Ethiopian TVET-System

Health Extension Service

Level III

Based on Jan.2018G.C Occupational Standard

Module Title:	**Promoting Child Survival, Growth and Development and applying ICCM**
TTLM Code:	**HLT HES3 TTLM 1019v1**

This module includes the following Learning Guides

LG52: Promote child survival, growth and development

LG53: Asses and manage common child hood illness

LG54: Refer child requiring further care

Instruction Sheet	LG52: Promote child survival, growth and development

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

- Appropriate Communication and demonstration on
- Play and communicate with the child

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 –**

- Communicate and demonstrate appropriate child feeding practices to the care giver
- Communicate and demonstrate appropriate messages to prevent illnesses to the care givers
- Communicate messages on health seeking behaviors to the care givers
- Addressed communication on dangers of neglect, child abuse and malpractice

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, and Sheet 2, **in page 1 and 24** respectively.
4. Accomplish the "Self-check 1, and Self-check 2, **in page 23 and 28** respectively

Information Sheet-1	Definition of terms

1.1. Appropriate Communication and demonstration

1.1.1. Definition of terms

Communication: the process by which people share ideas, experience, knowledge and feelings through the transmission of symbolic messages. The ability to effectively communicate is a primary skill. The more you become an effective communicator; the more likely you are to achieve what you want.

Demonstration: A technique that shows how something works or gets done. It is intended to illustrate or clarify an idea, process or relationship.

As a HEW you have to make appropriate communication and demonstration with family members about different activities which are important for the growth and development of children .Some of the major issues which needs your communication and demonstration includes:

- **Child feeding practice**
- **Prevention of illness**
- **Health seeking behaviors**
- **Danger of neglect child abuse and malpractice**

1.1.2. Child feeding practice- feeding the child as per recommendations

Infants should be exclusively breast feed for the first six months of life to achieve optimal growth, development and health. Thereafter, to meet their evolving nutritional requirements, infants should receive adequate nutritionally and safe complementary foods while breastfeeding continues for up to two years of age or beyond. During illness, children may not want to eat much. However, they should be offered the types of food recommended for their age, as often as recommended, even though they may not take much at each meal. After illness, good feeding helps to prevent weight loss, prevent malnutrition, and prevent future illness

1.1.2.1. Feeding Recommendation from birth up to six months old.

- Initiate breast feeding within one hour after birth and the mother should breast feed her child at any time the infant wants, day and night, at least 8 times in 24 hours.
- Empty one breast first before giving the other breast because the baby can get the most *nutritious hind or final milk (the final milk has more nutrition than the initial milk and the initial milk has more water than the final or hind milk)*. The sign of empty breast looks like; smooth to touch, not hard or not engorged with milk and the breast becomes hanging down.
- During illness and for at least two weeks after the illness increase the frequency of breastfeeding because it helps for the child to recover faster.
- Expose the child to sunshine for 20 to 30 minutes daily and early at the morning it is important for better bone growth and development.
- Give exclusive breast feeding for the child i.e. only breast milk for the first six months, do not give additional food even water except medication (exclusive breast feeding is recommended and advised to the mother)

1.1.2.2. Benefits of breast feeding for children

Breast milk is best for children, and the benefits of breastfeeding extend well beyond basic nutrition. In addition to containing all the necessary vitamins and nutrient to the body, breast milk is packed with disease-fighting substances that protect from illness.

The following are some advantages of breast feeding for children-

- Promote bonding between mother and children.
- Protection against common childhood illnesses and infections
- It helps for physical and mental development.
- Breast milk makes the children always having a right body temperature.
- It is nutritionally balanced meals
- Better survival during the first year of life, including lower risk of sudden infant death syndrome (SIDS)
- Less chance of developing some allergic diseases
- Lower likelihood of being obese as an adult
- Less chance of developing type 1 diabetes
- Physical and emotional benefits of breastfeeding directly from the mother's breast due to skin-to-skin contact

1.1.2.3. Benefits of breast feeding for mothers

Like children; mothers also benefited from breast feeding; as the children benefited from breast milk the mothers also simultaneously benefited when providing breast milk. Those benefits are:-

- Facilitates uterine contraction and reducing *post-partum bleeding and also help for expulsion* of the placenta.
- Improves postpartum weight loss
- Emotional benefits from close interaction with the infant
- Lower likelihood of experiencing postpartum depression, which is seen more often in new mothers who do not breastfeed
- Less chance of developing certain health conditions, such as rheumatoid arthritis, cardiovascular disease, and certain cancers (for example, breast cancer)
- Physical and emotional benefits due to skin-to-skin contact with her infant.
- Breastfeeding helps for child spacing

1.1.2.4. Preparation phase, positioning, attachment and sucking techniques of breast feeding

Preparation phase during breast feeding

- The mother must be comfortable
- The babies' abdomen should touch the mother's abdomen.
- The mother should hold her breast with her finger in a **C- shape**
- Touch the baby's lower lip by the nipple of her breast to open his mouth.
- The mother should be ready to put the breast quickly into the baby's mouth.

Signs of good positioning during breast feeding

- The infant‘s body should be straight.
- The infant‘s body and head facing the breast.
- The infant‘s body should be close to her mother‘s.
- The infant‘s whole body should be supported

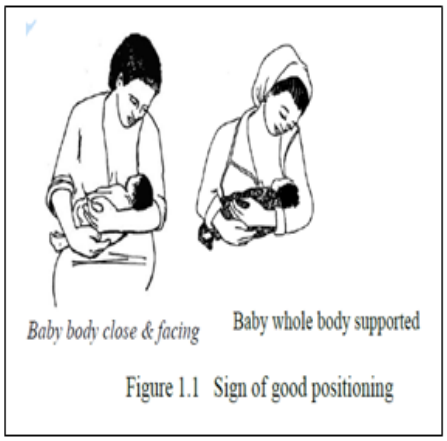


Figure 1.1 Sign of good positioning

Figure 1.2 Sign of poor positionin

Signs of good attachment during breast feeding

- The infant's chin touches the breast
- The infant's mouth is wide open
- The infant's lower lip turned outward.
- More areola is seen above the infant's mouth and less areola is seen in the lower part of the infant's mouth.

Figure 1.3 Signs of good attachment

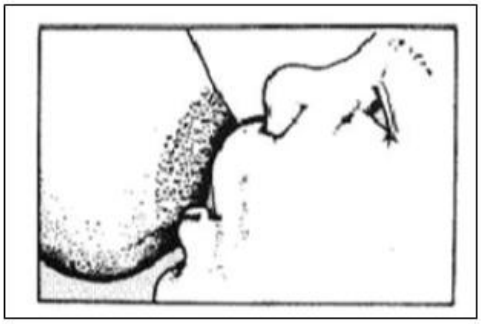


Figure 1.4 signs of poor attachmer

Signs of good sucking

- Suckles with slow deep sucks and sometimes pauses
- See or hear the infant swallowing
- infant releases the breast spontaneously

- Infant appears relaxed, sleepy, and loses interest in the breast

Infant breast feeding is affected by the following:-

- When the baby is sick
- When the mother is sick
- Both the mother and the baby are sick.
- Malnourished mothers
- Infant who is separated away from her Mothers

1.1.2.5. Recommendations of infants feeding from 6-12 months old

By six months of age, all children should be receiving a soft, nutritious complementary food. Exclusive breastfeeding is not enough for a child over six months of age. A Variety of thick, nutritious foods are needed to prevent malnutrition. You can Advise the mother that she should also give mashed and boiled kale (gommen) And carrots, bananas, oranges and other fruits such as avocado or papaya to Ensure her child has a healthy, balanced diet.

- Start complementary food at the age of six months of child age
- Give breastfeeding as often as the child wants.
- Give adequate amount of freshly prepared and enriched foods e.g. porridge made of cereal and legume mixes, Shiro fit-fit, Merek fit-fit, mashed potatoes and carrot, mashed gommen, undiluted milk, egg and fruits.
- Enrich the food by adding some oil or butter; also give animal foods (meat, liver, fish, and eggs), legumes, vegetables (green leafy & carrots) and yellow fruits (orange, papaya, mangos).
- Give these foods three times per day if the child take breastfeeding and Give these foods five times per day if the child is not take breastfeeding (three main meals and two snack or mekises)
- Babies who stopped breastfeeding at six months should also get adequate replacement milk besides semi-solid complementary feeds.
- Increase intake of food and fluids during illness, and give one additional meal of solid food for about two weeks after the illness to help the child recover faster.
- Give vitamin A supplements from the age of six months, every six months.
- Expose the child to morning sunshine.

1.1.2.6. Recommendation of child feeding from 12 months to 2 years

- Give breastfeeding as often as the child wants.
- Give adequate amount of enriched family foods: porridge made of cereal and legume mixes, shiro,kik, merek fit-fit, mashed potatoes and carrot, gommen, undiluted milk, eggs and fruits
- Add some extra butter or oil to the child‘s food. Also give animal foods (meat, liver, fish, eggs), legumes, vegetables (green leafy, carrots) and yellow fruits (orange, papaya, mangos).
- Give these foods at least five times per day (three meals and two snacks or mekises).
- Children who stopped breastfeeding at an early age should also get adequate milk replacement besides complementary feeding.
- The child should take his food regularly and the mother should actively feed the child.
- Give freshly prepared food and use clean utensils.
- Increase intake of food and fluids during illness, and give one additional meal of solid food for about two weeks after illness to help the child recover quickly.
- Give vitamin A supplements and Mebendazole every six months.

1.1.2.7. Recommendation of child feeding from 2 years and older

- Give adequate amount of freshly prepared enriched family foods, three or four meals every day. In addition to this meal give nutritious food twice daily such as egg, milk, fruits, kitta, dabo, ripe yellow fruits.
- Give freshly prepared food and use clean utensils.
- Increase intake of food and fluids during illness, and give one additional or snack meal of solid food for about two weeks after the illness to help the child recover faster.
- Give vitamin A supplements and Mebendazole every six months

1.2. Feeding recommendations when a mother is HIV-positive

As you read earlier, breastfeeding has unsurpassed advantages over any other form of infant feeding. In resource-limited countries such as Ethiopia, breastfeeding is a key component of child survival interventions. Infant mortality is higher in settings where infants are not breastfed or breastfeed for a short time only (that is, less than six months). Although breastfeeding by an HIV-positive mother can transmit the virus to the infant, replacement feeding, if not instituted properly, is actually associated with increased risk of morbidity and mortality at a young age in low resource settings like Ethiopia.

Exclusive breastfeeding (EBF) during the first six months of life is associated with decreased transmission of HIV and improved child survival compared with non-exclusive breastfeeding. Because of high infant mortality rates in Ethiopia, EBF for as long as possible up to six months is recommended as the only feasible and the safest option for infant feeding amongst HIV-infected women. At six months, complementary foods should be introduced in order to sustain normal growth.

Most Ethiopian children will continue to benefit from breastfeeding until 12-18 months of age. Universal access to antenatal and postnatal prevention of mother-to-child HIV transmission (PMTCT) services and prioritizing antiretroviral therapy for eligible pregnant and lactating women is an important part of decreasing perinatal transmission of HIV.

When the infant reaches six months, you should advise the mother to add complementary feeding in addition to the breastfeeding until the child reaches 12-18 months. Breastfeeding should stop only when a nutritionally adequate diet without breast milk can be provided. This is usually around 12-18 months of age. Infants who are known to be HIV infected should continue to breastfeed according to recommendations for the general population. Mothers can give replacement feeding either exclusively or they can give in addition to breast milk.

The aim of feeding replacement food in HIV positive mothers are in order to reduce the chance of HIV transmission from the mother to the new born through breast milk but, currently exclusive breast feeding is recommended than replacement feeding for HIV positive mothers due to increase morbidity & mortality rate of infants

1.3. Counsel the mother how to choose and prepare replacement feeding based on AFFAS criteria

1.3.1. WHO AFASS criteria for replacement feed

Many families cannot have equal chance of buying replacement feed so they are choosing one of the replacement feed according to the AFASS criteria this criteria help you to counsel HIV-positive mothers about feeding options for their newborns.

- **Acceptable**: Replacement feeding for breast milk is acceptable by the mothers. It means that the mothers accept the replacement food is whether adequate or not to the new born.
- **Feasible:** The mother has access to clean and safe water for cleaning the feeding measuring cup and spoon, and diluting the formula milk if it comes as a powder.

- **Affordable:** The family can afford to buy enough formula milk or animal milk to feed the baby adequately.
- **Sustainable**: The mother is able to prepare feeds for the child as frequently as recommended and as the baby demands and it should not be interrupted.
- **Safe:** The formula milk should be safe, nutritious and good for the health of the baby

1.3.2. Recommendations of replacement feeding

1) Mothers should be taught about safe preparation of breast-milk substitute
2) The instructions for mixing the commercial formula need to be followed exactly according to the supplier recommendations.
3) Possible breast-milk substitutes include:-
    - Commercial infant formula feed.
    - Liquid animal milk (cow or goat).
    - Powdered animal milk.
4) All other milks are unsuitable for small infants
5) 5) For all breast-milk substitutes it is recommended to follow basic hygienic measures for preventing infections.
    a. Wash hands with soap and clean water
    b. Clean all utensils, containers and cups with soap and clean water
6) Mothers should give the infant a micronutrient supplement every day
7) The breast-milk substitute should be fed by cup.

1.3.3. Safe Preparation of Formula Feeding

- Always use a marked cup or glass and spoon to measure water and the scoop to measure the formula powder.
- Wash your hands before preparing a feed.
- Bring the water to the boil and then let it cool. Keep it covered while it cools.
- Measure the formula powder into a marked cup or glass according to the preparation advice on the package of the formula milk.
- Add a small amount of the cooled boiled water and stir. Fill the cup or glass to the mark with the water. Stir well.
- Feed the baby by using a cup.
- Wash the utensils.

1.3.4. The mother or caretaker should have received full counseling before making this decision.

- Asses and ensure that the mother or caretaker has an adequate supply of commercial infant formula (at least for 12 months)
- Asses and ensure that the mother or caretaker knows how to prepare milk correctly & safely and has the facility and resources to do it
- Demonstrate how to feed with a cup and spoon rather than a bottle
- Make sure that the mother or caretaker understands that mixing breastfeeding with replacement feeding may increase the risk of HIV infection
- Advise the mother to come for monthly feeding assessment

1.3.5. The recommendations when using liquid cow or goat milk in infants less than 6 months old and for each feed are the following.

- For the one-month old mix 40 ml of milk with 20 ml of boiled water and add 4 g of sugar
- For a two-months old mix 60 ml of milk with 30 ml of boiled water and add 6 g of sugar
- For infants 3-4 months old mix 80 ml of milk with 40 ml of boiled water and add 8 g of sugar
- For infants 5-6 months old mix 100 ml of milk with 50 ml of boiled water and add 10 g of sugar

1.3.6. If the substitute is going to be prepared using powdered cow's milk the following is recommended for each feed:-

- For the one-month old infant mix 5 g of milk with 60 ml of boiled water and add 4 g of sugar
- For the two month-old mix 7.5 g of milk with 90 ml of boiled water and add 6 g of sugar
- For infants 3-4 months old mix 10 g of milk with 120 ml of boiled water and add 8 g of sugar
- For infants 5-6 months old mix 12.5 g of milk with 150 ml of boiled water and add 10 g of sugar.

1.4. Prevention of illness

The aim of preventing child hood illness is to reduce the morbidity and mortality rate of under-five children‘s. All the health extension practitioner should be reduce or eradicating the

child hood problems in the community by educating the community members and counseling individual care givers about the mode of transmission, cause and prevention mechanisms.

Child hood illness is a disease which mostly affects under-five children. There are different methods of preventing child hood illness these are

1.4.1. Immunization

Immunization is known as the single most cost-effective strategy to decrease childhood morbidity and mortality. Most of Child hood illnesses are vaccine preventable; currently EPI delivers ten vaccines to protect children against the following serious child hood illnesses: *Micro bacterium Tuberculosis (TB),Poliomyelitis, Diphtheria,Pertussis,Tetanus, Haemophilusinfluenzae type -B(Hib),HepatitisB virus.,Rota virus,pcp* (pneumocystis carinii pneumonia) *and Measle.*

- Haemophilus influenzae type B and hepatitis B vaccines are introduced into the EPI programme in Ethiopia in 2007. Haemophilus influenza type B vaccine prevents meningitis, pneumonia, epiglotitis and other serious infections caused by Haemophillus influenza type B bacteria.
- Hepatitis B vaccine protects against liver disease. Hepatitis B infection in young children is usually asymptomatic (they don‘t develop symptoms). However, a larger proportion of children than adults may become chronic carriers who can transmit the hepatitis B virus to others for many years without showing symptoms themselves. Chronic carriers are more likely to develop severe chronic liver disease or liver cancer in later life.
- BCG vaccine protects against micro bacterium tuberculosis (TB) and is given only once at birth.
- OPV (oral polio vaccine), given in four doses numbered 0 to 3 (at birth, at 6, 10, 14 weeks of age).
- Penta valent vaccine is the combination of five vaccine together (purtussis,diphtheria, tetanus vaccine, Hepatitis B vaccine and Haemophilus influenzae type B vaccine.). Children get three doses at 6, 10 & 14 weeks of child age.
- Rota vaccine is the newly introduced vaccine available in 2006 in Ethiopian Calender it prevents against rota virus. Children take 2 doses at 6 & 10weeks of age.
- PCP (pneumocystis carinii pneumonia) vaccine is also the newly introduced vaccine in 2005 in Ethiopian Calender it prevents against pneumocystis carinii pneumonia children take 3 doses at 6,10 & 14 weeks of age.

- Measles vaccine is given only once at 9 month of child age it prevents against Measles virus. So, all under- five children should take all the vaccines described in the above to be free from the illness.

1.4.2. Hand Washing

It is the process of cleaning the hand by using soap and water. And it is done before and after any activities. Hand washing is the most important infection prevention method to prevent child hood illness.

When to Wash Hands

Hands should be washed or decontaminated as follows:

1. Before and after each work.
2. After caring for a patient/resident
3. Before and after any clinical procedures
4. After contact with blood or other body fluids
5. After handling contaminated items (e.g. contaminated diaper)
6. After using the toilet or after toileting a child
7. Before preparing, eating, drinking or handling food
8. Before feeding patients/clients
9. After making a bed or handling used laundry items
10. After removal of gloves

1.4.3. Diapering

it is a process of cleaning or washing a diaper and this is one of the method of preventing child hood illness. **Diaper:** It is an absorbent material which is wrapped around baby‘s buttock and Between its legs to absorb and retain urine and faeces. The diaper changing area and anything else that comes in contact with a child‘s faeces or urine should always be cleaned and disinfected after every diaper change. The diapering area should always be located near a source of running water, and have a deep sink, preferably within arm‘s reach on it for convenient hand washing. Diapering is one of infection prevention method there for every woman who has a child should clean and wash the diaper after being contact with baby‘s faeces and urine

1.4.4. Food Preparation

Good food preparation for the children reduces the risk of infection.

- Always wash your hands *before* handling food and *after* going to the toilet or changing a diaper.
- Perishable foods (e.g. milk products (including baby bottles), meat, poultry, and eggs) must be refrigerated at or below 4 0c.
- Give cooked foods immediately for the children; if they are delay to eat keep the food above 600c until the baby feeds.
- Thoroughly cook all foods derived from animal sources, particularly poultry, egg and meat dishes.
- Put meat in the refrigerator.
- Wash all utensils after using.
- Food preparation, serving and storage areas must be kept clean, dry and separate from playing, toileting and diapering areas.
- Food tables (e.g. tabletops) should be wiped clean and sanitized after each use.

1.4.5. Preventing Respiratory Infections

Some suggestions for preventing respiratory infections in children are:

- Have plenty of tissues (a disposable hand kerchief made of paper) readily available for nose-wiping use this tissue to clean the respiratory discharge and put all soiled tissues in covered plastic containers.
- Use a different tissue for each child, and wash your hands after nose wiping.
- Teach children and care givers to cover their mouths when they cough or sneeze and to wash their hands afterward.
- When the child has a respiratory problem isolate the infected child from healthy child until the sick child is recover well. Make sure cots or sleeping mats for daytime naps are spaced at least 24 inches (60 centimeters) apart.
- Cover each cot or mat with a sheet or washable blanket marked with the child‘s name. This will keep the cots or mats clean and must be washed weekly or sooner if soiled.
- Wash and disinfect toys weekly. Plastic toys which children put in their mouths should be washed with soap and water and then sanitized immediately after you have seen this activity.
- Children, who have respiratory infections, and infants and toddlers, should not share their toys with other children. In infant care centres, toys should be disinfected on a daily basis.

- Wipe door knobs, shelves at children‘s level, crib rails, mats and other small baby furniture, as well as toys, at least once or twice a week. First use soap and water to wipe off the layer of saliva that is usually present on these objects, then follow with a sanitizing solution.
- Clean and disinfect all contaminated surfaces by using a sanitizing solution. Repair all internal and external leaks promptly and permanently

1.5. Respond to child’s illnesses

Respond means recognize the child‘s problem and give an intervention to that problem. First you should be recognize or identify the sign and symptoms of child hood illness and then you give an appropriate intervention to that problem. So in this section you will learn the sign and symptoms and prevention mechanisms of child hood illness and you will counsel the care giver and also you will further educate the community to prevent child hood illness

1.5.1. Chicken pox (varicella-zoster virus)

Chickenpox (Chicken Pox), also known as **Varicella** is a very contagious infection caused by the *varicella zoster virus*.

Mode of Transmissions:

- Airborne disease which spreads easily through coughing or sneezing by ill individuals
- Direct contact with secretions from the rash
- Contact with articles freshly soiled with the discharges from blisters or vesicles of an infected person.

Signs and Symptoms:

- Skin rash often consisting of small blisters all over the body.
- Eruption comes in crops.
- There may be pimples, blisters and scabs all present at the same time.
- Mild fever.

Sometimes this infection is mild and only a few blisters are present

Prevention:

- Isolate infected children from school and give child care until all of the blisters are crusted and scabbed.

- Isolate susceptible contacts (i.e. those children who have not had chickenpox disease) from 10 up to 21days following exposure to a case of chickenpox.
- Provide varicella vaccine

1.5.2. Diarrheal disease

Diarrhea *is defecation of watery stool three or more times per day* (or more frequent passage than is normal for the individual).

Mode of Transmission: Through feco-oral route

- Ingestion of very tiny amounts of fecal material from an infected person through contaminated hands or objects.
- Through contaminated food and water.
- Ingestion of improperly refrigerated, reheated, or contaminated foods.

Signs and Symptoms of diarrheal disease:

- An increased number of stools compared with the child's normal pattern with increased water and/or change in the appearance shape of the stool (form).
- May be accompanied by nausea, vomiting, abdominal cramping, headache and/or fever.
- Note that breastfed babies may normally have unformed stools.

Prevention:

- access to safe drinking-water;
- use of improved sanitation;
- hand washing with soap;
- exclusive breastfeeding for the first six months of life;
- good personal and food hygiene;
- Health education about how infections spread; and rotavirus vaccination.
- Children and family members should thoroughly wash hands after diaper changes and toilet use.
- Avoid giving to children uncooked food or food which is left for several hours
- Avoid giving of contaminated water like stream, pool, and unboiled water to the children.

Diphtheria Diphtheria is a bacterial infection caused by Corynebacterium diphtheria and it can be prevented by immunization.

Mode of Transmission:

- Primarily by contact with a person infected with diphtheria. Diphtheria may be transmitted by asymptomatic person or a carrier. Infectious fluids include discharges from the nose, throat, eye or skin lesions. In rare instances, diphtheria can be transmitted by contact with articles soiled by discharges from the lesions of an infected person.

Signs and Symptoms:

- Gradual onset over 1-2 days. Diphtheria usually occurs as a white or gray patch or patches of membrane surrounding inflammation and soreness in the throat or nose. Glands in the neck are swollen and have Low-grade fevers
- Diphtheria can occur as a skin, vaginal, eye, or ear infection. However, this occurs very infrequently and is more common in tropical regions, among homeless persons, and those living in crowded conditions. Diphtheria can be life threatening

Prevention

- Isolate suspected or exposed patients**.**
- All unvaccinated children‘s who are not vaccinated should take diphtheria vaccination.
- Increase community awareness‘ about vaccination

1.5.3. Ear infection (it can be middle ear or inner ear infection)

Mode of Transmission:

- Direct contact with respiratory secretions or droplets from an infected person.
- Indirectly from articles contaminated with respiratory secretions from an infected person.

Signs and Symptoms:

- May be accompanied by fever, pain, impaired hearing, diarrhoea, nausea and vomiting, or irritability.
- Generally accompanies or comes after an upper respiratory infection.

Prevention

- Teaching children or their attendants to cover their mouths with a tissue during coughing.
- Using disposable tissues (paper handkerchief).

- discouraging mouthing behaviors
- Proper ventilation.
- proper hand washing
- vaccinate un exposed children

1.5.4. Hepatitis

Hepatitis is inflammation of liver. Hepatocellular necrosis and inflammatory cell infiltration of the liver are common pathologic features.

Mode of Transmission

Through feco-oral (hepatitis A and E)

- Through blood and blood products(hepatitis B,C & D)
- Through body fluids (hepatitis B,C & D)
- Through sexual intercourse (hepatitis B,C & D)
- direct contact with infected blood and body fluids (hepatitis B,C & D)
- sharp contaminated material like needle (hepatitis B,C & D)

Signs and Symptoms

- The commonest Symptoms of hepatitis include: fever, malaise (aches), lack of appetite, abdominal discomfort, nausea and vomiting, fatigue, tea colored urine, and onset of jaundice (yellow discoloration of the sclera of the eye or mucus membrane) enlargement of the spleen, enlargement of the lever.

Prevention

- proper hand washing
- Don glove before contact with faeces and blood or body fluids.
- Properly dispose of contaminated materials with blood and body fluids.
- properly disposal of sharp materials
- protected sexual intercourse

1.5.5. Measles

Measles is a highly contagious viral disease with serious complications (such as Blindness in children with pre-existing vitamin A deficiency) and high mortality. It is rare in infants under 3 months of age.

Mode of Transmission

- Direct contact with secretions of nose and throat from an infected person.
- Can be spread by airborne droplet or by articles freshly soiled with respiratory secretions from an infected person

Signs and Symptoms

- The symptoms of measle are fever, runny nose, red and watery eyes, red colored rash over the face, trunk and arms. The fever usually disappears 1or 2 days after the rash.

Prevention

- Avoid direct or indirect contact of respiratory discharge.
- Isolate infected child with non infected child.
- Immunization

1.5.6. Meningitis

Meningitis is infection of ménages

Mode of Transmission

- Direct contact with droplets secreted from the nose and throat of an infected person.

Signs and Symptoms:

- The symptoms appear suddenly with onset of fever, chills, intense headache, nausea, vomiting, stiff neck, and sometimes rash. The disease may progress to seizures and coma.

Prevention

- Avoid direct contact with respiratory discharge**.**
- Immunize uninfected children

1.5.7. Mumps

The mumps virus causes an acute, self-limited, viral syndrome.

Mode of Transmission

- By droplet or direct contact with saliva from an infected person

Signs and Symptoms

- Usually fever, often with headache, chills, and discomfort, followed by painful swelling or tenderness under the jaw or in front of the ear.

Prevention

- Avoid direct contact with personal oral discharge.
- Immunization of uninfected child

- Isolation of infected child from health child until the child is recover from their illness

1.5.8. Scabies

Scabies ("the itch") is an infestation of the skin by the mite Sarcoptes scabiei that results in an intensely pruritic eruption with a characteristic distribution pattern

Mode of **Transmission**

- Direct skin-to-skin contact or indirectly from contaminated materials like cloth
- In young adults, the mode of transmission is usually sexual contact

Signs and Symptoms

- Rash and intensive itching

Prevention

- Because scabies is transmitted by close or skin-to-skin contact, usual recommendations are that all members of the family and close contacts be treated at the same time to avoid an endless chain of cross contamination and re-infestation. Avoid skin to skin contact and disinfect contaminated bedding and clothing with disinfectant.

1.6. Health seeking behaviors

Understanding health behaviors is often the key to delivering health messages that are effective and that will improve the health of your community.

There are different models about health seeking behaviors, one of which is the Health Belief Model.

The Health Belief model assumes that the most important determinants of people's health-related behaviors are their beliefs and perceptions

The way the community perceives or explains the causes of illnesses has a far-reaching effect on influencing people's health-seeking behavior and their choice of treatment options when deciding between modern or traditional treatment.

Individuals or communities who think that illnesses are caused by naturalistic causes are more likely to choose modern treatment and attend for treatment at a hospital or health centre. Those individuals who perceive illnesses as having personalistic causes are more likely to choose traditional treatments such as holy water and go to see a traditional healer or a religious leader.

As health educators your responsibilities will be to understand and identify the individual and community-level perceptions towards disease and educate people towards naturalistic explanations of the cause of illnesses, while being aware of their personalistic ideas

1.7. Danger of neglect child abuse and malpractice

Now a time child abuse and neglect is highly increased in the community these have an impact on child‘s physical and behavioral problems and they are exposed to multiple diseases. In order to reduce these types of problems you should have a role in educating community members

Child neglect is a failure to give care or attention to the children‘s.

Child abuse is bad treatment or mal treatment of children‘s.

1.7.1. Child Abuse

Child abuse and neglect is a problem that affects children‘s, families, and communities throughout the world .In addition to the initial harm or repeated maltreatment of a child they can also exposed to permanent effects throughout their life such as low self-esteem , behavioral problems, learning difficulties, abusiveness toward others, inability to establish healthy sexual relationships , promiscuity or prostitution, increased incidences of homeless child , increased rates of suicide and they are also involving in criminal activity ones they are being abused.

Types of abuse (mal treatment)

There are three major categories of maltreatment:

1. **physical abuse**
2. **sexual abuse**
3. **psychological maltreatment**.

Physical abuse

Physical abuse refers to the injury of a child on purpose, e.g., striking, kicking, beating, biting or any action that leads to physical injury. This physical injury is caused by their parents (mothers, caregivers or any one of the families or other individuals). The children physically mistreated by a ropes, sticks, stones, hand hit, hot iron, hot water, or any other objects which damage the physical body of the children .

Signs and symptoms of possible physical abuse include:

Bruises are seen in the affected area it has different shape and size, unexplained or repetitive dental injuries, Unexplained or multiple broken bones, Major Head injuries etc

Sexually abused

Sexual abuse is the use, persuasion or forcing of a child to engage in sexual acts or imitation of such acts or any sexual act made by an adult without the permission of her. This sexual abuse includes fondling a child‘s genitals, making the child fondle the adult‘s genitals, engage a child in sexual intercourse, incest, rape, sodomy, exhibitionism, sexual exploitation, or exposure to pornography. Sexual abuse may take place within the family, by a parent‘s, boyfriend or girlfriend, or by an adult care taker outside the family.

A sign and symptoms of sexually abuse

Pain during walking, running, or sitting; recurrent urinary tract infections, problems with urination, itching, bruises, bleeding, or discharges in the genital, vaginal, or anal areas, exposed to venereal diseases, In addition to physical problems , they are exposed to a number of psychological or emotional problems.

Psychological maltreatment

Psychological maltreatment, also called emotional abuse or behavioral abuse. This type of maltreatment is commonly occurring after physical or sexual abused.

