38^{0}C within 48 hours of delivery
  - Maternal infection treated with antibiotics
  - Membranes ruptured >18 hours prior to delivery
- Maternal HIV status
- Maternal RPR result
- Maternal TB treatment started < 2 months prior to delivery
- Any other maternal lab results
- Birth weight (normal: 2.5kg-3.4kg)
- Recorded newborn vital signs (temp, HR, RR) since birth
- Record of passage of 1st stool and 1st urine
- Ongoing treatments or health problems
- Completed administration of Hepatitis B and BCG vaccines

- Check eyes for:
  - Draining pus
  - Redness or swelling
- Check mouth for:
  - Cleft palate or lip
  - Thrush
  - Sucking reflex
- Check breathing for:
  - Severe chest in-drawing
  - Grunting
  - Nasal flaring
  - Auscultate heart for any harsh or loud murmurs
- Check umbilicus for:
  - Draining pus, blood, or foul smell
  - Redness, swelling, or hardness of skin around umbilicus (measure >1 or < 1cm beyond umbilicus)
  - Abdominal distension
- Check genitalia/perineum for:
  - Patent anus
  - Descended testes
  - Normal appearance
- Check all limbs for:
  - Swelling on buttocks or abnormal position of legs after breech
  - Asymmetry or immobility
  - Club foot
  - Correct number and appearance of limbs to fingers and toes
  - Spontaneous movement
- Observe a breastfeed for about 5 minutes for:
  - Positioning and attachment
  - Effective suckling
  - Help mother with positioning and attachment, if needed

Provide Counseling

✓ Nutrition

- Exclusive breastfeeding
- Need to exclusively breastfeed on demand 8 or more times in 24 hours, day and night
- Change to second breast, after first breastfeeding.
- Correct attachment and positioning and signs of effective suckling
- Exclusive breastfeeding for the first 6 months of life, regardless of HIV status, and breastfeeding for at least 2 years
- It is normal for a baby to cry. It does not necessarily mean the baby is hungry. She can offer the breast, but do not give other foods.

✓ High risk signs and symptoms
- Newborn feeling too cold or too hot (<36.5^{0}C or fever >37.5^{0}C)
- Yellow palms and soles at any age
- Difficulty feeding or feeding <8 times daily in the first week of life
- Decreased/no spontaneous movement
- Convulsions
- Pus from eyes
- Fast (>60 per minute) or slow (<30 per minute) breathing
- Severe chest in-drawing
- Skin pustules

✓ Keeping baby warm
- Importance of direct skin-to-skin contact with mother or other family members
- Newborn usually needs one or two more layers of clothing than adults and use of hats/caps
- DO NOT leave baby on cold or wet surface, swaddle too tightly, leave in direct sun

✓ Hygiene
- Use warm water to wash face, neck underarms daily and buttocks when soiled. Always dry thoroughly.
- Wash her hands frequently

✓ Dry cord care:
- Do not touch, wrap, bandage or apply anything on the cord stump
- Only dry clothes should loosely cover cord stump
- If stump soiled, wash it with clean water and soap and dry it thoroughly with a clean cloth
- If umbilicus is bleeding, red or draining pus, take the baby to the health facility

✓ Impregnated bednet for mother/newborn (in malaria region)
✓ Let baby sleep on her/his back or on the side
✓ Keep baby away from indoor air smoke and people smoking
✓ Keep baby away from sick children and adults
✓ Encourage talking and communication with baby
✓ Register baby at commune office
✓ Importance of attending regular PNC visits for both mother and newborn and date of next visit

Act to:

- Address any abnormal findings
- Manage/refer if emergency or danger signs
- Record information in Mother's pink book, Child Health Card/Yellow Card, PNC register, and

MCH Book. • Provide feedback to mother on results of this visit • Remind mother when to come back next visit

PNC3 (Within 7 to 14 days)

