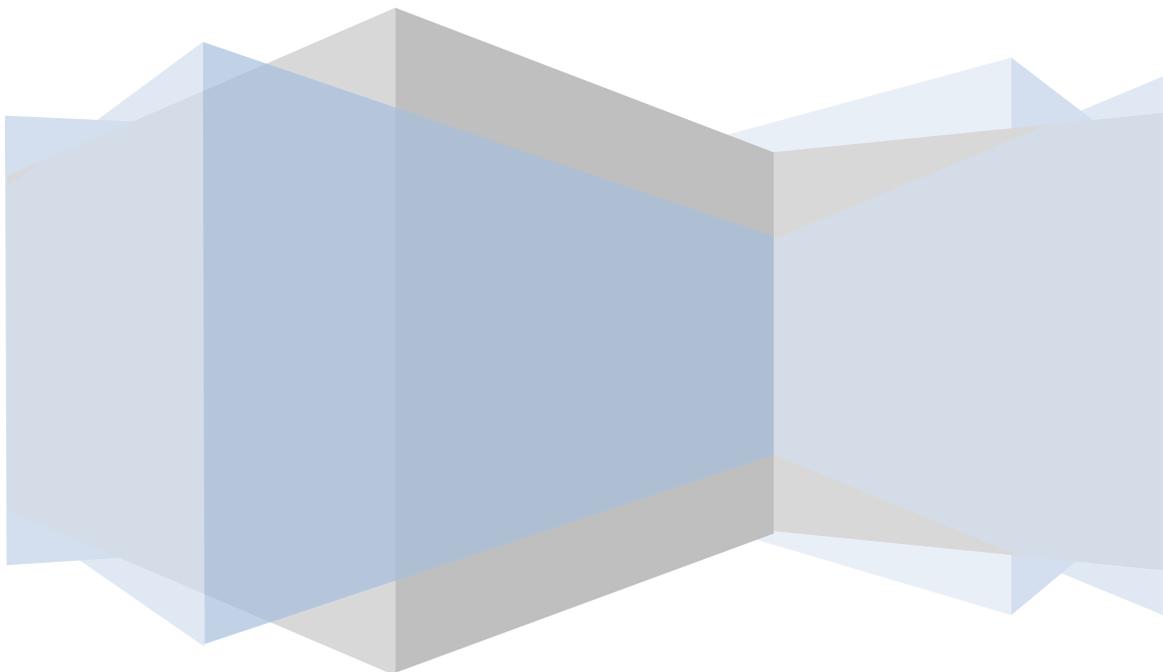


**Ministry of Health**

# **Labor and Delivery Protocol**



**July 2015**



## Contents

Acronyms .....	3
Acknowledgement .....	4
INTRODUCTION.....	5
Infection Control.....	5
Preventing infection in clinical settings .....	6
High-level disinfection: .....	6
Universal precautions .....	7
Preparation of kits: .....	8
Labor: .....	12
Partograph .....	15
Second stage of labor .....	17
Third stage of labor.....	19
Other Procedures during Labor and Delivery.....	24
Steps in performing episiotomy .....	24
Episiotomy and Tear Repair/Suturing.....	25
Episiotomy Care:.....	25
Retained Placenta.....	27
Procedure for manual removal of placenta .....	27
Retained placenta with closed cervix .....	29
Placenta accreta.....	29
Tear of Perineum, Vaginal or Cervix .....	30
Other procedures: .....	30
Artificial Rupture of Membrane- only for augmentation .....	31
Management of Fetal Distress.....	32
Some possible causes of fetal distress .....	32
Obstructed /Labor Complication .....	33
Cord Presentation .....	35
Cord Prolapse:.....	36
Breech .....	37
Shoulder Dystocia .....	37

Multiple Pregnancy.....	38
Pre-Term .....	39
Assisted Deliveries .....	39
Emergency Obstetric Care .....	41
BEONC Components .....	41
CEONC Components .....	42

## Acronyms

3TC	Lamivudine
ANC	Antenatal Care
ANC	Antenatal Care
APGAR	Appearance Pulse Grimace Activities Reflex
ARM	Artificial Rupture of Membrane
ART	Antiretroviral Therapy
BEmONC	Basic Emergency Obstetric and Neonatal Care
BP	Blood Pressure
C/S	Caesarian Section
CEmONC	Comprehensive Emergency Obstetric and Neonatal Care
CPD	Cephalo-Pelvic Disproportion
EVF	Efavirenz
FHR	Fetal Heart Rate
GYN	Gynecology
HIV	Human Immuno-Deficiency Virus
HLD	High Level Disinfection
IM	Intramuscular
IUFD	Intrauterine Fetal Death
IUGR	Intrauterine Growth Restriction
IV	intravenous
LMP	Last Menstrual Period
Mg	Milligram
MgSO <sub>4</sub>	Magnesium Sulfate
ml/hr	milliliters/hour
mls	milliliters
MVA	Manual Vacuum Aspirator
NS	Normal Saline
PICT	Provided Initiated Counseling and Test
R/L	Ringer's Lactate
RTI	Reproductive Tract infection
SPO <sub>2</sub>	Peripheral capillary oxygen saturation
TDF	Tenofovir
VE	Vaginal Examination

## Acknowledgement

The completion of the task to review protocols and job aides for maternal, newborn, child and adolescent health (MNCAH) is an important accomplishment towards improving the quality of care at health facility and community levels throughout Liberia.

The Ministry of Health (MOH) extends its deepest thanks and appreciation to members of the Reproductive Health Technical Committee (RHTC) for their immense contributions and commitment to ensure completion of this work.

Special recognition and appreciation go to the following institutions that were fully involved with the development of these technical materials. They include:

1. C.B Dunbar Maternity Hospital
2. Clinton Health Access Initiative (CHAI)
3. County Health Teams
4. Relevant Program Divisions of Ministry of Health (MOH)
5. International Medical Corps
6. Jhpiego
7. Liberia Prevention of Maternal Mortality
8. Save the Children
9. United Nation Children Fund (UNICEF)
10. United Nations Population Fund (UNFPA)
11. United Nations Women (UNW)
12. World Health Organization (WHO)

Special thanks go to the H4+ Partnership for their financial support during the revision of these crucial documents.

Health workers are strongly encouraged to use these technical materials as references and guides at health facilities and in the community so as to improve services in maternal, newborn, child and adolescent care.

Francis N. Kateh, MD, MHA, MPF, HFL/FLCP  
Deputy Minister, Chief Medical Officer – R.L

## INTRODUCTION

This protocol will address all of the essential elements of ensuring that labor and delivery are done safely and are technically correct. The aim of the intervention outlined in this protocol is to ensure that both mother and child survive and are healthy in an enabling and safe environment.

## Infection Control

### **This component looks into:**

Initiation of the adherence of universal precaution. This applies to service provider, client, working environment for the prevention of infection/cross infection. It includes areas of hand washing, High Level Disinfectant (HLD)/sterility and decontamination.

### **Labor Room Package:**

The items listed below are required for the daily cleaning up of the labor and delivery rooms for the provision of safe and clean working environment.

- Antiseptics – Disinfectants
- Brooms (soft/hard/)
- Scrubbing brushes
- Buckets (for cleaning)
- Mop and the bucket (mopping set)
- Towels
- Heavy duty gloves
- Plastic sheets for delivery bed
- Rain boots
- Gloves – non sterile
- Sharps boxes
- Plastic container with plastic liner and foot pedals to dispose placenta
- Plastic container with plastic liner and foot pedals for medical wastes (gauze, cotton balls, etc) (observe color coding for containers)
- One leak proof container to dispose of soiled linen
- Protective gears (Clean plastic or rubber apron and face shields, masks and goggles)
- 4 buckets with cover ( for decontamination)
- Boots (only for use in delivery room)
- Chlorine 0.5% - for surfaces and soiled materials
- Chlorine 0.05% - for handwashing
- PPE (both basic and Advanced)
- Soap bars
- Clorax (bleach)
- Sprayer

### **Daily routine cleaning includes:**

- Using disinfectant (Chlorine – 0.05%) – for mopping of the floor and dusting of the tables and other surfaces.
  - In the delivery room (Chlorine – 0.05%) - Mop the floor and the delivery bed using

antiseptic solution after every delivery.

- Decontamination (where sterilization/autoclaving is not feasible)
- Use the three buckets for decontamination.
  - First bucket with clorax (bleach)
    - 0.5% ( the dilution of Clorax (bleach) is one part of Clorax into 9 parts of water)
  - Second bucket with soapy water
  - Third bucket with clean water
  - Four (4) buckets should always be prepared for decontamination
- When you run out of sterile delivery kit and you have a woman to deliver, you should decontaminate the used delivery instruments following the steps of the three buckets. After rinsing the decontaminated instruments in the clean water in the third bucket, take all the instruments and place them in the fourth bucket containing clean mixed water with a fresh clorax(bleach) solution 0.5%, and leave for twenty minutes to air dry. Take out the instruments that are now air dried and use for conducting the delivery. The instruments are considered high level disinfected (HLD).