Symptoms of psychological maltreatment include: Eating disorders, self-abusive behaviors, sleep disorders (e.g. nightmares), unexpected bed wetting, speech disorders, aggressiveness, fear, belittling, rejecting, isolating, terrorizing etc

1.7.2. Neglect:

Neglect is a failure to meet the child‘s basic needs, e.g., not providing enough food, shelter or basic supervision, necessary medical or mental health treatment, adequate education or emotional comfort.

Types of Neglect

- **Physical neglect.** The caregiver fails to meet the physical needs of the child. This may include nutritional neglect, clothing neglect, or inadequate hygiene.
- **Medical neglect.** The caregiver fails to attend the child‘s medical needs when there are enough resources.

- **Inadequate supervision.** The caregiver is unable to provide appropriate supervision for the child, exposes the child to hazards, or leaves the child with an inappropriate caregiver.
- **Emotional neglect.** The caregivers not meet the child's needs for attention and affection.
- **Educational neglect.** The caregiver does not attend to the educational needs of the child.

Prevention mechanism of abuse and neglect

- Health education of the community members or the public about the bad impact of abuse and neglect as you learned from this session.
- Individual counseling of the care givers or the families

Self-Check -1	Written Test

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

1. Define abuse and neglect
2. Counsel the care giver about the prevention mechanisms of child hood illness
3. Council the care giver about the prevention mechanism of child abuse and neglect
4. Define about exclusive breast feeding?
5. Discuss different feeding recommendations to infants and children according their age.
6. List breast feeding techniques on good positioning & attachment?
7. What information is provided for an HIV positive mother about breast feed her child?
8. List out the points that you discuss with the mother about the choice & preparation of replacement feeding based on AFFAS criteria?

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

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-2	Play and communicate with the child

2.1 Play and communicate with the child

Children learn language through play and interaction with their families and peers. In some degree infant‘s communication is different from adult hood communication so that, infants address their feeling by communicating through eye contact, crying (during hunger or pain), smiling, laughing and gesture or by any body movement**.** To develop adequate skills in communication children need to attend and listen to sounds, words and people talking and they are able to understand and use gestures, sounds and words. During this type of communication the mothers or care givers should notice, understand and respond the feeling of infants.

2.1.1. Norms of infant and child communication.

- Typically babies create sounds starting at birth to show hunger, pleasure or any discomfort like pain. Early forms of communication of infants are sounds and gestures.
- Babies‘ understanding of words develops (8-10 months) before they use their first words (approximately 12-18 months).
- By two years children may be using short two-word sentences (e.g. —drink gone‖, —bye bye daddy‖).
- Their understanding of language progresses rapidly over the period from 12 month to 3 years. From understanding names of familiar objects, they will move to understanding simple questions, words like —hot or cold‖ —in‖ and —on‖.
- Children can combine two words at approximately 2 years, as children get older, their sentences get longer, they will ask many questions.
- From 3 to 5 years, children learn to understand more difficult words e.g. those referring to time and place such as —behind‖, —morning‖, —before‖. They will use longer sentences, combining ideas with words like —and‖ —because‖ and —but‖ by around five years, children can answer simple questions about a story. Their speech will be clearly understood by strangers by five years of age.
- While it is recognized that much speech, language and communication development has taken place by the time a child enters primary school. Language learning is a life time process and children continue to acquire language through the school-age and adolescent years.

- From about 7- 8 years onwards children acquire as much language through reading as they do through verbal interaction. New vocabulary, complex grammar, and the ability to use language to discuss & influence others.

2.1.2. The importance of play in early child hood development

- To increase mental and physical development.
- To increase bonding between mothers and children.
- It helps the children to learn social and motor skills and cognitive thinking.
- Play will make a child productive for the future.
- The children will have positive attitude towards their family and Society.
- Play gives children the opportunity to test their beliefs about the world.
- Children increase their problem-solving abilities.

1.2.3. Types of play

As your child grows and develops, his or her play becomes developed. Certain types of play are associated with the age group, but not restricted to those specific age groups.

Un occupied play

- In the early months of infancy, from birth to about three months, your child is busy in unoccupied play. Children seem to be making random movements with no clear purpose, but this is the initial form of playing

Solitary play

- From three to 18 months, babies will spend much of their time playing on their own. During solitary play, children are very busy with play and they may not notice other children sitting or playing nearby him or her. They are exploring their world by watching, grabbing and rattling objects. Solitary play begins in infancy and is common in toddlers. It is important for all age groups to have some time to play by themselves.

Onlooker play

- Onlooker play happens most often during the toddler years. This is where the child watches other children play. Children are learning how to relate to others and learning language. Although children may ask questions of other children, there is no effort to join the play. This type of play usually starts during toddler years but can take place at any age.

Parallel play

- From the age of 18 months to two years, children begin to play next to other children without any communication or interaction. This is called parallel play. Parallel play provides your toddler with opportunities for role-playing such as dressing up and imagining. It also helps children gain the understanding of the idea of property right such as —mine‖ They begin to show their need of being with other children their own age. Parallel play is usually found with toddlers, although it happens in any age group.

Associative play

- When your children are around three to four years of age, they become more interested in other children than the toys. Your child has started to socialize with other children. This play is sometimes referred to as —loosely organized play.‖ Associative play helps your preschooler learn the do's and don'ts of getting along with others. Associative play teaches the art of sharing, encourages language development, problem-solving skills and cooperation. In associative play, groups of children have similar goals. They do not set rules, although they all want to be playing with the same types and there is no formal organization.

Social play

- Children around the age of three are beginning to socialize with other children‘s by interacting with other children in playing settings. Your child learns social rules such as give and take and cooperation, children are able to share toys and ideas, and they are beginning to learn to use moral reasoning to develop a sense of values to be prepared to function in the adult world and children need to experience a variety of social situations.

Motor (physical play)

- When children run, jump, and play games such as hide and seek and tag they engage in physical play. Physical play offers a chance for children to exercise and develop muscle strength. Physically playing with your child teaches social skills while enjoying good exercise. Your child will learn to take turns and accept winning or losing.

Constructive play

- In this type of play, children create things. Constructive play starts in infancy and becomes more complex as your child grows. This type of play starts with your baby putting things in his/her mouth to see how they feel and taste. As a toddler, children begin building with blocks, playing in sand, and drawing. Constructive play allows children to explore objects and discover patterns to find what works and what does not work. Children gain pride when accomplishing a task during constructive play.

Children who gain confidence manipulating objects become good at creating ideas and working with numbers and concepts.

Expressive play

- Some types of play help children learn to express feelings. Parents can use many different materials. Materials may include paints, crayons, colour pencils and markers for drawing pictures or writing. It can also include such items as clay, water, and sponges to experience different textures. Beanbags (a small bag filled with dried beans), pounding benches, and rhythm instruments are other sources of toys for expressive play. You can take an active role in expressive play by using the materials alongside with your child.

Fantasy play

- Children learn to try new roles and situations, experiments with languages and emotions with fantasy play. Children learn to think and create beyond their world. They assume adult roles and learn to think in abstract methods. Children stretch their imaginations and use new words and numbers to express concepts, dreams and history.

Cooperative play

- Cooperative play begins in the late preschool period. The play is organized by group goals. There is at least one leader, and children are definitely in or out of the group. When children move from a self-centred world to understanding of the importance of social contracts and rules, they begin to play games with rules. Part of this development occur when they learn games such as follow the leader and team sports. Games with rules teach children the concept that life has rules that everyone must follow.

Self-Check -2	Written Test

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

1. What is the importance of playing and communication with children
2. What are the two early forms of communication of infants
3. Describe the importance of play in early child hood development
4. List the types of play

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

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Instruction Sheet	LG53: Asses and manage common child hood illness

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

- Introduction to ICCM
- Maternal newborn and child health
- Management of bacterial infection and jaundice in the new born and young infants
- Assess and classify cough or of difficulty breathing
- Management of diarrheal diseases in young infant and children
- Management of sick children with fever
- Malnutrition and anemia in the sick child
- HIV infection in infant and children
- Infant and young child feeding
- Immunization and related interventions
- Ear problem and other common childhood infections
- Follow-up care

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**

- Assess and classify childhood infections based on history and physical examination
- Undertake treatments and follow up for minor /uncomplicated cases based on ICCM and other treatment guideline

Learning Instructions:

5. Read the specific objectives of this Learning Guide.
6. Follow the instructions described below 3 to 6.
7. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 and Sheet 4,---” Sheet 5, Sheet 6, Sheet 7 Sheet 8 Sheet 9, Sheet 10, Sheet 11 and Sheet 12 **in page 1,17,19,25,38,52,67,85,91,96,10,and 118** respectively.
8. Accomplish the “Self-check 1, Self-check 2, Self-check 3 and Self-check 4” ,Self-check 5, Self-check 6, Self-check 7 Self-check 8, Self-check 9, Self-check 10 Self-check 11 and Self-check 12” **in page 6,18,24,37,51,66,84,90,95,100,117, and 139** -respectively
9. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1,” **in page 141**

Information Sheet-1	Introduction to ICCM

1.1. Introduction

The Ethiopian Federal Ministry of Health has developed a strategy and an implementation plan for Integrated Community-Case Management (ICCM) of Common Childhood Illnesses in order to reduce mortality of children under-five years of age. The Ethiopian ICCM program is to engage families and communities to join health extension workers in the effort to improve maternal and child health at the personal and local setting. It is reducing the under-five mortality due the common infant and child hood illness at all kebeles of the nation.

ICCM is being implementing for child survival; child survival is concerned with reducing child mortality and morbidity. Child survival has essential packages such as Skilled attendance during pregnancy, delivery and the immediate postpartum period, Care of the newborn, Breastfeeding and complementary feeding, Micronutrient supplementation, Immunization of children and mothers, Integrated management of sick children and Use of insecticide-treated bed nets (in malarias areas).

Integrated community case management of common child hood illness is management of common child hood illness in the community like pneumonia, malaria & diarrhea. This is a strategy that integrates all available measures for health promotion, prevention and integrated management of childhood illness. And it improves the quality of child care and reduces child morbidity and mortality in the community.

And also in this information sheet, you will learn how to manage a sick young infant with bacterial infection and jaundice from birth up to two months old. Young infants have special characteristics as compared to old infants that must be considered when classifying their illness, because young infants are easily susceptible by different infections as compared to old infants. They can become sick and die very quickly by serious bacterial infections, Such as pneumonia, sepsis and meningitis.

Young infants having general signs for those infections , such as decrease or absence of movement, fever, or low body temperature etc. so that, you should be seriously consider these type of signs and follow and give an immediate intervention because the young infant will be lost their life within an hour, therefore in this information sheet you will learn about case management process , general danger sign of old and young infants ,essential new

born care, assessment and classification of bacterial infection and jaundice ,so your responsibility will be carefully assess and give an intervention for this type of cases.

1.1.1. The ICCM assessment

Assessment is define as a processes of finding or searching a problem; child hood assessment is a process of finding a child hood problems , by taking a history from the mother or by inspecting sign and symptoms of child‘s hood illness.

When you are assessing a sick child, a combination of those signs leads to one or more classifications. After you find the sign or symptom, you classify and give an intervention to the sick child. Assessment is basically a base line for classification and management therefore you systematically assess the sick child

Assessment is takes place when the child is calm, and you should be very patient to assess the child‘s illness. Assessment includes present history, past history, and physical examination.

First the mother is coming in your health post with her sick child ask about the main complain of the child‘s illness; for example the main complain of the child illness may be cough for two day and further asking the mother about any history related to child cough, (e.g. is there any person who are having cough in your family members or any other person around the area) and also ask about the duration , frequency and the intensity of the disease and asking about past history and the general danger signs of a child (ask the mother; about the general danger signs, is the child having lethargic , un able to drink or drink poorly, has convulsion or unconsciousness) ask the mother different questions systematically until you get sufficient information to child illness after the assessment the next step will be classification and management /care of a child will be set.

After the classification children can be referred to the health centre/ hospital/ for further treatment or mange at the health post or managed at home. After doing this procedure you will have follow up care appointment to the sick child and you should counsel the mother about further prevention and home care interventions.

1.1.2. The ICCM case management

Integrated community case management is the overall activities that the health extension practitioners doing in the health post to manage child hood illness. It is starting from case assessment process to follow up care of the patient this includes:

- **Assessment**
- **Classification**
- **Treatment**
- **Advice & follow up care**

Assessment

- As you learnt in the introduction part assessment is the way of finding of child hood illness or any other child hood health problems.

Classification

- Child hood illness have color code classification the health extension workers classify the childes hood illness based on the colors which is present in the disease classification table of the chart booklet these are:
  - **Pink color** ; it shows the sick child is require pre-referral treatment and Referral
  - **Yellow color** ; it shows the child requires medical treatment and advice at the health post
  - **Green color**; it shows the child requires home management only.

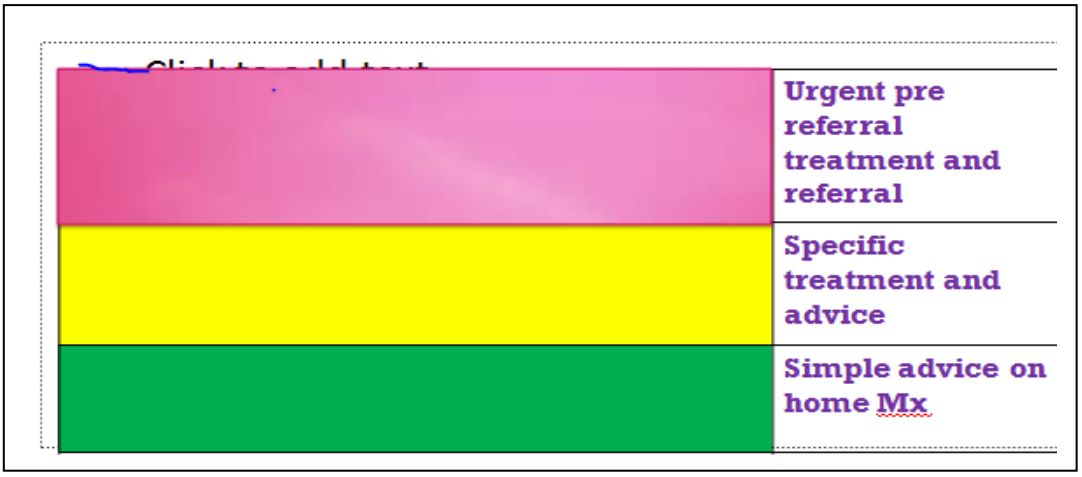


Fig 1.1. The three color coded classification (RED- YELLOW- GREEN)

Treatment

- is after classification; you will select the appropriate treatment and provide the medication to the sick child and before discharging you should advice the mother how to give the medication to her children at home.

You should always use the chart booklet whenever you manage the child's illness

The ICCM is presented on two different sets of charts: one for managing sick young infants aged from birth up to two months(0-2 month) and a separate one for managing sick children or old infant aged from two months up to five years(2month -5year). First you select the chart before classification and management of the disease depending on the age of the child. The treatment of young infant is different from the treatment of older infants.

Give advice & follow up care after treatment you advice the mothers about home care; advice on medication, breast feeding or complementary feeding, immunization and prevention mechanisms and then provide follow up card to the mother to return for the next visit.

1.1.3. General danger signs (GDS) (from the age 2 month-5 years)

The general danger signs are signs of serious illness or severe infection that are seen in children aged two months up to five years and it needs an immediate intervention to save the life of the children. There are five general danger signs these are;-

- Unable to eat or breast feed
- Vomit everything (after feeding immediately all the food is vomited out)
- Lethargic(very week or tired, a baby looks like awake but he does not see everything around him)
- Convulsion (jerky movement of specific or general part of the body e.g. they can present with twitching of the fingers, toes or mouth or rolling of the eyes.)
- Unconsciousness(the baby do not respond to a stimuli)

Check for the general danger signs

If the mother is visiting the health post for the first time Ask the mother what the child's problems are and first assess the general danger signs before any other assessment.

Box 1.1 Assessment of general danger sign from 2 month up to 5 year

ASK THE MOTHER	LOOK THE CHILD
• Is the child able to drink or breastfeed? • Does the child vomit everything? • Has the child had convulsions?	• Look if the child is lethargic or unconscious • See if the child is convulsing now

A child with a general danger sign has a serious problem. Most children with a general danger sign need urgent referral to hospital. They may need lifesaving treatment with injectable antibiotics, oxygen or other treatments that may not be available in the health post. You should complete the rest of the assessment immediately and give urgent pre-referral treatments before sending the patient to the next facility.

Table 1.1 Assess and classify sick child age 2 month up to 5 year

SIGN	CLASSIFICATION	TREATMENT
Any general danger sign	Very sever disease	**Quickly complete the assessment** • Give first dose of intramuscular Ampicillin and Gentamycin • Treat to prevent low blood sugar • Warm the young infant by skin-to-skin contact if temperature is less than 36.5°C (or feels cold to touch) while arranging referral • Advise mother how to keep the young infant warm on the way to the hospital • Refer URGENTLY to hospital

Self-Check -1	Written Test

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

1. List the steps of ICCM assessment and case management processes
2. List the general danger signs of old and young infants
3. What is the purpose of color coding classification system
4. During the assessment of general danger sign you look for _____ and _____

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

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Information Sheet-2	Maternal newborn and child health

2.1. Essential newborn care

Most of the babies are born healthy and at term. The care they receive during the first hours, days and weeks of life can determine the health status of the children. All babies need basic care to support their survival and Wellbeing. This basic care is called essential newborn care (ENC) and it includes immediate care at birth, care during the first day and up to 28 days.

Remember that the baby has just come from the mother‘s uterus, an environment that was warm and quiet and where the amniotic fluid and walls of the uterus gently touched the baby. Therefore you should gently hold the baby immediately after birth and keep the baby warm by putting the child Skin to-skin contact to the mother s or if the mother is not possible to hold the baby wrap the child with clean and warm cloth and put in the warm place this is important to avoid hypothermia. So you should encourage and help the mother to keep the newborn warm.

The care you give to the baby and mothers immediately after birth is very important; so by giving essential new born care to the baby you reduce child mortality rate at the time of birth.

The Nine steps of essential newborn care

1. Deliver the baby on to mother’s abdomen or on to her arms (seniors) and reassure and congratulate the mother and tell the sex of her baby.
2. Dry baby’s body with dry and warm towel. Wipe eye, as you dry stimulate breathing. Wrap with another dry towel and cover the head while the baby is on mother’s abdomen. (But not to remove the vernix (the creamy, white substance which is present on the skin) because it can prevent hypothermia and infection)
3. Assess breathing and color of the skin, and the tongue or any reflex action of the baby; if not breathing or gasping or if breathing is <30 breaths per minute, immediately cut the cord and give resuscitate. The normal new born breathing is between 30-60 b/m
4. Tie the cord two finger above the umbilicus (4cm) and another tie two fingers from the 1st one. Cut between the two ties if the baby has breathing problems and require resuscitation cut the cord immediately and give resuscitation.
5. Place the baby skin-to-skin contact in between the two breasts to initiate immediate breast feeding within 1hr. or apply kangaroo mother care (KMC).

- KMC it is the means of providing heat to the new born as well as it is important to initiate early breast feeding within an hour and it helps the baby in stabilizing its temperature, making the breathing stable and regular, improving immunity, reducing infection and enabling it to feed better and gain weight faster.

6. Apply 1% Tetracycline eye ointment once to the newborn's eyes
7. Apply Chlorohexidine on the cord.
8. Give Vitamin K 1mg IM on the anterior thigh.
9. Weight the baby.

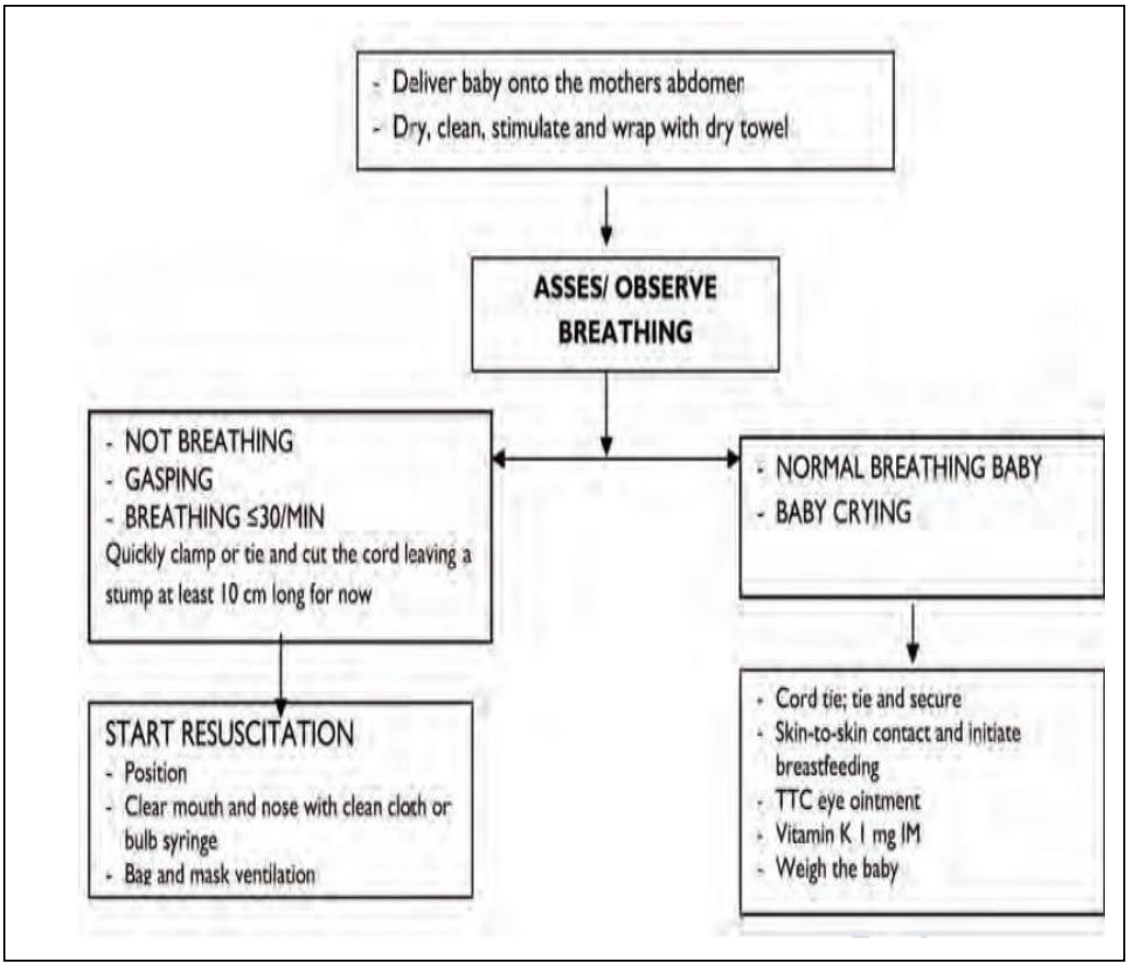


Figure 2.1 Steps of immediate newborn care

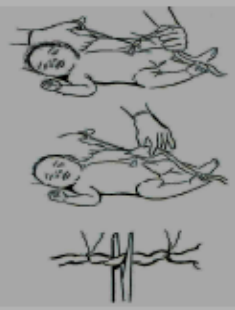
Immediate Newborn Care After Birth

Step 1
Dry baby's body with dry and warm towel. Wipe eye, as you dry stimulate breathing. Wrap with another dry towel and cover the head while the baby is on mother's abdomen.

Step 2
Assess Breathing-see BIRTH ASPHYXIA chart and manage accordingly.

Step 3
Clamp/tie the cord two fingers from abdomen and another clamp/tie two fingers from the 1st one.

Cut the cord between the 1st and 2nd clamp/tie.



Step 4
Place the baby in skin-to-skin contact with the mother.

Step 5
Initiate breastfeeding immediately within 1 hour of life.

Step 6
Apply Tetracycline eye ointment once on both eyes.

Step 7
Apply Chlorohexidine on the cord.

Step 8
Give Vitamin K,1mg IM on anterior mid lateral thigh.

Step 9
Weigh baby & classify -
See BIRTH WEIGHT & GESTATIONAL AGE Chart.

NOTES

- If baby needs resuscitation cut the cord immediately. Otherwise, wait for 1- 3 minutes.
- Place newborn identification band on the wrist or ankle.
- Don't forget to record what is done to the newborn.
- Give BCG and OPV 0 before discharge.
- Delay bathing of the baby for 24 hours after birth.
- Advise mother to apply Chlorohexidine on the cord daily for 7 days and NEVER apply to the eyes.
- Provide postnatal visits at 6 - 24 hours, 3 days,7 days and immunization visit at 6 weeks.

Fig 2.2. Essential newborn care

Neonatal resuscitation

For some babies the need for resuscitation may be anticipated: those born to mothers with chronic illness, where the mother had a previous fetal or neonatal death, a mother with pre-eclampsia, in multiple pregnancies, in preterm delivery, in abnormal presentation of the fetus, with a prolapsed cord, or where there is prolonged labor or rupture of membranes, or meconium-stained liquor . However, for many babies the need for resuscitation cannot be anticipated before delivery. Therefore, • be prepared for resuscitation at every delivery If the new born has a respiratory problem you give immediate resuscitation as follow You can observe the following signs of Respiratory problem**.**

- Having difficulty in breathing or signs of gasping (shortage of breathing)
- Breathing less than 30 breaths per minute or not breathing at all.
- The skin becomes cyanotic because of deficiency of oxygen.

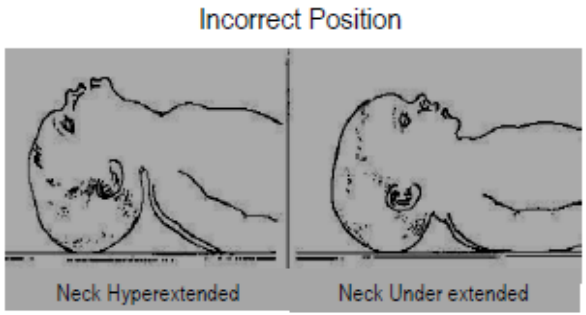
If the baby needs resuscitation, quickly clamp or tie and cut the cord, leaving a stump at least 10 cm long for now and then start resuscitation immediately by using the correct size of face mask.

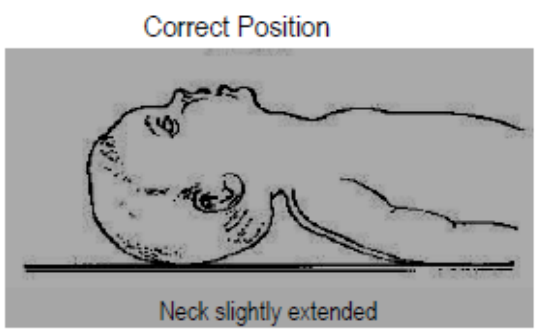
How to ventilate

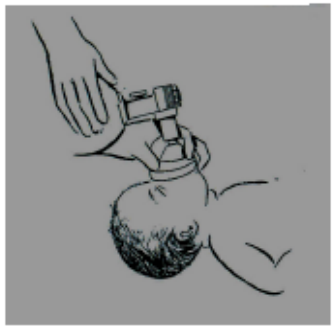
- Squeeze bag with 2 fingers or whole hand, 2-3 times
- Observe for rise of chest.
- IF CHEST IS NOT RISING: Reposition the head or Check mask seal
- Squeeze bag harder with whole hand
- Once good seal and chest rising, ventilate at 40 -60 squeezes per minute
- Squeeze a bag 2-3 times with 2 fingers and a thumb. (When you squeeze the bag Count 101 for the first Squeeze, 102 for the second Squeeze, 103 for the third Squeeze to deliver the desire amount oxygen.)
- Observe the chest while ventilating:
- Is it moving with the ventilation?
- Is baby breathing spontaneously

NEWBORN RESUSCITATION — [redacted]

Clear Airway	▸ Clear the airway by wiping out the mouth with gauze or syringe bulb ▸ Suction the baby's mouth first then nose gently ▸ Reassess the baby's breathing
Position	▸ Place the baby on his back with the neck slightly extended
Ventilate	▸ Use baby bag and mask to ventilate at 40 breaths per minute ▸ Continue to ventilate until the baby breathes independently ▸ If the baby remains weak or is having irregular breathing after 20 minutes of resuscitation; refer urgently to hospital while continuing to resuscitate on the way ▸ Stop after 20 minutes if the baby has not responded (no breathing at all)
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 ▸ If breathing problem occurs, stimulate, give oxygen [if available], and refer







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
- Observe the chest while ventilating:
  - Is it moving with the ventilation?
  - Is baby breathing spontaneously?

Fig 2.3. Steps for newborn resuscitation

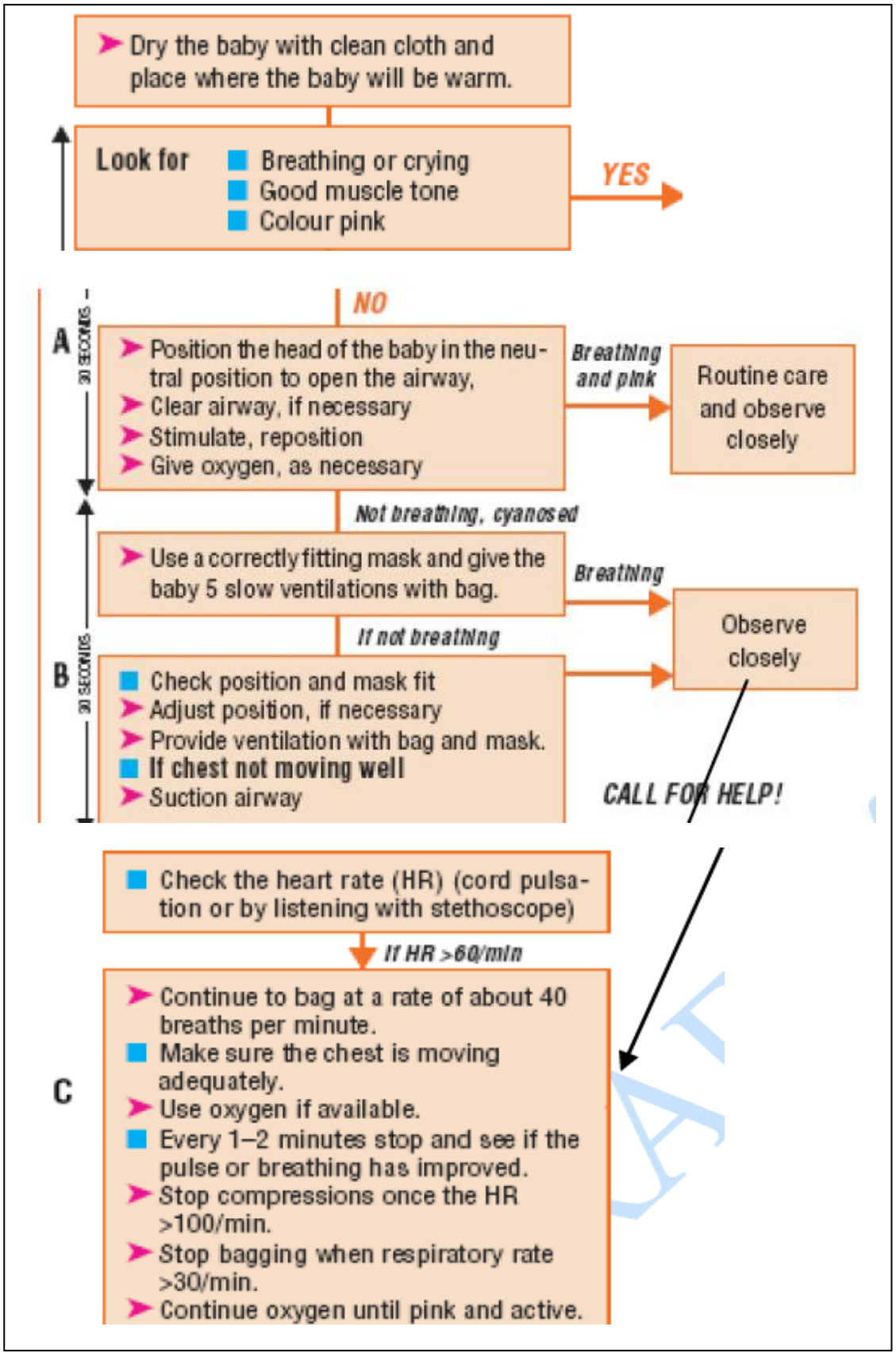
When to stop ventilating?