✓ Mother

Ask, Check Record	Look, Listen, Feel
Ask about: ➢ General • How are you feeling? fatigue? • Have you had any fevers? • Are you taking IFA tablets? • Do you have any concerns? ➢ Pain • Have you had any pain since delivery? • Ask, are you having any: – Headache – Breast pain or tenderness, swelling or hot – Back pain – Uterine/lower abdominal pain – Perineal pain ➢ Bleeding and vaginal discharge/lochia: Are you having vaginal discharge/lochia? ➢ Urination and stooling • Did you have any problem with passing urine? • Are you leaking urine or experiencing a loss of control? • Any problems passing stool since delivery? ➢ Birth spacing • Have you decided on any contraception? ➢ Emotional well-being • How is your energy level? • Ask for any symptom of postpartum depression? (Loss of appetite, insomnia, intense irritability and anger, overwhelming fatigue, loss of interest in sex, lack of joy in life, feelings of shame, guilt or inadequacy, severe mood swings) • Do you have support and assistance at home? • Observe for any risks, signs and symptoms of domestic abuse	➢ **Measure and interpret all vital signs including:** – Blood pressure – Temperature – Pulse ➢ **Conduct physical exam:** • Check for pallor • Check breast and nipples for: – Engorgement – Soreness – Fissures – Redness • Check fundal height • Look at vulva and perineum for: – Swelling – Pus – Bleeding/ lochia

Check Records for:

- Complications during delivery
- Ongoing treatments or health problems
- HIV status, if known before
- Syphilis status
- Hemoglobin
- Mebendazole one 500 mg tablet given after delivery
- Iron tablet given

Provide Counseling

- Exclusive breast feeding
- High risk signs and symptoms
  - Infection – fever, chills, abdominal pain, foul-smelling vaginal discharge
  - Blood clot – one sided calf redness/swelling/pain, shortness of breath, or chest pain
- Harmful practices (e.g. roasting, drinking alcohol, traditional medicines, placing ice or stone on the abdomen)
- Hygiene (cleaning of hands, breasts, perineum)
- Nutrition
- Impregnated bed net for mother/newborn (in malaria region)
- Activity (gentle exercise and rest times; appropriate timing to resume sexual intercourse >2 weeks *and* feels ready)
- Birth spacing and methods (if desired) and safe sex including use of condom
- Recovery process and that some health problems are common
- Register baby at commune office
- Importance of attending regular PNC visits for both mother and newborn and date of next visit
- Women should be told whom to contact for advice and management

Act to:

- Address any abnormal findings
- Manage/refer if emergency or danger signs
- Provide desired birth spacing method
- Distribute
  - IFA 42 tablets if not already given
  - Mebendazole 500 mg tablet if not already given
- Provide tetanus toxoid
- Record information in Mother Health Record Book
- Provide feedback to mother on results of this visit
- Remind mother when to come back next visit

Newborn

Ask, Check Record	Look, Listen, Feel
Ask about: ➢ General • How is the baby doing? • Has the baby had any fever, or felt cold to touch? Do you have any concerns? ➢ Feeding • Are you breastfeeding? If not, why not? • How is breastfeeding going? • Have you fed your baby any other foods or drinks since birth? • Do you have any concerns about feeding the baby? • Has the baby had difficulty breastfeeding or refused to breastfeed? • How many times has your baby fed in the past 24 hours? ➢ Breathing • Has the infant ever paused breathing for more than 20 seconds? • Has the infant had trouble with fast or slow breathing, or difficulty breathing with severe chest in-drawing or grunting? ➢ Urination and stooling • How many times has the baby urinated in the past 24 hours? • How many times has the baby stooled in the past 24 hours? • What color was the stool? ➢ Other • Has the infant had a convulsion? • Has the infant had any bleeding, pus or redness around the cord stump? • Has the baby seemed pale? • Has the baby been floppy or stiff? • Has the baby had persistent vomiting? **Check Records for:** • Gestational age • Complications during pregnancy or delivery including: – Breech, asphyxia, or convulsions	➢ **Measure vital signs:** • Temperature • Pulse • Respiratory rate • Oxygen saturation if available ➢ **Conduct physical exam:** • Weight • Energy /lethargy • Check head for swelling, bump on one or both sides, and fontanels • Check skin for: – Pallor or cyanosis – Jaundice (yellow on palms and soles, any age) – Pustules or bullae (count >10 or <10), especially around neck, armpits, inguinal area – Thrush on skin – Cuts or abrasions – Bruises – Open tissue on head, abdomen, or back • Check eyes for: – Draining pus – Redness or swelling • Check mouth for: – Cleft palate or lip – Thrush – Sucking reflex • Check breathing for: – Chest in-drawing – Grunting – Nasal flaring • Check umbilicus for: – Draining pus, blood, or foul smell – Redness, swelling, or hardness of skin around umbilicus (measure >1 or < 1cm beyond umbilicus)

