Republic of Malawi

Ministry of Health

PARTICIPANTS MANUAL IN INTEGRATED MATERNAL AND NEONATAL CARE

Edited: January, 2015
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ACKNOWLEDGEMENT

The Integrated Maternal and Newborn Care Training Manual was developed in 2008 in the realization that training of midwives and other skilled health workers in obstetric lifesaving skill is paramount to the provision of quality maternal and neonatal health care.

In line with the now growing global evidence relating to the reduction of maternal mortality, the Reproductive Health Unit of the Ministry of Health in partnership with Save the Children, ACCESS and UN Agencies of UNICEF, UNFPA and WHO coordinated the harmonisation and review of the existing Life Saving Skills (LSS) training manual and other maternal and newborn health training manuals to minimize repetition of content. This could not have been completed without the commitment of our consultants and numerous stakeholders.

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Pregnancy is a normal, healthy state, which most women aspire to at some stage in their lives. Yet this normal, life-affirming process carries with it serious risks of death and disability. Worldwide, over half a million women die every year as a result of complications arising from pregnancy and childbirth. For every woman who dies, many more suffer from serious conditions that can affect them for the rest of their lives.

Maternal mortality in developing countries has barely decreased over the past decade and is even rising in some parts of Africa. Malawi is reported to have one of the highest numbers of women who die as a result of pregnancy and childbirth. Although the Maternal Mortality Ratio in Malawi has improved from 1,120 per 100,000 live births in 2000 (MDHS 2000) to 675 per 100,000 live births in 2010 (MDHS 2010), it is still high and among the highest in Sub-Saharan Africa. The neonatal mortality rate is at 31 per 1,000 live births (MDHS 2010). The main causes of neonatal deaths include: Infection accounting for 30% of neonatal deaths, prematurity 30% and asphyxia 22%.

The 2010 Ministry of Health Emergency Obstetric Care Services assessment of the status of Emergency Obstetric Care services in Malawi showed that postpartum haemorrhage and retained placenta were the most common causes of maternal deaths, accounting together for 34% of all maternal deaths recorded in the health facilities surveyed. Other major causes were postpartum sepsis accounted for 17.8% and ruptured uterus accounting for 11% of maternal deaths in hospitals. Pre-eclampsia / eclampsia and complications of abortion accounted for 9.6% and 7.6% of the reported maternal deaths respectively.

The Government of Malawi, through the Reproductive Health Unit of Ministry of Health (MoH), and with support from development partners, DFID, WHO, UNICEF, UNFPA, USAID and Save the Children, has implemented several initiatives to address the problem of high maternal and neonatal mortality. One of the initiatives is the development of training manuals to build the capacity of service providers; one such manual is the “Obstetric Life Saving Skills Training Manual for Malawi”, which was developed in 2000. This manual has been extensively used to train various cadres of staff in the country.

In view of the now growing global evidence that availability of Emergency Obstetric and Neonatal Care (EmONC) and skilled attendance at birth are crucial prerequisites to the reduction of maternal and neonatal mortality, in 2007 a Basic Emergency Obstetric Care on the job training manual was developed following the review and revision of the LSS training manual. The recent manual incorporated current knowledge and practice in the provision of obstetric care. As the nation has moved with time and embraced evidence based information on BEmONC and with the growing need for training the limited human resources in competence based BEmONC there was need to update and harmonize all existing training manuals in maternal and neonatal health.

The integrated manual is competency based and consists of modules, which cover knowledge, skills and attitudes required to provide care for women with life threatening conditions during pregnancy, childbirth and the post-partum period and basic essential newborn care. Throughout the manual emphasis is placed on the demonstration of interpersonal communication skills, positive attitudes and the acquisition of the requisite skills by the trainees for the benefit of mothers and neonates.

Foreword

Pregnancy is a normal, healthy state, which most women aspire to at some stage in their lives. Yet this normal, life-affirming process carries with it serious risks of death and disability. Worldwide, over half a million women die every year as a result of complications arising from pregnancy and childbirth. For every woman who dies, many more suffer from serious conditions that can affect them for the rest of their lives.

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Mr. Chris Kang’ombe
Secretary for Health
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<td>AAFB</td>
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<tr>
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<td>CCT</td>
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<td>CEmONC</td>
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<td>United Nations Children’s Fund</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>VE</td>
<td>Vacuum Extraction</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
TRAINING OBJECTIVES

The purpose of this training programme is to equip practising midwives and other skilled birth attendants with knowledge, skills and appropriate attitudes in the management of life threatening conditions during pregnancy, delivery and postpartum period as such help combat Malawi’s high maternal and neonatal mortality ratio; and to ensure that the midwife and other skilled attendants take a leadership role in the implementation of quality Maternal and Neonatal Health services.

GOAL
To acquire knowledge, skills and attitudes necessary in the provision of Emergency Obstetric and Neonatal Care.

SPECIFIC OBJECTIVES

1. To utilize the midwifery management process needed in the provision of quality care to pregnant women and their newborns during the prenatal, intranatal and postnatal period.
2. To apply the principles of infection prevention in the provision of ante partum, intrapartum and postpartum care
3. To manage Emergency Obstetric and Neonatal conditions competently
4. To promote the implementation of Focused Antenatal Care to all pregnant women.
5. To utilize maternal and neonatal health service data in the provision of quality of midwifery /obstetric services
INTRODUCTION TO MATERNAL AND NEONATAL HEALTH

GOAL: To equip the midwife and other skilled birth attendants with knowledge, skills and attitudes necessary to take an active role in the implementation of maternal and neonatal health services

OBJECTIVES:

By the end of this session, the midwife and other skilled birth attendants should be able to:
1. Define the nine signal functions of Emergency Obstetric and Neonatal Care
2. Describe the six UN process indicators to monitor the availability, access, utilization and quality of EmONC services
3. Describe the main causes of obstetrical complications and maternal death in Malawi
4. Describe the main causes of neonatal morbidity and mortality in Malawi
5. Describe the ten strategies and its interventions of the Road Map to accelerate the reduction of maternal and neonatal morbidity and mortality in Malawi

LEARNING ACTIVITIES

- Identify the signal functions available in the health facilities

Background

Every year about 210 million women become pregnant worldwide. Of these, 30 million develop complications which lead to the death of over 500,000 of them. The majority of these deaths (80%) are globally caused by severe bleeding (21%), unsafe abortion (13%), eclampsia (12%), obstructed labour (8%) and sepsis (8%). For every woman who dies a maternal death, about 30 more suffer from serious conditions that can affect them for the rest of their lives. The tragedy is that almost all of these deaths are preventable and it is estimated that almost 80% of the causes of maternal deaths are avoidable. There is now growing global evidence that availability of Emergency Obstetric and Neonatal Care (EmONC) and skilled attendance at birth are crucial prerequisites to the reduction of maternal and neonatal mortality.

Globally each year 4 million babies die in the neonatal period. That is 10,000 deaths a day. The greatest risk of death is at the very beginning of life. Three quarters of all neonatal deaths (3 million) occur within one week of birth, and at least 1 million babies die on their first day of life. The majority of these deaths are caused by infection, low birth weight especially prematurity and birth asphyxia. Many of the world’s 4 million stillbirths and 500,000 maternal deaths also occur close to the time of birth. More that half of these babies die after a home birth and without any health care. New analysis shows that nearly 3 million newborn deaths could be prevented annually by improving access to low cost, low-tech interventions that are not currently reaching those most in need.

1. Definition of Emergency Obstetric and Neonatal Care
   Emergency Obstetric and Neonatal Care is made up of the following 9 “signal functions” or services that are necessary to save the lives of women with obstetric complications:

   1. Administration of parenteral antibiotics
   2. Administration of parenteral oxytocic drugs
   3. Administration of parenteral anticonvulsants
   5. Removal of retained products (e.g. manual vacuum aspiration)
6. Assisted vaginal delivery (e.g. vacuum extraction)  
7. Resuscitation of the new-born  
8. Caesarean section  
9. Blood transfusion

These signal functions are used to classify health facilities as either basic or comprehensive emergency obstetric and neonatal care (EmONC) facilities. If a health facility provides the first seven functions, it is classified as a Basic EmONC facility and if it provides all nine signal functions, it qualifies as a Comprehensive EmONC facility.

The international community has developed the “Six UN process indicators” to monitor the availability, access, utilization and quality of EmONC services. The next table shows the six indicators, their definition, the questions they want to answer and the recommended level.

<table>
<thead>
<tr>
<th>UN Process Indicator</th>
<th>Definition</th>
<th>Question they want to answer</th>
<th>Recommended level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Amount of EmONC services available</td>
<td>Number of facilities that provide EmONC</td>
<td>Are there sufficient facilities providing EmONC?</td>
<td>Minimum: 1 Comprehensive EmONC facility for every 500,000 people. Minimum: 4 Basic EmONC facilities per 500,000 people</td>
</tr>
<tr>
<td>2. Geographical distribution of EmONC facilities</td>
<td>Facilities providing EmONC well-distributed at sub-national level</td>
<td>Are the facilities well distributed?</td>
<td>Minimum: 100% of sub-national areas have the minimum acceptable numbers of basic and comprehensive EmONC facilities</td>
</tr>
<tr>
<td>3. Proportion of all births in EmONC facilities</td>
<td>Proportion of all births in the population that take place in EmONC facilities</td>
<td>Are enough women using these facilities?</td>
<td>Minimum: 15% Ideal: 100%</td>
</tr>
<tr>
<td>4. Met need for EmONC services</td>
<td>Proportion of women with obstetric complications treated in EmONC facilities</td>
<td>Are the right women using these facilities?</td>
<td>Minimum: 100% (Estimated as 15% of expected births)</td>
</tr>
<tr>
<td>5. Caesarean Section as a percentage of all births</td>
<td>Caesarean deliveries as a percentage of all births in the population</td>
<td>Are enough critical services being provided?</td>
<td>Minimum: 5% Maximum: 15%</td>
</tr>
<tr>
<td>6. Case fatality rate</td>
<td>Proportion of women with obstetric complications admitted to a facility who die</td>
<td>Is the quality of the services adequate?</td>
<td>Maximum: 1%</td>
</tr>
<tr>
<td>7. Met need for HBB</td>
<td>% of live babies not breathing at birth that were resuscitated successfully</td>
<td>Is the quality of the services adequate?</td>
<td>Minimum 100%</td>
</tr>
</tbody>
</table>
3. Situation analysis of EmONC

MDHS 2010 and EmONC 2010 survey assessed progress made in the implementation of the Roadmap for the accelerated reduction of neonatal and maternal morbidity and mortality. The results from MDHS 2010 show progress on some indicators like:
  • TFR moved from 6.0 in 2004 to 5.7 in 2010,
  • CPR from 28% in 2004 to 42% in 2010,
  • MMR from 984 in 2004 to 675 in 2010 and
  • CMR from 145 in 2004 to 112 in 2010.
  • Unsafe abortion from 5% in 2006 to 17% in 2010

The EmONC 2010 survey also showed progress:
  • Met needs for EmONC from 18.5% to 50%,
  • C/S rate from 2.8% to 5%,
  • Maternal case fatality rate from 2% to 1% (MDHS 2010).
  • The only indicator that showed negative progress is NMR from 27 in 2004 to 31 in 2010.

Other findings of the assessment included:
  • Shortage of staff and weak human resource management
  • Limited availability and utilisation of maternal health care services
  • Low quality maternal health care services
  • Weak procurement and logistics system for drugs, supplies and equipment
  • Problems of infrastructure
  • Weak referral systems
  • Weak monitoring, supervision and evaluation
  • Inadequate coordination mechanisms among partners and stakeholders
  • Weak community participation and involvement
  • Harmful social and cultural beliefs and practices.

A breakdown of obstetric complications and direct maternal deaths observed during the assessment were as follows:
Table 8.9: Percent distribution of women whose deaths were reviewed according to primary cause of death, by facility type

<table>
<thead>
<tr>
<th></th>
<th>Hospitals</th>
<th></th>
<th>Health centres</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Direct causes</td>
<td>528</td>
<td>65%</td>
<td>12</td>
<td>17%</td>
</tr>
<tr>
<td>APH</td>
<td>34</td>
<td>4%</td>
<td>5</td>
<td>7%</td>
</tr>
<tr>
<td>PPH/Retained placenta</td>
<td>180</td>
<td>22%</td>
<td>5</td>
<td>7%</td>
</tr>
<tr>
<td>Obstructed/prolonged labour</td>
<td>3%</td>
<td>1%</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>Ruptured uterus</td>
<td>59</td>
<td>7%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Postpartum sepsis</td>
<td>96</td>
<td>12%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Severe pre-eclampsia / eclampsia</td>
<td>50</td>
<td>6%</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Complications of abortion</td>
<td>40</td>
<td>5%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Ectopic pregnancy</td>
<td>15</td>
<td>2%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>33</td>
<td>4%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Indirect causes</td>
<td>214</td>
<td>27%</td>
<td>3</td>
<td>4%</td>
</tr>
<tr>
<td>Malaria</td>
<td>31</td>
<td>4%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>HIV/AIDS – related</td>
<td>58</td>
<td>7%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Anemia</td>
<td>63</td>
<td>8%</td>
<td>3</td>
<td>4%</td>
</tr>
<tr>
<td>Other indirect causes</td>
<td>62</td>
<td>8%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Unknown causes</td>
<td>68</td>
<td>9%</td>
<td>56</td>
<td>79%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>810</strong></td>
<td><strong>100%</strong></td>
<td><strong>71</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: 2010 EmONC Assessment

The main causes of neonatal deaths in Malawi

The main causes of neonatal death in Malawi are infection (30%), asphyxia (22%) and preterm birth (30%). Anywhere from 60-90% of these deaths are in low birth weight babies, mostly preterm. The first week of life is the most critical for the neonate, with 50% of deaths occurring within the first day and 75% within the first week, just when coverage is lowest.

4. Strategies for implementing maternal and neonatal health services

The main document to guide the implementation of MNH services is the Road Map for accelerating the reduction of Maternal and Neonatal Mortality and Morbidity in Malawi. The main strategies and interventions are as follows:

*Strategy 1: Improving the availability of, access to, and utilisation of quality comprehensive family planning services*

Interventions:

1. Scale up FP services for rural and underserved communities including long acting and permanent FP methods
2. Enhance Advocacy Activities for FP/RH services
3. Improve contraceptive security and provide a wider range (method mix) of methods.
4. Motivate women accessing any health care services to access family planning.
5. Support public-private partnerships through contracting, social marketing and franchising
Strategy 2: Improving the availability of, access to, and utilisation of quality Maternal and Neonatal Health Care

**Interventions:**
1. Provide essential health care package for MNH, at all levels
2. Improve infrastructure to provide high-quality maternal and neonatal health services.
3. Strengthen blood transfusion services at district and central hospitals
4. Provide updated MNH clinical protocols to health facilities
5. Conduct maternal and neonatal death reviews and clinical/near miss audits
6. Provide supportive supervision that includes clinical coaching and mentoring to enhance quality of care

Strategy 3: Strengthening human resources to provide quality skilled MNH care

**Interventions:**
1. Provide adequate staffing at the health facility to provide essential maternal and neonatal health care package
2. Build capacity of providers to competently offer MNH services
3. Build the capacity of training institutions to provide competency based training in MNH
4. Review and update policies that enable health professionals use their skills

Strategy 4: Strengthening the referral system

**Interventions:**
1. Strengthen communication system between health centre and referral hospital
2. Strengthen transport system for referral

Strategy 5: Strengthening national and district health planning and management of maternal and neonatal health Services

**Interventions:**
1. Strengthen capacity of RHU for better management of Maternal and Neonatal Health services
2. Strengthen capacity of DHMT for better management of Maternal and Neonatal Health services

Strategy 6: Resource mobilisation for maternal and neonatal health services including family planning

**Interventions:**
1. Identify resources for the implementation of the roadmap

Strategy 7: Fostering partnerships

**Interventions:**
1. Mapping partners and stakeholders
2. Improving partnership, collaboration and coordination
3. Promoting effective public/private partnership

Strategy 8: Scaling up of community based MNH intervention to ensure continuum of care between the household and health facility

**Interventions:**
1. Scale up and strengthen community interventions for MNH
2. Raise awareness of the community on MNH

**Strategy 9: Strengthening services that address adolescents’ sexual and reproductive health services.**

**Interventions:**
1. Strengthen youth friendly health services in public and private health delivery points
2. Raise awareness on teenage pregnancy prevention and other related health risks such as obstetric fistula.
3. Strengthen condom programming

**Strategy 10: Strengthening monitoring and evaluation mechanisms for better decision-making and service delivery of Maternal and Neonatal Health services including Family Planning**

**Interventions:**
1. Strengthen MOH capacity for monitoring and evaluation of MNH services
2. Strengthen RHU capacity for maternal and neonatal death surveillance and response (MDSR)
3. Conduct operations Research in MNH
4. Conduct evaluation of Road Map every 5 years

**NOTE:** All strategies need to be implemented concurrently to achieve the goal

**Required competencies**
- Awareness on the nine signal functions of Emergency Obstetric and Neonatal Care
- Use of the UN process indicators to monitor the availability, access, utilization and quality of EmONC services
- Familiar with the Road Map for accelerating the reduction of Maternal and Neonatal Mortality and Morbidity in Malawi

**REFERENCES**

Ministry of Health (February 2011), Emergency Obstetric Care Services in Malawi, Report of a Nationwide Assessment
Ministry of Health (October 2012), Road Map for accelerating the reduction of Maternal and Neonatal Mortality and Morbidity in Malawi The Lancent Neonatal Survival Series 2005
MODULE 2

COLLECTION AND UTILIZATION OF MATERNAL AND NEONATAL HEALTH SERVICE DATA

GOAL: To equip the midwife and other skilled birth attendants with knowledge, skills and attitudes necessary to collect, analyse, interpret and utilize data collected from maternal and perinatal health care services

OBJECTIVES:
By the end of this session, the midwife and other skilled birth attendants should be able to:

1. Describe types of records used to collect maternal and perinatal service data
2. Explain the importance of data collection and record keeping
3. Demonstrate competencies in compiling and analysing maternal and perinatal data
4. Determine magnitude of maternal and perinatal mortality in the respective catchment area
5. Demonstrate competencies in utilising maternal and perinatal service data
6. Demonstrate positive attitude in data management

LEARNING ACTIVITIES
• Compile and analyse maternal and health service data
• Analyse current attitudes towards data management
• Analyse 2 case files for the factors that contributed to maternal deaths in your district
• Determine strategies for reducing avoidable factors of maternal death in your area

CONTENT

1. TYPES OF RECORDS FOR COLLECTING MATERNAL AND PERINATAL SERVICE DATA

1.1 Women’s health profile
It is a tool that is used for collecting information from pregnant women; for monitoring maternal and foetal condition during pregnancy; and record type of care given. It also contains information on immunization status of women of child bearing age.

1.2 Antenatal Register
It is a book used to register all pregnant women attending antenatal clinic during pregnancy. It provides information on:
• Coverage of antenatal care
• Utilization of antenatal services
• Social and obstetric characteristics of the catchment population
• HIV prevalence among pregnant women and ARV prophylaxis provided

1.3 Partograph
A tool used to collect and record information and observations of a woman during labour and delivery. It assists in:
• Assessing progress of labour
• Identifying deviations from normal progress of labour
• Evaluating quality of care
• Determining the outcomes of labour and delivery
• Assessing the condition of mother and baby during puerperium

1.4 Maternity Admission Book
It is a book where all patients are registered in the maternity department. It is used to provide information on:
• Utilization of maternity services
• Bed occupancy level
• Characteristics of women admitted for maternity care

1.5 Maternity Register
A book used to record all delivery information on mothers and their newborns. It is important because it gives information on:
• Mode and type of delivery
• Place of delivery
• Newborn complications
• Number of births
• Birth weight patterns
• Maternal and perinatal morbidity and mortality pattern
• Characteristics of women who have delivered
• Attendant, date and time of delivery
• Immunisation given during immediate puerperium
• PMTCT management
• Breastfeeding information
• Eye treatment
• Estimated blood loss

1.6 Operating Room (Theatre) Register
A book used to register all women with operative procedures. It is important because it provides information on:
• Number of Caesarean Section (C/S)
• Indications for C/S
• Number of destructive operation
• Number of permanent surgical contraption cases
• Number of other gynaecological operation
• Outcome of delivery
• Theatre team involved during the procedure

1.7 Report Book
A book used to record daily summaries of midwifery activities related to patient care. It is important because it gives information on:
• Critical incidences that occurred during day and night
• Daily bed occupancy level
• Information on the critically ill patients
• Number of admissions, discharges and deaths from the unit

1.8 Maternal and Neonatal Death Books
These are books used to record all maternal, still birth (SB), and neonatal death (NND) that occur in the maternity unit. It provides information on:
• Data for calculating maternal and perinatal mortality rates
• Types, causes and numbers of still births
• Number and cause of NNDs
• Number and causes of MDs
• Characteristics of maternal and neonatal death

1.9 **Patient Case Notes**
These are patient case files containing information on reasons for admission to a facility as well as the type of care given. Case Notes are important because they provide information on:
- Morbidity and mortality
- Quality of care and common drugs used
- Obstetric management and outcomes of care

1.10 **Health Passport**
It is a booklet that contains information about the mother and the child. The information includes: medical history, obstetric history, delivery, HIV, Immunization, laboratory and postnatal services among others.

1.11 **Supply Order Book**
Book used to order drugs, equipment and supplies for the unit. It is important because it contains information on:
- Common drugs used
- Availability of drugs and supplies in the stores/pharmacy
- Monitoring of utilization of supplies and drugs

1.12 **Monthly Return Form**
It is a form used to compile data collected from MCH/FP clinics quarterly submitted to the district, zonal and headquarters level. It is important because it provides information on:
- Utilization of MCH/FP clinics/services in the catchment area
- Service coverage

1.13 **The Child Health Profile (Under-five Card)**
Tool used to record and monitor developmental milestones of the U/5 child including immunization status and Vitamin A supplementation

1.14 **Dangerous Drug Act (DDA) Register Book (Controlled Drug Act)**
It is a book used to register and monitor utilization of dangerous drugs

1.15 **Nursery Admission Book**
A book used to record and monitor all newborn born babies admitted in the nursery ward. It is important because it gives information on:
- Delivery information in terms time and mode of delivery including the Apgar score
- Number, diagnosis and treatment of babies admitted to Nursery unit
- Number discharged
- Mortality

1.16 **KMC Register**
A book used to record and monitor all low birth weight babies on KMC. It is important because it gives information on:
- Number of low birth weight babies admitted to KMC unit
- Weight gain
- Number discharged
- Follow-up of KMC babies
- Mortality

1.17 **PNC Register**
A book used to record information of all mothers and children who receive postnatal care
within 48hrs, after 7days and 6 weeks.
The information includes:
- **Mother**
  - Danger signs
  - Vit A supplementation
  - Counselling on FP
- **Newborn**
  - Condition of the baby
  - HBB
  - Immunization
  - Danger signs
  - Cord Care (Use of chlorhexidine)
  - Eye care (Use of Tetracycline eye ointment)
  - KMC
  - PMTCT management

1.18 **PAC Register**
A book used to record information of women who have undergone Post abortion care. The information includes:
- Personal history
- Diagnosis
- Treatment given
- Follow-up care
- Family planning method provided

1.19 **Village Health Register**
A book used to document village statistics at household level. It looks at
- Number of people living in a household
- The head of the house
- Ages of the members of the household and their sex
- Women of childbearing age
- ANC and PNC
- Under five care
- Deaths

2. **IMPORTANCE OF DATA COLLECTION AND RECORD KEEPING**
Data collection and proper record keeping are important for provision of quality services. Service delivery data is used for planning and decision making purposes and must therefore be properly collected and documented. Service providers at the antenatal, family planning, postnatal, under-five clinics, maternity units are entrusted with the task of collecting service delivery data. For the service providers to fulfil this important task they must:

  i) Order adequate registers/forms according to needs of facility
  ii) Collect accurate data through history taking, physical examination and counselling.
  iii) Complete the register forms and cases files accurately
  iv) Monitor records for completeness and accuracy
  v) Keep all records safely for reference

3. **COMPILATION AND ANALYSIS OF DATA**
Record keeping is beneficial to the facility; data collected on daily basis should be compiled, summarized monthly and analysed to provide the necessary information for planning and evaluation of service delivery.

3.1 Compilation

The process of compilation starts by completing registers and forms correctly and keeping them in a safe place for retrieving at a specified time set for the compilation. At the end of each month, the data from the registers and forms must be summarized by adding total numbers; calculating averages and percentages. The total numbers and averages can be presented either as graphs or pie diagrams indicating different aspects of service delivery or utilization. For example a pie diagram can be developed to summarize the information on the mode of delivery recorded in the delivery register for one month whereby 400 deliveries were recorded, and the breakdown of the deliveries were as follows:

<table>
<thead>
<tr>
<th>Mode</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVD</td>
<td>220</td>
<td>55%</td>
</tr>
<tr>
<td>VE</td>
<td>100</td>
<td>25%</td>
</tr>
<tr>
<td>CS</td>
<td>60</td>
<td>15%</td>
</tr>
<tr>
<td>Breech</td>
<td>20</td>
<td>5%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>400</td>
<td>100%</td>
</tr>
</tbody>
</table>

3.2 Analysis of Data

Once data has been summarized, it has to be analysed or interpreted to determine trends, effectiveness, quality and utilization of services. Analysis implies giving meaning to the data. The delivery data which has been summarized in the pie diagram above indicate that the health facility should always be prepared to conduct operative deliveries as not all women who seek delivery, will end up with a normal delivery. Similarly midwives and other health workers should be able to conduct breech deliveries safely. The yearly total delivery number should also be compared with the number of mothers who register for antenatal care during the year. If these numbers differ considerably then the health facility should question itself as to why women do not come back for delivery and what measures should be put in place to ensure that all women in the catchment area access safe delivery care at the health facility.

4. DETERMINING THE MAGNITUDE OF MATERNAL AND PERINATAL MORTALITY

4.1 Maternal Mortality

A maternal death is defined as the death of a woman while pregnant or within 42 days of termination of the pregnancy; irrespective of the duration and site of the pregnancy, from causes related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

According to the International Classification of Diseases, maternal deaths are divided into two groups: direct and indirect obstetric deaths.

Direct obstetric deaths are those resulting from obstetric complications of the pregnant state (pregnancy labour, puerperium), from interventions, omissions, or incorrect treatment.

Indirect obstetric deaths are those resulting from previously existing diseases or a disease that
developed during pregnancy and was aggravated by physiologic effects of pregnancy.

To accurately determine the level of maternal mortality, two methods are recommended:

Maternal Mortality Ratio (MMR) = Number of Maternal Deaths/100,000 live births

\[
\frac{\text{Total number of maternal deaths}}{\text{Total number of live births}} \times 100,000
\]

Maternal Mortality Rate = Number of Maternal Deaths/100,000 women (15-49 yrs)

\[
\frac{\text{Total number of maternal deaths}}{\text{Total number of women of childbearing age}} \times 100,000
\]

Maternal mortality figures or statistics usually provide an insight on the general health and socio-economic status of women as well as the performance of the overall Maternal and Child Health services. Data for determining the magnitude of maternal death or maternal mortality rates can be obtained from the maternal death register but only capture the deaths at facility level and not at community level.

Currently, the only way to determine the magnitude of maternal mortality is a population based survey, like the Demographic and Health Survey (DHS). However, maternal deaths being rare events surrounded with emotional strains and cultural practices, respondents usually tend to withhold important information.

The best way to determine the magnitude would be vital statistics, whereby there is a law to register all deaths and the death certificate can provide reliable information on causes of death. Where such laws are available government institutions issue such certificates and keep data on causes of death which can be used to calculate maternal mortality rates.

Data collected from both approaches can assist to determine the level of maternal mortality. Due to difficulties in determining the total number of women of reproductive age in a given population, most countries depend on maternal mortality ratios which use the total number of live births as the denominator.

**Life time risk of maternal death**

Although maternal mortality ratios provide a good measure of maternal health status, it underestimates the life time risk of dying from maternal causes because it ignores the effect of repeated pregnancies. Each pregnancy adds a total lifetime risk, hence Malawi which has Maternal Mortality Ratio (MMR) of 984 deaths per 100,000 live births and a Total Fertility Rate (TFR) of 6.0, has an estimated average lifetime risk for woman of 1 in 17. This ratio implies that even though pregnancy and parturition is a normal physiological process, in Malawi it is a hazardous experience.
4.2 Perinatal Mortality

Perinatal mortality is defined as fetal deaths or neonatal deaths (during first week of life) after 28 weeks of gestation.

It is calculated as: \[
\text{PMR} = \frac{\text{Number of Deaths}}{\text{Total number of deliveries}} \times 1,000
\]

PMR is a useful index of the coverage and quality of health care. It is also an indicator of the socio-economic, political and educational status of women. Good antenatal care and management of labour and delivery is crucial for the survival of foetus/neonate.

PMR reflects problems related to obstetric and early neonatal management.

5. UTILIZATION OF DATA

Data collected by service providers should be analysed and utilised at the facility level apart from sending all the information to district, zonal or national level.

The analysed data can be used at the facility level for:

i) Development of annual work plans and budgeting
ii) Ordering of more equipment and supplies
iii) Requesting for more staff
iv) Conducting in-service education to improve skills of staff and quality of care
v) Extension or reorganising clinic space to meet needs of growing population.
vi) Mobilizing communities for active participation in the provision of maternal and perinatal health services.

Required competencies

- Accurate documentation of different records
- Keep records safely
- Compile monthly, quarterly and annually reports
- Analyse data

REFERENCES

Mellish J. (1987). Unit Teaching and Administration for Nurses, Butterworth's, Durban, South Africa
MODULE 3

MIDWIFERY MANAGEMENT PROCESS (CLINICAL DECISION MAKING PROCESS)

GOAL: To equip the midwives and other skilled births attendants with competencies to utilize the problem solving approach or midwifery management process to provide individual care to women during antepartum, intrapartum and postpartum period and to the newborns.

OBJECTIVES:
By the end of this session, the midwife and other skilled birth attendants should be able to:
1. Define the midwifery management process
2. Explain the steps of the midwifery management process
3. Demonstrate competence in using the midwifery management process in providing care

LEARNING ACTIVITY
- Develop a midwifery care plan for an antepartum, intrapartum and postpartum mother

CONTENT

1. DEFINITION

The Midwifery Management Process is a systematic approach of problem solving which is based on scientific principles and uses critical thinking to enable a professional midwife to assist clients and their families to cope with health problems

2. STEPS OF THE MIDWIFERY MANAGEMENT PROCESS

There are 6 steps in the midwifery management process as shown in the figure below:
2.1 Assessment

Assessment is the first step of the midwifery management process. It consists of systematic and orderly collection and analysis of data pertaining to, and about the health status of the patient/client for purposes of identifying needs, problems or making a midwifery diagnosis. This is an important part of the process because if an incorrect assessment is made a wrong diagnosis will follow which could mean inappropriate planning, and implementation of improper care.

There are two forms of data to be collected:

i) Subjective data: This includes: Chief complaints from the patient; personal data; family history; past and present medical/surgical history, past and present obstetric history; Socio-economic, nutritional and psychological history and her perception of pregnancy and child birth.

ii) Objective data: This includes findings from physical examination including vital signs, laboratory and other investigations.

2.2 Midwifery diagnosis

The midwife analyses the data collected in assessment in order to come up with actual or potential problems. Once the health need or problems are identified the nurse must establish cause or factors influencing or contributing to the health problem or need. The identified health problem forms the basis of the midwifery diagnosis. This becomes a clear concise and definite statement which expresses the midwife's professional and clinical judgment about individual family/community responses to actual or potential health problems. The midwifery diagnosis will provide the basis for selection of midwifery interventions to achieve outcomes for which the midwife is accountable. It should be remembered that a midwifery diagnosis is not a medical diagnosis which focuses on defining the cause of the health problem or pathological condition.

Examples of midwifery diagnosis:

- Alteration in comfort: pain related to uterine contraction
- Potential problem of genital infection related to early rupture of membranes
- Difficulty in passing urine related to advanced labour

2.3 The midwifery care plan

The midwifery care plan is a written document which is designed to guide the midwife providing quality care. The care plan forms a permanent part of the patient's health record. Components of the Care Plan are:

- The midwifery diagnosis
- Goals of care
- Midwifery interventions
- Rationale
- Evaluation

2.3.1 Midwifery diagnoses should be listed according to priority. High priority diagnosis involves the client's most urgent needs. When priorities have been assigned to the diagnosis, the goals of care should be decided upon.

2.3.2 Goals of care are the desired change in the health status of the client. For example degree of improvement in eating habits, weights, bleeding, temperature, breast feeding practices etc.

2.3.3 Intervention is a section in the midwifery care plan that provides the necessary interventions
required to achieve both short and long term goals. For example: monitor fetal heart, do vaginal examination, give antibiotics.

2.3.4 **Rationale** is that the midwife should have a justification for each intervention she carries out e.g. monitoring foetal heart assists the midwife to detect foetal distress and take prompt appropriate action.

2.3.5 **Evaluation** is monitoring of midwifery interventions or orders; it would involve assessing and monitoring of therapeutic interventions.

**SAMPLE OF CARE PLAN: Midwifery Process**

<table>
<thead>
<tr>
<th>Midwifery Diagnosis</th>
<th>Goal</th>
<th>Interventions</th>
<th>Rationale</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altered comfort: Pain related to uterine contractions evidenced by woman screaming and verbalizing</td>
<td>Client will verbalize reduced pain within 30 minutes of nursing intervention and through out labour.</td>
<td>Allow the mother to lie in a position she feels comfortable provided she and her foetus are not in danger.</td>
<td>Comfortable position reduces pain as the patient is relaxed.</td>
<td>Ask the client the degree of pain after 30 minutes of midwifery interventions and throughout labour.</td>
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<tr>
<td></td>
<td></td>
<td>Do back rub during contractions</td>
<td>Back rub block pain receptors thereby pain is reduced</td>
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<tr>
<td></td>
<td></td>
<td>teach deep breathing exercises</td>
<td>deep breathing divert the client from feeling of pain</td>
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<tr>
<td></td>
<td></td>
<td>Explain all procedures and answer any questions she may have.</td>
<td>Explanation of procedures will make the client relax thereby relieving the pain</td>
<td></td>
</tr>
<tr>
<td>Altered tissue perfusion related to reduced colloid pressure evidenced by oedema.</td>
<td>Oedema will be reduced during the period of hospitalization</td>
<td>Place the clients legs on raised surface i.e. pillow.</td>
<td>Raising legs promotes venous return thereby reducing oedema.</td>
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<tr>
<td></td>
<td></td>
<td>Reduce salt and fluid intake in the diet.</td>
<td>Reduced salt prevents fluid retention</td>
<td></td>
</tr>
</tbody>
</table>
Check urine for albumin | Checking albumin will help in determining serious of the condition for proper intervention.

Weigh the mother on alternate days | Weighing the mother will help to know whether the condition is improving or not.

Monitor and record fluid intake and output. | Monitoring will help in controlling the condition since fluid overload or under hydration will be noted early.

2.4 Implementation
This step involves putting into action or carrying out the interventions selected in the nursing care plan, for example, giving nutrition and hygiene education, providing anti-malaria or folate tablets, counselling for minor disorders of pregnancy or potential complication of pregnancy. Planned midwifery activities can be done by the midwife directly, by the client and her family or the physician.

2.5 Documentation
This involves documenting all the information collected, problems identified and midwifery interventions. Documentation must continue throughout the midwifery management process to ensure that there is evidence of what the midwife has done for the client. Documents of midwifery activities is important for communicating with other health workers on what has been done for the client and for continuity of care.

2.6 Evaluation
Evaluation is a process of examining the impact or effectiveness of midwifery interventions done and should be carried out after each interaction with the patient. This should be documented in the evaluation column.

Required competencies
- History taking
- Physical examination
- Develop a midwifery care plan
- Demonstrate positive attitudes towards use of midwifery care plan

REFERENCES
MODULE 4

INFECTION PREVENTION

GOAL: To equip the midwife and other skilled birth attendants with knowledge, skills and attitudes necessary for the prevention of infection.

OBJECTIVES:
By the end of the session, the midwife and other skilled birth attendants should be able to:
1. Define Infection Prevention.
2. Explain the key components of standard Precautions for Infection Prevention.
3. Explain the Principles of the Universal Precaution for Infection Prevention.
4. Describe the basic infection prevention methods.
5. Orient and supervise the support staff in the maternity

LEARNING ACTIVITIES
• Identify disinfecting agents available in the health facility and the training centre
• Prepare 0.5% chlorine solution for decontamination
• Practice appropriate methods of waste disposal

CONTENT

1. DEFINITION OF INFECTION PREVENTION
Infection prevention is a measure taken to protect the midwife, other skilled birth attendants, patient/client, guardian and community from hospital acquired infection.

- To ensure that all clinical and other hospital procedures are free of infection, standard precautions should be applied during every procedure
- It primarily deals with preventing spread of infectious diseases

2. PURPOSE OF STANDARD PRECAUTIONS
The purpose of standard precautions for infection prevention is to protect midwife, other skilled birth attendants, patient/client, guardian and community from being infected with disease causing organisms.

Application of standard precautions in infection prevention ensures that disease causing agents from the host do not complete the disease transmission cycle to cause a disease in a susceptible host. The standard precaution measures therefore work by counteracting the transmission methods form one place to another or from one person to another. For example, through hand washing, using protective wear, using disinfectants and proper disposal of items used in patient care can prevent the transmission of a disease agent from one place to another.

3. KEY COMPONENTS OF STANDARD PRECAUTIONS IN INFECTION PREVENTION
• Hand washing before and after a procedure.
• Wear gloves before touching anything wet, broken skin, mucous membranes, blood or other body fluids or other soiled equipment and contaminated materials or before performing invasive procedures.
• Use physical barriers (e.g. goggles, masks and aprons) if splashes and spills of blood or
body fluids (secretions and excretions) are likely.

- Use of antiseptic agents for cleansing the skins or mucous membranes prior to surgery, cleaning wounds, or doing hand rubs or surgical hand scrub with an alcohol based antiseptic.
- Use safe work practices such as not recapping or bending needles, safely passing sharp instruments
- Process instruments and other items after use by first decontaminating and thoroughly cleaning and then either sterilizing or high-level disinfecting them using recommended procedures
- Safely dispose of infectious waste materials to protect those who handle them and prevent injury or spread of infection to the community
- Minimal handling of soiled linen not pre-rinsing linen in patient care area

4. BASIC INFECTION PREVENTION METHODS

4.1 Antisepsis
Antisepsis is a process used to prevent infection by killing or inhibiting the growth of micro-organisms on skin and other body tissues by cleaning surfaces or patient’s skin with antiseptic (bactericidal). Antiseptic solutions kill many micro-organisms found on the skin such as bacteria and many viruses. Antiseptics are used for cervical or vaginal cleaning (chlorhexidine or povidone-iodine) and for preoperative skin cleaning (e.g. chlorhexidine, iodine or spirit).

NOTE: Antiseptics do not have the same killing power as chemicals used for disinfection; so do not use antiseptics to disinfect equipment and supplies.

4.2 Hand Washing
Hand washing with soap is one of the most important infection prevention methods used to minimize the spread of disease and maintain an infection-free environment. Microorganisms grow and multiply in standing water. So you should have a soap rack to allow water to drain away. Hand washing should be done for 10-15 seconds before rinsing off the soap.

(a) Hand washing is indicated BEFORE:
- Examining (direct contact with) a client/patient
- Putting on sterile or high-level disinfected gloves

(b) Hand washing is indicated AFTER:
- Any situation in which hands may be contaminated such as:
  - Examining a patient
  - Handling objects, including instruments that might be contaminated with micro-organisms
  - Touching mucous membranes, blood and body fluids (secretions or excretions)
  - Removing gloves – wash hands because gloves may have invisible holes or tears.

4.3 Gloving
(a) Indications when to wear gloves:
- As a precaution, gloves should be worn by all prior to contact with blood and body fluids from any client/patient.
- A separate pair of gloves must be used for each client/patient to avoid cross-contamination.
Using new, single-use (disposable) gloves is preferable.

**Which gloves to use:**
- Examination gloves are acceptable when performing medical procedures such as taking blood samples.
- Sterile gloves should be used when performing invasive procedures, e.g. manual removal of placenta, pelvic examination during active labour / incomplete abortion or mini-laparotomy.
- Clean, thick household (utility) gloves are used for cleaning instruments, equipment, and contaminated surfaces.

**NOTE:** Do not use gloves which are cracked, peeling or have defects

### 4.4 Decontamination

- Decontamination is the first step in handling soiled equipment, instruments, and other items. Used equipment and supplies are immersed immediately in a 0.5% chlorine solution for 10 minutes to deactivate/destroy micro-organisms.

- **METAL INSTRUMENTS MUST NOT BE LEFT IN 0.5% CHLORINE SOLUTION FOR MORE THAN 10 MINUTES TO AVOID RUSTING**

- Decontamination is the process that makes objects (equipment, instruments) safer to handle for staff, BEFORE cleaning them. Objects such as examination tables, laboratory bench tops, sinks, delivery beds, instruments and gloves contaminated with blood or body fluids during or following procedures must be decontaminated before cleaning.

- The purpose of decontamination is to protect staff who will handle items which have been in contact with blood and body fluids from getting infectious diseases such as Hepatitis B or HIV/AIDS.

**Preparing 0.5% chloride solution from bleach (sodium hypochlorite)**

A 0.5% chloride solution from (bleach) solution is inexpensive and very effective for decontaminating and disinfecting.

HIV and many bacteria and viruses are quickly killed by chlorine. WHO recommends a 0.5% chlorine dilution for all soiled equipment and spills of blood and body fluids. Look on the bottle of bleach used in your area or contact the manufacturer to know the concentration of chlorine.

**Preparing 0.5% chlorine solution from a pre-made chlorine solution**

Formula for determining the amount of the pre-made solution and water is concentration of chlorine in the pre-made solution, divided by the desired concentration of chlorine for the decontamination minus one.

For example: To make 0.5% chlorine solution from bleach which contains 10% chlorine

\[
\frac{10\%}{0.5\%} = 20 - 1 = 19 \quad \text{(Number of parts of water to one part of chlorine)}
\]

The following table shows how to mix a 0.5% chlorine solution from pre-made solutions using the formula:
Formula For Making Chlorine Solution From Dry Powders

- Check concentration (% concentrate) of the powder you are using.
- Determine grams bleach needed using the formula below.

\[
\text{Grams/Litre} = \left(\frac{\text{% Dilute}}{\text{% Concentrate}}\right) \times 1000
\]

- Mix measured amount of bleach powder with one litre of water

Example
Make a dilute chlorine-releasing solution (0.5%) from a concentrated powder (35%)

**STEP 1:** Calculate grams per litre: \([0.5\%]/[35\%] \times 1000 = 14.2\text{g/l}\)

**STEP 2:** Add 14.2 grams (~14g) to a litre of water

Procedure for decontamination of instruments

**STEP 1:** After use, gently immerse instruments in a plastic bucket of freshly prepared 0.5% chlorine solution for 10 minutes before starting the cleaning process.

**STEP 2:** Remove all items from 0.5% solution after 10 minutes and put them in soapy water ready for cleaning.

**STEP 3:** Next, scrub instruments with soapy water (scrub under water to prevent splashing of infectious material) be sure to clean the teeth joints and screws — an old toothbrush works well for this.

**STEP 4:** Rinse items in clean water until no detergent remains. (Detergent can interfere with the action of some chemical disinfectants.)

**STEP 5:** Air dry or use a clean towel (water from wet instruments will dilute chemicals used for high-level disinfection (HLD), making them ineffective.) Drying is not necessary for instruments which are to be boiled.

**STEP 6:** Proceed with sterilization (if available) or HLD by boiling or use of chemical disinfectant.

Procedure for decontaminating surfaces

- For small blood and body fluid spills, flood the spill with 0.5% chlorine solution before cleaning.
- For large blood and body fluid spills, flood the spill with 0.5% chlorine solution, and wait for 10 minutes. Mop up the solution and then clean as usual with a detergent and water.
- Utility gloves must be used when cleaning such surfaces

Procedure for decontamination of Regular Needles and Syringes

Single-use (disposable syringes and needles) are recommended for all client/patient care and surgical procedures.

**STEP 1:** Leave needle attached to syringe.

**STEP 2:** Fill syringe with 0.5% chlorine solution by drawing up solution through the needle
and flush it three times.

**STEP 3:** Dispose the syringe and needle in a puncture proof sharps container.

**Procedure for decontamination of rubber gloves**

**STEP 1:** Before removing reusable gloves which may be soiled with blood or body fluids, immerse hands briefly in a bucket of 0.5% chlorine solution

**STEP 2:** Remove gloves by inverting them, and dispose them in plastic leak proof container

### 4.5 Cleaning

- Cleaning is an important step in providing safe, infection-free equipment, instruments and clinic facilities. A thorough cleaning of equipment and instruments with detergent and water physically removes organic material such as dust or oil.

- Instruments should be thoroughly cleaned with a brush in soapy water. Particular attention should be paid to instruments with teeth, joints or screws where organic material can collect.

- After cleaning, instruments should be thoroughly rinsed with water to remove detergent residue which can interfere with chemical disinfection.

**Procedure for decontamination and Cleaning of Linen, Surgical Drapes and Other Items**

**STEP 1:** Decontamination prior to washing is not necessary, unless linen is heavily soiled and will be hand washed. If heavily soiled pre-soak blood contaminated linen in 0.5% chlorine for 10 minutes to kill HBV and HIV. This will minimize the risk to those staff responsible for hand washing these items.

**STEP 2:** After pre-soaking thoroughly, wash linen and clothing with a detergent and hot water.

**STEP 3:** Rinse thoroughly.

**STEP 4:** Dry linen and clothing in the sun or machine dry. To avoid recontamination, limit handling.

Wash cleaning cloths, brushes and mops in soapy water daily or more frequently if visibly dirty and rinse in clean water (mop heads should be decontaminated soon after use, followed by cleaning). Dry completely before reuse.

Drying mops and cloths in the sun is the best because the sun’s ultraviolet rays can aid in killing micro-organisms. (Wet cloths and mop heads are heavily contaminated with micro-organisms.)

HBV and HIV are not transmitted by routine household objects. Routine washing of dishes, glasses and utensils in warm, soapy water is sufficient. Routine laundering of personal linen in hot water is sufficient.

**Procedure for High level Disinfection HLD**

**STEP 1:** Decontaminate and clean all equipment and instruments to be disinfected.

**STEP 2:** Completely submerge pre-cleaned objects in the water. Adjust the water level so that there is at least 2.5 cm (1 inch) of water above the instruments. Water must touch all surfaces to be disinfected.

**STEP 3:** Close lid over pan and bring water to a full, rolling boil.
STEP 4: Start timer or note time on clock and record time rolling boil begins, No objects or water should be added after timing starts.

STEP 5: Lower heat to keep water at a rolling boil (top vigorous boiling wastes fuel, evaporates the water and may damage equipment.)

STEP 6: Boil instruments for 20 minutes starting from the time rolling boil begins.

STEP 7: After boiling for 20 minutes, remove the instruments with previously HLD dry forceps/pickups and place in a previously disinfected instrument tray with cover. Never leave boiled instruments in water which has stopped boiling.

Required competencies

- Implement infection prevention measures Competent in orienting and supervising support staff

REFERENCES


MODULE 5

FOCUSED ANTENATAL CARE (FANC)

GOAL: To provide the midwife and skilled birth attendants with the appropriate knowledge, skills and attitudes necessary for the care of women during the antenatal period.

OBJECTIVES
By the end of the session the midwife and other skilled birth attendants should be able to:
1. Describe focused antenatal care
2. Describe the underlying principles of FANC
3. Describe the supportive goals of FANC
4. Describe Antenatal Matrix
5. Demonstrate physical examination of antenatal woman
6. Demonstrate the interpersonal skills necessary for the provision of focused antenatal care

LEARNING ACTIVITIES
- Obtain medical, surgical, obstetric and psychosocial data (history) from an antepartum mother
- Examine an antepartum mother
- Counselling an antepartum mother on nutritional requirements, danger signs of pregnancy, self care measures during antepartum period/birth preparedness and complication readiness
- Collect blood, urine specimens
- Analysis of data on the antenatal card
- Demonstrate the interpersonal skills necessary for the provision of focused antenatal care

CONTENT

1. FOCUSED ANTENATAL CARE

Focused Antenatal Care is an approach where by a woman is encouraged to have a minimum of four targeted visits, as referred to in the antenatal matrix on the next page.