- When the new born breathe spontaneously or cry.
- When the new born breathing is >30 b/m and regular:
- Continue resuscitation for 20 minute until the babies spontaneously breathe. After 20 minutes if the new born is not breathing spontaneously or birthing is weak and irregular you stop ventilation and urgently refer the child to the health center or hospital.

When to continue ventilating?

- When the new born breathing is <30 b/m
- When gasping or breathing is irregular.
- Has severe chest in-drawing.

Box 2.2: A Neonatal resuscitation



Immediate Assessment and newborn Care

Assess for breathing problem

If you are attending delivery or Baby is brought to you immediately after birth ;

- Dry, wrap with dry cloth and cover head then Assess for breathing problem

Assess and Look the new born

- Is the baby not breath or gasping?
- If one of the above is not there Count breaths in one minute

Table 2.1. Assessment and classification of all new born

SIGNS	CLASSICATION	TREATMENT
any of the following sign: • **Not breathing, OR** • **Gasping, OR** • **Breathing poorly (<30 breaths/minute)**	**BIRTH ASPHYXIA**	• **Start resuscitation immediately** • **Clear mouth first, then nose with bulb syringe** **If not breathing** • **Clamp/tie and cut the cord immediately** • **Position the newborn supine with neck slightly extended** • **Ventilate with appropriate size bag & mask** • **If the baby start breathing regularly continue giving essential newborn care** • **If the baby remains weak or is having irregular breathing after 20 minutes of resuscitation; refer urgently to hospital while continuing to resuscitate on the way** • **Stop resuscitation after 20 minutes if no response (no spontaneous breathing)** • **Monitor continuously for 6 hours baby with the mother** • **Follow after 12 hrs, 24 hrs (in the facility), 3 days, 7 days and 6 weeks**
Breathing normally (crying or N30 breaths/ minute)	**NO BIRTH ASPHYXIA**	• **Give cord care** • **Initiate skin-to-skin contact** • **Initiate breastfeeding** • **Give eye care** • **Give Vitamin K**

		• **Apply Chlorhexidine gel** • **Give BCG and OPV 0** • **Advise mother when to return immediately** • **Follow after 6 hrs (in the facility), 3 days and 7 days and 6 weeks**

2.2. Newborn danger signs

New born danger sign is the danger signs of the new born between the ages from birth up to 2 month. At the time of birth many babies will have spontaneous breathing without any problem and they become healthy and begin to feed soon after skin to skin contact, and some babies will have a variety of problems immediately after birth like hypothermia and asphyxia and also some newborn babies have late problems just after postpartum period or earlier; this all problem are life threatening for the new born babies because, babies have immature organ and they are not an immunity to withstand the disease there for you are responsible for assessing and refer the new born when you look the following sign and symptoms and you are also teach the mother to look for these signs in the newborn and advise her to seek care on time if she observes any one of the danger signs

Refer the new born urgently if any of these signs are present:

- Breathing ≤ 30 b/m or ≥ 60b/m, Grunting or gasping, severe chest in drawing, blue tongue and lips.
- Unable to suck the breast or sucking poorly.
- The baby feels cold to touch or axillary temperature < 35°C
- Feels hot to touch or axillary temperature equal to or greater than 37.5°C
- Red swollen eyelids and pus discharge from the eyes.
- convulsion
- Jaundice (yellow skin or mucus membrane) (at age less than 24 hours or more than two weeks) involving soles of the feet and palms of the hands.
- Pallor (palm and /or plantar surface are white)

2.3. Low birth weight and its management

In this section you will learn about how to classify and manage the problems associated with prematurity (preterm, born before 37 weeks of pregnancy) and low birth weight (a child who did not grow well enough in the uterus during pregnancy). Low birth weight babies are most likely to have breathing, feeding medical and developmental problems, and they are susceptible to infection and die than babies with a birth weight of 2,500 gm or more. As a Health Extension worker you assess and classify and give advice to the mother and refer the infant urgently to the hospital or health center

What is birth weight?

Birth weight is the expected child weight at birth. Birth weight of a new born can be the following.

- Normal birth weight ; 2,500 gm- 4,500gm
- Low birth weight; 1500gm-2,500 gm
- Very low birth weight; < 1500 gm

Assess and classify birth weight & gestational age within 7 days of life. Ask and look

- Ask the gestational age
- Ask for birth weight
- Weigh the baby (within 7 days of life)

Table 2.2. Assess and classify birth weight & gestational age (within 7 days of life)

SIGNS	CLASSIFY AS	TREATMENT (Urgent pre-referral treatments are in bold print)
• Weight < 1,500gm OR • Gestational age < 32 weeks	VERY LOW BIRTH WEIGHT AND/OR VERY PRETERM	► **Continue breastfeeding (if not sucking feed expressed breast milk by cup)** ► **Start Kangaroo Mother Care (KMC)** ► **Give Vitamin K 0.5mg IM on anterior mid thigh, if not already given** ► **Refer URGENTLY with mother to hospital with KMC position**
• Weight 1,500 - 2,500 gm OR • Gestational age 32-37 weeks	LOW BIRTH WEIGHT AND/OR PRETERM	► KMC if <2,000gm (see page 17) ► Counsel on optimal breastfeeding ► Counsel mother on prevention of infection ► Give Vitamin K 1mg IM on anterior mid thigh if not already given ► Provide follow-up for KMC ► If baby ≥ 2,000 gms follow-up visits at age 6 –24 hrs, 3 days, 7 days & 6 weeks ► Give 1st dose of vaccine ► Advise mother when to return immediately
• Weight ≥ 2,500 gm OR • Gestational age ≥ 37 weeks	NORMAL BIRTH WEIGHT AND/OR TERM	► Counsel on optimal breastfeeding ► Counsel mother/family on prevention of infection ► Provide follow-up visits at age 6-24 hrs, 3 days, 7 days & 6 weeks ► Give 1st dose of vaccine ► Give Vitamin K 1mg IM on anterior mid thigh if not already given ► Advise mother when to return immediately

Self-Check -2	Written Test

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

1. Define low birth weight.
2. When do you refer the newborn urgently
3. Discus the steps of essential new born care.
4. When you deliver a baby you have got a birth weight of 1400 gm, what is your Classification, intervention and what you will advise to the mother.

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

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-3	Management of bacterial infection and jaundice in the new born and young infants

3.1. Assessment and management of bacterial infection

Ask the mother

- Is the infant stop feeding?
- Has the infant had convulsion?

LOOK, LISTEN and FEEL

- Count the breaths in one minute and repeat the count if 60 b/m or more
- Look for severe chest in drawing(the lower chest moving in during inspiration)
- Look and listen for grunting
- Look at the umbilicus. Is it red or draining pus
- Measure temperature (if axillary temperature 37.5°C or above (or feels hot to touch) or temperature less than 35.5°C (or feels cold to touch)
- Look for the young infant's movement.
- Does the infant move only when stimulated?
- Does the infant not move even when stimulated?
- Look for skin pustules
- Look for jaundice(it is a yellow discoloration of the skin or mucus membrane)
- Only the skin and eyes yellow
- Are the palms and soles yellow?
- Is the age less than 24 hours or more than 14 days?

Table 3.1 Assess, classify and treat all sick young infant for bacterial infection (From birth up to 2 month)

SIGNS	CLASSIFY AS	TREATMENT (Urgent pre-referral treatments are in bold print)
• Not feeding well, OR • History of convulsions/convulsing now, OR • Fast breathing (≥60 breaths per minute), OR • Severe chest indrawing, OR • Fever (≥37.5°C* or feels hot), OR • Low body temperature (< 35.5°C* or feels cold), OR • Movement only when stimulated or no movement even when stimulated.	**VERY SEVERE DISEASE**	► **Give first dose of intramuscular Ampicillin and Gentamycin** ► **Treat to prevent low blood sugar** ► **Warm the young infant by skin-to-skin contact if temperature is less than 36.5°C (or feels cold to touch) while arranging referral** ► **Advise mother how to keep the young infant warm on the way to the hospital** ► **Refer URGENTLY to hospital**
• Red umbilicus or draining pus, OR • Skin pustules	**LOCAL BACTERIAL INFECTION**	► **Give Amoxicillin for 5 days** ► Teach the mother to treat local infections at home ► Advise mother when to return immediately ► Follow-up in 2 days
• None of the signs of very severe disease, or local bacterial infection	**SEVERE DISEASE, OR LOCAL INFECTION UNLIKELY**	► Advise mother to give home care for the young infant
• Temperature from 35.5 ℃ – 36.4 ℃ (both values inclusive)	**LOW BODY TEMPERATURE**	► **Treat to prevent low blood sugar** ► **Warm the young infant using skin-to-skin contact for one hour and reassess. If temperature remains same or worse, refer. (Advise mother to continue feeding and keep the infant warm on the way to the hospital).** ► Advise mother when to return immediately ► Follow-up in 2 days

3.2. Assessment and management of jaundice

Look for jaundice Only the skin and eyes yellow

- Are the palms and soles yellow ?
- Is the age less than 24 hours or more than 14 days ?

Table 3.2 Assess, Classify and treat all Young infant with jaundice (From birth up to 2 month)

SIGNS	CLASSIFY AS	TREATMENT (Urgent pre-referral treatments are in bold print)
• Palms and/or soles yellow, OR • Skin and eyes yellow and baby is < 24 hrs old, OR • Skin and eyes yellow and baby is ≥14 days old	SEVERE JAUNDICE	► **Treat to prevent low blood sugar** ► **Warm the young infant by skin-to-skin contact if temperature is less than 36.5°C (or feels cold to touch) while arranging referral** ► **Advise mother how to keep the young infant warm on the way to the hospital** ► **Refer URGENTLY to hospital**
• Only skin on the face or eyes yellow, AND • Infant aged 24 hrs -14 days old	JAUNDICE	► Advise mother to give home care for the young infant ► Advise the mother to expose and check in natural light daily ► Advise mother when to return immediately ► Follow-up in 2 days
• No yellowish discoloration of the eye and skin	NO JAUNDICE	► Advise mother to give home care for the infant

Treat the sick young infant birth up to 2 months when referral is not possible

Treatment options for the sick young infant when referral is not possible.

You should be Ask the care giver first why she does not want to go to the hospital or health center when her child is severely ill. The commonest reasons that the care giver /mother are refused to go to the hospital or health centre is:

- Distance to hospital/health centre is far
- Costs related to transport, time, payment of medicines and staying in large towns.
- Cultural and religious belief preventing recently delivered women and newborn to go outside home and travel long distances
- Inability to travel daily to and from health centre due to issues of distance and time.

Even if the mother has the above problems, assess her overall conditions and advice her to coup up other problems and admit the referral option. Because referral is the best options for a young infant classified with very sever disease; if referral is not possible give Ampicillin and Gentamycin injection for 7days.

If the young infant has the following signs inform and convince the mother or care taker that the baby needs in patient treatment facilities for urgent referral;

- Stooped breast feeding
- Convulsing or having abnormal movement or convulsing now
- Not able to move even when simulated

Treat the young infant and counsel the mother

Table 3.3 Give an appropriate oral antibiotics Amoxicillin

Age or weight	Amoxicillin • For very sever disease treatment give2 dose daily for 7 day • For local bacterial infection give 2 doses daily for 5 day • For pre referral give one dose before referral		
	Dispersible tablet125mg	**Dispersible tablet250mg**	**Syrup 125mg in5ml**
<2000gm	1/2	1/4	2.5ml
2000gmto<4500gm	1	1/2	5ml

Table 3.4 Give intramuscular antibiotics Gentamycin

Weight	Gentamycin • For very sever disease treatment give one dose daily for 7 days • For very sever disease treatment give for weight <2000gm give one dose every 48 hour a total of 4 doses • For pre referral give one dose before referral	
	20mg/ml	80mg/ml
<2000gm	1ml every 48 hour	0.3 ml every 48 hour
2000gm to <2500gm	1ml daily	0.3ml daily
2500gm to < 3500gm	1.4ml daily	0.4ml daily
3500gm to <4500gm	2ml daily	0.5ml daily

Teach the mothers to give oral drug at home

- Follow the instruction below for every oral drug to be given at home.
- Tell the mother the reason for giving the drug to the young infant.
- Determine the dose appropriately for the child‘s weight
- Demonstrate how to measure a dose; watch the mother practice measure a dose by herself.
- Ask the mother to give the first dose to her baby explain carefully how to give the drug then label the drug.
- Explain that all the drugs must be used to finish the course of treatment (7day) even child gets improved.
- Chick the mothers understanding before you end the advice.

Self-Check -3	Written Test

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

1. **Case study.**

   Abebech come to your health post with her 3 week male child ,and you ask Abebech ,why she is coming to your health post, she respond to you she is coming to seek care for her child and you ask again about general danger sign she answer, no convulsion, not lethargic but he has yellow discoloration of the palm and when you look child's illness you observe yellow discoloration of the eye and when you count his breathing you get 50 b/m and his temperature is 38.3 0c

   a. What is your classification ?

   b. How do you treat /mange the child ?.

2. What are the criteria that you assess and look on the young infant to classify as having local bacterial infection ?

3. How do you mange the above case (question number 2)?

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

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-4	Assess and classify cough or of difficulty breathing

4.1. Introduction

Acute respiratory infection (ARI) is among the leading causes of child morbidity and mortality in Ethiopia and throughout the world. Pneumonia is the most serious outcome of ARI in young children. Early diagnosis and treatment with antibiotics can prevent a large proportion of deaths that can result from pneumonia.

Ethiopia has one of the highest under-five mortality rates with more than 321,000 children under the age of five year die every year. More than 70% of these child deaths are due to five diseases, namely pneumonia, diarrhea, malaria, measles and malnutrition, and often to a combination of these conditions. The major causes of under-five mortality have been estimated to be pneumonia 28% of mortality in under-five children. In this information sheet you will learn how to assess and classify a sick child with a cough or difficult breathing. You will also learn how to treat and give follow-up care.

4.2. Assessing cough or difficult breathing

Cough is the way of removing foreign material or mucus from the respiratory tract. It is a symptom of respiratory problems.

Difficult breathing is any unusual pattern of breathing. Mothers or care givers describe this in different ways; they may say that their child‘s breathing is _breaths faster‘ or _noisy‘ or interrupted.‘

To assess coughs or difficult breathing, firstly you need to know about the anatomy of the respiratory system. Figure 4.1 shows the terms for the main structures that you need to know.

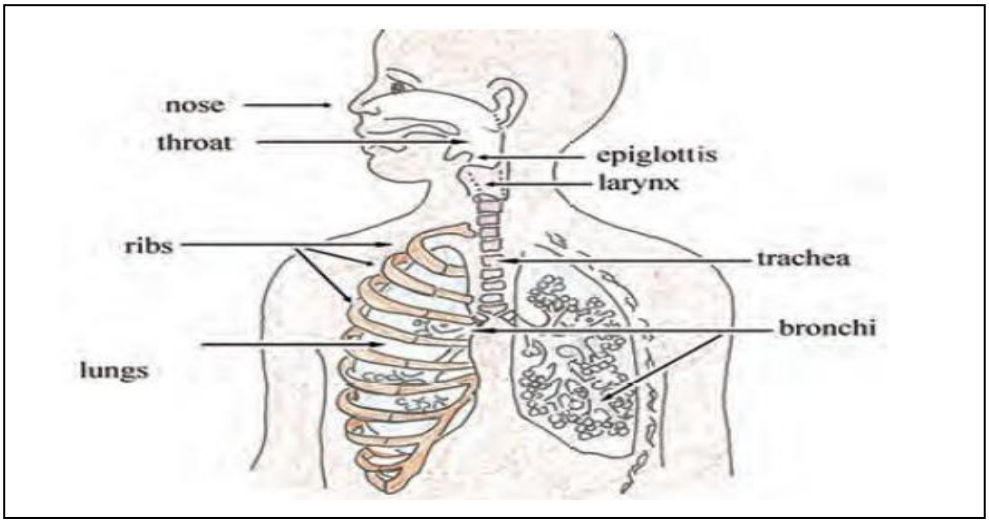


Figure 4.1 the respiratory tract of human being

See Figure 4.1 to differentiate the airway (or respiratory tract) structures. It consists of the nose, throat, larynx, trachea and bronchi and lung. Coughs or difficult breathing may occur when there is an infection of the respiratory tract. These infections may be severe respiratory tract infections such as pneumonia (acute) which require antibiotics for treatment, or they can be mild infections such as a cold, which can be treated by the family at home.

You are expected to identify sick children who have cough or difficult breathing, which need treatment with antibiotics in your health post. And to refer those with severe form of cough or difficulty of breathing. You are now going to look at the steps involved in assessing and classifying children with cough or difficult breathing.

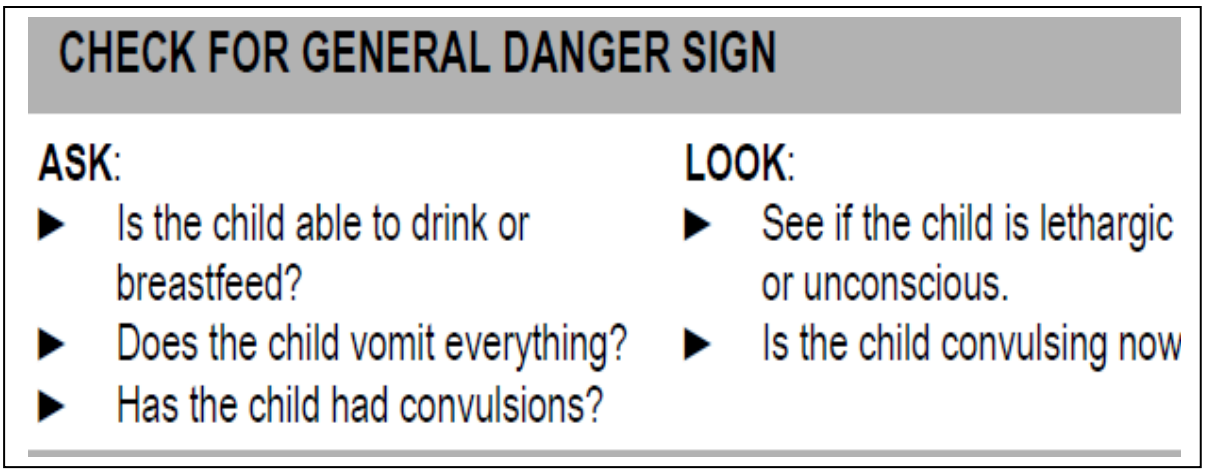
For all sick children you encounter in your work place, you should ask every mother or caregiver whether the child has cough or difficult breathing. You will ask the mother for the time duration for how long the child with cough or difficult breathing. The terms used in the assessment of cough or difficult of breathing:

Fast breathing: breathing rate per minute of children counted higher than the normal breathing rate.

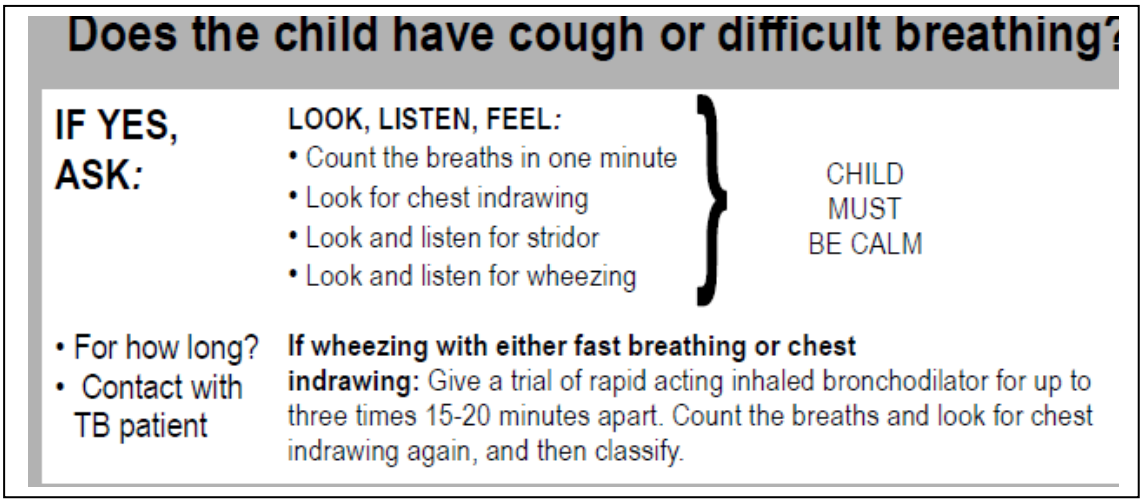
Chest in-drawing: the lower chest move inward when the child breathes in.

Stridor: an abnormal, harsh and noisy respiratory sound heard during inspiration.

Box 4.1 Assessing cough or difficult breathing



If the child is convulsing now, manage the airways and treat the child with Diazepam. A child with any general danger sign needs URGENT attention; complete the assessment and any pre-referral treatment immediately so that referral is not delayed then



4.3. Steps in assessing cough

STEP.1 *Ask* for general danger signs

STEP.2 Ask the mother whether the child has cough or any difficulty of breathing

- If the mother says the child does not have cough or difficult breathing. If the child does not have cough or difficult breathing, you should go on to ask about the next main symptom, which is diarrhea.
- **If the mother answers „yes"** to your questions whether the child has cough or difficult breathing, you should ask her the next question.

STEP.3 Ask for how long has the child had cough or difficult breathing?

- Duration of cough is considered for the chronicity of respiratory infections. A child who has had cough or difficult breathing for more than 21 days has a chronic cough.
- This may be a sign of **tuberculosis, asthma, whooping cough or another** respiratory problem.

STEP.4 Count the number of breaths in one minute

- Since breathing rate varies with age, Count and compare with the cut-off point for fast breathing in children .Young infants usually breathe faster than older infants and young children.

Table 4.1 cut point for breathing

If the child age is :	The child has fast breathing if you count:
Up to 2 month	60 breath per minute or more
2 months up to 12 months	50 breaths per minute or more
12 months up to 5 years:	40 breaths per minute or more

STEP 5 Look for chest in-drawing

- In a child age two months up to five years, if chest in-drawing is clearly visible and present all the time during an examination, it is a sign of **severe pneumonia or very severe disease.** (See Figure 4.2which illustrates chest in-drawing). Unlike in the young infant, mild chest in-drawing is not normal in older infants and children.

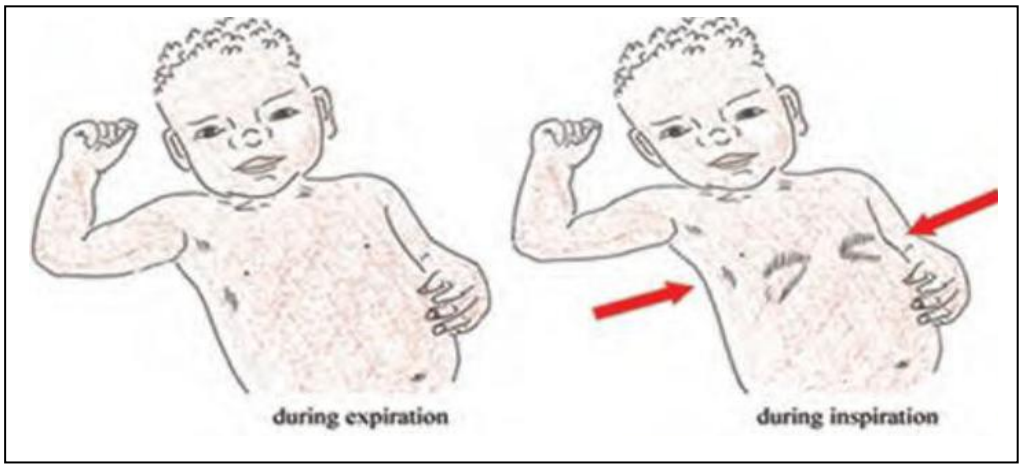


Figure 4.2 Signs of chest in-drawing in a sick child

STEPS 6 listen for stridor

Stridor happens when there is a swelling of the larynx, trachea or epiglottis. This swelling interferes with air entering the lungs. It can be life-threatening when the swelling causes the child's airway to be blocked. A child who has stridor when calm has a dangerous condition.

Listen for stridor when the child breathes in. Put your ear near the child‘s mouth because stridor can be difficult to hear. Be sure to listen for strider when the child is calm.

4.4. Classifying cough or difficult breathing

Keeping in mind for the presence of any danger sign, chest in-drawing, stridor and breathing rate, children with cough or difficult breathing will be classified in the table 4.2.The table shows severity of illness in classification and includes treatment.

Table 4.2 Assess and classify the sick child with coughs or difficult breathing

SIGNS	CLASSIFY AS	TREATMENT (Urgent pre-referral treatments are in bold print)
• Any general danger sign	**VERY SEVERE DISEASE**	▶ Give diazepam if convulsing now ▶ Quickly complete the assessment ▶ Give appropriate pre-referral treatment immediately ▶ Treat to prevent low blood sugar ▶ Keep the child warm ▶ Refer URGENTLY.
• Any general danger sign OR • Stridor in calm child.	**SEVERE PNEUMONIA OR VERY SEVERE DISEASE**	▶ Give first dose of IV/IM Ampicillin and gentamycin* ▶ **Refer URGENTLY to hospital****
• Fast breathing OR • Chest indrawing	**PNEUMONIA**	▶ **Give oral Amoxicillin for 5 days** ▶ If wheezing (or disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days*** ▶ Soothe the throat and relieve the cough with a safe remedy ▶ If Chest indrawing in HIV exposed child, give first dose of amoxicillin and refer ▶ If coughing for ≥ 14 days or there is contact with TB patient do assessment for TB**** ▶ Advise mother when to return immediately ▶ Follow-up in 2 days
No signs of: • Very severe disease OR • Pneumonia	**COUGH OR COLD**	▶ If wheezing (or disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days*** ▶ Soothe the throat and relieve the cough with a safe remedy ▶ If coughing for > 14 days or there is contact with TB patient assess for TB**** ▶ Advise mother when to return immediately ▶ Follow-up in 5 days if not improving

How to use the classification table: There are four **possible classifications** for a child with a cough or difficult breathing:

- Very severe disease
- Severe pneumonia or very severe disease,
- Pneumonia
- Cough or cold

To classify a cough or difficult breathing:

1. Look at the top row in the classification table which sets out the signs you need to assess.
    - If the child has any general danger sign, you should select the severe classification given in the **top (pink) row** of the table:
    - If the child has any general danger sign, chest in-drawing or strider, you should select the severe classification given in the second **top (pink) row** of the table **severe pneumonia or very severe disease.**
2. If the child has fast breathing or chest in drawing and does not have the severe classification, look at **the middle (yellow) row**.
    - If the child has fast breathing, or chest in drawing but does not have signs in the top row of the classification table, you should select the classification in the middle (yellow) row: **pneumonia**
3. If the child does not have any of the signs in **the two top (pink)** or **middle(yellow) row**, and **no sign of very severe disease or pneumonia,** select the classification in the **bottom (green) row**: **cough or cold**.

4.5. Treatment of cough or d difficult breathing

The treatment of a child's cough or difficult breathing will depend on your assessment and classification of their illness. This section looks at the different treatments depending on the level of classification

4.5.1. Treatment for severe pneumonia or very severe disease

A child classified as having severe pneumonia or very severe disease is seriously ill. The child needs **urgent referral** to a health centre or hospital for treatments such as oxygen or injectable antibiotics. Before child the leaves the health post, you should give the child first dose of IV/IM Ampicillin/Chloramphenicol

The antibiotic helps prevent severe pneumonia from becoming worse .Then refer the child urgently to the hospital.

Give an Intramuscular Antibiotic

FOR CHILDREN BEING REFERRED URGENTLY WHO CANNOT TAKE AN ORAL ANTIBIOTIC:

- **Sick child:** Give first dose of IV/IM Ampicillin/ Chloramphenicol and refer child urgently to hospital,

- **Young infant:** Give first dose of Ampicillin (50mg/kg) and Gentamycin (7.5mg/kg) and refer child urgently to hospital

IF REFERRAL IS NOT POSSIBLE OR DELAYED

- Repeat the Chloramphenicol injection every 12 hours for 5 days, **or**
- Repeat the Ampicillin injection every 6 hours (200mg/kg/day)
- Repeat the Gentamycin every 24 hours (7.5mg/kg/day)
- Where there is a strong suspicion of meningitis, the dose of Ampicillin can be increased to 300mg/kg/day in 4 divided doses. Then change to an appropriate oral antibiotic to complete 10 days of treatment

Table 4.3. Dose of antibiotics given if referrals not possible or delayed

AGE or WEIGHT	Ampicillin 500 mg vial	Gentamycin 2ml 40mg/ml vial	CHLORAMPHENICOL Dose: 40 mg per kg (Add 5.0 ml sterile water to vial containing 1000 mg = 5.6 ml at 180 mg/ml)
2 months up to 4 months (4 – 6 kg)	1 ml	0.5-1.0 ml	1.0 ml = 180 mg
4 months up to 12 months (6 – 10kg)	2 ml	1.1-1.8 ml	2.0 ml = 360 mg
12 months up to 3 years (10 – 14kg)	3 ml	1.9 - 2.7 ml	2.5 ml = 450 mg
3 years up to 5	5 ml	2.8 - 3.5 ml	3.5 ml = 630 mg

Treat a Convulsing Child with Diazepam Rectally

MANAGE THE AIRWAYS

- Turn the child on his/her side to avoid aspiration
- Do not insert anything into the mouth
- If the child is blue, open the mouth and make sure the airway is clear
- If necessary, remove secretions from the mouth by inserting a catheter via the nose.

GIVE DIAZEPAM RECTALLY

- Draw up the dose from an intravenous preparation of Diazepam into a small syringe, then **REMOVE THE NEEDLE.**
- Insert approximately 5 cm of a nasogastric tube into the rectum.
- Inject the Diazepam solution into the nasogastric tube and flush it with 2 – 3 ml of water at room temperature.

- Give 0.5mg/kg Diazepam injection solution per rectum using a small syringe without a needle (like a tuberculin syringe) or using a catheter.
- If **High Fever** (temperature 40°C or more), **lower the fever**. Sponge the child with room temperature water.