– Maternal fever >38^{0}C within 48 hours of delivery – Maternal infection treated with antibiotics – Membranes ruptured >18 hours prior to delivery – Maternal HIV status – Maternal RPR result – Maternal TB treatment started < 2 months prior to delivery – Any other maternal lab results – Birth weight (normal: 2.5kg-3.4kg) • Ongoing treatments or health problems • Completed administration of Hepatitis B and BCG vaccines	– Abdominal distension • Check genitalia/perineum for: – Descended testes – Normal appearance • Check all limbs for: – Abnormal position of legs after breech – Asymmetry or immobility – Spontaneous movement • Observe a breastfeed for about 5 minutes for: – Positioning and attachment – Effective suckling – Help mother with positioning and attachment, if needed

Provide Counseling

✓ Nutrition
- Need to exclusively breastfeed on demand 8 or more times in 24 hours, day and night
- Change to second breast, after first breastfeeding.
- Correct attachment and positioning and signs of effective suckling
- Exclusive breastfeeding for the first 6 months of life, regardless of HIV status, and breastfeeding for at least 2 years
- It is normal for a baby to cry. It does not necessarily mean the baby is hungry. She can offer the breast, but do not give other foods.

✓ High risk signs and symptoms:
- Newborn feeling too cold (<36.5^{0}C) or too hot (fever >37.5^{0}C)
- Yellow palms and soles at any age
- Difficulty feeding
- Decreased/no spontaneous movement
- Convulsions
- Pus from eyes
- Fast (>60 per minute) or slow (<30 times per minute) breathing
- Severe chest in-drawing
- Skin pustules

✓ Keeping baby warm
- Newborn usually needs one or two more layers of clothing than adults and use of hats/caps
- DO NOT leave baby on cold or wet surface, swaddle too tightly, leave in direct sun

✓ Hygiene
- Use warm water to wash face, neck underarms daily and buttocks when soiled. Always dry thoroughly.
- Wash her hands frequently

✓ Impregnated bednet for mother/newborn (in malaria region)

✓ Keep baby away from indoor air smoke and people smoking ✓ Keep baby away from sick children and adults ✓ Encourage talking and communication with baby ✓ Register baby at commune office Importance of attending regular PNC visits for both mother and newborn and date of next visit
Act to:
• Address any abnormal findings, including inadequate weight gain • Recognize and manage/refer if emergency or danger signs • Record information in Mother Health Record Book. Plot infant's weight and check that child is back to birth weight by 7-10 days after birth. If below birthweight, then calculate % of weight loss from birth weight. • Provide feedback to mother on results of this visit • Remind mother when to come back next visit

PNC4 (6 weeks)

✓ Mother

Ask, Check Record	Look, Listen, Feel
Ask about: ➢ General • How are you feeling? • Have you had any fevers? • Are you taking IFA tablets? • Do you have any concerns? ➢ Pain • Have you had any pain since delivery? • Ask, are you having any: – Headache – Breast pain or tenderness, swelling or hot – Back pain – Uterine/lower abdominal pain – Perineal pain ➢ Bleeding and vaginal discharge/lochia: • Have you had any bleeding since delivery? • If bleeding, how much vaginal bleeding since delivery? • Are you having other vaginal discharge? ➢ Urination and stooling • Did you have any problem with passing urine? Are you leaking urine or experiencing a loss of control?	➢ **Vital signs:** • Blood pressure • Temperature • Pulse ➢ **Conduct physical exam:** • Check for pallor • Check breast and nipples for: – Engorgement – Soreness – Fissures – Redness • Palpate lower abdomen/pelvis • Look at vulva and perineum if any patient concerns

