Ethiopian TVET-System

Health Extension Service

Level III

Based on Jan.2018G.C Occupational Standard

Module Title:	Promoting and assisting Institutional Delivery Service
TTLM Code:	HLT HES3 TTLM 1019v1

This module includes the following Learning Guides

LG40: Promoting institutional Delivery

LG41:Assist and follow normal delivery

LG42:Provide immediate care for the mother

LG43:Provide immediate care for the new born

Instruction Sheet	LG40: Promoting institutional Delivery

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Promote institutional delivery
- Signs and symptoms of onset of labor
- Birth preparedness

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to –**

- Identify and discus local birthing practices and cultural beliefs with women in planning and advocating for appropriate childbirth.
- Discuss roles, relationships and responsibilities to support safe birthing, including the role of health extension worker as an advocate for women and families.
- Discuss institutional versus home delivery
- Discuses and identify Signs and symptoms of onset of labor to support women for institutional delivery.
- Arrange all possible ways of transportation to facilitate institutional delivery

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 4.
3. Read the information written in the information "Sheet 1, Sheet 2, and Sheet 3 **in page 12, 14 and 20** respectively.
4. Accomplish the "Self-check 1, Self-check t 2, and Self-check 3 ,**in page 13, 19 and 22** respectively

Information Sheet-1	Promote institutional delivery

1.1. Definition of terms

a. Health promotion

- is any planned **combination** of educational, political, environmental, regulatory, or organizational mechanisms that support actions and conditions of living **conducive** to the health of individuals, groups, and communities**.**

b. Institutional delivery

- Is a delivery attended by skilled health professional in a healthcare facility.
- Institutional deliveries or facility-based births are often promoted for reducing maternal and neo-natal mortality.

c. Skill birth attendant

A **birth attendant**, also known as **skilled birth attendant**, is a health professional who provides basic and emergency care to women and their newborns during pregnancy, childbirth and the postpartum period.

A birth attendant, who may be a midwife, physician, obstetrician, or nurse, is trained to be present at ("attend") childbirth, whether the delivery takes place in a health care institution or at home, to recognize and respond appropriately to medical complications, and to implement interventions to help prevent them in the first place, including through prenatal care.[1] Different birth attendants are able to provide different levels of care.

1.2. Introduction:

In Ethiopia, the proportion of births that occur at home is still remains high despite recent improvement. Any pregnant mother is always at risk. Nobody knows what will happen during pregnancy as well as the mother in labour. Because of unattended labour and birth by skilled health care worker, so many mothers and newborn life have been lost. In order to reduce Maternal and new born morbidity and mortality, promoting institutional delivery will be your key task as health extension worker in your kebele

1.3. Overview on the level of Institutional Delivery

Although most pregnancies and births are uneventful, approximately 15% of all pregnant women develop a potentially life-threatening complication that calls for skilled care and some will require a major obstetrical intervention which demands for institutional delivery to survive.

According to joint study done with WHO and other organization, in the year of 2017, 295, 000 maternal deaths occurred globally from preventable complications that occurred during pregnancy and child birth. Of these deaths the majority (94 percent) of the maternal death occurred in developing countries, .and 86 percent of the total death occurred in South Asia and Sub-Sahara Africa (countries in Africa under Sahara desert in which Ethiopia is also situated).

These numbers clearly indicates that from the total number of death that occurs in the world a vast majority occurs in countries like Ethiopia. Similar studies done by WHO in 2017 also reported that the proportion of deliveries attended by skilled health providers rose from 58 percent in 1990 to 80 percent in 2017 worldwide, but remained at only about 50 percent in Africa. This number indicates to you that despite the high number of maternal death rate, the number of deliveries which are attended by skilled health provider is not increasing.

If you still see some more findings, you will find that each year in Africa, 30 million women become pregnant, and 18 million give birth at home without skilled care from a trained health professional. As a consequence, every year over 196,000 African women die because of factors related to their pregnancy and child birth (Save the Children, USAID, UNFPA, UNICEF, WHO, Opportunities for Africa‘s Newborns: Practical Data, Policy and Programmatic Support for Newborn Care in Africa, 2017).

Most pregnant women in the developing world like Ethiopia receive insufficient or no prenatal care and deliver without help from appropriately trained health care providers and hence, more than 7 million newborn deaths are believed to result from maternal health problems and their mismanagement. Perinatal mortality tends to follow the same geographical pattern as for maternal deaths. Stillbirths, neonatal deaths, and maternal morbidity and mortality fit together as public health priorities. A very large proportion of maternal and perinatal deaths are avoidable. When you see most of these deaths, their occurrence relate in one or another way with not utilizing the healthcare facility or attending institutional delivery with skilled professional

Ethiopia being one of the developing countries faces a high burden of morbidity and mortality from poor maternal and child health outcomes. The maternal mortality (412/100,000- DHS 2016) and under-five mortality (55/1,000) rates of the country are unacceptably high, and only 50% of

mothers deliver with a skilled birth attendant (Min DHS 2019). Evidences explain that this poor health status is exhibited among women, because a vast majority of women in the country do not have access to or do not utilize health services.

Table Table 1.1: Percentage distribution of women according to place of delivery and assistance during delivery, DHS 2000, 2005 and 2011 – Ethiopia

	2000	**2005**	**2011**	**2016**
Place of delivery				
Home Delivery	94.5	93.1	87.9	73.8
Institutional Delivery	5.5	5.5	5.5.	26.2
Assistance during delivery				
Health Worker	6.2	7.5	13.2	27.7
TBA	30.4	26.9	7.8	42.4
Families/relatives/friends	63.4	65.6	79.0	29.9

As you can see from the above figures, a great proportion of women are still giving birth in their home which in turn could result in higher morbidity and mortality of mothers and infants. For most women in the developing countries like Ethiopia, lack of regular access to health services, has greatly contributed to the high rate of morbidity and mortality. Most mothers receive minimal or none Antenatal care (ANC) and worst of all, deliver without access to skilled obstetrical care when complications develop.

The proportion of births that occur at home remains high in Ethiopia, and skilled health professionals attend very few births even compared with other African countries. According to Min DHS 2019 study, institutional delivery is notably low in the Ethiopia despite recent improvements.

1.4. Promote institutional delivery

Promotion and Communication on the Importance of Institutional Delivery

Maternal health care service utilization is important for the improvement of both maternal and child health. In a study of six African countries, lower number of maternal and neonatal mortality and morbidity were shown when mothers give birth in a health facility with the help of skilled medical personnel. These study results show the importance of having an increased number of women to give birth in health institutions with the assistance of trained staff/skilled attendant so

as to avoid the needless death of mother and child. In general, institutional delivery provides a much better and safer service than home delivery, however, different studies, indicate that a vast majority of women still not utilize the service.

Among most of the factors , lower educational level of women is the one which could be easily addressed with a much lesser but very effective intervention called health promotion and communication. The fact that a huge number of women still think of institutional delivery as ―unnecessary‖, clearly show you the prevailing high awareness gap among our community and women in particular. This also shows the need to have an immediate and large scale interventions targeting on improving women's educational opportunities. This can be achieved as a long-term action but could also be achieved in the short term through effective health education programs by addressing more women with no education. DHS study of 2016 also clearly indicates the need to have effective health education and information campaign as an important intervention to dispel the knowledge gap and negative attitudes of women towards institutional delivery.

1.4.1. How to Promote Institutional Delivery?

Hence, as a health extension worker you could play an important role in promoting institutional delivery by applying the principles of health education and communication. Any health community problem that demands health education intervention is based on the assumption: ―that beneficial health behavior will result from a combination of planned, consistent, integrated learning opportunities and scientific evaluation of programs in different settings.‖ You will follow the following principles and approaches in the promotion of institutional delivery in your community:

- Identify the factors/gaps for lower level of institutional delivery in your Keble. This step helps you to understand and analyze the causes of the problem.
- You should set the goal of promoting institutional delivery. Your goal here could be to increase the current institutional delivery to a better level so that all pregnant women under your kebele deliver at health institution.
- Participate all member of the community in the health promotion activity since it is impossible to increase institutional delivery without their active involvement. Therefore, make sure to involve her families, religious leaders, respected individuals, traditional birth attends development army (in her 1-5 network) and the community at large. This will also help for the development of local partnership.

By principle participation also helps people to identify their own need for change and promotes the ability to choose for themselves methods and strategies that will enable them to take action.

Figure 1.1: Working closely with the community is an important role of Health Extension workers. (Photo: AMREF/ZeinyaTokha)

Identifying the target of education is also important. Your targets could be an individual pregnant woman, group of individuals or the community. There are various opportunities to come in contact with your targets, some of these are your house to house visit which will allow you to get an individual pregnant woman and a 1-5 network of women. Group gathering of any kind like Ekube, Edir and community meetings could also allow you to find your targets/audience. Identifying your target/group will help you to adapt proper health education method and activity that will fit your audience.

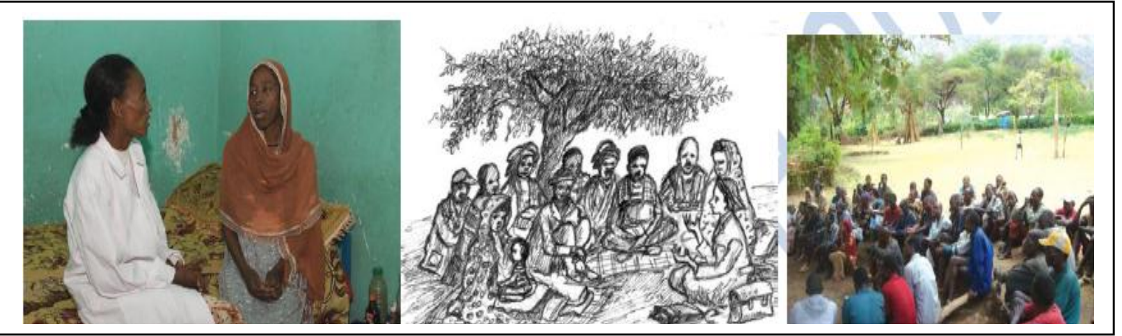


Figure1.2 Targets of health education could be individual women, group of individuals and the community (first photo: I-TECH/Julia Sherburne and the last photo AMREF/Dewit Abebe)

You should first set the objective of your health education that will address the identified gaps or factors contributing for lower institutional delivery.