Table 4.4. Dose of diazepam given if the child is convulsing now

AGE or WEIGHT	DIAZEPAM RECTALLY 10 mg/2 ml Solution, Dose 0.5 mg/kg
2 months up to 6 months (5 - 7 kg)	0.5ml
6 months up to 12months (7 - <10 kg)	1ml
12 months up to 3 years (10 - <14 kg)	1.5ml
3 years up to 5 years (14-19 kg)	2.0ml

Treat the Child to Prevent Low Blood Sugar

If the child is able to breastfeed:

- Ask the mother to breastfeed the child.

If the child is not able to breastfeed but is able to swallow

- Give expressed breast milk or a breast milk substitute.
- If neither of these is available, give sugar water.
- Give 30-50 ml of milk or sugar water before departure.

To make sugar water: Dissolve 4 level teaspoons of sugar (20 grams) in a 200-

- **l cup of clean water.**

If the child is not able to swallow, you (if you trained) or your senior will:

- Give 50 ml of milk or sugar water by nasogastric tube.

4.5.2. Treatment for no pneumonia: cough or cold

A child with ‗no pneumonia: cough or cold' does not need an antibiotic. You should give the mother advice about good home care. Teach her how to soothe the child's throat and relieve the cough with a safe remedy such as breast milk for exclusively breastfed infants, or home fluids such as tea with honey or fruit juice. Advise her to watch for fast or difficult breathing and to return to the health post if either one of these develops in the child.

A child with a cold normally improves in one to two weeks. However, a child who has chronic cough (a cough lasting more than 21 days) may have **tuberculosis, asthma, whooping cough or another problem**. You should refer the child with a chronic cough to the hospital for further assessment.

4.6. Follow up care for pneumonia

If a child has been classified with pneumonia, it is important that the mother is told to return to the health post in two days' time for a follow-up visit. The Health Extension Service Provider should assess the child for cough or difficult breathing in the way outlined in Box 4.2

Box 4.2. Follow-up care for pneumonia

➢ **PNEUMONIA**

After 2 days:

Check the child for general danger signs.
Assess the child for cough or difficult breathing.

} See ASSESS & CLASSIFY chart

Ask:

- Is the child breathing slower?
- Is there less fever?
- Is the child eating better?
- Is chest in drawing decreasing?

Treatment:

- If ***any general danger sign or stridor***, refer URGENTLY to hospital.
- If ***chest indrawing and/or breathing rate***, ***fever and eating are the same or worse,*** refer **URGENTLY** to hospital.
- If ***breathing slower, no chest indrawing, less fever, and eating better***, complete the 5 days of antibiotic.

The following case study will help you check your understanding of what you have read so far in this study session. Case Study 4.1 Aziz"s case

Aziz is 18 months old. He weighs 11.5 kg. His temperature is 37.5°C.His mother brought him to the health post because he had coughed. She says he was having trouble breathing. This is his initial visit for this illness.

The Health Extension service provider checked Aziz for general danger signs. Aziz was able to drink. He had not been vomiting. He had not had Convulsions. He was not convulsing, lethargic or unconscious.

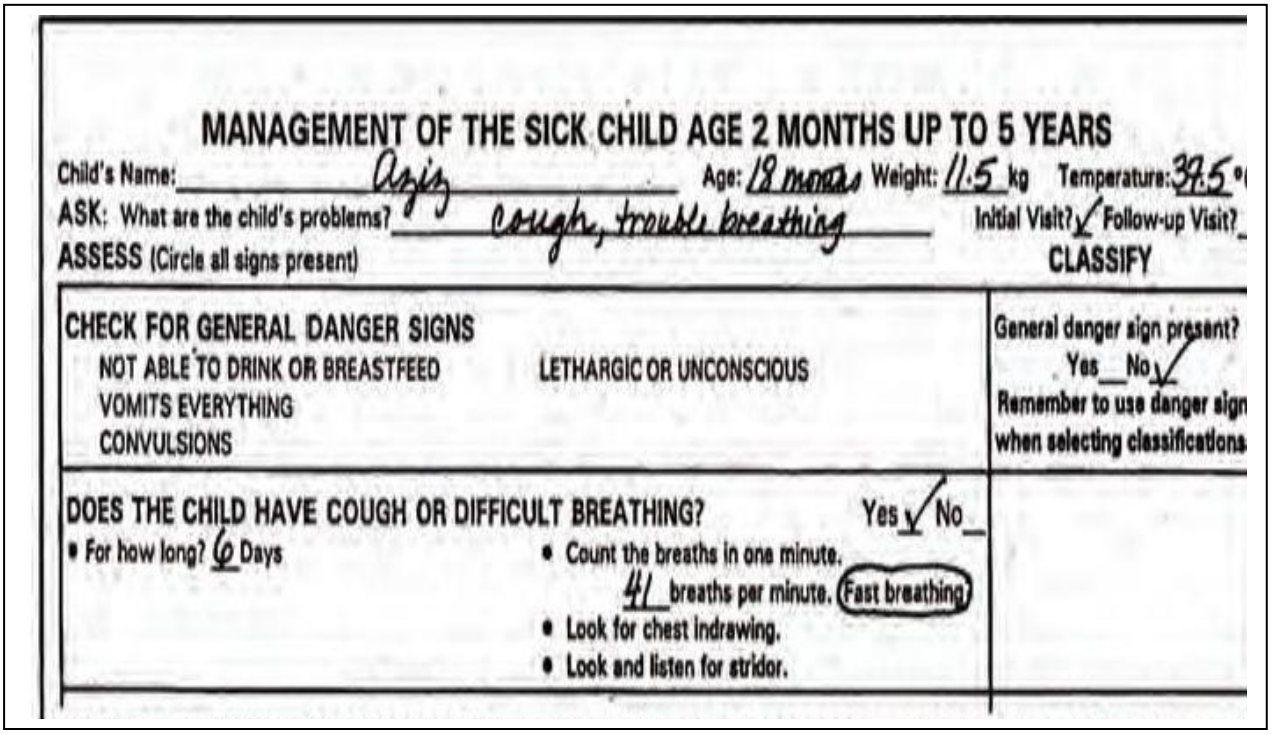
The Health Extension Service Provider asked the mother, ‗How long has Aziz Had this cough?' His mother said that Aziz had been coughing for six or seven days. Aziz sat quietly on his mother's lap. The Health Extension Provider counted the number of breaths the child took in a minute and counted 41 breaths. She thought, ‗Since Aziz is over 12 months of age, the cut-off for determining fast breathing is 40. He has fast breathing'.

The Health Extension Service Provider did not see any chest in-drawing. She did not hear strider. The chart below shows you how the Health Extension Service Provider recorded Aziz's case information and signs of illness: To classify Aziz's illness, the Health Extension Service provider looked at the classification table for coughs or difficulties in breathing.

First she checked to see if Aziz had any of the signs in the pink row. She considered, ‗Does Aziz have any general danger signs? No, he does not. Does Aziz have any of the other signs (chest in-drawing and stridor in a calm child)in this row? No, he does not. Therefore Aziz does not have any of the signs for severe pneumonia or very severe disease.'

Next, the Health Extension Service provider looked at the yellow (middle) row. She thought, ‗Does Aziz have signs in the yellow (middle) row? He has fast breathing. ‗The Health Extension Service Provider classified Aziz as having pneumonia.

Box 4.3. Recording format



MANAGEMENT OF THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS

Child's Name: Aziz Age: 18 months Weight: 11.5 kg Temperature: 37.5 °C

ASK: What are the child's problems? cough, trouble breathing Initial Visit? ✓ Follow-up Visit? _

ASSESS (Circle all signs present) CLASSIFY

CHECK FOR GENERAL DANGER SIGNS

NOT ABLE TO DRINK OR BREASTFEED LETHARGIC OR UNCONSCIOUS

VOMITS EVERYTHING

CONVULSIONS

General danger sign present? Yes __ No ✓

Remember to use danger sign when selecting classifications

DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING? Yes ✓ No __

- For how long? 6 Days
- Count the breaths in one minute. 41 breaths per minute. (Fast breathing)
- Look for chest indrawing.
- Look and listen for stridor.

• Fast breathing OR • Chest indrawing	**PNEUMONIA**	▶ **Give oral Amoxicillin for 5 days** ▶ If wheezing (or disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days*** ▶ Soothe the throat and relieve the cough with a safe remedy ▶ If Chest indrawing in HIV exposed child, give first dose of amoxicillin and refer ▶ If coughing for ≥ 14 days or there is contact with TB patient do assessment for TB**** ▶ Advise mother when to return immediately ▶ Follow-up in 2 days

4.6.1. Advice when to return immediately

Advice all mothers when to return immediately in situation the child's health worsen with treatment. Tell the mother danger signs to bring immediately the child on treatment for pneumonia and no pneumonia

Self-Check -4	Written Test

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

1. What is difficult of breathing?
2. **Case study.**

Read this case study given and then answer the questions below. SAQ 4.1Case study Askale is 8 months old. She weighs 6 kg. Her temperature is 39°C. Her mother told the health extension service provider, —Askale has had cough for 3 days. She is having trouble breathing. She is very weak." The health extension service provider said, "You have done the right thing to bring your child today. I will examine her now."

The health provider checked for general danger signs. The mother said, "Askale will not breastfeed. She will not take any other drinks I offer her." Askale does not vomit everything and has not had convulsions. Askale is lethargic. She did not look at the health worker or her parents when they talked but she was not convulsing.

The health service provider counted 55 breaths per minute. He saw chest in-drawing. He decided Askale had strider because he heard a harsh noise when she breathed in.

a. **Record Askale"s signs and classify her problem on the Recording Form provided below**
b. Identify the treatment for Askale‘s classification?
c. What is Askale‘s treatment?

MANAGEMENT OF THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS	
Child's Name:_____Age____Sex___ Weight:___kg Temperature___0C ASK: What are the child's problems? _____ Initial visit? __Follow-up visit? __	
ASSESS (Circle all signs present)Classify	
CHECK FOR GENERAL DANGER SIGNS NOT ABLE TO DRINK OR BREASTFEED LETHARGIC OR UNCONSCIOUS VOMITS EVERYTHING CONVULSING NOW CONVULSIONS	General danger sign present? Yes ____No____ Remember to use danger sign when selecting classifications
DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING? Yes _____No_____ For how long? ___Days Count the breaths in one minute ___ breaths per minute. Fast breathing? Look for chest in-drawing. Look and listen for stridor .	

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

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-5	Management of diarrheal diseases in young infant and children

5.1. Introduction

Dehydration from diarrhea is a major cause of death in infancy and childhood. Diarrhea prevalence is highest among children residing in households that drink from unprotected water supply in rural areas. More than 70% of these child deaths are due to five diseases, namely pneumonia, diarrhea, malaria, measles and malnutrition, and often to a combination of these conditions. The major causes of under-five mortality have been estimated to be pneumonia 28%, and diarrhea 20% of mortality in under-five children.

During diarrhea, oral rehydration therapy (ORT) is a simple and effective remedy for dehydration. Mothers are encouraged to continue feeding and increase the amount of liquids given to their children when they suffer from diarrheal illnesses. These practices help to reduce dehydration and also minimize the adverse consequences of diarrhea on the child‘s nutritional status.

In this information sheet, you will learn how to assess and classify a sick child with diarrhea You will also learn how to treat diarrhea using ORS and give follow-up care.

5.2. Assess and classify diarrhea

Diarrhea is the passage of three or more loose or watery stools per day .Nevertheless, absolute limits of normal are difficult to define; any deviation from the child's usual pattern should arouse some concern (particularly with ill appearance, the passage of blood or mucus, or dehydration) regardless of the actual number of stools or their water content. The change in stool consistency is more important than stool frequency (the mother‘s perception to diarrhea).

Diarrhea varies in consistency, duration of stay with and the physiological change in the child‘s body. Then you expected to identify diarrhea and assess these changes in children.

Diarrhea may be loose or watery, with blood in the stool and may be with or without mucus. It frequently leads to dehydration in the child, and can be serious enough to lead not only to malnutrition but also to the child‘s death. It may be acute or persistent and can be linked to a number of causes, including cholera and Shigella.

The clinical manifestation of Shigella is dysentery (bloody stool). A child may have both watery Diarrhea and dysentery. The death of a child with acute Diarrhea is usually due to **dehydration**.

- **Dehydration** is low body fluid in the body due to loss,
- **Persistent Diarrhea**: Diarrhea which lasts 14 days or more (in a young infant this would be classified as severe persistent Diarrhea).
- **Dysentery**: Diarrhea with blood in the stool.

5.3. Assessment of diarrhea

Step.1. Ask the mother for diarrhea for her child

ASK EVERY MOTHER:

- **Does the child have Diarrhea? All** sick children that come to your health post, their mother should be asked for Diarrhea.
    - **If the mother answers no**, ask about the next main symptom, **fever**. You do not need to assess the child further for signs related to Diarrhea.
    - **If the mother answers yes**, or if the mother said earlier that Diarrhea was the reason for coming to the health post, record her answer as Diarrhea. You will now look at the steps for assessing Diarrhea in a child in detail.

Step 2. Ask the mother to assess persistency:

- **For how long has the child had Diarrhea?**
    - Give the mother time to answer the question. She may need time to recall the exact number of days.

Step 3. Ask the mother to assess dysentery:

- **is there blood in the stool?**
    - Ask the mother if she has seen blood in the stools at any time during this episode of Diarrhea.

Step 4 . Check signs of dehydration.

- **Look at the child’s general condition restless and irritable**

- If a child who becomes dehydrated, he or she will **restless and irritable at first**. The restless and irritable child is restless and irritable all the time or every time he is touched and handled.

- If an infant or child is calm when breastfeeding, but again becomes restless and irritable when breastfeeding stops, he has the sign ‗restless and irritable'. However, many children are upset just because they are in the health post and in unfamiliar surroundings. Usually these children can be consoled and calmed. They do not have the sign ‗restless and irritable'.

Look at the child's general condition lethargic or unconscious

- If dehydration continues without treatment the child becomes **lethargic or unconscious**.

The child become weak and goes to sleep or may not react to you and the mother. When you checked for general danger signs, you checked to see if the child was lethargic or unconscious. If the child is lethargic or unconscious, he has a general danger sign. Remember to use this general danger sign when you classify and record the child's Diarrhea.

Look at the child's general condition sunken eyes

- As the child's body loses fluids the eyes may look **sunken**.
  - The eyes of a child who is dehydrated may look sunken. Decide if you think the eyes are sunken. Then ask the mother if she thinks her child's eyes look unusual. Her opinion helps you confirm whether the child's eyes are sunken or not.

The health extension service provider should note that in a severely malnourished child who is visibly wasted, the eyes may always look sunken, even if the child is not dehydrated. However, although sunken eyes are less reliable in a visibly wasted child, there should still use the sign to classify the child's dehydration

Fig 5.1. Sunken eye

STEP 5 . Feel and look at the child's general condition skin pinch
When pinched, the skin will go **back slowly or very slowly**. To assess whether the child is dehydrated, and how seriously ill, you need to look and feel for the following signs.

Pinch the skin of the abdomen. Does it go back very slowly (longer than two seconds) or slowly(less than two seconds)? Ask the mother to place the child on the examining table so that the child is flat on his back with his arms at his sides (not over his head) and his legs straight. Or, ask the mother to hold the child so he is lying flat on her lap.

Locate the area on the child‘s abdomen halfway between the umbilicus and the side of the abdomen. To do the skin pinch, use your thumb and first finger. Do not use your fingertips because this will cause pain. Place your hand so that when you pinch the skin, the fold of skin will be in a line up and down the child‘s body and not across the child‘s body. Firmly pick up all of the layers of skin and the tissue under them. Pinch the skin for one second and then release it.

When you release the skin, look the skin pinch goes back:

- very slowly (longer than two seconds)
- Slowly
- Immediately.

The photographs in Figure 5.2.show you how to do the skin pinch test and what the child‘s skin looks like when the skin pinch does not go back immediately.

Fig 5.2. Skin pinch go back very slowly

The skin pinch test is not always an accurate sign of dehydration because in a child with severe malnutrition, the skin may go back slowly even if the child is not dehydrated. In an overweight child, or a child with oedema, the skin may go back immediately even if the child is dehydrated.

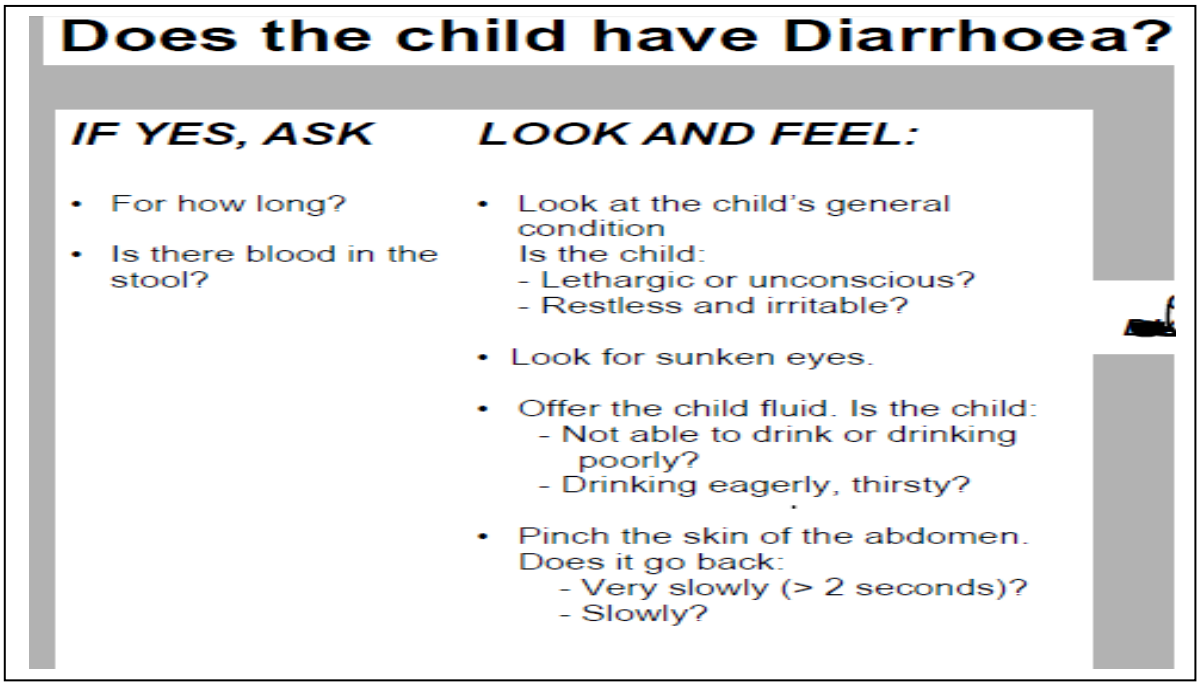
STEP 6 -Offers the child fluid in the health post. Is the child not able to drink or drinking poorly? Or, is the child drinking eagerly or thirsty?

- Offer the child some water in a cup or spoon in your health post. Watch the child drink. A child is not able to drink if he is not able to suck or swallow when offered a drink. This child may not be able to drink because he is lethargic or unconscious. A child is drinking poorly if the child is weak and cannot drink without help. He may be able to swallow only if fluid is put in his mouth.

- A child has the sign drinking eagerly, or thirsty if it is clear that the child wants to drink. Look to see if the child reaches out for the cup or spoon when you offer him water. When the water is taken away, see if the child is unhappy because he wants to drink more.

- If the child takes a drink only with encouragement and does not want to drink more, or refuses to drink, he does not have the sign _drinking eagerly, thirsty‘.

Box 5.1 assessing diarrhea in a child



Following your assessment of the child for diarrhea and dehydration, your next step is classifying diarrhea. How you do this will depend on the age of the child, and you are going to look at this next.

5.4. Classifying diarrhea

Look the following tables for classifying diarrhea:

All children with diarrhea are classified for **dehydration**.

- If the diarrhea is less than 14 days and if there is no blood, then classify the diarrhea as
  - **Severe dehydration**
  - **Some dehydration**
  - **No dehydration**
- If the diarrhea is lasts for 14 days or more than 14 days and if there is no blood, then classify the diarrhea as
  - **Severe persistent diarrhea**
  - **Persistent diarrhea**
- If there is blood , then classify the diarrhea as
  - **Dysentery**

Table 5.1 Classify dehydration in a child with diarrhea

?	SIGNS	CLASSIFY AS	TREATMENT (Urgent pre-referral treatments are in bold print)
For Dehydration	Two of the following signs: • Lethargic or unconscious • Sunken eyes • Not able to drink or drinking poorly • Skin pinch goes back very slowly	**SEVERE DEHYDRATION**	If child has no other severe classification: - Give fluid for severe dehydration (Plan C). OR *If child also has another severe classification:* • *Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way.* • *Advise the mother to continue breastfeeding.* ► **If child is 2 years or older, and there is cholera in your area, give antibiotic for cholera.**
Classify DIARRHOEA	Two of the following signs: • Restless, irritable • Sunken eyes • Drinks eagerly, thirsty • Skin pinch goes back slowly	**SOME DEHYDRATION**	► Give fluid, Zinc supplements and food for some dehydration (Plan B) *If child also has a severe classification:* - *Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way.* *Advise the mother to continue breastfeeding.* ► Advise mother when to return immediately. ► Follow-up in 5 days if not improving.
	• Not enough signs to classify as some or severe dehydration	**NO DEHYDRATION**	► Give fluid, Zinc supplements and food to treat diarrhoea at home (Plan A) ► Advise mother when to return immediately ► Follow-up in 5 days if not improving
and if diarrhoea 14 days or more	• Dehydration present	**SEVERE PERSISTENT DIARRHOEA**	► **Treat dehydration before referral unless the child has another severe classification** ► *Give Vitamin A* ► *Refer to hospital*
	• No dehydration	**PERSISTENT DIARRHOEA**	► Advise the mother on feeding recommendation for a child who has PERSISTENT DIARRHOEA ► **Give Vitamin A, therapeutic dose** ► **Give Zinc for 10 days** ► Advise mother when to return immediately ► Follow-up in 5 days
and if blood in stool	• Blood in the stool	**DYSENTERY**	► **Treat for 3 days with Ciprofloxacin** ► Advise mother when to return immediately ► Follow-up in 2 days

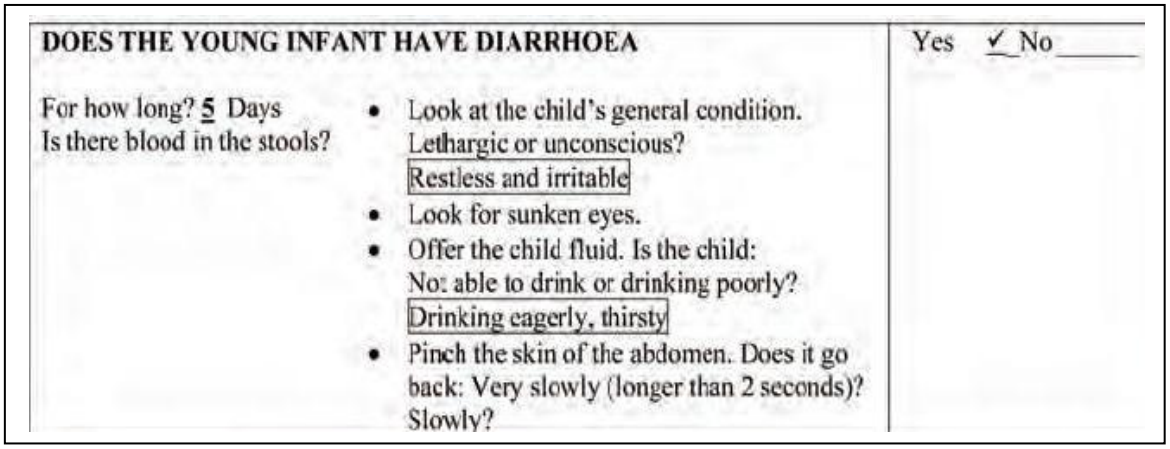
To classify the child's dehydration, begin with the top (pink) row.

- If **two or more** of the signs in the **pink row** are present, you should classify the child as having SEVERE DEHYDRATION.
- If **two or more** of the signs are not present, look at the **middle (yellow) row**. If two or more of the signs are present, you should classify the child as having SOME DEHYDRATION.
- If **two or more** of the signs from the yellow row are not present, classify the child has having NO DEHYDRATION (**bottom, green row**).The child does not have enough signs to be classified as having SOME DEHYDRATION.

Case Study 5.1 below provides an example for you to see how you would classify a child in practice. **Case Study 5.1Amina"s story**

A four-month-old child named Amina was brought to the health post because she had had diarrhea for five days. She did not have danger signs and she was not coughing. However Amina was restless and irritable every time the health extension service provider touched her and would not settle even when her mother tried to soothe her. The only time she was calm was when her mother was breastfeeding her. Amina was able to feed strongly.

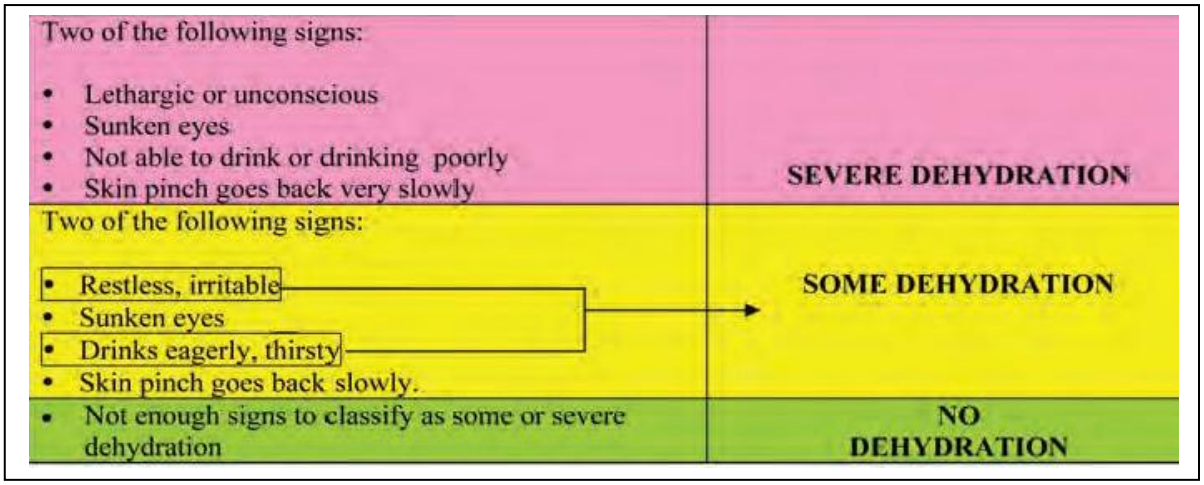
The health extension service provider assessed the child's diarrhoea. She recorded the following signs:



DOES THE YOUNG INFANT HAVE DIARRHOEA	Yes ✓ No _____
For how long? 5 Days Is there blood in the stools?	• Look at the child's general condition. Lethargic or unconscious? Restless and irritable • Look for sunken eyes. • Offer the child fluid. Is the child: Not able to drink or drinking poorly? Drinking eagerly, thirsty • Pinch the skin of the abdomen. Does it go back: Very slowly (longer than 2 seconds)? Slowly?

Look at box 5.2 below; mina does not have any signs in the pink row. Therefore Amina does not have severe dehydration

Box 5.2 Amina's signs for classification in the yellow row



Two of the following signs: • Lethargic or unconscious • Sunken eyes • Not able to drink or drinking poorly • Skin pinch goes back very slowly	SEVERE DEHYDRATION
Two of the following signs: • Restless, irritable • Sunken eyes • Drinks eagerly, thirsty • Skin pinch goes back slowly.	SOME DEHYDRATION
• Not enough signs to classify as some or severe dehydration	NO DEHYDRATION

Amina had two signs from the yellow row. Therefore the health worker classified Amina's dehydration as **SOME DEHYDRATION**. The health extension service provider recorded Amina‘s classification on the recording form which is reproduced in Box 5.2

Table 5.2. Recording form for Amina

DOES THE YOUNG INFANT HAVE DIARRHOEA		Yes ✓ No ___
For how long? 5 Days Is there blood in the stools?	• Look at the child's general condition. Lethargic or unconscious? Restless and irritable • Look for sunken eyes. • Offer the child fluid. Is the child: Not able to drink or drinking poorly? Drinking eagerly, thirsty • Pinch the skin of the abdomen. Does it go back: Very slowly (longer than 2 seconds)? Slowly?	Some Dehydration

5.5. Management/Treatment of dehydration

There are three treatment plans for treating children with dehydration and diarrhoea:

5.5.1. Treatment for severe dehydration

- Child with severe dehydration requires urgent referral first give ORS before referring the child.

5.5.2. Treatment for some dehydration with plan B:

- Although this is not as serious as severe dehydration‘ it is still important that you treat a child who has some dehydration‘ in order to prevent his situation becoming worse.

Box 5.3 plan B treatment of a child with some dehydration

➢ *Plan B: Treat Some Dehydration with ORS*

Give in clinic recommended amount of ORS over 4-hour period

➢ DETERMINE AMOUNT OF ORS TO GIVE DURING FIRST 4 HOURS

AGE	Up to 4 months	4 - 12 months	12 mo - 2 years	2 - 5 years
Weight in kg	<6 kg	6-10kg	10-12 kg	12-19 kg
ORS in ml	200-400	400-700	700-900	900-1400
ORS in coffee cups (70ml)	3-6	6-10	10-13	13-20

** Use the child's age only when you do not know the weight. The approximate amount of ORS required (in ml) can also be calculated by multiplying the child's weight (in kg) times 75*

- If the child wants more ORS than shown, give more.
- For infants under 6 months who are not breastfed, also give 100-200 ml clean water during this period.

➢ SHOW THE MOTHER HOW TO GIVE ORS SOLUTION:

- Give frequent small sips from a cup.
- If the child vomits, wait 10 minutes. Then continue, but more slowly.
- Continue breastfeeding whenever the child wants.

➢ AFTER 4 HOURS:

- Reassess the child and classify the child for dehydration.
- Select the appropriate plan to continue treatment.
- Begin feeding the child in clinic.