• Any problems passing stool since delivery? ➢ Birth spacing • Have you decided on any contraception? ➢ Emotional well-being • How is your energy level? • Do you have support and assistance at home? • Do you feel safe and free from violence at home? **Check Records for:** • Complications during delivery • Ongoing treatments or health problems • HIV status, if known before • Syphilis status • Hemoglobin • Mebendazole one 500 mg tablet given after delivery	
Provide Counseling on:	
✓ Exclusive breastfeeding ✓ High risk signs and symptoms ✓ Infection – fever, chills, abdominal pain, foul-smelling vaginal discharge ✓ Harmful practices (e.g. drinking alcohol, traditional medicines) ✓ Hygiene (cleaning of perineum, hands, breasts) ✓ Nutrition ✓ Impregnated bed net for mother/newborn (in malaria region) ✓ Strongly encourage birth spacing method if not yet initiated and safe sex including use of condom ✓ Register baby at commune office	
Act to:	
• Address any abnormal findings • Manage/refer if emergency or danger signs • Provide desired birth spacing method • Distribute – IFA 42 tablets if not already given – Mebendazole one 500 mg tablet if not already given • Provide tetanus toxoid • Record information in Mother Health Record Book. • Provide feedback to mother on results of this visit • Remind mother when to come back next visit	

✓ Newborn

Ask, Check Record	Look, Listen, Feel
Ask about: ➢ General • How is the baby doing? • Has the baby had any fever, or felt cold to touch? Has the baby been appropriately dressed with a blanket and hat? • Do you have any concerns? ➢ Feeding • Are you breastfeeding? If not, why not? • How is breastfeeding going? • Have you fed your baby any other foods or drinks since birth? • Do you have any concerns about feeding the baby? • Has the baby had difficulty breastfeeding or refused to breastfeed? • How many times has your baby fed in the past 24 hours? ➢ Breathing • Has the infant ever paused breathing for more than 20 seconds? • Has the infant had trouble with fast or slow breathing, or difficulty breathing with severe chest in-drawing or grunting? ➢ Urination and stooling • How many times has the baby urinated in the past 24 hours? • How many times has the baby stooled in the past 24 hours? • What colour was the stool? ➢ Other • Has the infant had a convulsion? • Has the baby seemed pale? • Has the baby been floppy or stiff? • Has the baby had persistent vomiting? **Check Records for:** • Gestational age • Complications during pregnancy or delivery including:	➢ **Vital signs:** • Temperature • Pulse • Respiratory rate • Oxygen saturation if available ➢ **Conduct physical exam:** • Weight • Energy /lethargy • Check skin for: – Pallor or cyanosis – Jaundice (any jaundice at this visit would be considered abnormal) – Pustules or bullae (count >10 or <10), especially around neck, armpits, inguinal area – Thrush on skin • Check eyes for: – Draining pus – Redness or swelling • Check breathing for: – Severe chest in-drawing – Grunting – Nasal flaring • Check genitalia/perineum for: – Descended testes – Normal appearance • Observe a breastfeed for about 5 minutes for: – Positioning and attachment – Effective suckling – Help mother with positioning and attachment, if needed

– Breech, asphyxia, or convulsions – Maternal fever >38^{0}C within 48 hours of delivery – Maternal infection treated with antibiotics – Membranes ruptured >18 hours prior to delivery • Maternal HIV status • Maternal RPR result • Maternal TB treatment started < 2 months prior to delivery • Any other maternal lab results • Birth weight (normal: 2.5kg-3.4kg) • Ongoing treatments or health problems • Completed administration of Hepatitis B and BCG vaccines	

Provide Counselling on:

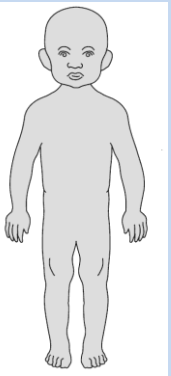
- ✓ Nutrition
  - Need to exclusively breastfeed on demand day and night
  - Change to second breast, after first breastfeeding.
  - Correct attachment and positioning and signs of effective suckling
  - Exclusive breastfeeding for the first 6 months of life, regardless of HIV status, and breastfeeding for at least 2 years
- ✓ High risk signs and symptoms
  - Newborn feeling too cold or too hot (<36.5^{0}C or fever >37.5^{0}C)
  - Yellow palms and soles at any age
  - Difficulty feeding
  - Decreased/no spontaneous movement
  - Convulsions
  - Pus from eyes
  - Fast (>60 times per minute) or slow (<30 times per minute) breathing
  - Severe chest in-drawing
  - Skin pustules
- ✓ Keeping baby warm
- ✓ Hygiene
  - Use warm water to wash face, neck underarms daily and buttocks when soiled. Always dry thoroughly.
  - Wash her hands frequently
- ✓ Impregnated bednet for mother/newborn (in malaria region)
- ✓ Keep baby away from indoor air smoke and people smoking
- ✓ Keep baby away from sick children and adults
- ✓ Encourage talking and communication with baby
- ✓ Register baby at commune office