Box 1.1 What do you want to address? Do you want to address :

- A knowledge gap on the importance of institutional delivery?
- The risk of home based delivery?
- The risk of delivery without skilled birth attendant?
- Do you want to address negative attitudes/beliefs of women and the community on institutional delivery

Your objective might address one, most or all of these objectives in one or another way based on the gap you identify for your kebele.

- Use credible resource (updated scientific facts) is also very important not to diffuse the information shared and also lose trust.
- Multiple causes/factors will always be found for any given behaviors. For each of the multiple predisposing, enabling, and reinforcing factor identified a different methods or components of comprehensive behavioral change must be provided. The most important teaching methods you could use could be:
- Talking on the importance of institutional delivery using relevant, local and tangible experience the audience could easily understand. Using local language and way of expression is also important
- Experience sharing of some women whose lives was saved because of institutional delivery and also a testimony of traditional birth attendants could influence the community
- Invite role models, influential individuals, elders religious leaders to promote the importance of institutional delivery
- Role play and drama on the risk of home based delivery and the importance of institutional delivery

Mass media:

- Studies suggested the effectiveness of mass media (access to radio) than printed media to transmit health information especially in rural setting where most women cannot read. In addition to that using local language to transmit health education is also found to be very effective.
- Audio visual aids like posters

- Demonstration
- Group discussion in a 1-5 network
- Traditional means of communication such as poems, stories, songs, dances and puppet shows

Planning and organizing health education is very important. It involves deciding in advance the when, who, what, how and why of health education on institutional delivery. It requires the planning of health education objectives, resources, methods and materials to be used and identification of target groups etc.

1.5. Identify and discuss local birthing practices and cultural beliefs

The importance of ensuring the availability and accessibility of skilled care during pregnancy and childbirth is highly promoted because this would avoid most maternal deaths occurring from preventable birth complications. Unfortunately, as you have seen in table 1.1, the current utilization of existing maternal health services is very low in Ethiopia. Factors like unavailability of the service, inadequate number of skilled personnel, geographical inaccessibility of facilities and poor quality of care are some of the commonly mentioned reasons.

However, current evidences also show that the socio- economic status of the woman also affects the utilization of institutional delivery. Factors like, the age of the mother, the birth order of the child, the educational level of the mother, the income of the mother and place of residence (rural- urban set up) are some of these socio-economic factors. The studies showed that the older the age of the woman, the lower the educational level and rural residence resulted in lower utilization of health institutions for delivery.

In addition to that, there is no perceived need for the institutional delivery i.e women do not know the importance of institutional delivery and thus prefer home delivery because they think that is much less expensive than institutional delivery. The perception of woman that institutional delivery is unfriendly and not in line with their belief, culture and religion is also another factor affecting institutional delivery in Ethiopia.

1.5.1. Observes rules and norms of culture as appropriate.

You have to understand the culture of the community and introduce new ideas with a natural ease and caution. Learns about traditional practices of the locality and recognize the richness and spiritual significance of the community and culture that could possibly contribute for better utilization of health institutions. This means you should be aware of the traditional beliefs

regarding pregnancy and childbirth and cooperates and liaises with traditional healthcare system when possible so that you could promotes/builds on positive traditional practices.

For instance you could start from some of the positive aspect of the traditional practices done in the community like that of the traditional birth attendants good practice of allowing the presence of relatives, encouraging walking around, allowing free position in delivery, placing the baby on the mother‘s breast even before umbilical cord is cut.

You should also identify cultural attitudes and practices that prevent the utilization of health service. Instead, you need to offer sound alternatives in place of the harmful practices. You must avoid using dogmatic statements contrary to existing belief, culture and practices since such approach will result in rejection and hatred. Therefore, your health educations should starts from where people are (their existing reality) and slowly build up the discussion to allow them understand, appreciate and internalize fresh ideas.

Provide positive reinforcement for women who previously delivered at health institution and continue to use this approach. Expanding such best practices to other women, families and community members through a 1-5 networking system should be practiced so that it could be replicated. To do this you could use model families who implemented all the packages of health extension program which probably includes better utilization of healthcare institutions for ANC , delivery etc. Providing various rewards for mothers who deliver in healthcare facility could also motivate other mothers in the community.

- Follow pregnant women in your kebele after providing a serious of health education sessions so that you could witness and give feedback for any change in behavior/ practice that occur. Look for any change in health seeking behavior and also utilization of the health care facility.
- Use the various setting you could get like the house to house visit, ―Edir‖, ―Ekube‖ coffee drinking ceremonies, religious places, market places, schools, community gathering of any kind etc, to teach the community and get your message out.

1.6. Roles, relationships and responsibilities to support safe birthing

Traditional Birth Attendants‘ (TBAs) assist 60% -80% deliveries throughout the world and are called by different names. Therefore, considering the large number of community they serve, the positive perception of the community towards them and their ability to identify some level of

obstetric problems compared with other community members, the need to involve TBAs in the promotion of institutional delivery is unquestionable.

TBAs could be an important and helpful agent in advising and referring mothers during pregnancy and delivery. However, it is also equally important for you to respect them and their effort, acknowledge their contribution and make them an active participant (even a lead person) in the 1-5 household networks and the health development army. It is only through these partnerships you could make them an ally/partner in improving the health outcome of mothers and children. Studies show that establishing partnership with TBAs will increase a healthy collaboration with TBAs which consequently results in an improved maternal and neonatal health outcome. So, being an important partner, TBAs should be actively involved at each step of your health promotion and communication practice.

1.6.1. Involve Families, Relatives, Friends and the Community in the Promotion of Institutional Delivery

The health extension program support start from single families‘ to the community, making sure that there is no one left behind. So you have a very good opportunity to come in direct contact with the whole family members (the mother, husband, relatives etc), neighbors, community leaders, religious leaders and the community. Therefore, you should use these opportunities to promote the importance of institutional delivery. The 1-5 network, the existing community development groups, development armies are also another opportunity though which you could teach the community about the benefits of having a delivery with the assistance of skilled health professional. You could also inform the community that the service provided in the healthcare facility is women friendly: which respect the belief, culture and religion of the mother and the community. You could also use these opportunities to clear any myth the community have towards institutional delivery.

1.7. Institutional versus home delivery

1.7.1. Institutional Delivery

Giving birth to a child in a healthcare institution under the overall supervision of trained and competent health personnel where there are more services to handle the situation to care and save the life of the child and mother is Institutional delivery

Globally, health facility delivery is encouraged as a single most important strategy in preventing maternal and neonatal morbidity and mortality

Institutional delivery or the presence of a skilled birth attendant at delivery is one of the critical interventions for safe motherhood and neonatal care

a. Advantages of Institutional delivery

- Reduced infant and maternal mortality
- Helps to recognize complication early
- referral is immediate in case of emergency/complication
- Counseling and support are given on breastfeeding, immunization, nutrition, personal hygiene, postnatal care , family planning, PMTCT and etc
- The general status of the newborn and the mother during and after delivery is monitored
- Increased overall health status of the mother and the child

1.7.2. Giving birth at home

When a mother gave birth at her home or others' home (neighbor, relatives, or family) or when a birth takes place outside of health institution, and it is Non - institutional delivery.

The ancient method of delivering the child at home is still prevalent practice in developing country like Ethiopia. It is seen to be more common in rural areas as compared to urban areas.

There are different factors as a reason for delivering at home. As a HEW, one of your role is identifying those factors and develop an action plan to discuss with the community members and reach in a solution to bring the pregnant women to deliver in the health institution .

Some of the reasons for home delivery may includes

- Cultural practice
- Inadequate systems including a shortage of supplies and drugs in health facilities
- Poor quality of care
- Distance of the health facilities
- Lack of transportation
- All previous deliveries were at home

- Financial problems
- Negative attitude of staff in health facilities
- Lack of escort during labor
- Fear about health facilities
- Lack of knowledge

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

Write true if the statement is true and false if the statement is False for the first question and Explain why.

1. In Ethiopia, the proportion of births that occur at home is lower compared with the proportion of birth that is attended by skilled health professional.
2. What are the factors that affect the utilization of institutional delivery?
3. What are the basic approaches and principles you will utilize when you promote and communicate the importance of institutional delivery?
4. Why it is important to give attention for local cultural practice when you provide health education on the importance of institutional delivery.
5. What is the role of Trained Traditional birth attendant on the promotion of institutional delivery

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = ___________

Rating: ____________

Name: _____________________________ Date: _________________

2.1. Introduction:

There is no way to be sure when a woman's labour will begin, but there are some signs that it will start soon. Babies often drop lower in the mother's belly about 2 weeks before birth, which is known as **lightening**; commonly, mothers feel that the baby is no longer lying ‗high' in the abdomen, and not pushing her stomach upwards. If she has had babies before, this baby may not drop until labour begins.

2.2. Normal Labour Labour is described as the process by which the fetus, placenta and membrane are expelled through the birth canal after 37 completed weeks of gestation. Labour is said to be **normal labour (systocia)** when;-

- It start spontaneously (without any intervention)
- The whole process takes not more than 18 hours
- It is vaginal delivery and occurs at term
- The fetus presented by vertex
- The fetus is alive and requires no or minimal resuscitation
- A mother can delivered with her own effort
- No complication arise on both fetus and mother

Any labour without these characters is said to be abnormal labour (dystocia), and therefore require referral to health center or hospital.