2. UNDERLYING PRINCIPLES OF FOCUSED ANTENATAL CARE (FANC)
- It helps ensure that the woman and her foetus survive pregnancy and childbirth in good health
- Is based on the premise that every pregnant woman is at risk for complications, and all women should therefore receive the same basic care – including monitoring for complications
- Emphasizes quality of visits over quantity of visits unlike the traditional approach to ANC which assumes that more visits result in better care for pregnant women
- Recognises that frequent visits do not necessarily improve pregnancy outcomes and are often logistically and financially impossible
- This approach also realizes that many women identified as ‘high risk’ never develop complications, while women who are supposedly ‘low risk’ often do
- Relies on evidence-based approach, goal-directed interventions that are appropriate to the gestational age of the pregnancy, unlike the traditional approach which relied on some of the measure and risk factors which are routine like maternal height, ankle oedema and foetal position before 36 weeks
• Specifically address the most prevalent health issues affecting women and newborns
• Emphasizes that each visit to be conducted by a skilled health care provider – that is a midwife, doctor or other qualified health care worker who has the knowledge, skills and attitudes to work effectively toward accomplishing the goals of FANC

4. GOALS OF FOCUSED ANTENATAL CARE (FANC)

FANC is centred on ensuring, supporting and maintaining maternal and foetal well being throughout normal pregnancy and childbirth
To achieve the ultimate goal of FANC, the following are the interventions;
• Early detection and treatment of problems and complications
• Prevention of complications and diseases
• Birth preparedness and complication readiness
• Health promotion

4.1 Early detection and treatment of problems and complications

FANC promotes targeted assessment to detect signs/symptoms of pregnancy-related complications such as:
• Chorioamnionitis
• Malaria
• Severe anaemia
• Pre-eclampsia / eclampsia
• HIV and AIDS
• Sexual Transmitted Infections
• Hyperglycemia
• UTI

4.2 Prevention of complications and diseases

The following are some of the interventions proven to be effective in reducing maternal and neonatal morbidity and mortality:
• Tetanus toxoid immunization to prevent tetanus
• Iron/folate supplementation to prevent iron deficiency anaemia
• Intermittent presumptive treatment (IPT) for malaria prevention
• Use of long lasting insecticide-treated nets (LLITNs)
• Presumptive treatment for hookworm infection (Albendazole after 1st trimester)
• Iodine supplementation (Food fortified with iodine)
• HIV Testing and Counselling (HTC)
• Syphilis testing
• Blood group and rhesus factor test

4.3 Birth preparedness and complication readiness

The main components of a birth preparedness and complication readiness are:

4.3.1 Male involvement and companionship

Developing a birth plan often requires the involvement of the husband or relatives and husbands should be encouraged to accompany their spouses to antenatal care, especially during the first visit, and take part in developing a birth plan.
4.3.2 Skilled Provider

Help the woman/couple in making arrangements for delivery with assistance of a skilled provider. Make sure the woman/couple knows how to access the skilled provider or health care facility at the appropriate time.

4.3.3 Place of delivery

Assist the woman/couple in making arrangements for place of delivery – whether at the district hospital or health centre. Depending on her individual needs, you may need to recommend a specific level of health care facility as place of delivery, or simply support the woman in giving birth where she chooses.

4.3.4 Transportation

Make sure she knows the transportation systems and that she has made specific arrangements for:
- Transportation to the place of delivery
- Emergency transportation to an appropriate health care facility if danger signs arise

4.3.5 Funds

Encourage her and her family to start saving money that she can access when need arises to pay for care during normal birth or emergency care. Discuss emergency funds that are available through the community and/or facility, where applicable.

4.3.6 Decision-making

Discuss with the woman/couple to establish who makes decisions in the family and decide:
- How decisions will be made when labour begins or if danger signs arise?
- Who else can make decisions if that person is not present?
- The companion of her choice to stay with her during labour and childbirth, and accompany her during transportation, if needed
- Someone to care for her house and children during her absence

4.3.7 Blood donor

Ensure that the woman/couple has identified an appropriate blood donor and that this person will be accessible in case of emergency.

4.3.8 Items needed for a clean and safe delivery

During antenatal, make sure the woman/couple has gathered necessary items for a clean and safe delivery. Discuss the importance of keeping items together for easy retrieval when needed:
- For the mother: perineal pads, soap, clean clothes
- For the newborn: warm clothes (baby jersey, hat, boots), nappies

4.3.9 Danger signs

Ensure that the woman and her family know the danger signs, which indicate a need to enact
the complication readiness plan:
• Vaginal bleeding
• Severe headache/blurred vision/swelling/dizziness
• Convulsions
• Labour pains before 37 weeks
• Fever in pregnancy
• Early rupture of membranes

4.3.10 Signs of labour

Ensure that she knows the signs of labour, which indicate the need to contact the skilled provider and enact the birth preparedness plan:
• Regular, progressively painful contractions
• Lower back pain radiating from fundus
• Show
• Rupture of membranes or draining liquor

4.4 Health Promotion

The skilled provider should ensure that the woman and her family have the information they need to make informed decisions during pregnancy, childbirth and the postpartum period (refer to the matrix)

5. ANTENATAL MATRIX

Frequency and timing of FANC visits:
• Appropriate scheduling depends on the gestational age of the pregnancy and also the woman’s individual needs. For women whose pregnancies are progressing normally, four visits are sufficiently; one in first trimester, another one in second trimester and two in the third trimester

• Women with common discomforts, special needs, conditions that lie beyond the scope of basic care, or other problems may require additional visits
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Weeks of Gestation</th>
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<tbody>
<tr>
<td></td>
<td>First visit or &lt;16 weeks</td>
<td>20−24 weeks</td>
<td>28−32 weeks</td>
<td>36 weeks</td>
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<tr>
<td><strong>Registration</strong></td>
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<td><strong>Comprehensive history-taking</strong></td>
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<tr>
<td><strong>• Personal history</strong></td>
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<td><strong>• Family History</strong></td>
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<td><strong>• Social History</strong></td>
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<td><strong>• Past medical surgical/history</strong></td>
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<td><strong>• Past obstetric history</strong></td>
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<td><strong>• Past breastfeeding history</strong></td>
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<td><strong>• History of current pregnancy</strong></td>
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<td><strong>History of complaints in current pregnancy</strong></td>
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<td><strong>Observations and clinical investigations</strong></td>
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<tr>
<td><strong>• Blood pressure</strong></td>
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<td><strong>• Weight</strong></td>
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<td><strong>• Gait</strong></td>
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<td><strong>Physical examination</strong></td>
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<td><strong>• Head-to-toe including:</strong></td>
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<td>- Pedal oedema</td>
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<td><strong>• Breast examination</strong></td>
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<td>• Obstetric examination</td>
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<td>- Fundal height (using tape measure)</td>
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<td>- Foetal poles/lie</td>
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<td>- Foetal presentation</td>
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<td>- Engagement of presenting part</td>
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<td>- Foetal heart sounds</td>
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<td>• Vulval inspection</td>
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<td>- Soft tissue assessment (genital ulcers vaginal discharge)</td>
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<td>- Bony pelvis assessment (cephalo-pelvic relationship)</td>
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<td>Laboratory investigations</td>
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<td>- Haemoglobin</td>
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<td>- Grouping and rhesus factor</td>
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<td>- HTC should be offered at each visit without coercion until accepted</td>
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<td>- Determine syphilis reagents</td>
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<td>• Urine</td>
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<td>• Pregnancy test (if indicated)</td>
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<td><strong>Drug administration and immunisation</strong></td>
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<td>• Tetanus toxoid</td>
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<td>• Albendazole</td>
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<th><strong>Client education and counselling</strong></th>
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<td>• Process of pregnancy and its complication</td>
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<td>• Diet and nutrition</td>
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<td>• Rest and exercise in pregnancy</td>
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<td>• Personal hygiene</td>
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<td>• Danger signs in pregnancy</td>
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<td>• Use of drugs in pregnancy</td>
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<td>• Effects of STIs/HIV</td>
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<td>• Exclusive breastfeeding</td>
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<td>• Symptoms/signs of labour</td>
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<td>• Importance of colostrums early initiation</td>
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<td>• Plans for delivery (birth preparedness)</td>
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<td>• Provide misoprostol</td>
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<td>• Plans for postpartum care</td>
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<td>• Family planning</td>
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<td>• Harmful habits (e.g. smoking drug abuse alcoholism)</td>
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<tr>
<td>• Schedule of return visits</td>
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Note:

If the pregnant woman did not get all the three doses of SP give 3rd dose during labour as long as it is 4 or more weeks after the last dose. After taking SP wait for 2 weeks before resuming iron tablets.

Required competencies

- Accurate history taking
- Thorough physical examination of antenatal woman
- Counselling women on identified needs or problems and danger signs
- Performance rapid test for syphilis and HIV
- Counsel clients, spouses and families
MODULE 6

USE AND INTERPRETATION OF THE LABOUR CHART/PARTOGRAPH

GOAL: To equip the midwife and other skilled birth attendants with knowledge, skills and attitudes on the utilization of the labour chart.

OBJECTIVES:
By the end of this session midwives and other skilled birth attendants should be able to:
1. Define Labour chart
2. Outline the parts of the Labour chart
3. Demonstrate competencies in identifying indicators and landmarks on the labour chart
4. Demonstrate competencies in recording data on the labour chart
5. Demonstrate competencies in interpreting data recorded on labour chart

LEARNING ACTIVITIES
- Record observations correctly on the labour chart
- Interpret data recorded on labour chart
- Analyse current attitudes towards the labour chart

CONTENT

1. DEFINITION
A labour chart is a tool used to record all the information and observations made on a woman in labour. The central feature of the chart is the graphic recording of the dilatation of the cervix and descent of the head as. It is used to identify problems that may arise during the labour period.

2. PARTS OF THE LABOUR CHART

2.1 Admission Details

2.2 Composite labour chart
This part of the actual graph where three main categories of data are recorded.

a) Foetal condition
The condition of the foetus is assessed by pattern of heart rate; colour of amniotic fluid; overlapping of the bones on the foetal skull (moulding) and swelling of the scalp on the presenting part (caput).

b) Information on progress of labour
- Contraction: along with cervical dilatation and descent of the head, tell the progress of labour. The contractions are recorded under the time line
- Cervical dilatation: most important observation to monitor progress of labour. The dilatation is plotted with an “X”. Dilatation is plotted on the on active phase on the alert line from 4 cm to 10 cm
- Descent of the presenting part: descent is plotted with an “O” in cephalic presentation; in other presentations nothing is recorded on descent, instead the type of presentation should be recorded on top of the partograph in red
• Time is recorded using the time of admission as zero time. The actual time of the day is recorded below the hours line.

c) **Information on maternal condition**
- Blood pressure, pulse rate and temperature are recorded in the space provided.
- Urine: the amount is recorded every time the mother passes urine. Albumin and acetone (ketone) are tested and documented on the appropriate space.

2.3 **Details of the first vaginal examination and pelvic assessment**
- Condition of the soft tissues, cervix; membranes; and presenting part
- Details of the pelvis are also explored and the conclusion is drawn.

2.4 **Details of the 2nd, 3rd and 4th stages of labour**

2.5 **Details of the puerperium for both mother and baby**

3. **IMPORTANT LANDMARKS AND INDICATORS ON THE LABOUR CHART**

3.1 **Landmarks**
- **Alert Line**
  It's a line that indicates how labour is progressing in terms of cervical dilatation during the active phase of the first stage of labour. Normally cervical dilatation progresses at 1cm per hour in the active phase of labour. Normally cervical dilatation should remain on or to the left of the alert line. When dilatation crosses to the right it is a warning that labour may be prolonged (i.e. if labour is progressing at less than 1cm per hour). Subsequent vaginal examinations are done at 4 hourly or expected time of delivery.

- **Action Line**
  An oblique line which is 4 hours to the right of the alert line in primipara and multipara. If a woman's labour reaches this line, a decision must be made about action to be taken. Refer the patient to the next higher level of management.

3.2 **Indicators**

3.2.1 **Descent of the presenting part**

Plotted as “O” on time charted for cervical dilatation or appropriate time in cephalic presentation. Descent is indicated fifths of the foetal head remaining above the pelvic brim as per abdominal palpation. Continuous descent of the presenting part is an indicator for normal progress of labour.

3.2.2 **Uterine Contractions**

Uterine contractions are necessary for progress of labour. Normally contractions become more frequent and last as labour progresses. Contractions are recorded on the partograph below the time line. Squares are numbered from 1-5. Each square represents one contraction so that if 2 contractions are felt in 10 minutes, two squares will be shaded. Levels of intensity of the uterine contractions are recorded differently.

For example:
Dots represent mild contractions of less than 20 seconds duration.

Diagonal lines indicate moderate contractions of 20 – 40 seconds duration.

Solid shade represents strong contractions of 40 60 seconds duration.

### 3.3 **Foetal Condition**

Foetal heart rate, colour of liquor (amniotic fluid) and moulding of the foetal skull give information about the foetal condition.

a) **Foetal heart rate**: Foetal heart rate is recorded half hourly. Each square represents 30 minutes. The lines for 120 and 160 beats per minutes are darker to remind the midwife that these are the normal limits of foetal heart rate.

b) **Membranes and liquor (amniotic fluid)**. The state of the liquor or amniotic fluid can assist in assessing the foetal condition. The following observations are made during vaginal examination and recorded as follows:

- Record “I” if membranes are “intact”
- If membranes are ruptured: Liquor is clear, record “C” for clear – Liquor is “meconeum stained” record with the letter “M”, liquor is blood stained, record with the letter “B”, liquor is absent, record with the letter “A” for “Absent”.

(c) **Moulding of the foetal skull**

Moulding is an important indicator as it shows how well the pelvis will accommodate the foetal head. Record the moulding as follows:

- O = bones are separated and sutures can be felt easily.
- + = bones are just touching each other.
- ++ = bones are overlapping but can be separated easily with pressure from your finger.
- +++ = bones are overlapping but cannot be separated easily with pressure from your finger.

### 3.4 **The Maternal Condition**

All the observations for the mother’s condition are written at the bottom of the partograph.

- Pulse, BP – monitor and record hourly.
- Temperature – check 2 hourly
- Urine – Ask the mother to empty bladder 2 hourly. Examine urine for colour, concentration and amount. Test for albumin and acetone.
- Drugs and rehydration fluids: Record these on the chart given.
- Oxytocin: there is a separate column for Oxytocin. All entries are made on the time line which the observations are made.

### 4. **INTERPRETING THE INDICATORS ON THE LABOUR CHART**

- If readings for cervical dilatation remain to the left of the alert line, cephalo pelvic disproportion is unlikely and patient is allowed to deliver unless otherwise
- If readings cross the alert line to the right, labour becomes abnormal (CPD is likely), patient should be transferred to the nearest district hospital as soon as possible and should reach the hospital before action line is reached.
- If the foetal heart is below 120, above 160 or is irregular manage the mother as foetal distress according to the cause.
- If maternal vital signs, and urine output becomes abnormal act according to Protocols.
- If contractions are weak augment labour accordingly
- If contractions are hypertonic manage according to protocol.
- If descent is static for 3 hours refer to the next level.

Required competencies

- Fill in the labour chart
  - Client data
  - Maternal condition
  - Foetal condition
  - Progress of labour, contractions; descent, cervical dilatation.
- Interpret data on a labour chart and take appropriate action.

REFERENCES


Hospital.........................................No............................
Name.............................................................................
Brought by......................................................................
Age.................. Gravida........ Para..................
LMP................. EDD........... Gestation..................
Past Pregnancy Problems.............................................
Problems this Pregnancy..............................................

PRIMIGRAVIDA/MULTIPARA

LABOUR CHART

ANC:

LATENT PHASE

ACTIVE PHASE

Alert Line

Action Line

Admitted .......... a.m. / p.m. ........ 20....................
Labour: spontaneous/induced.................................
Onset .................. a.m. / p.m. ........ 20..................
Membranes Ruptured ...... a.m. / p.m. ........ 20........
Has she had food? ............ sleep..........................
Homemade medicines.................................
Abnormal symptoms...........................................
Vaginal bleeding yes/no amount..........................
pre-eclampsia yes/no.................................

EXAMINATION ON ADMISSION

General condition..................................................
Height.............Anemia........... Edema..........
Fundus.........weeks, and.............finger below
Xiphisternum, Lie................
Presentation............... Position............
Bladder.................. F.H.........................

REFERRAL................. a.m. / p.m. ........ 20......
Reason.................................................................
Transport arrived............... a.m. / p.m. ........ 20......
FIRST VAGINAL EXAMINATION

Show.................................................................
Soft tissues......................................................................
CERVIX: State.................................................................
Effacement..........................................................Dilation...........
Application........................................................................
MEMBRANES: Raptured/intact

Liquor: colour...........................................................

CORD: PRESENTING PART:

What is presenting: ...........................................................
Position: sutures and fontanels:
...............................................................................................
Level in relation ischial spines:
...............................................................................................
Caput: nil/mild/moderate/severe
...............................................................................................

SECOND STAGE OF LABOUR: Fully dilated at..................a.m./p.m. ..............................................20........
Delivery..........................................................a.m./pm ......................................20........
METHOD: SDV/breech/vac extr/forceps/V.S/other..........
Apgar 1min..........................................................5min.
Asphyxia: Yes/No
Action taken: Drying only/clearing Airway/use bag & mask
Live/full term/perm/SB/Mac/nnd.................................
Sex: Female/male
Abnormalities........................................................................
Weight: Grammes (............................lb.....................................oz)
Length: cm Heal circumference.........................cm
Delivered by..........................................................................................First birth by............................
Baby to nursery for observations yes/no

Twin 1: Length..................................Head circumference.............
Asphyxia: Yes/No
Action taken: Drying only/clearing Airway/use bag & mask
Live/full term/perm/SB/Mac/nnd.................................
Sex: Female/male
Abnormalities........................................................................
Weight: Grammes (............................lb.....................................oz)
Length: cm Heal circumference.........................cm
Delivered by..........................................................................................First birth by............................
Baby to nursery for observations yes/no

Twin 2: Length..................................Head circumference.............
Asphyxia: Yes/No
Action taken: Drying only/clearing Airway/use bag & mask
Live/full term/perm/SB/Mac/nnd.................................
Sex: Female/male
Abnormalities........................................................................
Weight: Grammes (............................lb.....................................oz)
Length: cm Heal circumference.........................cm
Delivered by..........................................................................................First birth by............................
Baby to nursery for observations yes/no

THIRD STAGE OF LABOUR:

Mode of delivery ...............................................................ergometrine..............................................................BLOOD loss...............................................................ml
PLACENTA: complete/incomplete: Membranes: complete/incomplete.
Weight..........................................................lb. .......................................oz
Code length ...............................................................code insertion.......................................No. of blood vessels
Condition .............................................................................................Abnormalities
Delivered by..........................................................................................Checked by.............................

PERINEUM: Intact/tears/episiotomy. Repaired by..........................................................

POST-NATAL CHECKS: immediately after delivery. B.P. ..........................................................Pulse..............................
One hour after delivery: B.P..........................................................Pulse..............................Temp.......................Uterus................................................................
Lochia ...........................................................Urine passed ..........................................................a.m./p.m.............................20 ..........Amount.................ml

SUMMARY OF LABOUR: 1st stage ....................hours..................min. 2nd stage....................hours..................min
3rd stage ....................hours..................min. total....................hours..................min.

PUERPERIUM

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<tr>
<th>MOTHER</th>
<th>BABY</th>
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MODULE 7

MANAGEMENT OF PRETERM LABOUR

Goal: To equip the midwife and other skilled birth attendants with knowledge, skills and attitudes during admission and management of preterm labour

OBJECTIVES
- Define preterm labour
- Demonstrate competencies in the management of preterm labour
- Provide woman / family friendly care
- Demonstrate positive attitude when providing care to women with preterm labour

LEARNING ACTIVITIES
- History taking
- Physical examination
- Demonstrate correct use of the labour chart including proper documentation

CONTENT

1. DEFINITION
Preterm labor refers to the onset of regular uterine contractions of sufficient strength and frequency to effect progressive dilation and effacement of cervix before 37 completed weeks of gestation (WHO Born too soon report 2012).

2. CAUSES/ PREDISPOSING FACTORS
- Obstetric complications, including hypertension in pregnancy, antepartum haemorrhage, infection, polyhydramnios, foetal abnormalities
- Malaria
- Premature rupture of membranes
- Young age of mother - less than 16 years of age OR > 35 years
- Lower socioeconomic class
- Reduced body mass index (BMI) - BMI less than 19.0
- Cigarette smoking
- Previous preterm delivery
- Multiple pregnancy
- Cervical incompetence
- Uterine abnormalities
- Excessive Alcohol intake

More than 50% of women who deliver prematurely, however, have no known antecedent risk factors.

3. SIGNS AND SYMPTOMS
- Bleeding, trickle, or gush of fluid from vagina
- Lower abdominal pain and backache / pressure
- A feeling that the baby is pushing down
- Fever, chills, dizziness, vomiting, or a severe headache
- Blurred vision
- Sudden or severe swelling of the feet, hands, or face
- A significant change in the foetal movements
- A sudden increase in the amount of vaginal discharge
- Some women may just feel that “something is not right”.
4. MANAGEMENT

- Good antenatal care to detect risk factors.

**NOTE:**
- When a patient with suspected preterm labour is examined, a full history must be obtained and a clinical examination must be performed.
- The clinical examination should include a speculum examination of the cervix to exclude rupture of membranes, assessment of foetal presentation and estimated foetal weight.
- Advise on the early warning signs and symptoms of preterm labour
- Advise on the importance of bed rest
- Advise on abstinence from sexual intercourse

**Antibiotics**
- Check urinalysis for all Antenatal mothers
- Treat mothers with bacterial vaginosis with an antibiotic (ampicillin, erythromycin, metronidazole) to reduce the incidence of preterm labour

**CORTICOSTEROID THERAPY**

Overview of antenatal corticosteroids for preterm birth (PTB)
- Corticosteroids are recommended for all women between 24 and 37 weeks of pregnancy who are at risk for preterm delivery. Note: Corticosteroids are most beneficial up to 34 weeks.
- Patients eligible for therapy with beta-agonists (tocolytic agents) are also eligible for treatment with antenatal corticosteroids.
- Tocolytic agents should be used to delay delivery for 24 to 48 hours in order to administer corticosteroids to promote foetal lung maturity.
- When the risk of preterm delivery persists or recurs following initial treatment, decisions to repeat treatment should be made on an individual basis.
- Corticosteroids may be used in patients with severe pre-eclampsia/hypertension; however, they need to be closely monitored.
- Impaired glucose tolerance may occur if repeated doses of corticosteroids are given, especially in conjunction with beta-agonist therapy.

**Mechanism of Action**

Preterm babies do not have enough surfactant in their lungs. Surfactant helps the lungs to expand during breathing and, therefore, babies who lack surfactant commonly develop RDS. The steroids increase the natural production of surfactants and thus reduce the risk that new-borns will develop RDS if born early. ACS has also been shown to have a protective effect on the cerebral blood vessel, thus reducing the risk of intraventricular haemorrhage, and on the intestines, thus reducing the risk of necrotising enterocolitis.

Give the first dose immediately upon determining that the woman has a condition that increases her chance of preterm birth within the next seven days. The maximum benefit of medication is achieved 48 hours after administration. Because the precise time of delivery cannot be predicted, the medication should be initiated immediately when a condition leading to preterm birth is identified and should be repeated every 12 hours for a maximum of 4 total doses.

Give dexamethasone 6mg IM every 12 hours for 4 doses. Dexamethasone is the preferred ACS based on current evidence, as noted below. It is also preferred because the generic form is widely available. (Alternatively, give betamethasone 12mg IM daily for two days.)
**Note:** There is no additional benefit of rapid administration (less than 48 hours) of all doses prior to an imminent birth.

**NOTE:** Administering provider:
The decision to give ACS is typically made by a skilled birth attendant (SBA). The injection can be administered by personnel trained to give injections, according to local county policy.

**STEPS TO ADMINISTER ANTENATAL CORTICOSTEROIDS (ACS)**
Follow these steps for proper administration of ACS:

1. Once a woman who presents with threatened PTB has been evaluated and a condition increasing of PTB is identified, ACS are indicated. Determine if ACS can be administered at the facility or if referral is needed.

2. All facilities that provide MNH services should be able to initiate a course of ACS by administering the first dose prior to transfer. If referral is needed, follow facility protocol for immediate referral.

3. If able to administer ACS, follow these steps:
   a. Explain to the woman what will be done
   b. Wash and dry hands and put on clean gloves
   c. Prepare the IM injection site (either the upper arm, buttock, or thigh). Clean the skin with cotton and alcohol or spirits
   d. Using a small sterile syringe and needle, draw up 6 mg of dexamethasone. Explain to the woman what will be done and give injection
   e. Properly dispose of needle and syringe in an appropriate sharps container
   f. Properly remove gloves and discard appropriately
   g. Wash and dry hands
   h. Document medication, dose, site of administration and time it was given in the patient record. Document the time when the next dose should be administered
   i. Advise the woman of the timing of the next dose

**Considerations**

There are no absolute contra-indications for ACS. However in women with diabetes, blood sugar should be closely monitored and an increased insulin requirement should be anticipated. Women on chronic steroids can receive ACS according to the protocol and may also need a stress dose of their steroids at the time of delivery.

**Inhibition of preterm labour**

**The aims of inhibition of preterm labour are:**

1. To buy time for referral to the next level of care
2. To reduce the likelihood of preterm delivery occurring within 48 hours of beginning treatment so as to allow the concomitant use of corticosteroids to enhance foetal pulmonary maturity

Preferred drug of choice to inhibit preterm labour is Nefedipine. Initial oral dosage of 20mg, followed by 10-20mg three to four times daily; monitor blood pressure.

**Contraindications to inhibition of preterm labour**

In the following situations where delivery is imminent or when other obstetric factors dictate that delivery should not be delayed, inhibition of preterm labour may be withheld:

- Fulminating pre-eclampsia
- Severe abruptio placenta
- Foetal distress
• Severe chorio-amnionitis in the presence of ruptured membranes
  Foetal demise or lethal foetal anomaly

**Delivery of the preterm foetus**

• Delivery of the preterm foetus should be in a labour ward with neonatal care facilities.
• Foetal monitoring during labour is important to ensure foetal well-being.
• In the absence of obstetric risk factors or complications that would otherwise preclude a vaginal delivery, a preterm foetus with a vertex presentation may be delivered vaginally.
• However, if the presentation is not vertex, delivery by Caesarean section may be considered.

**Management of Preterm Membrane Rupture**

• After confirmation of ruptured membranes, the following steps are taken:
• Cervical dilatation and effacement are estimated visually during a sterile speculum examination.
• For pregnancies less than 34 weeks, if there are no maternal or foetal indications for delivery, the woman and her foetus are initially observed in the labour unit.
• Broad-spectrum parenteral antimicrobials are begun to prevent chorio-amnionitis (as per the PROM protocol). During labour or induction, a parenteral antimicrobial is given for prevention of group B streptococcal infection.
• Foetal heart rate and uterine activity are monitored for cord compression, foetal compromise, and early labour.
• If the foetal status is reassuring, and if labour does not ensue, the woman is usually transferred to an antepartum unit and observed for labour, infection, or foetal jeopardy.
• For pregnancies 34 weeks or beyond, if labour does not begin spontaneously, then it is induced with intravenous oxytocin unless contraindicated.
• Caesarean delivery is performed for usual indications, including failed induction of labour.

**Note:** When labour begins spontaneously, delivery is managed like any other baby

**REFERENCES**

MODULE 8

MANAGEMENT OF A WOMAN IN FIRST STAGE OF LABOUR

GOAL: To equip the midwife and other skilled birth attendants with knowledge, skills and attitudes during admission and management of first stage of labour

OBJECTIVES:
By the end of the session, midwives and other skilled birth attendants should be able to:

1. Define first stage of labour
2. Demonstrate competencies in the management of first stage of labour
3. Provide woman and family friendly care
4. Demonstrate positive attitude when providing care to women in first stage of labour

LEARNING ACTIVITIES

• History taking
• Physical examination
• Demonstrate correct use of the labour chart including proper documentation
• Analyse current attitudes of skilled attendants in the management of first stage labour

CONTENT

1. DEFINITION

First stage of labour begins with onset of regular painful uterine contractions, accompanied by cervical effacement and dilatation, completed with full dilatation of the cervix.

2. MANAGEMENT OF FIRST STAGE OF LABOUR

2.1 Admission Procedure

a) Review patients’ health passport

b) History Taking – Subjective Data (including HIV status)

Before asking any questions, the midwife should remember to greet the woman and review of the woman’s health profile to validate the following data:

i) Personal; Name, Age, Address, Next of kin,

ii) Medical History: specifically looking at history of hypertension, HIV status, history of STIs during pregnancy, asthma

iii) Obstetric History:

Past: parity, past pregnancy, caesarean section, problems, outcome of deliveries
Present: gravida, LMP, EDD, problems with this pregnancy

iv) Surgical: previous uterine / genital tract surgery

v) Labour

- Onset: when did contractions begin, frequency: how frequent and how strong are the contractions
c) Physical Examination

i) General Examination: vital signs, head to toe

ii) Abdominal Examination
   - Inspection: shape, size, scars, foetal movement
   - Palpation: fundal height, fundal palpation, pelvic palpation and descent, Lateral palpation (position, attitude), contractions

iii) Auscultation: FHR, regularity as well as rhythm

iv) Vaginal Examination
   - Inspection: Previous tears or episiotomy, scars, sores, warts, show, varicose veins, liquor, oedema, bleeding
   - Examination: Cervix – state of the cervix: thick or thin or oedematous, effacement and dilatation
   - Membranes: Ruptured or not; if ruptured check the colour of the liquor and rule out cord presentation / prolapse
   - Presenting part: check for application of the cervix to the presenting part; position of fontanel’s and suture lines as well as station or level of the presenting part in relation to the ischial spines

3. MIDWIFERY INTERVENTION DURING LABOUR

a) Maintaining a normal maternal condition

Normal maternal condition can be maintained during labour by providing:

i) Psychological care
   - Introduce yourself and also address the woman by her name
   - Explain all procedures and progress of labour
   - The woman in labour should not be left alone. Where possible allow a companion. Encourage the companion to give adequate support to the woman such as rubbing her back, wiping brow with wet cloth and assist her to walk around; but the midwife should conduct the delivery.
   - Observe the woman’s response to contractions
   - Provide encouragement and reassurance on progress of labour and pain relief.
   - Ensure privacy and confidentiality

Mother and Family Friendly Care Guiding Principles

1. Birth and breastfeeding are normal processes and we, as caregivers, must support that.

2. We must support the empowerment of every labouring woman to be a good woman and good mother
   A woman’s confidence and ability to give birth and care for her baby are increased or
decreased by every person who gives her care and by the environment in which she gives birth. Pregnancy, birth, and the postpartum period are critical events in the life of a woman. These experiences profoundly affect women, babies, fathers, and families and have important and long-lasting effects on society.

3. **Birth environment is important**

Every woman should have the opportunity to have a healthy and joyous birth experience and to give birth as she wishes in an environment in which she feels nurtured and secure and in which her emotional well-being, privacy, and personal preferences are respected.

4. **Do no harm**

Interventions should not be applied routinely during pregnancy, birth, or the postpartum period. If complications arise, medical treatments should be based on the latest high-quality evidence.

5. **Responsibility of caregivers**

Each caregiver is responsible for the quality of care she or he provides. Maternity care practices should be based not on the needs of the caregiver or provider, but solely on the needs of the mother and child. Each hospital and birth centre is responsible for the periodic review and evaluation, according to current scientific evidence, of the effectiveness, risks, and rates of use of its medical procedures.

<table>
<thead>
<tr>
<th>MOTHER FRIENDLY CARE ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Kind and supportive care</td>
</tr>
<tr>
<td>• Body language that shows kindness (address woman by name, look into the woman’s eyes, uses a respectful tone of voice, smiles when appropriate)</td>
</tr>
<tr>
<td>• Privacy</td>
</tr>
<tr>
<td>• Clean and attractive facility</td>
</tr>
<tr>
<td>• Permit cultural practices that are not harmful</td>
</tr>
<tr>
<td>• Explain every procedure</td>
</tr>
<tr>
<td>• Episiotomy only if indicated</td>
</tr>
<tr>
<td>• Choice of position for delivery</td>
</tr>
<tr>
<td>• If episiotomy is necessary or laceration occurs, use anaesthesia for repair</td>
</tr>
<tr>
<td>– Use interventions only if indicated</td>
</tr>
<tr>
<td>• Urinary catheterization</td>
</tr>
<tr>
<td>• IV fluids</td>
</tr>
<tr>
<td>• Vaginal exams according to partograph protocols</td>
</tr>
<tr>
<td>• Oxytocin augmentation of labour</td>
</tr>
<tr>
<td>• Rupture of membranes</td>
</tr>
</tbody>
</table>
**Give woman and family friendly care.**

Explain what is happening to the woman and family after each evaluation. Teach the woman and companion how to support the woman in labour:

- Urinate every 2 hours
- Drink fluids every 1 hour or more often
- Eat lightly
- Have a birth support/guardian person present
- Massage the woman’s legs, arms and back as needed
- Help the woman feel cool when she is too hot: Use a cool cloth on the woman’s face, neck and chest and use a fan to fan the woman
- Talk to the woman: give emotional support and educate her about what is happening
- Teach the woman and support person breathing methods that can help the labouring woman relax and how not to push during crowning to help slow delivery of the baby’s head
- Use comfortable positions for labour (walking, sitting, side-lying)

**Postpartum**

- No restriction on family members
- No separation of mother and baby
- Early initiation of breastfeeding
- Counselling on self-care and baby care

---

**ii) Physical care**

**Positions in labour**

- Make sure that the woman assumes a comfortable position during labour and the one that doesn't jeopardise foetal condition (e.g. left and right lateral, squatting)
- Encourage the woman to walk around to facilitate the progress of labour
- Observation of vital signs
- Blood pressure should be checked hourly
- Pulse rate should be checked every hour
- Respirations should be checked every hour
- Temperature should be checked 2-4 hourly

**ALL OBSERVATIONS SHOULD BE RECORDED CLEARLY ON THE LABOUR CHART**

**Fluid intake and output**

- Encourage frequent fluid intake, unless contraindicated
- Ensure that the bladder is kept empty throughout labour and delivery
- Encourage the woman to empty bladder 2 hourly
- All fluids administered during labour should be recorded
- Monitor signs of dehydration

**Signs of dehydration include:**

- Dry mouth and lips
- Concentrated urine
- Ketones in urine
- A rise in temperature/pulse rate
- Increased respiration

**Pain relief**

The midwife should explain all procedures and progress of labour to allay fear and anxiety. Give analgesics if there are no contraindications: non-pharmacological e.g. back rub,
diversion therapy; pharmacological e.g. Pethidine.

Remember that if pain is not relieved labour may be prolonged.

- **Prevention of Infection**
  - Wash hands with soap and water and air dry or dry with an individual towel before and after every procedure
  - Use of sterile gloves and six swab technique with chlorhexidine during vaginal examination
  - Encourage the woman to have a shower in early labour to promote comfort
  - Change linen if soiled
  - Provide her with a pad if membranes are ruptured
  - If she passes stool she should be cleaned properly
  - Avoid unnecessary vaginal examination

*If early rupture of membranes for 18 hours or more, give prophylactic antibiotics, preferably:*

  - Ampicillin 2g IV every 6 hours
  - or
  - X-pen 2 MU IV every 6 hours until delivery

- **Maintaining Adequate Nutrition**
  Encourage the woman to take a lot of fluids, glucose drink or light meals or porridge.

b) **Assessing Foetal condition**

- **Foetal Heart Rate**
  Listen to foetal heartbeat every 30 minutes.

- **Moulding**
  Assess the degree of moulding during vaginal examination. Excessive moulding is a sign of CPD as well as a predisposing factor to cerebral injury.

- **Caput succedaneum**
  Assess the severity of caput, if the swelling is excessive it is an indication of prolonged labour

c) **Assessing Progress of Labour**

- **Uterine contractions**
  Check contractions every hour; palpate the number of contractions in ten minutes and their duration in seconds.
  As labour progresses, contractions must increase in frequency, duration and intensity.

- **Cervical dilation**
  A vaginal examination is performed every 4 hours for all women in labour. The cervix should dilate at least 1cm/hour in the active phase of labour.

- **Descent of presenting part**
The head should gradually descend into the pelvis. Assessment of descent is done through abdominal palpation. It is measured in fifths of the foetal head above the brim of the pelvis. Descent can also be assessed vaginally whereby station of the presenting part is estimated in relation to the ischial spines of the maternal pelvis. Slow descent and no descent of the presenting part is usually an indication of CPD.

**Prepare for delivery**
- Identify a helper and review the emergency plan
- Prepare the area for delivery
- Wash hands as per WHO protocols
- Prepare the area for ventilation
- Assemble all supplies and equipment
  > delivery pack i.e., scissors, 3 towels, cord ties / clamps, , , six swabs, gullipot, gause swabs,vaginal pad,
  > supplies; 2 pairs of sterile gloves, head covering, oxytocin, syringes, I ignocaine,
  > suturing pack; 2 towels, gauze, needle holder, scissors, needle
  > resuscitationequipment i.e.- penguin suctions, bag and mask, timer, stethoscope
- Check ventilation equipment for functionality

**Required competencies**
- Interpersonal skills
- Abdominal palpation
- Vaginal examination
- Documentation and interpretation of maternal and foetal condition.

**REFERENCES**


Ministry of Health, Malawi Obstetric Life Saving Skills Manual

MODULE 9

MANAGEMENT OF A WOMAN IN SECOND STAGE OF LABOUR: SPONTANEOUS VERTEX DELIVERY

GOAL: To equip midwife and other skilled birth attendants with knowledge, skills and attitudes in managing women during second stage of labour.

OBJECTIVES:

By the end of this session, midwives and other skilled birth attendants should be able to:

1. Define second stage of labour
2. Demonstrate competencies in conducting the delivery of the baby
3. Demonstrate positive attitude in the management of a woman in second stage of labour

LEARNING ACTIVITIES

- Conduct a delivery
- Analyse current attitude of skilled attendants

CONTENT

1. DEFINITION

   The second stage of labour begins from full dilation of the cervix to the delivery of the baby. It lasts up to 30 minutes for multipara and up to one hour for primigravida.

2. DELIVERY OF THE BABY

   2.1 Preparation for Delivery
   - Ensure delivery trolley is ready
   - Check the following: foetal heart rate; contraction and descent of the head
   - Ensure bladder is empty
   - Put on clean apron, scrubs and on sterile gloves
   - Swabs the thighs and vulva with antiseptic solution
   - Do vaginal examination
   - Mother should be reminded on what to do during the delivery
   - Place the anal pad exposing the perineum
   - Do not leave the patient alone
   - Review positions of delivery (e.g. squatting, semi sitting, lithotomy, lateral hands and knees)

   2.2 Actual Delivery

   The midwife stands on the right side of the bed (if right handed) facing towards the woman if in supine position. The woman should be encouraged to assume a position for pushing that is comfortable and aids in the descending of the foetus. Note time and woman should push in response to her natural bearing down reflex.

   - Help her rest between contractions
   - Offer encouraging feedback after each push and praise her effort
   - Place the fingers of left hand on the occiput
   - Maintain down ward flexion of the head until crowning occurs
   - Support the perineum
• When crowning has occurred instruct the mother to pant
• Allow spontaneous birth of the head
• Discard the perineal pad
• Quickly check the cord around the neck, if present, check if tight or loose, place clamp and cut the cord to free the baby from strangulation
• Clean secretions from eyes, mouth and nostrils, to ensure clear airway and prevent infection
• Wait for the restitution, external rotation of the head which is accompanied by internal rotation of the shoulders, so that the smallest diameter is presented thereby preventing tears to birth canal
• Place hands on each side of the baby’s head (biparietal)
• Ask the woman to bear down
• Direct the head downward towards the anus to deliver the upper or anterior shoulder then lift it gently to deliver the posterior shoulder
• Move the top most hand from the head to support the rest of the baby’s body as it slides out. Note time and sex
• Place the baby on the mother’s abdomen and let the mother hold the baby
• Thoroughly dry the baby while on the mother’s abdomen and cover with a clean, dry cloth: Assess breathing while drying the baby and if s/he does not breathe immediately, begin resuscitative measures (see Learning Guide: Newborn Resuscitation). Remember to do Apgar score at one and five minutes i.e. appearance, pulse rate, grimace, activity, respirations
• Clamp and cut the umbilical cord after pulsations have ceased or approximately 2–3 minutes after the birth, whichever comes first: Tie the cord at about 2 cm and 5 cm from the umbilicus; Cut the cord between the ties covering with gauze to avoid blood splashes
• Ensure the baby is kept warm and in skin-to-skin contact on the mother’s chest, and cover both the baby and the mother with a cloth or blanket, including the baby’s head
• Palpate the mother’s abdomen to rule out the presence of additional baby (ies) and proceed with active management of the third stage.

**During delivery observe the following:**
- Foetal heart rate in between contractions
- Advancement of presenting part
- Condition of the mother
- Perineum for tear and make episiotomy if necessary

**Required competencies**
- Conduct the delivery of a baby safely

**REFERENCES**
MODULE 10

ACTIVE MANAGEMENT OF THIRD STAGE OF LABOUR

GOAL: To equip midwife and other skilled birth attendants with knowledge, skills and attitudes in active management of third stage of labour

OBJECTIVES
By the end of the session the midwife and other skilled birth attendants should be able to:
1. Define third stage of labour
2. Demonstrate competence in the active management of third stage of labour

LEARNING ACTIVITIES
- Conduct active management of 3rd stage of labour
- Examination of placenta and membranes
- Measuring of blood loss

CONTENT

1. DEFINITION

The third stage of labour includes the separation and expulsion of the placenta and membranes. It is the period from the birth of the baby to complete expulsion of the placenta and membranes.

2. ACTIVE MANAGEMENT OF 3RD STAGE OF LABOUR

Active management of 3rd stage of labour is a procedure done to hasten the physiological separation of the placenta in order to minimize blood loss. To safely perform the procedure the midwife must:
- Explain the procedure to the woman
- Place the woman in dorsal position for proper observations and management.
- Palpate the abdomen to exclude 2nd twin
- Ensure bladder is empty
- Give Oxytocin 10 units IM. This should be done within 1 minute of delivery of the baby. Oxytocin is preferred because it is effective 2-3 minutes after injection, has minimal side effects, and can be used in all women.

Make sure there is no additional baby before giving these medications

3. CONTROLLED CORD TRACTION (CCT)

Hold the forceps clamping the cord firmly with one hand, place the other hand just above the woman’s pubic bone and stabilize the uterus by applying counter traction during controlled cord traction. This prevents inversion of the uterus.

- Keep slight tension on the cord and await a strong uterine contraction (2-3 minutes)
- When the uterus becomes rounded or the cord lengthens, apply downward traction on the cord to deliver the placenta. Do not wait for a gush of blood before applying traction on the cord. Continue to apply counter traction to the uterus with the other hand.
• If the placenta does not descend during 30-40 seconds of controlled cord traction (i.e. there are no signs of placental separation), do not continue to pull on the cord:
• gently hold the cord and wait until the uterus is well contracted again. If necessary use the sponge forceps to clamp the cord closer to the perineum as it lengthens
• with the next contraction, repeat controlled cord traction with counter traction
• check that the bladder is not distended and obstructing the descent

**Never apply cord traction (pull) without applying counter traction (push) above the pubic bone with the other hand**

• As the placenta delivers, the thin membranes can tear off. Hold the placenta in two hands and gently turn it until the membranes are twisted
• Slowly continue with getting the membranes out with the aid of gravity to complete the delivery of the membranes
• If the membranes tear, gently examine the upper vagina and cervix wearing sterile gloves and use a sponge forceps to remove any pieces of membrane that are present
• Carefully examine the placenta to check for missing lobes and membranes. If a portion of the placenta is missing or there are torn membranes with vessels, suspect retained placenta fragments
• If the cord is pulled off with the placenta still in the uterus, manual removal of the placenta should be done
• Teach the mother how to feel for a contracted uterus so that when she is alone she can be able to note an abnormality

**Required competencies**
• Actual delivery of placenta and membranes (Active Management)
• Manual removal of placenta when necessary
• Demonstrate positive attitude

**REFERENCES**


MODULE 11

REPAIR OF EPISIOTOMY AND TEARS

**Goal:** To equip midwife with appropriate knowledge, skills and attitudes for suturing of episiotomy and repair of tears.

**OBJECTIVES**
1. Define types of tears
2. Describe the anaesthesia needed for repair
3. Describe the suture used for repair
4. Discuss some tips for repair
5. Provide post-procedure counselling

**LEARNING ACTIVITIES**
- Repair of tears and Episiotomies
- Inspection and Repair of Vaginal Sulcus, Periurethral and Cervical Tears
- Best Practices in Maternal and Newborn Care

**CONTENT**

1. **OBJECTIVES OF REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS**
   - Prevent blood loss
   - Facilitate return of genital tract to sexual and reproductive health

2. **DEFINITIONS**
   - Vaginal Sulcus Tear(s): One or more lacerations/tears of one or both sides of the vagina
   - Periurethral Tear(s): One or more lacerations/tears near the urethra
   - Cervical Tear(s): One or more lacerations/tears of the cervix

3. **ANAESTHESIA FOR REPAIR OF VAGINAL SULCUS OR PERIURETHRAL TEAR**
   - Anaesthesia of choice - 0.5% lignocaine.
   - Use approximately 10 mL of lignocaine. If more than 40 mL is needed, add adrenaline to the solution. Do not use more than 50 mL.
   - Aspirate to be sure that no vessel is penetrated.
   - Anesthetize at least 2 minutes prior to suturing, and test that anaesthesia has been effective.

4. **ANAESTHESIA FOR CERVICAL TEAR**
   - Anaesthesia is not required for most cervical tears:
     - Emotional support and encouragement is needed. Relief of anxiety is important in reducing discomfort.
     - If tears are high and extensive, give pethidine and diazepam IV slowly (do not mix in same syringe) or use ketamine.

4.1 **Type of Suture**
• For vaginal sulcus tear, use 2–0 chromic or vicryl suture
• For periurethral tears, use 3–0 or 4–0 chromic or vicryl suture
• For cervical tears, use 0 chromic suture

4.2 Tips
• Start suture 1 cm above apex of vaginal or cervical tear to catch any vessels that may have retracted
• Insert a catheter before beginning repair of periurethral tears to prevent damage to urethra
• Always use forceps, NEVER your fingers, to handle/maneuver needle

4.3 Post-Procedure Counselling
• Change pad/cloths frequently to keep wound dry
• Do sitz/warm salt baths 3–4 times per day
• Do not insert anything in the vagina
• Get rest and good nutrition
• Delay intercourse to avoid breaking sutures
• Do not return for suture removal as they are absorbable
• Return after 4–6 days for check-up

REFERENCE

MODULE 12

POSTNATAL CARE

GOAL: To equip midwives and other skilled birth attendants with knowledge, skills and attitudes necessary for providing quality postnatal care to mothers

OBJECTIVES
By the end of the session the midwife and other skilled birth attendants should be able to:
1. Define postnatal period
2. Demonstrate competencies in the management of fourth stage of labour
3. Demonstrate competencies in the management of the postnatal woman
4. Demonstrate positive attitude in the management of the postnatal woman

LEARNING ACTIVITIES
• Comprehensive assessment of the postnatal women
• Counselling skills
• Clinical decision making
• Evaluate care
• Identify potential and actual problems that might be life threatening
• Developing discharge criteria and plan

CONTENT

1. DEFINITION
The postnatal period refers to the period following complete expulsion of placenta and membranes up to six weeks.

2. MANAGEMENT OF FOURTH STAGE OF LABOUR
2.1.1 Immediate care after delivery of the placenta

- Clean the vulva, change the gloves and inspect the cervix, vagina and perineum for any tears.
- Check blood pressure, pulse rate, respiration rate and temperature.
- Examine placenta and membranes for completeness.
- Measure the blood loss using measuring jar.
- Document amount of blood loss and status of placenta and membranes
- Examine the woman carefully and repair any gross or bleeding tears to the cervix or vagina or repair episiotomy

i) After the completion of the third stage the mother must be assessed to determine:
   - Check for uterine tone (contracted or flabby)
   - Check lochia for colour, amount and consistency
   - If the mother has a full bladder, she must be assisted to void.

Once these observation have been done, the mother must be left to rest on the delivery bed for the next two hours, and assessed on the above every 15 minutes

ii) Initiate breastfeeding within half an hour of delivery.

iii) Give soft porridge, fluids (cup of tea)
iv) Provide moral support as much as possible

3. SUBSEQUENT CARE

3.1 Daily assessment while in hospital, focusing on the following critical areas:
   - Vital signs
   - Fundal height
   - Lochia for amount, colour, smell and consistency
   - Perineum (if sutured)
   - Breast condition and lactation
   - Bladder

3.2 Management of normal postnatal woman
   - Infection prevention
   - Nutrition (supplements)
   - Fluids
   - Vitamin A
   - Provide psychological support that reflects respect for the woman and her family
   - Provide HIV testing and counselling if status unknown
   - If HIV positive, manage according to national guidelines

3.3 Danger signs and midwifery interventions

While conducting an assessment on the normal postnatal mother, the midwife must be alert for potential or possible physiologic problems. Early identification of such problems allows for early interventions. The following are common danger signs which may be identified.

<table>
<thead>
<tr>
<th>Dangers signs</th>
<th>Midwifery interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaginal bleeding</td>
<td>Refer to PPH</td>
</tr>
<tr>
<td>Fever</td>
<td>Physical examination to determine cause of fever (breast engorgement, abdominal tenderness, offensive lochia, infected tear/episiotomy)</td>
</tr>
<tr>
<td></td>
<td>Check malaria parasites and midstream urine</td>
</tr>
<tr>
<td></td>
<td>• If breast engorgement, offensive lochia, tender abdomen or infected tear/episiotomy, refer to puerperal sepsis module</td>
</tr>
<tr>
<td></td>
<td>• If other cause, treat according to national guidelines</td>
</tr>
<tr>
<td>Raised Blood pressure, Severe headache, visual disturbances,</td>
<td>Refer to PIH module</td>
</tr>
<tr>
<td>Uterine sub involution/Foul smelling lochia / infected tear/episiotomy</td>
<td>Refer to puerperal sepsis module</td>
</tr>
</tbody>
</table>
Conditions that require immediate referral to the next level:
- Deep Vein Thrombosis
- Severe abdominal pain
- Fever
- Rapid breathing and difficulties in breathing
- Convulsions
- Increased vaginal bleeding

Fever postpartum or post abortion is puerperal sepsis until proven otherwise

3.4 Post Caesarean section observations
- Anaemia
- Bleeding
- Wound infection
- Difficulties in breathing
- Vital signs

3.5 Discharge plan
Mothers should be discharged after 48 hours post delivery if there are no problems. Postnatal care provided in the postnatal ward should include advice and teaching on what the mother and her family should do when she gets home to maintain an optimum level of health status.