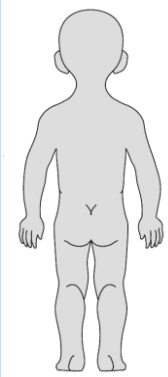
Act to:
• Address any abnormal findings, including inadequate weight gain • Manage/refer if emergency or danger signs • Administer vaccines • Record information in Mother Health Record Book • Plot infant's weight and check that child is gaining 15-30 grams per day since prior PNC visit • Provide feedback to mother on results of this visit • Remind mother when to come back next visit

APPENDIX 2:

PHYSICAL SCREENING TOOL FOR NEWBORNS (0-28 days)

1. General Information		
Child's name: _____ Sex: _____ Weight: _____ Date of Birth: ___ /____ /_____ Age: _____ Height: _____		
Caretaker's name: _____ Village: _____ Commune: _____District: _____ Caretaker's phone number: _____ Alternative phone number: _____		
2. Medical History: Tick box if this is true for the child.		
☐ high temperature of mother during labour	☐ low birth weight (<2500g)	☐ prematurity (<37 weeks)
☐ prolonged labour	☐ breech position	APGAR score <3: severe asphyxia; <7: mid asphyxia; ≥7: Normal ☐ APGAR (1 min):____ ☐ APGAR (5 min): ____ ☐ APGAR (10 min): _____
☐ seizures	☐ feeding/drinking issues	☐ no meconium in first 24 hours of life

3. Front	CLINICAL SIGNS Tick the box if you note any following signs for impairments		Mark location of detected signs on picture
a. Head	1. ☐ Large head circumference › 37cm at birth (skip if <2500g) 2. ☐ Small head circumference ‹ 30 cm at birth (skip if <2500g)	3. ☐ Unusual fontanelles (bulging/ fused/ depressed) 4. ☐ Skull swelling	
b. Eye	5. ☐ Not squeezing to the light	6. ☐ Redness/discharge	
c. Ear	7. ☐ No startle to loud sound (clap test)	8. ☐ Malformed/ absent outer ear	
d. Mouth	9. ☐ Cleft lip 10. ☐ Cleft palate	11. ☐ Tongue-tie	

e. Neck and chest	12. ☐ Head tilted to one side (torticollis)	13. ☐ Unusual shape of chest	
f. Arms	14. ☐ Unusual appearance of arms / fingers (specify: _____)	15. ☐ Limited movement or asymmetrical arm.	
g. Abdomen	16. ☐ Umbilical bleeding 17. ☐ Abdominal wall defect /sack outside umbilical/omphalocele	18. ☐ Large/swollen abdomen	
h. Genitalia	19. ☐ Boy-only: Missing testicles 20. ☐ Boy-only: Large scrotum 21. ☐ Boy-only: Unusual location of urinary meatus	22. ☐ Girl-only: No vaginal opening 23. ☐ Inguinal hernia(boy and girl)	
i. Hip and legs	**24.** ☐ Unusual appearance of legs or toes 25. ☐ Clubfoot	26. ☐ Inguinal skin folds and asymmetric hip abduction (specify:_____)	
4. Back	**Turn child around and screen back side from head to toe**		
j. Spine	27. ☐ Protruding mass on back	28. ☐ Unusual curvature of back/ scoliosis	
k. Anus	29. ☐ No anus opening	30. ☐ Unusual location of anus	
5. Other observations	31. ☐ Other indications of impairments (specify:_____)		
6. Reflexes	32. ☐ Absent suck reflex	**33.** ☐ Absent grasp reflex	
7. Screening Results	☐ Detected impairment/condition ☐ No detected impairment/condition ☐ Urgent referral	Health Center/ Hospital: _____ Screening date: _____ /_____ /_____ Examiner name: _____ Examiner phone number: _____ Examiner signature: _____	
	☐ No referral needed ☐ Date/duration for recheck: _____/_____/_____ _____ (months) ☐ Referral to: _____ ☐ Advice for treatment_____		