2.2.1. Sign of Onset of True Labour

Suspect or anticipate labour if the woman has:

- Intermittent lower abdominal pain
- Pain Watery vaginal discharge or a sudden gush of water.
- Cervical dilatation

Types of uterine contraction

- Mild contraction which lasts <20 seconds shade dots in the box
- Moderate contraction 20-40 seconds shade diagonal in the box

• Severe contraction 40-60seconds full shade to the box

Confirm the onset of labour if:

- **The Frequency of the contraction (**how many contraction per ten minute **)-** at least last 2 contractions in 10minute
- **The intensity of contraction** (how painful her contraction is)- The mother has Pain full regular contractions which does not relived by anti pain medications & ambulation.
- **Duration** (How long each contraction of uterus lasts/onset to peak**)-** contraction lasts stronger i.e which lasts more than 40 seconds
- **There is Cervical Effacement** (the progressive shortening and thinning of the cervix during labour) which is expressed in terms of percentage .(see figure 2-1)
- **There is cervical dilatation**—the increase in diameter of the cervical opening measured in centimeters .(

Remember!

- Sometimes membrane ruptures and the amniotic fluid may pass as a gush or may leak slowly for several days. Some women think that labour is not progressing if the membrane is not ruptured, but that is not true as labour can start with or without rupture of membrane.
- As the membrane rupture the labour should started with in 6 hrs, if not you should urgently refer as this cause infection since the door of the uterus is open and cord prolapsed may occur which might later be compressed by the presenting part of the fetus against pelvic bone. This cause cessation of oxygen to the fetus and as the consequence of this the fetus will die. In addition care should be taken during vaginal examination as there is increased risk of introduction of infection to sterile uterus since the uterus is open (standard hygiene precaution should be applied) & avoid infrequent application of vaginal examination.

2.2.2 Differentiate True Labour from False Labour

In this section you will see how to differentiate true labour from false labour. In addition you will also learn how to support mother in recognizing true labour. As you have seen in the above section**, True labour** is characterized by regular contraction which starts at the back and later move to the lower abdomen. The uterine contraction results cervical dilation and increase with frequency, duration and intensity. It remains no matter what the mother do, no relieved by

antipain & ambulation, it can maintain cervical effacement **False labour** on the contrary is characterized by irregular contraction with no actual position (the mother cannot localize the contraction).

The uterine contraction does not result in cervical dilation, effacement and does not increase in frequency, duration and intensity of contraction. It is relieved by strong anti pains or mobility. So you are expected to help mother recognize true labour as no one can predict when labour will start. Only 2% of women gives birth at expected date of delivery this even includes mothers who know their last normal menstrual period exactly. those mother who had previous birth can recognize the onset of labour while those having their first baby may not easily recognize and come the health facility for milder discomfort assuming that labour has started. Educate pregnant mothers about the signs and symptoms of true labour. You should tell her to come to health facility:

- If she has regular and progressive pushing down sensation with abdominal pain.
- If she has regular contraction which starts at the back and later move to the lower abdomen.
- If the mother has show (mixture of blood and mucous) leaking from the vagina.

Demonstrate what happens on onset of true labour as below, you should show the mother, :

- When labour comes tell her that her abdomen will get hard and show her where she can feel her contraction and she know whether her contraction is strong or not.
- Where the labour starts first and then moves later on birth process
- Make sure that you are using simple and understandable language .Additionally encourages the mother to ask then listen attentively and answer accordingly in kindly manner.

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. **Case study 1.**w/ro zawditu is 23 years primigravida who claimed that she was amenorrhic for the last 9 month come to your health with complain un localized contraction, her membrane does not ruptured. On physical examination you found her contraction is irregular lasting with in 15 second. She told this pain is relieved on walking and on vaginal examination her cervix dilated 2cm. according to the above scenario answer the following

A. What is the labour of w/ro zawditu true or false?

b. How you say that?

2. Describe the sign and symptoms or onset of labour

Note: **Satisfactory rating - 2 points** **Unsatisfactory - below 2 points**

Score = ___________

Rating: ____________

Name: _________________________ Date: _______________

3.1. Birth Preparedness and Complication Readiness

Women and newborns need timely access to skilled care during pregnancy, childbirth, and the postpartum/newborn period. Too often, however, their access to care is impeded by delays—delays in deciding to seek care, delays in reaching care, and delays in receiving care. These delays have many causes, including logistical and financial concerns, unsupportive policies, and gaps in services, as well as inadequate community and family awareness and knowledge about maternal and newborn health issues.

a. ***Delays in deciding*** *to seek care* may be caused by failure to recognize signs of complications, failure to perceive the severity of illness, ignorance about existing of obstetric services, cost of transport and health care, previous negative experiences with the healthcare system, and transportation difficulties
b. ***Delays in reaching*** *care* may be created by the distance from a woman's home to a facility or provider, distance to roads, the condition of roads, and lack of emergency transportation.
c. ***Delays in receiving*** *care* may result from negative attitudes of providers, shortages of supplies and basic equipments, shortage of healthcare personnel, and lack of knowledge and skills of healthcare providers.

The causes of these delays are common and predictable. However, in order to address them, women and families—and the communities, providers, and facilities that surround them—must be prepared in advance and ready for rapid emergency action.

Birth Preparedness and Complication Readiness is the process of planning for normal birth and anticipating the actions needed in case of an emergency.

Assisting the woman to prepare for birth including:

- Items needed for clean birth
- Identification of skilled attendant for the birth
- Plan for reaching skilled attendant at the time of labor and delivery
- Identification of support people to help with transportation, care of children/household, and accompaniment to health facility

- Complication Readiness Plan in case of emergency: emergency funds, transportation, blood donors, and decision-making
- Counseling/educating the woman and family on danger signs, nutrition, family planning, breastfeeding, HIV/AIDS
- Informing woman and family of existence of emergency funds if available
- Referring to higher levels of care when appropriate
- Honoring the pregnant woman's choices

You have to ensures that he/she:

- Supports the community s/he serves
- Respects community's expectations and works within that setting
- Educates community members about birth preparedness and complication readiness
- Promotes concept of birth preparedness and dispels misconceptions and harmful practices that could prevent birth preparedness and complication readiness
- Help the woman p*repare for birth, values and seeks skilled care during pregnancy, childbirth and the postpartum period.*
- enables recognizes danger signs and implements the Complication. Readiness plan
- identifies transportation systems and where to go in case of emergency, support persons to accompany and stay with family
- speaks out and acts on behalf of her and her child's health, safety and survival
- knows that community and facility emergency funds are available
- ensures personal savings and how to access it in case of need
- knows who the blood donor is
- chooses skilled attendant and place of birth in antenatal period. recognizes normal labor and complications

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are the three delays which affects women and newborn to access health care?
2. Explain in what way will you assist the women to prepare for birth?

Note: **Satisfactory rating - 2 points** **Unsatisfactory - below 2 points**

Score = ___________

Rating: ____________

Name: _________________________ Date: _______________

Instruction Sheet	LG41: Assist and follow normal Delivery

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Assist normal delivery

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to –**

- Maintain midwifery kit for normal delivery and instructions at health post settings.
- Provided professional assistance to their seniors.
- Follow the general feto-maternal conditions .

Learning Instructions:

5. Read the specific objectives of this Learning Guide.
6. Follow the instructions described below 3 to 4.
7. Read the information written in the information "Sheet 1 **in page 1 to 11**
8. Accomplish the "Self-check 1, **in page 12,**

1.1. Normal Delivery

Labor is a physiologic process during which the fetus, membranes, umbilical cord, and placenta are expelled from the uterus; and there is a regular uterine contractions with progressive cervical dilation and effacement

Vaginal delivery is the birth of babies in humans through the vagina. It is the natural method of birth for women.

A **spontaneous vaginal delivery** (**SVD**) occurs when a pregnant female goes into labor without the use of drugs or techniques to induce labor, and delivers her baby in the normal manner, without forceps, vacuum extraction, or a cesarean section

Remember, your major role in the birth process is normally supportive. Knowing the normal sequences of the process and helping the mother prepare for the birth enables you to perform this supporting role effectively. However, when complications develop, you must be prepared to swiftly and properly assess, support, and transport the patient(s).

Stage of Labour - Labour is traditionally divided into four stages:

1. First stage of labour
2. Second stage of labour
3. Third stage of labour
4. Fourth stage of labour

1. First Stage of Labour This stage is from onset of true labour till full dilation of the cervix. During pregnancy the cervix is thick and long. As first stage of labour thinning and softening of cervix will take place this is known as **effacement.** In addition, the diameter of the cervix increases up to 10cm letting the baby to come out of the uterus this is called **full cervical dilation.**

Average Duration of 1st stage of labor 12 hours in primi gravid & 7-8hrs in multi gravid mothers

First stage of labour is further classified in two based on cervical dilatation:

- **Latent phase:** is the period between the start of regular rhythmic contractions up to cervical dilatation of 3cm. In this phase the contraction is not painful, strong and the cervical dilation is slow.
- **Active phase:** starts as the cervix dilates 4cm till fully diluted. At this phase the contraction become more regular, frequent and strong. The expected cervical dilation ranges from 1.2cm-1.5cm/hour with at least 1cm/hour cervical dilation in primi 1.5cm/hr in multi and it is the end of the first stage of labour. At this phase, plotting on Partograph will start at 4cm cervical dilation which you will learn in next level.