### Preventing infection in clinical settings

**Wash your hands** before and after caring for another person. It is the most important way to kill germs on your skin. You need to wash your hands even more thoroughly and for a longer time:

- before and after helping someone give birth;
- before and after touching a wound or broken skin;
- before and after giving an injection, or cutting or piercing a body part;
- after touching blood, urine, stool, mucus, or fluid from the vagina;
- After removing gloves. Use soap or other disinfectant to remove dirt and germs.



Count to 30 as you scrub your hands all over with the soapy lather. Then rinse, using running water. Do not reuse water.

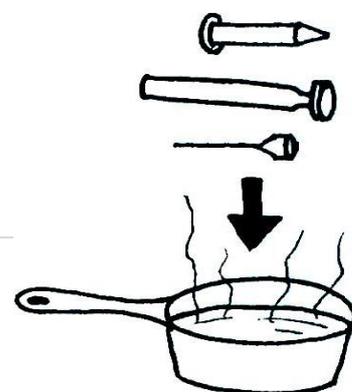
**Disinfect or sterilize equipment and instruments.** Cleaning instruments and equipment to get rid of nearly all the germs is called high-level disinfection. Instruments must first be washed and then disinfected if they are to be used to:

- cut or pierce skin;
- give an injection;
- cut the cord during childbirth;
- Examine the vagina, especially during or after childbirth, a miscarriage, or an induced abortion.
- Perform any trans- cervical procedure.

### High-level disinfection:

#### THREE STEPS

1. **Soaking.** Soak instruments for 10 minutes. If possible, use a 0.5% solution of clorax (bleach) (see below). Soaking



instruments in bleach solution will help protect you from infection when cleaning them. **Washing.** Wash all instruments with soapy water and a brush until each one looks very clean, and rinse them with clean water. Be careful not to cut yourself on sharp edges or points. Wear gloves when washing instruments; Use heavy duty gloves.

2. **Disinfecting.** Steam, boil or soak instruments for 20 minutes.
  - To steam them, you need a pot with a lid. The water does not need to cover the instruments, but use enough water to keep steam coming out of the sides of the lid for 20 minutes. Do not overload. No instruments should protrude above the rim of the pot.
  - To boil them, you do not need to fill the whole pot with water. But you should make sure the water covers everything in the pot for the entire time. Put a lid on the pot.
  - Soak instruments in 0.5% chlorine/clorax solution for 20 minutes; make sure the instruments are completely immersed.

For both steaming and boiling, start timing the 20 minutes after the water with the instruments has started boiling. Do not add anything new to the pot once you begin to count.

#### **How to make a disinfection solution of 0.5% bleach**

- If the label on your clorax or bleach says:
  - 2% available clorax (bleach) - use 1 part bleach to 3 parts water
  - **5% available clorax (bleach) - use 1 part bleach to 9 parts water**
  - 10% available clorax (bleach) - use 1 part bleach to 19 parts water
  - 15% available clorax (bleach) - use 1 part bleach to 29 parts water
- Mix just enough solution for one day. Do not use it again the next day. It will no longer be strong enough to kill germs. However, it can also be used for cleaning the delivery room and surfaces.

### **Universal precautions**

The same precautions against spreading infection - universal precautions - should be used with all patients whether they appear sick or well, and whether or not you know their HIV or other infection status.

A number of infections can be spread from patient to health care provider or to other patients if basic precautions are not followed. Hepatitis B and C viruses and HIV are incurable infections that are easily transmitted by reuse of contaminated sharps. Because some infections are often asymptomatic, it is not possible to know which patients have an infection. For this reason, universal precautions should be followed for all patients regardless of known or suspected infection status.

Use precautions with every person you see. Every time you have to cut the skin or touch body fluids, follow the advice below. This includes any time you must give an injection, stitch skin or tissue, help with childbirth, or examine a woman's vagina.

If you follow these rules, there is reduced risk of spreading infection from one person to others, or of being infected yourself.

- Avoid touching body fluids, such as blood, vomitus, stool and urine with your bare hands.
- Do not share anything that touches blood. This includes razors, needles, any sharp instruments that cut the skin, and toothbrushes. If you must share such things, disinfect them before another person uses them.
- Keep wounds covered with a clean bandage or cloth.
- Use gloves to handle dirty bandages, cloths, blood, vomit, urine or stool.
- Wash your hands with 0.05% chlorine/clorax solution or soap and water after changing dirty bedding and clothes.
- Keep bedding and clothing clean. This helps keep sick people comfortable and helps prevent skin problems. Handle clothing or sheets stained with blood, diarrhoea or other body fluids carefully. Separate from other laundry for washing. Soak all used laundry in 0.5% bleach solution for at least 10 minutes before washing. Dry laundry thoroughly in the sun if possible or iron after drying.

### **Preparation of Delivery Kits:**

All the time in the labor/delivery room you have to make sure that there are sterile delivery trays/kits.

#### **1. Delivery kit contents:**

- 2 scissors (one for cutting the cord and another for cutting the child's cord after clamping/tying)
- Sanitary pad
- Artery forceps/clamps (2)
- Ring or dressing forceps (2)
- Cord tie/cord clamps
- Cotton balls
- Gloves sterile/GYN
- Gauze (pieces)
- Kidney basin/ Dish
- Medium galipot
- drapes (2)
- drapes for wrapping the tray before sterilization
- Surgical tray to arrange instruments prior to sterilization

#### **2. Episiotomy/tear Repair Kit contents**

- Episiotomy scissor
- Suture scissor
- Hemostat 2 clamps
- Tissue forceps
- Dissecting forceps
- Ring/dressing forceps
- Needle holder
- Kidney dish or small surgical tray to arrange the instruments before sterilization
- Cotton wool

- Gauze (pieces)
- Bowl or medium galipot for the swabs
- Field/green sheet
- Sterile GYN and surgical gloves
- Absorbable Sutures (size 2.0, 0)
- Lidocaine (0.5/1%)
- 5ml/10ml syringe with needle

NOTE 1: THERE SHOULD NEVER BE ANY VAGINAL PACKING EXCEPT FOR CERVICAL TEAR. Put two sanitary pads OVER the vagina when referring the patient.

NOTE 2: FOR CERVICAL TEAR, COMPRESS BLEEDER WITH STERILE GAUZE OR CLEAN SANITARY PAD. CLEARLY INDICATE THIS ON THE REFERRAL NOTE.

### 3. Speculum pack contents:

- Vaginal speculum (small medium and large sizes)
- Surgical tray
- Green draper to wrap the tray before sterilization

### 4. Neonatal Resuscitation Kit:

- Penguin Suction
- Delee trap
- Nasal tube for suction
- Foot suction machine
- Ampu bag
- Oxygen source
- Neonatal air way
- Warmer
- Blankets
- Socks and hats
- Timer
- Stethoscope
- Tracheal tubes
- Glove
- Etc.

### 5. MVA Kit

MVA Set (syringes plunger, Uterine Cannulae of different sizes (4-12) and adapter)

- speculum , small , medium and large
- Ring forceps
- Ternaculum forceps,
- Applicator stick
- Lidocaine
- 5ml syringe and needle
- Sterile gauze

- Sterile gloves
- Drapes
- Swab bowl
- Povidine /Chloroxidine solution
- Uterine sound
- Hegar's dilators

Clean the kit using the decontamination procedure (3 buckets system) and follow by high level disinfection (HLD) and keep in a clean covered surgical tray and label name of the kit when the decontamination took place.

#### **6. Vacuum Extraction Set/Palm vacuum preferably)**

- Manual vacuum extractor (e.g KIWI/Ventous, )
- Drapes
- Surgical tray
- Cotton wool
- Gauze pieces

These are cleaned and wrapped in two drapes and sterilized:

Note: For any instrumental delivery (vacum extraction) make sure episiotomy kit is available.

7. Sterile gauze sterilized in the drums
8. Sterilized cotton balls in the drums
9. Non sterile equipment and supplies
  - Ambu bag
  - Apron
  - Baby weighing scale
  - Blankets and socks
  - Box of Gloves sterile, Non sterile sizes 7, 7 1/2, 8
  - Delivery bed with leg straps
  - Doppler
  - Fetal scope
  - Foot suction machine
  - Gown
  - Gynecological /Long gloves
  - Gynecological solar/battery light
  - Head cap
  - Heat lamp
  - IV stand
  - Jar for forceps
  - Jar for measuring urine , blood loss
  - Mama and baby kit
  - Masks
  - Oral airway

- Partograph
- Patient admission chart
- Plaster/adhesive tape
- Resuscitation table with towels for use at time of positioning the baby's head
- Sanitary pads
- Source of light (Torch/Batteries, solar panel, generator)
- Sterile catheters in packs (straight, Foley size 12-18)
- Suture boxes of absorbable sutures (All types of absorbable)
- Table for placing the trays when performing procedure
- Tape lines
- Ultra Sound (Hospital, Health Center)
- Urine dip stick (for checking Albumin, Sugar, Ketones)
- Wall Clock
- Wrist band

**Other lifesaving trays:**

**Emergency tray (Nick named: Handy/All time Tray)**

**Contents:**

It is a MUST to have an emergency tray prepared and situated in a well-known place by all staff for easy reach to minimize the delays in providing timely services. Places for positioning the tray include:

- Labor Room
- Delivery Room
- Post Partum Ward
- Neonatal Intensive Care Unit (NICU)
- Postop Recovery Room
- Emergency Room (ER)
- 

**DO NOT MOVE THE TRAY OUT OF DELIVERY ROOM OR ANY OF THE PLACES LISTED ABOVE.**

**Indicated below are the contents of the tray.**

- Adhesive tape
- Adrenaline ampoules
- Appropriate Anti-Retroviral drugs (for baby and mother- only to HIV sero-Positive mother)
- Big surgical tray
  - BP cuff,
  - Butterfly/scalp vein needle
  - Canula 14, 16, 18,19, 20, 21, 24 gauge
  - Catheter (sterile)
  - Dextrose 5%

- Dextrose 50%
- Diazepam
- drapes
- IV fluids
  - IV Giving set/infusion set/TUBING
  - Normal saline
  - Pitocin/ergometrine ampoules/misoprostol
  - Ringers lactate
  - Sterile disposable syringes (2, 5, 10, 20 mls)
  - Sterile needles 21g.
  - Sterile surgical Gloves/sterile 7, 7<sup>1/2</sup>, 8
  - Stethoscope
  - Suture materials
  - Thermometer
  - Tourniquets
  - Urinary bag
  - Vitamin K

#### **Eclampsia tray**

- Calcium Gluconate 1 gm (antidote for mag. Sulphate toxicity)
- Magnesium Sulphate **20%** and **50%**;
- Intravenous I.V, (Normal Saline
- IV Cannulae (16, 18, 20 gauge)
- Tape
- Gallipot with swab
- Sterile disposable syringes for magnesium sulphate.
- Sterile water for injection
- Sterile needles
- Chart for fluid balance records
- Lidocaine 2%( to mix with magnesium Sulphate when giving IM)
- Foley Catheter
- Testing reflex hammer
- Antihypertensive

#### **Vital signs tray (present in the labor room 24hrs a day, 7 days a week)**

- BP cuff
- Stethoscope
- Thermometer oral/rectal/thermoscan
- SPO2 Monitor (Pulse oxymeter)

### **Labor:**

Labor is divided into four stages as follows:

- First Stage
- Second Stage
- Third Stage
- Fourth Stage

## First Stage of Labor

Is the onset of true labor until the cervix is fully dilated.

### Procedure in admission of a woman in labor;

- Welcome the mother and family
- Take the mother to the labor room
- Reassure the woman
  - Explain all what you will do
  - Determine Fetal Heart Rate
  - Explain the physiological process of labor
  - Educate her on breathing exercise
- Ask for pregnant woman health card and go through it.
- Take complete past and present obstetric history.

Note: obtain the treatment card from medical records

- History of present labor
  - When did the contraction start?
  - Any discharge/leakage or any blood per vagina?
  - Has she seen any clear , bloody sticky like fluid?
  - Has the fore water(membranes) ruptured?
  - How long does the contraction last?
  - Is she on any treatment?
  - Ask if she has any history or any information to share in regards to her health (here also we are looking if she is HIV positive and willing to share).
  - Review the Pregnant woman's health card to check HIV testing and status (Code)
  - Offer Provider Initiated Counseling and Testing (PICT) if never tested or tested negative more than 3 months ago
  - If she is HIV positive and already on ART:
    - Continue the same ART regimen at regular prescribed intervals.
    - Pregnancy / breast-feeding are not indication to change women from any previous ART regimen.
  - If she is HIV positive and not yet on ART or interrupted or stopped ART:
    - Start lifelong TDF/3TC/EFV as soon as possible, during labor or after delivery.
    - Deliver individual ART counseling and IEC before discharge

Ask the woman if she has any information to share in regards to her HIV status or ask her the type of Infant feeding option she chose during ANC and if she is still going to use the same option. e.g if formula ask her for the formula she brought with her

- Explain to her that at the time of delivery the baby will start having feeds from THE FORMULA. The staff will prepare the baby formula using the formula brought by the mother. Feed the baby using **spoon and cup; also staff will teach her on the preparation of the formula feed.**

Carry out physical assessment while the woman is lying on the bed

- **General examination (head to toe)**

- Vital signs (BP, temp, respiration, pulse) and record date and time
- Weight, Height
- Check for any signs of disability

**Abdominal Examination**

- Observe and Feel the contractions (mild, moderate, strong)
- Check the fetal heart rate,
- Observe for scars, fundal height/presentation/position/descent

**Pelvic and Vaginal Examination (every 4 hours)**

- Cervical dilation
- Membranes
- Presenting part
- Any vaginal discharge
- Descent of presenting part
- Check for promontory; if is palpable notify the doctor
- Record findings in admission and partograph notes

**Start the partograph recording and monitoring when cervical dilation is 4cm**

- If the cervical dilation is less than 4cm, record the findings in nurses note/patient's chart

**Check for laboratory investigation records**

**Supportive care during labor:**

**Cleanliness**

- Encourage the woman to bathe or wash the genitals at the onset of labor upon admission, empty the bladder and rectum
- Encourage the woman to wash her hands with soap and water
- Educate the woman not to touch the vaginal/vulva (self PVE)
- Do not give enema (evidence based: Does not have any significant help in hastening labor).

**Note: DO NOT SHAVE the woman before C/s. The antiseptic cleaning routinely done before the procedure is more appropriate and is the recommended one.**

**Eating and drinking**

- Encourage the woman to eat and drink in small amounts.
- Nutritious eating and drinking are important – fresh juices, soup, water, etc.

Breathing techniques (this is the continuation of the exercises taught during ANC visits for use at time of labor)

- Teach her to notice her normal breathing

Encourage her to breathe out more slowly making a sighing noise and to relax with each breath

- If she feels dizzy, unwell, is feeling tingling (pins-and needles) in her face, hands and feet – encourage her to breathe more slowly
- To prevent pushing at the end of first stage of labor, teach her to pant (to breathe in with an open mouth and take 2 short breaths out)
- During delivery of the head, ask her not to push but to breathe steadily or to pant

#### **Pain and discomfort relief during labor**

- Suggest change of position
- Encourage her to walk around, as is comfortable for her
- Encourage companion to:
  - Massage the woman's back if she finds this helpful
    - Hold the woman's hand and sponge her face between contractions  
Encourage her to sit on the birthing chair
    - Encourage her to use the breathing technique
    - Encourage warm bath or shower if available

**If woman is distressed or anxious, investigate the causes (ketone breath smell, weak and irritable, etc)**

## **Partograph**

A tool developed by WHO for use by skilled birth attendants to monitor, document and manage progress of labor.

### **Parts of the Partograph**

Top part

#### **Mother's Information:**

- Name
- Gravida
- Parity
- Hospital number
- Date of admission
- Time of admission
- Time membrane ruptured

#### **Fetal condition:**

- Fetal Heart Rate (FHR)
- Descent of the presenting part, Plot with "O"
- Liquor or amniotic fluid observed and recorded
  - Clear "C"
  - Meconium Stained "M"
  - Bloody "B"
- Membrane Intact "I"
- Membrane Absent "A"
- Moulding: The shaping of the fetal head to the size and shape of the birth canal

- “O” skull bones not touching (no moulding)
- “+” skull bones are touching (small moulding)
- “++” skull bones overlapping but can be separated (moderate moulding)
- “+++” skull bones are overlapping and can’t be separated (severe moulding)

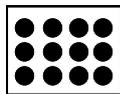
**Maternal condition and management** Cervical dilation: Plot with “X”

- Contractions  
The strength of the contractions can only be determined by feeling or touching the abdomen/fundus at time of contraction as follows:

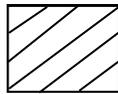
Mild: lasting less than 20 seconds

Moderate: lasting 20-40 seconds

Strong: lasting 40 seconds and above



**Mild**



**Moderate**



**Strong**

Contractions along with cervical dilation and descent of the head indicate the progress of labor.

Time is recorded using the time of admission as “zero time”

- Medication
- Intravenous fluid
- Oxytocin
- Blood pressure, pulse and temperature are recorded in the appropriated spaces
- Urine is recorded every time urine is passed. Note, in the case of catheterization, record the amount or quantity of urine passed also.

**Note: For correctly plotted partograph:**

On the line:

- FHR
- Cervical Dilatation
- Descent of the Head
- Pulse

Right side of the line (in the box):

- Time
- Liquor
- Moulding
- Contraction
- Urine
- Temperature
- Blood Pressure

## Second stage of labor

Is the period from full dilation of cervix until delivery of the baby.

Make sure the baby's head has crowned

Ask the mother to bear down, encourage her to continue until the head is delivered. While supporting the perineum, deliver the head and wipe the face.