Appendix 3:

Equipment and Supplies for Pregnancy, Childbirth, Postpartum and Newborn Care

Warm and Clean Room
• Delivery bed(s) • Clean bed linen • Curtains if more than one bed • Clean surface (for alternative delivery position) • Work surface for resuscitation of newborn near delivery bed(s) • Light source
Hand Washing
• Clean water supply • Antibacterial hand washing soap • Nail brush or stick • Clean towels
Waste bin
• Puncture resistant container for sharps disposal • Receptacle for soiled linen • Bucket for soiled pads and swabs • Bowl and plastic bag for placenta
Sterilization
• Autoclave • Jar for forceps • Forceps Intermediary
Miscellaneous
• Wall clock (with second hand) • Torch and extra batteries • Refrigerator • Log books • Records • Registers • Partograph • Yellow cards • Cards for birth spacing services

Equipment

- Blood pressure cuff and stethoscope
- Fetal stethoscope
- Thermometer
- Baby scale
- Clean clothes (4pieces)
- Ambu bag and masks (newborn sizes 0 and 1)
- Mucous extractor with suction tubes/suction bulb
- Vacuum extractor
- MVA syringe and cannula
- Bed pan
- Emergency box
- Suction bulb
- Cord clamp or tie
- Sterile blade to cut cord
- Trays (trolley)
- Kidney Basin
- Large and small bowls
- Intermediary Forceps
- Narrow Forceps
- Sponge Forceps
- Ring Forceps
- Tenaculum
- Uterine sound

Delivery Instruments (Sterile)

- Scissors
- Needle holder
- Artery forceps or clamp
- Dissecting forceps
- Sponge forceps
- Vaginal speculum

Other Supplies

- Gloves:
  - Utility
  - Sterile
  - Long sterile for manual removal of placenta
- Long plastic apron
- Waterproof foot ware
- Plastic eye shield
- Hat and mask

- Urinary catheters
- Urinary bag
- Catheter IV
- Scalp Vein
- Tape measure for measuring abdomen
- Adhesive tape
- Gauze
- Cotton balls
- Cotton tipped stick
- Syringes and needles
- IV tubing
- IV solutions (Ringer's lactate, normal saline)
- Suture material for repair of tears or episiotomy
- Antiseptic solution (iodophors or chlorhexidine)
- Alcohol
- Swabs
- 0.2% peracetic acid
- 2% glutaraldehyde
- Bleach (chlorine-based compound)
- Clean plastic sheet to place under mother
- Sanitary pads
- Clean towels/cloths for drying and wrapping the baby
- Cord ties/clamp
- Impregnated bednets
- Urine dipstick

Test Kits

- Syphilis (rapid test)
- HIV (rapid test)
- Hemoglobin
- Pregnancy test
- Proteinuria test
- Malaria test (RDT)

Contraceptives

- Condoms
- Progesterone-only pill
- Combined oral contraceptives
- Progesterone-only injectables
- Emergency Contraceptive pills (EC)
- Implants
- IUDs

Appendix 4:

Drugs for Pregnancy, Childbirth, Postpartum and Newborn Care

Drugs
• Oxytocin • Ergometrine • Magnesium sulfate • Calcium gluconate • Diazepam • Hydralazine • Ampicillin • Gentamycin • Penicillin • Metronidazole • Benzathine penicillin • Amoxicillin • Ceftriaxone • Erythromycin • Cefixime • Azitromycine • Nystatine ovule • Clotrimazol ovule • Metronidazol ovule • Ciprofloxacin • Tetracycline or doxycycline • Trimethoprime/Sulfamethoxazole • Metoclopramide • Arthemeter • Artesunate • Mefloquine • Dihydroartemisinin • Piperaquine • Quinine • Lidocaine

- Adrenaline
- Paracetamol
- Gentian violet
- Iron/folic acid tablets
- Mebendazole
- Sulphadoxine-pyrimethamine
- Water for injection
- Tetracycline 1% eye ointment
- Vitamin K_1 1mg

Vaccines

- Tetanus toxoid
- BCG
- OPV
- Hepatitis B
- Hib

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