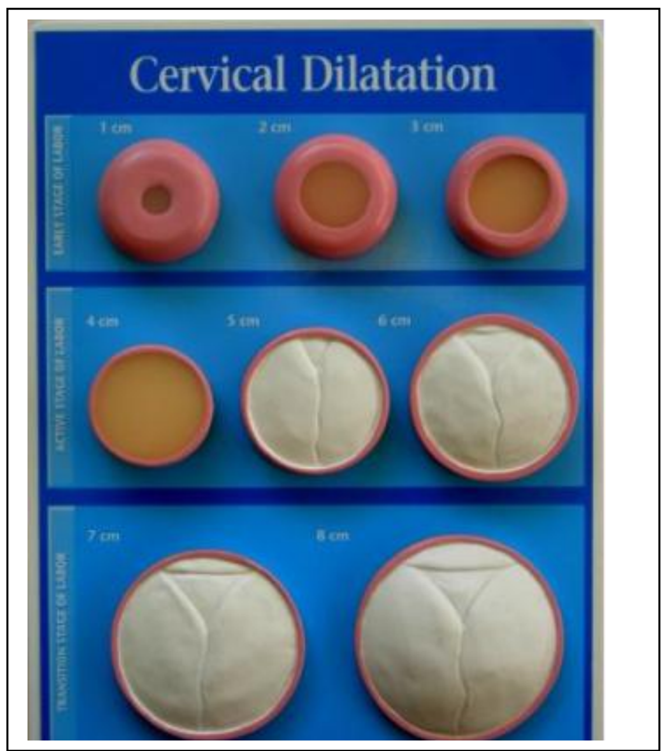


Fig 1.1. Fig 1.1 Illustrates cervical dilatation and effacement

2. **Second Stage of Labour** This is from full dilation of the cervix to birth of the baby. After the cervix is fully dilated, the mother typically has the urge to push. Her efforts in ‗bearing down' with the contractions of the uterus move the baby out through the cervix and down the vagina. This is known as fetal **descent**. This may take 1 hrs in those who had previous child birth and 2hrs in those who does not give birth before.

Signs of second stage of labour

- the mother wants to push
- regular uterine contraction

- anal & vulval gaping
- no cervix is felt on vaginal examination
- the head is seen on the vulva
- sometimes sweating & defecation

This stage is dangerous for the new born baby .the fetus may die due to fetal distress

3. Third Stage of Labour

This starts from birth of the baby till expulsion of the placenta. At this stage bleeding may occur if the placenta is not expelled with in 30 minute which is the ideal duration of third stage of labour. At this stage if the placenta is fail to expel after 30 minutes it is called retained placenta .this stage is dangerous for the mother .because she may die due to bleeding.

Signs of placental separation

- There is a gush of blood
- The uterus is hard round ,movable & at the level of the umbilicus
- The cord seems lengthen

4. Fourth Stage of Labour

This starts from the expulsion of the placenta till one hour after birth. This is very crucial and mothers need close monitoring as bleeding might occur if the uterus fails to contract and legate uterine blood vessels, monitor vital sign especially B/P &pulse rate closely.

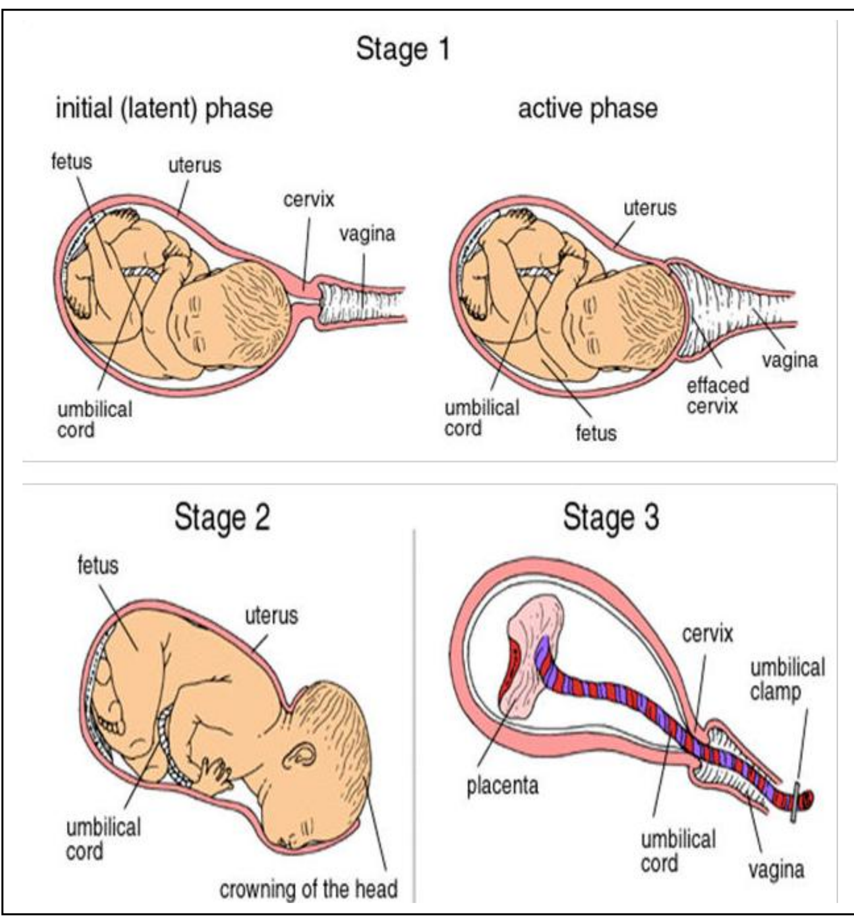


Fig 1.2. Fig shows stages of labour

1.1.1. Maintaining Midwifery kit

The health post should always have all midwifery kit and medications needed for normal delivery, and you have to maintain in advance the equipment all the time. These are listed in box 1.1. 2 and indicated in figure 1.3

Box 1.1. : Birthing equipment

- Clean water, soap and hand towel
- Apron, goggle, face mask and gown
- Sterile gloves and clean gloves
- Sterile or very clean new string to tie the cord.
- New razor blade or sterilized scissors.
- Two sterile clamp forceps, for clamping the umbilical cord before you cut it.
- Mucus trap or suction bulb to suck mucus from the baby‘s airways (if needed).
- Sterile gauze, cotton swab and sanitary pad for the mother.
- Two dry, clean baby towels and two drapes.
- Blood pressure cuff and stethoscope.
- Antiseptic solution for cleaning the mother‘s perineum and genital area.
- 10 IU (international units) of the injectable drug called oxytocin or 600 mg (microgram) tablets of misoprostol. These drugs are used for the prevention of post-partum hemorrhage.
- Tetracycline eye ointment (antibiotic eye ointment used for the prevention of eye infection in the newborn.
- Three buckets or small bowls each with 0.5% chlorine solution, or soap solution and clean water. (To prepare 0.5% chlorine solution you can use the locally available Berekina. Read the concentration from the bottle — if it is 5% you can make a solution of 0.5% strength by mixing one cup of Berekina with nine cups of clean water.)
- Plastic bowl to receive the placenta.
- Safety box
- Vitamin k
- Pediatric Weight scale

Clean water for drinking or washing

Soap and a brush for scrubbing fingernails, and if possible, alcohol

Sterile or very clean new string to tie the cord

New razor blade or sterilized scissors to cut the cord

Sterile or high-level disinfected gloves for doing vaginal exams, or clean gloves or very clean plastic bags to wear whenever you touch the mother's genitals, the baby, or any blood or stool

Mucus trap or suction bulb to suction the baby after the birth, if needed

Five 200 mcg misoprostol tablets

"Safe and Clean Birth and Newborn Care: A Reference for HEWs"

Flashlight

Stethoscope

Thermometer

Very clean apron

The mother's pregnancy record, a labour chart and a pen

Watch with a second hand

Fetoscope

Erythromycin or tetracycline eye ointment

Blood pressure cuff

3 large buckets

Supplies for making rehydration drink or atmit tea

Sterile gauze

Sterile clamps

Sterile blunt-tipped scissors

Toothbrush for cleaning instruments

Detergent

Bleach

Measuring tape

Small scale

Figure 1.3: Equipment needed for attending a normal birth. Source RKI-WHO

1.1.2. Providing professional assistance

Professional assistant from you has been described as providing the childbearing woman with the strength needed to face the challenge of giving birth without losing control ,together with your senior. When support during labour is continuous, it reduces the risk of complications.

Support in labour has also an impact on the childbirth experience as well as on childbirth outcomes. Both social and professional support is needed.

As a HEW, you have to assume responsibility for compassionate and respectful care offered to women during normal pregnancy, childbirth, and the postpartum period. When complications occur, consult your senior and she will take over responsibility for the medical care of the woman. During labour, most of the professional support will be the responsibility of you at the health post :

Your professional assistant may begin:

Before the birth:

- Help the mother by providing psychological support
- Educate the mother to attend the antenatal care
- Council on danger sign of pregnancy
- Discuss her birth plan, including what to do if things don't go to plan.
- Assess her general condition and council on the identified problems every time when she come to the service

During labour and birth:

Remember, the mother will go through stages of labour as her cervix gets wider and the baby moves down her pelvis, preparing to come out; and her contractions will get closer together, before she starts feeling the urge to push as the baby moves into her birth canal . She will probably be in pain so be prepared for that and stay focused on helping her

- Prepare all the necessary midwifery kit and other medical equipments
- Prepare the delivery field
- Staying calm and giving her lots of positive encouragement.
- Bring her fluids (water) and snacks if she wants them.
- Walk and move with her.

- Monitor her vital sign
- Monitor the fetal heartbeat
- Help her into the shower or birth pool.
- Help her move into birth positions she chooses and support her weight if she needs it.
- Help her with her breathing and other coping methods.
- Communicate her wishes to your partner, and their advice back to her.
- Support her to make decisions if things don't go to plan and speak up for her if she can't do this herself.
- Massage her, hold her hand and wipe her face if she wishes.
- Let her family know how things are going if she wishes.

After delivery

- Congratulates the mother
- Assess the general condition of the mother
- Assess the general condition of the newborn
- Prepare for essential newborn care
- Council on exclusive breast feeding
- Council on postpartum family planning
- Remind her the postpartum schedule
- Council on immunization

1.1.3. Follow feto-maternal conditions

Women who give birth unattended by a skilled healthcare provider (like you) are more likely to experience complications at all stages of labour, including the third stage. You should always be prepared for the unexpected emergency.