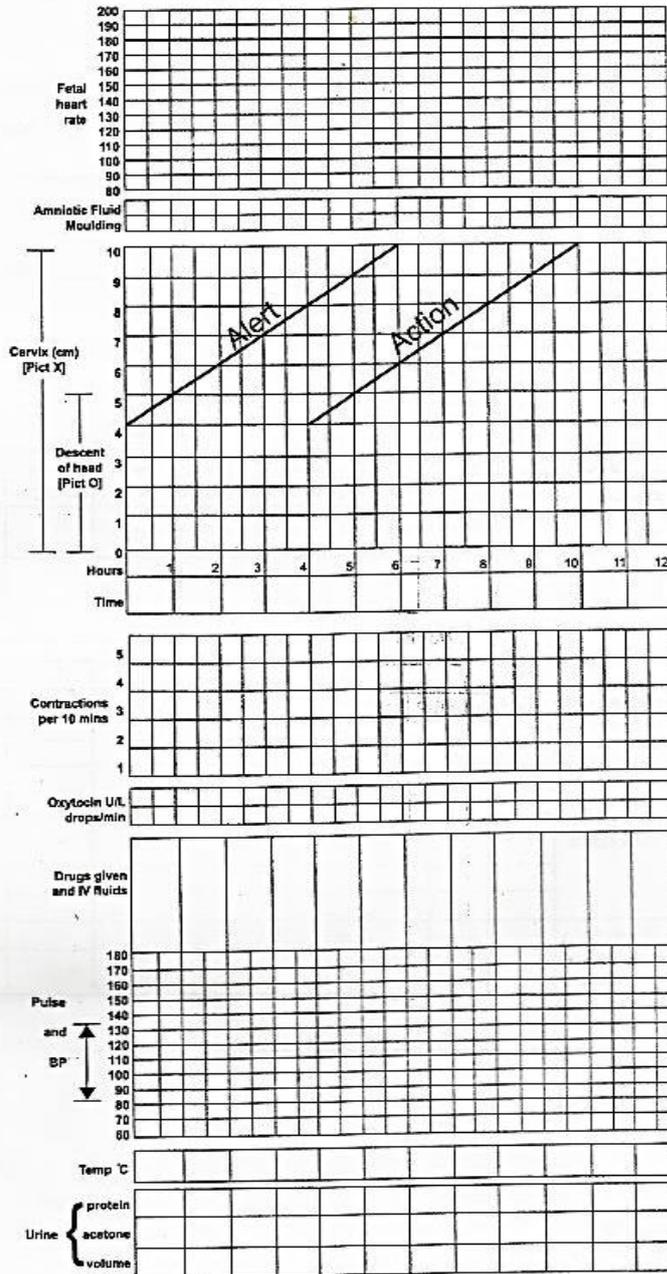
- Suction mouth, then nose only if necessary
- Wait for the turn of the head (restitution) to take its natural time,
- Check for cord around the neck:
  - If loose, slip the cord over the head
  - If tight or multiple, apply two clamps and cut between them
- If no cord, place the baby's head between your two palms and instruct the mother to breathe in and out
- **Slightly and gently**, pull the head down for the delivery of anterior shoulder as the mother pushes
- Deliver the posterior shoulder by gently lifting the head upward
- Clamp and cut the cord

**Note: IF** there is difficulty delivering the shoulder, which can lead to restitution not taking place, suspect shoulder dystocia. **DO NOT FORCE OR PULL THE HEAD. (Refer to procedure for shoulder dystocia).**

- Then deliver the rest of the body
  - Usually, delivery of the rest of body proceeds without difficulty; otherwise apply gentle traction
- Apply two clamps to the cord and cut between them within one minute of delivery of baby using one of the scissors in the delivery kit.
- Dry and stimulate the infant immediately (pay attention to drying the head) and place on the mother's abdomen. **DO NOT TURN THE BABY UPSIDE DOWN. DO NOT SLAP THE BABY.**
- Suction the mouth, then nose **ONLY** if necessary
- Wipe eyes and assess baby's breathing
- Keep the baby warm and in skin-to-skin contact on the mother's chest. Wrap the baby in a soft, dry cloth, cover with a blanket; Apply Tetracycline eye ointment to the eyes.
- Assess the baby for any abnormalities and if none found, initiate immediate breast feeding.
- Depending on the feeding option chosen by the HIV Positive mother during ANC:
  - **IF** the mother chose breast feeding put the baby on the breast to feed immediately
  - **IF** the mother chose formula feeding prepare the formula the mother brought with her and feed the baby within one hour of delivery

**Partograph**

Name \_\_\_\_\_ Gravida \_\_\_\_\_ Para \_\_\_\_\_ Hospital number \_\_\_\_\_  
 Date of admission \_\_\_\_\_ Time of admission \_\_\_\_\_ Ruptured membrane \_\_\_\_\_ hours



4-

Maternal and Neonatal Health Program

Back of partograph form

**Labor notes**

- Delivery time, date, method,
- Oxytocin: amount, time and the route of administration
- Perineum: intact, episiotomy, laceration
  - Repaired?  Yes  No

## Third stage of labor

It is the period after delivery of the baby until delivery of the placenta

- **Palpate** the abdomen to **rule out the presence of an additional baby before** proceeding with active management of third stage of labor (giving oxytocin)

***Apply active management of the third stage of labor (active delivery of the placenta, Brandt Andrews method of delivery)***

- This method prevents postpartum hemorrhage

### **Steps for active management of the third stage of labor:**

- Give immediate oxytocin 10 units IM after delivery of the baby – assistant can help.

In case there is no oxytocin, give ergometrine 0.2mg IM or, Misoprostol 600mcg P.O.

- Apply controlled cord traction upon evidence of a contraction after administering oxytocin.

**Note: DO NOT GIVE ERGOMETRINE IF THE WOMAN HAS HIGH BLOOD PRESSURE OR HEART DISEASE.**

**DO NOT ADMINISTER ERGOMETRINE BEFORE THE PLACENTA IS DELIVERED.**

***For the application of controlled cord traction method for the delivery of placenta, do not wait for the signs of placental separation eg. gush of blood, or lengthening of the cord.***

- After IM oxytocin, wait for the strong uterine contraction (usually 2-3 minutes). Meanwhile, clamp the cord closer to the perineum
- Deliver placenta by controlled cord traction, hold the clamped cord and the end of forceps with one hand (most of the time with the dominant hand)
- Place the side of one hand (dominant hand) above the woman's symphysis pubis (with the palm facing towards mothers' umbilical cord)
- Stabilize the uterus by applying counter-traction during controlled cord traction. (This helps prevent inversion of the uterus) At the same time apply steady, sustained controlled cord traction
- Pull downward gently on the cord to deliver the placenta
- If you follow the above steps, and placenta does not descend or deliver during the **30-40 seconds** of controlled cord traction, do not continue to pull on the cord.

### **THEN:**

- Gently hold the cord and wait until when the uterus is well contracted again

***Note: if necessary, use a sponge forceps to clamp the cord closer to the perineum as the cord lengthens (or gets longer)***

**THEN:**

- o The **next** contraction you **repeat** the steps for controlled cord traction with counter traction



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

- o As the placenta delivers or comes out, catch and hold in both hands (to prevent tearing of the membranes)
- o If the membranes do not come or slip out spontaneously then:
  - o Gently twist and move them up and down to assist separation without tearing until placenta is completely delivered.
- o Gently massage the fundus to help contraction  
Look carefully at the placenta to be sure none of the parts is missing and is complete: amnion, chorion, and lobes.

**IF**

A portion of the placenta is missing or there are torn membranes with vessels, suspect retained placenta fragments then refer to *Manual Removal of Retained Placenta or Products of Conception*

- Check that the uterus is well contracted and there is no heavy bleeding.

**REPEAT CHECK AFTER EVERY FIVE (5) MINUTES.**

- Examine perineum, lower vagina and vulva for tears
- Record blood loss through third stage and immediately afterward
- Clean the woman and the area beneath her. Put sanitary pad under her buttocks to collect blood (help her to change clothes if necessary)
- Keep the mother and baby in delivery room for a minimum of one hour after delivery of placenta
- Dispose placenta in the correct safe and culturally appropriate manner
- Put the baby on the mothers' breast

**NOTE: PROPER ACTIVE MANAGEMENT OF THIRD STAGE OF LABOR REDUCES PPH, A MAJOR CONTRIBUTING FACTOR TO MATERNAL MORTALITY**

**Third stage of labor information to be included in partograph notes**

- Was active management performed?  Yes  No
- Medication given
- Condition of Placenta
- Amount of blood loss

**Fourth Stage monitoring for mother and baby**

- Is the period just after delivery of the placenta to 2-7 hours following delivery
- Continue to monitor the mother and baby closely
  - Every 15 minutes for the first 2 hours
  - Every 30 minutes for next one hour
  - Hourly for 4 hours

**Baby**

- APGAR Score refers to Appearance, Pulse, Grimace, Activities, and Reflex of the baby. It should be taken at 1 minute, 5 minutes and 10 minutes after birth. Each sign of the APGAR Score is scaled between 0 – 2:
  - A score of 7 – 10 is considered normal;
  - A score of 4 – 7 might require some resuscitative measures;
  - A score of 3 and below requires immediate resuscitation.

Indicate action taken after each period of recording the APGAR Score.