➢ IF THE MOTHER MUST LEAVE BEFORE COMPLETING TREATMENT:

- Show her how to prepare ORS solution at home.
- Show her how much ORS to give to finish 4-hour treatment at home.
- Give her enough ORS packets to complete rehydration. Also give her 2 packets as recommended in plan A.
- **Explain the 4 Rules of Home Treatment:**

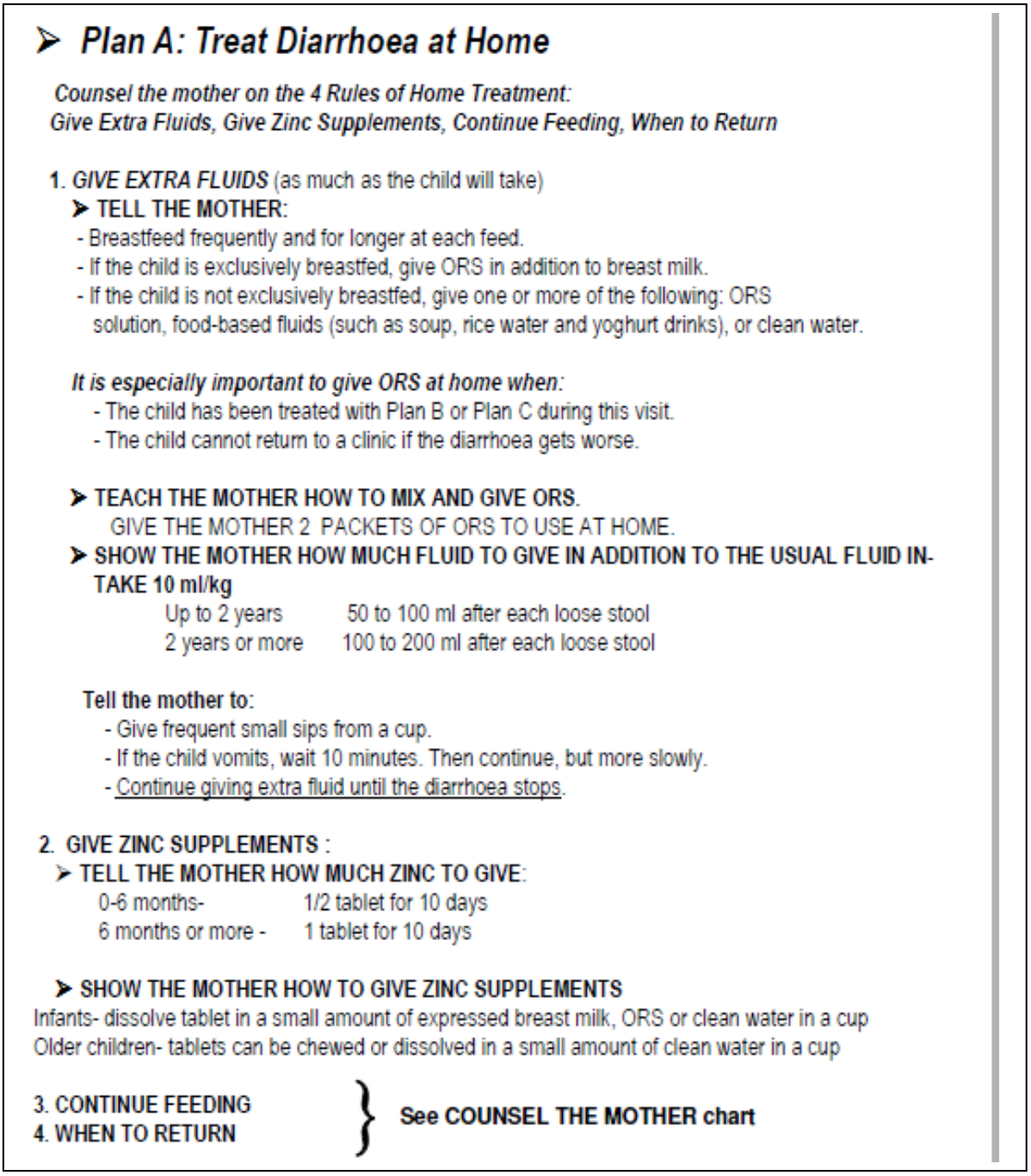
1. GIVE EXTRA FLUID
2. GIVE ZINC
3. CONTINUE FEEDING
4. WHEN TO RETURN

} See Plan A for recommended fluid and See COUNSEL THE MOTHER chart

5.5.3. Treatment for No dehydration with plan A

A child with diarrhea, even if classified as having no dehydration, still needs extra fluid to prevent dehydration occurring. A child who has no dehydration needs home treatment and the steps for this are set out in Plan A in Box 5.4

Box 5.4 Plan A: Treatment for a child with diarrhoea but no dehydration



➢ *Plan A: Treat Diarrhoea at Home*

Counsel the mother on the 4 Rules of Home Treatment:
Give Extra Fluids, Give Zinc Supplements, Continue Feeding, When to Return

1. *GIVE EXTRA FLUIDS* (as much as the child will take)
   ➢ TELL THE MOTHER:
   - Breastfeed frequently and for longer at each feed.
   - If the child is exclusively breastfed, give ORS in addition to breast milk.
   - If the child is not exclusively breastfed, give one or more of the following: ORS solution, food-based fluids (such as soup, rice water and yoghurt drinks), or clean water.

   It is especially important to give ORS at home when:
   - The child has been treated with Plan B or Plan C during this visit.
   - The child cannot return to a clinic if the diarrhoea gets worse.

   ➢ TEACH THE MOTHER HOW TO MIX AND GIVE ORS.
   GIVE THE MOTHER 2 PACKETS OF ORS TO USE AT HOME.
   ➢ SHOW THE MOTHER HOW MUCH FLUID TO GIVE IN ADDITION TO THE USUAL FLUID IN-TAKE 10 ml/kg

Up to 2 years	50 to 100 ml after each loose stool
2 years or more	100 to 200 ml after each loose stool

   Tell the mother to:
   - Give frequent small sips from a cup.
   - If the child vomits, wait 10 minutes. Then continue, but more slowly.
   - Continue giving extra fluid until the diarrhoea stops.

2. GIVE ZINC SUPPLEMENTS :
   ➢ TELL THE MOTHER HOW MUCH ZINC TO GIVE:

0-6 months-	1/2 tablet for 10 days
6 months or more -	1 tablet for 10 days

   ➢ SHOW THE MOTHER HOW TO GIVE ZINC SUPPLEMENTS
Infants- dissolve tablet in a small amount of expressed breast milk, ORS or clean water in a cup
Older children- tablets can be chewed or dissolved in a small amount of clean water in a cup

3. CONTINUE FEEDING
4. WHEN TO RETURN } **See COUNSEL THE MOTHER chart**

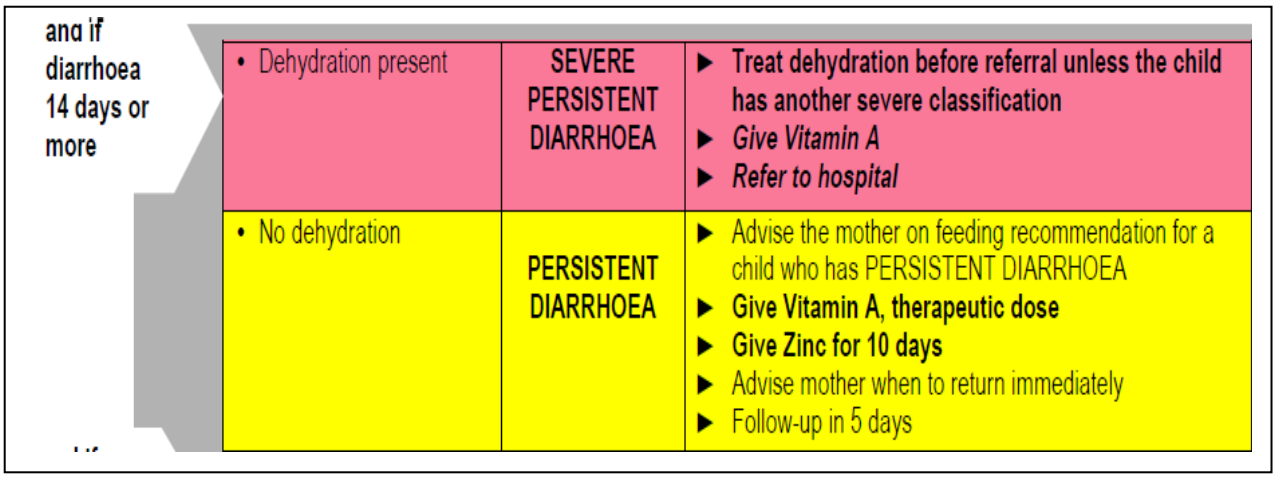
5.6. Classification of persistent diarrhea

- After you have classified a child‘s dehydration, you need to classify what kind of diarrhea the child has. As you read earlier in this information sheet , a child who has had diarrhea for 14 days or more should be classified as having persistent

diarrhea. There are two classifications of persistent diarrhea, which are linked to the level of dehydration in the child (Table 5.3):

- **Severe persistent diarrhea and**
- **Persistent diarrhea**.

Table 5.3 Classification of persistent diarrhea



5.6.1. Severe persistent diarrhea and persistent diarrhea

If a child has had diarrhea for 14 days or more and also has some or severe dehydration, you should classify the child‘s illness as severe persistent diarrhea. If a child has had diarrhea for 14 days or more and without sign of dehydration, you should classify the child‘s illness as persistent diarrhea

5.7. Management of persistent diarrhea

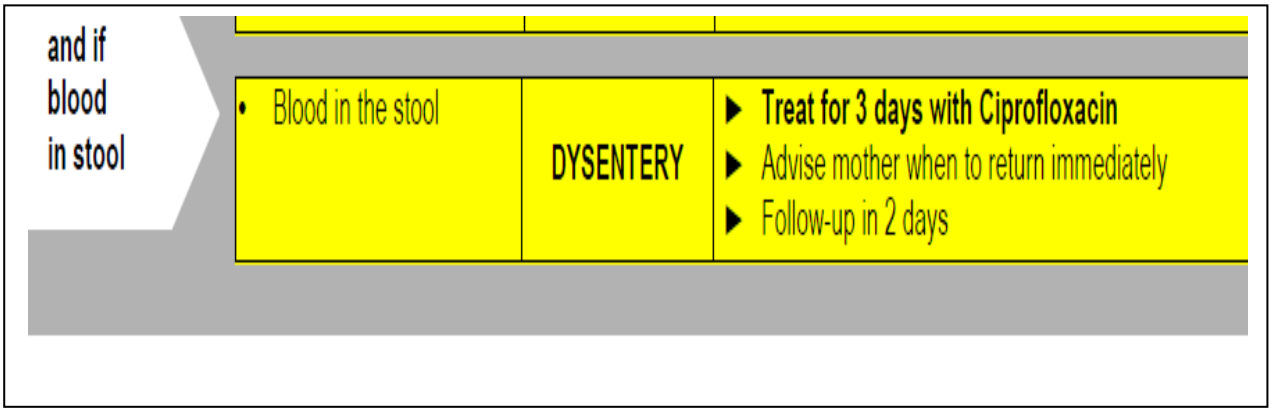
Table 5.4 Give vitamin A as pre-referral treatment for severe persistent diarrhea and persistent diarrhea give one dose in your health post then refer

Age	VITAMIN A CAPSULES		
	200000 IU	**100000IU**	**50000U**
Up to 6 months (treatment only)		1/2 capsule	1 capsules
6 months up to 12 months	1/2 capsule	1 capsule	2 capsules
12 months up to 5 years	1 capsule	2 capsules	4 capsules

5.8. Classification and management of dysentery

There is only one classification for dysentery but the diarrhea should be classified for dehydration see table5.5 below:

Table 5.5 Classify for dysentery



Self-Check -5	Written Test

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

1. Define the term dehydration and list the three classifications dehydration of diarrhea?

2. **Case study - read this case study and then answer the questions below**

   Helina is 3 years old. She weighs 10 kg. Her temperature is 39°C. Her mother came today because Helina has diarrhoea. She does not have any general danger signs. The health worker assessed her for cough or difficult breathing, she has not cough. When the health worker asked how long Helina has had diarrhoea, the mother said, "For 3days." There is no blood in the stool. Helina is not irritable during the visit, her eyes are not sunken. She is able to drink, but she is not thirsty. A skin pinch goes back immediately.

   a. Record Helina's signs and classify them on the Recording Form.

   b. How do you classify Helina‘s illness? Write down the reasons for your answer.

   c. How would you treat Helina and what advice would you give to the mother about follow-up care

Information Sheet-6	Management of sick children with fever

6.1. Introduction

Fever is a major manifestation of malaria and other acute infections in children. Malaria and fever contribute to high levels of malnutrition and mortality in Ethiopia. While fever can occur year-round, malaria is more prevalent after the end of the rainy season. In 2010, according to the World Health Organization, there were 216 million episodes of malaria and 655,000 deaths worldwide. Of these deaths around 91% were seen in the African Region, followed by the South-East Asian Region (6%), and the Eastern Mediterranean Region (3%). About 86% of deaths globally were in children.

In this information sheet, you will learn how to identify and assess fever and which focused questions to ask so that you are able to classify the illness causing the fever. You will also learn how you treat the illness as effectively as possible and to support the mother in providing home care for her child.

6.2. Assessment and classification of fever

Fever (also known as pyrexia[1] or febrile response) is one of the most common medical signs and is characterized by an elevation of body temperature above the normal range of 36.5–37.5 °C (97.7–99.5 °F) due to an increase in the temperature regulatory set-poin. It is one of the common symptoms of many febrile communicable diseases. Malaria and measles are the two main childhood febrile illnesses in Ethiopia.

Malaria is a mosquito-borne infectious disease of humans and other animals caused by parasitic protozoans (a type of single cell microorganism) of the *Plasmodium* .It is one of the severe febrile diseases Unless it is diagnosed and treated promptly, it can cause death in children. Some of the clinical manifestation of malaria is nausea and vomiting, shivering, sweating and joint pain

Measles is a highly contagious viral illness characterized by fever, malaise, rash, cough, coryza, and conjunctivitis . It results severe complications of eye, ear, gastric tract (diarrhoea), bacterial respiratory infections (pneumonia), malnutrition and also it leads to

death. Since the virus reduces the immune system those complications will appear and threaten the child. So in order to avoid measles infection the children should be vaccinated.

6.3. Assess fever

- Ask any mother coming to her child‘s illness whether or not the child has fever, it is important that you assess all sick children for fever. A child has the main symptom of **fever** if: The child has a history of fever or the child feels hot to touch or the child has an axillary temperature of 37.5°C or above.

Steps to assess fever

STEP 1

Ask and measure body temperature: Does the child have fever?

- Check to see if the child has a history of fever, feels hot or has a temperature of 37.5°C or above.
    - The child has a history of fever; is the child has had any fever with the current illness. Use words for „**fever**‘ that the mother understands. For example, ask the mother if the child‘s body has felt hot or use the local language that the mothers use to say fever.
    - Feel the child‘s body temperature whether the child is feeling hot or not around the abdomen and armpit or you can use thermometer to measure the exact temperature.

If step 1 fulfils, you should assess the child following for the next steps:

STEP 2

Decide malaria risk: high or low or no. If „low or no" malaria risk, then ask:

- Has the child travelled outside this area during the previous 15 days?
- If yes, has the child been to a malarious area?

The practical criteria for classification of risk of malaria in Ethiopia is where malaria is seasonal, should be based on altitude and season.

a. **High risk area**: The altitude is less than 2,000 meters above sea level, especially during the months of September to December and from April to June.

b. **Low risk area:** The altitude is between 2,000–2,500metres above sea level, especially during the months of September to December and from April to June.

c. **No risk area:** The altitude is above 2,500 meters above sea level. If the malaria risk in the local area is low or absent, ask whether the child has history of travel outside this area during the previous 15 days.

STEP 3

For how long has the child had fever?

- If more than seven days, has the fever been present every day?
- Has the child had measles within the last three months?

STEP 4

Do Rapid Diagnostic Test (RDT) for Malaria if available

STEP 5

Ask the mother if the child has measles now or within the last three months.

STEP 6 LOOK AND FEELS

- Look or feel for stiff neck
- Look or feel for bulging fontanels (under one year old)
- Look for runny nose
- Look for signs of MEASLES
- Generalized rash and (one of these) cough, runny nose or red eyes**.**

6.4. Assessing measles

To classify a child as having measles, the child with **fever** must have a **generalised rash** and **one of the following signs**: cough, runny nose or red eyes.

Assess a child with fever to see if there are signs suggesting measles. Look for a **generalised rash** and for one of the following signs: **Cough, runny nose or red eyes**.

Generalised rash In measles, a red rash begins behind the ears and on the neck. It spreads to the face first and then over the next 24 hours, the rash spreads to the rest of the body, arms and legs. After four to five days, the rash starts to fade and the skin may

peel, does not have blisters or pustules. The rash does not itch. Differentiate the other common childhood rashes such as chicken pox, scabies or heat rash. Refer your communicable disease module for the clinical features.

If the child has measles now or within the last three months:

- Look for mouth ulcers. Are they deep and extensive?
- Look for pus draining from the eye
- Look for clouding of the cornea

LOOK to see if the child has mouth or eye complications

LOOK for mouth ulcers. Are they deep and extensive?

Mouth ulcers are common complications of measles which interfere with the feeding of a sick child. Look for mouth ulcers in every child with measles and determine whether they are deep and extensive.

The mouth ulcers should be distinguished from Koplik spots. Koplik spots occur inside the cheek during the early stages of measles infection. They are small irregular bright spots with a white centre. They do not interfere with feeding.

LOOK for pus draining from the eye

Pus draining from the eye is a sign of conjunctivitis. If you do not see pus draining from the eye, look for pus on the eyelids. Often the pus forms a crust when the child is sleeping and seals the eye shut. It can be gently opened with clean hands. Wash your hands before and after examining the eye of any child with pus draining from the eye.

LOOK for clouding of the cornea

Look carefully for corneal clouding in every child with measles. The corneal clouding may be due to vitamin A deficiency which has been made worse by measles. If the corneal clouding is not treated, the cornea can ulcerate and cause blindness. A child with clouding of the cornea needs urgent referral and treatment with vitamin A.

6.5. Classifying fever

The next step is to classify fever in measles. For a child who has fever and no signs of measles, classify the child for **fever only,** and for a child who has signs of both **fever**

and **measles**, classify the child for both. You will use classification tables for fever and measles bellow.

Table 6.1 Assess and Classify fever in high/Low risk malaria area

	SIGNS	CLASSIFY	TREATMENT (Urgent pre-referral treatments are in bold print)
High/Low Malaria Risk	• Any general danger sign, OR • Stiff neck, OR • Bulging fontanels (< 1 yr)	VERY SEVERE FEBRILE DISEASE	▶ **Give first dose Artesunate or Quinine for severe malaria** ▶ **Give first dose of IV/IM Ampicillin and Gentamycin** ▶ **Treat the child to prevent low blood sugar** ▶ **Give Paracetamol in health facility for high fever (≥38.5°C)** ▶ **Refer URGENTLY to hospital**
	• Positive blood film/RDT, OR • If blood film/RDT not available, any fever (by history, or feels hot, or temp ≥ 37.5°C)	MALARIA	▶ **Treat with Artemeter-Lumefantrine for P. falcip. or mixed or no confirmatory test done** ▶ **Treat with Chloroquine for confirmed P. vivax** ▶ **Give Paracetamol in health facility for high fever (38.5°C or above)** ▶ **Give an appropriate antibiotic for identified bacterial cause of fever** ▶ Advise mother when to return immediately ▶ Follow-up in 2 days if fever persists ▶ If fever is present every day for more than 7 days, refer for assessment
	• RDT negative, OR • Blood film negative • Other cause of fever present	FEVER: NO MALARIA	▶ **Give one dose of Paracetamol in health facility for high fever (≥38.5°C)** ▶ **Give an appropriate antibiotic for identified bacterial cause of fever** ▶ Advise mother when to return immediately ▶ Follow-up in 2 days if fever persists ▶ If fever is present every day for more than 7 days, refer for assessment

Table 6.2. Assess and Classify fever in no malaria risk and no travel to malarious area

No Malaria Risk and No travel to Malarious area	• Any general danger sign, OR • Stiff neck, OR • Bulging fontanels (< 1 year of age)	VERY SEVERE FEBRILE DISEASE	▶ **Give first dose of IV/IM Ampicillin and Gentamycin** ▶ **Treat the child to prevent low blood sugar** ▶ **Give Paracetamol in health facility for high fever (≥38.5°C)** ▶ **Refer URGENTLY to hospital**
	• Any fever	FEVER	▶ ***Give one dose of Paracetamol in health facility for high fever (≥38.5°C)*** ▶ **Give an appropriate antibiotic for identified bacterial cause of fever** ▶ Advise mother when to return immediately ▶ Follow-up in 2 days if fever persists ▶ If fever is present every day for more than 7 days refer for assessment

6.6. Classifying measles

A child with fever and who has measles, or has had measles within the last three months, should be classified both for fever and for measles.

There are three possible classifications of measles:

- Severe complicated measles
- Measles with eye or mouth complications
- Measles.

6.6.1. Severe complicated measles

Children with measles may have other serious complications. A child with any general danger sign, clouding of the cornea or deep and extensive mouth ulcers will be classified as severe complicated measles‘.

6.6.2. Measles with eye or mouth complications

If the child has pus draining from the eye or mouth ulcers which are not deep or extensive, you should classify the child as having measles with eye or mouth complications. A child with this classification does not need referral.

6.6.3. Measles

A child with measles now or within the last three months and with none of the complications listed in the pink or yellow rows is classified as having measles. You should give the child a therapeutic dose of vitamin A to help prevent measles complications from developing. Table 6.3 summarizes these classifications and also indicates what treatment should be provided according to the classification.

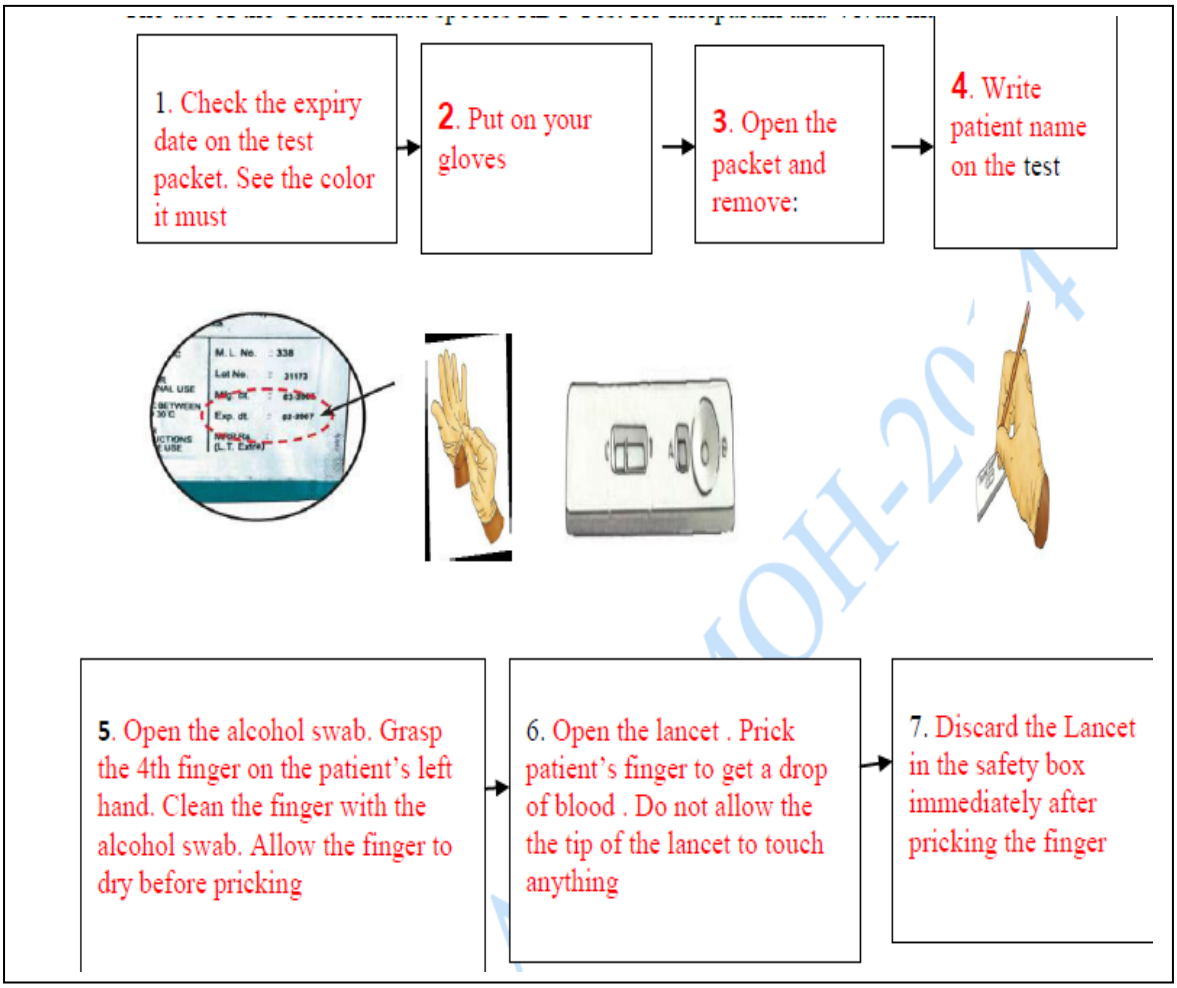
Table 6.3 Classify febrile child If MEASLES now or within the last 3 months

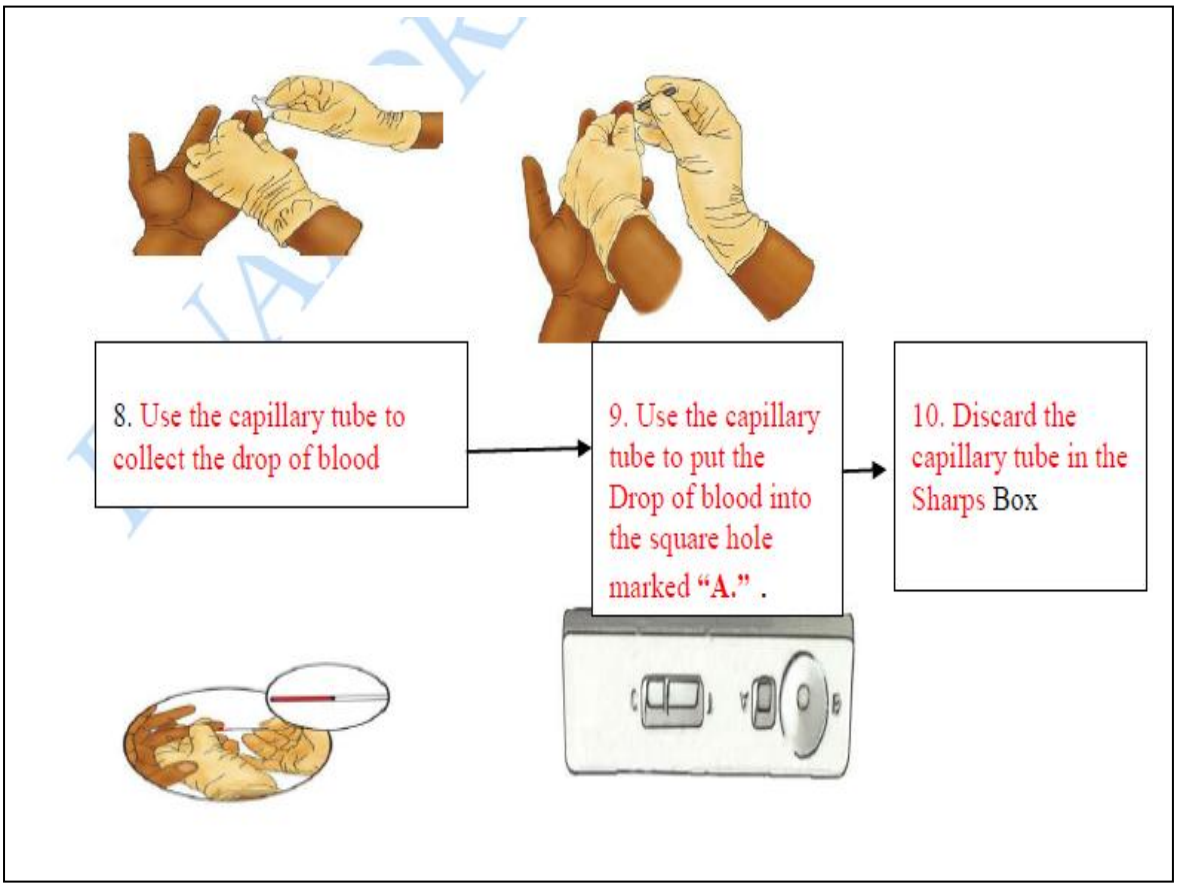
IF MEASLES now or within the last 3 months, Classify

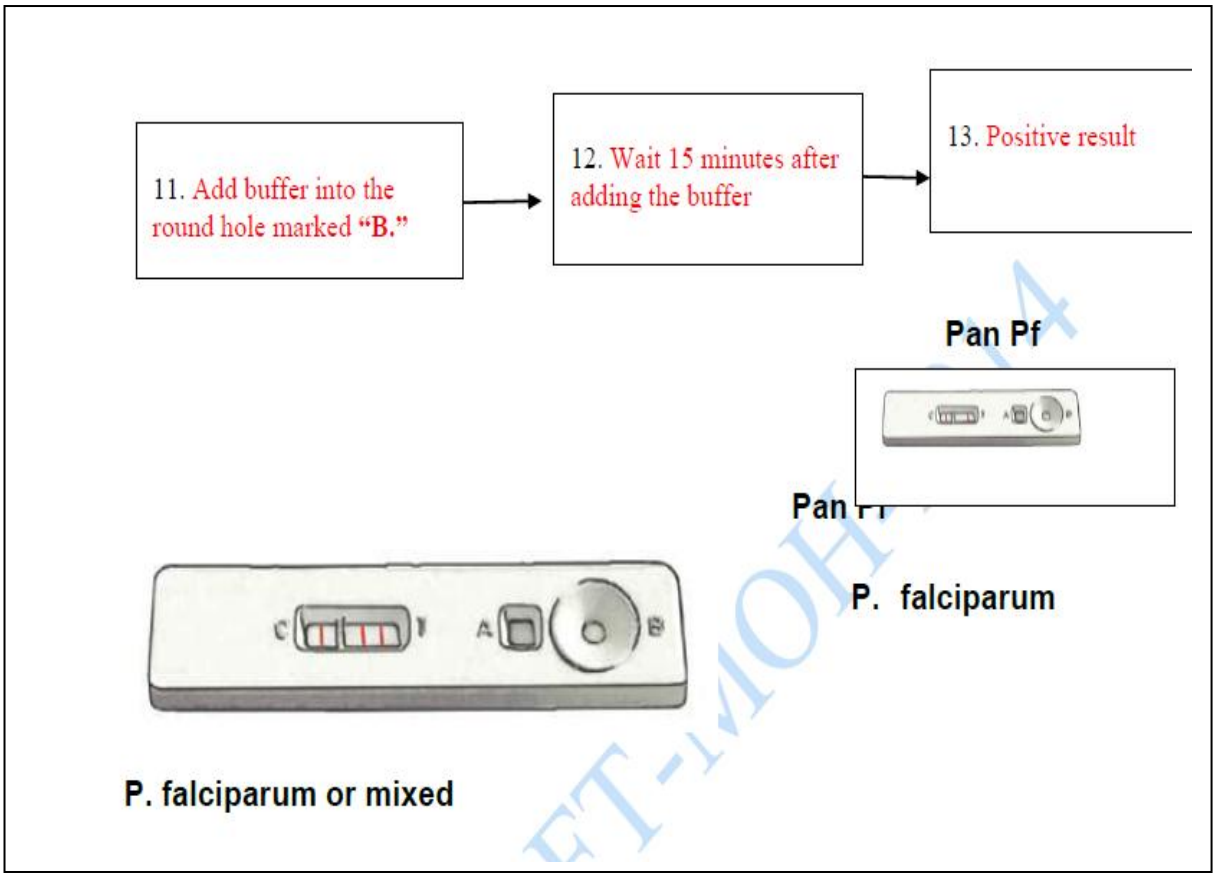
• Any general danger sign, OR • Clouding of cornea, or • Deep or extensive mouth ulcers	**SEVERE COMPLICATED MEASLES ******	▶ Give *Vitamin A, first dose* ▶ *Give first dose of IV/IM Ampicillin and Gentamycin* ▶ *If clouding of the cornea or pus draining from the eye, apply Tetracycline eye ointment* ▶ *Refer URGENTLY to hospital*
• Pus draining from the eye or • Mouth ulcers (not deep or extensive)	**MEASLES WITH EYE OR MOUTH COMPLICATIONS ******	▶ **Give Vitamin A, therapeutic dose** ▶ ***If pus draining from the eye, treat eye infection with Tetracycline eye ointment*** ▶ If mouth ulcers, treat with gentian violet ▶ Advise mother when to return immediately ▶ Follow–up in 2 days
• Measles now or within the last 3 months	**MEASLES**	▶ **Give Vitamin A, therapeutic dose** ▶ Advise mother when to return immediately