Remember, no labour can be said to be normal until the third stage is safely concluded. Dangers, especially to the fetus can be arise suddenly and unexpectedly and to secure the greatest safety of the mother and baby, labour is best managed by intensive care techniques

The first stage of labour is proceeding normally if the cervix is progressively dilating anf the fetal condition is satisfactory. The second stage is normal when there is progressed descent of the head and the fetus is in good condition. It is essential to monitor the fetus and the mother during labour in order to assess how they responds to the stresses of labour.

In every case the woman's general condition is assessed, her pulse rate and blood pressure are recorded, as you have been doing during the first stage of labour .

Careful observation

- Check the maternal purse /60-100/minute is the normal range
- Take body temperature – subnormal due to loss of body heat, as high as 37.2^{0}C due to reactions of prolonged labour.
- Encourage her to pass urine
- Blood pressure is taken ½ hourly

The fetal heart rate is checked using a fetal stethoscope/fetscope/ and any abnormality of rate or rhythm is noted ; It is ok for the heartbeat to be as slow as 100 beats a minute during a pushing contraction. But it should come right back up to the normal rate as soon as the contraction is over.

- Use a fetoscope or stethoscope to listen to the fetal heart rate *immediately after* a contraction. Listening to sounds inside the abdomen is called auscultation. Count the number of fetal heartbeats for a full minute at least once every 30 minutes during the active phase first stage of labour and every 5 minutes during the second stage. If there are fetal heart rate abnormalities (less than 120 or more than 160 beats per minute, sustained for 10 minutes), suspect fetal distress and refer urgently to a health facility, unless the labour is progressing fast and the baby is about to be born

I. Watch for warning signs

Watch the speed of each birth. If the birth is taking too long, discuss with your senior and take the woman to a health center/ hospital. This is one of the most important things you can do to prevent serious problems or even death of women in labour.

First babies may take a full 2 hours of strong contractions and good pushing to be born. Second and later babies usually take less than 1 hour of pushing.

Watch how fast the baby's head is moving down through the birth canal. As long as the baby continues to move down (even very slowly), and the baby's heartbeat is normal, and the mother has strength, then the birth is normal and healthy. The mother should continue to push until the head crowns.

But pushing for a long time with no progress can cause serious problems, including fistula, uterine rupture , or even death of the baby or mother. If you do not see the mother's genitals bulging after 30 minutes of strong pushing, or if the mild bulging does not increase, the head may not be coming down. If the baby is not moving down at all after 1 hour of pushing, the mother needs help.

Therefore, inform all the observation to your senior and refer immediately if the woman stayed (couldn't deliver) in the second stage for more than:

- **1 hour with no good progress (multigravida woman)**
- **2 hours with no good progress (primigravida).**

Good progress in the second stage is characterized by a marked change in level of station of the baby's head. If you have a woman in the second stage with little or no fetal descent, or you see any signs that the baby is developing caput or excessive molding of its skull, refer the woman to hospital or a health centre immediately.

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

Provide the Definition of the following term in the space provided.

1. Normal delivery

Write true if the statement is true and false if the statement is False and Explain why.

1. Every woman needs an individualized care during her labour.

Give short answer for the following questions

1. Explain the characteristics of normal labour?
2. List the characters of stages of labour?
3. List the observation that you made for the mother and the infant during labour?

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Score = ___________

Rating: ____________

Name: _________________________ Date: _______________

Instruction Sheet	LG42: Provide immediate care to mother and new born care

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Evaluate new born conditions
- Evaluate maternal conditions
- Breast feeding

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to –**

- Evaluate mother and new born for health status
- Identify, record and report APGAR score
- Implement early initiation of breast feeding
- Check and report any visible abnormalities

Learning Instructions:

9. Read the specific objectives of this Learning Guide.
10. Follow the instructions described below 3 to 6.
11. Read the information written in the information "Sheet 1, Sheet 2, and Sheet 3 **in page1, 24, and 27**respectively.
12. Accomplish the "Self-check 1, Self-check t 2, and Self-check 3, **in page 23, 26, and 28** respectively
13. If you earned a satisfactory evaluation from the "Self-check" proceed to "Operation Sheet 1, and Operation Sheet 2 **in page 29**
14. Do the "LAP test" **in page –31 and 32**

1.1. Essential and Immediate Newborn Care

Most babies breathe and cry at birth with no help. Remember that the baby has just come from the mother's uterus. It was warm and quiet in the uterus and the amniotic fluid and walls of the uterus gently touched the baby. You too should be gentle with the baby and keep the baby warm. Skin-to-skin contact with the mother keeps baby at the perfect temperature.

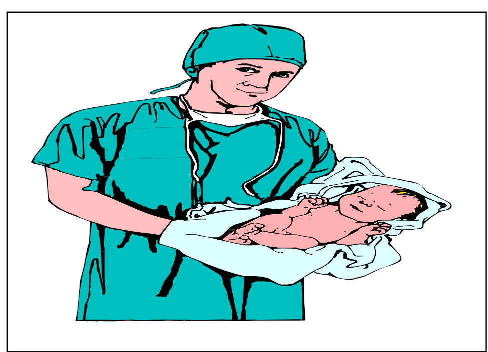


Fig 1.1. Elements of care required by the baby at birth should be given

The following are the steps of immediate new born care which should be given to all babies at birth.

Step 1.: Deliver baby onto mother's abdomen or a dry warm surface close to the mother; to keep the baby warmth and prevent heat loss

Fig 1.2 deliver baby onto mothers abdomen to keep the baby warmth

Step 2 .

- **Drying the newborn:** this is to dry the baby , first dry the baby with dry towel then cover another towel on his body including the head.

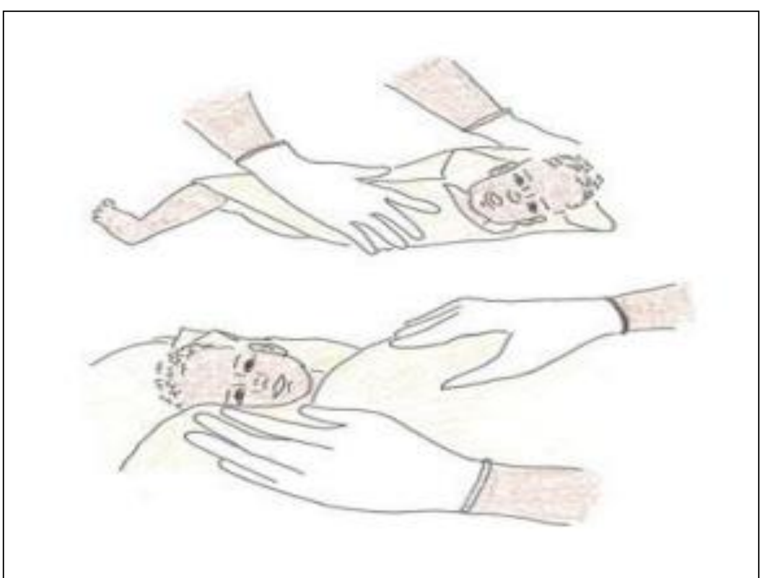


Figure 1 3. Drying and wrapping the newborn baby.

Step 3.

- ***Assess breathing and color***

Asses the skin color of the newborn:

- if it is pink and his/her Apical heart beat (AHB) is > 100 beat/minute.
- If not breathing, < 30 breaths/minute, stop steps of essential new born care Clamp and cut the cord quickly then start resuscitation (*see the neonatal resuscitation)*

Step 4. Tie the Cord and Cut the Cord

- Tie the cord two fingers from abdomen and another tie two fingers from the first one. Cut the cord between the first and second tie.

  i. Tie the cord securely in two places:

- Tie the first one two fingers away from the baby‘s abdomen.
- Tie the second one four fingers away from the baby‘s abdomen.
- Make sure that tie is well secured.
- Make sure that the thread you used to tie the cord is clean and safe.

Cut the cord between the ties.

- Use a new razor blade, or a boiled one if it has been used before, or sterile scissors.
- Use a small piece of cloth or gauze to cover the part of the cord you are cutting so no blood splashes on you or on others.
- Be careful not to cut or injure the baby. Either cut away from the baby or place
- your hand between the cutting instrument and the baby.

- **Apply chlorohexidine**
  - It is currently recommended to Apply Chlorhexidine gel (4%) on the cord Within 30min of delivery, and show the mother how to apply chlorhexidine once a day for the next six days

ii. Do not put anything on the cord stump other than Chlorhexidine gel

Note: observe for oozing blood: If blood oozing, place a second tie between the skin and the first tie.

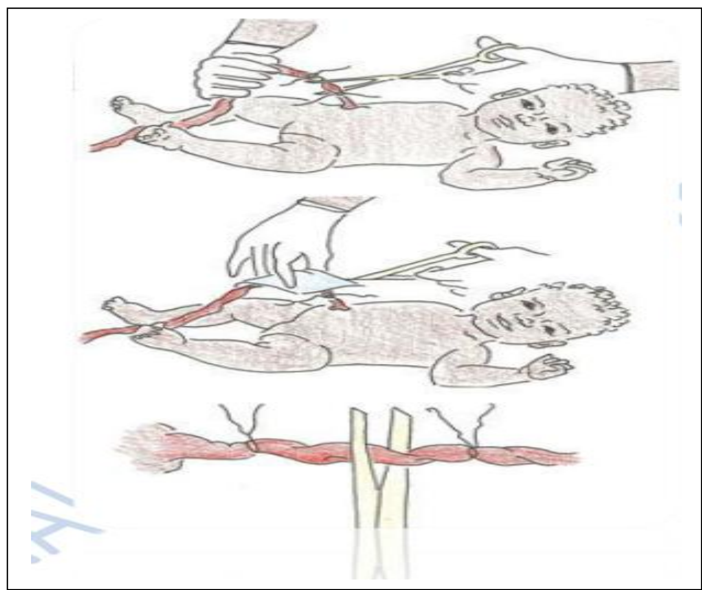


Figure 1.4. . Tying and cutting the cord

Step 5. : Place the baby in skin-to-skin contact and on the breast to initiate breastfeeding

- The warmth of the mother passes easily to the baby and helps stabilize the baby‘s temperature.
    1. Put the baby on the mother‘s chest, between the breasts, for skin-to-skin warmth
    2. Cover both mother and baby together with a warm cloth or blanket
    3. Cover the baby‘s head
- The first skin-to-skin contact should last uninterrupted for at least 1 hour after birth or until after the first breastfeed.
- The baby should not be bathed at birth because a bath can cool him dangerously. After 24 hours, he can have the first sponge bath, if his temperature is stabilized. If everything is normal, immediately start breastfeeding and continue doing the following recommendation for optimal breastfeeding
    1. Help the mother begin breastfeeding within the first hour of birth.
    2. Help the mother at the first feed. Make sure the baby has a good position, attachment, and suck. Do not limit the time the baby feeds; early and unlimited breastfeeding gives the newborn energy to stay warm, nutrition to grow, and antibodies to fight infection.