- Weight
- Length
- Presentation
- Sex

**Note: Include all complications of mother and baby (if any)**

**MONITORING:**

**ALL MOTHERS AND BABIES MUST BE MONITORED EVERY 15 MINUTES FOR THE FIRST 2 HOURS THEN EVERY 30 MINUTES FOR 1 HOUR AND THEN EVERY 4 HOURLY UNTIL AFTER 24 HOURS.**

Birth attendant's Name: \_\_\_\_\_

Date: \_\_\_\_\_

---



---



---



---



---



---

Please circle or write responses:

**DELIVERY**

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ METHOD: Spontaneous / Vacuum Extraction / C/S / Forceps / Destructive / Other  
 PERINEUM: Intact / Episiotomy / Laceration ANESTHESIA: None / Local / General  
 REPAIR: Yes / No \_\_\_\_\_

**THIRD STAGE**

ACTIVE MANAGEMENT: Yes / No Medication \_\_\_\_\_ Time \_\_\_\_\_ Dose \_\_\_\_\_ IM IV  
 PLACENTA: Time: \_\_\_\_\_ Complete / Incomplete  
 BLOOD LOSS AMOUNT: Small (less than 250 cc)  
 Moderate (250 - 499 cc)  
 Large (more than 500 cc)

**BABY**

Weight: \_\_\_\_\_ Length \_\_\_\_\_  
 Sex: Male / Female  
 Baby Presentation: \_\_\_\_\_  
 Vertex / Breech / Other

**APGAR**

Time	Color (Appearance)	Heart (Pulse)	Reflex (Grimace)	Tone (Activity)	Breath (Respiration)	TOTAL
1 min						
5 min						

COMPLICATIONS OF WOMAN / BABY: None / Other: \_\_\_\_\_

**FOURTH STAGE MONITORING FOR WOMAN AND BABY**

Frequency	Time	WOMAN					BABY			
		B/P	Pulse	Fundus	Bleeding	Bladder	Breathe	Suck	Warm	Cord
Every 15 minutes for first 2 hours										
Every 30 minutes for 1 hour										

Birth Attendant \_\_\_\_\_ Date \_\_\_\_\_



## Other Procedures during Labor and Delivery

### EPISIOTOMY

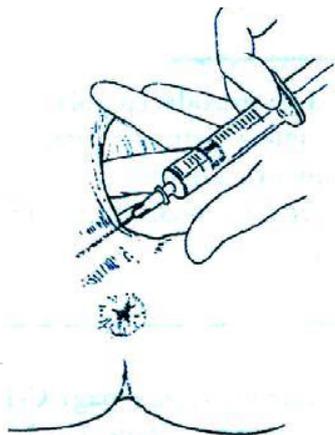
- This is a small incision made in the perineum only when necessary. This incision is **only performed by the skilled health worker once there are indications of instrumental delivery, complications and/or conditions hindering delivery of the baby such as:**
  - Scarring
  - Keloid
  - Shoulder dystocia
  - Previous third degree tear
  - Fetal distress
  - Premature delivery
  - Threatened tear
  - Breech (buttock)

### Steps in performing episiotomy

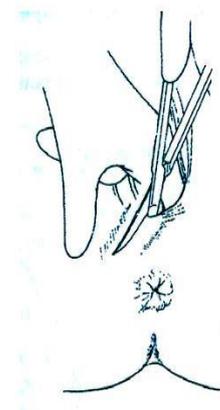
Explain to the mother the reason for performing the episiotomy and procedures.

- Prepare local anesthesia – 10ml of plain lidocaine 0.5%-1%
- Insert the needle beneath the vaginal mucosa beneath the skin of the perineum and deeply in the perineum muscle **(MAKE SURE YOU USE A REGULAR DISPOSABLE SYRINGE AND NOT THE AD SYRINGE)**
- Aspirate – pull back the plunger to check for any blood in syringe – if there is blood, pull out the syringe and needle and draw a new dose; if there is no blood in the syringe, infiltrate the local anesthesia.
- When the woman is having urge to bear down, encourage her to push when having contraction and watch for the thinning of the perineum muscles as it stretches and the crowning of baby head is taking place.
- Support the perineum using a sterile pad.
- Insert your two fingers (index and middle) inside the vagina between baby's head and the perineum
- Insert the episiotomy scissor with blunt edge inside vagina between the two fingers
- With strong contraction as the woman bears down make a lateral deep straight cut (once)
- Place the episiotomy scissor in the delivery kit

Infiltration of perineal tissue with local anaesthetic

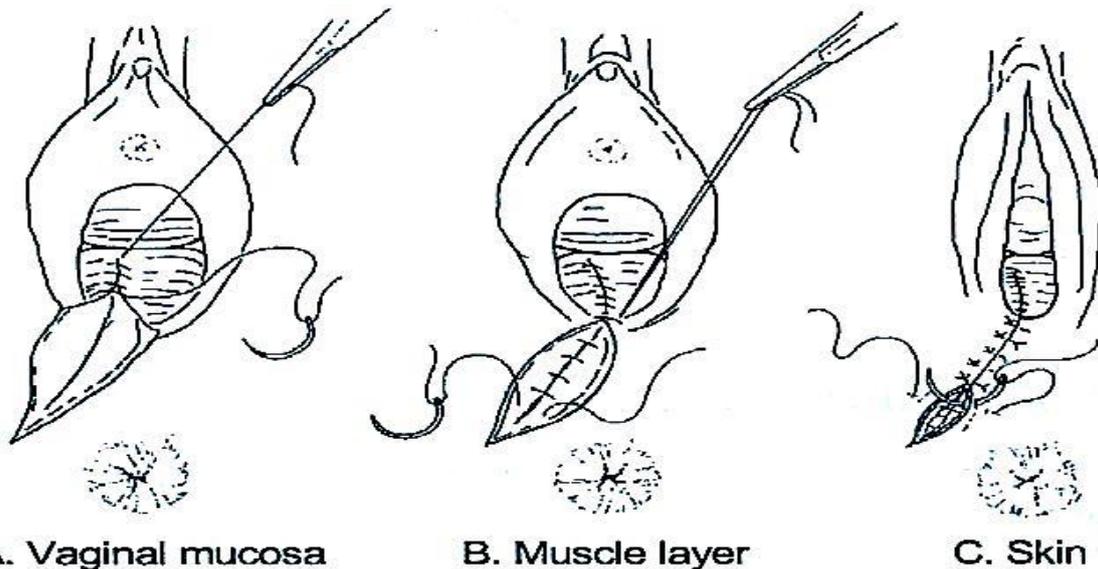


Making the incision while inserting two fingers to protect the baby's head



## Episiotomy and Tear Repair/Suturing

- Explain the procedure to the woman for her understanding and cooperation
- After completing third stage, wash your hands with soap and running water
- Put on sterile gloves
- Prepare the sterile repair kit/set
- Empty the bladder; if unable, catheterize
- With assistance from other staff, draw and administer 10mls of 0.5%-1% lidocaine
- Clean the area with antiseptic solution
- Examine the incision/tear and determine the degree
- Place the sterile gauze in the vaginal opening near the incision. **DO NOT PUSH THE GAUZE INSIDE VAGINAL CANAL.**
- Pick the needle holder and the suture-attached to the curved needle
- Start the repair about 1cm above the apex of the incision, using absorbable sutures (i.e chromic- 2.0 or 3.0 or Polyglycolic); suture from inside and move out
- Continue suturing to the level of the vagina opening
- At the opening of the vagina:
  - **Bring together the cut edges of the vagina opening.**
  - Bring the needle under the vaginal opening and out through the incision and tie
- Close the perineum muscle using interrupted 2.0 absorbable sutures
- Close the skin by suturing under the skin/subcuticular (cosmetic scar) or using interrupted sutures.
- 
- **Repair of Episiotomy**



## Episiotomy Care:

### At the health facility

- Educate woman to keep the area dry and clean
- Regular/frequent change of sanitary pad
- Proper disposal of used sanitary pads
- Educate on general body and baby hygiene
- The woman and baby to stay in the health facility for a minimum of 24 hours following delivery

## At Home

- Woman to continue keeping the repaired episiotomy site clean and dry
- Educate to frequently change sanitary pads
- Proper disposal of used sanitary pads
- Encourage Sitz bath in luke-warm water with a bit of salt or antiseptic solution for 20 to 30 minutes 3 times a day for at least seven days.
- Encourage the woman to go back to the health facility within 2 days for check-up and the first early post-natal care visit

## Episiotomy Complications

**Note: IF episiotomy and tear repair is done according to standard procedures, and the care at home and health facilities carried out well, we do not foresee the complications.**

## HOWEVER

***Some of the complications that may arise include;***

### 1. Haematoma (collection of blood and fluid under the tissue at the site of episiotomy)

#### **Management:**

- Remove sutures and drain when necessary
- For mild haematoma apply compression to drain or
- Aspirate when possible
- In the case of bleeding, check the source and take appropriate action (ligate, pressure dressing)
  - If there are no signs of infection and bleeding has stopped, reclose the episiotomy if needed.