3.5.1 Discharge criteria
- No fever
- No offensive or heavy lochia
- No headache
- No hyper/hypotension
- Psychological well-being
- Well contracted uterus

3.5.2 Counselling of the postnatal woman on discharge
- Advice to return immediately when danger signs occur
- Advise and explain not to insert anything in the vagina
- Rest and sleep
- Importance of personal hygiene (Infection Prevention)
- Resume sexual intercourse when the woman is comfortable
- Nutrition for mother
- Exclusive breastfeeding
- Family Planning including LAM
- Immunisations / growth monitoring
- Advice on returning at 1 and 6 weeks

3.6 Critical issues at 1 week postpartum for mother (see Module 18 for newborn)
- Check for anaemia
- Blood pressure
- Temperature
• Respiration
• Uterine involution
• Lochia
• Perineal tears
• Breast condition and lactation
• Reinforce advise given on discharge
• Advise to return at 6 weeks postnatal
• Community health worker should conduct postnatal check-ups for both woman and baby 2 days after discharge

3.7 Critical issues at 6 week postpartum
• Same as at 1 week
• Counsel on family planning and provide the method of choice

Required competencies
• Inspection of cervix, vagina and perineum
• Examination of placenta and membranes
• Estimation of blood loss
• Demonstrate positive attitude.
• Interpersonal communication skills
• Data collection
• Physical assessment of a postnatal mother
• Counselling on self care and baby care
• Assisting mothers to breast feed
• Demonstration of appropriate attitudes
• Clinical decision making

REFERENCES
Prentice Hall Health, New Jersey, USA
MODULE 13

POST PARTUM FAMILY PLANNING (PPFP)

GOAL: To equip midwife and other skilled birth attendants with knowledge, skills and attitudes necessary for providing quality postpartum family planning (PPFP)

OBJECTIVES
By the end of the session the midwife and other skilled birth attendants should be able to:
1. Define postnatal period and postpartum contraception
2. Discuss benefits of birth spacing and timing of pregnancies
3. Describe basic care of contraception after birth
4. Demonstrate competencies in PPFP counselling

LEARNING ACTIVITIES
• Comprehensive assessment of the postnatal women
• Counselling skills
• Clinical decision making
• Evaluate care
• Identify potential and actual problems that might be life threatening
• Developing discharge criteria and plan

CONTENT

1. DEFINITIONS

The Postpartum Period
The postpartum period is a time of transition, adjustment and adaptation along with significant biological, social and psychological changes. In terms of changes in the woman's body, the postpartum period starts from the first minute after delivery of placenta and lasts up to one year after child birth.

Postpartum Contraception
Postpartum contraception is the initiation and use of family planning methods during the first year after delivery:
• Post-placental – the first 10 minutes after placenta delivery
• Immediate postpartum – up to 48 hours after delivery
• Early postpartum – 48 hours up to 6 weeks
• Extended postpartum – 6 weeks up to 1 year after birth

2. BIRTH SPACING AND TIMING OF PREGNANCIES

Time interval from one child’s birth date until the next child’s birth date. Healthy timing and spacing of pregnancy are important:
• Both infants and mothers are more likely to survive if couples space their births 3 to 5 years apart.
• This means that couples should wait 2 years after the birth of their last baby before trying to conceive Birth Spacing Saves lives of mothers
• Healthy timing and spacing of pregnancies has positive effects on maternal health and new born outcomes
• Women who have their babies at 27- to 32- month intervals are:
  • More likely to avoid anaemia
  • More likely to avoid 3rd trimester bleeding
  • More likely to survive childbirth

3. CONTRACEPTIVES AFTER BIRTH- BASIC CARE:

Discussion of contraceptive needs:
• Considering client’s reproductive goals
• Balanced Counselling Strategy -Information and counselling about methods, their effectiveness and side effects
• Short- and long-term contraceptive method choices
• Assurance of contraceptive re-supply with access to follow-up care
• Integration with other maternal-infant -child care services (New-born care, Immunizations, GMP clinics), ANC and postpartum visits
• Help clients assess their risk and make necessary changes in behaviour and choose appropriate Family Planning method

4. POST-PARTUM FAMILY PLANNING COUNSELLING

Objectives:
• To help women (and couples) decide if they want to use a contraceptive method
• With the client’s permission, include partner
• Birth spacing/limiting
• If she does want contraception, to help her choose an appropriate method, taking into consideration whether or not she is breastfeeding
• To prepare her to use the method effectively
• To help the woman develop a transition plan from LAM to another method
• To discuss return to fertility

Return to Fertility for the following women

Breastfeeding women:
Period of infertility longer for exclusive or nearly exclusive breastfeeding:
On-demand feeding blocks ovulation
• Return to fertility not predictable
• Likelihood of menses and ovulation is low during first 6 months
• Ovulation may occur prior to menses

Protected from pregnancy for at least 6 months if using LAM:
• Fully or nearly fully breastfeeding
• Less than 6 months postpartum
• Menses has not returned

Protected from pregnancy up to 6 weeks if not using LAM:
• At 6 weeks can use combined methods
• At 6 weeks can use progestin only methods safely or Tubal Ligation
• Non breastfeeding women
• Use of contraceptives should be started at the time of or before first intercourse
• Combined hormonal methods should not be used until after 6 weeks postpartum

When to start contraception
POSTPARTUM CONTRACEPTIVE OPTIONS

STANDARD DAYS METHOD is appropriate for women who have had 4 regular menses lasting 26-32 days apart.

Delivery

48hrs

1 week

3 weeks

4 weeks

6 weeks

6 months

9 months

All Women

Breast-feeding Women

Non-breast feeding Women

Men

CONDOMS

FEMALE STERILIZATION

DIAPHRAGM/CERVICAL CAP

IUCD

EMERGENCY CONTRACEPTION

LACTATIONAL AMENORRHEA METHOD

PROGESTIN ONLY

COMB. ESTROGEN-PROGESTIN

PROGESTIN-ONLY METHODS

COMBINED ESTROGEN-PROGESTIN

MALE STERILIZATION

CONDOMS

STOP

STOP
• Contraception should be started at the time of or before first intercourse
• Combined hormonal methods should not be used until after 3 weeks postpartum

5. POST PARTUM FAMILY PLANNING METHODS


REFERENCES


MODULE 14

CARE OF THE NEWBORN

GOAL: To Equip the midwife and other skilled birth attendants with knowledge skills and attitudes necessary for saving the lives of newborns

OBJECTIVES
By the end of the session midwives and other skilled birth attendants should be able to:
1. Define a Neonate
2. Demonstrate competencies in the immediate care of the newborn
3. Demonstrate competencies in resuscitating a newborn
4. Demonstrate competencies in the subsequent care of the newborn
5. Apply knowledge of the Apgar score in determining the condition of the newborn

LEARNING ACTIVITIES
• Comprehensive assessment of the newborn
• Determining newborns who need resuscitation
• Implementing neonatal resuscitation
• Counselling the mother on care of the baby, including danger signs
• Determining discharge criteria and plan

Definition of neonate
• A baby from birth to the 28th day of life

Routine Care of the Newborn at Delivery
Most babies (90%) require only simple supportive care at and after delivery in the following order:

Clear Airway
• As soon as the head is born wipe the mouth, nose and eyes by use of inside out technique
• Dry the baby thoroughly at birth with a clean towel- Drying helps keep the baby warm and stimulates breathing
• Observe baby while drying- is the baby crying? The baby who is crying needs routine care

Keep Warm
• Position the baby skin to skin on the mother’s abdomen. The warmth from the mother is the best way to keep a baby warm.
• Cover the baby with a warm, dry cloth and a cap or other head covering to prevent heat loss.

Breathing
• Check breathing

Clamping and cutting the cord
• In a healthy newborn wait for at least 1 minute and up to 3 minutes or wait for cessation of the cord pulsation to clamp or tie and cut the cord (The baby receives needed blood from the placenta in the first minutes after birth.)
• Apply (by swabbing) 4% chlorhexidine digluconate to the newborn cord stump soon after cutting to prevent infection
• Tie the cord with two sterile ties; the first one (or 2) ties about 2 cms or two fingerbreadths from the baby’s body. The next tie 3cms or 3 fingerbreadths from the first.
• Cut the cord between two ties.
• Apply chlorhexidine 4% on the cord stump
• The provider and the mother should check frequently that there is no bleeding from the cord in the first day after delivery, especially during the first few hours. If there is bleeding another sterile tie should be applied between the baby’s body and the first tie.
• Bleeding later on from the cord might indicate haemorrhagic disease of the newborn (due to Vitamin K deficiency) or an infection and this baby has to be reviewed by a health professional

Figure: CUTTING THE CORD

Breastfeeding initiation
• Initiation of breastfeeding within the first 30 minutes.
• Maintain skin-to-skin contact and early breastfeeding. These are the best ways to keep a baby warm and prevent hypoglycaemia.
APGAR SCORE

Assessing the baby using the Apgar score
The APGAR scoring chart is a simple test to help you decide if a newborn needs help.
You look, listen and feel for:
   A – Appearance or colour of the baby
   P – Pulse or heartbeat of the baby
   G – Grimace of face or response of baby when you touch his feet
   A – Activity or muscle tone of arms and legs
   R – Respiration or breathing of the baby

<table>
<thead>
<tr>
<th>2 POINTS</th>
<th>1 POINT A</th>
<th>0 POINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Completely pink body and face</td>
<td>Pink body, blue arms and legs, pale body and face retracting of chest wall, Grunting or weak cry</td>
</tr>
<tr>
<td>P</td>
<td>More than 100 beats per minute</td>
<td>100 beats per minute or less weak heart beat</td>
</tr>
<tr>
<td>G</td>
<td>Crying, coughing or Sneezing</td>
<td>Grimace or puckering of face</td>
</tr>
<tr>
<td>A</td>
<td>Active movement, Waving arms and legs</td>
<td>Some movements in response to stimulation</td>
</tr>
<tr>
<td>R</td>
<td>Strong cry</td>
<td>Slow, irregular breathing,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>retracting of chest wall, Grunting or weak cry</td>
</tr>
</tbody>
</table>

The quantitative assessment is done at one minute and five minutes. Scores obtained will determine the condition of the baby. The highest Apgar score for a healthy baby is 10; the lowest is zero. Scores of 7–10 are normal and scores between 0–6 are abnormal requiring resuscitative measures.

**Routine subsequent care for all newborn babies after delivery**
- Keep the baby dry and well covered in a warm room away from drafts
- Keep the baby with the mother
- Initiate breastfeeding within the 30 minutes
- Let the baby breastfeed on demand if able to suck
- Give vitamin K (phytomenadione) 1 ampoule (1mg/0.5ml or 1 mg/ml) IM once
- Keep umbilical cord clean and dry
- Apply antiseptic ointment or antibiotic eye drops/ointment (e.g. tetracycline eye ointment) to both eyes once, according to national guidelines
- Give oral polio, and BCG vaccines, depending on national guidelines

**Prevention of neonatal infections**
Many early neonatal infections can be prevented by:
• Good basic hygiene and cleanliness during delivery of the baby
• Special attention to cord care
• Eye care

Many late neonatal infections are acquired in hospitals. These can be prevented by:
• Exclusive breastfeeding
• Strict procedures for hand washing for all staff and for families before and after handling babies
• Avoiding incubators (use kangaroo mother care instead). Incubator may be used only in the following situations:
• There is no mother or guardian to provide KMC
• Intermittent KMC for sick/unstable babies or sick mothers or no space in the KMC room
• Strict sterility for all procedures
• Clean injection practices
• Removing intravenous drips when they are no longer necessary
• Avoiding unnecessary blood transfusion

Management of common problems in the days after birth
• Convulsions: Check blood glucose levels if low give 10% dextrose 5mls/kg as a bolus. Treat seizures with phenobarbitone.
• Apnoea: common after severe birth asphyxia. Sometimes associated with convulsions. Manage with oxygen by nasal catheter and resuscitation with bag and mask.
• Inability to suck: feed with expressed breast milk via a nasogastric tube. Beware of delayed emptying of the stomach which may lead to regurgitation of feeds.
• Poor motor tone. May be floppy or have limb stiffening (spasticity).

Prognosis: can be predicted by recovery of motor function and sucking ability. A baby who is normally active will usually do well. A baby who, a week after birth, is still floppy or spastic, unresponsive and cannot suck has a severe brain injury and will do poorly. The prognosis is less grim for babies who have recovered some motor function and are beginning to suck. The situation should be sensitively discussed with parents throughout the time the baby is in hospital.

Danger signs in newborns
Neonates often present with non-specific symptoms and signs which indicate severe illness. These signs might be present at or after delivery, or in a newborn presenting to hospital, or develop during hospital admission. Initial management of the neonate presenting with these signs is aimed at stabilizing the child and preventing deterioration. Signs include:
• Unable to breastfeed
• Convulsions
• Lethargy or unconsciousness
• Chest in-drawing
• Fast breathing two counts of more than 60 breaths per minute
  - Respiratory rate less than 20/min or apnoea (cessation of breathing for >15 secs)
• Fever (37.50C or above) or hypothermia (35-40C or less)
• Jaundice

Localizing signs of infection are:
• Many or severe skin pustules
• Umbilical redness extending to the peri-umbilical skin or umbilicus draining pus
• Eyes draining pus
EMERGENCY MANAGEMENT OF DANGER SIGNS:

**Airway and Breathing**
- Give bag and mask ventilation, with oxygen (or room air if oxygen is not available) in cases of apnoea or if respiratory rate too slow (<20).
- Give oxygen by nasal prongs or nasal catheter (0.5-1 litre/min) if the neonate is cyanosed or in severe respiratory distress.

**Circulation**
If in shock defined by cold extremities, prolonged capillary time >/= 3 sec and a weak thready pulse the following should be done:
- Put on oxygen
- Keep warm
- IV access- give 10mls/kg normal saline as a bolus then reassess if still in shock can repeat the bolus
- Give X-penicillin 50,000IU IM or IV bd for 5-7 days gentamicin 5mg /kg od for 5-7 days

**Coma and Convulsions**
- If drowsy, unconscious or convulsing, check blood glucose. If glucose <2.2 mmol/l (<40 mg/100 ml), give glucose IV- 5mls/kg of 10% dextrose IV push. An NGT should be inserted for feeds so as to prevent further hypoglycaemia
- If you cannot check blood glucose quickly, assume hypoglycaemia and give glucose IV 5mls/kg of 10% dextrose IV push. If you cannot insert an IV drip, give expressed breast milk or glucose through a nasogastric tube.
- Give Phenobarbital 20mg/kg loading dose slow IV or IM stat if convulsing. If the baby is still convulsing after 30 minutes repeat phenobarbitone 10mg/kg. The maintenance dose is 5mg/kg IM/IV once daily
- Admit, or refer urgently if treatment is not available at your hospital
- Give vitamin K (if not given before).
- Monitor the baby frequently (see below).
- Give cloxacillin (if available) instead of penicillin if extensive skin pustules or abscesses as these might be signs of Staphylococcus infection

**SERIOUS BACTERIAL INFECTION**
Risk factors for serious bacterial infections are:
- Maternal fever (temperature >37.9 oC before delivery or during labour)
- Membranes ruptured more than 24 hours before delivery
- Foul smelling amniotic fluid

**Meningitis**
**Clinical signs**
Suspect if signs of serious bacterial infection are present, or any one of the following signs of meningitis.

**General signs**
- Drowsy, lethargic or unconscious
- Reduced feeding
- Irritable
- High pitched cry
- Apnoeic episodes

**More specific signs**
- Convulsion
- Bulging fontanelle, NOTE: usually a late sign in neonates.
Do a lumbar puncture (LP) in all neonates with a serious bacterial infection, unless the baby is having apnoea or there is local infection at the LP site.

**Treatment**

Do lumbar puncture and CSF analysis for all babies except if there is severe dyspnoea or the lumbar skin is infected

**Management**

- Start antibiotics immediately after doing a lumbar puncture
- First line: X-pen 100,000IU /Kg iv 6 hourly + Gentamycin 5mg/ Kg iv (7.5mg/ Kg if neonate > 7 days old) once daily for 14 -21 days
- OR Ceftriaxone 50mg/ Kg 12 hourly for 10 days.
- Avoid fluid overload which will accelerate cerebral oedema.
- Give anti-convulsing drugs according to protocol
- Give oxygen 2 litres/min if hypoxaemia
- For unconscious babies
  - Manage the airway.
  - Prevent pressure sores.
  - Maintain food intake by NGT if necessary.
  - Clean the mouth well with saline swab.
  - Give physiotherapy.

**Convulsions/fits**

Always do a blood sugar in a neonate who is convulsing and manage appropriately
- Treat convulsions with Phenobarbital.

**Necrotizing enterocolitis**

Necrotizing enterocolitis (NEC, a bowel infection) may occur in low birth weight babies, especially after enteral feeds are started. It is more common in low birth weight babies fed artificial formulae, but may occur in breastfed babies.

Common signs of NEC are:
- Abdominal distension or tenderness
- Intolerance of feeding
- Bile-stained vomit or bile-stained fluid up the nasogastric tube
- Blood in the stools

**Treatment**

- Stop enteral feeds.
- Pass a nasogastric tube and leave it on free drainage.
- Start an IV infusion of glucose/saline.
- Start antibiotics: give penicillin plus gentamicin plus metronidazole (if available) for 10 days.
- If the baby has apnoea or other danger signs, give oxygen by nasal catheter. If apnoea continues give aminophylline.
- If the baby is pale, check the haemoglobin and transfuse if Hb<10 g/dL.
- Take a supine and lateral decubitus abdominal X-ray. If there is gas in the abdominal cavity outside the bowel there may be a bowel perforation. Ask a surgeon to see the baby urgently.
- Examine the baby carefully each day. Reintroduce expressed breast milk feeds by nasogastric tube when the abdomen is soft and not tender, the baby is passing normal stools with no blood and is not having bilious vomiting. Start feeds slowly and increase
slowly by 1–2 ml per feed each day.

OTHER COMMON NEONATAL PROBLEMS

Jaundice
More than 50% of normal newborns, and 80% of preterm infants, have some jaundice. Jaundice can be divided into normal or abnormal:

Normal (physiological)
- Skin and eyes yellow but none of the above

Abnormal (non physiological)
- Jaundice started on the first day of life
- Jaundice lasting longer than 14 days in term, 21 days in preterm infants
- Jaundice with fever
- Deep jaundice: palms and soles of the baby deep yellow

Abnormal jaundice may be due to:
- Serious bacterial infection
- Haemolytic disease due to blood group incompatibility or G6PD deficiency
- Congenital syphilis or other intrauterine infection
- Liver disease such as hepatitis or biliary atresia
- Hypothyroidism

Investigations for abnormal jaundice
The clinical impression of jaundice should be confirmed by a bilirubin measurement, where possible. The investigations depend on the likely diagnosis and what tests are available, but may include:
- Haemoglobin or PCV
- Full blood count to look for signs of serious bacterial infection (high or low neutrophil count with >20% band forms), and to look for signs of haemolysis
- Blood type of baby and mother, and Coombs test
- Syphilis serology such as VDRL tests
- G6PD screen, thyroid function tests, liver ultrasound

Treatment
- Check bilirubin levels. By Ectometer or Total serum bilirubin or indirect
- If bilirubin levels are greater than the value shown below, the baby should be started on phototherapy.

<table>
<thead>
<tr>
<th>Day of life</th>
<th>Healthy Term Baby</th>
<th>Preterm , LBW, Sick</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Day 1</strong></td>
<td>Treat any visible jaundice with phototherapy</td>
<td>Mg/dl</td>
</tr>
<tr>
<td><strong>Day 2</strong></td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td><strong>Day 3</strong></td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td><strong>Day 4 and there after</strong></td>
<td>20</td>
<td>17</td>
</tr>
</tbody>
</table>

Or Phototherapy if
- Jaundice on day 1
- Deep jaundice involving palms and soles of the feet
- Jaundice due to haemolysis

Continue phototherapy until serum bilirubin level is lower than threshold range or until baby is well and there is no jaundice of palms and soles.
If the bilirubin level is very elevated and you can safely do exchange transfusion, consider doing so.

**Antibiotics**
If suspected infection or syphilis, treat for serious bacterial infection

**Antimalarials**
If fever is present check blood films for malaria parasites and if positive give anti-malarials
Encourage breastfeeding

**CONJUNCTIVITIS**
Sticky eyes and mild conjunctivitis
- Treat as outpatient
- Show the mother how to wash the eyes with water or breast milk and how to put eye ointment in the eyes. The mother must wash her hands before and after.
- Tell the mother to wash the eyes and put in eye ointment 4 times a day for 5 days Give the mother a tube of Tetracycline or chloramphenicol eye ointment to treat the child. Review 48 hours after starting treatment, if not improving.

**Ophthalmia neonatorum.**
**Swollen, red eyelids with pus**
Severe conjunctivitis (a lot of pus and/or swelling of the eyelids) is often due to gonococcal infection.
Management:
- Treat as in-patient
- Isolate and monitor the baby
- Wash the eyes with Normal saline 2 hourly until the discharge is eliminated
- Start antibiotics
  - Gentamycin 5mg/ Kg im stat (7.5mg Kg if the neonate is older than 7 days) and Erythromycin 12.5 mg /Kg orally 6 hourly for 7 days.
  - Alternative to gentamycin, can give Cefotaxime 50 mg/ Kg im stat then Erythromycin.
- 1% Tetracycline eye ointment (TEO) 6 hourly OR 1-2 drops of 0.3% Gentamycin
- Treat the father with
  - Gentamycin 240mg i/m stat, and
  - Doxycycline 100mg 12 hourly for 7 days
- Treat the mother with
  - Gentamycin 240mg i/m stat, and
  - Erythromycin 500mg 6 hourly for 7 days

NB: At district level, refer baby for specialised care if baby not responding to treatment or complications arise

**BABIES OF MOTHERS WITH INFECTIONS**
**Congenital Syphilis**
**Clinical signs**
- Often low birth weight
- Palms and soles: red rash, grey patches, blisters or skin peeling
- ‘Snuffles’: rhinitis with nasal obstruction which is highly infectious
- Abdominal distension due to big liver and spleen
- Jaundice
- Anaemia
- Some very low birth weight babies with syphilis have signs of severe sepsis with
lethargy, respiratory distress, skin petechiae or other bleeding
If you suspect syphilis, do VDRL test if possible

Management

**Asymptomatic neonates born from VDRL positive mothers**
- Start Benzathine Penicillin 50,000 IU/ Kg i/m stat
- Give stat doses of antibiotics and subsequent doses while waiting for referral
  - Benzyl-Penicillin 50,000IU / Kg IM 12 hourly
  - OR Erythromycin syrup 12.5mg /Kg 6 hourly
- Refer immediately

Treat the parents with Benzathine-Penicillin 2.4 Mega units IM stat

**Symptomatic neonates**
- Give stat doses of antibiotics and subsequent doses while waiting for referral

Baby of a 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:**
- Reassure the mother that it is safe for her to breastfeed her baby;
- Do not give the tuberculosis vaccine (BCG) at birth; Give prophylactic isoniazid 5 mg/ kg body weight by mouth once daily;
- At the age of six weeks, re-evaluate the baby, noting weight gain and taking an X-ray of the chest, if possible;
- If there are any findings suggestive of active disease, start full antituberculosis treatment according to national guidelines;
- 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.

Baby of a mother with HIV

All babies born from HIV infected mothers should be started on niverapine. They need to take niverapine for up to 6 weeks of age. Refer to PMTCT module 28 for further details

**SUPPORTIVE CARE FOR THE SICK NEONATE**

**Thermal environment**
- Keep the young infant dry and well wrapped.
- A bonnet or cap is helpful to reduce heat loss. Keep the room warm (at least 25 ºC).
- Keeping the young infant in close skin-to-skin contact with the mother (“kangaroo mother care”) for 24 hours a day is as effective as using an incubator or external heating device to avoid chilling.
- Pay special attention to avoid chilling the infant during examination or investigation.
- Regularly check that the infant’s temperature is maintained in the range 36.0–37.0 ºC (96.8–98.6 ºF) axillary.

**Fluid management**
Refer to KMC module on amount of milk (fluid) needed per day by birth weight and age.
Other babies might require IV fluids especially if they are not being fed. The normal maintenance requirement is the same as the daily feed requirement. Calculate the total volume per day and divide it by 24 to get the hourly drip rate.
- Use a monitoring sheet for babies on IV fluids
- Calculate drip rate
- Check drip rate and volume infused every hour
• Weigh baby daily
• Watch for facial swelling: if this occurs, reduce the IV fluid to minimal levels or take out the IV. Introduce milk feeding by nasogastric tube or breast feeding as soon as it is safe to do so.

**Oxygen therapy**

Give oxygen treatment to young infants with any of the following:

- central cyanosis
- grunting with every breath
- difficulty in feeding due to respiratory distress
- severe lower chest wall in-drawing
- head nodding (i.e. a nodding movement of the head, synchronous with the respiration and indicating severe respiratory distress)

Where a pulse oximeter is available, this should be used to guide oxygen therapy. Oxygen should be given if the oxygen saturation is below 90%, and the oxygen flow should be regulated to have a saturation between 92% and 95%. Oxygen can be discontinued once the child can maintain saturation above 90% in room air.

Nasal prongs are the preferred method for delivery of oxygen to this age group, with a flow rate of 0.5 litres per minute. Thick secretions from the throat may be cleared by intermittent suction, if they are troublesome and the young infant is too weak to clear them. Oxygen should be stopped when the infant’s general condition improves and the above signs are no longer present.

**NOTE:** nasal prongs can be blocked by nasal secretions, so, regularly check and ensure there is flow of oxygen through prongs.

**High fever**

Do not use antipyretic agents such as paracetamol for controlling fever in young infants. Control the environment. If necessary, expose the baby.

Note: All newborns should have a thorough physical exam before discharge.
## TABLE ON NEWBORN PHYSICAL EXAMINATION

<table>
<thead>
<tr>
<th>WHAT TO CHECK</th>
<th>NORMAL FINDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Face, chest, tongue, and lips are pink. Hands and feet may be bluish during the first 48 hours.</td>
</tr>
<tr>
<td>Breathing</td>
<td>Quiet breathing. There should be no in drawing of the chest or flaring of the nostrils. Chest and abdomen move with each breath.</td>
</tr>
<tr>
<td>breathing Rate of</td>
<td>Count the baby’s breathing for 1 full minute: 30-60 breaths in 1 minute (when the baby is not crying). May be irregular, i.e., hard breathing, then up to 20 seconds without a breath.</td>
</tr>
<tr>
<td>Posture and tone</td>
<td>Arms and legs are bent (flexed). Preterm babies have less flexion</td>
</tr>
<tr>
<td>Heart rate</td>
<td>Count the baby’s heart beats for 1 full minute: 100-160 beats in 1 minute Short periods of change in heart rate are normal (such as with sleeping, crying, or breastfeeding).</td>
</tr>
<tr>
<td>Warmth</td>
<td>Baby’s abdomen or back feels warm. (If the baby’s temperature is low, do the examination later after re-warming.)</td>
</tr>
<tr>
<td>Activity</td>
<td>The baby moves both legs and arms equally. The baby opens his mouth and turns his head to search for the nipple when his cheek is stroked gently.</td>
</tr>
<tr>
<td>Skin</td>
<td>There may be tiny white bumps on the face (milia). There may be a bluish area over the lower back. There may be some peeling of the skin</td>
</tr>
<tr>
<td>Head</td>
<td>Elongated or uneven (asymmetrical) shape due to moulding from pressure of the birth canal is normal. It usually goes away by 2-3 days after birth (see figure 2.6). Caput succedaneum, a soft swelling over the part of the head that came out first through the birth canal, may be present at birth. It goes away by 48 hours. The anterior fontanelle (a diamond-shaped soft spot just above the forehead) is flat and may swell when the baby cries (see figure 2.7).</td>
</tr>
<tr>
<td>Eyes</td>
<td>No discharge and the eyes are not sticky. No jaundice, no sun set eyes</td>
</tr>
<tr>
<td>Mouth</td>
<td>When the baby cries look into his mouth and put one gloved finger into the mouth and feel the palate for any opening. Lips, gums, and palate are intact and the same on both sides The baby sucks vigorously on your finger.</td>
</tr>
<tr>
<td>Chest</td>
<td>The chest moves equally with breathing. The abdomen pushes out with each breath. Breast nodules may be enlarged Both girls and boys may have swollen breasts at birth.</td>
</tr>
</tbody>
</table>

**WHAT TO CHECK**  **NORMAL FINDINGS**
| Abdomen               | Rounded, soft.  
|                      | Umbilical cord is tied tightly, dry, not bleeding.  
|                      | A small umbilical hernia is normal during the first year. |
| Back and spine.      | The skin over the spine has no openings.  
|                      | The spine has no defects. |
| Anus                 | Do not insert instruments or finger to inspect the anus.  
|                      | The newborn passes stool by 24 hours. |
| Girl’s external genital organs | Gently separate the legs.  
|                      | A white vaginal discharge is normal.  
|                      | A bloody vaginal discharge that starts on day 2-3 and continues up to day 7 is normal. |
| Boy’s external Genital organs | The foreskin can be retracted easily (unless circumcision has been performed).  
|                      | The urethra opens at the end of the penis.  
|                      | One or two testes are felt in the scrotum.  
|                      | If the baby has been circumcised, there is no sign of infection or bleeding. |
| Temperature          | 36-37 °C (96.8-98.6 °F) auxiliary (under the baby’s arm)  
|                      | If a thermometer is not available: feel the chest or back with the back of your hand; the temperature should feel the same as that of a healthy person. |
| Weight               | 2.5 up to 3.99 kg is the normal range for birth weight. Newborns normally lose 5% to 10% of their birth weight in the first few days of life, and then begin to gain weight. By the 14th day, a baby should have regained his birth weight. |
## NEWBORN PHYSICAL EXAMINATION: ABNORMAL FINDINGS AND PLAN OF ACTION

<table>
<thead>
<tr>
<th>WHAT TO CHECK</th>
<th>ABNORMAL FINDINGS</th>
<th>PLAN</th>
</tr>
</thead>
</table>
| Colour        | Yellow or jaundiced skin or eyes  
*Cause: Possible infection or a blood problem* | · Determine causes of jaundice  
· Assess bilirubin content  
· Consider infection. |
|               | Paleness (pallor)  
*Cause: Bleeding, poor circulation of blood, baby is cold, low blood sugar, or not enough oxygen* | Make sure the cord tie is tight and check for other sources of bleeding.  
Warm the baby.  
Check the respiratory and heart rates.  
Give oxygen by nasal prongs or mask at a low flow rate.  
Make sure the baby is breastfeeding every 2-3 hours.  
If baby does not become pink after 1 hour refer for further management. |
|               | Blue tongue and lips (cyanosis)  
*Cause: Baby may not be getting enough oxygen.* | Give oxygen, at high flow rate and refer for further management |
| Breathing     | Grunting (sound made with breathing out)  
More than 60 breaths in 1 minute  
Flaring nostrils  
In-drawing of chest between ribs  
*Causes: Air tubes may be blocked, infection or fluid in the lungs, low blood sugar* | Management  
· Maintain skin-to-skin contact on mother's chest and continue observing and caring for the baby.  
· Monitor every 15-minutes for breathing and warmth  
· Reassure the mother about condition of the baby. |
<table>
<thead>
<tr>
<th>WHAT TO CHECK</th>
<th>ABNORMAL FINDINGS</th>
<th>PLAN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Observe and count for 1 full minute:</td>
<td>Continue ventilating the baby</td>
</tr>
<tr>
<td></td>
<td>Less than 30 breaths in 1 minute</td>
<td>Arrange for immediate referral</td>
</tr>
<tr>
<td></td>
<td>Periods of no breathing (apnea) for more than 20 seconds</td>
<td>Continue explaining every procedure to the mother.</td>
</tr>
<tr>
<td></td>
<td>Gasping</td>
<td>Ventilate during referral</td>
</tr>
<tr>
<td></td>
<td>*Causes: Asphyxia, lung infection, fluid in the lungs, premature baby, abnormal</td>
<td>Record the event on referral form and labour chart.</td>
</tr>
<tr>
<td></td>
<td>temperature, low blood sugar, blood infection.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Posture and tone</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of flexion, limp, floppy</td>
<td>Keep the baby warm.</td>
</tr>
<tr>
<td></td>
<td>*Causes: Prematurity, birth injury, asphyxia</td>
<td>Check if the baby is breathing well.</td>
</tr>
<tr>
<td></td>
<td>Rigid, stiffness, or arching of back, clenched jaw</td>
<td>If this continues after 2 hours (see Referral Guidelines).</td>
</tr>
<tr>
<td></td>
<td>Rhythmic movements of one limb</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Causes: Tetanus, birth injury, meningitis, convulsions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heart rate</td>
<td>Establish an IV line and give only IV maintenance volume according</td>
</tr>
<tr>
<td></td>
<td>Count the heart rate for 1 full minute:</td>
<td>to baby’s age for the first 12 hours.</td>
</tr>
<tr>
<td></td>
<td>Heart rate below 120</td>
<td>If the baby’s blood glucose was less than 45mg/dl ensure that the</td>
</tr>
<tr>
<td></td>
<td>*Causes: May not be getting enough oxygen, heart problems, breathing problems</td>
<td>baby was treated for low blood glucose before continuing with</td>
</tr>
<tr>
<td></td>
<td>Warm the baby.</td>
<td>management of convolution to rule out hypoglycaemia as the cause of</td>
</tr>
<tr>
<td></td>
<td>Check breathing rate.</td>
<td>the convulsions.</td>
</tr>
<tr>
<td></td>
<td>Give oxygen, if available, by nasal prongs or mask at 1 L/minute.</td>
<td>If the baby is currently having a convulsion or the baby had a</td>
</tr>
<tr>
<td></td>
<td>If this continues after above actions or if baby is pale or blue</td>
<td>convulsion within the last hour, give phenobarbitone 20mg/kg body</td>
</tr>
<tr>
<td></td>
<td></td>
<td>weight slowly over five minutes.</td>
</tr>
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<td></td>
<td></td>
<td>Continue with management of convulsions according to protocol and</td>
</tr>
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<td></td>
<td></td>
<td>refer accordingly.</td>
</tr>
<tr>
<td>WHAT TO CHECK</td>
<td>ABNORMAL FINDINGS</td>
<td>PLAN</td>
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<td>---------------</td>
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</table>
|               | Heart rate above 160  
*Causes: Infection, baby may be too hot, dehydration, crying, congenital heart problem* | Check if the baby has on too many clothes or other reason for being hot. Encourage more frequent breastfeeds. Cup feed if not sucking well. If this continues after above actions or if baby is pale or blue. |
| Activity and movement | Seizures or convulsions of body  
Moves only one arm or leg or unequal movement of one arm or leg  
*Causes: May be due to nerve injury during birth, tetanus, or infection* | Refer |
|               | Lethargic, drowsy, sluggish  
Excessive and high-pitched cry; irritable  
Not sucking  
Vomiting  
*Causes: May be bleeding or swelling in the brain, low blood sugar, asphyxia, infection* | Refer  
Cup feed expressed breast milk |
| Skin | Pustules, blisters, red or purple spots  
*Cause: Possible infection while in the uterus* | Antibiotics according to protocol or clinicians order e.g. gentamycin 7.5mg/kg body weight and x-pen 50,000 IU/Kg/body weight twice a day for 7-days. |
| Head | Firm swelling on only one side of the skull (cephalhematoma)  
*Cause: Blood between the skull bone and skin due to a blood vessel breaking during birth. It starts a few hours after birth and increases in size.*  
Anterior fontanel bulging or bulging outward when the baby is not crying | No action needed. The blood is slowly absorbed and the swelling disappears by 1-2 months.  
Refer |
<table>
<thead>
<tr>
<th>WHAT TO CHECK</th>
<th>ABNORMAL FINDINGS</th>
<th>PLAN</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Cause: Increased pressure in the head</td>
<td></td>
</tr>
<tr>
<td>Eyes</td>
<td>Discharging pus</td>
<td>Antibiotics To have full course of STI drugs according to STI protocols and Tetracycline 1% ointment three times a day.</td>
</tr>
<tr>
<td></td>
<td>Sticky eyes</td>
<td></td>
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<tr>
<td></td>
<td>Swollen eyelids</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cause: Eye infection, especially from gonorrhoea or Chlamydia</td>
<td></td>
</tr>
<tr>
<td>Mouth</td>
<td>Cleft or opening in the lip</td>
<td>Provide reassurance to the mother. Encourage the mother to breastfeed.</td>
</tr>
<tr>
<td></td>
<td>Cleft or hole in the soft or hard palate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cause: Congenital abnormality</td>
<td></td>
</tr>
<tr>
<td>Abdomen</td>
<td>Distended and hard abdomen</td>
<td>REFER</td>
</tr>
<tr>
<td></td>
<td>Cause: Possible obstruction of intestines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sunken-in abdomen with rapid breathing</td>
<td>REFER</td>
</tr>
<tr>
<td></td>
<td>Cause: Possible hernia of the diaphragm</td>
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<tr>
<td></td>
<td>Bleeding from the umbilical cord</td>
<td>Retie the cord tightly</td>
</tr>
<tr>
<td></td>
<td>Cause: The cord tie may have loosened</td>
<td></td>
</tr>
<tr>
<td>Back and spine</td>
<td>Defects of the spine include small to large holes in the skin with a bubble of tissue on the outside (open neural tube defect).</td>
<td>Cover with a sterile dressing and REFER</td>
</tr>
<tr>
<td>Anus</td>
<td>No passage of stool by 24 hours and a distended abdomen</td>
<td>REFER</td>
</tr>
<tr>
<td></td>
<td>Cause: May be obstruction in the baby’s intestines or imperforated anal opening</td>
<td></td>
</tr>
<tr>
<td>External genital organs</td>
<td>Unable to identify sex or No urine or wet diaper by 24 hours</td>
<td>REFER</td>
</tr>
<tr>
<td>WHAT TO CHECK</td>
<td>ABNORMAL FINDINGS</td>
<td>PLAN</td>
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</table>
| Boy’s external genital organs | Urethra does not open at the end of the penis, but in some other place, such as under the penis; foreskin is not retractable | REFER  
(Do not do circumcision if the urethra does not open at the end of the penis, as skin is needed for repair.) |
|                     | Scrotum is empty (no testes can be felt)                                        | Explain to the parents that the testes may descend.  
Examine the baby again at 6 months.  
REFER if the testes have not descended |
| Temperature         | Axillary temperature below 36°C (96.8°F) or above 37°C (98.6°F) or  
Baby’s chest or back feels cooler or hotter than the skin of a healthy person | - Establish cause.  
- If elevated temperature; check if too much clothing or covers, dehydration or sepsis.  
- If subnormal: it could be brain damage or sepsis (check cord) |
| Weight              | Weight less than 2.5 kg  
*Cause: Low birth weight can be due to preterm birth (before 37th week) or poor growth in the womb. Risk of low blood sugar.* | All low birth weight babies need special care  
Refer KMC |
| Head Circumference  | Weight 4 kg or more  
*Cause: Mother may be diabetic. Risk of low blood sugar.* | If the baby is large, feed him as soon as possible after birth. |
REFERENCES

Ailsworth K. ALSO training manual section 2 (P: Neonatal R

World Health Organization Pocket Book of Hospital Care for Children: Guidelines for the Management of Common Illnesses with Limited Resources

American academy of Paediatrics: Helping Babies Breathe Learner workbook
MODULE 15

RESUSCITATION OF THE NEW BORN WITH BIRTH ASPHYXIA

GOAL: To equip the midwife and other skilled birth attendants with knowledge, skills and attitudes necessary for resuscitation of the new born with birth asphyxia and neonates with apnoeic attacks.

OBJECTIVES:
By the end of the session, the midwife and other skilled attendants should be able to:
1. Define Asphyxia Neonatorum
2. Explain predisposing factors of Asphyxia
3. Explain patho-physiology of Asphyxia
4. Explain the diagnosis of Asphyxia
5. List the equipment and supplies required for resuscitation
6. Demonstrate competencies in the management of the newborn with asphyxia

LEARNING ACTIVITIES
• Apply APGAR SCORE in determining the baby’s condition
• Ability to assemble the required equipment
• Step by step resuscitation of the newborn
• Developing appropriate attitudes towards resuscitation of newborns

CONTENT

1. DEFINITION

Asphyxia neonatorum – is the failure to initiate and maintain spontaneous breathing at birth.

Apnoea – cessation of breathing for 20 seconds or longer.
• Hypoxia – This is low oxygen content in the body tissues and it affects the brain.
• Resuscitation: Is getting the baby to breathe

2. PREDISPOSING FACTORS OF ASPHYXIA

Situations during pregnancy, labour or delivery in which intrapartum asphyxia can be anticipated include:

2.1 Maternal Factors:
• Pre-eclampsia or eclampsia
• Abruptio placentae, placenta praevia or APH
• History of previous NND’s
• Prolonged rupture of membranes (PROM)
• Debilitating diseases, fever, diabetes
• Essential hypertension
• Maternal exhaustion
• Placental insufficiency

2.2 Labour and delivery factors:
• Operative vaginal delivery (forceps or vacuum-extraction)
• Breech or other abnormal presentation and difficult delivery
• Caesarean section (indication for C/S or anaesthetic drugs)
• Prolonged labour (latent phase >8 hrs, first stage >7 hrs and second stage >30
Understanding the educational design of the course materials

The educational tools used in Helping Babies Breathe include:

**Action Plan**
a simple, pictorial wall chart outlining the decision tree to follow when helping a newborn to breathe. A smaller version serves as a job aid.

**Learner Workbook**
training material that can serve as a guide for pre-learning and as a post-training resource for learners during a course; it also provides supplemental information.

**Facilitator Flipchart**
pictorial material for discussion with learners that includes key messages at the back to guide trainers and facilitators.
minutes in multipara and 1 hour in primigravida.

• Prolapsed umbilical cord or cord compression
• Sedative or analgesic drugs given before delivery as well as use of traditional medicines

2.3 Foetal conditions:

• Prematurity
• Postmaturity
• Multiple births
• Foetal distress
• IUGR, Macrosomia
• Immaturity of pulmonary system
• Cerebral damage
• Meconium aspiration
• Abnormal lie

3. Diagnosing Asphyxia

Note:

• Apgar scores are not useful indicators of the need for resuscitation, since resuscitation must begin long before the one-minute Apgar score is calculated
• Apgars can however be used as an indicator of the effectiveness of the resuscitations

5. Equipment and Supplies for Resuscitation

The labour ward should always have a ventilation / resuscitation area with the following:

• Flat dry clean warm surface
• Ambu bag and mask (size 1 for normal weight baby, size 0 for small baby(<2.5kg)
• Suction equipment (penguin. Suction machine,)
• Disposable gloves
• Watch
• Oxygen concentrator
• Gauze swabs
• Three towels

5 Neonatal Resuscitation:

The Golden Minute

The most crucial period for the survival of an asphyxiated baby.

• Once the baby is born dry thoroughly and keep baby warm but if meconium stained liquor clear airway first before drying the baby. As the baby is being dried check if the baby is crying. If not, clear the airway and stimulate by rubbing the back.
• Check if the baby is breathing. If not, shout for help, clamp and cut the cord and move the baby to the ventilation area so as to commence bag and mask ventilation
• Ventilation should be initiated within 1 minute after birth “the golden minute”

Ventilating a newborn

• Ventilation with bag and mask is the most important and effective way to help the baby who is not breathing or is gasping.
• Ventilation area should be prepared prior to the birth.
• Place the baby on a clean, warm, and dry area with good light to assess the baby.
• Stand at the baby’s head.
• Select the correct mask—should cover the chin, mouth, and nose but not the eyes. The mask should make a tight seal on the face to ensure adequate ventilation.
• Position the head in the neutral position: head slightly extended with the nose pointing to the sky.
• Hold the mask on the face with the thumb and index finger on top of the mask. Use the middle finger to hold the chin up toward the mask. Use the 4th and 5th fingers along the jaw to lift it forward and help keep the airway open.
• Ventilate at a rate of 40 breaths per minute and always check that the ventilation breaths are producing chest movements. Assess if the baby is breathing.
• If the baby is not breathing call for help, reposition baby’s head slightly extended, check the baby’s mouth for any obstruction, and remove secretions if any. Then reapply the mask and squeeze the ambu bag harder for the first puff then normally for the rest of the puffs at a rate of 40 breaths per minute.
• Check if the baby is breathing after 1 minute of ventilation. If not breathing continue ventilation while the helper is checking the heart beat using a stethoscope or feeling the umbilical cord pulsation.
• If the heart rate is normal (100 beats per minute or more) and the baby is breathing well (40-60 breaths per minute) stop ventilation Monitor the baby together with the mother closely (every 15 minutes) for breathing, heart rate, temperature and color until stable then every hour Seek advanced care if the baby is not breathing but heart beat is present while continuing ventilation enroute to the referral facility.
• Stop ventilation when heart beat stops.
• Below is a summary algorithm from Helping Babies Breathe.
• If there is no breathing or heartbeat after 20 minutes, stop resuscitation.

CARE AFTER RESUSCITATION
Monitoring
Once the newborn is stable monitoring should be instituted
• Check the newborn hourly for at least 6 hours for:
  - Breathing problems (less than 30 or more than 60 breaths in 1 minute, in-drawing of the chest, grunting, or gasping)
  - Colour: central and peripheral cyanosis
  - Temperature that is too low (axillary temperature below 36ºC/96.8ºF) or too high (axillary temperature above 37.5ºC/98.6ºF)
• Observe baby for 2-3 days before discharge
• Give normal care for a newborn

Counselling
• It is important to discuss with the mother and family about the resuscitation and its outcome.
• If the baby is stable routine care should be instituted
• Mothers should be advised to check their newborn for danger signs and report any concerns to the health worker.

Record
It is important to document clearly the following:
• The newborn’s condition at birth
• What you did during the resuscitation
• How long the resuscitation took
• Results of the resuscitation
• The care you gave after the resuscitation

This information should be included in the referral letter in case of the newborn being referred and in the discharge notes that are given to the family

Follow-up
• Follow-up should be arranged for babies that were once resuscitation. If Resuscitation is not successful In cases where resuscitation has not been successful and the baby dies the mother and family will need much support. Be caring and gentle when talking to the family.

Counselling
• Talk with the mother and family about the resuscitation and the baby's death. Answer any questions they may have.
• Give the mother and family care that is culturally acceptable. Be sensitive to their needs.
• Find out what they wish to do with the baby's body
• Explain to the mother and family that:
  - The mother will need rest, support, and a good diet at home.
  - The mother should not return to a full workload too early.
  - The mother's breasts will become full around day 2-3. She may have a mild fever for a day or two. She may do the following to shorten the time the breasts will be full:
    • Bind the breasts with a tight bra or cloth until there is no milk in the breasts.
    • Do not express milk or stimulate the breasts.

The mother may feel very emotional and cry a lot. The normal changes in a woman's hormones after pregnancy can make her feel very sad, worried, or irritable. Because of the baby's death, the feelings may be worse than usual. Encourage the mother and family to speak with a health worker if they wish to talk.

Required competences
• Preparation of resuscitaire for an asphyxiated baby
• Demonstrate proper procedure of resuscitating an asphyxiated baby
• Demonstrate proper evaluation of baby's condition to make correct decision for further management

REFERENCES


Ailsworth K. ALSO training manual section 2 (P: Neonatal Resuscitation)

HBB Learners Workbook
MODULE 16

VACUUM EXTRACTION

GOAL: To equip midwife and other skilled birth attendants with knowledge, skills and attitudes for performing a vacuum extraction.

OBJECTIVES
By the end of the session the midwives and other skilled birth attendants should be able to:
1. Define vacuum extraction
2. Explain indications of vacuum extraction
3. Explain contraindications of vacuum extraction
4. Explain the criteria for performing vacuum extraction
5. Demonstrate competence in performing vacuum extraction
6. Explain the complications of vacuum extraction

LEARNING ACTIVITIES
• Assemble a vacuum extractor
• Perform vacuum extraction or assist
• Demonstrate positive attitude to perform vacuum extraction

CONTENT

1. VACUUM EXTRACTION
Instrumental delivery of the baby using vacuum created pressure

2. INDICATIONS
• Delayed second stage of labour
• Foetal distress with cervical dilatation of 8-10 cm
• Maternal exhaustion
• Maternal condition e.g. anaemia, asthma, heart problems, pregnancy induced hypertension, malnutrition and tuberculosis
• Prolonged first stage of labour
• One previous caesarean section
• Cord prolapse in second stage with cord pulsating
• Malposition i.e. persistent occipito posterior position

3. CONTRAINDICATIONS
A vacuum extraction should not be done in:
• Cephalo pelvic disproportion
• Malpresentations (breech, face, brow or transverse lie)
• Incomplete cervical dilatation
• Gestational age less than 37 weeks
• Suspected ruptured uterus
• Unengaged presenting part
• Intrauterine death (IUD)
4. **CRITERIA FOR VACUUM EXTRACTION**

- Position of the occiput should be exactly known.
- Contractions must be present.
- The bladder must be empty.
- The vertex must be the presenting.
- Descent of the head should be known.
- Descent 0/5 – no moulding, no caput
  - Midwife / Clinician at BEmOC site
- Descent 1/5 moulding +, caput +.
  - Midwife / Clinical Officer at CEmOC site
  - Only at BEmOC site when transport is standby for referral to CEmOC site
- Descent 2/5, no caput, no moulding Clinician at CEmOC site only

5. **EQUIPMENT NEEDED**

- Vacuum extractor
- Delivery pack
- Split mattress
- bed
- Resuscitaire

6. **PSYCHOLOGICAL PREPARATION OF THE PATIENT**

- Explain the procedure to the woman and companion.
- Give them opportunity to ask questions and respond to all their questions
- Reassure them

7. **SETTING FOR THE PROCEDURE**

- Perform an abdominal and vaginal examination to rule out contraindications and identify sutures and fontanelles
- Assemble equipment for delivery, episiotomy including resuscitation equipment for the baby
- Set a vacuum extractor
- Ensure aseptic technique throughout the procedure
- Empty the bladder with catheter if she is not able to urinate

8. **PROCEDURE**

- Clean vulva using 6 swab technique
- Insert extractor cup (usually 5cm cup is used) sideways gently into the vagina with the centre of the cup over the flexion point (1cm in front of the posterior fontanel)
- Pass a finger gently around the cup to exclude maternal tissues
- Note time
- Ask the assistant to close pressure valve, and pump the negative pressure whilst watching the gauge.
- Raise the negative pressure to 0.2kg/cubic centimetre (Caution: Follow instructions on the machine)
- Exclude maternal tissues
- Ask assistant to raise negative pressure again up to 0.8kg/cubic centimetre and exclude maternal tissues.
- Assistant should listen to the foetal heart after each pressure increase
- Once a maximum pressure has been achieved, the midwife puts her thumb on the cup and 2 fingers on the foetal skull. With a contraction, the midwife asks the woman
to push and the other hand exerts steady gentle traction downward and outward until crowning takes place; as the head advances apply upward traction following the birth canal.