Step 6.

Give eye care shortly after breastfeeding and within 1 hour of age, give the newborn eye care with a TTC ointment. Eye care protects the baby from serious eye infection which can result in blindness.

First wash your hand and apply the medication on newborn lower lid of his/her eye while he/she in hand of the mother.

Steps for giving eye care

1. Wash your hands
2. Tetracycline 1% eye ointment
3. Hold one eye open and apply a rice grain size of ointment along the inside of the lower eyelid. Make sure not to let the medicine dropper or tube touch the baby‘s eye or anything else.
4. Repeat this step to put medication into the other eye.
5. Do not rinse out the eye medication.

Figure 1.5. Applying tetracycline eye-ointment into the eyes of the newborn baby.

Step 7. **Give Vitamin K**

Administer 1mg IM on anterior lateral thigh while he/she held by his mother i.e. to prevent spontaneous bleeding

Step 8. Weigh baby

Weigh the baby one hour after delivery and refer urgently if VLBW to health center or hospitals.

- Low birth weight (LBW) neonate with birth weigh less than 2.5kg
- Very Low birth weight (VLBW) neonate with birth weigh less than 1.5 kg

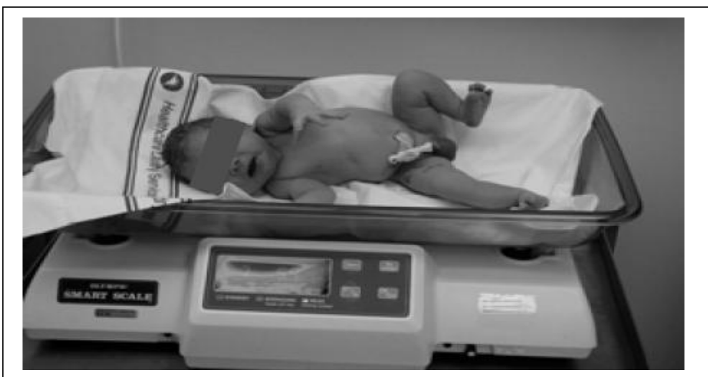


Fig 1.6. Shows the newborn baby on weight scale

Step 9. Identification:

Fig 1.7 illustrates identification of band on his left wrist

Step 10. Record your finding

1.1.1. **How You Support Bonding Between Mother And Newborn After?**

First hour is the best time for the mother and the newborn to be to gather.

Keep the baby Warmth

Newborn babies are at increased risk of getting extremely cold. The mother and the baby should be kept skin-to-skin contact, covered with a clean, dry blanket. This should be done immediately after the birth.

This will prevent the heat loss from the neonate and encourage the mother and the child bonding. The first hour is the best time for the mother and baby to be together, and they should not be separated. This time together will also help to start breastfeeding as early as possible as the smell of the milk may encourage early breast feeding in the neonate.

Steps of Essential Newborn Care

ESSENTIAL NEWBORN CARE

Step 1: Dry baby's body with dry towel. Wrap with another dry one and cover head

Step 2: Assess breathing and color if <30 breaths blue tongue, lips or trunk or gasping then resuscitate

Step 3: Tie the cord two finger from abdomen and another tie two fingers from the 1st one. Cut the cord between the 1st and 2nd tie

Step 4: Apply tetracycline eye ointment once

Step 5: Give vitamin K,1mg IM on anterior mid thigh

Step 6: Weigh baby (if <1500 gm refer urgently)

Step 7: Place the baby in Skin to skin Contact and on the breast to initiate breast feeding

Delay bathing of the baby for 24 hours after birth
Provide three postnatal visits during at 6 hour, 6 days and 6 week

Fig 1.8. Summary on steps of essential new born care

1.2. APGAR score

Neonatal death mainly occurs from three causes: neonatal infection (Sepsis, Tetanus, Diarrhea and pneumonia), preterm delivery/ low birth weight/ and birth Asphyxia. In Ethiopia, infection is considered to be the prime cause of newborn death. Immediate and essential neonatal care is the corner stone that will certainly have a significant impact on life of neonate

How to Score APGAR for Newborn?

APGAR score is a method used to quickly assess newborn condition immediately after birth. The APGAR scale is determined by evaluating the newborn baby on five simple criteria on a

scale from zero to two, then summing up the five values obtained. The resulting APGAR score ranges from zero to 10.

The five criteria are:

- Appearance(color)
- Pulse (hearth beat)
- Grimace (reflex to environment)
- Activity(muscle tone)
- respiratory

Fig 1.9 shows the five APGAR criteria that use to asses quickly the newborn condition

Table 1.1. A summary of the five criteria of APGAR score

Sign	0	1	2
Heart rate	Absent	Below 100	Over 100
Respiratory rate	Absent	Slow, irregular	Good, crying
Muscle tone	Flaccid	Some flexion of extremities	Active motion
Reflex irritability	No response	Grimace	Vigorous cry
Color	Pale	Cyanotic	Completely pink

The APGAR test is usually given to a baby twice: the first with in 1 minute after birth, and again the second at 5 minutes after birth. Sometimes, if there are concerns about the baby's condition or if the score at 5 minutes is low, the test may be scored for a third time at 10 minutes after birth.

Key: when the APGAR is

- <3/10 it is severe asphyxiated,
- 4-5/10 moderate asphyxiated,
- 6-7/10 mild asphyxiated,
- >7/10 no asphyxiated.

1.3. Neonatal Resuscitation

We begin by briefly summarizing what usually happens when a newborn makes the transition from life in its mother‘s uterus, to life in the outside world, where it must breathe for itself.

Asphyxia (shortage of oxygen) in the uterus is due to an inadequate supply of oxygen from the mother‘s blood or a problem in the placenta. This may result in

- Asphyxia at birth (mild, moderate or severe).
- Learning difficulties or cognitive impairment, which become apparent during childhood development; they are due to brain cells being destroyed by lack of oxygen during labour and delivery
- Death of the newborn.

Most babies breath spontaneously after birth but some babies may not. If a spontaneously breathing baby sustained breathing immediately after birth it indicates that :

- The baby was not asphyxiated in the uterus
- His/her respiratory system is functioning well
- His/her cardiovascular system is functioning well

Figure1.10. A full-term normal newborn who is breathing well has pinkish skin color and semi-flexed arms and legs; he has made a good transition from the mother's uterus to the outside world. (Photo: Dr Mulualem Gessese)

Some babies who has no adequate oxygen due to bleeding from birth trauma or those remained cyanotic (bluish discoloration of the body) my require resuscitation despite their breathing established.

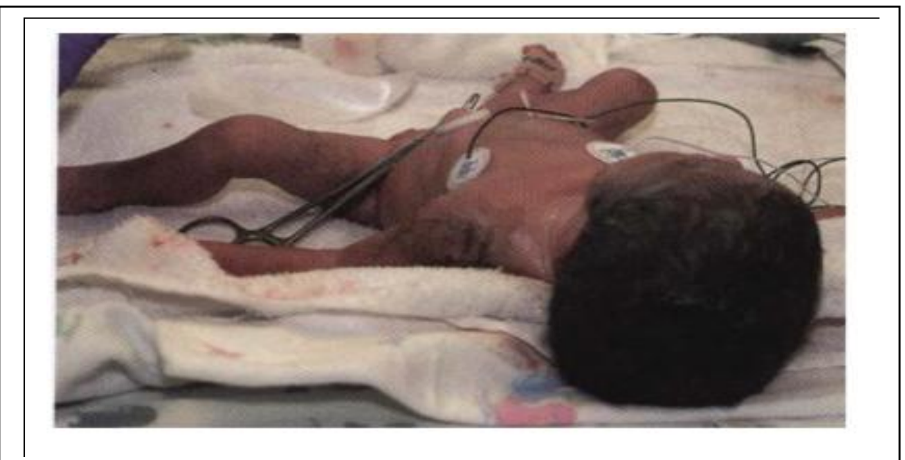


Figure 1.11. Pre term newborn with problems: she looks cyanotic(bluish), her limbs are floppy because her muscle tone is not strong, and she has breathing problems. (Photo:DrMulualemGessese)

Degree of Asphyxia

Moderate to severely asphyxiated babies usually require intensive resuscitation, so the next thing we are going to see is how to grade asphyxia in a newborn. Within no more than 5 seconds after the birth, you should make a very rapid assessment to find out whether the baby is alive or dead, and (if it is alive) to assess whether it has any degree of asphyxia.

A severely asphyxiated baby may not breathe at all, there may be no movement of its limbs (arms and legs), and the skin color may be deeply blue or deeply white. A baby who is not breathing at all after birth, or, who is breathing less than 30 breaths per minute needs help immediately. If a baby does not breathe soon after birth, it may get brain damage or die. Most babies who are not breathing can be saved if resuscitated correctly and quickly.