### 2. Infected episiotomy

#### **Management:**

- Open and drain the wound,
- Remove infected suture and debride the wound and
  - If the infection does not involve deep tissues, give a combination of antibiotics
    - Ampicillin 500mg orally ( 4 times a day for 5 days)
    - Metronidazole 400mg orally (3 times per day for 5 days)
  - If infection is deep, involves muscles and is causing necrosis (necrotizing), give a combination of antibiotics until necrotic tissues have been removed and the woman is fever-free for 48 hours.
    - Ampicillin 2g iv q6hourly
    - PLUS**
    - Gentamicin 5mg/kg/body weight IV every 24 hours

**PLUS**

- Metronidazole 500mg IV every 8 hours
- Once the woman is fever-free for 48 hours
  - Give ampicillin 500mg orally four times per day for five days

**PLUS**

- Metronidazole 400mg orally – three times a day for 5 days

***Note: Necrotizing fasciitis requires wide surgical debridement. Perform delay primary closure in two to four weeks (depending on resolution of the infection)***

### Retained Placenta

Is the failure of expulsion of the placenta 30 minutes after delivery of the baby.

**If woman is not bleeding**

- Empty bladder
- Encourage breast feeding, if appropriate
- Check if cervix is opened or closed
- If cervix is open, follow the steps for manual removal.
- Explain to the woman on the condition and the procedure you are going to perform

**If the woman is bleeding, and the uterus is hard;**

- Deliver placenta by controlled cord traction
- Insert IV line

***Give oxytocin, 10 IU IM. Do not give ergometrine for retained placenta because it causes tonic uterine contraction, which may delay expulsion***

**IF** placenta is not delivered in another 30 minutes (1 hour after delivery)

- Remove placenta manually
- Give appropriate IM/IV antibiotics
  - Ampicillin 2gm IV plus Metronidazole 500mg IV, or
  - Ceftriazone 1gm IV plus Metronidazole 500mg IV

### Procedure for manual removal of placenta

**Preparation**

- Reassure and explain to the woman/husband/relatives on the condition including action to be taken
- Perform blood grouping for T/C (Health center/Hospital)
- Insert IV line – if bleeding, give fluids rapidly/open rate.
- If not bleeding, give fluids slowly
- Assist woman to get on her back with knee flex
- Give diazepam 10mg IM/IV
- Clean vulva and perineal area
- Ensure the bladder is empty or catheterize if necessary
- Wash hands and forearms well and put on long sterile gloves, apron and gown.

Maintain aseptic techniques throughout the procedure.

### **Procedural Steps**

- Hold the umbilical cord with clamp using none dominant hand
- Pull the cord gently until it is horizontal
- Gently insert dominant hand into the vagina (as you are looking at the woman's face) and up into the uterus
- Leave the cord and hold the fundus with none dominant hand in order to support the fundus of the uterus and to provide counter-traction during removal
- Move the fingers of the hand sideways until the edge of the placenta is located
- Detach the placenta from the implantation site by keeping the fingers tightly together and
- Using the edge of the hand to gradually make a space between the placenta and the uterine wall
- Proceed **slowly and gradually** around the placenta bed until the placenta is detached from the uterine wall
- Hold the placenta and **slowly withdraw** the hand from the uterus bringing the placenta with it. With the other hand , continue to provide counter-traction to the fundus by pushing it in the opposite direction that is being slowly withdrawn (this prevents inversion of the uterus)
- **Gently palpate** the inside of the uterine cavity to ensure that all lobes and membranes are completely removed.
- Make sure you check the completeness (lobes, membranes)
- If not completely removed, gently palpate inside of the uterine cavity again and remove any fragments
- If not successful, refer immediately to the next level of care.

### **After successful manual removal of the placenta**

- Explain to the woman on the outcome and continue management
- Give ergometrine 0.2mg IM (check B/P before giving; do not give if BP is 120/80 or above).
- Then give 20U oxytocin in each litre of IV fluid and infuse at 125ml/hr x 24 hours
- Ask an assistant to massage the fundus of the uterus to encourage uterine contraction
- If heavy bleeding continues, repeat ergometrine 0.2mg IM (check B/P before giving; do not give if BP is 120/80 or above) or prostaglandins
- Measure or estimate blood loss

**Refer immediately to next level of care.**

***Note: If high fever, 38.5°c or above, foul smelling lochia or history of ruptured membrane for 18 or more hours, give Gentamycin 80mg IM , Ampicillin 2gram IV and metronidazole 500mg IV.***

## Retained placenta with closed cervix

### At the clinic level

- Explain to the woman/husband/relatives on the condition and action to be taken;
- Monitor vital signs
- Start IV ringer's lactate/normal saline
- Refer to the hospital

### At Health Center Level

- Explain the condition to the woman/husband/relatives
- Maintain the IV fluid
- Continue checking vital signs
- Refer urgently to the hospital

### At Hospital Level

- Continue with care received at health center level
- Maintain IV line
- Continue checking the vital signs
- Observe and check for bleeding
- Call the doctor urgently

**Note: Adhere to universal precaution/infection control**

**DO NOT:** exert excessive traction on cord

**DO NOT:** squeeze or push the uterus to deliver the placenta

## Placenta accreta

If the placenta does not separate from the uterine surface by gentle side way movement of the finger tips at the line of cleavage, suspect placenta accrete.

DO NOT persist in efforts to remove placenta. **IF** in the clinic, health center – **Refer urgently** to hospital and **IF** in a hospital, **urgently call** the doctor

**NOTE: IF hours or days have passed since delivery or if the placenta is retained due to constriction ring or closed cervix, it may not be possible to put the hand in to the uterus. Do not persist. REFER URGENTLY to Hospital.**

The care in the hospital will include the doctor using anesthesia

## Tear of Perineum, Vaginal or Cervix

- Examine the woman carefully and repair tear of the cervix or vagina (refer to episiotomy and tear repair session after the removal of placenta or fragments)

### At the clinic level:

- Check for the tear and explain to the woman the action you are taking
- 1<sup>st</sup> and 2<sup>nd</sup> degree tear can be repaired at the facility
- 3<sup>rd</sup> and 4<sup>th</sup> degree tear explain to the woman as well as family members that you are referring the woman for further management.

### Before referral:

- Insert IV line and start fluid, preferably R/L or NS
- Monitor vital signs and record

### At Hospital level

- Perform repair for 1<sup>st</sup> and 2<sup>nd</sup> degree tear
- 3<sup>rd</sup> and 4<sup>th</sup> degree, call for the doctor to repair under local anesthesia
- Reassure the family

**Note: All cervical tears should also be repaired at the hospital.**

## Other procedures:

- Induction and Augmentation of Labor

**NOTE: THIS PROCEDURE MUST BE DONE ONLY IN THE CEmONC FACILITY**

### Induction means:

- Stimulating the uterus to contract

### Augmentation of labor means:

- Stimulating the uterus during labor to increase the frequency, duration and strength of contractions

### When to induce or Augment labor:

**The induction or augmentation of labor is based on partograph reading.**

### Augmentation of labor begins when:

- Less than 3 uterine contractions in 10 minutes each lasting less than 40 seconds when in labor
- Delayed second stage of labor

### Induction of labor is decided when there is:

- Post-term/post maturity
- Intra-Uterine fetal death (IUFD)
- Intra uterine growth restriction (IUGR)
- Early rupture of membrane
- Pre-eclampsia/eclampsia

**Contraindication for induction:**

- CPD
- Previous C/S
- Grand Multiparous
- Malpresentation

**Preparation for Induction and Augmentation of Labor**

1. Explain and reassure the mother/husband/relatives on planned actions to be taken.
2. Set a tray:
  - IV fluids – glucose, N/S or ringers lactate
  - IV giving set/tubing
  - Canula
  - Adhesive tape
  - Gloves (clean)
  - Misoprostol 200mcg
  - Oxytocin 10 IU
  - Disposable sterile syringe
  - Disposable needle
  - Sterile Amniotic hook/gauze/cotton – korcher clamp
  - Kidney dish – korcher clamp
  - Watch or clock with a second hand reading

**Procedure steps**

- Ask the woman to empty bladder. If she cannot, insert a Foley catheter

**Artificial Rupture of Membrane (ARM)- only for augmentation**

***NOTE: Study has shown that Artificial Rupture of Membrane (ARM) is not required for augmentation except in rare situation or need basis depending on advise of a doctor. It is strongly discouraged.***

**Adhere to infection control measures****Listen to and record FHR**

- Ask the woman to lie on her back with legs bent, feet together and knees apart
- Wearing sterile gloves, use one hand to examine the cervix and note the consistency, the position, the effacement and dilation
- Use other hand to insert an amniotic hook or a korcher clamp into the vagina
- Guide the korcher clamp or amniotic hook towards the membrane along the fingers in the vagina
- Place two fingers against the membranes and gently rupture the membrane using the instruments in the other hand
- Allow amniotic fluid to drain slowly around the fingers

***Note the color of the fluid (is it clear, greenish, bloody)***

### **If not clear, suspect fetal distress**

- After ARM, listen to the FHR
- **IF** the FHR is abnormal (less than 100 or more than 180 beats/minute), suspect fetal distress
- If **good labor** (3 uterine contractions in 10 minutes, each lasting more than 40 seconds) is not established 1 hour after ARM, begin oxytocin infusion
- If labor is induced because of severe maternal disease, example, sepsis or eclampsia, begin oxytocin infusion at the same time as ARM

**Note: In cases of HIV sero positivity and hepatitis, leave membrane intact for as long as possible.**

### **1. Oxytocin**

Use oxytocin with great caution, as fetal distress can occur from hyper-stimulation and, rarely, uterine rupture can occur. Multiparous women are at higher risk for uterine rupture.