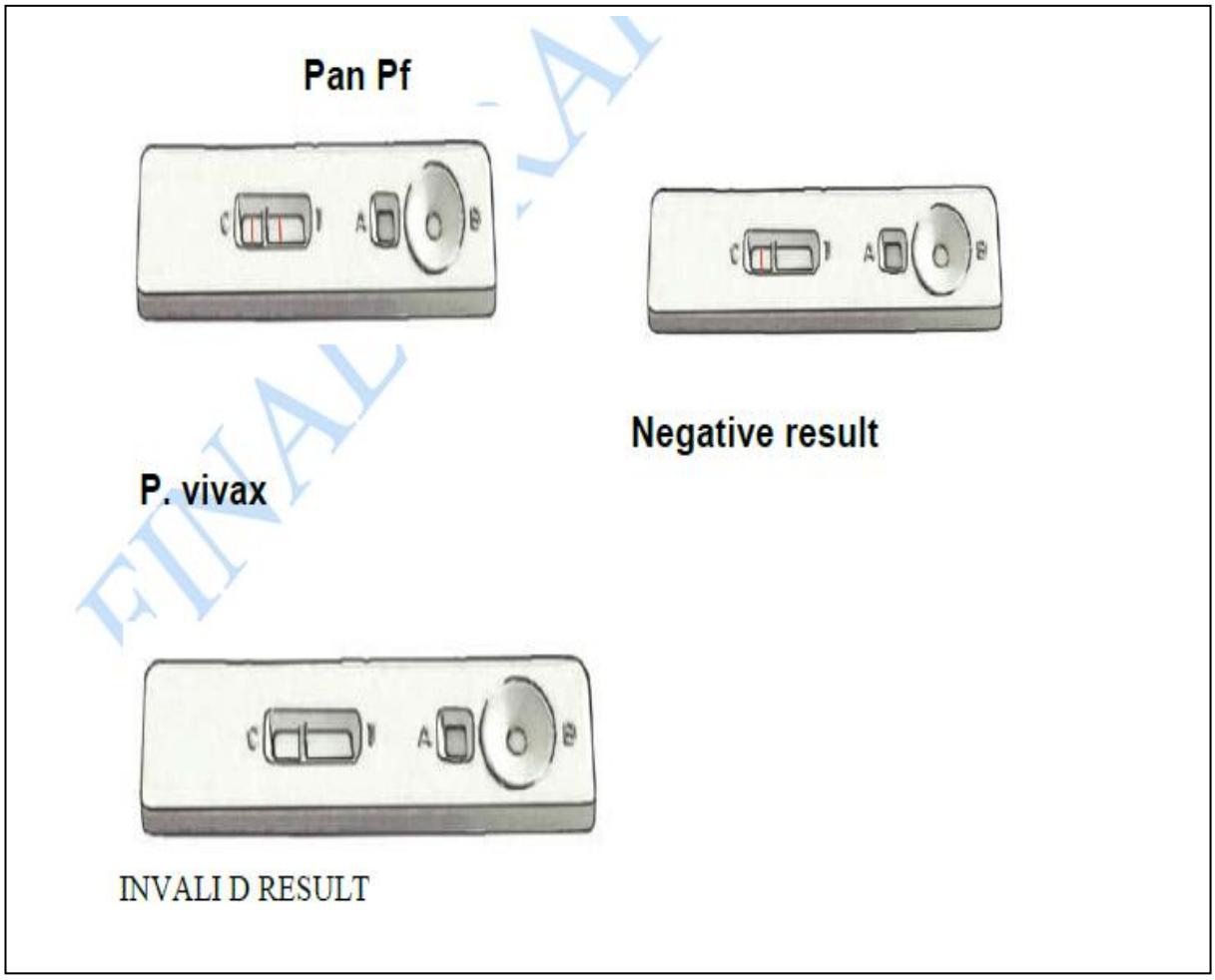
6.7. How To Do the Rapid Test for Malaria

The use of the Generic multi species RDT Test for falciparum and Vivax malaria




8. Use the capillary tube to collect the drop of blood
9. Use the capillary tube to put the Drop of blood into the square hole marked "A." .
10. Discard the capillary tube in the Sharps Box


11. Add buffer into the round hole marked "B."
12. Wait 15 minutes after adding the buffer
13. Positive result
Pan Pf
P. falciparum
P. falciparum or mixed



6.8. Management of fever or malaria

The treatment for fever or malaria is not based on classification of malaria risk. Therefore once you have classified for fever, the treatment is the same. The exception is where there is no malaria risk when you do not have to treat the child with an anti malarial drug.

6.8.1. Very severe febrile disease or severe malaria

A child with fever and any general danger sign or stiff neck may have meningitis, severe malaria or sepsis. A child classified as having very severe febrile disease needs urgent treatment and referral. Before referring urgently, you should give a dose of Paracetamol if the child‘s temperature is 38.5°C or above. The pre-referral Cotrimoxazole oral antibiotics should also be given and prevent low sugar by ensuring the child has food on the journey to health center or hospital. You should administer Artesunate rectally as indicated in Table 6.4 below

Table6.4 Rectal artesunate pre-referral treatment for children (aged 0–5 years) And weighing at least 5 kg

Weight (kg)	Age	Artesunate dose (mg)	Regimen (single dose)
5–8.9	0-12 months	50	One 50 mg suppositry
9–19	13-41 months	100	One 100mg suppository
20–29	42-60 months	200	Two100mg suppositories

6.8.2. Treatment of Malaria

Treat a child over 4 months of age, classified as having P. Falciparum malaria, and treat with Coartem (if RDT confirms P. vivax malaria give chloroquine). You should give Paracetamol if the child has a fever. If the fever has been present every day for more than seven days, you should refer the child for assessment.

Give an Oral Antimalarial **First-line for Antimalarial**: For P falciparum and mixed infections (falciparum + vivax malaria) Give Artemether-Lumefentrine (COARTUM) = 20 mg Artemether and 120 mg Lumefentrine

Tablet 6.5 (COARTUM) Containing 20 mg Artemether and 120 mg Lumefentrine.

Weight (kg)	Age	Number of tablets per dose twice daily for 3 days
5-14	3 months—2 years	1
15-24	3-7 years	2
25-34	7—10 years	3
35+	10 + years	4

Chloroquine: 150 mg base syrup 50mg base in 5ml. (A total dose of 25mg base per kg for 3 days (10mg base per kg on day 1and 2 and 5mg base per kg on day 3).

Table6.6 Chloroquine dosage

Chloroquine

- Tablet 150mg base (250mg Salt)
- Syrup 50mg base in 5ml (80mg Salt per 5ml)
- A total dose of 25mg base per kg over 3 days (10mg base per kg on day 1 and 2 and, 5mg base per kg on day 3).

Weight (kg)	Age (month or year)	Day 1	Day 2	Day 3
5-7	<4 month			
	Tablet	1/4	1/4	1/4
	Syrup	5 ml	5 ml	2.5 ml
7 – 11	4-11 month			
	Tablet	1/2	1/2	1/2
	Syrup	7.5 ml	7.5 ml	5 ml
11 – 15	1-<3 year			
	Tablet	1	1	1/2
	Syrup	12.5 ml	12.5 ml	7.5 ml
15 – 19	3-<5 year			
	Tablet	1	1	1
	Syrup	15 ml	15 ml	15 ml
19 – 25	5-<8 year			
	Tablet	1 1/2	1 1/2	1
	Syrup	20 ml	20 ml	15 ml
25 – 36	8-<11 year			
	Tablet	2 ½	2 ½	1
36 – 50	11-<14 year			
	Tablet	3	3	2
50+	14+ year			
	Tablet	4	4	2

6.8.3. Fever (no malaria)

If the child's fever is high, give Paracetamol. Advise the mother to return for follow-up visit in two days if the child's fever persists. If the fever has been present every day for more than seven days, then you should refer the child for assessment.

You will give paracetamol as pre-referral treatment for High Fever (38.5°C) treat fever every 6 hours until high fever or ear pain is gone as stated in table 6.7

Table 6.7. Paracetamol dose for High Fever (38.5°C) every 6 hours until high fever or ear pain is gone

Give Paracetamol for High Fever

- (≥38.5°C) or ear pain
- Give Paracetamol every 6 hours until high fever or ear pain is gone

PARACETAMOL						
AGE or WEIGHT	TABLET (100mg)	TABLET (500mg)	Syrup (120mg/5ml)	Syrup (250mg/5ml)	Suppository (125mg)	Suppository (250mg)
2 months up to 3 years (4 -14 kg)	1	¼	5 ml	2.5 ml	1	
3 years up to 5 years (14 -19 kg)	2 ½	½	10 ml	5 ml	2	1

6.8.4. Follow-up care and treatment for fever or malaria

The follow-up care for high and low risk malaria is set out in(table 6.3) If the child's fever persists after two days, or returns within 14 days of the initial classification, you should do a full re-assessment of the child. You should consider whether there are other causes of the fever.

6.9. Treatment of measles

6.9.1. Severe complicated measles

All children with severe complicated measles should receive urgent treatment and referral. Give the first dose of vitamin A to the child and an appropriate oral Cotrimoxazole antibiotic and then refer the child urgently. If there is clouding of the cornea, or pus draining from the eye, apply eye ointment.

6.9.2. Measles with eye or mouth complications

Identifying and treating measles complications in infants and children in the early stages of the infection can prevent many deaths. As you treated earlier, these children should be treated with vitamin A. It will help decrease the severity of the complications as well as correct any vitamin A deficiency.

The mother should be taught how to treat the child's eye infection with Tetracycline eye ointment and mouth ulcers with gentian violet at home hospital. If not, teach the mother the correct treatment; this may help to solve the problem.

- If the pus is gone but redness remains, tell the mother to continue the treatment.
- If no pus or redness, tell the mother she can stop the treatment.

Treat Eye Infection with Tetracycline Eye Ointment

- Mother washes her hands.
- Ask child to close the eye and use clean cloth and water and then wipe the pus.
- Then apply tetracycline eye ointment in both eyes 3 times daily.
- Ask the child to look up then squeeze a small amount of ointment on the inside of the lower lid.
- Wash hands again.
- Treat until redness is gone do not use other eye ointments or drops, or put anything else in the eye.

Mouth ulcers should be treated with gentian violet twice daily as follows:

- Wash hands.
- Clean the child's mouth with a clean soft cloth wrapped around a clean stick or the end of a spoon and wet with salt water.
- Apply gentian violet (0.25%) in the mouth ulcer.
- Wash hands again.

Treating mouth ulcers helps the child to start again normal feeding more quickly.

6.9.3. Follow-up care for measles with eye or mouth complications

You should give follow-up care to the child after two days: you should look for red eyes and/or pus draining from the eyes and you should check to see whether the child still has the mouth ulcers. If the child's mouth ulcers are worse, or there is a very foul smell from the mouth, you should refer the child to hospital. If the mouth ulcers are the same or better, you should tell the mother that she must continue to use the gentian violet for a total of five days.

Give Vitamin A for **MEASLES** three doses.

- Give first dose in clinic.
- Give mother one dose to give at home the next day.
- Give third dose in clinic in 2 weeks

Table 6.8. Dose Vitamin A to treat measles, measles with mouth or eye complication Pre-referral treatment

AGE	VITAMIN A CAPSULES		
	200000 IU	100000IU	50000U
Up to 6 months (treatment only)		1/2 capsule	1 capsule
6 months up to 12 months	1/2 capsule	1 capsule	2 capsules
12 months up to 5 years	1 capsule	2 capsules	4 capsules

Self-Check -6	Written Test

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

1. Define measles and mention the symptoms of measles
2. **Case study -read this case study and then answer the questions below**

Leya is 5 months old. She weighs 5 kg. Her temperature is 36.5°C. Her family brought her to the health post because she feels hot and has had cough for 2 days. She is able to drink. She has not vomited or had convulsions, and is not convulsing, lethargic or unconscious.

The health worker said, "I am going to check her cough now." The health worker counted 43 breaths per minute. There was no chest in drawing and no stridor when Leya was calm. Leya did not have diarrhoea. "Now, I will check her fever," said the health worker. Leya lives in an area where many cases of malaria occur all year long (high malaria risk). Her mother said, "Leya has felt hot on and off for 2 days." She has not had measles within the last 3 months. She does not have stiff neck or runny nose. Leya has a generalized rash. Her eyes are red. She has mouth ulcers. They are not deep and extensive .She does not have pus draining from the eye. She does not have clouding of the cornea.

A. Record the child's signs and classify them on the Recording form.
B. Write the treatment for Leya
C. Give Follow up for Leya

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

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-7	Malnutrition and anemia in the sick child

7.1. Introduction

Severe malnutrition is one of the most common causes of morbidity and mortality among children under the age of 5 years worldwide.

Check all sick children for signs suggesting malnutrition and anaemia. A mother may bring her child to clinic because the child has an acute illness. The child may not have specific complaints that point to malnutrition or anaemia. A sick child can be malnourished, but the health worker or the child's family may not notice the problem. If malnutrition unrecognizable, check by your self

A child with malnutrition has a higher risk of many types of disease and death. Even children with mild and moderate malnutrition have an increased risk of death. Identifying children with malnutrition and treating them can help prevent many severe diseases and death. The child's appetite decreases, and the food that the child eats is not used efficiently. When the child has protein-energy malnutrition:

- The child may become severely wasted, a sign of marasmus.
- The child may develop oedema, a sign of kwashiorkor.
- The child may not grow well and become stunted.

A child whose diet lacks recommended amounts of essential vitamins and minerals can develop deficiencies such as anaemia and vitamin A deficiency. A child with Vitamin A deficiency is at risk of death from measles and diarrhoea. The child is also at risk of blindness. There for it is important to prevent such type of problems in the community. So, in this information sheet you will learn about the assessment, classification and treatment of malnutrition and anaemia.

7.2. Assessment and classification of malnutrition

Malnutrition is a condition that occurs when a person does not get enough nutrients. Severe malnutrition is both a medical and a social disorder. Malnutrition mainly affects

children under five in developing countries and results in poor health. The malnourished child will also perform poorly at school and will be a less productive adult in the future.

Causes of malnutrition

They can be classified as **root causes**, **underlying causes** and **immediate causes**

Immediate causes of malnutrition are:

- Inadequate dietary intake: Not getting enough nutrients to meet the nutritional need of the body. Frequent attacks of illness: a child who has had frequent illnesses can develop malnutrition. During illness the child‘s appetite decreases; the food eaten might not be absorbed or it may be vomited; the food that the child eats is not used efficiently, or it may not be enough for the increased metabolic need of the child‘s body

Types of malnutrition

- Protein-energy malnutrition
- Micronutrient malnutrition or deficiency

Protein-energy malnutrition:

- is deficiency of adequate protein and/or calories in the body.
- This can be **acute or chronic**.
- **Chronic protein-energy malnutrition** is manifested by stunting (short height or length) for age. Stunting occurs as a result of lack of food, or an illness (Stunting indicates chronic malnutrition)
- **Acute protein-energy malnutrition** is the term used to cover both moderate and severe wasting and nutritional edema or kwashiorkor..
- **Micronutrient malnutrition or deficiency** is deficiency of the recommended amounts of essential vitamins and minerals. The child may not be eating enough of the recommended amounts of specific vitamins (such as vitamin A) or minerals (such as iron).
- **Anemia** is one of the micronutrient deficiencies that is lack of iron in the foods. A child can also develop anemia as a result of:
    - Infections

- Parasites such as hookworm or whipworm: these parasites can cause blood loss from the gut.
- Malaria

7.2.1. Checking the sick child for malnutrition and anemia

All children who are brought to the health post (visited at their home) for their complain of acute illness, the Health Extension Service Provider should check for malnutrition and anemia. Since mother may bring her child to the health post because the child has an acute illness and specific complaints may not complain malnutrition. A sick child can be malnourished, but the child's family may not have realized the malnutrition as illness.

Box 7.1 Check for malnutrition in infant less than 6months and 6months and above

LOOK AND FEEL:
MALNUTRITION
For children less than 6 months :
Look for Pitting oedema of both feet
Look for visible severe wasting
For children aged 6 months or more
Determine if MUAC is: less than 11.0 cm OR 11-<12 cm OR >12 cm
Look for Pitting oedema of both feet
Assess appetite if MUAC <11.0 cm or oedema of both feet AND No medical complication such as Pneumonia or Watery diarrhoea or Dysentery or Fever/low temperature

Look for palmar pallor. Is it:
Severe palmar pallor?
Some palmar pallor?

Checking for visible severe wasting in infants less than six months of age

An infant with visible severe wasting has marasmus, it is a form of severe malnutrition**.** **Marasmus** is characterized by the wasting of muscle mass and the depletion of body fat stores. It is the most common form of protein energy malnutrition and is caused by inadequate intake of all nutrients, but especially dietary energy sources (total calories). Physical examination findings include:

- Diminished weight and height for age
- Emaciated and weak appearance

- Bradycardia, hypotension, and hypothermia
- Thin, dry skin
- Redundant skin folds caused by loss of subcutaneous fat
- Thin, sparse hair that is easily plucked

Visible severe wasting can be assessed by looking at face, the ribs, arms, the legs and the buttock. Remove the child‘s clothes for observation. Look to see if the outline of the child‘s ribs is easily seen. Look at the child‘s hips. They may look small when you compare them with the chest and abdomen. Look at the child from the side to see if the fat of the buttocks is missing.

When wasting is extreme, there are many folds of skin on the buttocks and thighs. It looks like the child is wearing baggy pants. The face of a child with visible severe wasting may still look normal. The child‘s abdomen may be large or distended

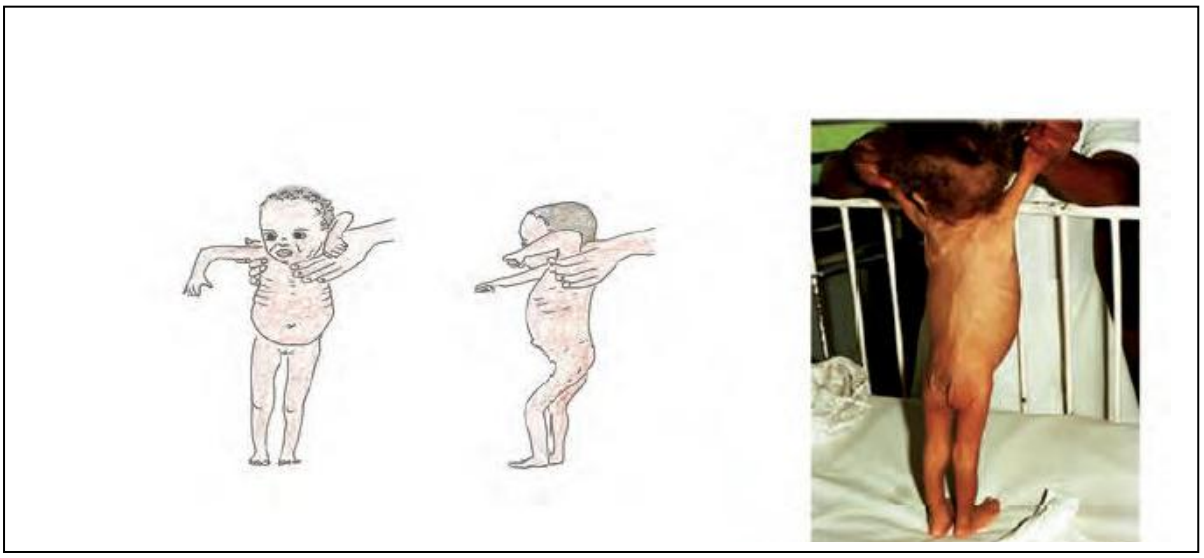


Figure 7.1 Infant with visible severe wasting. (Photo: IMCI and OTP Training Guides, Ethiopia)

Kwashiorkor

Kwashiorkor is characterized by marked muscle atrophy with normal or increased body fat. Pure kwashiorkor is characterized by inadequate protein intake in the presence of fair to good energy intake. Anorexia is almost universal. Physical examination findings include:

- Normal or nearly normal weight and height for age

- Anasarca (severe generalized oedema)
- Pitting oedema in the lower extremities and periorbitally
- Rounded prominence of the cheeks ("moon-face")
- Pursed appearance of the mouth
- Dry, atrophic, peeling skin with confluent areas of hyperkeratosis and hyperpigmentation
- Dry, dull, hypopigmented hair that falls out or is easily plucked
- Hepatomegaly (from fatty liver infiltrates)
- Distended abdomen with dilated intestinal loops

Intermittent periods of adequate protein intake restores hair color, resulting in alternating loss of hair color interspersed between bands of normal pigmentation

Measure the mid upper arm circumference (MUAC)

- For children aged six months or more, the most feasible way to determine wasting or acute malnutrition is by measuring their mid upper arm circumference (MUAC).A MUAC of less than 11.0 cm indicates severe acute malnutrition.

Steps of MUAC measurement

1. Ask the mother to remove any clothing that covers the child‘s arm. If possible the child should stand erect and sideways to the health worker.
2. Estimate the mid-point of the left arm.
3. Straighten the child‘s arm and wrap the tape around at the mid-point. Make sure that the numbers are right side up. Make sure the tape is flat around the skin.
4. Inspect the tension of the tape on the child‘s arm. Make sure the tape has the proper tension and is not too tight or too loose. Repeat any step as necessary.
5. When the tape is in the correct position and correct tension on the arm, read and call out the measurement to the nearest 0.1 cm.
6. Immediately record the measurement.

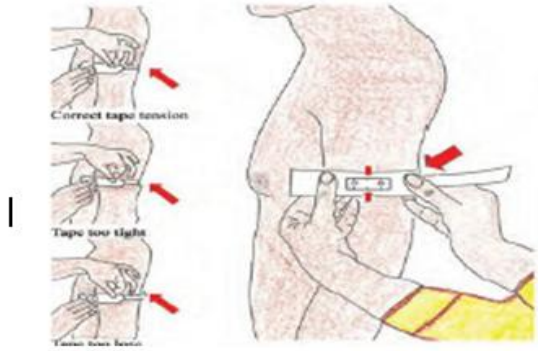


Figure 7.2 MUAC measurement

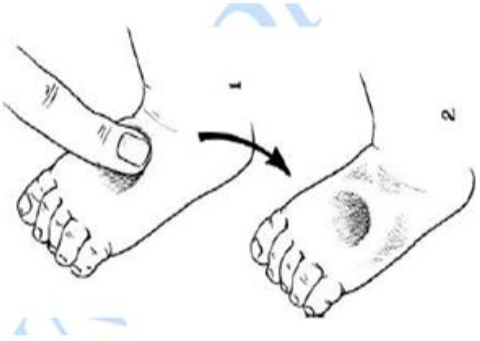


Figure 7.3 Checking for bilateral pitting edema

Look and feel for oedema of both feet

A child with oedema of both feet may have kwashiorkor. Kwashiorkor is characterized by marked muscle atrophy with normal or increased body fat. Pure kwashiorkor is characterized by inadequate protein intake in the presence of fair to good energy intake. Anorexia is almost universal

To determine the presence of oedema, press gently with your thumb on the topside of each foot for at least three seconds a depression will occur. Look at Figure 7.3 which shows you how a child‘s feet look when the dent remains.

Assessing appetite

For a child aged six months or above has a MUAC less than 11 cm or pitting edema of both feet and has no medical complications, assess the child‘s appetite

Box 7.2- Appetite test for children with acute severe malnutrition

In a child who is 6 months or older, if MUAC is less than 11 cm or if edema of both feet and has NO MEDICAL COMPLICATION, assess appetite.

How to do the appetite test?

1. The appetite test should be conducted in a separate quiet area.
2. Explain to the care taker the purpose of the appetite test and how it will be carried out.
3. The care taker, where possible, should wash her hands.
4. The care taker should sit comfortably with the child on his lap and either offers the Ready to Use Therapeutic Food (RUTF) from the packet or put a small amount on finger and gives it to the child.
5. The care taker should offer the child the RUTF gently, encouraging the child all the time. If the child refuses then the care taker should continue to quietly encourage the child and take time over the test. The test usually takes 15-30 minutes but may take up to one hour. The child must not be forced to take the RUTF.
6. The child needs to be offered plenty of water to drink from a cup as he/she is taking the RUTF. The result of the appetite test -See the appetite test table on the next page to determine pass or fail depending on the amount of RUTF consumed.

Pass

1. A child who takes at least the amount shown in the appetite test table 7.1 passes the appetite test.
2. Explain to the care taker the choices of treatment option and decide with the care taker whether the child should be treated as an out-patient or in-patient (nearly all care takers will opt for out-patient treatment).
3. Guide the patient to the Outpatient Therapeutic Program (OTP) for registration and initiation of treatment.

Fail

1. A child that does not take at least the amount of RUTF shown in the table below should be referred for in-patient care.
2. Explain to the care taker the choices of treatment options and the reasons for recommending in-patient care; decide with the care taker whether the patient will be treated as an in-patient or out-patient.
3. Refer the patient to the nearest Therapeutic Feeding Unit (TFU) or hospital for Phase 1 management.

The appetite test should always be performed carefully. Patients who fail their appetite tests should always be offered treatment as in-patients. If there is any doubt then the patient should be referred for in-patient treatment until the appetite returns.

Table7.1. Appetite test table

APPETITE TEST TABLE

APPETITE TEST Test is the minimum amount that malnourished patients should take to pass the appetite test			
Plumpy nut		BP 100	
Body weight (Kg)	Sachets	Body weight (Kg)	Bars
Less than 4 kg	1/8 to 1/4	Less than 5 kg	1/4 to 1/2
4-6.9	1/4 to 1/3	5-9.9	1/2 to 3/4
7-9.9	1/3 to 1/2		
10-14.9	1/2 to 3/4	10-14.9	3/4 to 1
15-29	3/4 to 1	15-29	1 to 1 1/2
Over 30 kg	>1	Over 30 kg	> 1 1/2

7.3. Classification of malnutrition and anemia

After performing the assessment of sick child for malnutrition and anemia, the next step is deciding the classification of the child‘s illness based on the presence or absence of specific signs.

There are four possible classifications for malnutrition

1. Complicated Severe acute malnutrition:
2. Uncomplicated Severe acute malnutrition
3. Moderate acute malnutrition
4. Underweight in an infant less than 6months age
5. No acute malnutrition in both infant less than 6months or 6months and above

Table 7.2 assess and classify malnutrition in children less than 6 months age.

SIGNS	CLASSIFY AS	TREATMENT
• WFL <-3Z score, and presence of complications OR • Oedema of both feet	**COMPLICATED SEVERE ACUTE MALNUTRITION**	► Give first dose of Ampicillin and Gentamaycin IM ► Treat the child to prevent Low Blood Sugar ► Advise mother on the need of referral ► Refer Urgently to Hospital
• WFL < -3Z score AND no complications AND • No oedema of both feet	**UNCOMPLICATED SEVERE ACUTE MALNUTRITION**	► Counsel on breast feeding and care ► Undertake appropriate counseling and feeding advise in cases where a child is orphaned with no other option for breastfeeding ► Assess for TB infection (Refer table on page 32)*
• WFL ≥ -3Z to < -2Z score, AND • No oedema of both feet	**MODERATE ACUTE MALNUTRITION**	► Assess feeding and advise the mother on feeding ► Assess for TB infection (Refer table on page 32)* ► Follow up in 5 days if feeding problem ► Follow up in 30 days
• WFL ≥ -2Z score AND • No oedema of both feet	**NO ACUTE MALNUTRITION**	► Assess feeding and advise the mother on feeding ► Follow up in 5 days if feeding problem ► If no feeding problem-praise the mother

Table 7.3 Assess and classify table for malnutrition children 6monthsage or more

SIGNS	CLASSIFY AS	TREATMENT

• WFL/H < -3Z score or MUAC <11 cm or Oedema of both feet (+, ++), and any of the following:
  • Any one of the medical complications , or
  • Failed Appetite test
• +++ Oedema OR
• Marasmic Kwashiorkor (WFL/H < -3Z with oedema or MUAC <11 cm with oedema)
	COMPLICATED SEVERE ACUTE MALNUTRITION	▶ Give 1st dose of Ampicillin and Gentamycin IM
		▶ Treat the child to prevent low blood sugar
		▶ Advise the mother to feed and keep the child warm
		▶ Advise mother on the need of referral
		▶ Refer Urgently to Hospital or admit to inpatient care

• WFL/H < -3Z score or MUAC <11 cm or oedema of both feet (+, ++) AND
  • No medical complication and
  • Pass appetite test
	UNCOMPLICATED SEVERE ACUTE MALNUTRITION	▶ If Outpatient Treatment Program (OTP) is available, manage as follows:
		▶ Give RUTF for 7 days,
		▶ Give oral Amoxicillin for 7 days
		▶ Give single dose of 5 mg folic acid for those with anemia
		▶ Counsel on how to feed RUTF to the child
		▶ Advise the mother when to return immediately
		▶ Assess for TB infection (Refer table on page 32)
		▶ Follow-up in 7 days
		▶ If OTP is not available, refer to a facility with OTP service
		▶ If there is any social problem at home treat as in patient

• WFL/H ≥ -3Z to < -2Z score or MUAC 11 cm to <12 cm AND • No oedema of both feet	MODERATE ACUTE MALNUTRITION	▶ Refer to Supplementary Feeding Program if available ▶ Asses for feeding and counsel the mother accordingly ▶ Assess for possible TB infection (Refer table on page 32) ▶ If feeding problem, follow up in 5 days ▶ Follow up in 30 days
• WFL/H ≥ -2Z score or MUAC ≥ 12 cm AND • No oedema of both feet	NO ACUTE MALNUTRITION	▶ Assess feeding and advise the mother on feeding ▶ Follow up in 5 days if feeding problem ▶ If no feeding problem-praise the mother

7.4. Assessing for anemia

The same as for severe malnutrition every child coming to your health post should be checked for anemia.

Palmar pallor is a sign of anemia, and this is to look for palmar pallor.

Palmar pallor is unusual paleness of the skin of the palms. The steps for this are described below.

To see if the child has palmar pallor, look at the skin of the child‘s palm. Hold the child‘s palm open by grasping it gently from the side as illustrated in Figure 7.4. Do not stretch the fingers backwards. This may cause pallor by blocking the blood supply. Compare the colour of the child‘s palm with your own palm or mothers palm . If the skin of the child‘s palm is pale, but has some pink areas, the child has some palmar pallor. If the skin of the palm is very pale or so pale that it looks white, the child has severe palmar pallor.