Things you should know before you initiate resuscitation

Is the fetus alive;

- If the fetus does not appears to be alive listen the fetal heart beat on stethoscope , if not heard it means that the fetus died
- You graded asphyxia If you can hear a heartbeat, but you estimate it to be less than 60 beats/minute, apply heart massage first, then ventilate alternately on and off, till the heartbeat is above 60 beats/minute

Table 1.2. Assessing the degree of asphyxia

Signs	No asphyxia	Mild asphyxia	Moderate asphyxia	Severe asphyxia
Heart rate	Above 100 beats/minute	Above 100 beats/minute	Above 60 beats/minute	Below 60 beats/ minute
Skin colour	Pink	Mild blue	Moderately blue	Deeply blue
Breathing pattern	Crying	Crying	Breathing but not strong	Not breathing, or gasping type
Limb movement	Moving well	Weakly moving	Floppy	Floppy
Meconium-stained	No	No	Maybe	Usually
Resuscitation	No need	Fast response	Good response	Takes a long time to respond

1.3.1. What Equipment required to Perform Neonatal Resuscitation?

- Two clean linen/cotton cloths: one to dry the newborn and one to wrap him or her afterwards including the head
- One towel for slight extension of the neck and head
- Three galipot
- Plastic bulb syringe to remove secretions from the mouth and nose, especially when

- Ambu-bag and mask (size 0 and 1)to give oxygen directly into the baby's lungs
- A trained person in neonatal resuscitation area (like you)
- Heat source (lamp) to provide warmth, if possible

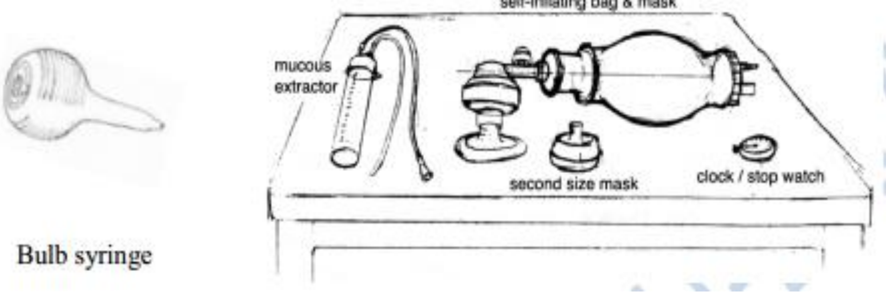


Figure 1.12. Equipment you need to perform neonatal resuscitation

Types of resuscitation

In this section we are going to discuss about different type of resuscitation .This includes:

1. Suctioning: is extraction of secretion from fetal mouth and nose using an instrument called a bulb syringe

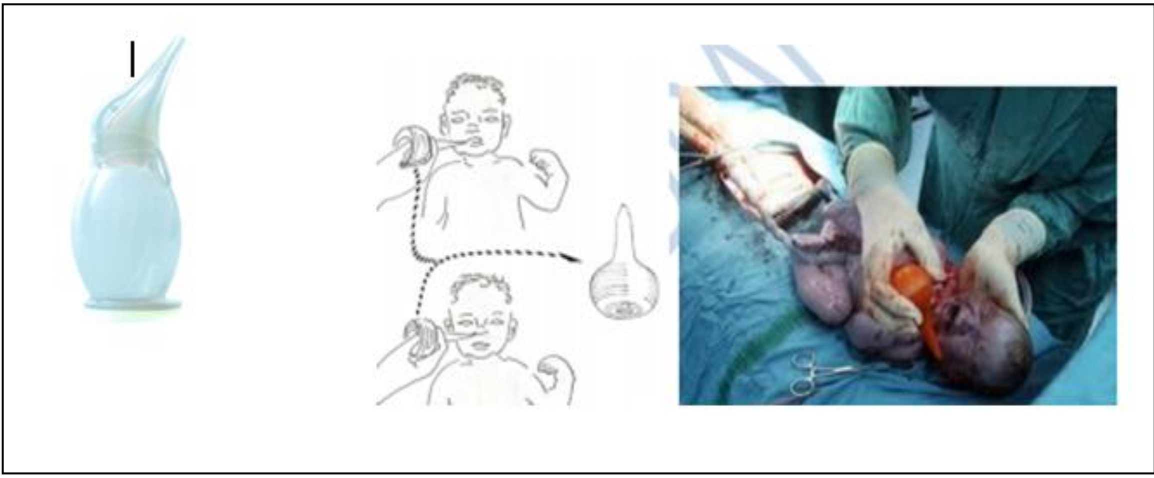


Figure 1.13. suctioning using bulb syringe

As you can see from the figure above, first you should compress the bulb syringe to then insert the bulb syringe in to the mouth of the new born (You should insert the bulb syringe 5 cm in the mouth). After it is inserted to the mouth, you should release the pressure from the bulb syringe and let it suck the mucus and fluids available in the mouth of the baby. Following that, you should remove the bulb syringe and expel the mucus outside.

The same procedure will be applied for the nostril of the new born baby. However, you should insert the bulb syringe only 3 cm deep to the nose.

Remember! Do not suction deep into the throat as this may cause the heart to slow or breathing to stop

- ✓ If the baby's skin is stained with me conium, or the oral and nasal cavities are filled with meconium stained fluid you should not resuscitate before suctioning the oral, nasal and pharyngeal areas. Ventilation will aggravate the baby's breathing problem because it will force the meconium-stained fluid deep into the baby's lungs, where it will block the gas exchange

Figure 1.14. Baby who is not breathing (no signs of chest or nose movement) and with meconium stained all over its body.(Photo: Dr Mulualem Gessese)

2. **Ventilation:** initiation of breathing using an instrument called ambubag (hand operated manual used to deliver oxygen). It had mask piece which should be adjusted to fetal mouth and nose in order to pump air in to the fetal lung; the below(figure 1.15) demonstrates the use ambubag for delivering oxygen to fetal lung

Figure 1.15 Ventilating new born using ambubag

3. **Heart massage**: pressing the fetal heart gently on your hand thumbs or with middle and index finger in a rhythmic way to stimulate the heart beat. You should NEVER attempt to give heart massage because you might injure the sternum and ribs.

Figure1.16. Cardiac massage technique practiced on a training doll. You can seea ventilator at the top right of the picture. (Photo: DrYifrew Berhan)

1.3.2. Neonatal resuscitation procedures

1. **The first five second;** this indicates what you will do in the first five second immediately after birth based of fetal condition. The following are the summary of fetal, responses to the stimulus and condition with possible degree of asphyxia and management
   - If the newborn Crying and moving limbs; he/she is probably healthy(no asphyxia) and does not require resuscitation

- If Weak breathing, not moving limbs, moderate cyanosis; he/she probably moderately asphyxiated and requires ventilation by on an off.
- Not crying, breathing not moving limbs/floppy; may be cyanosed or meconium stained He/she is probably severely asphyxiated and requires; call for help and estimate fetal heart beat.
    - if above than 60 breath/minute do as above i.e. suctioning then ventilation on and off.
    - If the fetal heart beat is less than 60breath/minute, continue your ventilation and refer immediately.

2. **Checking the newborn's heart rate:**
    - The apical heartbeat (or AHB) is just another name for the heartbeat heard through a stethoscope over the area of the heart on the left side of the chest, it so called apical heartbeat as it heard directly on the heart, as that heard away from the heart is called pulse rate.
    - The newborn's heartbeats can be counted by either by fetoscope or stethoscope on apical area or feeling the pulse at the base of the umbilical cord.

Figure 1.17. Checking and counting the apical heartbeat (AHB) and feeling for the pulse at the base of the umbilical cord.

3. **Dry the baby quickly and keep it warm**

- Dry the baby immediately with one towel and cover another dry towel .Make skin contact with his/her mother cover warm blanket. Make sure you cover fetal; head to prevent heat loss Use a heat lamp or other overhead warmer, if available.

4. Clearing the mouth and nose;

- Suction the mouth then the nose with bulb syringe if available or clean dry sheet to clean the mouth and the nose

5. Apply gentle tactile stimulation to initiate or enhance breathing;

- You can stimulate the newborn by gentle tactile stimulation rub the baby‘s abdomen up and down; or you may rub the underside of the baby‘s foot with your fingers.

Things you should not do to stimulate the neonate:

- Slapping the back
- Squeezing the rib cage
- Forcing the baby‘s thighs into its abdomen
- Dilating the anal sphincter (the ring of muscle that closes the anus)
- Hot or cold compresses or baths
- Shaking the umbilical cord

6. If you diagnose asphyxia, start resuscitation

Put the baby in back position with the neck slightly extended. then open the air way removing mucus and secretions. Initiate ventilation by ambubag while you are positioned at the head of the baby and you should look fetal chest movement with each ventilation.

Make sure that the musk fit to cover the mouth, nose and chin and no air escape between the musk and newborn face but do not force the musk to newborn face as this will cause downward movement of child chin toward the chest and compress the airway. Now check the AHB of the newborn; continue your ventilation and refer immediately.

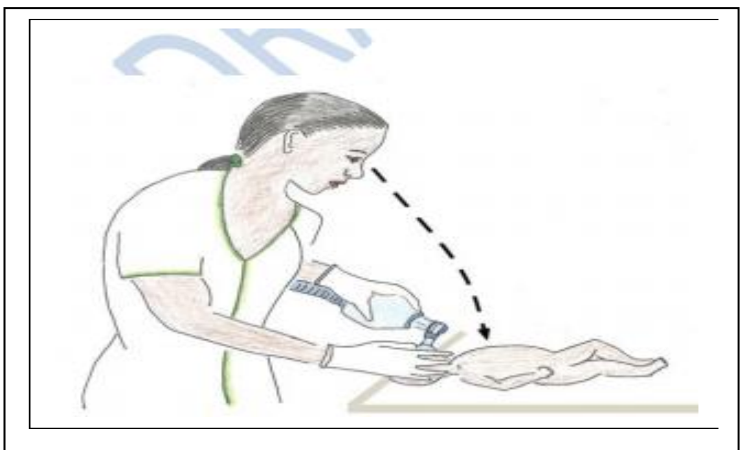


Fig 1.18: positing and looking chest movement while ventilating

7. Ventilate at 40 breaths per minute

Count out loud: ‗Breathe — two — three' as you ventilate the baby this is say breath when ventilating two for releasing and three for getting ready for the next breath. This will help you to ventilate the newborn with an equal rhythm, at a rate that the newborn's lungs are naturally adapted to .When you are doing so you are ventilating the neonate in rate of 40 breath minute.