#### **Important:**

- **Carefully observe women receiving oxytocin**
- **Women receiving oxytocin should never be left alone**

- Explain every step to the woman/husband/relative
- Monitor the woman's vital signs (pulse, b/p) and contraction and
- Check the fetal heart rate
- Review for indications (refer to augmentation/induction notes)
- Ask the woman to lie on her left side and explain the reason to her
- Record on the partograph every 30 minutes
  - Rate of infusion of oxytocin (Note: Changes in arm position may alter the flow rate)
  - Duration and frequency of contraction
  - Fetal heart rate
- Listen every 30 minutes, always immediately after contraction
  - If the FHR is less than 100 beats/minutes, stop the infusion and manage for fetal distress

### **Management of Fetal Distress**

- Prop-up the woman or place her on her left side
- Stop oxytocin, if it is being administered
- Give oxygen 4-6 liters by mask – nasal cannula
- If a maternal cause is identified, example, maternal fever, or drugs, initiate appropriate management
- If a maternal cause is not identified and the fetal heart rate remains abnormal,
  - Give IV fluids to improved placental perfusion (R/L 500ml or N/S 500ml)
  - Perform a vaginal examination to check for explanatory signs of distress

### **Some possible causes of fetal distress**

- Bleeding with intermittent or constant pain, suspect placenta abruption, ruptured

uterus, vasa previa

- Drugs
- Dehydration
- Cord accident
- Infections (fever, foul smelling vaginal discharge)
- Treat appropriately based on the identified cause

### Rate of Infusion of Oxytocin

- Infuse oxytocin 2.5 units in 500ml of dextrose or normal saline at 10 drops/minute
- Increase infusion rate by 10 drops/minute every 30 minutes until a good contraction pattern is established (**three contractions in 10 minutes, each lasting more than 40 seconds**)
- Maintain this rate until delivery is completed
- **If hyper-stimulation** occurs (any contraction lasting longer than 60 seconds) or if there are more than 4 contractions in 10 minutes, stop the infusion and relax the uterus using tocolytics:
  - MgSO<sub>4</sub> 4-6gm. Bolus IV over 20min then 1-2gm per hour (maximum 3gm per hour) or Nifedipine 30mg oral loading dose then 10-20mg every 4-6 hours
- 1 liter IV fluids, normal saline or ringer's lactate at 10 drops/minute
- If a good contraction pattern has not been established with the infusion rate at 60 drops/minute.
- Increase the oxytocin concentration to 5u in 500ml of dextrose or normal saline and adjust the infusion rate to 30 drops/minute
- Continue to increase the infusion rate by 10 drops/minute every 30 minutes until a good contraction pattern is established or a maximum rate of 60 drops/minute is reached.

***Note: In oxytocin infusion, the maximum rate of drops is 60 drops/minute.***

***Do not go beyond.***

***If the woman is hypertensive and diabetics, administer oxytocin similarly in Ringers Lactate***

- **If a good contraction pattern has still not been established using the higher concentration of oxytocin:**

**Note: Do not use oxytocin 10 units in 500ml for multi gravidas.**

**Do not use oxytocin for any woman with previous caesarean section**

### In primigravida

- Infuse oxytocin at the higher concentration (10 units in 500ml) according to the protocol (oxytocin infusion algorithm)
- If good concentrations are not established at the maximum dose, deliver by caesarean section.

## Obstructed /Labor Complication

### Definition

Obstructed labor is where there is poor or no progress of labor in spite of good uterine contraction or a condition that arises at the time of labor attributed to the mother or the baby and is characterized by lack of descent and slow dilation.

**List of conditions/complications**

- multiple pregnancy
- Malpresentation
- breech (foot/buttocks)
  - transverse
  - posterior position
  - Large fetus
  - Abnormal fetus
  - face
- cord prolapse
- cord around the neck
- cord presentation
- cord entanglement
- shoulder dystocia
- contracted pelvis
- multiparity
- ineffective uterine contractions
- position of the placenta
- psychological condition of the mother

Some complications can be diagnosed during physical assessment.

These complications include:

- transverse lie (abdominal palpation)
- posterior position (PVE)
- cord presentation (PVE)cord prolapse (PVE – membrane rupture)
- breech (abdominal palpation)
- multiple pregnancy (abdominal palpation)

**Transverse Lie:**

- Do routine admission procedures at all levels
- Reassure and explain the findings to the woman/husband/relatives including action to be taken at all levels

**At clinic level**

- Prepare the woman for referral
- IV line – ringer’s lactate/N/S
- Catheterize
- Prepare referral note
- Explain to the husband/relatives the urgency and need for 2 members of family to accompany the woman to the hospital

- Assist the relatives to get an urgent means of transport
- Record the case in the register book

#### **Health Center level**

- Same Care as for clinic level PLUS
- Type and cross-match patient and relatives accompanying the woman to the hospital

#### **Hospital Level**

- Assess the woman
- Record findings
- Maintain IV line
- Maintain input and output records
- Check vital signs
- Call the doctor immediately
- Obtain consent from the next of kin for surgery

#### **Pre-post-operative care**

- Midwife escort/accompany during caesarean section
- Prepare to receive the baby
- Continue with routine care for both mother and baby
- Provide feedback to the family members

### **Cord Presentation**

This condition is detected at time of vaginal examination by feeling the cord in front while the membrane is intact.

- Reassure and explain the findings to the woman and her relatives

#### **Clinic Level**

- Prepare the woman for referral
- Set up IV line – ringer’s lactate or normal saline
- Check vital signs
- Assist the relatives to get an urgent transport
- Midwife and relatives must accompany the woman to the hospital

#### **At the Health Center:**

- Same Care as for clinic level PLUS
- Type and cross-match, Hemoglobin
- Continue checking the vital signs
- Maintain IV line

#### **At the Hospital Level:**

- Same Care as for health center level PLUS
- Obtain consent from family member
- Call Doctor immediately
- Continuous care will be based on the procedure performed by the doctor

### **Cord Prolapse:**

Is the condition when the cord is visible outside the vagina, or can be felt below or alongside the presenting part.

#### **If Early Labor:**

- Explain to the woman as well as the relatives the condition and the action planned to be taken
- Perform vaginal examination to determine status of labor
- Check vital signs and record findings
- Check FHR
  - If the baby is alive, cord pulsating
- Push the head or presenting part out of the pelvic brim with your hand on the abdomen.
- Instill 500ml of normal saline into the bladder and tie or clamp the opening to keep the presenting part up

#### **Clinic and health center levels, Refer Urgently**

***Note: While transporting the woman, she has to lie on the mattress on her left side, with pillows/blankets under her buttocks and legs to raise the feet higher than the head/chest.***

#### **Until caesarean section is performed at the hospital:**

- Instruct an assistant (family, staff) to position the woman buttocks higher than the shoulder while referring the woman to hospital.
- Insert fully catheter into the urether and instill 500ml of normal saline into the bladder to keep the presenting part up and clamp/tie the end of the catheter, or
- Transport the patient in knee – chest position.
- If transfer is not possible, explain to the relatives and allow labor to continue

#### **IF late labor (8cm and above):**

IF it is **TRANSVERSE LIE Refer Urgently for Caesarean section**

#### **For other presentations or conditions:**

- Call for additional help if possible for mother and baby
- Prepare for newborn resuscitation
- Ask the woman to assume an upright or squatting position to help progress
- Expedite/hasten delivery by encouraging the woman to push with the contractions

#### **IF Cord is not pulsating:**

- Fetus probably dead
- Explain to the mother and family members that the baby is probably dead
- Offer counseling and emotional support
- Consult the doctor in the hospital for possible induction or caesarean section

## Breech

Is when the fetus' buttock or feet are the presenting part.

In such a condition the woman and the family need to be told during the ANC visits the importance of this woman delivering in the hospital.

### How to detect breech presentation:

- During abdominal palpation at time of admission, fetal head is felt in fundus OR soft body parts, legs or buttocks felt on vaginal examination.

### Management:

#### IF early labor

##### At clinic and Health Centre Level

- Refer urgently to the hospital
- Reassure and explain to the family the reason for referral

If in advance labor,

- Do breech maneuver and deliver the baby.

##### At Hospital level

- Admit and manage the patient

## Shoulder Dystocia

Is the condition that might happen once the head is delivered and **restitution does not take place** naturally. The anterior shoulder fails to pass under the symphysis pubis and instead becomes stuck. It often happens with big babies.

Shoulder Dystocia cannot be **PREDICTED**.

### Management:

#### SHOUT FOR HELP

- Urgently mobilize available staff
- Encourage the woman to support and cooperate with the actions she will be required to follow
- Ensure that the bladder is empty
- Perform **adequate** episiotomy to reduce soft tissue obstruction and allow space for manipulation
- With the 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 toward her chest
- Wearing gynecological/long gloves, apply firm continuous traction downwards on the fetal head to move the shoulder that is anterior, under symphysis pubis

**Note: Avoid excessive traction on the head as this may result in brachial plexus injury.**

- Have an assistant simultaneously apply suprapubic pressure downward to assist delivery of the shoulder.