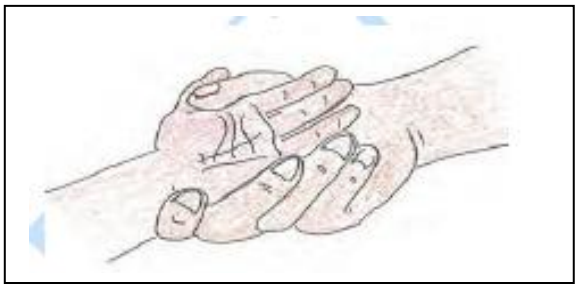


Figure 7.4 Checking for palmar pallor.

7.5. Classification of anemia

A child assessed for anemia will have one of the following three classifications:

- **Severe anemia**: when there is severe palmar pallor
- **Anemia**: when there is some palmar pallor
- **No anemia**: when there is no palmar pallor.

Now you have seen that when a sick child is checked for anemia there will be at least two classifications: one from the five possible classifications of acute malnutrition, and another one from the three possible classifications of anemia.

Table 7.4 Assess and classify table for anemia in children

SIGNS	CLASSIFY AS	TREATMENT (Urgent pre-referral treatments are in bold print)
• Severe palmar pallor	**SEVERE ANEMIA**	▶ *Refer URGENTLY to hospital*
• Some palmar pallor	**ANEMIA**	▶ Assess the child's feeding and counsel the mother on feeding according to the FOOD box on the COUNSEL THE MOTHER chart ▶ Give Iron** ▶ Do blood film or RDT for malaria, if malaria risk is high or has travel history to malarious area in last 30 days. ▶ Give Mebendazole or Albendazole, if the child is ≥ 2 years old and has not had a dose in the previous six months ▶ Advise mother when to return immediately ▶ Follow-up in 14 days
• No palmar pallor	**NO ANEMIA**	▶ No additional treatment ▶ Counsel the mother on feeding recommendation

7.6. Treatment of a child with malnutrition or anemia and child feeding

After assessing and classifying a child with malnutrition or anemia it is critically important that you treat the child correctly. Identifying and managing the treatment of a malnourished child will help you to promote a healthy life and may even help to save a child‘s life.

7.6.1. Treatment of severe complicated malnutrition in less than 6 months infant

Children with severe complicated malnutrition must always be referred urgently to hospital. Before the child leaves for hospital, you should treat the child to prevent low blood sugar.

You should also give the child the first dose of vitamin A if you do not identify any oedema and the child has not received vitamin A in the past six months (see session6).Give first dose of Amoxicillin. Advise the mother on the need of referral (see table 7.5). Refer URGENTLY to health facility (where there is a stabilization centre).

7.6.2. Treatment of a child with severe complicated malnutrition 6months or above age

Children with severe complicated malnutrition must always be referred urgently to hospital. Before the child leaves for hospital, you should treat the child to prevent low blood sugar. You should also give the child the first dose of vitamin A if you do not identify any oedema and the child has not received vitamin A in the past six months (see

session6). Give first of Amoxicillin. Advise the mother on the need of referral. Refer URGENTLY to health facility (where there is a stabilization centre).

Table.7.5 Pre-referral oral Amoxicillin dose for severe complicated malnutrition

Weight in Kg	Dose twice per day	250 capsule /Tablet
<5	125mg	½
5-10	250mg	1
10-20	500mg	2
15-35	750mg	3
>35	1000mg	4

Prevent Low Blood Sugar for a child on the way to the health centre or hospital for severe complicated malnutrition.

If the child is able to breastfeed:

- Ask the mother to breastfeed the child

If the child is not able to breastfeed but is able to swallow:

- Give expressed breast milk. If neither of these is available give sugar with water: 30-50 ml of milk or sugar with water before departure. To make sugar water: Dissolve 4 level teaspoons of sugar (20 grams) in a 200-ml cup of clean water.

7.6.3. Treatment of children with severe uncomplicated malnutrition 6 months and above Register in OTP and do the following

If a child has severe uncomplicated malnutrition, and there is an out-patient therapeutic programme (OTP) service in your health post, then you can manage the child according to the OTP protocol. If the service is not available in your health post you should **refer** the child to a health facility where there is one.

You should give all children with a classification of severe uncomplicated malnutrition the following treatment:

- Vitamin A (unless there is presence of oedema or they have already received vitamin A in the past six months)
- Give amoxicillin for 7 doses (See table 7.5)
- Give single dose of 5mg folic acid for those with anemia (See table 7.7)

- Ready-to- use therapeutic food (RUTF) such as Plumpy'nut® or BP-100®. (See table 7.6)
- Give the child mebendazole or albendazole for age two years or above, you should also give, preferably at the second out-patient visit which should take place seven days after the first visit to your health post. You will need to advise the mother that she should return for a follow-up visit within seven days, so that you can see whether the child has made progress(See table 7.8 ,If child aged 2 years & above).
- Advise the mother when to return immediately
- Follow up in 7 days

The Outpatient management of uncomplicated severe malnutrition for Children (> 6 months) with severe acute malnutrition (SAM) WITHOUT medical complications and who PASS the appetite test are treated with RUTF in the health post which has OTP according to the following table (7.6):

Table7.6. Treat Children (> 6 months) with severe acute malnutrition (SAM) without medical complications and who PASS the appetite test with RUTF in the health post which has OTP

Weight of child (kg)	RUTF (Plumpy Nut)		BP 100 biscuits	
	Sachet per day	Sachet per week	Bars per day	Bars per week
3.0 up to 3.5	1¼	9	2	14
3.5 up to 5.0	1 ½	11	2 ½	18
5.0 up to 7.0	2	14	4	28
7.0 up to 10	3	21	5	35
10 up to 15	4	28	7	49
15 up to 20	5	35	9	63

Treatment of child with uncomplicated acute severe malnutrition in OTP Manage the child as described in the tables 7.7 below.

Table 7.7 Treatment of child with uncomplicated acute severe malnutrition in OTP

Drug	Treatment
Vitamin A	1 dose at admission to child with NO oedema and has not taken a dose within the last 6 months
Folic Acid	1 dose at admission Folic acid 5mg if the has anemia
Amoxicillin	one dose at admission + give treatment for 7 days to take at home the first dose should be given in the presence of the supervisor
Deworming	1 dose in the second week (2nd visit)
Measles vaccine (from 9 months old)	1 vaccine on the 4th week (4th visit) if the child is not vaccinated or has no immunization card

Table 7.8 Dosage of Mebendazole or Albendazole for child more than 2years

Drug	**Give as a single dose if child has not got within the previous 6 months to these age groups**
	2-5years
Albendazole 400mg tablet	1 tablet
Mebendazole 500mg tablet	1 tablet
Mebendazole 100ng tablets	5 tablet

7.6.4. Give follow-up care for the child with uncomplicated severe malnutrition

Give follow up care every 1 week **Assess progress and check for any complications in every visit** **1. Ask for** Diarrhoea, vomiting, fever or any other new complaint or problem If the child is finishing the weekly RUTF ration **2. Check:** Weight ; MUAC; Oedema; Temperature For complications(pneumonia, watery or bloody diarrhea, fever/low body temperature, measles etc) For appetite (do test) **3. Decide on action** **If there is any one of the following, refer to health facility with in-patient care** If a Medical Complication exists Increase or development of Oedema Weight lose on 2 consecutive visits Failure to gain weight on 3 consecutive visits Major illness or death of the main Caretaker so that the child cannot managed at home **If there is no indication for referral, give**
Deworming if this is the second visit Give measles vaccines if this is the 4th visit Weekly ration of Plumpy'Nut or BP 100 according to weight Appointment for next follow up Record the information on the OTP card

7.6.5. Treat infant underweight in age less than 6 months

- Assess the child's feeding and counsel the mother on feeding according to the food box 7.2.
- If feeding problem, follow up in 5 days
- If no feeding problem follows up in 30 days

7.6.6. Treat a child with moderate acute malnutrition age 6month or above

Refer to supplementary feeding program if available Assess the child's feeding and counsel the mother on feeding according to the food box 7.2.

- If feeding problem, follow-up in 5 day
- If no feeding problem follow up in 30 days
- Advice mother when to return immediately.

7.6.7. Follow-up care for moderate acute malnutrition

If a child was classified with moderate acute malnutrition and referred to supplementary feeding center, or the mother has been given counseling to help her improve feeding and care of her child, she should be advised to return for a follow-up visit after 30 days. If there was a feeding problem as judged by the feeding recommendations in your chart booklet, the mother should be advised to return with the child earlier than 30 days.

When the mother attends your health post for a follow-up visit after 30 days for a child with moderate acute malnutrition, you should measure MUAC and reassess feeding. You should praise the mother and encourage her to continue good home care for her child. This will ensure that she feels supported by you.

7.6.8. Treatment for child with no acute malnutrition in infants and children

If child is less than 2 years assess child's feeding and counsel the mother on feeding according to the food box 8.1 If feeding problem, follow up in 5 days If no feeding problems praise the mother'

7.7. Treat Anemia

7.7.1. Treatment for severe anemia and anemia

Children classified as having severe anemia or anemia are at risk of death from congestive heart failure, hypoxia (acute shortage of oxygen in the blood), or severe bacterial infections. All children with severe anemia and must be referred urgently to health centre or hospital. They may need blood transfusions or antibiotics. You need to explain to the mother the reasons for and the advantages of the child going to the hospital and do everything you can to facilitate the referral.

7.7.2. No anemia

If child is less than 2 years assess child's feeding and counsel the mother on feeding according to the FOOD box 7.2 . If feeding problem, follow up in 5 days If no feeding problem praise the mother

Self-Check -7	Written Test

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

1. Mention the three signs you are going to look and feel on an infant less than 6months in the acute severe malnutrition classification.
2. Mention three signs you are going to look and feel on an infant 6months and above age in the acute severe malnutrition classification.
3. Which classifications of macro nutrient and micro nutrient malnutrition are going to referred from your health post to higher health facility?

SAQ 4 Case Study - Senait is a 14 months old child 13 kg in weight and her body temperature is measured 37.90c. Her mother brought her to a health post since Senait was febrile for 2days.

The health extension service provider asked the mother if senait had cough, diarrhea, and measles in the last 3 months and for malaria risk in her kebelle. The mother replied that Senait did not have cough, diarrhea, measles and her kebelle has no malaria risk. The health extension service provider checked Seiait's health. She was conscious. No signs of measles, MUAC 10.5 cm, No oedema of both feet and no pallor of her palms. She took more than half of the Plump Nut with in 1hour in the health post. Now using your chart booklet in the module:

A. Classify Senait's problem
B. Identify Senait's treatment
C. Schedule Senait's follow up

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

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-8	HIV infection in infant and children

8.1. Introduction

HIV/AIDS is an infectious disease caused by a virus that progressively destroys the body‘s immune system. HIV slowly breaks down the body‘s immune system, leading to an advanced stage of HIV disease known as AIDS .The mode of transmission of HIV/AIDS include having unprotected sex and using injection drugs. Infants who are born to an infected mother are also at risk for contracting HIV/AIDS.

Children with HIV or AIDS may show few signs or symptoms. Possible symptoms are failure to grow and develop well, enlarged lymph nodes, enlarged liver, and enlarged spleen, swelling of salivary glands and frequent infections, including pneumonia, diarrhea and thrush (a yeast infection on the surfaces of the mouth).

Following HIV infection good child feeding practice is very important to combat against HIV infection related diseases‘ and other infections; so infant feeding is helping for child growth and development and also it prevents from different infections .There for during child illness feeding should be increase to maintain their immunity and to recover faster. In this section you will learn about the assessment and classification of HIV infection. The most important concern of your responsibility is providing health promotion to the mothers or care givers about HIV transmission because without health promotion HIV transmission cannot be reduced or stopped . so that after reading this information sheet, you should be assesses and classify HIV exposed and infected children based on the chart described and you should be provide appropriate counseling to their mothers about feeding following the illness.

8.2. Assessment and classification of HIV infection in children

All sick children and their mothers should be tested and assessed for HIV exposure and infection. When you assessing the HIV status of the mother and the child you should present the question wisely and maintain confidentiality. During your assessment you should include both the mother and the children to ask and chick the HIV status.

HIV Status of the Mother

HIV antibody (serological) tests or rapid tests are used for knowing the maternal HIV status. A mother with positive antibody test result is taken as HIV infected mother, and the negative test result is considered to be uninfected. If mother is not tested for HIV, she is considered to be Unknown Status‘. If mother is not tested and is unknown, health extension worker should advice her for HIV screening.

HIV Status of the Child

Different tests are available to diagnose HIV infection in children (serological test, to detect anti body of HIV and virological tests to detect the virus).

Serological or **antibody tests**, including Rapid tests detect only antibodies, but they do not detect the virus itself. Antibodies from the mother pass on to the child and in some instances do not disappear until the child is 18 months of age. This means that a positive antibody test in children under the age of 18 months does not confirm that the child is truly HIV infected. On the other hand, **virological tests** such as DNA **PCR** test directly detect HIV in the blood. These tests can detect HIV infection in the child as early as 6 weeks old (before 18 months).

IS the Child Breastfeeding

Breastfeeding accounts for 30 to 40% of mother to child HIV transmission if it continues up to 2 years of age. This means a child on breast feeding is on continuous exposure for HIV transmission.

A negative PCR or antibody test in a breastfeeding child at any age should be repeated 6 weeks after breastfeeding stopped to confirm HIV infection status. If you understand the mode of transmission of HIV you will properly assess, classifying HIV infection based on the test result and counsel the mother to give care for her child. During your assessment first ask the mothers about her child illness

ASK:

- Has the mother had a positive HIV test?
- Has the child had any positive HIV test?

Table 8.1 Assess and classify infants by test result

Classify by Test Result

SIGN	CLASSIFY AS	TREATMENT
• Young infant DNA PCR positive	**HIV INFECTED**	► Start Cotrimoxazole Prophylaxis from 6 months of age ► Assess feeding and counsel ► Advise on home care ► Refer to ART clinic for immediate ART initiation and care ► Assess for TB infection ► Ensure mother is tested and enrolled for HIV care and treatment
• Mother HIV positive, AND young infant DNA PCR negative/unknown OR • Young infant HIV antibody positive	**HIV EXPOSED**	► Start Co-trimoxazole Prophylaxis from 6 weeks of age ► Assess feeding and counsel ► If DNA PCR test is unknown, test as soon as possible starting from 6 weeks of age ► Ensure mother is tested & enrolled in mother-baby cohort follow up at ANC/ PMTCT clinic
• Mother and young infant not tested	**HIV STATUS UNKNOWN**	► Counsel the mother for HIV testing for herself and the infant ► Advise on home care of infant ► Assess feeding and counsel
• Mother or young infant HIV antibody negative	**HIV INFECTION UNLIKELY**	► Advise on home care of infant ► Assess feeding and counsel ► Advise the mother on HIV prevention

Table 8.2 Assess and classify children 18-59 months by test result

Classify for HIV Infection

SIGN	CLASSIFY	TREATMENT
• Child antibody positive	**HIV INFECTED**	► Consider Cotrimoxazole prophylaxis ► Assess feeding and counsel ► Advise on home care ► Refer to ART clinic for ARV initiation ► Ensure mother is tested & enrolled in HIV care & treatment
• Mother positive, **AND** • Child antibody negative or unknown, and breastfeeding	**HIV EXPOSED**	► Give Cotrimoxazole prophylaxis ► Assess feeding and counsel ► If child antibody test is unknown, test as soon as possible ► If child antibody test is negative, repeat 6 wks after complete cessation of breastfeeding ► Ensure mother is tested & enrolled in mother-baby cohort follow up at ANC/PMTCT clinic
• Mother and child not tested	**HIV STATUS UNKNOWN**	► Counsel the mother for HIV testing for herself and the child ► Advise the mother to give home care ► Assess feeding and counsel
• Mother negative and child not known	**HIV INFECTION UNLIKELY**	► Advise on home care ► Assess feeding and counsel ► Advise on HIV prevention ► If possible, do HIV antibody test for the child
• Child antibody negative at least 6 weeks after complete cessation of breastfeeding	**HIV UNINFECTED**	► Advise on home care ► Assess feeding and counsel ► Advise on HIV prevention

8.3. Management of HIV infection in children

A child classified as having confirmed symptomatic HIV infection, confirmed HIV infection or suspected symptomatic HIV infection, should receive cotrimoxazole prophylaxis treatment. You should also provide a multivitamin supplement, and refer the child for antiretroviral therapy (ART). In the case of a child with suspected symptomatic HIV infection, you should do an HIV test or refer.

The child's feeding should be assessed and you should advise the mother as necessary about the best feeding plan for her child. You should also advise the mother on home care and tell her to return for a follow-up visit in two weeks.

Regular prophylaxis with cotrimoxazole given to infants born to HIV-positive women and confirmed or symptomatic HIV infection is likely to decrease sickness and death due to PCP and other common bacterial infections. Cotrimoxazole for prophylaxis purposes is given once daily

Initiation of prophylaxis

PCP prophylaxis should be given from six weeks of age to children in the following categories:

- . an HIV-exposed child
- . a child with confirmed HIV infection
- . a child with suspected symptomatic HIV infection

Cessation of prophylaxis

You should continue cotrimoxazole prophylaxis as long as the HIV-infected child is alive. You can discontinue cotrimoxazole in the following conditions:

- Once HIV infection has been ruled out by serology at or after 18 months of age.
- If the child develops skin lesions all over their body or has severe palmar pallor, you should stop cotrimoxazole and refer the child urgently.

Counsel the HIV Positive Mother Who Has Chosen Not to Breastfeed despite adequate counseling

The mother or caretaker should have received full counseling before making this decision

- Asses and ensure that the mother or caretaker has an adequate supply of commercial infant formula (at least for 12 months).
- Asses and ensure that the mother or caretaker knows how to prepare milk correctly & safely and has the facility and resources to do it.
- Demonstrate how to feed with a cup and spoon rather than a bottle.
- Make sure that the mother or caretaker understands that mixing breastfeeding with replacement feeding may increase the risk of HIV infection and should not be done.

Self-Check -8	Written Test

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

1. What is the difference between possible HIV exposed and confirmed HIV infected?
2. What is the common drug that is given as prophylaxis for c HIV positive children
3. For which categories of children that Initiation of prophylaxis for HIV is initiated

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

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-9	Infant and young child feeding

9.1. Assessing and classifying feeding problem in children

9.1.1. Assess the Child's Feeding

- Ask questions about the child's usual feeding and feeding during this illness. Compare the mother's answers to the ***Feeding Recommendations*** for the child's age in the box below.

ASK

- Do you breastfeed your child? Yes _____ No____
- How many times during the day? _____times
- Do you also breastfeed during the night? Yes ____ No ____
- Do you empty one breast before you shift to the other one Yes___ No __
- Does the child take any other food or fluids? (Density and Variety) Yes___ No ____
- What food or fluids? _____
- How many times per day? (Frequency) _____times
- What do you use to feed the child? Cup ____ Bottle ____ Other _____
- If child is under weight; how large are servings? (amount)_____
- Does the child receive his own serving? Yes_____ No _____
- Who feeds the child and how? (Active feeding) _____
- During this illness, has the child's feeding changed? Yes ____ No ____
- If yes how? (Feeding of sick child) _____

9.2. Infant and young child feeding recommendation

Box 9.1 Feeding Recommendations during Sickness and Health

Up to 6 Months of Age	6 Months up to 12 Months	12 Months up to 2 Years	2 Years and Older
 • Breastfeed as often as the child wants, day and night, 10-12 times in 24 hours. • Feed your child only breast milk for the first 6 months, not even giving water • Empty one breast before switching to the other for your baby to get the most nutritious *hind milk* • During illness and for at least up to 2 weeks after the illness, increase the frequency of breastfeeding to recover faster • Do not give other foods or fluids including water • Expose child to sunshine for 20 to 30 minutes daily	 • Breastfeed as often as the child wants day & night. • Start complementary foods at 6 months– initiate with small soft (semi solid) foods then build up the volume and density with time • Then give adequate servings of freshly prepared and enriched food; porridge made of cereal and legume mixes, *Shirofitfit*, *Merekfitfit*, mashed potatoes and carrot, mashed gommen, eggs and fruits. • **Enrich** the food by adding some oil or butter every time; give also animal foods (meat, liver, fish, eggs), legumes, vegetables (green leafy, carrots) and yellow fruits (orange, *papaya, mangos*) • Give these foods; 3 times per day if breastfed, 5 times per day if not breastfed (3 main meals and 2 snacks). • Babies who stopped breastfeeding at 6 months should also get adequate milk replacement besides complementary feeding • Increase frequency of breastfeeding and intake of food and fluids during illness, and give one additional meal of solid food for about 2 weeks after illness for fast recovery • Give Vitamin A supplements from the age of 6 months, 2 times per year • Expose child to sunshine	 • Breastfeed as often as the child wants. • Give adequate servings of enriched family foods: porridge made of cereal and legume mixes, Shiro, kik, merekfitfit, mashed potatoes and carrot, gommen, undiluted milk and egg and fruits. • Add some extra butter or oil to child's food. Give also animal foods (meat, liver, fish, eggs), legumes, vegetables (green leafy, carrots) and yellow fruits (orange, *papaya, mangos*) • Give these foods at least 5 times per day (3-4 meals and 2 snacks/*mekses*). • Babies who stopped breastfeeding at early age should also get adequate milk replacement besides complementary feeding. • Give your baby his/her own servings and actively feed the child • Give freshly prepared food and use clean utensils • Increase intake of food and fluids during illness, and give one additional meal of solid food for about 2 weeks after illness for fast recovery • Give Vitamin A supplements every 6 months 	 • Give adequate servings of freshly prepared enriched family foods, 3-4 meals a day • Also, twice daily, give nutritious food between meals, such as: Egg, milk, fruits, kitta, Dabo, ripe yellow fruits • Give your baby his/her own servings and actively feed the child • Give freshly prepared food and use clean utensils • Increase intake of food and fluids during illness, and give one additional meal of solid food for about 2 weeks after illness for fast recovery • Give Vitamin A supplements and Mebendazole every 6 months 

9.2.1. Feeding recommendations for a child who has persistent diarrhea

- If still breastfeeding, give more frequent, longer breastfeeds, day and night.
- If taking other milk:
  - replace with increased breastfeeding OR
  - replace with fermented milk products, such as yoghurt OR
  - replace half the milk with nutrient-rich semisolid food.
  - For other foods, follow feeding recommendations for the child's age

Box 9.2. Counsel the Mother about Feeding Problems

- **If the child is not being fed as described in the above recommendations, counsel the mother accordingly. In addition:**
- **If the mother reports difficulty with breastfeeding, assess breastfeeding as needed, show the mother correct positioning and attachment for breastfeeding and encourage her.**
- **If the child is less than 6 months old and is taking other milk or foods:**
  - build mother's confidence that she can produce all the breast milk that the child needs.
  - Suggest giving more frequent, longer breastfeeds, day or night, and gradually reducing other milk or foods.
- If other milk needs to be continued, counsel the mother to:
  - Breastfeed as much as possible, including at night.
  - Make sure that other milk is a locally appropriate breast milk substitute.
  - Make sure other milk is correctly and hygienically prepared and given in adequate amounts.
  - Finish prepared milk within an hour.
- **If the child is being given diluted milk or *muk*(gruel):**
  - Do not dilute the milk
  - Remind mother that thick foods which are dense in energy and nutrients are needed by infants and young children.
- **If the mother is using a bottle to feed the child:**
  - Recommend substituting a cup for bottle.
  - Show the mother how to feed the child with a cup (***senee*** *or* ***finjal).***
- **If the child is not being fed actively, counsel the mother to:**
  - Sit with the child and encourage eating.
  - Give the child an adequate serving in a separate plate or bowl.

- **If the child is not feeding well during illness, counsel the mother to:**
  - Breastfeed more frequently and for longer if possible.
  - Use soft, varied, appetizing, favorite foods to encourage the child to eat as much as possible, and offer frequent small feedings.
  - Clear a blocked nose if it interferes with feeding.
  - Expect that appetite will improve as child gets better.
- **If the mother is not giving Vitamin A-rich foods:**
  - Encourage her to provide vitamin A-rich foods frequently - gommen, liver, carrot, egg
- **If the mother is not giving the young child a share of meat, chicken or fish when these are eaten by the family:**
  - Explain young child needs them and encourage her to provide whenever they are available in the house hold.
- **Follow-up any feeding problem in 5 days.**

9.2.2. Feeding recommendations for a child with UNCOMPLICATED SEVERE ACUTE MALNUTRITION

- If still breastfeeding, give more frequent, longer breastfeeds, day and night
- Always give breast milk before RUTF (Ready to Use Therapeutic Food)
- Feed the child RUTF until cured
- Do not give other food than RUTF except breast milk
- Offer plenty of clean water to drink with RUTF
- Give the RUTF only to the severely malnourished child

Self-Check -9	Written Test

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

1. What are the feeding recommendations for a child who has persistent diarrhea
2. What important questions are asked to assessing and classifying feeding problem in children
3. What are the feeding recommendations for a child with Uncomplicated severe acute malnutrition

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

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-10	Immunization and related interventions

10.1. Introduction

In Ethiopia currently there are 10 vaccines in the expanded programs of immunization (EPI). These vaccines prevent the most childhood infections. Children who visited health facilities some time miss their immunizations due to many reasons. Those sick and healthy children come to health posts need check up for their immunization status, Vitamin A and de-worming with mebendazole. Except rare cases all children need immunization irrespective their medical or physiological problem at their minimum schedule during any their visit to health post.

10.2. Providing immunization service

10.2.1. Check the child's immunization and vitamin a status

Vaccine-preventable diseases in the EPI in Ethiopia

Vaccine-preventable diseases included in the EPI in Ethiopia are:

- Tuberculosis (TB)
- Poliomyelitis (polio)
- Diphtheria
- Pertussis (whooping cough)
- Tetanus
- Measles
- Pneumonia and meningitis caused by Haemophilusinfluenzae type b bacteria
- Liver disease caused by hepatitis B viruses
- Pneumonia and other infections caused by Streptococcus pneumonia bacteria
- Diarrheal diseases caused by rotaviruses

Every sick and healthy child visiting your health post or visited you at home should be checked for the immunization status, Vitamin A and de-worming .Vitamin A for greater than nine months age children and Mebendazole/Albendazole for greater than 2years children are routine doses every six months are provided as health promotion programs. Immunization is to prevent the vaccine preventable diseases.

Vitamin A and mebendazole are to prevent the micronutrient deficiency diseases vitamin A deficiency and anemia. For full details of the vaccines in the EPI, their cold storage, stock control and organization of vaccination campaigns and routine clinics are given in the

Table 10.1. Immunization schedule for the young infant

IMMUNIZATION SCHEDULE:				
AGE	**VACCINE**			
Birth		BCG	OPV- 0*	
6 weeks	DPT_1-$HepB_1$-Hib_1	OPV– 1	PCV-1	Rota –1

Remember, do not Give OPV-0 to an infant who is more than 14 days old. Keep an interval of at least 4 weeks between OPV-0 and OPV-1.

Table 10.2. Immunization schedule for the child

	AGE	VACCINE	
IMMUNIZATION SCHEDULE:	Birth	BCG	OPV - 0
	6 weeks	DPT1-HepB1-Hib1, PCV-1	OPV - 1 Rota -1
	10 weeks	DPT2-HepB2-Hib2, PCV-2	OPV - 2 Rota -2
	14 weeks	DPT3-HepB3-Hib3, PCV-3	OPV - 3
	9 months	Measles	Vitamin A

10.3. VITAMIN A SUPPLEMENTATION

If the child is 6 months or older

- Check if child has received a dose of Vitamin A during the previous 6 months. If not, give Vitamin A supplementation every 6 months up to the age of 5 years.
- Record the dose on the child's card.

ROUTINE WORM TREATMENT

If the child is 2 years or older

- Check if child has received Mebendazole or Albendazole during the previous 6 months. If not, give child Mebendazole or Albendazole every 6 months.
- Record the dose on the child's card.

10.4. Contraindications to vaccine administration

A contraindication is one or more conditions which makes administration of vaccines inadvisable due to some potential side effects. Common illnesses are not contraindications for immunization. So, all children should be checked for the immunization status and vaccinated unless there is a clear contraindication.

There are only three situations which are considered to be contraindications to immunization:

- A child known to have AIDS is contraindicated for BCG vaccine.
- A child who has had convulsions or shock within three days of the last dose of Pentavalent is contraindicated to repeat any doses of pentavalent vaccines now.
- A child with recurrent convulsions or another active neurological disease of the central nervous system is contraindicated for pentavalent vaccines.
- Hypersensitivity in previous Rota Virus vaccine.

There are no contraindications to immunization of a sick child if the child is well enough. If you are referring a child, you do not need to give him or her vaccine before referral. The staff at the referral site should make the decision about immunizing the child when the child is admitted. This will avoid delaying referral. Children with diarrhoea who are due to OPV should still receive this during their visit to the health post. However, the

dose should not be counted and you should tell the mother to return with the child in four weeks for an additional dose of OPV.

10.4.1. Recording the child's immunization status

When you have checked the child's immunization status and given the correct dose of vaccines for the child's age you should use the case recording form (see the following case study.

Put a check mark (√) for their immunizations already given and circle the immunizations needed at the current visit. If the child needs to return for an immunization, write the date that the child should return in the classification column

Box 10.1. Case study about immunization status

Selam is four months old. She has no general danger signs. She is classified as having diarrhoea with no dehydration. Her immunization record (on the case recording form shows that she has received BCG, OPV0, OPV1, OPV2, penta1 and Penta2. You can see this below.

MANAGEMENT OF THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS

Child's Name: Selam Age: 4 months Weight: 5.5 kg Temperature: 36°C

ASK: What are the child's problems? Diarrhoea Initial Visit? ✓ Follow-up Visit?

ASSESS (Circle all signs present) **CLASSIFY**

CHECK THE CHILD'S IMMUNIZATION STATUS Circle immunizations needed today

BCG	DPT1-HepB1-Hib1	DPT2-HepB2-Hib2	DPT3-HepB3-Hib3
✓	✓	✓	

OPV 0	OPV 1	OPV 2	OPV 3	Measles
✓	✓	✓		

Return for next immunization on: May/09 (Date)

Self-Check -10	Written Test

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

1. **Case study** Read about senay's case and decide if Senay needs any immunizations today.

Senay, 6 months old, No general danger signs; Classified as No Pneumonia (Cough or Cold) and No Anaemia. Immunization history: BCG, OPV 0, OPV 1, OPV 2, penta1 andpenta2.The OPV2and penta2 were given 6 weeks ago.

   A. Is Senay up-to-date with his immunizations?
   B. What immunizations, if any, does Senay need today?
   C. When should he return for his next immunization?

2. List the types of vaccines in EPI recommended in Ethiopia?
3. What are the situations which are considered to be contraindications to immunization?

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

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-11	Ear problem and other common childhood infections

11.1. Introduction

Some infections are non-vaccine preventable that need identification by the health extension service provider during their disease examination. Mothers may not able to consider some disease as dangerous, since they are considering them normal for children. But those infections can result in Complications and later it causes deaths. Those types of infections for children are ear problems, eye infections, throat problems and infections. In this information sheet, you will be able to identify these common childhood infection and their treatment. There is need of asking for child ear problem, eye infection and skin infection.