Apply enough pressure to create a noticeable gentle rise and fall in the baby's chest. The first ventilation requires higher pressure but note that deep breathing is indicator that you applied much pressure

8. Evaluate the baby during ventilation

Here are Signs of good ventilation and improvement in the baby's condition

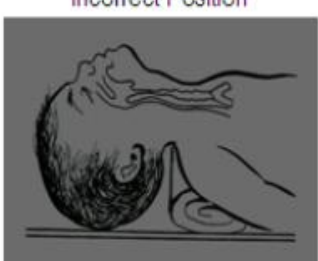
- An increased heart rate of more than 100 beat/minute; is the best indicator for good ventilation and improvement in newborn's condition.
- Appears to be pinkish if he/she were cyanosed
- Moves the limbs in little bit and looking less floppy
- Newborn breaths spontaneously or cries as you stop ventilatin

Table 1.3. Summary of Newborn Resuscitation

ESSENTIAL NEWBORN CARE: NEWBORN RESUSCITATION

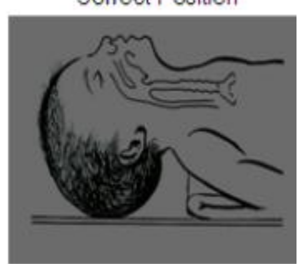
Position	▸ Place the baby on his back with the neck slightly extended. ▸ Put a towel or cloth behind the shoulder to facilitate positioning
Clear airway	▸ Clear the airway by wiping out the mouth with gauze ▸ Suction the baby's nose and mouth gently ▸ Reassess the baby's breathing
Ventilate	▸ Use baby bag and mask to ventilate at 40 breaths per minute ▸ Continue to ventilate until the baby breathes independently ▸ Stop after 20 minutes if the baby has not responded
Monitor	▸ Keep the baby warm (skin-to-skin) ▸ Defer bathing for 24 hours after the baby is stable ▸ Breastfeed as soon as possible ▸ Watch for signs of a breathing problem rapid, labored, or noisy breathing, blue color of the tongue, trunk ▸ If a breathing problem occurs, stimulate, give oxygen [if available], and refer

Incorrect Position



Incorrect Position

Correct Position



Incorrect: Bigger Mask

Incorrect: Smaller Mask

Correct: Proper Mask

Bag & Mask Resuscitation

How to Ventilate

- **Squeeze bag with 2 fingers or whole hand, 2-3 times**
- **Observe for rise of chest.**
- **IF CHEST IS NOT RISING:**
  - **Reposition the head**
  - **Check mask seal**
- **Squeeze bag harder with whole hand**
- **Once good seal and chest rising, ventilate at 40 squeezes per minute**

1.4. Checking danger signs reporting visible abnormalities

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 (Unable to suck or sucking poorly)
- Convulsions
- Drowsy or unconscious
- apnea (cessation of breathing for >20 secs)
- Breathing ≤30 or ≥60 breaths per minute, grunting, severe chest in drawing, blue tongue & lips, or gasping
- Grunting
- Severe chest in drawing
- Central cyanosis
- Feels cold to touch or axillary temperature < 35°C
- Feels hot to touch or axillary temperature ≥37.5°C
- Red swollen eyelids and pus discharge from the eyes
- Jaundice /yellow skin — at age < 24 hours or > 2 weeks Involving soles and palms
- Pallor, bleeding from any site
- Repeated Vomiting, swollen abdomen, no stool after 24 hour

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

Case study.1

1. Miss mulu is 30yrs old who gave birth at your health post at 3kg female baby immediately after birth the newborn baby cried, her respiratory rate were regular, appeared pink ,her apical pulse rate is 80 beat/minute and active(moving limbs). Based on the information given in the case study, answer the following questions
    a. What is the APGAR score of the newborn baby?
    b. What type care will you give immediately after birth (with its step)?
2. Define the following terms listed below
    a. APGAR score, neonatal asphyxia, newborn care , ventilation , suctioning ,heart massage, apical heart beat, pulse, ambu-bag**.**
3. Explain how you would support bonding between mother and newborn after immediately after delivery?

Note: **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

Answer Sheet

Score = ___________

Rating: ____________

Name: _________________________ Date: _______________

Information Sheet-2	Evaluate maternal conditions

2.1. Evaluating maternal condition

The evaluation of the *woman immediately after birth* includes:

- How she feels; ask for pain, bleeding, difficulty in urination, breast feeding, any other concern she may have
- General physical conditions
- Depression /psychosis. mood
- Malnutrition: general health, night blindness, goiter
- BP, pulse, temperature1 - take BP and PR every:
    - 15 minutes for first 2 hours
    - 30 minutes for 1 hour
    - 3 hours then after
- Anemia: conjunctiva/tongue/palms, hemoglobin (if necessary)
- Condition of the breast and nipple; establishment of breastfeeding
- Checking for bladder distension and urine passed, incontinence/ fistula
- Fundal height and uterine consistency
- Inspecting the vaginal, and perineum for any discharge

2.2. Checking and reporting visible abnormalities

Common post- delivery complications

Postpartum hemorrhage

The most common complication of the third stage of labor is PPH. Active management of the third stage has clearly been shown to reduce the frequency of this complication and therefore most likely has a positive impact on maternal mortality and longer-term morbidities /death.

Retained Placenta

This refers to the retention of the placenta in the uterus for more than 30 minutes. This bleeding may be visible or may manifest only by the increasing size of the uterus. In the absence of any

evidence of placental detachment, consider the diagnosis of complete placenta accrete (placenta implanted the layer of the uterus) .This condition may be present with bleeding if only a portion of the placenta is abnormally implanted.

Uterine inversion

The uterus is pulled ‗inside out' as the baby or the placenta is delivered, usually due to

- Poor management of AMTSL
- Applying mixed method (Fundal pressure and cord traction)

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are the most common post deliver complications?
2. List what will you evaluate the *woman immediately after birth* ?

Note: **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

Answer Sheet

Score = ___________

Rating: ____________

Name: _________________________ Date: _______________

Information Sheet-3	Breast feeding

3.1. Encouraging Early Breast Feeding

The mother can initiate breast feeding immediate after birth. Help the mother on first feeding make sure that the newborn is positioned, attached well to the breast and sucking. The first milk from the breast is colostrums which very important as they consist full of protein and helps to protect the baby from infections.

Here are the advantages of breast feeding

- Makes the uterus contract i.e. facilitate removal of the placenta and prevent bleeding
- Help the neonate and mother to know each other
- It is nutrition for the newborn
- It comforts the mother and makes her feel better on her new baby
- Always available and cheap
- Sterile
- Facilitate breathing by clearing the air way for mucus and fluids

Figure 7.5: initiating immediate breastfeeding

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Describe the advantage of breast feeding

Note: **Satisfactory rating - 4 points** **Unsatisfactory - below 4 points**

Answer Sheet

Score = ___________

Rating: ____________

Name: ___________________________ Date: ________________

Operation Sheet 1	Techniques of Providing Essential new born care

1.1. The techniques for providing Essential new born care are:

- **Step 1:** Deliver the baby onto mother's abdomen or a dry warm surface close to the mother
- **Step 2:** Drying the newborn ;
- **Step 3**: Assess breathing and color
- **Step 4:** Tie the cord and cut the cord
- **Step 5:** Place the baby in skin-to-skin contact and on the breast to initiate breast feeding
- **Step 6**: Give eye care
- **Step 7**: Give Vitamin Step
- **Step 8:** Weigh baby
- **Step9**; Identification
- **Step 10.;** record your finding

Operation Sheet 2	Techniques of providing neonatal Resuscitation

The techniques for providing Essential new born care using are

Step one. Dry the baby

Step two: Check the baby alive and grade the extent of asphyxia

Step three: Place the baby on his/her back on a clean, warm surface and keep covered except for the face and chest

Step four: Explain the procedure to the mother and respond appropriately

Step five: Tilt the newborn's head backwards slightly using the head tilt-chin lift technique, by putting small towel under the neck

Step six: Suctioning- Remove any secretion first from the mouth then from the nose

Step seven: Position yourself at the head of the baby by placing small folded towel under the baby shoulder

Step eight : Place the mask on the baby's face

Step nine: Give ventilation

Step ten: Evaluate the baby

Step eleven: Record and document your findings

LAP Test 1	Provide Essential new born care

Name: _____________________________ Date: ________________

Time started: ________________________ Time finished: ________________

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within --- hour.

Task 1.

1. Miss mulu is 30yrs old who gave birth at your health post at 3kg female baby immediately after birth the newborn baby cried, her respiratory rate were regular, appeared pink ,her apical pulse rate is 140 beat/minute and active(moving limbs). Based on the information given in the case study, perform essential newborn care?

LAP Test 2	Provide neonatal Resuscitation

Name: ______________________________ Date: ________________

Time started: __________________________ Time finished: ________________

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within --- hour.

Task 2

2. A25 year old woman called Atsede was brought to your health post after being in labor for 38 hours at home. soon after she reached you, she gave birth to a full term baby boy. you assessed the baby and found he was not making any breathing effort, he had no movement of his limbs and his whole body was covered with meconium stained aminiotic fliuid .when you dried him and applied tactile stimulation, the baby still didn't show any effort to breathe.

   Based on the information given in the case study, perform neonatal resuscitation?

List of Reference Materials

1- FMOH, Labour and delivery , Blended Learning Module for the Health Extension Programme, Adds Ababa, Ethiopia 2007

2- FMOH, PNC, Blended Learning Module for the Health Extension Programme, Adds Ababa, Ethiopia 2007

3- FMOH, Management protocol on selected obstetrics topics , January, 2010, Addis Ababa , Ethiopia