- After delivery of the head, pressure is then released, time is noted and cup is removed slowly and the rest of the body is delivered as in normal delivery.

- Discontinue the procedure if the cup slips off 3 times and inform the doctor or refer immediately to CEmONC site.
- Each time pressure is increased, exclude maternal tissues
- After procedure, the apparatus is decontaminated in chlorine 0.5% for 10 minutes before cleaning
- With the first pull, there should be a descent of the head, if not suspect CPD. Each pull should not last for more than 30 seconds
- If no progress in descent with the first pull reassess the mother
- The whole procedure should not exceed 20 minutes.

9. COMPLICATIONS FOR MOTHER AND BABY

- Localized caput formation or small cephalohematoma which usually disappears within 24-48 hours
- Birth asphyxia
- Perineal tear
- PPH

Dangers of vacuum extraction
(a) Maternal: Trauma to vaginal mucosa as well as cervix
(b) Foetal: trauma to the foetal scalp
  cephalo - haematoma
  cerebral trauma

10. DOCUMENTATION

- Indication for vacuum extraction
- Actual procedure step by step
- Time of delivery
- Apgar score
- Management of third stage of labour
- Number of skilled attendants who assisted

11. INFECTION PREVENTION

Follow infection IP protocols as outlined in module 4

12. CARE OF BABY AFTER VACUUM EXTRACTION

- Examine baby for any birth trauma
- Resuscitate when required
- Observe the baby closely for the first 24 to 48 hours

Required competencies

- Assemble a trolley with all the necessary vacuum extraction equipment.
- Accurately determine the criteria for performing vacuum extraction.
- Accurately determine position of sutures and fontanelles.
- Determine the appropriate size of the cup to be used for specific patients.
• Accurately determine when to infiltrate perineum and perform an episiotomy.
• Correctly insert the cup without trauma to mother and baby.
• Demonstrate appropriate attitudinal skills for performing a vacuum extraction.
• Correctly determine the number and direction of pulls.
• Create appropriate negative pressure before pulling.
• Demonstrate appropriate skills for infection prevention throughout the procedure.
• Document all activities.

REFERENCES


MODULE 17

BREECH DELIVERY

GOAL: To equip midwife and other skilled birth attendants with knowledge, skills and attitudes necessary for conducting a breech delivery

OBJECTIVES:
By the end of the session the midwife and other skilled birth attendants should be able to:
1. Define breech presentation
2. Explain the types of breech presentation
3. Demonstrate competency in diagnosing and delivering breech presentation
4. List the three types of breech deliveries
5. Describe breech delivery
6. Outline complications of breech delivery

LEARNING ACTIVITIES
• Diagnose breech presentation
• Practice breech delivery using a doll
• Conduct breech delivery

CONTENT

1. DEFINITION

Breech presentation is when the foetus lies longitudinally with the buttocks in the lower pole of the uterus.

2. TYPES OF BREECH PRESENTATION

• Complete or flexed breech – The foetal attitude is one of complete flexion. Hips and knees are both flexed and the feet are tucked in beside the buttocks. This type of breech presentation is commonest in multigravida.
• Extended breech/frank breech – The breech presents with flexed hips while the legs are extended on to the abdomen. This type is common on primigravida towards term gestation.
• Footling breech – One or both feet are below buttocks.
• Knee breech presentation – The foetus lies with one or both knees below the buttocks.

3. DIAGNOSING BREECH PRESENTATION

Diagnosis is mainly made by:
• Palpation – foetal head is felt hard, round and ballotable in the fundus of the uterus
• Auscultation – foetal heart is heard above the umbilicus
• Ultra sound
• Abdominal X-ray

4. TYPES OF BREECH DELIVERY

• Flexed or spontaneous delivery
• Extended
• Breech extraction
Specific 1st stage management should include:

- Referring to hospital for delivery
- Primigravida with breech presentation should be delivered by CS
- DO NOT panic when conducting breech delivery
- No trial of labour
- No fundal pressure
- Give sedation to prevent premature bearing down
- Give IV fluids for rehydration and energy
- When there is SRM do vaginal examination to exclude cord prolapse
- Explain to mother to avoid premature pushing
- Accurate assessment of the size of breech to determine the appropriate mode of delivery e.g. CS or vaginal delivery

5. MANAGEMENT OF BREECH DELIVERY

5.1 Preparation

- Ensure there is someone to assist
- Quick abdominal examination to assess contractions and foetal heart
- Bring the delivery trolley on the bedside including resuscitation equipment
- Ensure bladder is empty
- Cleanse the vulva and vagina
- Perform vaginal examination, and confirm there is full dilatation of cervix usinfour fingers
- Explain the procedure to the woman
- Assist the woman to be in lithotomy position using stirrups and the buttocks should be on the edge of the bed. Drape the patient
- Episiotomy set is ready
- Lignocaine 0.5% amounting to 10 mls in preparation for an episiotomy

5.2 Actual breech delivery

a) Flexed breech (Spontaneous)

The woman is encouraged to bear down with uterine contractions. As the buttocks distend the perineum, a right medial lateral episiotomy is performed if indicated

- Hands off the breech to prevent disturbing the attitude.
- When the buttocks and legs are delivered up to the umbilical level, release the loop of the umbilical cord and feel for the pulsation gently. Note time.
- Let the breech descend and wait for the spontaneous delivery of the shoulders.
- When the shoulders are delivered allow the baby to hang until the hair line appears under the symphysis pubis.
- When the hair line appears ask the mother to pant then grasp the baby by the ankles with middle finger in between, 2 fingers on either side of the feet
- Put baby on a stretch to avoid fracture of the neck and keep the spine straight.

Delivery of the head using Burns Marshall Manouvre

- Draw baby upward in an arch of 180 degrees until chin, face and sinciput sweep the perineum.
- Wipe and suck secretions from mouth and nose while baby is held vertically.
- Deliver the vault slowly (2 minutes) to avoid sudden decompression.
- Place baby on mother's abdomen
b) **Extended breech delivery**  
Once the breech distends the perineum perform a right medial lateral episiotomy.

i) *Extended Legs*  
- Allow the mother to push until popliteal fossa is seen  
- When there is no descent of the presenting part, the breech is extended.  
- Therefore apply gentle pressure on popliteal fossa and flex the knee then abduct the thigh and deliver the leg.  
- Repeat the procedure to deliver the other leg.

ii) *Extended Arms*  
- A vaginal examination is done to confirm extended arms  
- Delivery of the arms is done by LOVSET’S MANOEUVRE (see end of module)  
- Do vaginal examination to confirm extended arms  
- Grasp baby by iliac crest with thumbs over the sacrum  
- Apply gentle traction until axillae are seen  
- Rotate the baby to 1800, combining with downward traction, posterior shoulder is brought anterior.  
- Always keep back uppermost  
- When posterior arm appears under symphysis pubis, the upper arm is splinted and the arm is flexed cross the baby’s face and chest and delivered.  
- The body is now rotated back in the opposite direction and the other arm is delivered in a similar fashion  
- Wait for the head to descend, if the hairline is not visible, it means the head is extended.

iii) *Extended Head*  
- Delivery of the extended head is by MAURICEAU SMELLIE VIET MANOEUVRE (see annex 3)  
- Place the first and third fingers of either hand on the baby’s cheek bones and place the second finger on the baby’s chin to pull down and flex the head  
- Place baby astride (on forearm) with palm supporting the chest  
- Place middle finger on the malar - molar bones.  
- The first and third fingers of either hand are placed on baby’s shoulder and the second finger is placed on the occiput.  
- Apply pressure on the occiput to flex the hand, with pressure on jaw (outward) until mouth, nose and sinciput are freed.  
- Deliver the vault slowly

c) **Breech Extraction**  
This is a rare procedure done by obstetrician and used in emergency situations e.g. retained twin with foetal distress which presents with breech. There should be no CPD and the cervix should be fully dilated. The obstetrician extracts the breech form the birth canal by manipulating the foetus in contrast to the voluntary movements and descent of the foetus produced by uterine contractions when labour is normal.

6. **COMPLICATIONS OF BREECH PRESENTATION**

6.1 **First Stage of Labour**  
- Cord prolapse especially in footling or flexed breech as these have ill fitting presenting part.  
- Prolonged 1st stage of labour due to poor application of presenting part to the cervix.
6.2 Second Stage of Labour

- Impacted breech
- Birth injury which include:
  - Fracture of humerus, clavicle femur or dislocation of the hip
  - Fracture of clavicle or dislocation of shoulders
  - Erbs Palsy
  - Damaged adrenal glands
  - Spinal cord damage
  - Intracranial haemorrhage
  - Soft tissue damage
  - Maternal trauma
  - Premature separation of the placenta
  - Foetal hypoxia
  - Stuck head
  - Cord prolapse
  - Cord spasm

Lovset’s Manoeuvre

Arms are stretched above the head or folded around the neck

Use the Lovset’s manoeuvre:

- Hold the baby by the hips and turn half a circle, keeping the back uppermost and applying downward traction at the same time, so that the arm that was posterior becomes anterior and can 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 down over the chest as the elbow is flexed, with the hand sweeping over the face.
- To deliver the second arm, turn the baby back half a circle, keeping the back uppermost and applying downward traction, and deliver the second arm in the same way under the pubic arch.

Baby’s body cannot be turned

If the baby’s body cannot be turned to deliver the arm that is anterior first, deliver the shoulder that is posterior:

- Hold and lift the baby up by the ankles.
- Move the baby’s chest towards the woman’s inner leg. The shoulder that is posterior should deliver.
- Deliver the arm and hand.
- Lay the baby back down by the ankles. The shoulder that is anterior should now deliver.
- Deliver the arm and hand.

Mauriceau Smellie Viet Manoeuvre

Delivery of the head

Deliver the head by the Mauriceau Smellie Viet manoeuvre (Annex 3) as follows:

1. Lay the baby face down with the length of its body over your hand and arm.
2. Place the first and third fingers of this hand on the baby’s cheekbones and place the second finger on the chin to pull the jaw down and flex the head.
3. Use the other hand to grasp the baby’s shoulders.
4. With two fingers of this hand, gently flex the baby’s head towards the chest, while
applying downward pressure on the jaw to bring the baby’s head down until the hairline is visible.

5. Pull gently to deliver the head.

**Note:** Ask an assistant to push above the mother’s pubic bone as the head delivers. This helps to keep the baby’s head flexed.

- Raise the baby, still astride the arm, until the mouth and nose are free.
- **Entrapped (Stuck) Head**
- Catheterize the bladder.
- Have an assistant available to hold the baby while applying Piper or long forceps.
- Be sure the cervix is fully dilated.
- Wrap the baby's body in a cloth or towel and hold the baby up.
- Place the left blade of the forceps.
- Place the right blade and lock handles.
- Use the forceps to flex the baby’s head and deliver the head.

If unable to use forceps, apply firm pressure above the mother’s pubic bone to flex the baby’s head and push it through the pelvis.

**Required competences**

- Diagnosing breech presentation, including size the foetus, through abdominal examination
- Confirmation of full dilation with four fingers
- Delivery of extended arms using Lovset manoeuvre
- Delivery of extended head using Mauricaeu Smellie Viet Manoeuvre
- Delivery of the head using Burns Marshall Manoeuvre

**REFERENCES**


MODULE 18

MANUAL REMOVAL OF RETAINED PLACENTA

GOAL: To equip midwife and other skilled birth attendants with knowledge, skills and attitudes in the manual removal of placenta

OBJECTIVES
At the end of the session midwives and other skilled births attendants will be able to:
1. Define retained placenta
2. State the risk factors of retained placenta
3. Demonstrate competence in diagnosing retained placenta
4. Demonstrate competence in conducting manual removal of retained placenta
5. Demonstrate positive attitude in caring for women with retained placenta

LEARNING ACTIVITY
• Demonstrate by simulation manual removal of placenta

CONTENT
1. DEFINITION

Retained placenta is defined as the failure to deliver the placenta within 30 minutes after birth

2. RISK FACTORS FOR RETAINED PLACENTA
   • Previous C/ssection
   • Previous placenta previa
   • Previous D&C
   • Advanced maternal age
   • High parity
   • Previous retained placenta

3. DIAGNOSIS OF RETAINED PLACENTA
   • A small gush of blood, lengthening of the cord and a slight rise of the uterus in the pelvis signals separation of the placenta. If this does not occur, the placenta failed to separate or has separated but became trapped
   • If the uterus is well contracted, the placenta is low in the uterine cavity, and the cervix and lower uterine wall are contracted around the placenta, the placenta is likely trapped
   • Firm traction on the umbilical cord with one hand applying pressure suprapubically to hold the uterus in place often delivers the trapped placenta, otherwise manual removal is indicated

4. MANUAL REMOVAL OF PLACENTA
   • Explain the procedure to the patient
   • Give analgesic Pethidine 100mgs IM and Valium 10mgs IV slowly but dilute it with 5mls water of injection
   • Take blood sample for Hb, grouping and x-match and start an IV infusion of Ringers Lactate or normal saline or half strength Darrows to prevent shock
   • Give a single dose of prophylactic antibiotics
     - Ampicillin 2 g IV plus Metronidazole 500 mg IV if no complications flagyl
Help the woman to lie on her back with her knees flexed. If she is unable to void, catheterise and empty the bladder. A full bladder can interfere with the contractions of the uterus.

Perform surgical hand scrub and put on sterile gloves preferably the manual removal gloves (gaulet gloves)

Cleanse the vulva with chlorhexidine and drape the patient

Hold the umbilical cord firmly using non-examining hand. Place the examining hand, with the thumb in the palm in to the vagina (see annex 5a)

Follow the cord up to the placenta

Let go of the cord with your hand and hold the uterus through the abdomen. This will stop the uterus from moving and helps keep the uterus contracted.

Feel the placenta to figure out where it is in the uterus – find the edge of the placenta

Slip the fingers of your hand between the edge of the placenta and the uterine wall. With your palm facing the placenta, use a sideways slicing movement and gently separate the placenta (see annex 5)

If the placenta is difficult to separate it could be placenta accrete refer for further management which usually is hysterectomy either subtotal or total.

When the entire placenta is separated and is in the palm of your examining hand, rub up a contraction with your other hand. (To check on this)

Palpate for retained lobes of placenta using the back of your palm

Gently remove the placenta with your examining hand during a contraction. Do not pull on just a piece of the placenta for it may tear the rest of the placenta. The membranes should be slowly and carefully delivered (see annex 6)

Rub the uterus to make sure it is contracted.

Give the mother 20 units of Oxytocin in 1 litre IV fluid at 60 drops per minute (Tranxaemic acid IV 6hly 500mg IV push it helps blood to clot much faster.

If still bleeding give Ergometrine 0.5 mgs IV

Examine the placenta thoroughly and measure blood loss.

Check vital signs

Transfer the woman to hospital for a D&C to remove the remaining pieces if any.

Continue broad spectrum antibiotics to prevent infection of the uterus if indicated

Manual removal of placenta might cause severe bleeding and transport should be standby at BEmONC sites for immediate transfer to a CEmONC site if required

Once you have put your hand into the uterus, do not bring your hand out until you have separated the placenta and bring it out

Remember even a small amount of membranes left in the uterus may cause postpartum haemorrhage and/or infection

Required competencies

- Physical examination
- Manual removal of placenta
- Examination of placenta and membranes
- Inserting and monitoring intravenous infusions including blood

REFERENCES


MODULE 19

PREVENTION AND MANAGEMENT OF ANAEMIA DURING PREGNANCY, LABOUR, DELIVERY AND PUEPERIUM

GOAL: To equip the midwife and other skilled birth attendants with knowledge skills and attitudes necessary for the management of women with anaemia during pregnancy, labour, delivery and peuperium.

OBJECTIVES
By the end of this session, the midwife and other skilled birth attendants should be able to:
1. Define anaemia
2. Diagnose anaemia
3. Describe clinical features of anaemia
4. Explain prevention of anaemia
5. Demonstrate competencies in the management of a woman with anaemia during pregnancy, labour and postpartum
6. Demonstrate positive attitudes in managing women with anaemia

LEARNING ACTIVITIES
• Physical examination for identification of anaemia

CONTENT

1. DEFINITION
Anaemia is defined as a haemoglobin level of less than 11g/dl which is a result of deficiency in the quality or quantity of red blood cells.

2. DIAGNOSIS/INVESTIGATIONS
• Haemoglobin check
• Urine/stool for Hookworm/Schistosomiasis
• MP’s
• Clinical impression if pallor

3. CLINICAL FEATURE OF ANAEMIA
• Pale mucus membranes of the conjunctiva and lips
• Pale palms

4. PREVENTION OF ANAEMIA
• Give supplementation of ferrous sulphate with folic acid 200 mg once daily
• Give anti-malarials according to the protocols
• Give anti-helminthics according to protocol
• Provide LLITN’s
• Treat infections according to protocols
• Give dietary advice and explanations which are appropriate to the particular woman taking into consideration the health, religious and cultural preferences
• Counsel women on sources of iron which are available in the community
• Teach women to have at least three years intervals between pregnancies by utilizing family planning services
• Provide advice to discourage the eating of soil in pregnancy

5. MANAGEMENT OF ANAEMIA IN PREGNANCY, LABOUR AND POSTPARTUM
5.1 Mild and moderate Anaemia in pregnancy Hb >11 to <7g/dl

- Check vital signs and foetal activity
- Check FBC, grouping and cross-match and blood smear for malaria parasites.
- Counselling and advice on diet rich in iron
- Iron, folic acid, and malaria treatment (according to protocol) should be given and review after 30 days. If there is improvement, continue with Ferrous Sulphate and folic acid. If no improvement, recheck full blood count, blood film for malarial parasites, urine/stool for parasites (hook worm) and blood group and treat appropriately. If no improvement, refer to the doctor for further management
- Treat underlying causes as appropriate i.e. Albendazole 400mg stat or Mebendazole 200mg TID for 3 days

5.2 Severe Anaemia in pregnancy (Hb < 7gr/dl)

- Admit the woman
- Provide adequate rest
- Nurse in semi fowler position
- Check haemoglobin, malarial parasites, FBC, blood group and x-matching urine and stool
- Blood transfusion to prevent cardiac failure
- Give Frusemide 20mg before beginning transfusion and ½ way, transfuse packed cells 1 unit a day until haemoglobin is 10g/dl or above. If gestational age is less than 36 weeks consider digitalisation (give Digoxin). If stable and not in labour discharge on ferrous sulphate and folic acid. Closely monitor the patient antenatally.
- Advise on diet rich in iron

5.3 Management of anaemia in Labour

- Nurse in upright position
- Check vital signs, basal crepitations, tachypnea and fetal well-being
- Give oxygen if necessary
- Do elective vacuum extraction for severe anaemia
- Active management of third stage with Oxytocin 10 U IM to help sustain the tone of the uterus.
- Give packed cells if necessary until after delivery with Frusemide 40mg

5.4 Management of anaemia during postpartum period

- **No anaemia (Hb >11g/dl)**
  - Continue treatment with iron once daily for 3 months after delivery or abortion
  - Give Albendazole once in 6 months
  - Advise on diet rich in iron

- **Moderate anaemia**
  - Give iron for 3 months after delivery or abortion
  - Reassess at next postnatal visit in 4 weeks, if anaemia persists, refer

- **Severe anaemia**
  - Give iron twice daily for 3 months after delivery
  - Refer urgently
  - Transfuse if Hb is less than 5g/dl
- Follow up in 2 weeks to check clinical progress and compliance with treatment

**Required competencies**

- Counselling
- Physical examination
- Management of woman with anaemia during antenatal, labour, delivery and puerperium
- Insertion of IV and monitoring of blood transfusion

**REFERENCES**


Kwast, B. Miller and Colleen Conroy (1992). Management of Life threatening Obstetrical Emergencies


MODULE 20

ANTEPARTUM HAEMORRHAGE (APH)

GOAL: To equip midwife and other skilled birth attendants with knowledge, skills and attitudes in the management of women with antepartum haemorrhage (APH)

OBJECTIVES
By the end of the session, the midwife and other skilled birth attendants should be able to:
1. Define antepartum haemorrhage (APH)
2. Explain the cause of APH
3. Explain the types of APH
4. Identify clinical features of placenta praevia and placenta abruption
5. Demonstrate competence in the management of placenta praevia and its complications
6. Demonstrate competence in the management of placenta abrutio and its complications

LEARNING ACTIVITIES
- History taking
- Physical examination

CONTENT

1. DEFINITION
Antepartum haemorrhage is bleeding from the genital tract after the 28th week of gestation and before birth of the baby.

2. CAUSES OF ANTEPARTUM HAEMORRHAGE

a) Placental causes
- Placenta abruptio
- Placenta praevia

b) Non-placental causes
- Local lesions, erosion, varicosities, cervicitis; polyps and carcinoma of cervix
- Decidual bleeding
- Ruptured uterus

3. TYPES OF APH
- Placenta Praevia
- Abruptio Placenta

3.1 Placenta Praevia

3.1.1 Definition
The placenta is situated partly or wholly in the lower segment of the uterus.

3.1.2 Incidence of Placenta Praevia
Placenta praevia occurs in about 1:250 pregnancies
3.1.3 Clinical features of Placenta Praevia
   a) Vaginal bleeding: it can be slight or severe and is usually painless. The colour of the blood is bright red, the onset is usually sudden, revealed, intermittent and appears to be causeless.
   b) The uterus is soft, non-tender, relaxed but can be irritable if the patient is having contractions.
   c) Malpresentations are common
   d) Foetal heart may be present or absent depending on severity
   e) The woman may be in shock depending on severity of the bleeding
   f) The presenting part is high

3.1.4 Management of a woman with placenta praevia
   a) Explain the condition to the mother and support person
   b) Admit the woman in labour ward for close observations and management
   c) Accurate history taking to determine the severity and types of bleeding
   d) Vital signs ½ hourly
   Do not perform vaginal examination
   e) Take blood samples for Hb, grouping and X-matching and arrange for blood donation
   f) Observe amount of blood loss and provide pad
   g) Insert I.V. drip: normal saline or half strength Darrow for resuscitation
   h) Prepare patient for possible surgical intervention
   i) If in labour, monitor contractions, foetal condition
   j) Take the woman for ultra sound scanning
   k) Inform doctor who may possibly take the woman to theatre for either EUA or speculum examination to determine the type of praevia and mode of delivery
   • If bleeding is heavy and continuous arrange for CS irrespective of foetal maturity
   • If bleeding is light or it has stopped and the foetus is alive but premature, consider conservative management until delivery
   • If bleeding recurs decide management after weighing benefits and risks for the woman and the foetus of further conservative management versus delivery

3.1.5 Complications of APH caused by placenta praevia

<table>
<thead>
<tr>
<th>a) Maternal</th>
<th>b) Stillbirth</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sepsis</td>
<td>• Foetal</td>
</tr>
<tr>
<td>• Shock</td>
<td>• Anoxia</td>
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<tr>
<td>• Anaemia</td>
<td>• Prematurity</td>
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<tr>
<td>• Death</td>
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</tbody>
</table>

3.2 Abruptio Placenta

3.2.1 Definition
Separation of the normally implanted placenta (normally by haemorrhage into the decidual basalis) from the 28th week of pregnancy
4.2.2 **Causes**

a) Causes are largely unknown but hypertensive disease is a major contributing factor

b) Trauma to the abdomen causing separation of the placenta e.g. road traffic accident, external cephalic version

c) Reduction of size of the uterus, mainly seen with the second twin after delivery of the first twin

4.2.3 **Incidence of Abruptio Placenta**

0.5 to 1.55% of all pregnancies

4.2.4 **Classification**

Classified in the following manner:

i) **Revealed**
Blood trickles down between the membranes and the wall of the uterus escaping through the cervix

ii) **Concealed**
The blood remain inside the uterine cavity

iii) **Mixed**
Both varieties can occur partly concealed and revealed.

4.2.5 **Clinical features of Abruptio Placenta**

a) If bleeding is revealed the blood is dark red with clots

b) If bleeding is both revealed and concealed, the amount of pain and shock is far greater than expected for the amount of blood lost

c) If the bleeding is concealed, the amount of pain is intense

d) With a sudden attack, pain can be acute and intensive at first changing later to a dull ache. Backache if placenta is posterior.

e) Lack of foetal movements and if condition is severe, foetal distress or death will occur

f) With increased bleeding, uterus becomes tense, hard and tender to touch (Couvelaire uterus).

g) Uterus looks globular and palpation is not possible

h) Vital signs depend on the severity and type and are most severe in the concealed type.

4.2.6 **Management**

a) Explain the condition to mother and support person

b) Admit the woman in the labour ward for close observation

c) Take accurate history to identify the type of haemorrhage

d) A quick thorough examination to assess the condition of both mother and foetus. Do not perform vaginal examination

e) Take blood samples for Hb, coagulation, group and X-matching.

f) Arrange blood donors (2-3 units).

g) Insert an intravenous infusion of Normal Saline or Ringers Lactate and insert a Foley’s catheter

h) Check vital signs ¼ to ½ hourly and record fluid intake and output

i) The first stage is usually rapid and patient is therefore allowed to deliver vaginally. Deliver patient within 6 – 8 hours

j) A caesarean section is performed for the following reasons:
• a live and viable foetus
• uncontrolled bleeding
• a previous caesarean section
• malpresentation
• unsuitable lie
• failed induction within 12 hours
• gross cephalo pelvic disproportion
• renal failure
• uncontrolled hypertension
• controlled disseminated intravascular coagulation

If bleeding is heavy, evident or hidden, deliver as soon as possible
• if cervix is fully dilated deliver by Vacuum Extraction (VE)
• if vaginal delivery is not imminent deliver by Caesarean Section (CS)
• if bleeding is light to moderate the course of action depends on the foetal heart sounds
• if contractions are poor, augment labour with Oxytocin
• if cervix is unfavourable, perform CS
• if foetal heart is abnormal (less than 120 or more than 160 bpm) perform rapid vaginal delivery; if vaginal delivery is not possible deliver by immediate CS

4.2.7 Complications of APH caused by abruption placenta
a) Haemorrhage
b) Shock
c) Coagulation defects
d) Renal failure
e) Sepsis
f) Deep vein thrombosis
g) Anaemia
h) Sheehan’s syndrome
i) Psychological problems if she had intra uterine death
j) Maternal death
k) Still birth
l) Neonatal death

Required competencies
• History taking
• Physical examination
• Appropriate referral
• Resuscitation of the mother and baby
• Checking bedside clotting time

REFERENCES

IMPAC document
MODULE 21

PREGNANCY INDUCED HYPERTENSION

GOAL: To equip the midwife and other skilled birth attendants with knowledge, skills and attitudes necessary for the management of women who develop pregnancy induced hypertension

OBJECTIVES
By the end of the session the midwife and other skilled birth attendants should be able to:
1. Define hypertension, Pre-eclampsia and Eclampsia
2. List signs and symptoms of Pre-eclampsia and Eclampsia
3. Demonstrate competencies in the management of women with Pre-eclampsia
4. Demonstrate competencies in the management of Eclampsia
5. Demonstrate positive attitudes in the management of a woman with Pre-eclampsia and Eclampsia

LEARNING ACTIVITIES
• Review and analyse old case files of pregnancy induced hypertension patients
• Manage a client with Pre-eclampsia
• Manage a client with Eclampsia

CONTENT

1. DEFINITIONS

1.1 Hypertension
An increase of the systolic pressure by 30 mmHg or more
or
An increase of the diastolic pressure by 15 mmHg or more

1.2 Pre-eclampsia
A condition specific to pregnancy, arising after 20th week of gestation, characterized by hypertension and proteinuria

1.3 Eclampsia
A hypertensive disorder induced by pregnancy with convulsions

A small proportion of women with eclampsia have normal BP or no proteinuria. Treat all women with convulsions as if they have eclampsia until another diagnosis is confirmed

2. SIGNS OF IMPENDING ECLAMPSIA ARE:

• a sharp rise in blood pressure
• decreased urinary output
• increased proteinuria
• severe headache
• drowsiness
• mental confusion
• visual disturbance (e.g. blurred vision, flashes of light)
• epigastric pain
• nausea

3. MANAGEMENT OF PRE-ECLAMPSIA
3.1 Antenatally

a) Mild and Moderate Pre-eclampsia (Diastolic BP 90-105 and proteinuria up to 2+)
   - Advise on bed rest
   - Monitor condition weekly
   - Admit if coming too far away from hospital
   - Advise on worsening signs of the conditions and should report if any be present.
   - Advise patient and relatives on importance of bed rest.
   - Counsel on diet which is rich in protein, fibre and vitamins but low in carbohydrate and salt. (No sedatives in Mild pre eclampsia)

b) Severe Pre-eclampsia (Diastolic BP ≥110 or proteinuria 3+)
   - Admit in labour ward in a quiet corner
   - Give Magnesium sulphate 4g in 250mls of 5% Dextrose to run over 30 minutes with a maintenance dose of 8 grams per 500 mls in 5% Dextrose to run over 8 hours
   - Administer anti-hypertensive
   - Hydralazine 5 mg IV (for 5 minutes) stat or hydralazine 10 mg im stat
   - Monitor vital signs
   - Watch for signs of impending eclampsia
   - Check urine for protein
   - Monitor fluid intake and not more than one litre per day
   - Catheterise and monitor urinary output and test protein in urine
   - If at health centre refer immediately

3.2 During labour
   - Close observations of maternal and foetal well being
   - Monitor BP
   - management of second stage should be assisted with vacuum extraction
   - Manage 3rd stage by controlled cord traction (CCT) with Oxytocin
   - Magnesium sulphate 4 gm IV push stat slowly for 20 minutes
   - Check urine for protein
   - If no response, terminate pregnancy by caesarean section or induction

4. INVESTIGATIONS
   - Uric acid
   - Urine for proteins
   - Urea and creatinine
   - Liver Function Test (LFTs)

5. PRINCIPLES OF MANAGING ECLAMPSIA (ABC)
   - Maintain open airway
   - Control fits
   - Reduce blood pressure
   - Maintain fluid balance
   - Termination of pregnancy

5.1 Making sure the woman can breathe
   This is achieved in four steps:
   - Place the woman on her side (in the semi-prone position) so that mucous or saliva will drain out, for with deep breathing there is a grave danger of the inhalation or mucous and saliva.
   - Clean the mouth and nostrils gently and remove secretions. Use suction
apparatus very gently.

• Give oxygen (if available) and continue for five minutes after each fit, or longer if cyanosis persists.

• Stay with the woman to make sure that:
  - her airway remains clear
  - injury is prevented during the chronic stage

5.2 Controlling Fits

Initial dose of Magnesium Sulfate:

- Administers 4 g of 20% Magnesium Sulfate in solution (20 ml) IV over a 5-minute period
- Administers 5 g of Magnesium Sulfate solution in 50% dextrose solution (20 ml) with 1 ml of 2% Lignocaine IM deep in each buttock (total 10 g)
- In the event of a second convulsion after 15 minutes, administers 2 g of Magnesium Sulfate in solution in 50% dextrose (4 ml) IV over a 5-minute period

Maintenance dose:

- Prior to administration of the maintenance dose make sure that:
  > Respiration are more than 16/minute
  > Patellar reflexes are present
  > Urine output more than 30 ml/hour in preceding 4 hours

- Administers 5 g of 50% Magnesium Sulfate solution with 1 ml of 2% lignocaine IM alternately in each buttock every 4 hours, providing there are no complications
- Continues with Magnesium sulfate for 24 hours following birth or the most recent convulsion
- Simultaneously, there is record of:
  – Bladder catheterization
  – Intake and output monitoring
  – Monitoring of vital signs:
    - BP
    - Pulse
    - Breathing
  – Monitoring of fetal heart rate
  – Performance and evaluation of clotting tests

• If there were convulsions, delivery should take place within 12 hours or, in the absence of convulsions, within 24 hours

• Antihypertensive treatment (if diastolic BP is 110 mmHg or more):

  Plan 1: Hydralazine 5 mg IV slowly every 5 minutes or 12.5 mg IM every 2 hours, until diastolic BP stabilizes between 90 and 100 mmHg
  
  – Or

  Plan 2: Nifedipine 5 mg sublingual, repeating the dose if the diastolic BP is still more than 110 after 10 minutes
Magnesium sulphate has shown to be more effective than diazepam or phenytoin in preventing the recurrent of fits

Magnesium sulphate can cause respiratory depression in mother and fetus (Decrease in tendon reflexes)

### 5.3 Controlling Blood Pressure

**Antihypertensive therapy**

This management can be given for eclampsia or fulminating pre-eclampsia. The management should be started if the diastolic blood pressure reached 110 mmHg or more on two readings to prevent occurrence of hypertensive complications such as cerebral haemorrhage. Give slow intravenous injection of Hydralazine 5 mg. Take 10 minutes to give the injection. Monitor blood pressure carefully during this time. Give Hydralazine 10 mg IV every 20 minutes if diastolic BP reaches 110 mmHg or more.

*Assess BP ¼ hourly and before giving the next dose*

*A smooth and sustained reduction in blood pressure over a 3 hour period is preferred to a sudden drop*

<table>
<thead>
<tr>
<th>Advantage</th>
<th>Disadvantage</th>
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<tbody>
<tr>
<td>Hydralazine will reduce the blood pressure quickly when hypertension is severe. It does not cause semi-consciousness and associated problems.</td>
<td>In the mother hydralazine may cause: - nausea and vomiting - headache - muscle tremors There may also be foetal distress because of the sudden fall in blood pressure the circulation of blood through the uterus and placenta will be reduced</td>
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</tbody>
</table>

### 5.4 Controlling Fluid Balance

- Insert an indwelling urinary catheter with an open drainage system, to measure the urine output.
- Record the urine output every 4 hours.
- Record the fluid intake.
- Give all necessary fluid intravenously. The patient should receive sodium lactate or 5% dextrose in water at the rate of 60 ml to no more than 125 ml per hour unless there was unusual fluid loss from vomiting, diarrhoea, excessive blood loss at delivery.
- Suspect kidney failure if the urine output is less than 30 mls per hour

Maintenance of proper fluid balance is essential to prevent water intoxication, dehydration, hyponatraemia, or pulmonary oedema.

Diuretics should not be used
5.5 Delivering the baby
The medical practitioner will decide on the method of delivery taking into account whether the woman has started labour.

Eclampsia before labour or in the latent phase

**Labour will be induced by giving Oxytocin, only if:**
- the cervix is very ripe (almost fully effaced, dilatation 2-3 cm)
- the foetus is of normal or small size
- the pelvis appears of normal size by vaginal examination
- no other contra-indications for vaginal delivery exist.

**Caesarean section will be performed if:**
- there is a contra-indication to induction
- active labour does not follow within four hours of induction

If caesarean section is necessary the anaesthetist will, of course, take into account the drugs already given. This is particularly important with regard to Magnesium Sulphate which will lessen the amount of muscle relaxation needed.

Eclampsia in the active phase of first stage of labour Allow vaginal delivery only if:
- labour is progressing quickly (on the alert line of the partograph or to the left of it);
- there are no contra-indications to vaginal delivery.

**Difficult deliveries must be avoided.**
If there is delay, caesarean section must be carried out immediately.

Eclampsia in the second stage of labour
Delivery by the quickest and easiest route i.e. vacuum extraction.

- Delivery of an eclamptic patient should occur within 12 hours after the onset of fits
- Avoid Ergometrine in the third stage because it causes a rise in blood pressure.
  Instead give Oxytocin 10 IU IM

5.6 Care After delivery

It is important to realize that fits can occur for the first time after delivery. Fits can also recur after delivery. Therefore the patient must be very carefully observed.

Points to be noted in providing care

a) Careful observation and management if necessary should be continues for at least 48 hours after delivery.
b) If the patient has fits after delivery, continue observations and management for 48 hours after the last fit.
c) Nurse the patient in labour ward or other area of intensive care where she can be closely observed.
d) Monitor blood pressure hourly.
e) Continue giving Hydralazine 10-20 mg IM until diastolic blood pressure drops below 110 mmHg.
f) Monitor urinary output very carefully. The woman tends to retain fluids. This is because the kidneys are slow to excrete the extra circulating fluid after delivery. This can cause a rise in blood pressure. Be careful not to give too much fluid intravenously during this period.
g) If, after 48 hours, there are no fits, the urinary output is good and the diastolic blood pressure is below 100 mmHg the patient can be transferred to the ward. Continue 4 hourly blood pressure checks until diastolic pressure is less than 90mmHg.
h) Arrange for follow-up one week after delivery then at 6 weeks.

5.7 Problems and complications

a) Continued fits

*If the woman continues to have fits, check that:

• the diagnosis of eclampsia is correct (excluding other causes of fits)
• BP is adequately controlled
• Patient is not in pain (e.g. from a caesarean section wound) Inform the medical doctor of the woman's condition

b) Anuria or severe oliguria

If urinary output is less than 500 ml in 24 hours:

• limit the amount of fluid intake to 500 ml per 24 hours + any amount equal to the amount of urine passed
• if there is no improvement within 24-48 hours, the doctor must decide urgently on further management

c) Blood pressure remains high:

*Following eclampsia the blood pressure may:

• return to normal within a few days of delivery
• return to normal after a few weeks
• remain high permanently

The doctor will decide on the method of management. Usually during the first week postpartum, further management such as Hydralazine is given if the blood pressure goes above 110 mmHg.

If blood pressure is still very high 48 hours after delivery, standard antihypertensive regimen should be started. The patient must then be reassessed by a doctor who will decide whether long-term management is necessary.

Required competencies

• Accurate blood pressure checking
• Physical examination (face, hands, feet, abdomen and vulva) and checking of reflexes
• Manage a patient with pre-eclampsia and eclampsia

REFERENCES

Malawi Safe Motherhood Program (April, 1997) Clinical Protocols for Management of Emergency Obstetric complications, Ministry of Health, Malawi

MODULE 22

MANAGEMENT OF OBSTRUCTED LABOUR

GOAL: To equip midwife and other skilled birth attendants with knowledge skills and attitudes necessary for prevention and management of obstructed labour

OBJECTIVES:
By the end of the session midwives and other skilled birth attendants should be able to:
1. Define obstructed labour
2. Identify the signs of obstructed labour
3. Demonstrate competencies in the management of a woman with obstructed labour
4. Demonstrate appropriate attitude in the management of a woman with obstructed labour

LEARNING ACTIVITIES
• Review and analyse case files of patients with obstructed labour
• Clinical decision making
• Criteria based audit

CONTENT

1. DEFINITION
Labour is said to be obstructed when there is no advance of the presenting part despite strong uterine contractions. The obstruction usually occurs at the pelvic brim but may occur in the cavity or outlet of the pelvis.

2. SIGNS OF OBSTRUCTED LABOUR

2.1 Early Signs

a) General condition
• Anxious, restlessness
• Rising pulse rate and temperature
• Early signs of dehydration e.g. dry lips, dry tongue
• Unable to relax in between uterine contractions

b) Abdominal Examination

i) Inspection
There is a full bladder which is difficult to empty. If emptied, urine is concentrated and may be blood stained
• Bowel distension
• Bandl’s ring during contractions

ii) Palpation
• Uterine contractions are hypertonic.
• No progress of descent of the presenting part for 3 hours
• Rising fundus
• Tenderness over lower uterine segment
The presenting part does not enter the pelvic brim despite strong uterine contractions
iii) **Auscultation**

There may be foetal distress due to maternal distress and frequent contractions compressing the placental site especially when early rupture of membranes has occurred.

c) **Vaginal Examination**

- The vagina may be hot if the mother has dehydration or infection
- There may be slow or no progress in cervical dilatation, cervix may be oedematous and poorly applied to the presenting part
- High presenting part with caput succedaneum and moulding at the brim.
- Early rupture of membranes with meconium stained liquor.

2.2 **Late Signs**

a) General Condition of the Mother

- Exhaustion and lack of sleep due to pain. The patient is very anxious and appear uncontrollable due to fear
- Severe dehydration
- Fever, rapid pulse and respiration
- Raised blood pressure, pre-eclampsia or eclampsia develop very rapidly especially in primigravida.
- Genital tract infection due to early rupture of membranes which permits ascending infection. There will be thick offensive purulent vaginal discharge, fever, rapid pulse

b) Abdominal Examination

i) **Inspection**

- The bladder is distended
- There is bowel distension
- Bandl's ring is present at all times.

ii) **Palpation**

- Cracking sensation felt when uterus is palpated. This is due to infection caused by gas-forming organism especially if the foetus is dead.
- Contractions are violent to overcome obstruction as a result the lower uterine segment becomes thinner and rupture can occur especially in multigravida
- In primigravida the contractions cease
- Rising fundus
- On pelvic palpation there is pain and tenderness over the lower uterine segment.

iii) **Auscultation**

There is severe foetal distress or intrauterine death due to asphyxia and intracranial haemorrhage caused by excessive moulding

c) **Vaginal Examination**

- On inspection the vulva and vagina are oedematous due to pelvic congestion or prolonged pushing.
- The cervix may be fully dilated, if not, it will be oedematous and poorly applied to the presenting part.
- There is severe caput which may be seen at the introitus while the head is not
The present part is impacted in the pelvis and the uterus moulded to the foetus.
There is no amniotic fluid.

2.3 Prevention of Obstructed Labour

Antenatally
- Proper history taking
- Screening of all women for signs of risks
- Encourage hospital delivery

During labour and delivery
- Proper assessment of the mothers in labour
- Early referral if at health centre
- Proper use of a partograph

3. MANAGEMENT OF OBSTRUCTED LABOUR

3.1 Management at Health Centre Level
- Explain the condition to the mother to allay anxiety
- Midwife, other health workers and supportive staff should be supportive and empathetic to the mother
- Check vital signs hourly
- Commence Ringers Lactate IV, if ketotic and exhausted give 20mls of 50% Dextrose IV push
- Give antibiotics according to hospital protocols
- Empty bladder by catheterisation
- Insert nasal gastric tube
- Take blood for haemoglobin and grouping and X-matching
- Nil orally
- Refer the patient with escort and donors
- Documentation of whatever has been done on patient

3.2 Management at hospital level:
- Re-assess the patient
- Rehydrate the patient to maintain normal plasma volume and prevent or treat dehydration and ketosis.
- Check vital signs
- Give broad spectrum antibiotic to prevent puerperal sepsis.
- Take blood for Hb, grouping and X-matching and identity donor
- Empty bladder by catheterisation
- Decide on the mode of delivery and deliver the baby. If the baby is alive the aim is to deliver the baby as soon as possible to avoid trauma to mother and baby:
  - If rupture of uterus seems likely the method of delivery should be C/section
  - If the uterus is intact, presentation is vertex and the cervix is fully dilated, and the descent is 0/5, deliver the baby by vacuum extraction
  - In cases where descent is 1/5 to 2/5 a doctor can do vacuum extraction in theatre
  - In cases where descent is 3/5, and cervix is fully dilated the mode of delivery is caesarean. If the baby is dead
  - If the uterus is ruptured, the mode of delivery is laparotomy.
  - If the uterus is intact with cephalic presentation, cervix 10cm dilated and head
descent 2/5 or more. Craniotomy or destructive operation is the recommended mode of delivery.

### 3.3 Specific management during postpartum

- Keep catheter for 7 to 14 days
- Continue with IV Metronidazole 500mg 8 hourly, Benzylpenicillin 2 MU IV every 6 hours and Gentamicin 240 mg IM single dose daily until 48 hrs after the fever subsides, but not less than 5 days. (If above antibiotics not available give Chloramphenicol 1 gram every 6 hours until fever subsides for 48 hours, but do not discontinue the course until it has been given for at least 5 days.
- Continuous bladder drainage for at least 7 days
- Monitor and record intake and output
- Observe for development of vesicle vaginal fistulae or rectal vaginal fistulae
- Counsel mother and significant others on the cause of her condition
- Counsel woman on FP if uterus is intact
- Provide emotional support
- The rest of the management is as in any operative procedure

#### Required competencies

- Diagnosing presentation and position of foetus
- Manage client with obstructed labour

#### REFERENCE

Sweet B.R. (1982), Mayes Midwifery – A textbook for Midwives, Bailliere Tindall
MODULE 23

POSTPARTUM HAEMORRHAGE (PPH)

GOAL: To equip midwife and other skilled birth attendants with knowledge, skills and attitude in the management of women with postpartum haemorrhage

OBJECTIVES
At the end of the session midwives and other skilled births attendants will be able to:
1. Define postpartum haemorrhage
2. Explain the types of post-partum haemorrhage
3. Explain causes of postpartum haemorrhage
4. Explain how PPH can be prevented antenatally, during labour, delivery and post partum period
5. Explain the complications of postpartum haemorrhage
6. Demonstrate competence in caring for women who develop post partum haemorrhage
7. Demonstrate positive attitudes in managing patients with PPH
8. Demonstrate competence in the use of Child Birth Simulator (mamanatary)
9.

LEARNING ACTIVITIES
• History taking
• Examination of placenta and membranes
• Vaginal examination
• Measuring of blood loss
• Bimanual compression of the uterus
• Manual removal of placenta

CONTENT

1. DEFINITION

Postpartum haemorrhage is excessive bleeding of 500 mls and above from the genital tract after delivery of the baby and before the end of puerperium.

Any amount of blood loss that threatens the life of the mother can also be regarded as PPH

2. TYPES OF POSTPARTUM HAEMORRHAGE

2.1 Primary postpartum haemorrhage
This is excessive bleeding from the genital tract within 24 hrs of delivery. This is the most common type of post partum haemorrhage.

2.2 Secondary postpartum haemorrhage
It is excessive bleeding from the genital tract after 24 hours of delivery up to 6 weeks postpartum.

3. CAUSES OF POSTPARTUM HAEMORRHAGE: THE 3 “TS”

3.1 First T: TONE
Bleeding due to lack of TONE of the uterine muscles or any condition interfering with contraction of the uterus. This includes:
• Retained placenta
• Retained placental tissue or membranes
• Incomplete separation of placenta
• Full bladder
• Ante-partum haemorrhage like in placenta praevia (less oblique muscle fibres in the lower uterine segment) or placenta abruptio (muscle fibres are damaged due to concealed uterine haemorrhage).

3.2 Second T: TRAUMA
Lacerations to birth canal including cervical, perineum, and vagina tears, ruptured uterus, uterine inversion, too early episiotomies

3.3 Third T: THROMBIN
Coagulation failure interfering with blood clotting mechanism

4. PREVENTION OF POSTPARTUM HAEMORRHAGE

Antenatally
• Prevent and treat anaemia
• Encourage hospital delivery
• Identify at risk mothers with previous history of PPH

Prevention During labour and delivery
• Encourage women to void
• Proper management of women in labour
• Avoid unnecessary episiotomy /untimely
• Active management of third stage of labour
• Identify and repair tears
• Infection prevention practices to avoid infection
• Initiation of b/feeding within 30 minutes of delivery
• Thorough examination of the placenta
• Proper management of the second stage of labour

Post natal
• Encourage frequent voiding
• Encourage breast feeding
• Personal hygiene to prevent infection
• Post natal assessment examination

5. MANAGEMENT

5.1 Management of primary PPH (according to cause)/ Helipnh Mother Survive (HMS) (See HMS Bleeding after Birth Action Plan)

a) Tone
Management will depend on whether the placenta is delivered or retained

i) Placenta delivered
• Call for help and never leave the patient alone till the bleeding has stopped and the patient is stable
• Explain calmly to the mother about her condition and what interventions will be done
• Rub up a contraction and expel clots if any
• Give Oxytocin (10 units IM stat)
• Empty the bladder and maintain an indwelling catheter
• Put up two large bore cannula and take blood for grouping, X-matching and haemoglobin and check clotting time
• Infuse Normal Saline or crystalloids with 20-40 units of Oxytocin. Maintain the infusion at 40 drops per minute to keep the uterus well contracted (or run the infusion fast).
• Arrange blood donors. If at a health centre, donors should accompany the patient to the Central Hospital/District Hospital.
• Assess patient’s condition (pulse, BP, colour of mucus membranes, consciousness level, uterine tone) and estimate how much blood has been lost already. Start resuscitating the patient immediately: airway to be patent, oxygen therapy 6-8 litres per minute.
• Quickly examine placenta and membranes for completeness.
• Inform the doctor about the condition of the patient and about the interventions that you have carried out.
• If bleeding persists and the uterus keeps relaxing, does aortic compression, if it fails use bimanual compression of the uterus. (see Annex 6)
• If bleeding persists and the uterus is well contracted, examine the vagina and cervix for lacerations/tears.
• In case of severe shock use plasma expanders or blood transfusion if available.
• In case of infection commence antibiotics.
• Keep the woman warm throughout the procedure.
• Record intake and output
• Document all interventions done and keep accurate records.

ii) Placenta not delivered
• Call for help
• Explain to the patient the condition and plan of care.
• Rub up the fundus of the uterus for a contraction
• Empty the bladder.
• Give Oxytocin 10 units IM.
• Apply controlled cord traction with the next contractions.
• If placenta still not delivered, commence intravenous infusion of saline with 20-40 units of Oxytocin (If at the health centre refer).
• A second attempt at controlled cord traction should be tried.
• If controlled cord traction is not successful proceed to manual removal of the placenta. (see Annex 5).
• If manual removal is not successful, refer immediately

ii) Placenta incomplete -Retained tissue
• Keep track of how long it has been since the baby was born
• Examine the delivered placenta for missing lobes or pieces
• Check mothers uterus for tone and height while monitoring the mothers bleeding
• Conduct manual removal of the retained lobe
• If manual removal fails refer immediately for evacuation

b) Trauma
• Call for help
• Explain the condition to the mother and plan of care
• Place the woman in lithotomy position and use good lighting
• Find the bleeding point if visible, clamp it, and suture the tear.
• Take blood for grouping, X-matching and haemoglobin estimation.
• Set up an intravenous infusion, give saline or sodium lactate followed by plasma expander if available and if shock is severe.
• Estimate the blood loss
• Check pulse and blood pressure, and observe general condition.
• Start the woman on broad spectrum antibiotics
• Keep accurate records.

c) Thrombin
• Check blood at the bedside for clotting time
• The rest of management is the same with that for TONE but transfuse fresh blood.