***Note: Do not apply fundal pressure; this will further impact the shoulder and can result in uterine RUPTURE***

IF the shoulder still is not delivered:

- **Insert** a hand into the vagina along the baby's back
- Apply pressure to the shoulder that is anterior in the direction of the baby's sternum to rotate the shoulder and decrease the diameter of the shoulder
- IF needed, apply pressure to the shoulder that is posterior in the direction of the sternum
- **\*\*IF** the shoulder still is not delivered despite the above measures
  - Insert a hand into vagina;
  - Grasp the humerus of the arm that is posterior and keeping the arm flexed at the elbow, sweep the arm across the chest. This will provide room for the shoulder that is to move under symphysis pubis.

IF all of the above measures fail to deliver the shoulder, other options include:

- Fracture the clavicle to decrease the width of the shoulders
- Apply traction with a hook in the axilla to extract the arm that is posterior

### Multiple Pregnancy

Is a condition associated with more than one fetus and the abdomen looks large.

Remember that you are expecting more than one baby. You need to prepare your trays and other supplies to cater to the mother.

- Make sure you have an assistant
- Follow the delivery steps as indicated above considering the presenting part.

### Management:

#### Points to remember:

After delivery of the first baby (using the steps as mentioned before)

- Palpate uterus immediately to determine the position and manage accordingly
- For oblique and transverse lie you can gently turn the baby
- Check the presenting part vaginally
- Await the return of strong contractions and spontaneous rupture of the second bag of water usually within less than an hour
- Call Doctor for other variations
- Check for cord prolapse
- Continue monitoring the FHR
- Keep the mother warm
- When strong contractions continue, ask the woman to bear down.
- If weak contraction, augment with oxytocin

Follow the steps above for checking if there is another baby. If not

- Deliver the placenta and manage the third stage of labor

- Follow all the steps for any delivery.

**DO NOT:** Attempt to deliver the placenta until all babies are DELIVERED.

**DO NOT:** Give the mother oxytocin until after the birth of the last baby

**Important:**

**Check the woman every 15 minutes for 4-7 hours and remember they have a greater risk of having Post Partum Hemorrhage( PPH).**

**The woman MUST be advised and ENCOURAGED during ANC visits to go to the hospital for delivery. Discuss the reasons with the couple.**

**Pre-Term**

Pre-Term Labor:

Is when there is uterine contraction before the viability of the fetus or before 37 weeks of gestation.

Pre-term delivery is associated with higher perinatal morbidity and mortality.

**NOTE: Make every effort to confirm the gestational age of the fetus.**

**Management:**

- If **less than 36 weeks gestation**, give corticosteroids to the mother to improve fetal lung maturity and chances of neonatal survival:
  - Dexamethasone 12 mg IM, two doses 24 hours apart; OR
  - 6 mg IM, four doses 12 hours apart.

**Note: Corticosteroids should not be used in the presence of infection.**

- Baby should be referred to the appropriate center for proper care.
- Follow instructions for neonatal resuscitation as necessary
- Ensure that the baby is kept warm. Wrap the baby in a soft, dry cloth, cover with a blanket and ensure the head is covered to prevent heat loss.
- Institute kangaroo mother care with mother or available family member.

If maternal history indicates possible bacterial infection, give first dose of antibiotics to the baby: Gentamicin 4mg/kg body weight IM AND Ampicillin 50mg/kg body weight IM.

If the baby is cyanotic (bluish) or is having difficulty breathing (less than 30 or more than 60 breaths per minute, chest in drawing or grunting) give oxygen by nasal catheter/prongs

**Assisted Deliveries**

**Vacuum Extraction**

Vacuum Extractor: A tool used to help in the delivery of baby presenting cephalic when the mother has difficulty pushing it out.

Explain procedures to mother and family members.

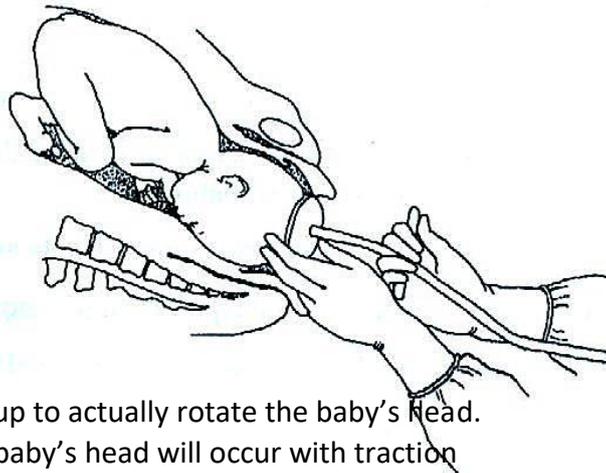
The mother must have a term pregnancy, the cervix must be fully dilated, fetus must present vertex

Head must be at least 2/5 or less palpable above symphysis pubis

### Procedures:

- Check all connections and test the vacuum on a gloved hand
- Provide emotional support and encouragement
- Wearing a sterile glove, assess the position of the fetus head by feeling the sagittal suture line and the fontanelles
- Identify the posterior fontanelle
- Apply the largest cup that will fit with the center of the cup over the flexion point 1cm anterior or the posterior fontanelle. This placement will promote flexion, descent and auto rotation with traction
- An episiotomy may be needed for proper placement at this time
- Check the application. Ensure there is no maternal soft tissue (cervix or vagina) within the rim
- With the pump, create a vacuum of 0.2kg/cm<sup>2</sup> negative pressure and check the application
- Place bullets on each point below
- Increase the vacuum to 0.8kg/cm<sup>2</sup> and check the application
- After maximum negative pressure, start traction in the line of the pelvic axis and perpendicular to the cup. If the fetal head is tilted to one side or not flexed well, traction should be directed in a line that will try to correct the tilt or deflexion of the head (i.e. to one side or the other, not necessarily in the midline)
- With each contraction, apply traction in a line perpendicular to the plane of the cup rim. Place a finger on the scalp next to the cup during traction to assess potential slipping and descent of the vertex.

### Applying Traction



### TIPS

- Never use the cup to actually rotate the baby's head.
- Rotation of the baby's head will occur with traction
- The first pull helps to find the proper direction for pulling

***DO NOT CONTINUE TO PULL BETWEEN CONTRACTION AND EXPULSIVE EFFORTS***

- With progress and in the absence of fetal distress, continue the 'guiding' pulls for a maximum of 30 minutes

### Failure

Vacuum extraction is considered failed if the:

- Fetal head does not advance with each pull
- Fetus is undelivered after three pulls with no descent or after 30 minutes.
- **Do not continue to pull. Call the doctor.**

### **COMPLICATIONS**

Complications usually result from not observing the condition of application or from continuing efforts beyond 30 minutes.

#### **FETAL COMPLICATIONS**

- Localized scalp edema (caput succedaneum) under the vacuum cup is harmless and disappears in a few hours
- Cephalohaematoma requires observation and usually will clear in three or four weeks

#### **MATERNAL COMPLICATIONS**

- Tear of the genital tract may occur. Examine the woman carefully and repair any tears to the cervix or vagina or episiotomy

### **Emergency Obstetric Care**

This is urgent medical and surgical care given to a woman for problems related to pregnancy, labor, delivery and the puerperium. The purpose is to appropriately manage obstetric complications and conditions likely to cause morbidity, injury or death to the mother, the fetus or both mother and fetus/newborn. Because most of the obstetric complications are unforeseeable, rapid intervention is required.

#### **Requirement for Provision of EmONC**

- Trained staff
- Fully equipped health facility including functional laboratory
- Functioning operating theater
- Blood bank or blood transfusion facilities
- Drugs and supplies necessary to deal with medical emergencies
- Roadworthy ambulance
- Functioning communication (e.g radio, phone, accessories)

**Emergency Obstetric Care is divided into two categories:**

- Basic Emergency Obstetric and Newborn Care ( BEmONC)
- Comprehensive Emergency Obstetric and Newborn Care ( CEmONC)

#### **BEmONC Components**

- Parenteral antibiotics
- Parenteral oxytocin
- Parenteral anticonvulsants
- Manual removal of retained placenta segments
- Removal of retained products of conception (using Manual Vacuum Aspiration - MVA)
- Assisted vaginal delivery (vacuum extraction)
- Care of the Newborn

- Newborn Resuscitation
- Keeping the baby warm

### **CeMNC Components**

- Parenteral antibiotics
- Parenteral oxytocin
- Parenteral anticonvulsants
- Manual removal of retained placenta segments
- Removal of retained products of conception (using Manual Vacuum Aspiration - MVA)
- Assisted vaginal delivery (vacuum extraction)
- Care of the Newborn
  - Newborn Resuscitation
  - Keeping the baby warm
- Safe blood transfusion
- C/section

### **INFECTION, PREVENTION AND CONTROL**

Infection Prevention and Control (IPC) SOPs and standards must be followed at all times during service provision. This should be implemented at all levels of the health care delivery system. The intent is to ensure that IPC practices are institutionalized at all levels. The MOH approved IPCs standards include:

- The keep safe/keep serving modules on universal precautions, safe maternity practices and safe work environment
- Triage
- Isolation and referral
- PPE, both basic and enhanced as appropriate
- Waste management and disposal