5.2 Management of secondary PPH

• Admit the woman to hospital as an emergency and assess the condition.
• Rub up uterine contraction by massaging the uterus if it is still palpable.
• Give Oxytocin 10 units IM.
• Take blood for Hb grouping and X-matching.
• Put up intravenous infusion of normal saline
• If bleeding is severe add 40 units IV Oxytocin per litre to run at 40 drops per minute.
• Inform doctor or clinical officer
• In case of severe shock use plasma expanders or transfuse blood if available.
• Start the woman on broad spectrum antibiotics in high doses i.e. give triple antibiotics Metronidazole 500mg IV 8 hourly x 7/7; X-pen 2mu IV 6 hourly x 7/7; Gentamycin 240mg IM once daily x 7/7 OR Cephatriazone 2g IV stat then 1g 12 hourly IV x 7/7
• Prepare the patient for EUA and possible re-suturing.
• Monitor the patient’s condition, blood pressure, pulse, temperature, respiration and blood loss.
• Assess lochia for colour, amount, odour and consistency
• Observe colour – on the conjunctiva, tongue
• Observe level of consciousness
• Observe intake and output and keep accurate records
• Palpate uterus for tenderness
  - Provide good nursing care by assisting mother with activities of daily living e.g. nutrition, hygiene, rest and sleep.
    o Encourage exclusive breast feeding.

6. COMPLICATIONS OF PPH
• Infection
• Hypovolaemic shock
• Severe anaemia

Required competencies
• History taking
• Physical examination
• Manual removal of placenta
• Examination of placenta and membranes
• Suturing skills of episiotomy and tears
• Bimanual compression
• Active management of 3rd stage of labour
• Inserting and monitoring intravenous infusions including blood
• Check blood for bedside clotting time
REFERENCES


ALSO document
MODULE 24

PUERPERAL SEPSIS

GOAL: To equip the midwife and other skilled birth attendants with knowledge, skills and attitudes necessary for management of puerperal sepsis

OBJECTIVES
By the end of the session, the midwife and other skilled birth attendants should be able to:
1. Define puerperal sepsis
2. State signs and symptoms of puerperal sepsis
3. Explain management of women with puerperal sepsis
4. Explain preventive measures for puerperal Sepsis
5. Explain complications of puerperal sepsis.
6. Demonstrate positive attitude in managing patients with puerperal sepsis

LEARNING ACTIVITIES
• Review and analyse case files of patients with puerperal sepsis

1. DEFINITION

Puerperal sepsis is an infection of the genital tract at any time after delivery of the baby to six weeks (42 days) following.

2. SIGNS AND SYMPTOMS

• Temperature rises gradually
• Pulse rate is over 90
• Lochia is profuse or scanty brownish, offensive and frequently contain pieces of chorion
• Uterus is large, (sub involuted), soft in consistence and tender to touch
• The woman may complain of headache and general malaise
• The woman may have pelvic pain
• There may be pain, swelling and pus discharge at the site of lacerations or episiotomy

3. MANAGEMENT

3.1 Immediate and Subsequent management
• Admit and nurse the woman in a separate room or if that is not possible in the corner of the ward separate from other patients
• Nurse the woman in upright position to encourage uterine drainage
• Take accurate history and do full physical examination of the woman to make a proper diagnosis
• Hand washing before and after each procedure
• Do laboratory investigations i.e. high vaginal swab for culture and sensitivity, malaria parasites and full blood count.
• Check and document vital signs i.e. temperature, pulse rate, blood pressure and respirations
• Encourage bed rest and assist with care of baby and breastfeeding
• Give oral fluids or intravenous fluids to rehydrate the woman and record intake and output
• Assist with personal hygiene and perineal care
• Give high protein diet
• Check uterus for involution
• Observe and record lochia for amount, odour, consistency and colour to monitor response to treatment and care
• Give broad spectrum antibiotics such as Metronidazole 400mg 8 hourly orally for 7 days and Erythromycin 500mg 6 hourly for 7 days OR Azithromycin 500mg stat then 250mg once a day x 4/7
• For severe infection give the following drugs until 48 hours after the fever has subsided but not less than 5 days.
- Metronidazole 500mg 8 hourly IV
- Gentamycin 240 mgs IM OD
- Benzylpenicillin 2 mu IV 6 hourly
• If the above treatment is not available, give Chloramphenicol 1g 6 hourly until the fever subsides but not less than five days
• Provide psychological support to reduce anxiety
• Give analgesics to relieve pain and antipyretic for fever
• When condition improves encourage early ambulation

3.2 Follow up management

If fever is still present after 72 hrs, re-evaluate the patient, revise the diagnosis & treatment. Consider doing an exploratory laparotomy!

Prevention of Puerperal sepsis

Antenatally
• Advise on hospital delivery
• Advise on perinal care( shave 2 weeks before delivery)
• Treat all STI using syndromic approach management of STI
• Discourage insertion of local herbs
• Provide comprehensive PMTCT services
• Treat anaemia antenatally
• Advise on good nutrition
• Advise women to report to health facility in case of early rupture of membranes and treat promptly

Labour and Delivery
• Dust free environment
• Good light and ventilation
• Strict adherence to infection prevention
• Minimise vaginal examinations
• Avoid catheterization
• Monitor labour using partograph to avoid prolonged labour
• Avoid routine rupture of membranes in first stage of labour
• Do a thorough examination of placenta and membranes
• Thorough inspection of cervix and vagina for tears
• Avoid unnecessary episiotomies
• Encourage personal hygiene
• Active management of 3rd stage of labour

Postnatally
• Personal hygiene should be encouraged
• Infection prevention practices
• Nutrition advises
• Early ambulation should be encouraged
• Post natal check up and assessments
• Vitamin A supplementation very necessary
• Give ferrous Sulphate, 30 tablets of 200mg daily for 1 month

4. COMPLICATIONS

• Infertility
• Septicaemia
• Peritonitis
• Pelvic abscess
• Septic shock
• Subphrenic abscess
• Thrombophlebitis

Required competencies
• Perineal care
• Management of woman with Puerperal sepsis
• Collection of high vaginal swab
• Infection prevention practices

REFERENCES


Mother Care (1993). Management of Life Threatening Obstetrical Emergencies


MODULE 25

ABORTION AND POSTABORTION CARE

GOAL: To equip midwife and other skilled birth attendants with knowledge, skills and attitude in the management of women with abortion.

Specific objectives
By the end of the session, midwives and other skilled birth attendants should be able to:
1. Define abortion
2. Describe the classification of abortion
3. Explain the general management of a woman with abortion
4. Demonstrate comprehensive post abortion care
5. State complications of abortion
6. Demonstrate positive attitudes towards women during post abortion care

LEARNING ACTIVITIES
• History taking
• Physical examination
• Post-abortion counselling
• Manual vacuum aspiration
• Positive attitudes

CONTENT

1. DEFINITION

Abortion is the termination of pregnancy by any means, resulting in expulsion of an immature nonviable foetus of less than 28 weeks. Abortion can be early or late depending on gestation, early up to 12 weeks gestation and late between 13-28 weeks gestation.

2. CLASSIFICATION OF ABORTION

• Threatened Abortion
• Inevitable Abortion
• Incomplete Abortion
• Complete Abortion
• Missed Abortion
• Septic Abortion
• Criminal Abortion

3. COMPLICATIONS OF ABORTION

• Haemorrhage
• Septicaemia
• Bacteraemic shock with rigors, nausea, vomiting, diarrhoea, hypotension, confusion, delirium and coma
• Renal failure
• Secondary infertility
• Death

3.1 Management of a woman with abortion
General management of abortion

- The woman with abortion must be admitted to gynaecological ward for close observation and treatment.
- History taking to obtain possible aetiological factors together with details of bleeding, pain and products of conception expelled.
- Perform a full physical examination.
- Check and record vital signs i.e. temperature, pulse, respiration and blood pressure.
- Observe aseptic technique when performing vaginal examinations.
- Provide pads to observe severity of blood loss.
- Put up intravenous fluids if the woman is bleeding severely i.e. normal saline, ringers lactate.
- If necessary check Hb, grouping and cross matching and arrange for blood donor.
- Give antibiotics to treat infection in case of septic abortion.

3.2 Specific Management

a) Threatened Abortion
   - Follow the general management.
   - Avoid sexual intercourse.
   - Treat cause if known.

b) Inevitable Abortion
   - Follow the general management.
   - If pregnancy is less than 16 weeks, plan for evacuation as soon as possible.
   - If more than 16 weeks, await for spontaneous expulsion of the products of conception followed by evacuation; if necessary infuse Oxytocin 40 units in 1L iv fluids at 40 drops per minute.

c) Incomplete Abortion
   Follow the general management and evacuate the uterus by either manual vacuum aspiration (MVA) or curettage under anaesthesia (see annex 1 for MVA steps and refer to post abortion care manual for more details).

d) Complete Abortion
   Follow general management and give Syntometrine 0.5mg IM stat.

e) Missed Abortion
   Follow general management and refer for ultra sound scanning.

f) Septic Abortion
   General management plus IV antibiotics followed by immediate evacuation or manual vacuum aspiration (refer to puerperal sepsis module for antibiotics). Include the dosages for the treatment.

4. MANUAL VACUUM ASPIRATION (MVA)

4.1 Indication

MVA is the method of choice for the management of incomplete or inevitable abortion for gestation of 14 weeks or less, because it has fewer complications compared to curettage.
4.2 Pain relief
   • Provide emotional/verbal support and encouragement throughout the procedure
   • Give Pethidine 50 mg IM 30 minutes before the procedure at hospital level
   • Give Diclofenac 50-100mg oral or 75 mg intramuscular or Ibuprofen 400mg oral 30 minutes before the procedure at health centre level

4.3 Procedure
   • Explain the procedure to the patient.
   • Maintain aseptic technique.
   • Administer Oxytocin 10 units IM before the procedure
   • Perform 6 swab technique to clean the vulva.
   • Perform bimanual pelvic examination.
   • Assemble the equipment.
   • Insert the speculum gently and remove the visible products of conception.
   • Clean the cervix.
   • Examine the cervix for tears, lacerations etc.
   • Gently apply traction on the cervix and insert cannula slowly into uterine cavity until it touches the fundus (not more than 10cm).
   • Withdraw the cannula 1cm away from the fundus.
   • Attach the prepared syringe to the cannula.
   • Release the pinch valve on the syringe.
   • Evacuate any remaining contents of the uterine cavity by gently rotating the cannula and syringe.
   • Check for signs of completion.
   • Gently withdraw the cannula and detach the cannula from syringe.
   • Quickly inspect the products of conception.
   • Process the MVA equipment according to standards.
   • Observe the client/patient for 30 minutes.
   • Complete the counselling process including family planning and provision of the chosen method.
   • Document

5. PREVENTION OF ABORTION

a) Ensure that family planning services including emergency contraception are accessible to all women of child-bearing age regardless of age or marital status.
b) Provide IEC to the public on dangers of illegal abortions and how to prevent unwanted pregnancies through family planning
c) Give prophylactic treatment for malaria and anaemia antenatally.
d) Counselling should be done to mothers with HIV infection to prevent them from getting unwanted pregnancies
e) Counsel all post abortion women and provide Family Planning services

Required competences
   • Thorough history taking
   • Conduct full physical examination
   • Manual Vacuum Aspiration
   • Demonstrate appropriate counselling skills.
<table>
<thead>
<tr>
<th>FACTORS</th>
<th>HELPFUL ACTIONS/ PREVENTIVE MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy in women who:</td>
<td>• Advise women to delay their first pregnancy until at least 20 years of age.</td>
</tr>
<tr>
<td>• Are less than 20</td>
<td>• Counsel men and women to space their children at least 3 years apart.</td>
</tr>
<tr>
<td>• Have births that are less than 3 years apart or have many pregnancies (five or more)</td>
<td>• Encourage the use of modern contraceptive methods to space or limit pregnancies.</td>
</tr>
<tr>
<td>Women who:</td>
<td>• Make the community aware of the need to make childbearing safer. Women should:</td>
</tr>
<tr>
<td>• Had a LBW baby before</td>
<td>• Eat enough and the right kinds of food</td>
</tr>
<tr>
<td>• Do hard physical work for many hours with no rest</td>
<td>• Get enough rest from hard work</td>
</tr>
<tr>
<td>• Are very poor</td>
<td>• Get good comprehensive antenatal care</td>
</tr>
<tr>
<td>• Are underweight and have poor nutrition</td>
<td>• Have access to health care services to find and treat common problems before pregnancy</td>
</tr>
<tr>
<td>• Have health problems (hypertension, sickle cell disease)</td>
<td>• Help women meet their health needs during pregnancy</td>
</tr>
<tr>
<td>Women who have pregnancy problems such as:</td>
<td>Teach women and families to:</td>
</tr>
<tr>
<td>• Severe anaemia</td>
<td>• Recognize and respond to danger signs during pregnancy</td>
</tr>
<tr>
<td>• Pre-eclampsia or hypertension</td>
<td>• Get treatment for problems during pregnancy</td>
</tr>
<tr>
<td>• Infections during pregnancy (bladder and kidney infections,</td>
<td>• Seek follow-up and preventive care</td>
</tr>
<tr>
<td>hepatitis, sexually transmitted infections, HIV/AIDS, malaria)</td>
<td></td>
</tr>
<tr>
<td>• Multiple gestation (e.g., twins)</td>
<td></td>
</tr>
<tr>
<td>Babies who have:</td>
<td>During pregnancy teach women and families to:</td>
</tr>
<tr>
<td>• Congenital or genetic abnormalities</td>
<td>• Not take any medicine or treatment unless approved by a health worker</td>
</tr>
<tr>
<td>• An infection while in the uterus</td>
<td>• Know the pregnancy and newborn danger signs</td>
</tr>
<tr>
<td></td>
<td>• Get treatment for problems during pregnancy</td>
</tr>
</tbody>
</table>
REFERENCES


Myles M (1981). Textbook for midwives, C. & C Joint printing Company Ltd; Hong Kong


MODULE 26

CARE OF LOW BIRTH WEIGHT BABIES

GOAL: To equip midwife and other skilled birth attendants with knowledge, skills and attitude necessary for management of Low Birth Weight babies (LBW)

OBJECTIVES
1. Define Low Birth Weight baby
2. Classification of Low Birth Weight
3. Describe physical features of the Low Birth Weight (LBW) baby
4. Explain factors that contribute to Low Birth Weight
5. Discuss the needs and problems of the Low Birth Weight (LBW) baby

LEARNING ACTIVITIES
• Perform physical examination on the Low Birth Weight baby
• Educate the mother in caring for her Low Birth Weight baby
• Demonstrate the techniques in maintaining warmth in the Low Birth Weight Baby
• Clamp & cut the cord

CONTENT

1. DEFINITION
A low birth weight (LBW) baby is one who weighs less than 2500 grams at birth.

2. CLASSIFICATION OF LOW BIRTH WEIGHT
Low Birth Weight babies can be:

• Premature or preterm: A baby born before the 37th week of pregnancy is called premature (or preterm). A premature baby may not be ready to live outside the uterus and may have difficulty initiating breathing, sucking, fighting infection, and staying warm.

• Small for gestational age (SGA): A baby who did not grow well enough in the uterus during pregnancy is called small for gestational age. The SGA baby is usually full-term and often able to breathe and suck well.

A baby may be both small for gestational age and premature. Because there is no single cause of LBW, it is difficult to prevent. Among healthy, well-nourished women, the frequency of LBW babies is lower. You may be able to help decrease the number of LBW babies born in a community by encouraging all women to get good comprehensive antenatal care.

3. PHYSICAL FEATURES OF LOW BIRTH WEIGHT BABIES
Because they weigh less than 2500 grams, LBW newborns are thin and have very little fat under the skin. This lack of fat is why LBW babies are at higher risk for hypothermia. Premature babies may also have the following characteristics, depending on the gestational age:
• Skin: May be reddened. The skin may be thin so blood vessels are easily seen.
• Lanugo: There is a lot of this fine hair all over the baby's body.
• Limbs: The limbs are thin and may be poorly flexed or floppy due to poor muscle tone.
• Head size: The head appears large in proportion to the body. The fontanelles are smooth and flat.
• Genitals: Male: the testes may not be descended and the scrotum may be small. Female: the clitoris and labia minora may be large.
• Soles of feet: Creases are located only in the anterior third of the sole, not all over, as in a term newborn.

**Problems associated with Low Birth weight babies include the following:**

• Hypothermia
• Hypoglacemia
• Infection
• Jaundice
• Bleeding into visceral organs
• Breathing difficulties
• Feeding difficulties

**Newborn Danger Signs**

Remember the newborn danger signs are the same regardless of weight:

• Breathing problems
• Feeding difficulties or not sucking
• Feels cold
• Fever
• Red, swollen eyelids, and pus discharge from eyes
• Redness of skin, swelling, pus or foul odour around the cord or umbilicus
• Convulsions/fits
• Jaundice/yellow skin

**FACTORS ASSOCIATED WITH LOW BIRTH WEIGHT**

**REFERENCES**


Myles M (1981). Textbook for midwives, C. & C Joint printing Company Ltd; Hong Kong


MODULE 27

KANGAROO MOTHER CARE

GOAL: The health care provider will acquire knowledge skills and appropriate attitude in caring for the newborn needing Kangaroo Mother Care.

OBJECTIVES
On completion of this module you should be able to:

1. Define KMC
2. Explain types of KMC
3. Advantages and disadvantages
4. Demonstrate ability to teach and coach mothers and family members how to give Kangaroo Mother Care
5. Establish a kangaroo mother care services
6. Define community KMC (CKMC)
7. Define ambulatory KMC (AKMC)
8. Describe eligibility and discharge criteria for hospital based KMC, CKMC and AKMC

LEARNING ACTIVITIES
• Demonstrate positive attitude in KMC services
• Assemble necessary materials for KMC
• Perform the Kangaroo Mother Care positions and steps
• Counsel mothers on KMC
• Admit baby to KMC unit
• Supervise breastfeeding and cup feeding of baby in KMC unit
• Demonstrate the skills in the three elements of KMC: positioning, feeding and support.
• Demonstrate understanding of CKMC and AKMC

CONTENT

1. DEFINITION OF KANGAROO MOTHER CARE

Kangaroo Mother Care is defined as early, prolonged continuous skin-to-skin contact between a mother (or her surrogate) and her low birth weight infant. It is a simple, inexpensive and safe method of caring for low birth weight infants. In KMC, the baby is placed skin-to-skin against the mother’s chest wearing only a nappy, hat and socks, and secured in an upright position between the mother’s breasts by wrapping a cloth around both mother and baby. The skin-to-skin contact should be initiated immediately after delivery and continued until baby no longer tolerates the KMC position or reaches 2500 grams.

2. TYPES O KANGAROO MOTHER CARE

There are two types of KMC: continuous and intermittent. Continuous KMC takes place when the baby is in the skin-to-skin position for 24 hours every day (except for very short periods when the mother has to bath or use the toilet). Continuous KMC is initiated in the hospital as soon as baby is stable and other criteria are met. It is continued at home when mother and baby are discharged. It requires the support from family members, including the father of the baby.

Intermittent KMC is when the baby is put in skin-to-skin contact for a few hours each day. When not in KMC position baby is kept warm in an incubator or warmly wrapped. It is mostly used for very small and sick babies, and/or for mothers who do not want or are not yet ready
or able to practice continuous KMC. Examples include infants receiving intravenous fluids or mothers who are recovering from surgery (e.g. caesarean section).

3. **WHO CAN PROVIDE KANGAROO MOTHER CARE?**

Everyone can provide KMC for a baby as long as they understand the method, and are motivated to practice it. All those who want to assist the mother can practice KMC, for example grandmothers, sisters, aunts, husbands and even friends.

4. **BENEFITS OF KANGAROO MOTHER CARE**

KMC have numerous benefits to the mother, baby, health facility, family and community, as listed below.

5. **ELEMENTS OF KANGAROO MOTHER CARE**

5.1 **Positioning**

The first KMC element is positioning the baby is the skin-to-skin contact. In KMC, the baby is held upright, wearing only a nappy, socks and a hat, between the mother’s breasts in continuous contact with her skin (skin-to-skin contact). The baby is secured in this position using a cloth “chitenje” ensuring the head and neck are well supported by the cloth. A second layer of cloth is used to secure the baby. If the weather is cold an additional blanket is recommended.

After the baby has been secured with the cloth(es), the mother can put on her own blouse/dress which must be loose and easily open in the front.

The mother can sit in a sitting position comfortable to her but normally it is recommended that she sit in a semi-sitting position. She can also walk around freely. It is important that the nappy is changed soon after wetting or soiling, not only for the comfort of mother and baby but to reduce body’s heat loss through evaporation.

Keeping the baby in KMC position can be demanding for the mother, as continuous KMC practice is a tiring job. To assist the mother when she is tired, or is attending to personal needs such as bathing, other family members (such as husbands, grandmothers, mother in-law, and other siblings, etc) should be taught how to care for the baby in kangaroo position so they can give her relief when necessary. Continuous KMC should practice as long as possible, day and night, even during work, such as preparing food and ironing.

5.1.1 **Key KMC positioning steps**

**Below are the key steps in KMC positioning (see figure 2)**

1. Dress the baby in socks, a nappy and a cap.
2. Place the baby between the mother’s breasts.
3. Secure the baby onto the mother’s chest with a chitenje cloth.
4. Put a blanket or a shawl on top for additional warmth.
5. Instruct the mother to put on a front opened top. (The top is open at the front to allow the baby’s face, chest, abdomen, arms and legs to remain in continuous skin-to-skin contact with the mother’s chest.)
6. Instruct the mother to keep the baby upright when walking or sitting.
7. Advise the mother to have the baby in continuous skin-to-skin contact 24 hours per day (or less in the case of intermittent KMC).
### BENEFITS

<table>
<thead>
<tr>
<th>MOTHER</th>
<th>BABY</th>
<th>HEALTH CARE FACILITY</th>
<th>FAMILY AND COMMUNITY</th>
<th>COUNTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother’s confidence in caring for her infant is boosted</td>
<td>Good thermal regulation</td>
<td>Improve survival</td>
<td>Save family/community money</td>
<td>Saves the resources – less equipment and drugs needed</td>
</tr>
<tr>
<td>Improved bonding between mother and infant</td>
<td>Better nutrition due to exclusive and frequent breastfeeding</td>
<td>Significant cost saving</td>
<td>Mother discharged from hospital early</td>
<td>Saves on health personnel</td>
</tr>
<tr>
<td>Mothers are empowered to play an active role in their infants’ care</td>
<td>Promotes breastfeeding, resulting in a higher rate and longer duration of breastfeeding</td>
<td>Minimal equipment required</td>
<td>Saves life</td>
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</tr>
<tr>
<td>Protected against early pregnancy (LAM)</td>
<td>Consistent and good weight gain.</td>
<td>Fewer nursing staff required</td>
<td>Father returns to work early</td>
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</tr>
<tr>
<td>Reduces hospital stay for mother and baby (early discharge)</td>
<td>Reduced apnoeic attacks</td>
<td>Shorter period of hospitalization</td>
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<td></td>
</tr>
<tr>
<td>Successful breast feeding</td>
<td>Improved lactation and increased breast milk volume</td>
<td>Less electricity used</td>
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<tr>
<td></td>
<td>Reduced Infections</td>
<td>Improved staff morale</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Improved survival</td>
<td>Improved quality of care</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Better IQ</td>
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</table>
Figure 2

Demonstration of KMC positioning using dolls. Trainer should first demonstrate with the assistance of a trainee, and have repeat demonstration by the trainees.

5.2 Feeding during Kangaroo Mother Care

5.2.1 Exclusive breast feeding

The low birth weight baby should be fed exclusively with breast milk. Immediate and exclusive breastfeeding is recommended for all babies. Initiate feeding as soon as possible, preferably immediately after birth. If the baby’s sucking ability, however, is not strong enough, give expressed breast milk by cup or use a nasogastric tube.

5.2.2 Quantity and frequency

The frequency of feeding depends on the quantity of milk the baby can tolerate per feed and the required daily amount according to weight.

- The amount per feed for small newborn preterm babies should be steadily increased by 5ml daily or every other day. Tables 1 and 2 are good guides for calculating amounts of feeds.

- If the baby is not growing and if there is no abdominal distension or vomiting, the amount may be increased. The maximum amount is normally 200-220 ml/kg per day divided in eight feeds.
• Very small babies (< 1500 grams) should be fed every two hours.

• Larger babies (> 1500 grams) should be fed every three hours.

• If necessary, wake mother and baby during the day and night to ensure regular feeding.

• As the baby grows and reaches 40 weeks gestation or reaches a weight or 2500 grams), gradually replace scheduled feeding with feeding on demand.
  - Encourage breast-feeding as soon as the baby shows signs of readiness.
  - At the beginning, the baby may not suckle enough but even short sucking stimulates milk production and helps the baby to get used to sucking.
  - Keep reassuring the mother and helping her with breastfeeding the baby.
  - For these babies breast feeding intake cannot easily be measured using a cup. However, it is not possible to measure intake using a cup.
  - Where electronic scales are available babies should be weighed immediately before feeding and after feeding to measure food intake (1 gram of extra weight after feeding equals 1 ml of breast milk). It is important to check amount of breast milk to ensure that they have adequate feed according to the feeding chat.

• When the baby moves on to breastfeeding and measuring the amount of milk intake is not possible, weight gain remains the only way to assess whether feeding is adequate.
  - Weight gain is not expected the first 7-10 days because all babies lose weight and gain it after this period. Infant will lose 10% of their weight after birth but it is normally regained after 10 days.
  - After the initial regain of birth weight they will gain about 20g/day. There are no universally accepted recommendations regarding frequency of growth monitoring for LBW and preterm infants.
  - For Malawi it is recommend weighing the babies daily. Infants should gain about
    • 20 grams a day,
    • 150 grams in a week,
    • 300 grams in 2 weeks and
    • 600 grams in 4 weeks during the first 3 –4 months of life.
  - The volume of feeds needs to be calculated from the birth weight. If the baby looses weight the calculation is still done according to the birth weight.
  - When the baby regains its birth weight and start gaining further weight the feeds will be calculated using the most recent weight.
  - Weigh babies daily to check weight gain to assess adequacy of milk intake and rate of growth
Growth monitoring especially for daily weight gain, requires accurate and precise scales and a standardized weighing technique spring scales are not precise enough for frequent monitoring of weight gain when weight is low; and may lead to wrong decisions. Appropriate scale would be one weighing up to 1 gram interval. Analogue maternity hospital scales (with 5g or 10g intervals) are the best alternative. If such accurate and precise scales are not available, weigh KMC infants two to three times a week. Record weight on a chart and assess weight gain. The weighing is important to see that the babies do not lose weight. If a baby looses weight it is important to look at the feeds that the baby received, whether the baby is always kept warm and exclude infection.

Extra care for feeding difficulties: Small babies need to feed as soon as possible after birth and have more frequent feedings in the first days and weeks of life. Exclusive and unlimited breastfeeding is an important part of KMC. Initiate feeding as soon as possible, preferably immediately after birth. However, breastfeeding low birth weight babies can be tiring and frustrating at times, so mothers will need lots of support and encouragement to properly feed their babies.

Newborns must be fed on demand—at least every 2 to 3 hours. The mother may need to wake her baby to be sure he or she is getting adequate feeds. Low birth weight and preterm babies may need to be fed as often as every 1.5 to 2 hours. If the baby cannot breastfeed, help the mother select another feeding method using breast milk. The most important consideration is the baby’s ability to suck, swallow, and coordinate swallowing and breathing as outlined in the following table:

<table>
<thead>
<tr>
<th>Birth Weight</th>
<th>Feed every</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
<th>Days 6-13</th>
<th>Day 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000-1499g</td>
<td>2 hours</td>
<td>60ml/kg</td>
<td>80ml/kg</td>
<td>90ml/kg</td>
<td>100ml/kg</td>
<td>110ml/kg</td>
<td>120-180 ml/kg</td>
<td>180-200 ml/kg</td>
</tr>
<tr>
<td>≥1500g</td>
<td>3 hours</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Note:** Tables 1 and 2 have been adapted from the WHO KMC Manual 2003
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Recommended feeding methods</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>If there is no sucking reflex or the baby is not able to swallow and to coordinate swallowing and breathing:</td>
<td>Give expressed breast milk (EBM) by tube feed</td>
<td>Tube feeds can be done when baby is in the KMC position. <strong>Refer this baby for tube feeds to be started in the facility with appropriate follow-up</strong></td>
</tr>
<tr>
<td></td>
<td><strong>This should be done at the facility only</strong></td>
<td></td>
</tr>
<tr>
<td>If the baby is able to drink from a cup:</td>
<td>Give EBM with a cup.</td>
<td>Transition gradually from tube feeding to cup feeding—start with tube feeds and cup feeding and gradually reduce the number of tube feeds. Wrap the baby with a warm blanket when he is taken out of KMC for cup feeds.</td>
</tr>
<tr>
<td>If the sucking reflex is established, signs of readiness for breastfeeding are the baby moves the tongue and mouth and is interested in sucking:</td>
<td>Breastfeed exclusively.</td>
<td>Transition gradually from cup feeds to breastfeeding. From time to time let the baby lick the nipple first then suckle a little bit while continuing cup feeding and breastfeed when the baby can suck well and effectively.</td>
</tr>
</tbody>
</table>

**Management of weight loss, it is also important to:**

<table>
<thead>
<tr>
<th>Look</th>
<th>Wake</th>
<th>Advise</th>
</tr>
</thead>
</table>
| • Look for danger signs or specific conditions that can cause poor weight gain such as poor suckling, lack of warmth (e.g. long periods of wet nappies), infections and congenital malformations. | • **Wake the baby for feeds if necessary.** However, premature infants do not necessarily wake up to feed. They continue to sleep and may become hypoglycaemic which makes them more sleepy. That is why they have to be woken up according to a specific time schedule.  
  • Assess for hypothermia or episodes of hypothermia  
  **Note:** A hypothermic newborn will hardly gain weight even if it is well fed | • Advise the mother to increase the frequency of feeds for the baby – at least two to three-hourly or even more frequently than that.  
  • Ensure that the baby is always kept warm |
The practice of continuous KMC by mother requires both emotional and physical support. This support is required from both health personnel and family members of the mother. Emotional support includes frequent encouragement to maintain the baby in the KMC position and frequent breastfeed the baby. Physical support includes involvement of other family members who would carry the baby in KMC position when the mother is tired of doing other ablutions. Emotional support should be provided by all health personnel involved with the care of mother and baby. Physical as already mentioned above is provided at home.

5.4.1 Support from health staff (facility and community based)

In order to provide adequate emotional support to mothers practising KMC, all staff must be well informed about the method, be convinced of its effectiveness and accept it as an appropriate method for caring for LBW babies. Health staff also needs skills and knowledge to assist mothers to exclusively breastfeed their babies, including how to express breast milk, how to assist with feeding small babies with cups, how to store expressed breast milk and how to give emotional support.

5.4.2 Key points concerning support from health staff to the mother include:

- Explain the benefits of KMC.
- Explain the danger signs and the importance of reporting to the hospital immediately.
- Family support on KMC; permit family members like father, grandmother, aunts, depending on the cultural set up.
- Assist mothers with any difficulty related to KMC positioning and breast feeding.
- Encourage mothers daily to practice KMC.
- Encourage mothers and family members to express concerns and ask questions.
- Educate pregnant women and their families on KMC during antenatal care visit.
- Incorporate KMC information in the general health education provided at the health facility.

Every opportunity should be taken when health campaigns are being undertaken in districts to incorporate KMC in the community.

5.4.3 Support from family members

Family members such as the husband or the grandmother can support the woman to practice continuous KMC. Support could be in the form of encouraging the mother to practice KMC or carrying the baby in KMC position the mother at home.

6. INITIATION AND MAINTENANCE OF KANGAROO MOTHER CARE

6.1 Admission (eligibility) criteria for KMC

- Willingness of mother to do KMC.
- Mother or care taker should be physically and mentally fit.
- Baby should be in a stable condition (No major illness present such as septicaemia, pneumonia, meningitis, respiratory distress and convulsions). However, in centres where there are no incubators and resuscitation is not needed babies could be put in KMC position even when not stable (intermittent KMC) could be practiced. This includes babies with jaundice.
- Babies who have been started on antibiotics for suspected infection can start KMC as soon as stable or start intermittent KMC until fully stable.

NOTE: The extremely low birth weight babies are usually unstable for continuous KMC. Therefore take extra caution before you start on KMC.
6.2 Care of the baby during KMC

6.2.1 Infection prevention:

• Wash hands
• Before and after feeding baby
• Before and after changing nappies
• After using the toilet
• No bathing but clean or wipe baby daily with a soft cloth and warm water (“head to toe”)
• Ensure baby prompt change of wet nappies
• Ensure breast hygiene. Where breast milk is expressed feeding cups are cleared before and after use

6.2.2 Monitoring:

• Monitor vital signs (temperature, respirations, pulse) twice a day, and more frequently when required
• Record each feeds appropriately on the baby’s chat
• Weigh the baby daily using electronic scale with one gram intervals or either weigh baby three times a week when electronic scale is not available.
• Observe danger signs such as feeding difficulties and jaundice. This can be done by health workers and the mother

6.2.3 Immunization:

• Immunize baby according to the national immunization schedule. Delay immunization until baby is at least 40 weeks post cumulative gestational age or the baby attains 2500gms weight.

6.2.4 Counselling

When babies have been admitted to the neonatal nursery, mothers need counselling on the benefits of KMC. The initial counselling can be done in a group. The discussion should include

• Benefits of KMC
• Feeding
• Importance of hygiene of the mother and baby
• Importance of ambulation (walking around) while in KMC ward
• Eligibility criteria for KMC.
• The importance of continuous KMC

Each woman should receive individualised counselling and coached how to put the baby in KMC positioning, breast feeding and how to express breast milk

6.2.5 Danger signs

• Feeding difficulties or not suckling
• Feels cold
• Fever
• Red, swollen eyelids and pus discharge from eyes
• Red swollen and/or pus around the cord or umbilicus
• Convulsions/fits
• Jaundice/ yellow skin
• Convulsions
• Breathing problems – apnea, chest in-drawing, grunting, flaring, cyanosis
• Lethargy (excessive sleepiness, reduced activity).
Babies with danger signs should be managed appropriately according to the national IMCI protocol. However, in a facility where there is no IMCI trained staff the baby should be referred to the district or central hospital immediately.

7. **DISCHARGE AND FOLLOW-UP CARE**

9.1 **Criteria for discharge**

The purpose of admission of LBW babies in KMC is to provide knowledge and competency to the mother and family members to be able to provide KMC and feeding at home and to ensure the baby gains adequate weight. Therefore to discharge the baby from the KMC ward the following criteria should be followed.

**Consider discharge from facility if:**

- Mother is competent in putting and maintaining the baby in KMC position
- The mother is able to feed the baby correctly
- Mother is knowledgeable about the danger signs
- Appropriate weight gain of at least 15g/kg/daily for 3 consecutive days.
- The baby has regained birth weight.
- Baby be at least 1500g or more before discharge
- No any other major illness

Where mother cannot manage follow up visits and there are no follow up services in the community the baby should be discharged later- after the baby is at least 1800g.

**Case 1**

A 2-week-old baby boy Christopher weighing 1550 grams has gained 100g over his birth weight. The mother has requested to go home. She is competent in KMC position as well as breast feeding the baby.

What additional information do you need before you can make a decision?

7.2 **Frequency of follow-up after discharge**

- A baby less than 1800gm weight is followed up at the nearest health facility with KMC every week until the baby reaches 1800gms.
- Once the baby is at 1800gms, subsequent follow-ups are done every 2 weeks until the baby is 2500gm.

7.3 **Care during a follow-up visit**

- Weigh the baby
- Obtain history from mother/guardian to establish
- If she is continuing KMC at home
- Duration of skin-to-skin contact
- How she is positioning the baby (KMC position)
- If any fever or low temperatures and how she managed it
- How the baby is feeding
- Whether the baby is showing signs of intolerance (baby too active and uncomfortable in KMC position)
- Whether there are any neonatal danger signs
- Perform a physical assessment of the baby
• Continue educating the mother on neonatal danger signs
• Discuss the experiences and the problems the mother has concerning continuing KMC and give support
• Encourage mother and family to continue KMC as much as possible
• Schedule the next visit
• Thank mother/guardian for coming
• Ask the mother about her own health and advise appropriately

7.4 Criteria for readmission

Readmit the baby to the hospital if:
• The baby is losing weight.
• The baby gained less than 15g/kg/day over a period of two weeks or has not gained any weight for one week.
• The mother is not doing KMC for a baby who is less than 2000gm.
• The baby has the following danger signs;
  - Poor feeding or not sucking
  - Fever
  - Hypothermia in spite of efforts to re-warm
  - Convulsions
  - Breathing problems – apnea, retractions, grunting, flaring, cyanosis
  - Lethargy (excessive sleepiness, reduced activity).
  - Redness, swelling and discharge from the eyes, cord and skin
  - Jaundice

8. DISCONTINUATION OF KANGAROO MOTHER CARE

A baby may refuse KMC by becoming restless and crawling out when put in the skin-to-skin position. This baby may be ready to discontinue KMC if s/he is stable and other criteria are met:

• Baby reaches weight of 2500g.
• Mother has no desire to continue KMC for a baby who is less than 2000g, even with additional counselling.
• Mother is sick or unable to provide KMC and no family member is willing to assist
• When the baby has severe disease KMC can be interrupted for incubator care and continue with KMC later when the condition has improved.
• When the baby of not less than 2000gms shows signs of discomfort on KMC position.

9. MONITORING AND EVALUATION

Health Care Providers must make sure that they collect appropriate data related to Low Birth Weight (LBW) babies and the infants undergoing KMC, so that outcomes and progress of the KMC program can be measured,

10. DATA COLLECTION

On-site LBW register with at least (minimal) information on the following:
• Mother’s name
• Mother’s house location (physical address)
• Gravida
• Parity
- Mother’s age
- Date of delivery
- Admission date
- Type of delivery
- Birth weight (in grams)
- Admission weight to the neonatal ward (if it differs from the birth weight)
- Admission weight to the KMC ward
- Gender of baby
- Baby’s discharge date from neonatal ward
- Baby’s admission date to the KMC ward
- Baby’s survival status – If baby died – fill in date of death
- Cause(s) of death if known
- Complications (specify)
- Baby treated with any antibiotics
- Baby’s discharge date from the KMC ward
- Baby’s discharge weight

Most of these indicators are already collated in the nursery register. Review the existing register to identify the missing recommended data.

Provide handout of type of data to be collected.

10.1 Use of data for continued KMC

All KMC data should be collected daily and analyzed or tabulated either monthly.

This information should be shared with KMC staff so as to promote discussions on findings and use of data for continued KMC. In facilities where neonatal audits are held, care of the LBW baby should become a permanent item on the meetings’ agenda. This information be should primarily used at implementation level for decision-making and maintaining quality of services.

10.2 Variables for analysis/tabulation include

Data can be organised in the following way
- Number of low birth weight babies born at the health care facility in the month, as well as the number of babies admitted into KMC in the month (these are admissions for the month).
- Birth weight in grams by these categories:
  - 2000 – 2499g
  - 1500 – 1999g
  - 1000 – 1499g
  - < 1000g

These follow the categories:
- Low Birth Weight (LBW) < 2500g
- Very Low Birth Weight (VLBW) <1500g
- Extremely Low Birth Weight (ELBW) <1000g

- Average stay of babies in that month as follows:
  - Number discharged: average length of stay (days)
  - Number dead: average length of stay (days)
- Number absconded: average length of stay (days)

**Note:** These are average stays of babies who leave the unit in that particular month.
- Deaths of LBW babies
  - Numbers by weight category
  - Cause(s) of death

- Number of babies treated with antibiotics. Distinguish how many were from the KMC ward compared to the neonatal ward

Note: indicators on breastfeeding, although important, are complex to be followed, especially the six months of exclusive breastfeeding. It is the same with the indicators for antibiotics.

### 11. COMMUNITY AND AMBULATORY KMC

#### 1.1 Definition of Community KMC (CKMC)
CKMC is the KMC provided to heavy LBW Babies with a birth weight of 2000g and above that can be initiated and continued at home.

**How it works:**
For home deliveries, mothers are coached how to provide KMC by Health Surveillance Assistants (HSAs) or other community health workers to practice KMC at home. For those delivering at a health facility a health worker (nurse or clinician) then discharged like any other term baby but referred to the community health worker to continue KMC at home. HSA's or community health workers conduct postnatal home visits on day 1, 3 and 8 then weekly to check progress until baby is fit to discontinue KMC. HSA or community health worker refers to the health facility any LBW baby with danger signs for proper management.

#### 1.2 Definition of Ambulatory KMC (AKMC)
AKMC is the KMC provided to relatively heavy LBW babies with a birth weight of 1800g to 2000g, characterised by short hospitalisation period and more frequent follow up checks at a health facility.

**How it works:**
LBW babies are admitted at a health facility for a short time, a day or so for counselling and coaching of the mother on KMC. Mother or surrogate brings the baby to the health facility daily, 2x or 3x a week for follow-up care. Upon progress in weight gain, follow-up can be done weekly then 2 weekly until the baby is discharged from KMC.

The goal of CKMC & AKMC is to promote quality of care for all LBW babies at all levels and ensure continuum of care from household to hospital.

**Benefits of CKMC:**
- The neglected LBW babies of 2000g to 2500g which a larger group of LBW babies get adequate neonatal care
- Promotes community involvement and support

**Benefits of AKMC:**
- Eliminates unnecessary long hospitalization as compared to the conventional KMC thereby reducing the cost on the part of the mother
- Promotes community participation on the care of the LBW resulting in community acceptability.
Reducing hospital cost as period of hospitalization is reduced. Ambulatory KMC Eligibility and Discharge Criteria

11.3.1 Eligibility Criteria for Rural / Community Hospitals
- Baby weighs 1500g or above and does not need resuscitation
- Mother or Surrogate accepts KMC
- Mother or Surrogate is medically and mentally fit

Discharge criteria
- Baby regains birth weight
- Kangaroo position tolerated by both mother and baby
- Condition of baby stable and no other illness exists
- Mother able to feed appropriately
- Mother willing to continue KMC at home and has support from family

11.3.2 Eligibility Criteria for Health Centre with Maternity
- Baby weighs 1800g or above
- Baby is stable
- Mother or surrogate is medically and mentally fit
- Mother or surrogate accepts KMC

Discharge criteria
- Kangaroo position tolerated by both mother and baby
- Condition of baby stable and no other illness exists
- Mother able to feed appropriately
- Mother willing to continue KMC at home and has support from family

11.3.3 Eligibility Criteria for Health center without Maternity
- Initiate KMC and refer to the community stable babies weighing 2000g or more
- Refer to a higher level facility all LBW babies with birth weight below 2000g in KMC position

Discharge criteria
- No admission is done

11.4 Community KMC eligibility and discharge criteria

11.4.1 Eligibility Criteria for Community
- Stable baby weighing 2000g or more
- Any LBW baby discharged from hospital or health centre on KMC

Discharge criteria
- Weight is 2500g or more
- Baby does not tolerate KMC any more

Required Competencies
- Cup feed Kangaroo Mother Care babies if fails to breastfeed.
- Correctly position baby for breast feeding while in a KMC position
- Correctly position baby in Kangaroo Mother Care position (skin-to-skin)
- Demonstrate appropriate interpersonal skills in coaching mother in Kangaroo Mother Care
- Refer babies requiring further management
• Educate women and their families on Kangaroo Mother Care
• Demonstrate appropriate skills in teaching mothers to feed the Low Birth Weight babies.

REFERENCES


MODULE 28

HIV/AIDS AND PMTCT

Goal: At the end of the session, participants will be able to give necessary care to women and children during antenatal, labour and delivery, and postpartum that will minimize transmission of HIV.

OBJECTIVES

1. Discuss the epidemiology of MTCT in Malawi.
2. Discuss biological, social and cultural factors explaining women’s vulnerability to HIV infection.
3. Define mother-to-child transmission of HIV infection (MTCT).
4. Explain the factors that influence the transmission of HIV from mother to child.
5. Discuss the four prongs of a comprehensive approach to prevention of HIV infection in infants and young children.
6. Explain protocols to use when caring for women with HIV during pregnancy, labour and postpartum

LEARNING ACTIVITIES

7. Review the pathophysiology of HIV and AIDS
8. Review the effects of the various antiretroviral drugs used in the treatment of HIV and AIDS clients

CONTENT

MTCT epidemiology in Malawi

Review of national HIV, AIDS and MTCT facts

- Close to 1,000,000 people are living with HIV
- 545,000 of HIV positive people are alive on treatment
- 77% of HIV positive people are coinfected with TB
- About 650,000 pregnant women who need comprehensive antenatal care, including HIV testing and counselling.
- About 43,000 of these women will be HIV-infected and will need PMTCT services to prevent passing HIV to their children according to spectrum estimation.
- 40,000-55,000 exposed children will require EID services

Exercise 2.1 Epidemiology of HIV: interactive discussion

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To involve the participants in a discussion about the local epidemiology of HIV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration</td>
<td>10 minutes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instructions</th>
<th>The trainer will ask that participants:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Share their perspective on the data about HIV infection in Malawi provided in this module and Module 1.</td>
</tr>
<tr>
<td></td>
<td>• Share their thoughts on factors that are fuelling the epidemic.</td>
</tr>
</tbody>
</table>
HIV Prevalence among the Youth
Malawi has a high proportion of young people with half of the population under 18 years. It is estimated that at least half of the new HIV infections (around 60%) each year occur among the young people between 15-24 years. The antenatal surveillance data showed that the HIV prevalence among young antenatal women has declined in the country to around 56% in urban areas between 1999 and 2007.

The Drivers of HIV epidemic in Malawi
- Multiple and Concurrent Sexual Partners (MCP)
- Low and inconsistent condom use
- Couple discordance
- Mother to child transmission in Malawi (MTCT)

FACTORS THAT MAKE WOMEN VULNERABLE TO HIV INFECTION
- Socio-cultural factors that make women vulnerable to HIV infection
- Biological factors that make women vulnerable to HIV infection

Vulnerability to HIV infection among the Youth of both genders
- Lack of information on sexuality and their own physical development
- Lack of skills to negotiate delaying sexual debut
- Reducing the number of partners
- Inability to use condoms
- Substance use or abuse
- Limited access to health services, including testing and counselling, risk reduction and treatment of STI
- Peer pressure Socio-cultural factors that influence the sexual behaviour of men
- Failure to seek proper care for HIV and other STIs due to lack of knowledge,
- Uncomfortable being in healthcare settings, and/or stigma
- Culturally-accepted practice of having multiple sex partners both in and out of wedlock
- Ego-driven behaviours to display manhood, including alcohol abuse that may lead to high-risk sexual practices.
- Peer pressure from other young men to conform to unsafe sex practices without regard for consequences Gender and HIV
- Both men and women are vulnerable to HIV infection; however, unlike women in other regions in the world, African women are at least 1.3 times more likely to be infected with HIV than men.
- The gender difference is most pronounced among young people aged 15–24 years. In Malawi, women between the ages of 15 and 24 are 2.2 times more likely to be HIV-infected than their male counterparts in the same age group.
- In sub-Saharan Africa, women in this age group are 3 times as likely to be HIV-infected as their male counterparts (UNAIDS, 2004)
- The female vulnerability to HIV infection has been attributed to many factors: biological, social and cultural.

Mother-to-Child Transmission of HIV Infection

After completing the unit, the participant will be able to:
- Define mother-to-child transmission of HV infection (MTCT).
- Explain the factors that influence the transmission of HIV from mother to child.

Definition: Mother-to-child transmission
• Mother-to-child transmission (MTCT) is the transmission of HIV from an HIV-infected mother to her baby during pregnancy, labour, delivery and breastfeeding.
• Mother-to-child transmission (MTCT) is also referred to as vertical transmission or perinatal transmission.
• The term “MTCT” is used because the direct source of infection is the mother. (Source WHO 2000). However, “MTCT” attaches no blame or stigma to the woman who gives birth to a child who is HIV-infected or becomes infected during breastfeeding.
• It does not suggest deliberate transmission by the mother, who is often unaware of her own infection status and unfamiliar with how HIV is passed from mother-to-child.

**Rates and timing of MTCT**

• The overall MTCT rate is approximately 25%-50% without intervention.
• Most transmission occurs during labour and delivery, but depending on breastfeeding practices and duration, there is also a substantial risk of HIV transmission during breastfeeding.

**Figure 2.1** shows that without intervention, up to 50% of infants born to mothers infected with HIV who breastfeed can become HIV-infected.

**HIV infection during pregnancy or while breastfeeding**

• A woman who becomes infected with HIV during pregnancy or while breastfeeding, has higher levels of the virus in her blood, and is more likely therefore to infect her infant.

**Risk factors for transmission**
### Table 2.1 Maternal factors that may increase the risk of HIV transmission

<table>
<thead>
<tr>
<th>Pregnancy</th>
<th>Labour and Delivery</th>
<th>Breastfeeding</th>
</tr>
</thead>
</table>
| • High maternal viral load (new infection or advanced AIDS)  
• Viral, bacterial, or parasitic placental infections e.g., malaria  
• Sexually transmitted infections (STIs)  
• Maternal malnutrition, especially micronutrient deficiency such as selenium and vitamin A  
• Anaemia | • High maternal viral load (new infection or advanced AIDS)  
• Placental separation, which tends to occur in cases of antepartum and intrapartum haemorrhage  
• Rupture of membranes for more than 4 hours  
• Invasive delivery procedures that increase contact with mother's infected blood or body fluids (e.g., episiotomy, artificial rupture of membranes, vacuum and forceps deliveries)  
• Vacuum extraction  
• Chorioamnionitis (from untreated STI or other infection)  
• Premature delivery due to fragility of infant skin and immature immune system  
• Low birth weight of the infant  
• Breaks in the skin or mucous membranes  
• First infant in multiple birth | • High maternal viral load (new infection or advanced AIDS)  
• Duration of breastfeeding  
• Mixed feeding (e.g., food or fluids in addition to breastmilk)  
• Breast abscesses, nipple fissures, mastitis  
• Maternal malnutrition  
• Oral disease in the baby (e.g., thrush or sores) |
HIV and pregnancy

Effect of pregnancy on HIV infection

• In pregnancy, the immune function is suppressed in both HIV-infected women and those who are not infected.
• Studies have shown that pregnancy appears to have little effect on the progression of HIV infection in asymptomatic HIV-infected women.
• African women, however, with late stage disease have been found to have more complications during pregnancy, labour and delivery and the postpartum period.

Effect of HIV on pregnancy

Pregnancy-related complications for women with HIV include:

• Increased risk of spontaneous abortions
• Double the rate of pre-term deliveries
• Increased risk of having a low birth weight (LBW) infant
• Increased risk of stillbirths
• Increased risk of bacterial pneumonia, urinary tract and other postnatal infections, and other illnesses
Comprehensive Approach to Prevention of HIV Infection in Infants and Young Children

After completing the unit, the participant will be able to:

- Discuss the four prongs of a comprehensive approach to prevention of HIV infection in infants and young children.

The comprehensive approach to PMTCT

To significantly reduce PMTCT and achieve national targets, PMTCT must be viewed as a comprehensive public health approach, focusing not only on women with HIV, but also their partners and, equally as importantly, focusing on parents-to-be who do not know their HIV status or who know they are HIV-negative. A comprehensive approach includes four prongs, as listed in the box below:

Four prongs in a Comprehensive Approach to PMTCT

- **Prong 1**: Primary prevention of HIV infection
- **Prong 2**: Prevention of unintended pregnancies among women infected with HIV
- **Prong 3**: Prevention of HIV transmission from women infected with HIV to their infants
- **Prong 4**: Provision of treatment, care and support to women infected with HIV, their infants, and their families.

Prong 1 Primary prevention of HIV infection

Strategies for primary prevention of MTCT

- Behaviour change intervention
- Prevention and treatment of STIs
- Testing and counselling
- Promotion and provision of condoms
- Prevention of HIV in young people

Exercise 2.4 The handshake game: interactive game

**Purpose**

To explore the concept of HIV and STI transmission—both with and without the use of protection—when individuals are sexually active with multiple partners.

**Duration**

20 minutes

**Instructions**

- Take a piece of paper from the basket and do not look at it.
- Approach three other people in the group and shake hands with them. It is important to remember with whom you shook hand.
- After shaking hands with three people, participants will return to their seats and open the sheet of paper.
- The trainer will give specific directions about standing up or sitting down based on what is written on the piece of paper and the people with whom a handshake took place.
- This process may be repeated if requested by the facilitator.
- After the game, the trainer will lead a discussion on HIV and STI transmission and ways to prevent transmission.
Prong 2 Prevention of unintended pregnancies among women who are HIV-infected

• Access to modern contraceptive methods
• Integration of FP in ART services
• Continued health promotion and risk reduction advice and counselling including information and skills to practise safer sex. Sex education must include information about condoms, emphasizing that they provide dual protection against both pregnancy and STIs, including HIV.
• Early diagnosis and treatment of STIs including HIV
• Referrals for care, treatment and support services
• Individual and couples HIV counselling

Prong 3 Prevention of HIV transmission from women to their infants

PMTCT usually refers to specific services that identify pregnant women infected with HIV and provide them with effective interventions to reduce MTCT.

Specific or core interventions to reduce HIV transmission from an infected woman to her child include:

• HIV testing and counselling
• Provision of Cotrimoxazole
• Antiretroviral (ARV) therapy to woman from 14 weeks
• Safer delivery practices
• ARV prophylaxis for the exposed new born up to six weeks
• Breastfeeding for all mothers regardless of HIV sero status
• Safe infant-feeding practices

Partner involvement in PMTCT

PMTCT efforts should be as comprehensive as possible and acknowledge that both mothers and fathers have an impact on transmission of HIV to the infant:

• Both partners need to be responsible for safer sex during and after pregnancy.
• Both partners should be tested and counselled for HIV.
• Both partners should be responsible for child feeding.

Prong 4 Provision of treatment, care and support to women infected with HIV, their infants and their families

Treatment, care and support services for women

Treatment, care and support services for women with HIV may include:

• Prevention and treatment of opportunistic infections
• ARV therapy
• Follow up of mothers and their exposed children
• HIV testing to exposed children through DBS from 6 six weeks (EID) and rapid test at 12 and 24 months
• Early initiation of treatment to HIV positive children at any age
• Nutritional support
• Reproductive health care, including family planning services
• Psychosocial and community support

Infants and children who are HIV-exposed require regular follow-up care—especially during the first 2 years of life—including cotrimoxazole preventive therapy; screening, diagnosis and treatment of tuberculosis; as well as immunizations, HIV testing and ongoing monitoring of feeding, nutritional status, growth and development.
11. HIV PROTOCOL

11.3 ANTENATAL HIV PROTOCOL

1. Provide care with respect and observe confidentiality.
2. Offer HIV testing and counselling to the woman and partner. There should be a follow up test if HIV negative.
3. Counsel on:
   - Nutrition and nutritional supplements
   - Safer sex
   - Prevention of infection
   - Planning for safe delivery, including emergency transport
   - Exclusive breastfeeding, good technique
   - Postpartum family planning
4. Carefully follow protocol for anaemia screening and management.
5. Do the following laboratory investigations: Hb, HIV, syphilis
6. Screen for and treat infections as soon as possible (any infections can increase the risk of MTCT):
   - STIs - syphilis, GC, chlamydia
   - TB, Malaria parasites, herpes
7. Give malaria prophylaxis, INH prophylaxis and ITN. Take note that mothers on CPT should not be given SP.
8. Give antiretroviral drug therapy and counsel on drug adherence (refer to flow chart)
9. Health care provider should:
   - Use gloves if a chance of contact with body fluids.
   - Put all used instruments, supplies and linens in 0.5% decontamination solution for 10 minutes.
10. Give tetanus vaccine as per policy.

11.2 INTRAPARTUM HIV PROTOCOL

- Review the ANC component of health passport; if the mother is not tested, offer the test; for positive women to continue ART
- Support and reassure mother:
- Encourage to walk.
- Provide lots of fluids to prevent dehydration.
- Encourage relative to be with mother.
- Perform invasive procedures as per standard guidelines (vaginal examinations, artificial rupture of membranes, episiotomy, instrumental deliveries).
- Rupture membranes only if cervical dilatation above 6 cm
- Use partograph accurately to avoid prolonged labour.
- Adhere to infection prevention and control practices
- Treat infections if any.
- If there is need for suctioning, do it gently (less than 100mm Hg pressure) to avoid trauma in the baby's mouth and nose.
- Use active management of 3rd stage labour to reduce blood loss.
- Adhere to infection prevention practices:
- Use sterile gloves (double gloving) whenever chance of contact with body fluids.
- Use 6 swab technique with chlorohexidine 0.25% for vulval swabbing and vaginal cleansing
• Hand washing before and after procedures.
• During birth, use apron, eye protection, mask, gloves and boots.
• Cut umbilical cord to avoid spraying possibly infected blood:
  - Clamp cord on baby’s side.
  - Avoid milking of the cord to.
  - Clamp cord on placental side.
  - Cover the cord with sterile swab then cut.
• During episiotomy or laceration repair, do not handle suture needle with fingers. Use thumb forceps.
• Put all used instruments, supplies and linens in 0.5% decontamination solution for 10 minutes after delivery.
• Decontaminate the bed and mattress.
• Dispose syringes and needles in puncture proof container.
• Incinerate, bury or put placenta into pit latrine.

11.3 POSTPARTUM HIV PROTOCOL
1. Do follow-up counseling on HIV/AIDS at one week and 6 weeks during post-partum checks.
2. Give the infant Nevirapine 2mg/kg, once a day for six weeks, even infants born at home should receive the same (refer to Annex 1).
3. Give CPT from 6 weeks to the exposed infants (refer to Annex 2).
4. Continue ART.
5. Advise on nutrition and nutritional supplements.
6. Prevent infection:
   • Screen for infections as soon as possible.
   • Give health education on infection prevention.
   • Treat infection to reduce like hood of HIV infection to the infant through breast feeding.
7. Screen for and manage anaemia.
8. Counsel on the following:
   • Safer sex
   • Nutrition
   • Family planning
   • Dual protection
9. Counsel on infant feeding:
   • Counsel on exclusive breastfeeding up to 6 months
   • Minimize breast complications (mastitis, cracked or bloody nipples) through counselling on positioning and attachment of the baby to the breast.
11. HIV testing to exposed children through DBS from 6 six weeks (EID) and rapid test at 12 and 24 months.
12. Manage HIV related conditions of the mother and infant.

REFERENCES


UNAIDS, Women and AIDS Fact Sheet, Malawi; AIDS Epidemic Update, UNAIDS, December 2004
APPENDICES

A. ANNEXURES

ANNEX 1 – Manual Vacuum Aspiration (MVA)

Indication
MVA is the method of choice for the management of incomplete or inevitable abortion for gestation of 14 weeks or less, because it has fewer complications compared to curettage.

Pain relief
Provide emotional/verbal support and encouragement throughout the procedure and give pethidine 50 mg IM 30 minutes before the procedure at hospital level and diclofenac or ibuprofen at health centre level

**Preparations for the procedure**
- Explain the procedure to the patient.
- Maintain aseptic technique.
- Perform 6 swab technique to clean the vulva.
- Perform bimanual pelvic examination.
- Assemble the equipment.
- Insert the speculum gently and remove the visible products of conception.
- Clean the cervix.
- Examine the cervix for tears, lacerations etc.
- Gently applies apply traction on the cervix and insert canula slowly into uterine cavity until it touches the fundus (not more than 10cm).
- Withdraw the canula 1cm away from the fundus.
- Attach the prepared syringe to the canula.
- Release the pinch valve on the syringe.
- Evacuate any remaining contents of the uterine cavity by gently rotating the canula and syringe.
- Check for signs of completion.
- Gently withdraw the canula and detach the canula from syringe.
- Quickly inspect the products of conception.
- Process the MVA equipment according to standards.
- Observe the client / patient for 30 minutes.
- Complete the counselling process including family Planning and provision of the chosen method.
- Document.

ANNEX 2 - McRoberts’ Manoeuvre

**Management of shoulder dystocia**
- Make and adequate episiotomy
- With a woman on her back, ask her to flex both thighs bringing her knees as far up as possible towards her chest
- Ask two assistants to push her flexed knees firmly up into the chest
- Apply firm continuous traction downwards on the foetal head to move the shoulder that is anterior under the symphysis pubis
- Avoid excessive traction on the head as this may result in brachial plexus injury
- Have an assistant simultaneously apply suprapubic pressure downwards to assist delivery of the shoulder
NOTE: do not apply fundal pressure as this will further impact the shoulder and can result in uterine rupture

- If the shoulder not delivered, insert a hand into the vagina and apply pressure to the shoulder that is anterior in the direction of the baby’s sternum to rotate the shoulder and decrease the shoulder diameter
- If needed, apply pressure to the shoulder that is posterior (in the direction of the sternum?)
- If the shoulder not delivered despite the above measures:
  - Insert a hand into the vagina
  - Grasp the humerus of the hand that is posterior and keeping the arm flexed at the elbow sweep the arm across the chest and deliver the arm If all the above fail to deliver the shoulder other options include:
  - Fracture the clavicle to decrease the width of the shoulders and free the shoulder that is anterior
  - Apply traction with a hook in the axilla to extract the arm that is posterior

ANNEX 3 – Lovset’s Manoeuvre

ARMS ARE STRETCHED ABOVE THE HEAD OR FOLDED AROUND THE NECK

Use the Lovset’s manoeuvre:

- Hold the baby by the hips and turn half a circle, keeping the back uppermost and applying downward traction at the same time, so that the arm that was posterior becomes anterior and can 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 down over the chest as the elbow is flexed, with the hand sweeping over the face.
- To deliver the second arm, turn the baby back half a circle, keeping the back uppermost and applying downward traction, and deliver the second arm in the same way under the pubic arch.

*Lovset’s manoeuvre*
If the baby’s body cannot be turned to deliver the arm that is anterior first, deliver the shoulder that is posterior:

- Hold and lift the baby up by the ankles.
- Move the baby’s chest towards the woman’s inner leg. The shoulder that is posterior should deliver.
- Deliver the arm and hand.
- Lay the baby back down by the ankles. The shoulder that is anterior should now deliver.
- Deliver the arm and hand.

*Delivery of the shoulder that is posterior*

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**ANNEX 4 – Mauriceau Smellie Viet Manoeuvre**

**DELIVERY OF THE HEAD**

Deliver the head by the Mauriceau Smellie Viet Manoeuvre as follows:

1. Lay the baby face down with the length of its body over your hand and arm.
2. Place the second and third fingers of this hand on the baby’s malar bones and flex the head.
   - The second and fourth fingers of either hand are placed on baby’s shoulder and the third finger is placed on the occiput.
   - Apply pressure on the occiput to flex the head, with pressure on jaw (outward) until mouth, nose and sinciput are freed.
   - Deliver the vault slowly.

Note: Ask an assistant to push above the mother’s pubic bone as the head delivers. This helps to keep
ANNEX 5 – Manual Removal of Placenta

1. Explain the procedure to the patient
2. Give analgesic Pethidine 100mgs IM and valium 10mgs IV
3. Start an IV infusion of ringers lactate or normal saline or Half Strength Darrow's to prevent shock
4. Help the woman to lie on her back with her knees flexed. If she is unable to void, catheterise and empty the bladder. A full bladder can interfere with the contractions of the uterus.
5. Scrub and put on sterile gloves preferably the manual removal gloves (gauntlet gloves)
6. Hold the umbilical cord firmly using non-examining hand. Place the examining hand, with the thumb in the palm in to the vagina.
7. Follow the cord up to the placenta
8. Let go of the cord with your hand and hold the uterus through the abdomen. This will stop the uterus from moving and helps keep the uterus contracted.
9. Feel the placenta to figure out where it is in the uterus – find the edge of the placenta
10. Slip the fingers of your hand between the edge of the placenta and the uterine wall. With your palm facing the placenta, use a sideways slicing movement and gently separate the placenta
11. When all the placenta is separated and is in the palm of your examining hand, rub up a contraction with your other hand.
12. Gently remove the placenta with your examining hand during a contraction. Do not pull on just a piece of the placenta for it may tear the rest of the placenta. The membranes should be slowly and carefully delivered (see diagram)
13. Rub the uterus to make sure it is contracted.
14. Give the mother Ergometrine 0.5 mgs IV
15. Examine the placenta well. If you think some of the placenta or the membranes are missing, transfer the woman to hospital. She may need curettage to remove the remaining pieces.
16. Give the mother broad spectrum antibiotics to prevent infection of the uterus

The Mauriceau Smellie Viet Manoeuvre
NOTE:

Once you have put your hand into the uterus, do not bring your hand out until you have separated the placenta and bring it out.

Remember even a small amount of membranes left in the uterus may cause postpartum haemorrhage and/or infection.

ANNEX V

MANUAL REMOVAL OF PLACENTA

Hold the umbilical cord firmly using non-examining hand.
Place the examining hand with a thumb in the palm into the vagina.
ANNEX 6 – Bimanual Compression

INTERNAL BIMANUAL COMPRESSION OF THE UTERUS

Bimanual compression of the uterus is an emergency procedure performed by the midwife to stop postpartum haemorrhage. Time and cleanliness are important. Change gloves/scrub hands before starting the procedure.

Procedure for internal Bimanual Compression (see diagram on internal bimanual compression of the uterus).
1. Explain the procedure to the mother.

2. Place woman in a dorsal position.

3. Ask your assistant to start an intravenous infusion e.g. Normal saline or plasma expander. Have her also take the pulse and blood pressure of the mother every 15 minutes for half an hour. If readings are normal check the vital signs every half hour for two more hours.

4. Put on sterile gloves on your examining hand or quickly scrub your hands and gloves.

5. Insert your freshly gloved hand into the vagina, place the other hand on the abdomen to support the uterus.

6. Form your hand into a fist.

7. Press hand, which is in the vagina firmly against the lower portion of the uterus. Note that in grandmultiparas there is often a flabby cervix in the way. Pressing on the flabby cervix part of the uterus. This direct massage will frequently stimulate a contraction.

8. Move your fist above and in front of the cervix. Note that occasionally the cervix is difficult to move out of the way. If this happens, open your fingers to massage the lower anterior part of the uterus. This direct massage will frequently stimulate a contraction.

9. Apply constant downward and forward pressure with the abdominal hand.

10. Continue applying pressure with both hands and membranes for completeness. If parts are missing, proceed to manually remove the piece (see section in this module on manual removal of the placenta) or transfer the woman to the hospital if the distance is reasonable and the woman is stable.

12. Continue to check her vital signs every half an hour for two hours once she is stable. Allow intravenous fluids to run another three to six hours until you are confident the haemorrhage is controlled.

**External manual compression can also be done to control bleeding**

1. Place the left hand on the fundus and make it go down as far as possible behind the uterus

2. Place the right hand flat on the abdomen between the umbilicus and the symphysis pubis

3. Press the hands towards each other in order to compress the blood vessels at the placental site (see diagram next page).
ANNEX 7 – USING THE ZOE® GYNAECOLOGIC SIMULATOR

The ZOE® gynaecologic simulator is a full-sized, adult female lower torso (abdomen and pelvis) model developed as a training tool to teach the processes and skills needed to perform:

- Bimanual pelvic examination including palpation of normal and pregnant uteri
- Vaginal speculum examination
- Visual recognition of normal and abnormal cervical abnormalities
- Uterine sounding Care and Maintenance of the Simulator
• ZOE® is constructed of material that approximates skin texture. In handling the model, therefore, you should use the same gentle techniques as you would in working with a client.
• Instruments and gloved fingers used in the pelvic examination should be well lubricated using a dilute soap solution.
• Clean ZOE® after every training session using a mild detergent solution; rinse with clean water.
• Lightly dust ZOE® with talcum powder to keep the skin supple.
• Indelible marks made with ballpoint pens, ink or magic marker cannot be removed.
• DO NOT use Betadine® or similar solutions to clean ZOE®.
• Store ZOE® in the carrying case provided. DO NOT wrap in plastic wrap, newspaper or bags. This may cause the skin to discolor.

**Removing and Replacing Skin and Foam Backing**

Remove the soft outer skin and foam from the rigid base at the “top” end of ZOE®. (“Top” refers to the portion of ZOE® nearest to the metal carrying handle located above the umbilicus.) Now, remove skin from around the left leg stump, then the right leg stump. Skin and foam backing now can be lifted off as a unit.

Replace skin/foam unit by first placing the foam inside the soft outer skin, making certain that the foam fills the leg stumps and that the skin contour is smooth.

• Place skin/foam assembly on ZOE®.
• Pull skin down around leg stumps.
• Check that rectal opening is aligned with opening in rigid base.
• Pull skin over “top” with corners on the left and right side.
• Check that the foam on the Atop® side is fitted over the lip of the rigid base.
  Check that skin is smoothly fitted over foam and pulled down securely around the rigid base and leg stumps.
### ANNEX 9 – ARV PROPHYLAXIS IN PREGNANCY, LABOUR AND POSTPARTUM

<table>
<thead>
<tr>
<th>PREGNANCY</th>
<th>LABOUR</th>
<th>POSTPARTUM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Women on ART</strong></td>
<td>Continue ART as per usual schedule</td>
<td>Continue ART</td>
</tr>
</tbody>
</table>

1. SD-NVP 200mg to be taken at onset of labour
2. AZT/3TC 600mg at onset of labour

<table>
<thead>
<tr>
<th><strong>Mother</strong></th>
<th><strong>Infant</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SD-NVP 6mg within 72 hours</td>
<td>1. SD-NVP 6mg within 72 hours</td>
</tr>
<tr>
<td>2. AZT 4mg/kg within 12 hours every 12 hours for 7 days</td>
<td>2. AZT 4mg/kg every 12 hrs for 4 weeks</td>
</tr>
<tr>
<td>3. Babies delivered at home should get SD-NVP and start AZT within 12 hours of delivery</td>
<td>3. Babies delivered at home should get SD-NVP 6mg and AZT 4mg/kg 12 hourly for 4 weeks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>2. Women who received AZT 300mg twice a day from 28 weeks gestation until onset of labour</strong></th>
<th><strong>1. SD-NVP 200mg to be taken at onset of labour</strong></th>
<th><strong>AZT/3TC 300mg every 12 hours for 7 days</strong></th>
<th><strong>Infant</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mother</strong></td>
<td><strong>1. SD-NVP 6mg within 72 hours</strong></td>
<td><strong>2. AZT 4mg/kg within 12 hours every 12 hours for 7 days</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Infant</strong></td>
<td><strong>3. Babies delivered at home should get SD-NVP and start AZT within 12 hours of delivery</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>3. Women who received less than 4 weeks of AZT</strong></th>
<th><strong>1. SD-NVP 200mg at onset of labour</strong></th>
<th><strong>AZT/3TC 300mg every 12 hours for 7 days</strong></th>
<th><strong>Infant</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mother</strong></td>
<td><strong>1. SD-NVP 6mg within 72 hours</strong></td>
<td><strong>2. AZT 4mg/kg every 12 hrs for 4 weeks</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Infant</strong></td>
<td><strong>3. Babies delivered at home should get SD-NVP 6mg and AZT 4mg/kg 12 hourly for 4 weeks</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>4. Women who present during labour and have not received AZT</strong></th>
<th><strong>1. SD-NVP 200mg to be taken at onset of labour</strong></th>
<th><strong>AZT/3TC 300mg every 12 hours for 7 days</strong></th>
<th><strong>Infant</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mother</strong></td>
<td><strong>1. SD-NVP 6mg within 72 hours</strong></td>
<td><strong>2. AZT 4mg/kg 12 hourly for 4 weeks</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Infant</strong></td>
<td><strong>3. Babies delivered at home should get SD-NVP 6mg and AZT 4mg/kg 12 hourly for 4 weeks</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>5. Women who present late in or after labour and have had no ARVs during pregnancy.</strong></th>
<th>None</th>
<th>None</th>
<th><strong>Infant</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mother</strong></td>
<td><strong>1. SD-NVP 6mg immediately</strong></td>
<td><strong>2. AZT 4mg/kg every 12 hrs for 4 weeks</strong></td>
<td></td>
</tr>
</tbody>
</table>
and no ARVs during labour

| 6. In settings where only SD-NVP is available | SD-NVP 200mg to taken at onset of labour | 1. SD-NVP 6mg within 72 hours |

NB: low birth babies <2.5 kg will receive 2mg/kg)

ANNEX 10 - COTRIMOXAZOLE PROPHYLAXIS

Give CPT to:
- All HIV-Exposed Infants: From 6 weeks of age until HIV infection is definitely excluded and the child is no longer breastfeeding
- All HIV-Infected Children
- All Infected Adults with WHO Stage 2, 3 and 4 or CD4<500/mm³ or less regardless of symptoms
- All Infected Pregnant Women irrespective of Clinical Stage or CD4 count

<table>
<thead>
<tr>
<th>Dosing for Cotrimoxazole (Trimethoprim/Sulphamethoxazole)</th>
<th>TMP/SMX, CPT, Septrin, Bactrim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Suspension 5ml – 240mg</td>
</tr>
<tr>
<td>6 weeks – 5 months</td>
<td>2.5 ml daily</td>
</tr>
<tr>
<td>6 months – 4 years</td>
<td>5 ml daily</td>
</tr>
<tr>
<td>5 – 14 years</td>
<td>–</td>
</tr>
<tr>
<td>&gt;15 years</td>
<td>–</td>
</tr>
</tbody>
</table>

Information for parents/care givers
- Cotrimoxazole prevents serious
- Tablets can be crushed and mixed with:
  - Clean water or breast-milk for babies
| disease and death in children with HIV and can help them feel better and live longer | Cotrimoxazole can be given with food |
| CPT is not an antiretroviral drug and does not treat or cure the HIV virus | **Serious Side Effects** |
| The dose of cotrimoxazole will change as your child grows older | If your patient has these symptoms, the patient must see a medical officer immediately: |
| | • Severe abdominal pain with prolonged vomiting/nausea |
| | • Severe progressive rash – especially on eyes and mouth |

April 2008
Based on Malawi Paediatric and Treatment of AIDS Guidelines
**Helping Babies Breathe**

**ACTION PLAN**

- **Prepare for birth**
  - Birth
  - *If meconium, clear airway*
    - **Dry thoroughly**
      - Crying?
        - Not crying
        - *Clear airway, Stimulate*
          - Breathing?
            - Not breathing
              - **Cut cord**
                - Ventilate
                  - Not breathing
                    - **Call for help**
                      - Improve ventilation
                        - Not breathing
                          - **Heart rate?**
                            - Normal
                              - Continue ventilation
                                - Advanced care
                            - Slow
                              - Continue ventilation
                                - Advanced care
  - Breathing well
    - Not breathing
      - **Cut cord**
        - Ventilate
          - Not breathing
            - **Call for help**
              - Improve ventilation
                - Not breathing
                  - **Heart rate?**
                    - Normal
                      - Continue ventilation
                        - Advanced care
                    - Slow
                      - Continue ventilation
                        - Advanced care

- **Keep warm**
  - Check breathing
    - Not breathing
      - **Cut cord**
        - Ventilate
          - Not breathing
            - **Call for help**
              - Improve ventilation
                - Not breathing
                  - **Heart rate?**
                    - Normal
                      - Continue ventilation
                        - Advanced care
                    - Slow
                      - Continue ventilation
                        - Advanced care

**Prepare for birth**

- Gloves
- Cloth
- Suction device
- Ventilator
- Bag-mask
- Stethoscope
- Ties
- Timer (clock, watch)
B. HANDOUTS

Handout I – Establishing Kangaroo Mother Care Services

Steps in Establishing KMC services

Depending on the scope of the program, all or some of the following steps will be included in the program design preparing for and implementing KMC services at a health facility (steps 5-7).

Before implementation

WORK WITH POLICY MAKERS, ADMINISTRATORS, HEALTH AUTHORITIES AND THE COMMUNITY

Step 1: Collect and assess vital information related to KMC practices.
Step 2: Work with policymakers and health administrators at the national level.
Step 3: Work with health authorities at all needed levels (community, district, provincial, and regional).
Step 4: Implement community mobilization and BCC activities (if included in program design).
Step 5: Prepare the facility and staff to implement KMC

Handout II – History of Kangaroo Mother Care

Kangaroo Mother Care was first introduced in Bogotá, Columbia in 1979. It has since been introduced into the medical establishment of both the developed and developing world as an alternate or complement to incubator care for LBW babies. Many hospitals in Europe, Asia and the Americas have adopted KMC. In Africa, it is being practiced in several countries, including Zimbabwe, Mozambique, South Africa, Ethiopia, Nigeria, Cameroon, Madagascar, Uganda, and of course, Malawi.

Here at home, KMC was started at Bwaila Hospital in Lilongwe, but was stopped after two deaths occurred as it was then associated with mortality. During that time, doctors at St. Luke’s Holy Family Hospital also initiated the practice of KMC. Unfortunately, when the doctors left the institution the practice was stopped, as there was no continuity.

At Zomba Central Hospital, KMC was introduced in 1999. The paediatrician who was working in the hospital then, was concerned with the small nursery and high number of neonatal deaths. Having read and heard about KMC, he submitted proposals to several organizations including the then Ministry of Health and Population (MOHP), to renovate the existing nursery, i.e., to make it bigger and include a KMC unit. The European Union (EU) responded favourably and the proposed renovations were done. Orientation trips for staff to Zimbabwe, Cape Town and Bogotá were also made possible. This provided them with an opportunity to learn how KMC was practiced in settings where it was well established and to make the necessary adjustments for the Malawi situation.

Save the Children US, through the Saving Newborn Lives Initiative provided the support for training and the establishment of a KMC learning centre, with the view of expanding KMC services beyond Zomba. The Zomba Centre is now responsible for training health workers in KMC and assisting other institutions in establishing KMC units.

As of 2004, the following hospitals had established KMC units: Queen Elizabeth Central Hospital, St. Luke’s Hospital, Bwaila Hospital, Ekwendeni Hospital, Mulanje Mission Hospital and Mangochi District Hospital.
Handout III – Current Care of LBW Babies in Malawi

According to Malawi Demographic and Health Survey (DHS) 2000, twenty percent of all babies are born with low birth weight. Current care of LBW babies in Malawi falls under the following categories:

- Conventional care
  - Incubator care
  - Warm rooms with open air crib care (baby cots)

- Kangaroo mother care

- Traditional care
  - Usually, the baby is taken care of by a granny or aunt. A fire is lit in the house to keep it warm and the baby is wrapped in warm clothes and/or blankets. The baby is not taken outdoors and there is a restriction of visitors until the cord has fallen off or at least until the baby is one month old.

Handout IV – Comparing conventional infant care with Kangaroo Mother Care

Conventional care (incubator care and warm rooms with open cribs)

An incubator is a ventilated box-like apparatus in which the environment can be kept sterile, at constant temperature, humidity and oxygen levels. It is used as a life support system for preterm, LBW and other newborn babies who are not yet stabilized.

The baby is dressed lightly and placed in an incubator with the head slightly raised to prevent the baby from choking. The baby’s temperature has to be checked and recorded every 4 hours in order to detect any hyper/hypothermia. At the same time, while the baby’s temperature is being checked, checking and recording of incubator temperature has to be done. If the baby is hypothermic, the temperature is adjusted upwards and the opposite is done if the baby is hyperthermic.

Incubators are available in hospitals in Malawi, however, there are problems associated with them. There is a shortage of incubators such that most hospitals in Malawi have just one. Even in hospitals with more than one incubator, the number of incubators is inadequate for the number of babies who need to use them. Often, one finds two or three babies sharing an incubator and this put them at greater risk of infection from each other.

The other problem is that, more often than not, these incubators are not in good working condition. These problems are worsened by frequent power cuts, which contribute to babies becoming hypothermic, when heat is no longer generated. The other problem is cost. Prolonged stay in the nursery with incubator care is costly to the average Malawian family.

Open air crib care (baby cots) is basically used for stable as well as sick term babies. The babies are usually fully dressed and wrapped in warm blankets before being placed in the crib. Those babies who have stabilized in the incubator are also transferred to these open-air cribs in a warm environment to prevent drops in body temperature. Additional heat in the room is provided by electric heaters which are placed in strategic positions. Many of these babies could have been placed in skin-to-skin contact with the mother (KMC).

Handout V – Components of Kangaroo Mother Care
Kangaroo mother care has three main parts:

1. Continuous skin-to-skin contact between the baby’s front and mother’s chest: Skin-to-skin contact starts at birth and is continued day and night. There may be brief interruptions such as during the change of nappies. The baby wears only a hat or cloth to keep her head warm and a nappy (diaper).

2. Exclusive breastfeeding: The baby breastfeeds within 1 hour after birth and then every 2-3 hours. The cloth that wraps around the mother and baby is loosened to breastfeed.

3. Support to the mother: The mother can continue to do what she normally does while providing kangaroo mother care. For example, the mother can cook, clean, and even sleep without interrupting skin-to-skin contact. However, she will need a lot of support to maintain this continuous contact. In a health facility the staff can help; at home the family may help by keeping the baby skin-to-skin for short periods while the mother rests or takes care of other duties.

**Handout VI – Tips To Help A Mother Breast-Feed Her Low Birth Weight Baby**

- Find a quiet place to breastfeed. As LBW babies may have immature nervous systems, noise, lights, and activity can distract them from sucking.

- Express a few drops of milk on the nipple to help the baby start nursing.

- Give the baby short rests during a breastfeed; feeding is hard work for the LBW baby.

- If the baby coughs, gags, or spits up when starting to breastfeed, the milk may be letting down too fast for the little baby. Teach the mother to:
  1. Take the baby off the breast if this happens
  2. Hold the baby against her chest until the baby can breathe well again
  3. Put the baby back to the breast after the let-down of milk has passed

      - If the LBW baby does not have enough energy to suck for long or a strong enough suck reflex:

  1. Teach the mother to express breast milk
  2. Teach her to feed the baby the expressed breast milk by cup
Handout VIII – Learning Guides

Handout VII - ANTENATAL HISTORY,
PHYSICAL EXAMINATION AND BASIC CARE
(To be completed by Participants)

Place a “ii” in case box if task/activity is performed **satisfactorily**, an “X” if it is **not** performed satisfactorily, or N/O if not observed.

**Satisfactory**: Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory**: Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed**: Step, task or skill not performed by participant during evaluation by facilitator/teacher

<table>
<thead>
<tr>
<th>LEARNING GUIDE FOR ANTENATAL HISTORY, PHYSICAL EXAMINATION AND BASIC CARE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STEP/TASK</strong></td>
</tr>
<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>GETTING READY</strong></td>
</tr>
<tr>
<td>• Prepare the necessary equipment.</td>
</tr>
<tr>
<td>• Welcome woman and offer her a sit</td>
</tr>
<tr>
<td>• Greet the woman respectfully and with kindness and introduce yourself</td>
</tr>
<tr>
<td>• Ensure privacy</td>
</tr>
<tr>
<td>• Tell the woman what is going to be done, encourage her to ask questions and respond supportively. Ask for consent.</td>
</tr>
<tr>
<td>• Provide reassurance and emotional support as needed</td>
</tr>
<tr>
<td>• Use low respectful tone of voice throughout the procedure.</td>
</tr>
<tr>
<td><strong>QUICK CHECK</strong></td>
</tr>
<tr>
<td>• Do rapid check for danger signs and conditions needing emergency treatment.</td>
</tr>
<tr>
<td><strong>HISTORY</strong></td>
</tr>
<tr>
<td>1. Ask the woman how she is feeling and respond immediately to any urgent problem(s).</td>
</tr>
<tr>
<td>2. Ask the woman her name, age, marital status, address, religion and next of keen.</td>
</tr>
<tr>
<td>STEP/TASK</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>3. Ask the woman about daily habits and lifestyle (e.g., social support,</td>
</tr>
<tr>
<td>workload, use of alcohol, drugs, or smoking, and whether she has</td>
</tr>
<tr>
<td>experienced threats, violence, or injury)</td>
</tr>
<tr>
<td>4. Ask about her nutritional history- dietary intake, food availability</td>
</tr>
<tr>
<td>and number of meals per day. Minor disorders and cultural beliefs</td>
</tr>
<tr>
<td>related to nutrition.</td>
</tr>
<tr>
<td>5. Ask if pregnancy was planned or not and if unaccepted by both</td>
</tr>
<tr>
<td>partners</td>
</tr>
<tr>
<td>6. Ask the woman about medical conditions, medications and</td>
</tr>
<tr>
<td>hospitalizations (Include HIV status, renal disease, hypertension,</td>
</tr>
<tr>
<td>diabetes, tuberculosis, and asthma).</td>
</tr>
<tr>
<td>7. Ask the woman about surgical history ( genital area, breast and</td>
</tr>
<tr>
<td>abdomen)</td>
</tr>
<tr>
<td>8. Ask about blood transfusion</td>
</tr>
<tr>
<td>9. Ask woman about family history i.e. hypertension, epilepsy,</td>
</tr>
<tr>
<td>mental illness, diabetes, mental illness, tuberculosis and multiple</td>
</tr>
<tr>
<td>pregnancy</td>
</tr>
<tr>
<td>10. Ask woman about age at puberty, number of days of menstrual flow,</td>
</tr>
<tr>
<td>contraceptive history and reproductive goals.</td>
</tr>
<tr>
<td>11. Ask about obstetric history-past: parity and gravidity then</td>
</tr>
<tr>
<td>breakdown of previous pregnancies( year, gestation, mode of delivery,</td>
</tr>
<tr>
<td>place of delivery, duration of labour, outcome of delivery, sex,</td>
</tr>
<tr>
<td>complications during pregnancy, labour and during puerperium. Present</td>
</tr>
<tr>
<td>obstetric history: Ask the woman about her menstrual history,</td>
</tr>
<tr>
<td>including LNMP and calculate the EDD and gestational age. Ask the</td>
</tr>
<tr>
<td>woman if she has felt fetal movements. Ask the woman if she has</td>
</tr>
<tr>
<td>experienced any problems with this pregnancy or seen another care</td>
</tr>
<tr>
<td>provider since her last visit. ( bleeding and minor disorders of</td>
</tr>
<tr>
<td>pregnancy).</td>
</tr>
<tr>
<td>12. Ask the woman about previous breastfeeding history( length of time</td>
</tr>
<tr>
<td>of breastfeeding and problems encountered )</td>
</tr>
<tr>
<td>13. Ask the woman about tetanus immunization</td>
</tr>
<tr>
<td>14. Ask the woman if she has taken the prescribed treatment to</td>
</tr>
<tr>
<td>prevent malaria, and whether she is using treated bed nets at all</td>
</tr>
<tr>
<td>times.</td>
</tr>
<tr>
<td>15. Ask the woman if she has taken the prescribed treatment to</td>
</tr>
<tr>
<td>prevent malaria, and whether she is using treated bed nets at all</td>
</tr>
<tr>
<td>times.</td>
</tr>
<tr>
<td>STEP/TASK</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>16. Record all pertinent information in the woman’s record/health profile</td>
</tr>
<tr>
<td><strong>PHYSICAL EXAMINATION</strong></td>
</tr>
<tr>
<td>17. Explain each step of the physical examination to the woman.</td>
</tr>
<tr>
<td>18. Ask the woman to empty her bladder save and test the urine.</td>
</tr>
<tr>
<td>19. Observe the woman’s general appearance, including gait and skin.</td>
</tr>
<tr>
<td>20. Wash hands thoroughly with soap and water and dry them</td>
</tr>
<tr>
<td>21. Check weight, height, blood pressure, pulse rate, respirations and temperature</td>
</tr>
<tr>
<td>22. Help the woman onto the examination table and make her sit comfortably.</td>
</tr>
<tr>
<td>23. Examine the head: hair for colour and texture; conjunctiva for pallor; mouth for dental caries, colour of mucous membranes and thrush.</td>
</tr>
<tr>
<td>24. Examine the neck for enlarged thyroid gland, enlarged lymph nodes and distended jugular veins</td>
</tr>
<tr>
<td>25. Examine the upper extremities for palmer pallor and capillary refill and edema</td>
</tr>
<tr>
<td>26. Inspect the breasts for size, shape and inverted nipples</td>
</tr>
<tr>
<td>27. Help the woman to lie in supine position and place a pillow under her head and upper shoulders.</td>
</tr>
<tr>
<td>28. Palpate the breasts for lumps and enlarged lymph nodes and teach self breast examination.</td>
</tr>
<tr>
<td>29. Examine the legs for edema, varicose veins and ask woman to bend the leg slowly and ask her if she feels pain on the calf muscles.</td>
</tr>
<tr>
<td>30. Inspect the abdomen for size, shape, fetal movements and scars</td>
</tr>
<tr>
<td>31. Palpate the liver and spleen</td>
</tr>
<tr>
<td>32. Examine abdomen and measure/estimate fundal height and compare with gestational age.</td>
</tr>
<tr>
<td>33. Pelvic palpation to check fetal presentation</td>
</tr>
<tr>
<td>34. Lateral palpation to determine lie (after 36 weeks).</td>
</tr>
<tr>
<td>35. Fundal palpation to rule out head in the fundus</td>
</tr>
<tr>
<td>36. Listen to the fetal heart (second and third trimesters) and relate with maternal pulse.</td>
</tr>
<tr>
<td>STEP/TASK</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>37. Put examination gloves on both hands.</td>
</tr>
<tr>
<td>38. Check external genitalia for sores, varicose veins, warts and/or</td>
</tr>
<tr>
<td>swellings.</td>
</tr>
<tr>
<td>39. Check the vaginal orifice for bleeding and/or abnormal discharge.</td>
</tr>
<tr>
<td>40. Check for signs of female genital mutilation (country/population</td>
</tr>
<tr>
<td>specific).</td>
</tr>
<tr>
<td>41. Ask for bowel and micturation pattern.</td>
</tr>
<tr>
<td>42. Immerse both gloved hands in 0.5% chlorine solution:</td>
</tr>
<tr>
<td>o Remove gloves by turning them inside out.</td>
</tr>
<tr>
<td>o If disposing of gloves and dispose in leak-proof container.</td>
</tr>
<tr>
<td>43. Wash hands thoroughly with soap and water and dry them with</td>
</tr>
<tr>
<td>individual towel or air dry.</td>
</tr>
<tr>
<td>44. Record all relevant findings in the woman’s health profile</td>
</tr>
</tbody>
</table>

**SCREENING PROCEDURES**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>OBSERVATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>45. Put examination gloves on both hands.</td>
<td></td>
</tr>
<tr>
<td>46. Draw blood and do hemoglobin, Rapid Syphilis Screening and HIV tests, and interpreting results accurately.</td>
<td></td>
</tr>
<tr>
<td>47. Empty and soak the test tubes in 0.5% chlorine solution for 10 minutes.</td>
<td></td>
</tr>
<tr>
<td>48. Dispose of needle and syringe in puncture-proof container.</td>
<td></td>
</tr>
<tr>
<td>49. Immerse both gloved hands in 0.5% chlorine solution:</td>
<td></td>
</tr>
<tr>
<td>o Remove gloves by turning them inside out.</td>
<td></td>
</tr>
<tr>
<td>o Dispose off gloves in leak-proof container or plastic bag.</td>
<td></td>
</tr>
<tr>
<td>50. Wash hands thoroughly with soap and water and dry them with</td>
<td></td>
</tr>
<tr>
<td>individual towel or air dry.</td>
<td></td>
</tr>
<tr>
<td>51. Assist the woman to sit comfortably.</td>
<td></td>
</tr>
<tr>
<td>52. Record results in the woman’s health profile and discuss them with her.</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>OBSERVATIONS</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>IDENTIFY PROBLEMS/NEEDS</strong></td>
<td></td>
</tr>
<tr>
<td>1. Identify the woman’s individual problems/needs, based on the findings of the antenatal history, physical examination and screening procedures.</td>
<td></td>
</tr>
<tr>
<td><strong>PROVIDE CARE/TAKE ACTION</strong></td>
<td></td>
</tr>
<tr>
<td>2. Provide care based on problems/needs identified based on the findings of the antenatal history, physical examination and screening procedures.</td>
<td></td>
</tr>
<tr>
<td>3. Treat the woman for syphilis if the Rapid Syphilis Screening test is positive, provide counseling on HIV testing and safer sex, and arrange for her partner to be treated and counseled.</td>
<td></td>
</tr>
<tr>
<td>4. Provide tetanus immunization based on need.</td>
<td></td>
</tr>
<tr>
<td>5. Provide counseling about necessary topics such as signs and symptoms of labour, nutrition, hygiene, use of potentially harmful substances, rest/activity, sexual relations/safer sex, breastfeeding and postpartum family planning.</td>
<td></td>
</tr>
<tr>
<td>6. Provide counseling about the use of insecticide-treated bed nets.</td>
<td></td>
</tr>
<tr>
<td>7. Dispense medication for IPT for malaria according to protocol.</td>
<td></td>
</tr>
<tr>
<td>8. Dispense other necessary medications such as iron, folate. Give Albendazole 400mg in second or third trimester.</td>
<td></td>
</tr>
<tr>
<td>9. Develop or review individualized birth plan with the woman; develop or review her complication readiness plan.</td>
<td></td>
</tr>
<tr>
<td>10. Discuss danger signs and what to do if they occur.</td>
<td></td>
</tr>
<tr>
<td>11. Record the relevant details of care on the woman’s record/health profile</td>
<td></td>
</tr>
<tr>
<td>12. Ask the woman if she has any further questions or concerns.</td>
<td></td>
</tr>
<tr>
<td>13. Thank the woman for coming and tell her when she should come for her next antenatal visit.</td>
<td></td>
</tr>
</tbody>
</table>
LEARNING GUIDE: ASSISTING NORMAL BIRTH

- (Including Care of the Normal Newborn)

(To be completed by Participants)

Because immediate care of the newborn is an integral part of the third stage of labour, steps for immediate care of the newborn cannot be separated from comprehensive care during labour and childbirth. Therefore, this learning guide contains all of the steps of care for normal labour and birth, including immediate care of the newborn.

Place a “ii” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

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<thead>
<tr>
<th>LEARNING GUIDE FOR ASSISTING NORMAL BIRTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Some of the following steps/tasks should be performed simultaneously.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GETTING READY</strong></td>
<td></td>
</tr>
<tr>
<td>1. Prepare the necessary equipment.</td>
<td></td>
</tr>
<tr>
<td>2. Encourage the woman to adopt the position of choice and continue spontaneous bearing-down efforts.</td>
<td></td>
</tr>
<tr>
<td>3. Tell the woman what is going to be done, listen to her, and respond attentively to her questions and concerns.</td>
<td></td>
</tr>
<tr>
<td>4. Provide continual emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
<tr>
<td>5. Put on personal protective barriers.</td>
<td></td>
</tr>
<tr>
<td><strong>ASSISTING THE BIRTH</strong></td>
<td></td>
</tr>
<tr>
<td>1. Wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
<td></td>
</tr>
<tr>
<td>2. Put high-level disinfected or sterile surgical gloves on both hands.</td>
<td></td>
</tr>
<tr>
<td>3. Clean the woman’s perineum with a cloth or compress, wet with antiseptic solution or soap and water, wiping from front to back.</td>
<td></td>
</tr>
<tr>
<td>4. Place one sterile drape from delivery pack under the woman’s buttocks, one over her abdomen, and use the third drape to receive the baby.</td>
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</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
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<tr>
<td>-------------------------------------------------------------------------</td>
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</tr>
<tr>
<td><strong>Birth of the Head</strong></td>
<td></td>
</tr>
<tr>
<td>5. Ask the woman to pant or give only small pushes with</td>
<td></td>
</tr>
<tr>
<td>contractions as the baby’s head is born. (Put blanket or towel on</td>
<td></td>
</tr>
<tr>
<td>woman’s abdomen.)</td>
<td></td>
</tr>
<tr>
<td>6. As the pressure of the head thins out the perineum, control the</td>
<td></td>
</tr>
<tr>
<td>birth of the head with the fingers of one hand, applying a firm,</td>
<td></td>
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<tr>
<td>gentle downward (but not restrictive) pressure to maintain flexion,</td>
<td></td>
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<tr>
<td>allow natural stretching of the perineal tissue, and</td>
<td></td>
</tr>
<tr>
<td>prevent tears.</td>
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<tr>
<td>7. Use the other hand to support the perineum using a compress or</td>
<td></td>
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<tr>
<td>cloth, and allow the head to crown slowly and be born</td>
<td></td>
</tr>
<tr>
<td>spontaneously.</td>
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<tr>
<td>8. Wipe the mucus (and membranes, if necessary) from the baby’s</td>
<td></td>
</tr>
<tr>
<td>mouth and nose with a clean cloth.</td>
<td></td>
</tr>
<tr>
<td>9. Feel around the baby’s neck to ensure the umbilical cord is not</td>
<td></td>
</tr>
<tr>
<td>around the neck:</td>
<td></td>
</tr>
<tr>
<td>• If the cord is around the neck but is loose, slip it over the</td>
<td></td>
</tr>
<tr>
<td>baby’s head;</td>
<td></td>
</tr>
<tr>
<td>• If the cord is loose but cannot reach over the baby’s head,</td>
<td></td>
</tr>
<tr>
<td>slip it backwards over the shoulders;</td>
<td></td>
</tr>
<tr>
<td>• If the cord is tight around the neck, clamp the cord with two</td>
<td></td>
</tr>
<tr>
<td>artery forceps, placed 3 cm apart, and cut the cord between the</td>
<td></td>
</tr>
<tr>
<td>the two clamps.</td>
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</tr>
<tr>
<td><strong>Completing the Birth</strong></td>
<td></td>
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<tr>
<td>10. Allow the baby’s head to turn spontaneously.</td>
<td></td>
</tr>
<tr>
<td>11. After the head turns, place a hand on each side of the baby’s</td>
<td></td>
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<tr>
<td>head, over the ears, and apply slow, gentle pressure downward</td>
<td></td>
</tr>
<tr>
<td>(toward the mother’s spine) and outward until the anterior</td>
<td></td>
</tr>
<tr>
<td>shoulder slips under the pubic bone.</td>
<td></td>
</tr>
<tr>
<td>12. When the arm fold is seen, guide the head upward toward the</td>
<td></td>
</tr>
<tr>
<td>mother’s abdomen as the posterior shoulder is born over the</td>
<td></td>
</tr>
<tr>
<td>perineum.</td>
<td></td>
</tr>
<tr>
<td>13. Lift the baby’s head anteriorly to deliver the posterior shoulder.</td>
<td></td>
</tr>
<tr>
<td>14. Move the topmost hand from the head to support the rest of the</td>
<td></td>
</tr>
<tr>
<td>baby’s body as it slides out.</td>
<td></td>
</tr>
<tr>
<td>15. Place the baby on the mother’s abdomen (if the mother is unable</td>
<td></td>
</tr>
<tr>
<td>to hold the baby, ask her birth companion or an assistant to care</td>
<td></td>
</tr>
<tr>
<td>for the baby).</td>
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</tbody>
</table>
**LEARNING GUIDE FOR ASSISTING NORMAL BIRTH**
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>16. Thoroughly dry the baby and cover with a clean, dry cloth:</td>
<td></td>
</tr>
<tr>
<td>• Assess breathing while drying the baby and if s/he does not breathe immediately, begin resuscitative measures (see Learning Guide: Newborn Resuscitation).</td>
<td></td>
</tr>
<tr>
<td>• Note time of birth.</td>
<td></td>
</tr>
<tr>
<td>17. Ensure the baby is kept warm and in skin-to-skin contact on the mother’s chest, and cover the baby with a cloth or blanket, including the head.</td>
<td></td>
</tr>
<tr>
<td>18. Palpate the mother’s abdomen to rule out the presence of additional baby(ies) and proceed with active management of the third stage.</td>
<td></td>
</tr>
</tbody>
</table>

**ACTIVE MANAGEMENT OF THIRD STAGE OF LABOR**

1. Give oxytocin 10 units IM.

2. Clamp and cut the umbilical cord after pulsations have ceased or approximately 2–3 minutes after the birth, whichever comes first:
   • Tie the cord at about 2 cm and 5 cm from the umbilicus;
   • Cut the cord between the ties.
   • Place the infant on the mother’s chest.

3. Clamp the cord close to the perineum and hold the clamped cord and the end of the clamp in one hand.

4. Place the other hand just above the pubic bone and gently apply counter traction (push upwards on the uterus) to stabilize the uterus and prevent uterine inversion.

5. Keep light tension on the cord and wait for a strong uterine contraction (two to three minutes).

6. When the uterus becomes rounded or the cord lengthens, very gently pull downward on the cord to deliver the placenta.

7. Continue to apply counter traction with the other hand.

8. If the placenta does not descend during 30 to 40 seconds of controlled cord traction, relax the tension and repeat with the next contraction.

9. As the placenta delivers, hold it with both hands and twist slowly so the membranes are expelled intact:
   • If the membranes do not slip out spontaneously, gently twist them into a rope and move up and down to assist separation without tearing them.

10. Slowly pull to complete delivery.

11. Massage the uterus if it is not well contracted. Note time of delivery of placenta.
<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</thead>
<tbody>
<tr>
<td><strong>Examination of Placenta</strong></td>
<td></td>
</tr>
<tr>
<td>12. Hold placenta in palms of hands, with maternal side facing upwards, and check whether all lobules are present and fit together.</td>
<td></td>
</tr>
</tbody>
</table>
| 13. Hold cord with one hand and allow placenta and membranes to hang down:  
  - Insert fingers of other hand inside membranes, with fingers spread out, and inspect membranes for completeness;  
  - Note position of cord insertion. | |
| **Examination of Vagina and Perineum for Tears** | |
| 14. Gently separate the labia and inspect lower vagina for lacerations/tears. | |
| 15. Inspect the perineum for lacerations/tears. | |
| 16. Gently cleanse the perineum with warm water and a clean cloth. | |
| 17. Apply a clean pad or cloth to the vulva. | |
| 18. Assist the mother to a comfortable position for continued breastfeeding and bonding with her newborn. (Further assessment and immunization of the newborn can occur later before the mother is discharged or the skilled attendant leaves.) | |
| **POST-PROCEDURE TASKS** | |
| 1. Place any contaminated items (e.g., swabs) in a plastic bag or leak-proof, covered waste container. | |
| 2. Decontaminate instruments by placing in a container filled with 0.5% chlorine solution for 10 minutes. | |
| 3. Decontaminate needles and or syringes:  
  - If disposing of needle and syringe, hold the needle under the surface of a 0.5% chlorine solution, fill the syringe, and push out (flush) three times; then place in a puncture-resistant sharps container;  
  - If reusing the syringe (and needle), fill syringe with needle attached with 0.5% chlorine solution and soak in chlorine solution for 10 minutes for decontamination. | |
| 4. Immerse both gloved hands briefly in a container filled with 0.5% chlorine solution; then remove gloves by turning them inside out:  
  - If disposing of gloves (examination gloves and surgical gloves that will not be reused), place in a plastic bag or leak-proof, covered waste container;  
  - If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes for decontamination. | |
**LEARNING GUIDE FOR ASSISTING NORMAL BIRTH**
*(Some of the following steps/tasks should be performed simultaneously.)*

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.</td>
<td></td>
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</tbody>
</table>
LEARNING GUIDE: ACTIVE MANAGEMENT OF THE
THIRD STAGE OF LABOR
(To be completed by Participants)

Place a “Ⅱ” in case box if step/task is performed **satisfactorily**, an “X” if it is **not** performed **satisfactorily**, or **N/O** if not observed.

**Satisfactory**: Performs the step or task according to the standard procedure or guidelines

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<tbody>
<tr>
<td><strong>GETTING READY</strong></td>
<td></td>
</tr>
<tr>
<td>1. Ensure that items necessary to perform active management of the third stage of labour were adequately prepared before the birth and ready to use.</td>
<td></td>
</tr>
<tr>
<td>2. Ask the woman to empty her bladder when second stage is near (catheterize only if woman cannot urinate and bladder is full).</td>
<td></td>
</tr>
<tr>
<td>3. Assist the woman into the position of her choice (squatting, semi-sitting).</td>
<td></td>
</tr>
<tr>
<td>4. Explain to the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.</td>
<td></td>
</tr>
<tr>
<td>5. After baby is born, dry from head to toe with a warm, clean cloth.</td>
<td></td>
</tr>
<tr>
<td>6. Assess breathing while drying. If baby is not breathing, begin resuscitation.</td>
<td></td>
</tr>
<tr>
<td>7. If baby is breathing, put in skin-to-skin contact on mother’s abdomen and cover with clean, dry, warm cloth.</td>
<td></td>
</tr>
<tr>
<td>8. Provide continual emotional support and reassurance.</td>
<td></td>
</tr>
<tr>
<td><strong>DELIVERING THE PLACENTA</strong></td>
<td></td>
</tr>
<tr>
<td>1. Palpate the mother’s abdomen to rule out the presence of another baby.</td>
<td></td>
</tr>
<tr>
<td>2. If no other baby, give 10 IU of oxytocin IM within 1 minute of birth.</td>
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</tbody>
</table>

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Integrated Maternal and Neonatal Participants Manual
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>3. Clamp and cut the cord after cord pulsations have ceased or</td>
<td></td>
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<tr>
<td>approximately 2–3 minutes after birth of the baby, whichever comes first.</td>
<td></td>
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<tr>
<td>4. Place the infant directly on the mother’s chest, prone, with the</td>
<td></td>
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<tr>
<td>newborn’s skin touching the mother’s skin. Cover the baby’s head with a</td>
<td></td>
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<tr>
<td>cap or cloth.</td>
<td></td>
</tr>
<tr>
<td>5. Hold cord close to the perineum, with hand or clamp.</td>
<td></td>
</tr>
<tr>
<td>6. Wait for the uterus to contract.</td>
<td></td>
</tr>
<tr>
<td>7. Use one hand to grasp the cord clamp.</td>
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</tr>
<tr>
<td>8. Place the other hand just above the pubic bone, on top of the drape</td>
<td></td>
</tr>
<tr>
<td>covering the woman’s abdomen, with the palm facing toward the mother’s</td>
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<tr>
<td>umbilicus and gently apply countertraction in an upward direction</td>
<td></td>
</tr>
<tr>
<td>(towards the woman’s head).</td>
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<tr>
<td>9. At the same time while the uterus is contracted, firmly apply</td>
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<tr>
<td>traction to the cord, in a downward direction, using the hand that is</td>
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<tr>
<td>grasping the clamp. (Follow direction of the birth canal.)</td>
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<tr>
<td>10. Apply tension by pulling the cord firmly and maintaining pressure</td>
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<tr>
<td>(jerky movements and force must be avoided).</td>
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<tr>
<td>11. If the maneuver is not successful within 30–40 seconds, stop cord</td>
<td></td>
</tr>
<tr>
<td>traction, wait for the next contraction and repeat.</td>
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<tr>
<td>12. When the placenta is visible at the vaginal opening, hold it in both</td>
<td></td>
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<tr>
<td>hands.</td>
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<tr>
<td>13. Use a gentle upward and downward movement or twisting action to</td>
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<tr>
<td>slowly deliver the membranes. (If the membranes tear: 1) look for</td>
<td></td>
</tr>
<tr>
<td>membranes in upper vagina and cervix, 2) use forceps to clamp on</td>
<td></td>
</tr>
<tr>
<td>membranes, 3) twist membranes and delivery slowly.)</td>
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<tr>
<td>14. Hold the placenta in the palms of the hands, with the maternal side</td>
<td></td>
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<tr>
<td>facing upward.</td>
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<tr>
<td>15. Immediately and gently massage the uterus through the woman’s</td>
<td></td>
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<tr>
<td>abdomen until it is well contracted and no excessive bleeding is coming</td>
<td></td>
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<tr>
<td>from the vagina.</td>
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</tbody>
</table>

**POST-BIRTH TASKS**

1. Teach the mother how the uterus should feel and how to massage it.
### LEARNING GUIDE FOR ACTIVE MANAGEMENT OF THE THIRD STAGE OF LABOR

*Many of the following steps/tasks should be performed simultaneously.*

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<tbody>
<tr>
<td>2. To check the placenta for completeness:</td>
<td></td>
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<tr>
<td>• Hold the placenta in the palms of the hands, with the maternal side facing upward;</td>
<td></td>
</tr>
<tr>
<td>• Make sure that all lobules are present and fit together; and</td>
<td></td>
</tr>
<tr>
<td>• Place the other hand inside the membranes, spreading fingers out, to make sure that the membranes are complete.</td>
<td></td>
</tr>
<tr>
<td>3. Gently separate the labia and inspect the lower vagina and perineum for lacerations that may need to be repaired to prevent further blood loss.</td>
<td></td>
</tr>
<tr>
<td>4. Gently cleanse the vulva and perineum with warm water and a clean compress, and apply a clean pad/cloth to the vulva.</td>
<td></td>
</tr>
<tr>
<td>5. Assist the mother into a comfortable position for breastfeeding and bonding with baby.</td>
<td></td>
</tr>
<tr>
<td>6. Before removing gloves, dispose of waste materials in a leak-proof container or plastic bag and dispose of the placenta by incineration (or place in a leak-proof container for burial), after consulting with the woman about cultural practices.</td>
<td></td>
</tr>
<tr>
<td>7. Place all instruments in 0.5% chlorine solution for 10 minutes for decontamination.</td>
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<tr>
<td>8. Decontaminate or dispose of needle or syringe:</td>
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</tr>
<tr>
<td>• If reusing needle or syringe, fill syringe (with needle attached) with 0.5% chlorine solution and submerge in solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>• If disposing of needle and syringe, flush needle and syringe with 0.5% chlorine solution three times, and then place in a puncture-proof container.</td>
<td></td>
</tr>
<tr>
<td>9. Immerse both gloved hands in 0.5% chlorine solution. Remove gloves by turning them inside out.</td>
<td></td>
</tr>
<tr>
<td>• If disposing of gloves, place them in a leak-proof container or plastic bag.</td>
<td></td>
</tr>
<tr>
<td>• If re-using surgical gloves, submerge them in 0.5% chlorine solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>10. Use antiseptic handrub or wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
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</tr>
<tr>
<td>11. Record all findings on woman’s record.</td>
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<tr>
<td>12. During the first 2 hours after delivery of the placenta, monitor the women every 15 minutes:</td>
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<tr>
<td>• Measure her vital signs.</td>
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<tr>
<td>• Massage her uterus to make sure it is contracted.</td>
<td></td>
</tr>
<tr>
<td>• Check for excessive vaginal bleeding.</td>
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</table>
LEARNING GUIDE: ASSISTING A BREECH BIRTH
(To be completed by Participants)

Place a “ii” in case box if step/task is performed **satisfactorily**, an “X” if it is **not** performed **satisfactorily**, or N/O if not observed.

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<td>1. Prepare the necessary equipment.</td>
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<td>STEP/TASK</td>
<td>CASES</td>
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<tr>
<td>-----------</td>
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</tr>
<tr>
<td>2. Tell the woman what is going to be done, listen to her, and respond attentively to her questions and concerns.</td>
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</tr>
<tr>
<td>3. Ensure that conditions for breech delivery (complete or frank, adequate size pelvis for this fetus, no previous C-section or CPD, flexed head) are present.</td>
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<tr>
<td>4. Provide continual emotional support and reassurance, as feasible.</td>
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<tr>
<td>5. Put on personal protective barriers.</td>
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</table>

### ASSISTING THE BIRTH

<table>
<thead>
<tr>
<th>STEP</th>
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<tbody>
<tr>
<td>1. Use antiseptic handrub or wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
<td></td>
</tr>
<tr>
<td>2. Put high-level disinfected or sterile surgical gloves on both hands.</td>
<td></td>
</tr>
<tr>
<td>3. Place one sterile drape from delivery pack under the woman’s buttocks, one over her abdomen, and use the third drape to receive the baby.</td>
<td></td>
</tr>
<tr>
<td>4. Clean the woman’s perineum with a cloth or compress, wet with antiseptic solution or soap and water, wiping from front to back.</td>
<td></td>
</tr>
<tr>
<td>5. Place clean drape beneath woman’s hips.</td>
<td></td>
</tr>
<tr>
<td>6. Catheterize the bladder if necessary.</td>
<td></td>
</tr>
<tr>
<td>7. When the buttocks have entered the vagina and the cervix is fully dilated, tell the woman she can bear down with contractions. Do episiotomy if necessary.</td>
<td></td>
</tr>
<tr>
<td>8. As the perineum distends, decide whether an episiotomy is necessary (e.g., if perineum is very tight). If needed, provide infiltration with lignocaine and perform an episiotomy.</td>
<td></td>
</tr>
<tr>
<td>9. Let the buttocks deliver until the lower back and then the shoulder blades are seen.</td>
<td></td>
</tr>
<tr>
<td>10. Gently hold the buttocks in one hand, but do not pull.</td>
<td></td>
</tr>
</tbody>
</table>
| 11. 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 for the other leg. |       |
| 12. Hold the newborn by the hips, but do not pull. |       |
## LEARNING GUIDE FOR ASSISTING A BREECH BIRTH
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<tr>
<td>13. If the arms are felt on the chest, allow them to disengage spontaneously:</td>
<td></td>
</tr>
<tr>
<td>- After spontaneous delivery of the first arm, lift the buttocks towards the mother’s abdomen to enable the second arm to deliver spontaneously.</td>
<td></td>
</tr>
<tr>
<td>- 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 newborn’s face.</td>
<td></td>
</tr>
<tr>
<td>14. If the arms are stretched above the head or folded around the neck, use Loveset’s maneuver:</td>
<td></td>
</tr>
<tr>
<td>- Hold the newborn by the hips and turn half a circle, keeping the back uppermost.</td>
<td></td>
</tr>
<tr>
<td>- Apply downward traction at the same time so that the posterior arm becomes anterior, and deliver the arm under the pubic arch by placing one or two fingers on the upper part of the arm.</td>
<td></td>
</tr>
<tr>
<td>- Draw the arm down over the chest as the elbow is flexed, with the hand sweeping over the face.</td>
<td></td>
</tr>
<tr>
<td>- To deliver the second arm, turn the newborn back half a circle while keeping the back uppermost and applying downward traction to deliver the second arm in the same way under the pubic arch.</td>
<td></td>
</tr>
<tr>
<td>15. If the newborn’s body cannot be turned to deliver the arm that is anterior first, deliver the arm that is posterior:</td>
<td></td>
</tr>
<tr>
<td>- Hold and lift the newborn up by the ankles.</td>
<td></td>
</tr>
<tr>
<td>- Move the newborn’s chest towards the mother’s inner leg to deliver the posterior arm.</td>
<td></td>
</tr>
<tr>
<td>- Deliver the arm and hand.</td>
<td></td>
</tr>
<tr>
<td>- Lay the newborn down by the ankles to deliver the anterior shoulder.</td>
<td></td>
</tr>
<tr>
<td>- Deliver the arm and hand.</td>
<td></td>
</tr>
</tbody>
</table>
LEARNING GUIDE: EPISIOTOMY AND REPAIR
(To be completed by Participants)

- PLACE A “ï” IN CASE BOX IF STEP/TASK IS PERFORMED SATISFACTORILY, AN “X” IF IT IS NOT PERFORMED SATISFACTORILY, OR N/O IF NOT OBSERVED.
- SATISFACTORY: PERFORMS THE STEP OR TASK ACCORDING TO THE STANDARD PROCEDURE OR GUIDELINES
- UNSATISFACTORY: UNABLE TO PERFORM THE STEP OR TASK ACCORDING TO THE STANDARD PROCEDURE OR GUIDELINES
- NOT OBSERVED: STEP OR TASK NOT PERFORMED BY PARTICIPANT DURING EVALUATION BY FACILITATOR/TEACHER

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>GETTING READY</td>
<td></td>
</tr>
<tr>
<td>1. Prepare the necessary equipment.</td>
<td></td>
</tr>
<tr>
<td>2. Tell the woman what is going to be done and encourage her to ask questions.</td>
<td></td>
</tr>
<tr>
<td>3. Listen to what the woman has to say.</td>
<td></td>
</tr>
<tr>
<td>4. Make sure that the woman has no allergies to lignocaine or related drugs.</td>
<td></td>
</tr>
<tr>
<td>5. Provide emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
<tr>
<td>ADMINISTERING LOCAL ANESTHETIC</td>
<td></td>
</tr>
<tr>
<td>1. Cleanse perineum with antiseptic solution.</td>
<td></td>
</tr>
<tr>
<td>2. Draw 10 mL of 0.5% lignocaine into a syringe.</td>
<td></td>
</tr>
<tr>
<td>3. Place two fingers into vagina along proposed incision line.</td>
<td></td>
</tr>
<tr>
<td>4. Insert needle beneath skin for 4–5 cm following same line (preferably 1 ½&quot;, 22-gauge).</td>
<td></td>
</tr>
<tr>
<td>5. Draw back the plunger of syringe to make sure that needle is not in a blood vessel.</td>
<td></td>
</tr>
<tr>
<td>6. Inject lignocaine into vaginal mucosa, beneath skin of perineum and deeply into perineal muscle.</td>
<td></td>
</tr>
<tr>
<td>7. Wait 2 minutes and then pinch incision site with forceps.</td>
<td></td>
</tr>
<tr>
<td>8. If the woman feels the pinch, wait 2 more minutes and then retest.</td>
<td></td>
</tr>
<tr>
<td>MAKING THE EPISIOTOMY</td>
<td></td>
</tr>
<tr>
<td>1. Wait to perform episiotomy until: Perineum is thinned out</td>
<td></td>
</tr>
</tbody>
</table>
### LEARNING GUIDE FOR EPISIOTOMY AND REPAIR

*(Some of the following steps/tasks should be performed simultaneously.)*

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</tr>
</thead>
<tbody>
<tr>
<td>3–4 cm of the baby’s head is visible during a contraction</td>
<td></td>
</tr>
<tr>
<td>2. Place two fingers between the baby's head and the perineum.</td>
<td></td>
</tr>
<tr>
<td>3. Insert open blade of scissors between perineum and two fingers and cut mediolaterally the perineum and posterior vagina</td>
<td></td>
</tr>
<tr>
<td>4. If birth of head does not follow immediately, apply pressure to episiotomy site between contractions, using a piece of gauze, to minimize bleeding.</td>
<td></td>
</tr>
<tr>
<td>5. Control birth of head and shoulders to avoid extension of the episiotomy.</td>
<td></td>
</tr>
</tbody>
</table>

### REPAIRING THE EPISIOTOMY

1. Ask the woman to position her buttocks toward lower end of bed or table (use stirrups if available).
2. Ask an assistant to direct a strong light onto the woman’s perineum.
3. Apply antiseptic solution to area around episiotomy.
4. Using 2/0 or 3/0 suture, insert suture needle just above (1 cm) the apex of the episiotomy.
5. Use a continuous suture from apex downward to level of vaginal opening.
6. At opening of vagina, bring together cut edges.
7. Bring needle under vaginal opening and out through incision and tie.
8. Use interrupted sutures to repair perineal muscle, working from top of perineal incision downward.
9. Use interrupted or subcuticular sutures to bring skin edges together.
10. Wash perineal area with antiseptic, pat dry, and place a sterile sanitary pad over the vulva and perineum.

### POST-PROCEDURE TASKS

1. Dispose of waste materials (e.g. blood-contaminated swabs) in a leak-proof container or plastic bag.
2. Decontaminate instruments by placing in a plastic container filled with 0.5% chlorine solution for 10 minutes.
3. Decontaminate or dispose of syringe and needle:
   - If reusing needle or syringe, fill syringe (with needle attached) with 0.5% chlorine solution and submerge in solution for 10 minutes for decontamination.
   - If disposing of needle and syringe, flush needle and syringe with 0.5% chlorine solution three times, and then place in a
**LEARNING GUIDE FOR EPISIOTOMY AND REPAIR**
*(Some of the following steps/tasks should be performed simultaneously.)*

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</tr>
</thead>
<tbody>
<tr>
<td>puncture-proof container.</td>
<td></td>
</tr>
<tr>
<td>4. Immerse both gloved hands in 0.5% chlorine solution and remove gloves by turning them inside out.</td>
<td></td>
</tr>
<tr>
<td>• If disposing of gloves, place in leak-proof container or plastic bag.</td>
<td></td>
</tr>
<tr>
<td>• If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes to decontaminate.</td>
<td></td>
</tr>
<tr>
<td>5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.</td>
<td></td>
</tr>
</tbody>
</table>
LEARNING GUIDE: VACUUM EXTRACTION
(To be completed by Participants)

Place a “ii” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory:** Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed:** Step or task not performed by participant during evaluation by facilitator/teacher

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>GETTING READY</td>
<td></td>
</tr>
<tr>
<td>1. Prepare and test the necessary equipment.</td>
<td></td>
</tr>
<tr>
<td>2. Tell the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.</td>
<td></td>
</tr>
<tr>
<td>3. Provide continual emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
</tbody>
</table>
| 4. Review to ensure that the following conditions for vacuum extraction are present:  
  - Vertex presentation  
  - Term fetus  
  - Cervix fully dilated  
  - Head at least at 0 station or no more than 2/5 palpable above the symphysis pubis |       |
| 5. Make sure an assistant is available. |       |
| 6. Put on personal protective equipment. |       |

**PREPROCEDURE TASKS**

1. Use antiseptic handrub or wash hands thoroughly with soap and water and dry with a sterile cloth or air dry.

2. Put high-level disinfected or sterile surgical gloves on both hands.

3. Clean the vulva with antiseptic solution.

4. Catheterize the bladder, if necessary.

5. Check all connections on the vacuum extractor and test the vacuum on a gloved hand.

**VACUUM EXTRACTION**
<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assess the position of the fetal head by feeling the sagittal suture</td>
<td></td>
</tr>
<tr>
<td>line and the fontanelles.</td>
<td></td>
</tr>
<tr>
<td>2. Identify the posterior fontanel.</td>
<td></td>
</tr>
<tr>
<td>3. Apply the largest cup that will fit, with the center of the cup over</td>
<td></td>
</tr>
<tr>
<td>the flexion point, 1 cm anterior to the posterior fontanel.</td>
<td></td>
</tr>
<tr>
<td>4. Check the application and ensure that there is no maternal soft</td>
<td></td>
</tr>
<tr>
<td>tissue (cervix or vagina) within the rim of the cup:</td>
<td></td>
</tr>
<tr>
<td>• If necessary, release pressure and reapply cup.</td>
<td></td>
</tr>
<tr>
<td>5. Have the assistant create a vacuum of 0.2 kg/cm² negative pressure</td>
<td></td>
</tr>
<tr>
<td>with the pump and check the application of the cup.</td>
<td></td>
</tr>
<tr>
<td>6. Increase the vacuum to 0.8 kg/cm² negative pressure and check the</td>
<td></td>
</tr>
<tr>
<td>application of the cup. Do NOT exceed 600 mm Hg in red zone.</td>
<td></td>
</tr>
<tr>
<td>7. After maximum negative pressure has been applied, start traction</td>
<td></td>
</tr>
<tr>
<td>in the line of the pelvic axis and perpendicular to the cup:</td>
<td></td>
</tr>
<tr>
<td>• If the fetal head is tilted to one side or not flexed well, traction</td>
<td></td>
</tr>
<tr>
<td>should be directed in a line that will try to correct the tilt or</td>
<td></td>
</tr>
<tr>
<td>deflexion of the head (i.e., to one side or the other, not necessarily</td>
<td></td>
</tr>
<tr>
<td>in the midline).</td>
<td></td>
</tr>
<tr>
<td>8. With each contraction, apply traction in a line perpendicular to the</td>
<td></td>
</tr>
<tr>
<td>plane of the cup rim:</td>
<td></td>
</tr>
<tr>
<td>• Place a gloved finger of the non-dominant hand on the scalp next to</td>
<td></td>
</tr>
<tr>
<td>the cup during traction to assess potential slippage and descent of</td>
<td></td>
</tr>
<tr>
<td>the vertex.</td>
<td></td>
</tr>
<tr>
<td>• Do NOT pull between contractions.</td>
<td></td>
</tr>
<tr>
<td>9. Between each contraction have assistant check:</td>
<td></td>
</tr>
<tr>
<td>• Fetal heart rate</td>
<td></td>
</tr>
<tr>
<td>• Application of the cup</td>
<td></td>
</tr>
<tr>
<td>10. With progress, and in the absence of fetal distress, continue the</td>
<td></td>
</tr>
<tr>
<td>“guiding” pulls for a maximum of 30 minutes.</td>
<td></td>
</tr>
<tr>
<td>11. Perform an episiotomy, if necessary, for proper placement of the</td>
<td></td>
</tr>
<tr>
<td>cup (see Learning Guide for Episiotomy and Repair). If episiotomy is</td>
<td></td>
</tr>
<tr>
<td>necessary for placement of the cup, delay until the head stretches the</td>
<td></td>
</tr>
<tr>
<td>perineum or the perineum interferes with the axis of traction.</td>
<td></td>
</tr>
<tr>
<td>12. When the head has been delivered, release the vacuum, remove the</td>
<td></td>
</tr>
<tr>
<td>cup and complete the birth of the newborn.</td>
<td></td>
</tr>
<tr>
<td>13. Clamp and cut the cord after cord pulsations have ceased or</td>
<td></td>
</tr>
<tr>
<td>approximately 2-3 minutes after birth of the baby, whichever comes</td>
<td></td>
</tr>
<tr>
<td>first.</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>14. Place the infant directly on the mother’s chest, prone, with the newborn’s skin touching the mother’s skin. Cover the baby’s head with a cap or cloth.</td>
<td></td>
</tr>
<tr>
<td>15. Perform active management of the third stage of labor to deliver the placenta:</td>
<td></td>
</tr>
<tr>
<td>• Give 10 IU oxytocin intramuscularly.</td>
<td></td>
</tr>
<tr>
<td>• Perform controlled cord traction.</td>
<td></td>
</tr>
<tr>
<td>• Massage uterus.</td>
<td></td>
</tr>
<tr>
<td>16. Check the birth canal for tears following childbirth and repair, if necessary.</td>
<td></td>
</tr>
<tr>
<td>17. Repair the episiotomy, if one was performed (see <strong>Learning Guide for Episiotomy and Repair</strong>).</td>
<td></td>
</tr>
<tr>
<td>18. Provide immediate postpartum and newborn care, as required.</td>
<td></td>
</tr>
</tbody>
</table>

**POST-PROCEDURE TASKS**

1. Before removing gloves, dispose of waste materials in a leak-proof container or plastic bag.                                                                                                       |       |
2. Place all instruments in 0.5% chlorine solution for 10 minutes for decontamination.                                                                                                                  |       |
3. If fluids are in pump, clean by pumping water through the pump.                                                                                                                                      |       |
4. Dry pump by pumping air until no moisture is felt where pump connects to tubing.                                                                                                                    |       |
5. If cup and tubing are reusable, decontaminate with 0.5% chlorine solution for 10 minutes.                                                                                                           |       |
6. Immerse both gloved hands in 0.5% chlorine solution. Remove gloves by turning them inside out:                                                                                                      |       |
   • If disposing of gloves, place them in a leak-proof container or plastic bag.                                                                                                                      |       |
   • If reusing surgical gloves, submerge them in 0.5% chlorine solution for 10 minutes for decontamination.                                                                                             |       |
7. Use antiseptic handrub or wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.                                                                                      |       |
8. Record the procedure and findings on woman’s record.                                                                                                                                                |       |
**LEARNING GUIDE: ASSESSMENT OF THE NEWBORN**

(To be completed by Participants)

Place a “✓” in case box if step/task is performed **satisfactorily**, an “X” if it is **not** performed **satisfactorily**, or N/O if not observed.

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| **LEARNING GUIDE FOR ASSESSMENT OF THE NEWBORN** |
| (Some of the following steps/tasks should be performed simultaneously.) |
| **STEP/TASK** | **CASES** |
| **GETTING READY** |
| 1. Prepare the necessary equipment. |
| 2. Tell the mother what you are going to do, encourage her to ask questions and listen to what she has to say. |
| **HISTORY (Ask the following questions if the information is not available on the mother’s/baby’s record.)** |
| **Personal Information (First Visit)** |
| 1. What are your name, address and phone number? |
| 2. What are the name and sex of your baby? |
| 3. When was your baby born? |
| 4. Do you have access to reliable transportation? |
| 5. What sources of income/financial support do you/your family have? |
| 6. How many times have you been pregnant and how many children have you had? |
### LEARNING GUIDE FOR ASSESSMENT OF THE NEWBORN

(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</tr>
</thead>
<tbody>
<tr>
<td>7. Is your baby having a particular problem at present? If Yes, find out what the problem is and ask the following additional questions:   &lt;br&gt;• When did the problem first start?  &lt;br&gt;• Did it occur suddenly or develop gradually?  &lt;br&gt;• When and how often does the problem occur?  &lt;br&gt;• What may have caused the problem?  &lt;br&gt;• Did anything unusual occur before it started?  &lt;br&gt;• How does the problem affect your baby?  &lt;br&gt;• Is the baby eating, sleeping, and behaving normally?  &lt;br&gt;• Has the problem become more severe?  &lt;br&gt;• Are there other signs and conditions related to the problem? If yes, ask what they are.  &lt;br&gt;• Has the baby received treatment for the problem? If yes, ask who provided the treatment, what it involved, and whether it helped.</td>
<td></td>
</tr>
<tr>
<td>8. Has your baby received care from another caregiver? If Yes, ask the following additional questions:   &lt;br&gt;• Who provided the care?  &lt;br&gt;• Why did you seek care from another caregiver?  &lt;br&gt;• What did the care involve?  &lt;br&gt;• What was the outcome of this care?</td>
<td></td>
</tr>
</tbody>
</table>

#### The Birth (First Visit)

<table>
<thead>
<tr>
<th>Step</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Where was your baby born and who attended the birth?</td>
<td></td>
</tr>
<tr>
<td>10. Did you have an infection (in the uterus) or fever during labour or birth?</td>
<td></td>
</tr>
<tr>
<td>11. Did you bag of water break more than 18 hours before the birth?</td>
<td></td>
</tr>
<tr>
<td>12. Were there any complications during the birth that may have caused injury to the baby?</td>
<td></td>
</tr>
<tr>
<td>13. Did the baby need resuscitation (help to breath) at birth?</td>
<td></td>
</tr>
<tr>
<td>14. How much did the baby weigh at birth?</td>
<td></td>
</tr>
</tbody>
</table>

#### Maternal Obstetric History of Any Previous Birth

<table>
<thead>
<tr>
<th>Step</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Are all of your children still living?</td>
<td></td>
</tr>
<tr>
<td>16. Have you breastfed before?</td>
<td></td>
</tr>
</tbody>
</table>

#### Maternal Medical History (First Visit)

<table>
<thead>
<tr>
<th>Step</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. Do you suffer with diabetes?</td>
<td></td>
</tr>
<tr>
<td>18. During pregnancy, did you have any infectious diseases such as hepatitis B, HIV, syphilis or TB?</td>
<td></td>
</tr>
</tbody>
</table>

#### Present Newborn Period (Every Visit)

<table>
<thead>
<tr>
<th>Step</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>19. Does the baby have any congenital malformation (birth defect)?</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>20. Has the baby received newborn immunizations for polio, TB and hepatitis B?</td>
<td></td>
</tr>
<tr>
<td>21. Do you feel good about your baby and your ability to take care of him/her?</td>
<td></td>
</tr>
<tr>
<td>22. Is your family adjusting to the baby?</td>
<td></td>
</tr>
<tr>
<td>23. Do you feel that breastfeeding is going well?</td>
<td></td>
</tr>
<tr>
<td>24. How often does the baby feed?</td>
<td></td>
</tr>
<tr>
<td>25. Does the baby seem satisfied after feeding?</td>
<td></td>
</tr>
<tr>
<td>26. How often does the baby urinate?</td>
<td></td>
</tr>
<tr>
<td>27. When was the last time the baby passed stool? What was the color/consistency?</td>
<td></td>
</tr>
<tr>
<td><strong>Interim History (Return Visits)</strong></td>
<td></td>
</tr>
<tr>
<td>28. Is your baby having a problem at present? Has he/she had any problem since the last visit? If Yes, ask the follow-up questions under item 7 above</td>
<td></td>
</tr>
<tr>
<td>29. Has your baby received care from another caregiver since the last visit? If yes, ask the follow-up questions under item 8 above.</td>
<td></td>
</tr>
<tr>
<td>30. Have there been any changes in your address or phone number since the last visit?</td>
<td></td>
</tr>
<tr>
<td>31. Have there been any changes in the baby’s habits or behaviors since the last visit?</td>
<td></td>
</tr>
</tbody>
</table>
### LEARNING GUIDE FOR ASSESSMENT OF THE NEWBORN
(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</tr>
</thead>
<tbody>
<tr>
<td>32. Have you been able to care for the baby as discussed at the last</td>
<td></td>
</tr>
<tr>
<td>visit?</td>
<td></td>
</tr>
<tr>
<td>33. Has the baby had any reactions or side effects from immunizations,</td>
<td></td>
</tr>
<tr>
<td>drugs/medications or any care provided since the last visit?</td>
<td></td>
</tr>
</tbody>
</table>

### EXAMINING THE NEWBORN

**Assessment of Overall Appearance/Well-Being (Every Visit)**

1. Again, tell the mother what you are going to do, encourage her to ask
   questions and listen to what she has to say.
2. Wash hands thoroughly with soap and water and dry with a clean dry
cloth or air dry.
3. Wear clean examination gloves if the baby has not been bathed since
   birth, if the cord is touched, or if there is blood, urine and/or stool
   present.
4. Place the baby on a clean warm surface or examine him/her in the
   mother’s arms.
5. Weigh the baby.
6. Count the respiratory rate for one full minute and observe whether
   there is grunting or chest indrawing.
7. Measure the temperature.
8. Observe color, noting any central cyanosis, jaundice or pallor.
10. Observe level of alertness and muscle tone.
11. Observe skin, noting any bruises, cuts and abrasions.

**Head, Face and Mouth, Eyes**

12. Examine head, noting size and shape.
13. Examine face, noting facial features and movements.
15. Examine eyes, noting any swelling, redness, or pus draining from them.

**Chest, Abdomen and Cord, and External Genitalia**

16. Examine chest, noting regularity and symmetry of movements.
17. Examine abdomen and cord.
18. Examine genitals and anus.

**Back and Limbs**
LEARNING GUIDE FOR ASSESSMENT OF THE NEWBORN  
(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</tr>
</thead>
<tbody>
<tr>
<td>19. Examine back, noting any swelling, lesions, dimples or hairy patches.</td>
<td></td>
</tr>
<tr>
<td>20. Examine all limbs.</td>
<td></td>
</tr>
<tr>
<td>21. Decontaminate gloves before removing them, then if disposing of them, place in a plastic bag or leak-proof, covered container; if reusing them, decontaminate them in 0.5% chlorine solution.</td>
<td></td>
</tr>
<tr>
<td>1. Wash hands thoroughly with soap and water and dry them with a clean, dry cloth or allow them to air dry.</td>
<td></td>
</tr>
</tbody>
</table>

**Breastfeeding (Every Visit)**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>23. Help the woman feel relaxed and confident throughout the observation.</td>
<td></td>
</tr>
<tr>
<td>24. Look for signs of good positioning:</td>
<td></td>
</tr>
<tr>
<td>• Mother is comfortable with back and arms supported;</td>
<td></td>
</tr>
<tr>
<td>• Baby’s head and body are aligned and abdomen turned toward mother;</td>
<td></td>
</tr>
<tr>
<td>• Baby’s face is facing breast with nose opposite nipple;</td>
<td></td>
</tr>
<tr>
<td>• Baby’s body is held close to mother;</td>
<td></td>
</tr>
<tr>
<td>• Baby’s whole body is supported.</td>
<td></td>
</tr>
<tr>
<td>25. Look for signs of good attachment:</td>
<td></td>
</tr>
<tr>
<td>• Nipple and areola are drawn into baby’s mouth;</td>
<td></td>
</tr>
<tr>
<td>• Mouth is wide open;</td>
<td></td>
</tr>
<tr>
<td>• Lower lip is curled back below base of nipple.</td>
<td></td>
</tr>
<tr>
<td>26. Look for signs of effective suckling:</td>
<td></td>
</tr>
<tr>
<td>• Slow deep sucks, often with visible or audible swallowing;</td>
<td></td>
</tr>
<tr>
<td>• Baby pauses occasionally.</td>
<td></td>
</tr>
<tr>
<td>27. Look for signs of finishing breastfeed:</td>
<td></td>
</tr>
<tr>
<td>• Baby should release breast him/herself;</td>
<td></td>
</tr>
<tr>
<td>• Feeding may vary in length from 4 to 40 minutes per breast;</td>
<td></td>
</tr>
<tr>
<td>• Breasts are softer at end of feeding.</td>
<td></td>
</tr>
</tbody>
</table>

**Mother-Baby Bonding (Every Visit)**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>28. Look for the following signs of bonding:</td>
<td></td>
</tr>
<tr>
<td>• Mother appears to enjoy physical contact with baby;</td>
<td></td>
</tr>
<tr>
<td>• Mother caresses, talks to, and makes eye contact with baby;</td>
<td></td>
</tr>
<tr>
<td>• Mother responds with active concern to baby’s crying or need for attention.</td>
<td></td>
</tr>
</tbody>
</table>
LEARNING GUIDE: POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE  
(To be completed by Participants)

Place a “ii” in case box if step/task is performed **satisfactorily**, an “X” if it is not performed **satisfactorily**, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory:** Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed:** Step or task not performed by participant during evaluation by facilitator/teacher

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
</table>

**GETTING READY**

1. Prepare the necessary equipment.

2. Greet the woman respectfully and with kindness.

3. Tell the woman (and her support person) what is going to be done, listen to her attentively and respond to her questions and concerns.

3. Provide continual emotional support and reassurance, as possible.

**HISTORY (Ask the following questions if the information is not available on the woman’s record.)**

Personal Information (Every Visit for items followed with an “*”;
First Visit for other items)

1. What is your name and age, and the name of your baby?
   - If the woman is less than 20 years old, determine the circumstances surrounding the pregnancy (e.g., unprotected sex, multiple partners, incest, sexual abuse, rape, sexual exploitation, prostitution, forced marriage or forced sex).

2. What is your address and your phone number?

3. Do you have access to reliable transportation?

4. What sources of income/financial support do you/your family have?

5. How many times have you been pregnant and how many children have you had?

6. How many of your children are still living?
### LEARNING GUIDE FOR POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE

(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Are you having a particular problem at present?* If Yes, find out what the problem is and ask the following additional questions:</td>
<td></td>
</tr>
<tr>
<td>• When did the problem first start?</td>
<td></td>
</tr>
<tr>
<td>• Did it occur suddenly or develop gradually?</td>
<td></td>
</tr>
<tr>
<td>• When and how often does the problem occur?</td>
<td></td>
</tr>
<tr>
<td>• What may have caused the problem?</td>
<td></td>
</tr>
<tr>
<td>• Did anything unusual occur before it started?</td>
<td></td>
</tr>
<tr>
<td>• How does the problem affect you?</td>
<td></td>
</tr>
<tr>
<td>• Are you eating, sleeping and doing other things normally?</td>
<td></td>
</tr>
<tr>
<td>• Has the problem become more severe?</td>
<td></td>
</tr>
<tr>
<td>• Are there other signs and conditions related to the problem?</td>
<td></td>
</tr>
<tr>
<td>If yes, ask what they are.</td>
<td></td>
</tr>
<tr>
<td>• Have you received treatment for the problem? If yes, ask who provided the treatment, what it involved, and whether it helped.</td>
<td></td>
</tr>
<tr>
<td>8. Have you received care from another caregiver?* If Yes, ask the following additional questions:</td>
<td></td>
</tr>
<tr>
<td>• Who provided the care?</td>
<td></td>
</tr>
<tr>
<td>• Why did you seek care from another caregiver?</td>
<td></td>
</tr>
<tr>
<td>• What did the care involve?</td>
<td></td>
</tr>
<tr>
<td>• What was the outcome of this care?</td>
<td></td>
</tr>
<tr>
<td><strong>Daily Habits and Lifestyle (Every Visit for items followed with an “*”; First Visit for other items)</strong></td>
<td></td>
</tr>
<tr>
<td>9. Do you work outside the home?*</td>
<td></td>
</tr>
<tr>
<td>10. Do you walk long distances, carry heavy loads or do physical labour?*</td>
<td></td>
</tr>
<tr>
<td>11. Do you get enough sleep/rest?*</td>
<td></td>
</tr>
<tr>
<td>12. What do you normally eat and drink in a day?*</td>
<td></td>
</tr>
<tr>
<td>13. Do you eat any substances such as dirt or clay?</td>
<td></td>
</tr>
<tr>
<td>14. Do you smoke, drink alcohol or use any other possibly harmful substances?</td>
<td></td>
</tr>
<tr>
<td>15. Whom do you live with?</td>
<td></td>
</tr>
<tr>
<td>16. Has anyone ever prevented you from seeing family or friends, stopped you from leaving your home or threatened your life?</td>
<td></td>
</tr>
<tr>
<td>17. Have you ever been injured, hit or forced to have sex by someone?</td>
<td></td>
</tr>
<tr>
<td>18. Are you frightened of anyone?</td>
<td></td>
</tr>
<tr>
<td><strong>Present Pregnancy and Childbirth (First Visit)</strong></td>
<td></td>
</tr>
</tbody>
</table>
**LEARNING GUIDE FOR POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE**

(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>19. When did you have your baby?</td>
<td></td>
</tr>
<tr>
<td>20. Where did you have your baby and who attended the birth?</td>
<td></td>
</tr>
<tr>
<td>21. Did you have any vaginal bleeding during this pregnancy?</td>
<td></td>
</tr>
<tr>
<td>22. Did you have any complications during this childbirth, such as convulsions (pre-eclampsia/eclampsia), caesarean section or other uterine surgery, vaginal or perineal tears, episiotomy or defibulation?</td>
<td></td>
</tr>
<tr>
<td>23. Were there any complications with the baby?</td>
<td></td>
</tr>
</tbody>
</table>
# Learning Guide for Postpartum Assessment (History and Physical Examination) and Care

(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Present Postpartum Period (Every Visit)</strong></td>
<td></td>
</tr>
<tr>
<td>24. Have you had any heavy bleeding since you gave birth?</td>
<td></td>
</tr>
<tr>
<td>25. What color is your vaginal discharge and how often do you need to change your pad/ cloth?</td>
<td></td>
</tr>
<tr>
<td>26. Have you had any problems with bowel or bladder function (e.g., incontinence, leakage of urine/ feces from vagina, burning on urination, inability to urinate when urge is felt, and constipation)?</td>
<td></td>
</tr>
<tr>
<td>27. Do you feel good about your baby and your ability to take care of her/him? If No, ask the following additional questions:</td>
<td></td>
</tr>
<tr>
<td>* Are you feeling sad or overwhelmed?</td>
<td></td>
</tr>
<tr>
<td>* Are you not eating or sleeping well?</td>
<td></td>
</tr>
<tr>
<td>* Have you been crying or feeling more irritable than usual?</td>
<td></td>
</tr>
<tr>
<td>28. Is your family adjusting to the baby?</td>
<td></td>
</tr>
<tr>
<td>29. Do you feel that breastfeeding is going well?</td>
<td></td>
</tr>
<tr>
<td><strong>Previous Postpartum History (First Visit)</strong></td>
<td></td>
</tr>
<tr>
<td>30. Have you breastfed a baby before? If Yes, ask the following additional questions:</td>
<td></td>
</tr>
<tr>
<td>* For how long did you breastfeed your baby(ies)?</td>
<td></td>
</tr>
<tr>
<td>* Did you have any previous problems breastfeeding?</td>
<td></td>
</tr>
<tr>
<td>31. Did you have any complications, such as convulsions (pre-eclampsia/ eclampsia) or postpartum depression/ psychosis following previous births?</td>
<td></td>
</tr>
<tr>
<td><strong>Contraceptive History (First Visit)</strong></td>
<td></td>
</tr>
<tr>
<td>32. How many more children do you plan to have and how long do you want to wait until the next pregnancy?</td>
<td></td>
</tr>
<tr>
<td>33. Have you used a family planning method before? If Yes, ask the following additional questions:</td>
<td></td>
</tr>
<tr>
<td>* Which method(s) have you used?</td>
<td></td>
</tr>
<tr>
<td>* Did you like the method(s) and why?</td>
<td></td>
</tr>
<tr>
<td>* Which method did you like the most and why? (if more than one method used)</td>
<td></td>
</tr>
<tr>
<td>* Would you like information about other methods?</td>
<td></td>
</tr>
<tr>
<td>34. Are you going to use family planning in the future?</td>
<td></td>
</tr>
<tr>
<td><strong>Medical History (Every Visit for items followed with an “*”; First Visit for other items)</strong></td>
<td></td>
</tr>
<tr>
<td>35. Do you have any allergies?</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>36. Have you been tested for HIV? If yes, ask whether the result was</td>
<td></td>
</tr>
<tr>
<td>positive.</td>
<td></td>
</tr>
<tr>
<td>37. Have you had anemia recently (within the last 3 months)? If yes,</td>
<td></td>
</tr>
<tr>
<td>obtain additional information about signs and symptoms and possible</td>
<td></td>
</tr>
<tr>
<td>cause.</td>
<td></td>
</tr>
<tr>
<td>38. Have you been tested for syphilis? If Yes, ask whether the result</td>
<td></td>
</tr>
<tr>
<td>was positive and if and when and with what she was treated.</td>
<td></td>
</tr>
<tr>
<td>39. Have you had any chronic illness/condition, such as tuberculosis,</td>
<td></td>
</tr>
<tr>
<td>hepatitis, heart disease, diabetes or any other chronic illness?</td>
<td></td>
</tr>
<tr>
<td>40. Have you ever been in hospital or had surgery/an operation?</td>
<td></td>
</tr>
<tr>
<td>41. Are you taking any drugs/medications, including traditional/local</td>
<td></td>
</tr>
<tr>
<td>preparations, herbal remedies, over-the-counter drugs, vitamins and</td>
<td></td>
</tr>
<tr>
<td>dietary supplements*</td>
<td></td>
</tr>
<tr>
<td>42. Have you had a complete series of five tetanus toxoid</td>
<td></td>
</tr>
<tr>
<td>immunizations?</td>
<td></td>
</tr>
<tr>
<td>43. When did you have your last booster of tetanus toxoid?</td>
<td></td>
</tr>
</tbody>
</table>

**Interim History (Return Visits)**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>44. Do you have a problem at present? If yes, ask follow-up questions</td>
<td></td>
</tr>
<tr>
<td>under “Personal Information” item 7, above.</td>
<td></td>
</tr>
<tr>
<td>45. Have you had any problems since your last visit?</td>
<td></td>
</tr>
<tr>
<td>46. Has your address or phone number changed since your last visit?</td>
<td></td>
</tr>
<tr>
<td>47. Have your daily habits or lifestyle (workload, rest, dietary intake)</td>
<td></td>
</tr>
<tr>
<td>changed since your last visit?</td>
<td></td>
</tr>
<tr>
<td>48. Have you received care from another caregiver since your last visit?</td>
<td></td>
</tr>
<tr>
<td>If yes, ask who provided the care, what care was provided and what the</td>
<td></td>
</tr>
<tr>
<td>outcome of care was.</td>
<td></td>
</tr>
<tr>
<td>49. Have you taken drugs/medications prescribed and followed the</td>
<td></td>
</tr>
<tr>
<td>advice/recommendations (plan of care) provided at your last visit?</td>
<td></td>
</tr>
<tr>
<td>50. Have you had any reactions to or side effects from</td>
<td></td>
</tr>
<tr>
<td>immunizations or drugs/medications given at your last visit?</td>
<td></td>
</tr>
</tbody>
</table>

**PHYSICAL EXAMINATION**

**Assessment of General Well-Being (Every Visit)**
<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Observe gait and movements, and behavior and facial expressions.</td>
<td></td>
</tr>
<tr>
<td>• If not normal for the woman’s culture, ask if she has:</td>
<td></td>
</tr>
<tr>
<td>- Been without food or drink for a prolonged period</td>
<td></td>
</tr>
<tr>
<td>- Been taking drugs/medications</td>
<td></td>
</tr>
<tr>
<td>- Had an injury</td>
<td></td>
</tr>
<tr>
<td>2. Observe general cleanliness, noting visible dirt and odor.</td>
<td></td>
</tr>
<tr>
<td>3. Check skin, noting lesions and bruises.</td>
<td></td>
</tr>
<tr>
<td>4. Check conjunctiva for pallor.</td>
<td></td>
</tr>
<tr>
<td><strong>Vital Signs Measurements (Every Visit)</strong></td>
<td></td>
</tr>
<tr>
<td>5. Have the woman remain seated and relaxed.</td>
<td></td>
</tr>
<tr>
<td>6. Measure blood pressure, temperature and pulse.</td>
<td></td>
</tr>
<tr>
<td><strong>Breast Examination (Every Visit)</strong></td>
<td></td>
</tr>
<tr>
<td>7. Explain the next steps in the physical examination to the woman</td>
<td></td>
</tr>
<tr>
<td>and obtain her consent to proceed.</td>
<td></td>
</tr>
<tr>
<td>8. Ask the woman to empty her bladder.</td>
<td></td>
</tr>
<tr>
<td>9. Wash hands thoroughly with soap and water and dry with a clean,</td>
<td></td>
</tr>
<tr>
<td>dry cloth or air dry.</td>
<td></td>
</tr>
<tr>
<td>10. Ask the woman to uncover her body from the waist up, and have her</td>
<td></td>
</tr>
<tr>
<td>lie comfortably on her back.</td>
<td></td>
</tr>
<tr>
<td>11. Check the contours and skin of the breasts, noting dimpling or</td>
<td></td>
</tr>
<tr>
<td>visible lumps, scaliness, thickening, redness, lesions, sores and</td>
<td></td>
</tr>
<tr>
<td>rashes.</td>
<td></td>
</tr>
<tr>
<td>12. Gently palpate breasts, noting tenderness and swelling, and areas</td>
<td></td>
</tr>
<tr>
<td>that are red and hot.</td>
<td></td>
</tr>
<tr>
<td>13. Check nipples, noting pus or bloody discharge, cracks, fissures or</td>
<td></td>
</tr>
<tr>
<td>other lesions, and whether nipples are inverted.</td>
<td></td>
</tr>
<tr>
<td><strong>Abdominal Examination (Every Visit)</strong></td>
<td></td>
</tr>
<tr>
<td>14. Ask the woman to uncover her stomach.</td>
<td></td>
</tr>
<tr>
<td>15. Have her lie on her back with her knees slightly bent.</td>
<td></td>
</tr>
<tr>
<td>16. Look for old or new incisions on the abdomen:</td>
<td></td>
</tr>
<tr>
<td>• If there is an incision (sutures) from cesarean section or other</td>
<td></td>
</tr>
<tr>
<td>uterine surgery, look for signs of infection.</td>
<td></td>
</tr>
<tr>
<td>17. Gently palpate abdomen between umbilicus and symphysis pubis, noting</td>
<td></td>
</tr>
<tr>
<td>size and firmness of uterus.</td>
<td></td>
</tr>
<tr>
<td>18. Check whether bladder is palpable above the symphysis pubis.</td>
<td></td>
</tr>
<tr>
<td><strong>Leg Examination (Every Visit)</strong></td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>19. Grasp one of the woman’s feet with one hand and gently but firmly move the foot upwards toward the woman’s knee, and observe whether this causes pain in the calf.</td>
<td></td>
</tr>
<tr>
<td>20. Repeat the procedure on the other leg.</td>
<td></td>
</tr>
<tr>
<td><strong>Vaginal Examination (Every Visit)</strong></td>
<td></td>
</tr>
<tr>
<td>21. Ask the woman to uncover her genital area and cover or drape her to preserve privacy and modesty.</td>
<td></td>
</tr>
<tr>
<td>22. Ask the woman to separate her legs while continuing to bend her knees slightly.</td>
<td></td>
</tr>
<tr>
<td>23. Turn on the light and direct it toward genital area.</td>
<td></td>
</tr>
<tr>
<td>24. Wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
<td></td>
</tr>
<tr>
<td>25. Put new examination or high-level disinfected gloves on both hands.</td>
<td></td>
</tr>
<tr>
<td>26. Touch the inside of the woman’s thigh before touching any part of her genital area.</td>
<td></td>
</tr>
<tr>
<td>27. Separate labia majora with two fingers, and check labia minora, clitoris, urethral opening, and vaginal opening, noting swelling, tears, episiotomy, defibulation, sores, ulcers, warts, nits, lice, or urine or stool coming from vaginal opening.</td>
<td></td>
</tr>
<tr>
<td>28. Palpate the labia minora, noting swelling, discharge, tenderness, ulcers, fistulas, irregularities and nodules.</td>
<td></td>
</tr>
<tr>
<td>29. Look at perineum, noting scars, lesions, inflammation, or cracks in skin, bruising, and color, odor and amount of lochia.</td>
<td></td>
</tr>
<tr>
<td>30. Immerse both gloved hands briefly in a container filled with 0.5% chlorine solution; then remove gloves by turning them inside out:</td>
<td></td>
</tr>
<tr>
<td>• If disposing of gloves (examination gloves and surgical gloves that will not be reused), place in a plastic bag or leak-proof, covered waste container.</td>
<td></td>
</tr>
<tr>
<td>• If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>31. Wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
<td></td>
</tr>
</tbody>
</table>

**CARE PROVISION**

**Note:** Individualize the woman’s care by considering all information gathered during assessment.

**HIV Counselling**
**LEARNING GUIDE FOR POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE**
*(Some of the following steps/tasks should be performed simultaneously.)*

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. If the woman does not know her HIV status or has not been tested for HIV, provide HIV counselling, covering:</td>
<td></td>
</tr>
<tr>
<td>• Individual risk factors for HIV/AIDS</td>
<td></td>
</tr>
<tr>
<td>• How the virus is transmitted</td>
<td></td>
</tr>
<tr>
<td>• Local myths and false rumors about HIV/AIDS</td>
<td></td>
</tr>
<tr>
<td>• HIV testing and the results</td>
<td></td>
</tr>
<tr>
<td><strong>Breastfeeding and Breast Care</strong></td>
<td></td>
</tr>
<tr>
<td>2. Based on the woman’s breastfeeding history, provide information about the following:</td>
<td></td>
</tr>
<tr>
<td>• Exclusive breastfeeding on demand</td>
<td></td>
</tr>
<tr>
<td>• Comfortable positions for breastfeeding and use of both breasts</td>
<td></td>
</tr>
<tr>
<td>• Adequate rest and sleep</td>
<td></td>
</tr>
<tr>
<td>• Extra fluid and food intake</td>
<td></td>
</tr>
<tr>
<td>• Breast care.</td>
<td></td>
</tr>
<tr>
<td><strong>Complication Readiness</strong></td>
<td></td>
</tr>
<tr>
<td>3. Review the woman’s complication readiness plan with her (or develop one if she does not have one), covering:</td>
<td></td>
</tr>
<tr>
<td>• Arrangements made since last visit</td>
<td></td>
</tr>
<tr>
<td>• Changes</td>
<td></td>
</tr>
<tr>
<td>• Obstacles or problems encountered</td>
<td></td>
</tr>
<tr>
<td><strong>Mother-Baby-Family Relationships</strong></td>
<td></td>
</tr>
<tr>
<td>4. Encourage family involvement with the newborn and assist the family to identify challenges/obstacles and devise strategies for overcoming them.</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
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</tr>
<tr>
<td><strong>Family Planning</strong></td>
<td></td>
</tr>
<tr>
<td>5. Introduce the concepts of birth spacing and family planning:</td>
<td></td>
</tr>
<tr>
<td>• Discuss the woman’s previous experience with and beliefs about</td>
<td></td>
</tr>
<tr>
<td>contraception, as well as her preferences.</td>
<td></td>
</tr>
<tr>
<td>• Discuss the lactational amenorrhea method and its benefits,</td>
<td></td>
</tr>
<tr>
<td>and provide necessary counseling if client chooses this method.</td>
<td></td>
</tr>
<tr>
<td>• Advise on the availability and accessibility of family</td>
<td></td>
</tr>
<tr>
<td>planning services.</td>
<td></td>
</tr>
<tr>
<td><strong>Nutritional Support</strong></td>
<td></td>
</tr>
<tr>
<td>6. Provide advice and counselling about diet and nutrition:</td>
<td></td>
</tr>
<tr>
<td>• All postpartum women should eat a balanced diet and a variety of</td>
<td></td>
</tr>
<tr>
<td>foods rich in iron and vitamin A, calcium, magnesium and vitamin C;</td>
<td></td>
</tr>
<tr>
<td>• Women who are breastfeeding should:</td>
<td></td>
</tr>
<tr>
<td>- Eat two additional servings of staple food per day</td>
<td></td>
</tr>
<tr>
<td>- Eat three additional servings of calcium-rich foods</td>
<td></td>
</tr>
<tr>
<td>- Drink at least eight glasses of fluid (two liters) each day</td>
<td></td>
</tr>
<tr>
<td>(including milk, water and juices)</td>
<td></td>
</tr>
<tr>
<td>- Eat smaller more frequent meals, if necessary</td>
<td></td>
</tr>
<tr>
<td>- Avoid alcohol and tobacco</td>
<td></td>
</tr>
<tr>
<td>- Try to decrease amount of heavy work and increase rest time</td>
<td></td>
</tr>
<tr>
<td><strong>Self-Care and Other Healthy Behaviors</strong></td>
<td></td>
</tr>
<tr>
<td>7. Provide advice and counselling about:</td>
<td></td>
</tr>
<tr>
<td>• Prevention of infection/hygiene</td>
<td></td>
</tr>
<tr>
<td>• Rest and activity</td>
<td></td>
</tr>
<tr>
<td>• Sexual relations and safer sex</td>
<td></td>
</tr>
<tr>
<td><strong>Immunizations and Other Prophylaxis</strong></td>
<td></td>
</tr>
<tr>
<td>8.Give tetanus toxoid (TT) based on woman’s need.</td>
<td></td>
</tr>
<tr>
<td>9. Dispense sufficient supply of iron/folate until next visit and</td>
<td></td>
</tr>
<tr>
<td>counsel the woman about the following:</td>
<td></td>
</tr>
<tr>
<td>• Eat food rich in vitamin C</td>
<td></td>
</tr>
<tr>
<td>• Avoid tea, coffee, and colas</td>
<td></td>
</tr>
<tr>
<td>• Possible side effects and management</td>
<td></td>
</tr>
</tbody>
</table>
LEARNING GUIDE FOR POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE
(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</tr>
</thead>
<tbody>
<tr>
<td>10. Dispense medications as follows:</td>
<td></td>
</tr>
<tr>
<td>- Antimalarial tablets (based on region/population-specific need)</td>
<td></td>
</tr>
<tr>
<td>- Mebendazole (based on region/population-specific need)</td>
<td></td>
</tr>
<tr>
<td>- Vitamin A (based on region/population-specific need)</td>
<td></td>
</tr>
<tr>
<td>- Iodine (based on region/population-specific need)</td>
<td></td>
</tr>
<tr>
<td>Return Visits</td>
<td></td>
</tr>
<tr>
<td>11. Schedule the next postnatal visit:</td>
<td></td>
</tr>
<tr>
<td>- Make sure the woman knows when and where to come.</td>
<td></td>
</tr>
<tr>
<td>- Answer any additional questions or concerns.</td>
<td></td>
</tr>
<tr>
<td>- Advise her to bring her records with her to each visit.</td>
<td></td>
</tr>
<tr>
<td>- Make sure she understands that she can return any time before the next scheduled visit if she has a problem.</td>
<td></td>
</tr>
<tr>
<td>- Review danger signs and key points of the complication readiness plan.</td>
<td></td>
</tr>
<tr>
<td>- Thank the woman for coming.</td>
<td></td>
</tr>
</tbody>
</table>

LEARNING GUIDE: POSTABORTION CARE CLINICAL SKILLS
(To be completed by Participants)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

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<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Assess patient for shock and other life-threatening conditions.</td>
<td></td>
</tr>
<tr>
<td>2. If any complications are identified, stabilize patient and transfer if necessary.</td>
<td></td>
</tr>
</tbody>
</table>
**LEARNING GUIDE FOR POSTABORTION CARE CLINICAL SKILLS**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</tr>
</thead>
<tbody>
<tr>
<td>3. Treat the patient respectfully and with kindness.</td>
<td></td>
</tr>
<tr>
<td>4. Take a reproductive health history.</td>
<td></td>
</tr>
<tr>
<td>5. Perform indicated laboratory tests.</td>
<td></td>
</tr>
</tbody>
</table>

**GETTING READY**

1. Tell the patient what is going to be done and encourage her to ask questions.
2. Tell patient she may feel discomfort during some of the steps and that you will tell her in advance.
3. Check that patient has thoroughly washed her perineal area and has recently emptied her bladder.
4. Determine that required equipment and sterile or high-level disinfected instruments and cannulae are present.
5. Check MVA syringe and charge it (establishes vacuum).
6. Put on apron, wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.
7. Put new examination or sterile or high-level disinfected gloves on both hands.
8. Arrange sterile or high-level disinfected instruments on sterile tray or in high-level disinfected container.

**MVA PROCEDURE**

1. Explain each step of the procedure prior to performing it.
2. Perform bimanual pelvic examination to confirm uterine size, position and degree of cervical dilation.
3. Insert the speculum.
4. Check the vagina and cervix for tissue fragments and remove them.
5. Apply antiseptic solution two times to the cervix (particularly the os) and vagina.
6. Put tenaculum or vulsellum forceps on posterior lip of cervix.
### LEARNING GUIDE FOR POSTABORTION CARE  *CLINICAL SKILLS*

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</tr>
</thead>
<tbody>
<tr>
<td>7. Correctly administer paracervical block (if necessary):</td>
<td></td>
</tr>
<tr>
<td>- Fill a 10 ml syringe with local anesthetic (1% without epinephrine).</td>
<td></td>
</tr>
<tr>
<td>- With tenaculum or vulsellum forceps on the cervix, use slight traction and movement to help identify the area between the smooth cervical epithelium and the vaginal tissue.</td>
<td></td>
</tr>
<tr>
<td>- Insert the needle just under the epithelium and aspirate by drawing the plunger back slightly to make certain the needle is not penetrating a blood vessel.</td>
<td></td>
</tr>
<tr>
<td>- Inject about 2 ml of a 1% local anesthetic just under the epithelium, not deeper than 2–3 mm at 3, 5, 7 and 9 o’clock.</td>
<td></td>
</tr>
<tr>
<td>- Wait a minimum of 2–4 minutes for the anesthetic to have maximum effect.</td>
<td></td>
</tr>
<tr>
<td>8. Gently apply traction on the cervix to straighten the cervical canal and dilate the cervix (if needed).</td>
<td></td>
</tr>
<tr>
<td>9. While holding the cervix steady, insert the cannula gently through the cervix into the uterine cavity until it just touches the fundus (not &gt;10 cm). Then withdraw the cannula slightly away from the fundus.</td>
<td></td>
</tr>
<tr>
<td>10. Attach the prepared syringe to the cannula by holding the end of the cannula in one hand and the syringe in the other. Make sure the cannula does not move forward as the syringe is attached.</td>
<td></td>
</tr>
<tr>
<td>11. Evacuate contents of the uterus by rotating the cannula and syringe from 10 to 12 o’clock and moving the cannula gently and slowly back and forth within the uterine cavity.</td>
<td></td>
</tr>
<tr>
<td>12. If the syringe becomes half full before the procedure is complete, close the valves and detach the cannula from the syringe. Remove only the syringe, leaving the cannula in place:</td>
<td></td>
</tr>
<tr>
<td>- Push the plunger to empty POC into the strainer after measuring volume.</td>
<td></td>
</tr>
<tr>
<td>- Recharge syringe, attach to cannula and pinch valve(s).</td>
<td></td>
</tr>
<tr>
<td>13. Check for signs of completion (red or pink foam, no more tissue in cannula or “gritty” sensation.) Withdraw cannula and MVA syringe gently.</td>
<td></td>
</tr>
<tr>
<td>14. Remove cannula from MVA syringe and push the plunger to empty contents into strainer.</td>
<td></td>
</tr>
<tr>
<td>15. Rinse the POC with water or saline.</td>
<td></td>
</tr>
<tr>
<td>16. Inspect tissue removed from uterus and ensure it is POC.</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
</tr>
<tr>
<td>-----------</td>
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</tr>
<tr>
<td>17. When the signs of a complete procedure are present, remove forceps or tenaculum and speculum.</td>
<td></td>
</tr>
<tr>
<td>18. Perform bimanual examination to check size and firmness of uterus.</td>
<td></td>
</tr>
<tr>
<td>20. If uterus is still soft or bleeding persists, repeat steps 4–11.</td>
<td></td>
</tr>
<tr>
<td><strong>POST-MVA TASKS</strong></td>
<td></td>
</tr>
<tr>
<td>1. Let patient lie on her side in a comfortable position.</td>
<td></td>
</tr>
<tr>
<td>2. Before removing gloves, dispose of waste materials and soak instruments and MVA items in 0.5% chlorine solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
</tbody>
</table>
| 3. Immerse both gloved hands in 0.5% chlorine solution and remove gloves by turning inside out:  
  * If disposing of gloves, place in leak-proof container or plastic bag.  
  * If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes for decontamination. |       |
| 4. Attach used cannula to MVA syringe and flush both with 0.5% chlorine solution. Detach cannula and soak them in chlorine solution for 10 min. |       |
| 5. Empty POC into utility sink, flushable latrine or toilet or container with tight-fitting lid. |       |
| 6. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry. |       |
| 7. Check for amount of bleeding and if cramping has decreased, at least once before discharge. |       |
| 8. Instruct patient regarding postabortion care (e.g., when patient should return to clinic). |       |
| 9. Discuss reproductive goals and, as appropriate, provide family planning. |       |
| 10. Tell her when to return if follow-up is needed and that she can return anytime she has concerns. |       |
LEARNING GUIDE: POSTABORTION FAMILY PLANNING COUNSELING SKILLS

(To be completed by Participants)

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### LEARNING GUIDE FOR POSTABORTION FAMILY PLANNING COUNSELING SKILLS

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>INITIAL INTERVIEW</strong></td>
<td></td>
</tr>
<tr>
<td>1. Greet woman respectfully and with kindness.</td>
<td></td>
</tr>
<tr>
<td>2. Assess whether counselling is appropriate at this time (if not, arrange for her to be counseled at another time).</td>
<td></td>
</tr>
<tr>
<td>3. Assure necessary privacy.</td>
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<tr>
<td>4. Use effective interpersonal communication (two-way communication, active listening, appropriate non-verbal communication). Encourage patient to ask questions.</td>
<td></td>
</tr>
<tr>
<td>5. Obtain biographic information (name, address, etc.).</td>
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<tr>
<td>6. Ask if she was using contraception before she became pregnant. If she was, find out if she:</td>
<td></td>
</tr>
<tr>
<td>- Used the method correctly</td>
<td></td>
</tr>
<tr>
<td>- Discontinued use</td>
<td></td>
</tr>
<tr>
<td>- Had any trouble using the method</td>
<td></td>
</tr>
<tr>
<td>- Has any concerns about the method</td>
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</tr>
<tr>
<td>7. Provide general information about family planning.</td>
<td></td>
</tr>
<tr>
<td>8. Explore any attitudes or religious beliefs that either favor or rule out one or more methods.</td>
<td></td>
</tr>
<tr>
<td>9. Give the woman information about the contraceptive choices available and the risks and benefits of each:</td>
<td></td>
</tr>
<tr>
<td>- Show where and how each is used.</td>
<td></td>
</tr>
<tr>
<td>- Explain how the method works and its effectiveness.</td>
<td></td>
</tr>
<tr>
<td>- Explain possible side effects and other health problems.</td>
<td></td>
</tr>
<tr>
<td>- Explain the common side effects.</td>
<td></td>
</tr>
<tr>
<td>10. Discuss patient’s needs, concerns and fears in a thorough and sympathetic manner.</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
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<tr>
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</tr>
<tr>
<td>11. Help patient begin to choose an appropriate method.</td>
<td></td>
</tr>
<tr>
<td><strong>PATIENT SCREENING</strong></td>
<td></td>
</tr>
<tr>
<td>1. Screen patient carefully to make sure there is no medical condition that would be a problem.</td>
<td></td>
</tr>
<tr>
<td>2. Explain potential side effects and make sure that each is fully understood.</td>
<td></td>
</tr>
<tr>
<td>3. Perform further evaluation (physical examination), if indicated. (Non-medical counselors must refer patient for further evaluation.)</td>
<td></td>
</tr>
<tr>
<td>4. Discuss what to do if the patient experiences any side effects or problems.</td>
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</tr>
<tr>
<td>5. Provide follow-up visit instructions.</td>
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</tr>
<tr>
<td>6. Assure patient that she can return to the same clinic at any time to receive advice or medical attention.</td>
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</tr>
<tr>
<td>7. Ask the patient to repeat instructions.</td>
<td></td>
</tr>
<tr>
<td>8. Answer patient’s questions.</td>
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</tbody>
</table>


LEARNING GUIDE: REPAIR OF VAGINAL SULCUS, PERIURETHRAL and CERVICAL TEARS

- (To be completed by Participants)

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### LEARNING GUIDE FOR REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS

*(Some of the following steps/tasks should be performed simultaneously.)*

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<thead>
<tr>
<th>STEP/TASK</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>GETTING READY</strong></td>
<td></td>
</tr>
<tr>
<td>1. Prepare the necessary equipment.</td>
<td></td>
</tr>
<tr>
<td>2. Tell the woman what is going to be done and encourage her to ask</td>
<td></td>
</tr>
<tr>
<td>questions.</td>
<td></td>
</tr>
<tr>
<td>3. Listen to what the woman has to say.</td>
<td></td>
</tr>
<tr>
<td>4. Make sure that the woman has no allergies to lignocaine or related</td>
<td></td>
</tr>
<tr>
<td>drugs.</td>
<td></td>
</tr>
<tr>
<td>5. Provide emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
<tr>
<td>6. Put on personal protective equipment.</td>
<td></td>
</tr>
<tr>
<td><strong>REPAIR OF VAGINAL SULCUS TEAR (and PERINEAL TEAR)</strong></td>
<td></td>
</tr>
<tr>
<td>9. Ask the woman to position her buttocks toward lower end of bed or</td>
<td></td>
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<tr>
<td>table (use stirrups if available).</td>
<td></td>
</tr>
<tr>
<td>10. Ask an assistant to direct a strong light onto the woman’s perineum.</td>
<td></td>
</tr>
<tr>
<td>11. Cleanse perineum with antiseptic solution.</td>
<td></td>
</tr>
<tr>
<td>12. Draw 10 ml of 0.5% lignocaine into a syringe.</td>
<td></td>
</tr>
<tr>
<td>13. Place two fingers into vagina along proposed incision line.</td>
<td></td>
</tr>
<tr>
<td>14. Insert needle beneath skin for 4–5 cm following same line.</td>
<td></td>
</tr>
<tr>
<td>15. Draw back the plunger of syringe to make sure that needle is not in</td>
<td></td>
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<tr>
<td>a blood vessel.</td>
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</tr>
<tr>
<td>16. Inject lignocaine into vaginal mucosa, beneath skin of perineum and</td>
<td></td>
</tr>
<tr>
<td>deeply into perineal muscle.</td>
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</tr>
<tr>
<td>17. Wait 2 minutes and then pinch incision site with forceps.</td>
<td></td>
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</tbody>
</table>
### LEARNING GUIDE FOR REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS

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<tbody>
<tr>
<td>18. If the woman feels the pinch, wait 2 more minutes and then retest.</td>
<td></td>
</tr>
<tr>
<td>19. Using 2/0 suture, insert suture needle just above (1 cm) the apex of the episiotomy.</td>
<td></td>
</tr>
<tr>
<td>20. Use a continuous suture from apex downward to level of vaginal opening.</td>
<td></td>
</tr>
<tr>
<td>21. At opening of vagina, bring together cut edges.</td>
<td></td>
</tr>
<tr>
<td>22. Bring needle under vaginal opening and out through incision and tie.</td>
<td></td>
</tr>
<tr>
<td>23. If there is a sulcus tear on the other side of the vagina, repeat steps 11–14.</td>
<td></td>
</tr>
<tr>
<td>24. If there is a perineal wound, put the needle through the vaginal mucosa behind the hymenal ring and bring the needle out at the top of the perineal wound.</td>
<td></td>
</tr>
<tr>
<td>25. Use interrupted sutures to repair perineal muscle, working from top of perineal incision downward.</td>
<td></td>
</tr>
<tr>
<td>26. Use interrupted or subcuticular sutures to bring skin edges together.</td>
<td></td>
</tr>
<tr>
<td>27. Wash perineal area with antiseptic, pat dry, and place a sterile sanitary pad over the vulva and perineum.</td>
<td></td>
</tr>
</tbody>
</table>

### REPAIR OF PERIURETHRAL TEAR

1. Place a catheter in the bladder. This will help identify the urethra and keep from accidentally sewing the urethra shut or damaging it.
2. Draw 10 ml of 0.5% lignocaine into a syringe.
3. Position tissue edges together. *(Approximate edges.)*
4. Insert needle (1 cm needle) from the bottom and slightly to one side of the tear to the top of the tear.
5. Draw back the plunger of syringe to make sure that needle is not in a blood vessel.
6. Inject lignocaine as you withdraw.
7. Wait 2 minutes and then pinch site with forceps to check for anesthetic effect.
8. Place interrupted sutures the length of the tear, spaced approximately 1 cm apart for the full length of the tear.
9. If blood continues to ooze from the laceration, press gauze firmly over the wound for 1–2 minutes, until bleeding stops.

### REPAIR OF CERVICAL TEAR
LEARNING GUIDE FOR REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS

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<tbody>
<tr>
<td>1. Clean the vagina and cervix with antiseptic solution.</td>
<td></td>
</tr>
<tr>
<td>2. Grasp both sides of the cervix using ring or sponge forceps (one forceps for each side of tear). Do not use toothed instruments as these can cut the cervix and cause more bleeding.</td>
<td></td>
</tr>
<tr>
<td>3. Place the handles from both forceps in one hand. Pull the handles toward you so that you can more clearly see the tear.</td>
<td></td>
</tr>
<tr>
<td>3. Place the first suture 1 cm above the apex of the tear and tie.</td>
<td></td>
</tr>
<tr>
<td>4. Close with a continuous suture, including the whole thickness of the cervix each time the suture needle is inserted.</td>
<td></td>
</tr>
<tr>
<td>5. If a long section of the cervix is tattered, under-run it with a continuous suture.</td>
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</tr>
</tbody>
</table>

**POST-PROCEDURE TASKS**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Dispose of waste materials (e.g., blood-contaminated swabs) in a leak-proof container or plastic bag.</td>
<td></td>
</tr>
<tr>
<td>2. Decontaminate instruments by placing in a plastic container filled with 0.5% chlorine solution for 10 minutes.</td>
<td></td>
</tr>
<tr>
<td>3. Decontaminate or dispose of syringe and needle:</td>
<td></td>
</tr>
<tr>
<td>• If reusing needle or syringe, fill syringe (with needle attached) with 0.5% chlorine solution and submerge in solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>• If disposing of needle and syringe, flush needle and syringe with 0.5% chlorine solution three times, and then place in a puncture-proof container.</td>
<td></td>
</tr>
<tr>
<td>4. Immerse both gloved hands in 0.5% chlorine solution and remove gloves by turning them inside out:</td>
<td></td>
</tr>
<tr>
<td>• If disposing of gloves, place in leak-proof container or plastic bag.</td>
<td></td>
</tr>
<tr>
<td>• If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes to decontaminate.</td>
<td></td>
</tr>
<tr>
<td>5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.</td>
<td></td>
</tr>
</tbody>
</table>
LEARNING GUIDE: MANUAL REMOVAL OF PLACENTA  
(To be completed by Participants)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

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</tr>
</thead>
<tbody>
<tr>
<td><strong>GETTING READY</strong></td>
<td></td>
</tr>
<tr>
<td>1. Prepare the necessary equipment.</td>
<td></td>
</tr>
<tr>
<td>2. Tell the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.</td>
<td></td>
</tr>
<tr>
<td>3. Provide continual emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
<tr>
<td>4. Start IV of normal saline or Ringer’s Lactate.</td>
<td></td>
</tr>
<tr>
<td>5. Ask the woman to empty her bladder or insert a catheter, if necessary.</td>
<td></td>
</tr>
<tr>
<td>6. Give anesthesia (IV pethidine and diazepam, or ketamine).</td>
<td></td>
</tr>
<tr>
<td>7. Give a single dose of prophylactic antibiotics:</td>
<td></td>
</tr>
<tr>
<td>• Ampicillin 2 g IV PLUS metronidazole 500 mg IV, OR</td>
<td></td>
</tr>
<tr>
<td>• Cefazolin 1 g IV PLUS metronidazole 500 mg IV</td>
<td></td>
</tr>
<tr>
<td>8. Put on personal protective barriers.</td>
<td></td>
</tr>
<tr>
<td><strong>MANUAL REMOVAL OF PLACENTA</strong></td>
<td></td>
</tr>
<tr>
<td>1. Wash hands and forearms thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
<td></td>
</tr>
<tr>
<td>2. Put high-level disinfected or sterile surgical gloves on both hands. (Note: elbow-length gloves should be used, if available.)</td>
<td></td>
</tr>
<tr>
<td>3. Place high-level disinfected drape beneath the woman’s buttocks.</td>
<td></td>
</tr>
<tr>
<td>4. Hold the umbilical cord with a clamp.</td>
<td></td>
</tr>
<tr>
<td>5. Pull the cord gently until it is parallel to the floor and hold firmly.</td>
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</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
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<tr>
<td>--------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>6. Place the fingers of the other hand into the vagina and into the</td>
<td></td>
</tr>
<tr>
<td>uterine cavity, following the direction of the cord until the</td>
<td></td>
</tr>
<tr>
<td>placenta is located. Let go of the cord and use the abdominal</td>
<td></td>
</tr>
<tr>
<td>hand to support/stabilization of the fundus.</td>
<td></td>
</tr>
<tr>
<td>7. Move the fingers of the hand in the uterus laterally until the edge</td>
<td></td>
</tr>
<tr>
<td>of the placenta is located (while continuing to provide counter-</td>
<td></td>
</tr>
<tr>
<td>traction.)</td>
<td></td>
</tr>
<tr>
<td>8. Keeping the fingers tightly together, ease the edge of the hand</td>
<td></td>
</tr>
<tr>
<td>gently between the placenta and the uterine wall, with the palm</td>
<td></td>
</tr>
<tr>
<td>facing the placenta.</td>
<td></td>
</tr>
<tr>
<td>9. Gradually move the hand back and forth in a smooth lateral motion</td>
<td></td>
</tr>
<tr>
<td>until the whole placenta is separated from the uterine wall:</td>
<td></td>
</tr>
<tr>
<td>• If the placenta does not separate from the uterine wall by</td>
<td></td>
</tr>
<tr>
<td>gentle lateral movement of the fingers at the line of cleavage,</td>
<td></td>
</tr>
<tr>
<td>suspect placenta accreta and arrange for surgical intervention.</td>
<td></td>
</tr>
<tr>
<td>10. When the placenta is completely separated:</td>
<td></td>
</tr>
<tr>
<td>• Palpate the inside of the uterine cavity to ensure that all</td>
<td></td>
</tr>
<tr>
<td>placental tissue has been removed.</td>
<td></td>
</tr>
<tr>
<td>• Slowly withdraw the hand from the uterus bringing the placenta</td>
<td></td>
</tr>
<tr>
<td>with it.</td>
<td></td>
</tr>
<tr>
<td>• Provide countertraction to the uterus by pushing it above the</td>
<td></td>
</tr>
<tr>
<td>symphysis pubis in the opposite direction of the hand that is</td>
<td></td>
</tr>
<tr>
<td>being withdrawn.</td>
<td></td>
</tr>
<tr>
<td>• Immediately after removal of placenta massage the uterus</td>
<td></td>
</tr>
<tr>
<td>through the abdomen.</td>
<td></td>
</tr>
<tr>
<td>11. Give oxytocin 20 units in 1 L IV fluid (normal saline or Ringer’s</td>
<td></td>
</tr>
<tr>
<td>lactate) at 60 drops/minute.</td>
<td></td>
</tr>
<tr>
<td>12. Have an assistant massage the fundus to encourage atonic uterine</td>
<td></td>
</tr>
<tr>
<td>contraction.</td>
<td></td>
</tr>
<tr>
<td>13. If there is continued heavy bleeding, give ergometrine 0.2 mg IM</td>
<td></td>
</tr>
<tr>
<td>or give prostaglandins.</td>
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</tr>
<tr>
<td>14. Examine the uterine surface of the placenta to ensure that it is</td>
<td></td>
</tr>
<tr>
<td>complete.</td>
<td></td>
</tr>
<tr>
<td>15. Examine the woman carefully and repair any tears to the cervix or</td>
<td></td>
</tr>
<tr>
<td>vagina, or repair episiotomy.</td>
<td></td>
</tr>
<tr>
<td>16. Clean perineum and place clean pad against perineum.</td>
<td></td>
</tr>
</tbody>
</table>

**POSTPROCEDURE TASKS**
LEARNING GUIDE FOR MANUAL REMOVAL OF PLACENTA  
(Many of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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<tbody>
<tr>
<td>1. Immerse both gloved hands in 0.5% chlorine solution. Remove gloves by turning them inside out.</td>
</tr>
<tr>
<td>• If disposing of gloves, place them in a leak-proof container or plastic bag.</td>
</tr>
<tr>
<td>• If reusing surgical gloves, submerge them in 0.5% chlorine solution for 10 minutes for decontamination.</td>
</tr>
<tr>
<td>2. Wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
</tr>
<tr>
<td>3. Monitor vaginal bleeding and take the woman’s vital signs:</td>
</tr>
<tr>
<td>• Every 15 minutes for 1 hour</td>
</tr>
<tr>
<td>• Then every 30 minutes for 2 hours</td>
</tr>
<tr>
<td>4. Make sure that the uterus is firmly contracted.</td>
</tr>
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</table>

<table>
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<tr>
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<td></td>
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</table>
LEARNING GUIDE: INTERNAL BIMANUAL COMPRESSION OF THE UTERUS
(To be completed by Participants)

Place a “T” in box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

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LEARNING GUIDE FOR INTERNAL BIMANUAL COMPRESSION OF THE UTERUS
(Many of the following steps/tasks should be performed simultaneously.)

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<td>1. Tell the woman (and her support person) what is going to be done,</td>
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</tr>
<tr>
<td>listen to her and respond attentively to her questions and concerns.</td>
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<td>2. Provide continual emotional support and reassurance, as feasible.</td>
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</tr>
<tr>
<td>3. Put on personal protective barriers.</td>
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<tr>
<td><strong>BIMANUAL COMPRESSION</strong></td>
<td></td>
</tr>
<tr>
<td>1. Wash hands thoroughly with soap and water and dry with a clean</td>
<td></td>
</tr>
<tr>
<td>cloth or air dry.</td>
<td></td>
</tr>
<tr>
<td>2. Put high-level disinfected or sterile surgical gloves on both hands.</td>
<td></td>
</tr>
<tr>
<td>3. Clean the vulva and perineum with antiseptic solution.</td>
<td></td>
</tr>
<tr>
<td>4. Insert one hand into the vagina and form a fist.</td>
<td></td>
</tr>
<tr>
<td>5. Place the fist into the anterior vaginal fornix and apply pressure</td>
<td></td>
</tr>
<tr>
<td>against the anterior wall of the uterus.</td>
<td></td>
</tr>
<tr>
<td>6. Place the other hand on the abdomen behind the uterus.</td>
<td></td>
</tr>
<tr>
<td>7. Press the abdominal hand deeply into the abdomen and apply pressure</td>
<td></td>
</tr>
<tr>
<td>against the posterior wall of the uterus.</td>
<td></td>
</tr>
<tr>
<td>8. Maintain compression until bleeding is controlled and the uterus</td>
<td></td>
</tr>
<tr>
<td>contracts.</td>
<td></td>
</tr>
<tr>
<td><strong>POST-PROCEDURE TASKS</strong></td>
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<td>container or plastic bag.</td>
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<td>- If reusing surgical gloves, submerge them in 0.5% chlorine solution</td>
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<tr>
<td>for 10 minutes for decontamination.</td>
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</table>
### LEARNING GUIDE FOR INTERNAL BIMANUAL COMPRESSION OF THE UTERUS

(Many of the following steps/tasks should be performed simultaneously.)

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<tr>
<td>2. Wash hands thoroughly with soap and water and dry with a clean cloth or air dry.</td>
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</tr>
<tr>
<td>3. Monitor vaginal bleeding and take the woman’s vital signs:</td>
<td></td>
</tr>
<tr>
<td>• Every 15 minutes for 1 hour</td>
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<tr>
<td>• Then every 30 minutes for 2 hours</td>
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</tr>
<tr>
<td>4. Make sure that the uterus is firmly contracted.</td>
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</table>
**LEARNING GUIDE: COMPRESSION OF THE ABDOMINAL AORTA**  
(To be completed by Participants)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

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<td><strong>GETTING READY</strong></td>
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<tr>
<td>1. Tell the woman what is going to be done, listen to her, and respond attentively to her questions and concerns.</td>
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</tr>
<tr>
<td>2. Provide continual emotional support and reassurance, as feasible.</td>
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</tr>
<tr>
<td><strong>Note</strong>: Steps 1 and 2 should be implemented at the same time as the following steps.</td>
<td></td>
</tr>
<tr>
<td><strong>COMPRESSION OF THE ABDOMINAL AORTA</strong></td>
<td></td>
</tr>
<tr>
<td>1. Place a closed fist just above the umbilicus and slightly to the left.</td>
<td></td>
</tr>
<tr>
<td>2. Apply downward pressure over the abdominal aorta directly through the abdominal wall.</td>
<td></td>
</tr>
<tr>
<td>3. With the other hand, palpate the femoral pulse to check the adequacy of compression:</td>
<td></td>
</tr>
<tr>
<td>• If the pulse is palpable during compression, the pressure is inadequate;</td>
<td></td>
</tr>
<tr>
<td>• If the pulse is not palpable during compression, the pressure is adequate.</td>
<td></td>
</tr>
<tr>
<td>4. Maintain compression until bleeding is controlled.</td>
<td></td>
</tr>
<tr>
<td><strong>POST-PROCEDURE TASKS</strong></td>
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<td>1. Monitor vaginal bleeding and take the woman’s vital signs:</td>
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<tr>
<td>• Then every 30 minutes for 2 hours.</td>
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</tr>
<tr>
<td>2. Palpate the uterine fundus to ensure that the uterus remains firmly contracted.</td>
<td></td>
</tr>
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</table>
LEARNING GUIDE: NEWBORN RESUSCITATION
(To be completed by Participants)

Place a “ü” in case box if task/activity is performed **satisfactorily**, an “X” if it is **not** performed **satisfactorily**, or N/O if not observed.

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**LEARNING GUIDE FOR NEWBORN RESUSCITATION**
(Many of the following steps/tasks should be performed simultaneously.)

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</table>

**GETTING READY**

*Note:* Newborn resuscitation equipment should be available and ready for use at all births. Hands should be washed and gloves worn before touching the newborn.

1. Quickly dry and wrap or cover the newborn, except for the head, face and upper chest.
2. Place the newborn on its back on a clean, warm surface.
3. Tell the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.
4. Provide continual emotional support and reassurance, as feasible.

**RESUSCITATION USING BAG AND MASK**

1. Position the head in a slightly extended position to open the airway.

2. Clear the airway by suctioning **the mouth first** and **then the nose:**
   - Introduce catheter no more than 5 cm into the newborn’s mouth and suction while withdrawing catheter.
   - Introduce catheter no more than 3 cm into each nostril and suction while withdrawing catheter.
   - Do not suction deep in the throat because this may cause the newborn’s heart to slow or breathing to stop.
   - Be especially thorough with suctioning if there is blood or meconium in the newborn’s mouth and/or nose.
   - If the newborn is still not breathing, start ventilating.
<table>
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<tbody>
<tr>
<td>3. Quickly recheck the position of the newborn’s head to make sure that the neck is slightly extended.</td>
<td></td>
</tr>
<tr>
<td>4. Place the mask on the newborn’s face so that it covers the chin, mouth and nose.</td>
<td></td>
</tr>
<tr>
<td>5. Form a seal between the mask and the newborn’s face.</td>
<td></td>
</tr>
<tr>
<td>6. Squeeze the bag with two fingers only or with the whole hand, depending on the size of the bag.</td>
<td></td>
</tr>
<tr>
<td>7. Check the seal by ventilating two times and observing the rise of the chest.</td>
<td></td>
</tr>
<tr>
<td>8. If the newborn’s chest is rising:</td>
<td></td>
</tr>
<tr>
<td>• Ventilate at a rate of 40 breaths/minute.</td>
<td></td>
</tr>
<tr>
<td>• Observe the chest for an easy rise and fall.</td>
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</tr>
<tr>
<td>9. If the newborn’s chest is not rising:</td>
<td></td>
</tr>
<tr>
<td>• Check the position of the head again to make sure the neck is slightly extended.</td>
<td></td>
</tr>
<tr>
<td>• Reposition the mask on the newborn’s face to improve the seal between mask and face.</td>
<td></td>
</tr>
<tr>
<td>• Squeeze the bag harder to increase ventilation pressure.</td>
<td></td>
</tr>
<tr>
<td>• Repeat suction of mouth and nose to remove mucus, blood or meconium from the airway.</td>
<td></td>
</tr>
<tr>
<td>10. Ventilate for 1 minute and then stop and quickly assess if the newborn is breathing spontaneously.</td>
<td></td>
</tr>
<tr>
<td>11. If breathing is normal (30–60 breaths/minute) and there is no indrawing of the chest and no grunting:</td>
<td></td>
</tr>
<tr>
<td>• Put in skin-to-skin contact with mother.</td>
<td></td>
</tr>
<tr>
<td>• Observe breathing at frequent intervals.</td>
<td></td>
</tr>
<tr>
<td>• Measure the newborn’s axillary temperature and rewarm if temperature is less than 36°C.</td>
<td></td>
</tr>
<tr>
<td>• Keep in skin-to-skin contact with mother if temperature is 36°C or less.</td>
<td></td>
</tr>
<tr>
<td>• Encourage mother to begin breastfeeding.</td>
<td></td>
</tr>
<tr>
<td>12. If newborn is breathing but severe chest indrawing is present:</td>
<td></td>
</tr>
<tr>
<td>• Ventilate with oxygen, if available.</td>
<td></td>
</tr>
<tr>
<td>• Arrange immediate transfer for special care.</td>
<td></td>
</tr>
<tr>
<td>13. If there is no gasping or breathing at all after 20 minutes of ventilation, stop ventilating.</td>
<td></td>
</tr>
</tbody>
</table>

**POSTPROCEDURE TASKS**

1. Dispose of disposable suction catheters and mucus extractors in a leak-proof container or plastic bag. Catheters and mucus extractors that are not disposable should be filled with 0.5% chlorine solution and soaked for 10 minutes.
LEARNING GUIDE FOR NEWBORN RESUSCITATION
(Many of the following steps/tasks should be performed simultaneously.)

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<tr>
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</thead>
<tbody>
<tr>
<td>2. For reusable catheters and mucus extractors:</td>
<td></td>
</tr>
<tr>
<td>- Place in 0.5% chlorine solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>- Wash in water and detergent.</td>
<td></td>
</tr>
<tr>
<td>- Use a syringe to flush catheters/tubing.</td>
<td></td>
</tr>
<tr>
<td>- Boil or disinfect in an appropriate chemical solution.</td>
<td></td>
</tr>
<tr>
<td>3. Take the valve and mask apart and inspect for cracks and tears.</td>
<td></td>
</tr>
<tr>
<td>4. Wash the valve and mask and check for damage first with 0.5% chlorine solution and then with water and detergent and rinse. (Some types of masks may be soaked for 10 minutes in chlorine solution without damage.)</td>
<td></td>
</tr>
<tr>
<td>5. Select a method of sterilization or high-level disinfection:</td>
<td></td>
</tr>
<tr>
<td>- Silicone and rubber bags and patient valves can be boiled for 10 minutes, autoclaved at 136° C or disinfected in an appropriate chemical solution (this may vary depending on the instructions provided by the manufacturer).</td>
<td></td>
</tr>
<tr>
<td>6. Wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
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</tr>
<tr>
<td>7. After chemical disinfection, rinse all parts with clean water and allow to air 8dry.</td>
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</tr>
<tr>
<td>8. Reassemble the bag.</td>
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<tr>
<td>9. Test the bag to make sure that it is functioning:</td>
<td></td>
</tr>
<tr>
<td>- Block the valve outlet by making an airtight seal with the palm of your hand and observe if the bag re-inflates when the seal is released.</td>
<td></td>
</tr>
<tr>
<td>- Repeat the test with the mask attached to the bag.</td>
<td></td>
</tr>
</tbody>
</table>

DOCUMENTING RESUSCITATION PROCEDURES

1. Record the following details:
   - Condition of the newborn at birth
   - Procedures necessary to initiate breathing
   - Time from birth to initiation of spontaneous breathing
   - Clinical observations during and after resuscitation measures
   - Outcome of resuscitation measures
   - In case of failed resuscitation measures, possible reasons for failure
   - Names of providers involved
LEARNING GUIDE: KANGAROO MOTHER CARE
(To be completed by Participants)

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| LEARNING GUIDE FOR KANGAROO MOTHER CARE | 
| (Many of the following steps/tasks should be performed simultaneously.) |
| STEP/TASK | CASES |
| **GETTING READY** | |
| 1. Prepare the necessary equipment. | |
| 2. Explain to the mother (and her support person) the benefits of KMC: | |
| • Newborn’s breathing becomes more regular and stable. | |
| • Newborn’s temperature becomes normal and stable. | |
| • Newborn’s immunity is improved. | |
| • Infections of newborn are reduced. | |
| • Newborn breastfeeds better and gains weight faster. | |
| • Mother/parent becomes more attached to her baby emotionally. | |
| • Mother/parent feels more confident caring for small, fragile newborn. | |
| 3. Tell the mother (and her support person) what is going to be done. | |
| 4. Listen to her/their questions and respond attentively. | |
| 5. Place baby between mothers breasts: | |
| • Mother and newborn chest-to-chest | |
| • Newborn’s feet below mother’s breasts | |
| • Newborn’s hands above mother’s breasts | |
| • Place cloth between baby’s legs to collect urine and stool | |
### LEARNING GUIDE FOR KANGAROO MOTHER CARE
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<td>6. Wrap the mother and newborn together:</td>
<td></td>
</tr>
<tr>
<td>• Use a long piece of cloth.</td>
<td></td>
</tr>
<tr>
<td>• Put the center of the cloth over the newborn’s and mother’s chest.</td>
<td></td>
</tr>
<tr>
<td>• Wrap both ends of the cloth around the mother, under her arms, to her back.</td>
<td></td>
</tr>
<tr>
<td>• Cross cloth ends behind mother and tie ends in secure knot.</td>
<td></td>
</tr>
<tr>
<td>• If the cloth is too long, bring both ends of cloth to front and tie the ends in a knot under the newborn.</td>
<td></td>
</tr>
<tr>
<td>• Wrap should be tight so the newborn does not slip out when the mother stands, but leaves room for the newborn to breathe.</td>
<td></td>
</tr>
<tr>
<td>• Support the newborn’s head by pulling the wrap up to just under the newborn’s ear.</td>
<td></td>
</tr>
<tr>
<td>7. Have the mother put on a loose blouse or dress over the baby.</td>
<td></td>
</tr>
<tr>
<td>8. Explain to the mother/caretaker:</td>
<td></td>
</tr>
<tr>
<td>• That to sleep, she should keep her upper body raised (about 30 degrees) to keep the baby in a head-up position</td>
<td></td>
</tr>
<tr>
<td>• That to breastfeed, she should loosen cloth and feed newborn on demand, at least every 2 hours</td>
<td></td>
</tr>
<tr>
<td>• To use KMC continuously</td>
<td></td>
</tr>
<tr>
<td>• That another family member may replace her for skin-to-skin contact for short periods of time</td>
<td></td>
</tr>
<tr>
<td>• To continue KMC until the baby weighs at least 2500 grams</td>
<td></td>
</tr>
</tbody>
</table>
Handout IX – ROLE PLAY

Role Play 1.1: Breastfeeding the Low Birth Weight Baby

Participant Directions

Purpose
This role play is to help participants practice counselling skills to help a mother breastfeed and care for her low birth weight baby.

Preparation

Role Playing and Observation
Everyone will participate either by playing a role or by observing. During the role play, observers should think about what they see and prepare to participate in the discussion.

Discussion of the Role Play
After the role play, the group will discuss what happened. Think about how you would answer the discussion questions for each role play.

Participant Roles

Health worker: The health worker is experienced in the care of newborn babies and has good interpersonal communication skills.

Mother: Chimwemwe is a mother from the town where the health centre is located. She is 20 years old and this is her first baby.

Situation
Chimwemwe gave birth to a low birth weight baby four days ago at home and was assisted by a skilled attendant who helped her start Kangaroo Mother Care. Her family is supporting and helping her to do this. The health worker visits Chimwemwe at home today. Chimwemwe says: “The baby is not strong enough to breastfeed well. Should I give the baby a bottle?”

Discussion Questions
1. How did the health worker show respect and kindness to this family?
2. What key health messages did the health worker give?
3. What actions did the health worker take to help Chimwemwe?
4. How often should the health worker see Chimwemwe’s baby for follow-up?

Handout X – CASE STUDY

Mrs Chisenga’s one-week-old baby girl with a birth weight of 1800g, at 32 weeks gestation, has lost 150g, and is breastfeeding about 6 times/day. She is not on any supplemental feeds.

a) What are the possible problems?

There is no problem, this is normal physiological weight loss of 10%. It is expected that a newborn baby will lose 10% of birth weight.

b) How would you proceed?
• Reassure the mother that this is normal and that the baby will gain weight
• Increases the feeding from 6-8 times
• Measure intake of feed to ensure the Mrs Chisenga's baby gets enough.

AREAS TO TAKE NOTE
Table of contents to be reviewed as we have added one module
Learning guides to be put just after each module, before references so that it is really modular