11.2. Classification and management of ear problem

Ear infections rarely cause death but are majority causes morbidity. In developing countries, they are the leading cause of deafness and learning problems. A child with an ear problem may have an ear infection which can cause ear pain and fever. If an ear infection is not treated on time, the ear drum may perforate and the child feels less pain. Examples of complications of ear infections are meningitis, brain abscess, mastoiditis and deafness.

To assess and classify ear problems caused by ear infection, you should ask about ear problems for every sick child who is brought to your health post. When you assess a child you will be looking for the following signs:

- Ear pain
- Ear discharge, and if discharge is present, how long the child has had the discharge
- Tender swelling behind the ear, a sign of mastoiditis

Does the Child Have an Ear Problem?

IF YES, ASK:	*LOOK, AND FEEL:*
• Is there ear pain? • Is there ear discharge? If yes, for how long?	• Look for pus draining from the ear • Feel for tender swelling behind the ear

ASK: Does the child have an ear problem?

- If the mother answers no, you do not need to assess the child for ear problems. If the mother answers yes, ask the next question:

ASK: Does the child have ear pain?

- If the mother is not sure that the child has ear pain, ask if the child has been irritable and rubbing his ear. Whether the answer is yes or no you should ask the next question.

ASK: Is there ear discharge?

- If yes, for how long? When asking about ear discharge, use words the mother understands. For example, ‗Is there any fluid that looks like pus coming out from the ears?‘ If the child has had ear discharge, ask the mother for how long.

LOOK for pus draining from the ear

- Look inside the child‘s ear to see if pus is draining from the ear. Pus is usually white, creamy or light green and may have an offensive smell.
    - An ear discharge that has been present for two weeks or more is defined as a chronic ear infection.
    - An ear discharge that has been present for less than two weeks is defined as an acute ear infection.

FEEL for tender swelling behind the ear

- Feel behind both ears. Compare them and decide if there is tender swelling of the mastoid bone. In infants, the swelling may be above the ear. Both tenderness and

swelling must be present to classify mastoiditis, a deep infection in the mastoid bone.

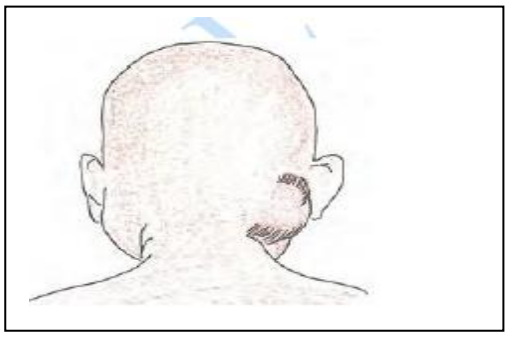


Figure 11.1 Mastoiditis (tender swelling behind the right ear).

11.2.1. Classify ear problems There are four classifications for ear problems:

- Mastoiditis
- Acute ear infection
- Chronic ear infection
- No ear infection.

Table 11.1. shows the classification table for ear problems. Mastoditis requires urgent referral after giving first dose of antibiotic and paracetamol.

Table 11.1 Classification and treatment of ear problems.

SIGNS	CLASSIFY AS	TREATMENT (Urgent pre-referral treatments are in bold print)
• Tender swelling behind the ear	MASTOIDITIS	► ***Give first dose of* Ampicillin and Choramphenicol IV/IM** ► ***Give first dose of Paracetamol for pain*** ► ***Refer URGENTLY to hospital***
• Ear pain, OR • Pus is seen draining from the ear and discharge is reported for less than 14 days	ACUTE EAR INFECTION	► **Give Amoxicillin for 5 days** ► **Give Paracetamol for pain** ► Dry the ear by wicking ► Follow-up in 5 days
• Pus is seen draining from the ear and discharge is reported for 14 days or more	CHRONIC EAR INFECTION	► Dry the ear by wicking ► Treat with topical Quinolone eardrops for 2 weeks ► Follow-up in 5 days
• No ear pain and • No pus seen draining from the ear	NO EAR INFECTION	► No additional treatment

11.2.2. Treat of ear problems Treatment of Mastoiditis

You must refer the child urgently to hospital. The child needs treatment with appropriate antibiotics in a health centre or hospital, after giving first dose of antibiotic and paracetamol.

Treatment of Acute ear infection. Give first dose of oral Amoxicillin to the child for 5 days and relieve the ear pain and high fever with paracetamol. Advice the mother to dry the ear by wicking . follow-up in 5 days

Treatment of Chronic ear infection

If you see pus draining from the ear and discharge has been present for two weeks or more classify the child‘s illness as chronic ear infection. Most bacteria that cause chronic ear infection are different from those which cause acute ear infections. The most important and effective treatment for chronic ear infection is to keep the ear dry by

wicking, give topical quinolone for 2 weeks and follow-up in 5 days. You should assess all children with chronic ear infection for symptomatic HIV infection.

Dry a discharge from the ear by wicking

To teach a mother how to dry the ear by wicking, first tell her it is important to keep an infected ear dry to allow it to heal. Then show her how to wick her child‘s ear.

As you wick the child‟s ear, tell the mother to:

- Use clean, absorbent cotton cloth (see Figure 9.2) or soft strong tissue paper for making a wick. She must not use cotton tipped applicator, a stick/flimsy paper as these will fall apart in the ear
- Place the wick in the child‘s ear until the wick is wet
- Replace the wet wick with a clean one
- Repeat these steps until the wick stays dry. Then the ear is dry.
- Observe the mother as she practices. Give feedback. When she is finished, give her the following information:
    - Wick the ear three times daily
    - Use this treatment for as many days as it takes until the wick no longer gets wet when put in the ear and no pus drains from the ear.
    - Do not place anything (oil, fluid, or other substance) in the ear between wicking treatments. Do not allow the child to go swimming. No water should get in the ear. Before the mother leaves, ask checking questions to ensure that she knows how to wick the child‘s ear at home.

No ear infection

If there is no ear pain and no pus is seen draining from the ear, the child‘s illness is classified as no ear infection. The child needs no treatment.

11.2.3. Follow-up care for ear problems

If you classified a child with chronic ear infection you need to tell the mother to return for a follow-up visit five days after her first visit. Measure the child‘s temperature. Check that the mother is wicking the ear correctly. Encourage her to continue the ear wicking and discuss with her the importance of keeping the child‘s ear dry. Advice mother to breast feed more frequently

11.3. Classification and management of throat problem

Throat problems are common in children that cause severe complications if properly untreated. The pharynx is the space behind the nose and the mouth. In a typical case of pharyngitis (sore throat) the pharynx is distinctly red and inflamed and the tonsils are enlarged and covered with yellow pus. There are complications of pharyngitis, including parapharyngeal abscess (this is when pus accumulates behind the structures of the pharynx) and disease of the heart and kidneys. You are now going to look at how to assess, classify and treat children who have throat problems. All children who are brought to your health post should be assessed for throat problems.

11.3.1. Assess for throat problems

When you assess for throat problems you should follow these steps:

ASK

- Does the child have fever?
- Does the child have sore throat?

FEEL

- For enlarged tender lymph nodes on the front of the neck.

LOOK

- For red (congested) throat.
- For exudates (white or yellow patches) on the throat and tonsils

Box 11.1 How to check for throat problems

ASK	Look and FEEL
Does the child have fever? (by history or feels hot or temperature 37.5°C or more) Does the child have a sore throat?	Feel for enlarged tender lymph nodes on the front of the neck. Look for red (congested) throat. Look for white or yellow exudates on the throat and tonsils.

11.3.2. Classify for throat problems

There are three possible classifications of throat problem:

- Streptococcal sore throat (Streptococci-bacteria most often involved in causing throat infections).
- No streptococcal sore throat
- No throat problem.

Table 11.2 Classification and treatment of throat problems

SIGNS	CLASSIFY	TREARMENT
▶Fever or sore throat **AND** **Two of the following:** ▶Red(congested throat) White or yellow oxidate on the throat or tonsils ▶Enlarged tender lymph node on front of neck	STREPTOCOCCAL SORE THROAT	▶Give first dose of Amoxicillin ▶Refer urgently ▶Give paracetamol for pain
▶Insufficient criteria to classify as Streptococcal sore throat	NO STREPTOCOCCAL SORE THROAT	▶Soothe throat with a safe remedy ▶Give paracetamol ▶Advice to return immediately ▶Follow up in 5 days if not improving
▶No throat signs or symptoms(with or without fever)	NO THROAT PROBLEMS	Continue assessment of child

11.3.3. Treat of throat problems Treatment of Streptococcal sore throat

- Refer urgently to health centre or hospital with first dose of Amoxicillin and paracetamol if the child has a fever with a temperature higher than38.5°C.

Treatment of No Streptococcal sore throat

- Soothe the child‘s throat with warm tea and honey.
- Give paracetamol if the child has a fever with a temperature higher than 38.5°C
- Advice the mother when to return immediately.
- Follow up in 5 days if not improving

11.3.4. Follow-up care for No Streptococcal sore throat

If you have assessed the child as having a throat problem, you should tell the mother that she must return with the child for follow-up in five days if there is no improvement.

When she returns, you should reassess the throat problem by using the guidelines in the chart booklet Assessment and Classification table. And also you will measure the child's temperature and if you assess fever you should give the child paracetamol. If there has been no improvement in the sore throat you should refer the child to hospital/health centre.

11.5. Classification and management of skin infection

Skin diseases occur all over the world at significant levels. They are common through-out Africa and are dominated by bacterial and superficial fungal infections. Skin diseases are more prevalent among children and in low socioeconomic groups, essentially due to poor hygienic practices. Most skin infections transmit through contact with infected individuals or articles.

Skin diseases are among the leading causes of hospital visits in Ethiopia. In most situations caregivers do not seek medical help. You should look for and treat skin diseases. Some skin diseases can lead to serious complications unless treated appropriately. In this section you will learn how to assess, classify and treat some common childhood skin infections.

Assess skin infection

If the mother brings in her child because he has a skin infection, you should start by asking her some simple questions such as

- Does the child have skin itchiness?' Or
- Does the child have pain from the skin problem

Box 11.2. sign of skin infection

Ask the mother:	**Then, look and feel more closely for**:
• Does the child have skin itchiness?' • Does the child have pain from the skin problem?'	• Extensive warm, redness and swelling • Localized warm, tender swelling or redness • Swelling or redness around the eyes • Obvious lesions with pus or crusts

	• Small swellings on the skin of the hands, knees, elbows, feet, trunk • Round or oval scaly patches.

Table 11.3. Classify and treat skin infections

SIGNS	CLASSIFY	TREATMENT
•Any general danger sign or •Extensive warn redness or swelling	VERY SEVERE SKIN DISEASE	•Give first dose of antibiotics •Refer urgently to Hospital
Discrete sores /lesions with pus or crust	IMPETIGO	Refer to the next health center
Itches and pustules	SCABIES	Refer to the next health center
If there are no enough signs to OR if other SIGNS present are not found in the above box	OTHER SKIN DISEASES	Refer to the next health center

Scabies is contagious, and is usually transmitted by prolonged skin-to-skin contact. It is a common skin infestation of tiny mites called Sarcoptes scabiei. The mites burrow into the top layer of human skin to lay their eggs; it causes intensely itching and blister formation. The infection spreads more easily in crowded conditions and in situations where there is a lot of close contact within a household like in the childcare centers, college dorms, or nursing homes. Mites can live for about 2 to 3 days in clothing, bedding, or dust, making it possible to catch scabies from people who share the same infected bed, linens, or towels. Child care facilities also are a common site of scabies infestations.

Impetigo is one of the most common bacterial skin infections in children. Impetigo is contagious and can be spread to others through close contact or by sharing towels, sheets, clothing, toys, or other items. Scratching can also spread the sores to other parts of the body**. Impetigo** is caused by one of two kinds of bacteria (streptococcus) or (staphylococcus). Often these bacteria enter the body when the skin has already been irritated or injured. The sores begin as small red spots, and then change to blisters that eventually break open. The sores are typically not painful, but they may be itchy, that

oozes fluid and forms crust. Sores often look like they have been coated with honey or brown sugar.

The lesions begin as small red macular (spot), which quickly become discrete thin walled vesicles that soon rapture and become covered with loose adherent honey yellow crust. The crusts are easily removed and reveal smooth, red moist surfaces on which new crusts soon develop.

Treatment of skin infection

Refer children with very severe skin disease, impetigo and scabies to health center or hospital. Since; they can cause heart and kidney complication. All family members and anybody who have close contacts with infected child should be treated simultaneously for scabies, and they should keep personal hygiene because it is very contagious.

Carry out the treatment steps identified on the assess and classify chart

You identified treatment for every classification in the yellow and green rows of the chart booklet. Mothers consider a child is cured if the signs of an illness are away in short period of time. Caregivers need information and instructions about the treatment you proposed for the child to take at home. Administering drugs for child at home are confusing in type, in schedule, amount or number of tablets or syrup at a time and the length of the course. Now you are expected to teach mother for the drugs they collected in your health post.

Teach the mother to give oral drugs at home

Follow the instructions below for every oral drug to be given at home. Also follow the instructions listed with each drug‘s dosage table.

- Determine the appropriate drugs and dosage for the child‘s age or weight.
- Tell the mother the reason for giving the drug to the child.
- Demonstrate how to measure a dose.

- Watch the mother practice measuring a dose by her.
- Ask the mother to give the first dose to her child.
- Explain carefully how to give the drug, then label and package the drug
- If more than one drug will be given, collect, count and package each drug separately.
- Explain that all the oral drug tablets or syrups must be used to finish the course of treatment, even if the child gets better.
- Check the mother's understanding before she leaves the clinic

When to return a sick child to health post Follow-up visit –

- Advice the mother to come for follow-up at the earliest time listed

If the child has:	Return for
Pneumonia Malaria, if Fever persists Fever no Malaria (no malaria risk), if Fever persists	2 days
Feeding problem Diarrhoea with No Dehydration if not improving No Pneumonia Cough or Cold if not improving	5 days
Moderate Acute Malnutrition	30 days

11.6. Eye infection and its management

Eye infection: conjunctivitis

Conjunctivitis is an inflammation of the conjunctiva of the eye. It is common in young children, especially if they come into contact with other children with conjunctivitis.

There are different types of conjunctivitis that infants and children can suffer from, some conjunctivitis having minor problems and others are potentially leading to loss of vision.

Acute conjunctivitis, or red eye, is usually a bacterial or viral infection of the eye characterised by a rapid onset of symptoms that persists for a few days.

Neonatal conjunctivitis, **or ophthalmia neonatorum**, is purulent conjunctivitis during the first ten days of life, usually acquired during birth. If the mother has not treated during pregnancy for gonorrhoea, this can cause conjunctivitis in the newborn by infection during the birth. Neonatal conjunctivitis can be caused by infection, irritation, or a blocked tear duct. When caused by an infection, neonatal conjunctivitis can be very serious.

Purulent conjunctivitis is eye infection with pus discharge from the eyes; it is caused by bacteria. In newborns, if the mother has gonorrhoea it can cause severe conjunctivitis with profuse purulent discharge.

Signs and Symptoms of Conjunctivitis in Newborns Newborns with conjunctivitis develop drainage from the eyes within 1 day to 2 weeks after birth. Their eyelids become puffy, red, and tender. The discharge it may be watery or thick and pus-like

Prevention of neonatal conjunctivitis

To prevent neonatal conjunctivitis, all health facilities are expected to provide prophylaxis Tetracycline or other eye ointment in a newborn's eyes during delivery. Prevention through good prenatal care and treatment of Chlamydia, gonococus, or herpetic infections during pregnancy remains the best preventative method.

Treatment for neonatal conjunctivitis

- **A** newborn with neonatal conjunctivitis should be referred immediately to health centre because this is a serious problem that may lead to loss of vision. It needs treatment With injectable antibiotics.

Acute conjunctivitis There are a number of ways to treat acute conjunctivitis. You should show the mother how she can treat her child at home, the following steps are outlined.

Treat eye infection with tetracycline eye ointment

- Wash hands before treating the eye
- Ask the child to close the eyes and Clean both eyes , by using a clean cloth or water

- Ask the child to look up or to open his eye
- Squirt a small amount of ointment on the inside of the lower lid
- Apply tetracycline eye ointment in both eyes three times per day.
- Wash hands again

Treat until redness is gone do not use other eye ointment or drops, or put anything else in the eye.

Follow-up care for eye infection

You should advise the mother to return to the health post two days after the initial assessment.

After two days: Look for red eyes and pus draining from the eyes.

- If pus is still draining from the eye, ask the mother to describe how she has treated the eye infection.
- If treatment has been correct and the infection is not treated, refer the child to hospital. If treatment has not been correct, teach the mother the correct application of TTC eye ointment.
- If the pus is gone but redness remains, tell the mother to continue with the treatment. After finishing the treatment, if there is no change she should return for further evaluation.
- After completed the treatment and the child is treated (redness of the eye or pus discharge stops) stop the treatment.

11.7. Materials, and medical equipments needed for promoting Child Survival, Growth and Development and applying ICCM

- **Clean**
  - Vital sign equipments, Hand watch
  - Tape measure for MUAC
  - Weight scale
  - Jar for clean water
  - Measuring jag, spoon, Cup
  - RDT kit

- RUTF (Plumpy nut/ BP 100)
- **Common Drugs** – Antibiotics (Ampicillin, Amoxicillin, Gentamucin, Chloramphenicol, Rectal diazepam, Cotrimoxazole, ciprofloxacin..), Antimalaria (Quinine, Artesunate, Artemeter lumfartie, chloroquine,), Anti-hermetic (Albendizole, Mebendiazole), Paracetamol, Zinc tablet, iron/folic acid, ORS, Gentian Violet, Vitamin A,

- ICCM Registration book
- ICCM chart booklet

11.7.1. General assessment approach

As a mother or a care giver came to your health post with her sick child, use the following approach for assessing, classifying and treating the child's condition.

- **Great the mother or care giver & offer a seat and take history, and in your history include**
  - Socio demographic data
  - Presenting symptom (c/c
- Weigh the child and take vital sign
- After taking the history and taking all the vital sign , assess the general condition of the child
  - Does the child has any danger sign (Ask the general danger sign in children)?
  - If yes for how long (Ask the duration)
- Depending on the presenting symptom of the child, do your assessment , for example if the child is present with diarrhea , you may ask :
  - Does the child have Diarrhea- **IF yes ask**
    - Ask for how long?
    - Is there blood in the stool?
  - **Look & Feel**
    - Look at the general condition ,Is child
      - Lethargic or un conscious

- Restless or irritable

- Look for sunken eye
- Offer the child fluid , Does the child
  - Drinking Poorly or not able to drink
  - Drinking eagerly or thirsty
- Pinch the skin of the abdomen, Does it go back
  - Very slowly (≥ 2 second)
  - Slowly (≤2 second)

- Depending on your assessment, you will classify the child based to the ICCM chart booklet, and provide the appropriate management/ or refer the child immediately after providing pre referral treatment .
- Record all your activities on the ICCM registration book and provide counseling and follow up to the mother.

Self-Check -11	Written Test

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

1. Case study: Fana is 18 months old. She weighs 9 kg. Her temperature is 37°C. Her mother said that Fana had discharge coming from her ear for the last 21 days. Fana does not have any general danger signs. She does not have cough or difficult breathing. She does not have diarrhoea and she does not have fever. The health worker asked about Fana's ear problem. The mother said that Fana does not have ear pain, but the discharge has been coming from the ear for 21 days.

The health worker saw pus draining from the child's right ear. He did not feel any tender swelling behind either ear.

   A. Record Fana's signs of ear problem and classify them on the Recording Form.
   B. Identify Fana‘s treatment
   C. Follow up for Fana

2. **Case study :** Yared is 18months age his mother brought him to a health post. Weighs 15kg and his body temperature is 37.60c. The mother complains for yared‘s fever and eye pain. The yared‘s kebelle is non malarious area. He had no any general danger sign and no measles. The health extension service provider examined Yared;he was conscious and active, no ear problem, no signs of measles. She assessed the throat no swollen gland in the neck, no exudates from the throat and skin rashes.
   A. Classify Yared‘s problem
   B. Treat Yared‘s problem
   C. Appoint for follow up care
3. **Case study** : Beti is a 48 months old female child;17 kg in weight, her body temperature is 37oc. Her mother Aster brought her to your Health post complaining skin rashes for 2weeks.The rashes are with aggressive itch at night. Beti has not any

general danger signs and she was alert. She did not have measles in the past 3 months and cough or difficulty of breathing The service provider assessed Beti there were postural ulcers among her fingers, the rashes are not generalized, no pallor.

A. Classify Beti‘s heath problem
B. What will be Beti‘s treatment?

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

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-12	Provide follow up care

12.1. Follow up care

Some sick children need to return to the health worker for follow-up. Their mothers are told when to come for a follow-up visit (such as in 2 days, or 14 days). At a follow-up visit, the health worker can see if the child is improving on the drug or other treatment that was prescribed. Some children may not respond to a particular antibiotic or antimalarial and may need to try a second-line drug.

Because follow-up is important, your Health post should make special arrangements so that follow-up visits are convenient for mothers. If possible, mothers should not have to wait in the queue for a follow-up visit. Not charging for follow-up visits is another way to make follow-up convenient and acceptable for mothers.

At a follow-up visit, you should do different steps from those done for a child on initial visit for a problem. During initial visit, a few signs with high sensitivity and specificity are used in assessment. However during follow-up, several other signs are used to assess progress of the illness. Treatments given at the follow-up visit are often different from those given at an initial visit.

12.1.1. When to come back for follow-up

This is found in the Identify Treatment column of the ASSESS & CLASSIFY chart. The "When to Return" box on the *COUNSEL* chart summarizes the schedules for follow-up visits.

Specific instructions for conducting each follow-up visit are in the "Give Follow-up Care" section of the *TREAT THE CHILD* chart. The boxes have headings that correspond to the classifications on the *ASSESS & CLASSIFY* chart. Each box tells how to reassess and treat the child. Instructions for giving treatments, such as drug dosages for a second-line antibiotic or antimalarial, are on the *TREAT THE CHILD* chart.

Follow-up instructions for young infants are on the *YOUNG INFANT* chart

12.1.2. How to manage a child who comes for follow-up

As always, ask the mother about the child's problem. You need to know if this is a follow-up or an initial visit for this illness. How you find out depends on how your health post registers patients and how the health post finds out why they have come.

For example, the mother may say to you or other health post staff that she was told to return for follow-up for a specific problem. If your health post gives mothers follow-up slips that tell them when to return, ask to see the slip. If your health post keeps a chart on each patient, you may see that the child came only a few days ago for the same illness.

Once you know that the child has come to the health post *for follow-up of an illness, ask the mother if the child has, in addition, developed any* ***new*** *problems*. For example, if the child has come for follow-up of pneumonia, but now he has developed diarrhea, he has a new problem. This child requires a full assessment. Check for general danger signs and assess all the main symptoms and the child's nutritional status. Classify and treat the child for diarrhea (the new problem) as you would at an initial visit. Reassess and treat the pneumonia according to the follow-up box

If the child does not have a new problem, locate the follow-up box that matches the child's previous classification. Then follow the instructions in that box.

- Assess the child according to the instructions in the follow-up box. The instructions may tell you to assess a major symptom as on the *ASSESS & CLASSIFY* chart. They may also tell you to assess additional signs.
- Use the information about the child's signs to select the appropriate treatment.
- Give the treatment.
- If a mother returns with her child who had a cough or cold, or diarrhea (without dysentery or persistent diarrhea on the previous visit), because after 5 days the child is not better, do a full assessment of the child.

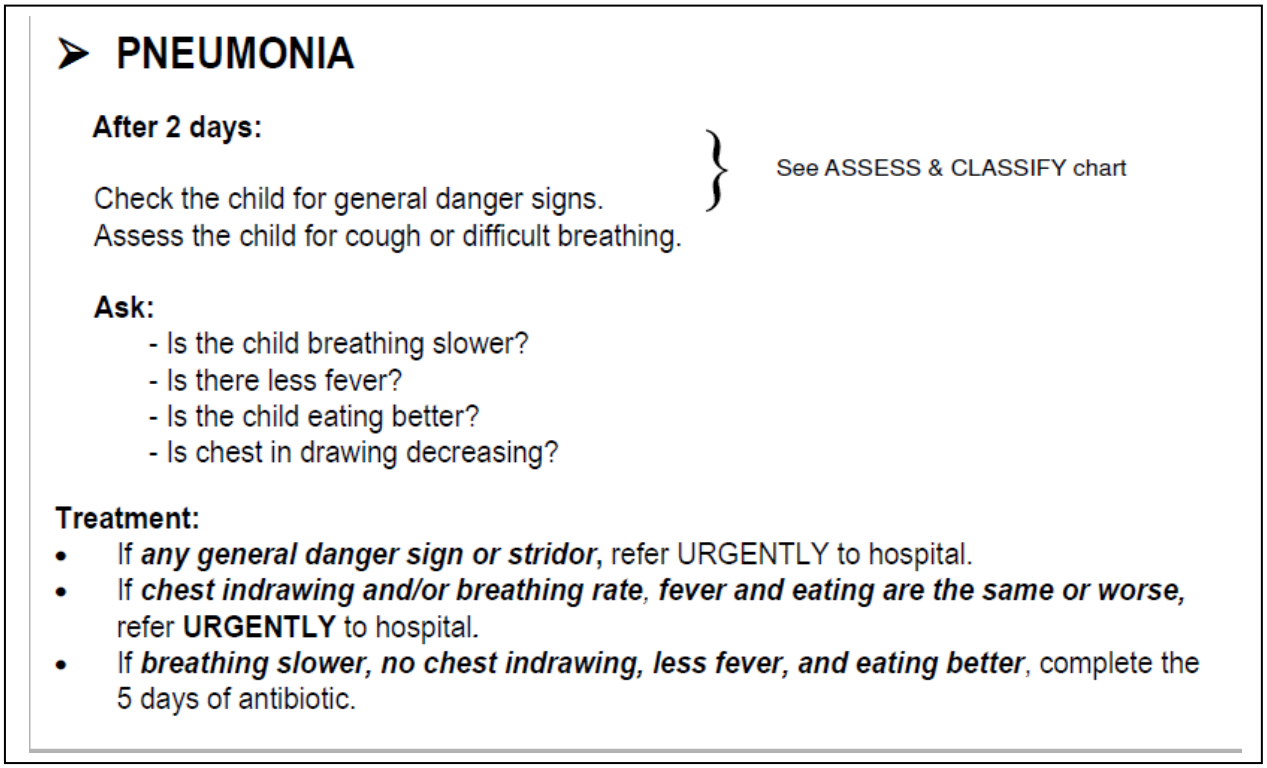
Some children will return repeatedly with chronic problems that do not respond to the treatment that you can give. For example, some children with AIDS may have persistent

diarrhea or repeated episodes of pneumonia. Children with AIDS may respond poorly to treatment for pneumonia and may have opportunistic infections. These children should be referred to hospital when they do not improve.

Important: If a child who comes for follow-up has several problems and is getting worse, REFER THE CHILD TO HOSPITAL. Also refer the child to hospital if a second-line drug is not available or if you are worried about the child or do not know what to do for the child. If a child has not improved with treatment, the child may have a different illness than suggested by the chart. He may need other treatment.

Remember: If a child has any new problem, you **should assess the child as an initial visit.**

12.2. Conduct Follow Up visit for pneumonia.



➢ **PNEUMONIA**

After 2 days:

Check the child for general danger signs.
Assess the child for cough or difficult breathing.

} See ASSESS & CLASSIFY chart

Ask:

- Is the child breathing slower?
- Is there less fever?
- Is the child eating better?
- Is chest in drawing decreasing?

Treatment:

- If ***any general danger sign or stridor***, refer URGENTLY to hospital.
- If ***chest indrawing and/or breathing rate, fever and eating are the same or worse,*** refer **URGENTLY** to hospital.
- If ***breathing slower, no chest indrawing, less fever, and eating better***, complete the 5 days of antibiotic.

12.3. Conduct A follow up visit for persistent Diarrhea.

When a child with PERSISTENT DIARRHOEA returns for a follow-up visit after 5 days, follow these instructions

➢ PERSISTENT DIARRHOEA

After 5 days:

Ask:

- Has the diarrhoea stopped?
- How many loose stools is the child having per day?

Treatment:

- If ***the diarrhoea has not stopped (child is still having 3 or more loose stools per day),*** do a full reassessment of the child. Give any treatment needed. Then refer to hospital.
- If the ***diarrhoea has stopped (child having less than 3 loose stools per day),*** tell the mother to follow the usual feeding recommendations for the child's age.

12.4. Conduct A follow-up visit for Dysentery.

➢ DYSENTERY

After 2 days:

Assess the child for diarrhoea. *See ASSESS & CLASSIFY chart*

Ask:

- Are there fewer stools?
- Is there less blood in the stool?
- Is there less fever?
- Is there less abdominal pain?
- Is the child eating better?

Treatment:

- ➢ If the child is dehydrated, treat dehydration
- ➢ **If *number of stools, amount of blood in stools, fever, abdominal pain, or eating is the same or worse: REFER TO HOSPITAL***

Exceptions - if the child: - is less than 12 months old, or
- was dehydrated on the first visit, or
- had measles within the last 3 months

} Refer to hospital

- ➢ ***If fewer stools, less blood In the stools, less fever, less abdominal pain, and eating better,*** continue giving the same antibiotic until finished.

12.5. Conduct A follow-up visit for malaria Low/High Malaria Risk

Any child classified as having MALARIA (regardless of the risk of malaria) should return for a follow-up visit if the fever persists for 2 days. If the fever persists 2 days after the initial visit or if the fever returns within 14 days, this may mean that the child has a malaria parasite which is resistant to the first-line anti-malarial, causing the child's fever to continue. If the child also had MEASLES at the initial visit, the fever may be due to measles. It is very common for the fever from measles to continue for several days. Therefore, the persisting fever may be due to the measles rather than to resistant malaria.

The instructions for conducting a follow-up visit for a child classified as having MALARIA are the same for low or high malaria risk:

MALARIA (Low or High Malaria Risk)

If fever persists after 2 days:

- Do a full reassessment of the child. Use ASSESS & CLASSIFY chart.
- Assess for other causes of fever.
- Ask if the child has actually been taking the anti-malarial.

Treatment

- If the child has ***any general danger sign or stiff neck***, treat as VERY SEVERE FEBRILE DISEASE.
- If fever has been present everyday for more than 7 days, refer for assessment.
- Suspect relapsing fever if other cases are occurring and the child has high fever, headache with chills and rigor, refer. If referral is not possible treat with Amoxycillin. Advise the mother to return again in 2 days.
- If the child has any **cause of fever other than malaria**, provide treatment.

If *malaria is the only apparent cause of fever:*

Repeat blood film/RDT:

- If positive and no improvement,
- If he has not taken his anti-malarial properly, make sure that he takes it.
- If he took the anti-malarial properly, give second line anti-malarial drug. If no second line anti-malarial refer.
- If negative: advise the mother to complete the anti-malarial treatment properly and to return if no improvement. And manage other causes of fever.

Do a full reassessment of the child as on the *ASSESS & CLASSIFY* chart. As you reassess the child, look for the cause of the fever, possibly pneumonia, meningitis, measles, ear infection, or dysentery. Also consider whether the child has any other problem that could cause the fever, such as tuberculosis, urinary tract infection, osteomyelitis, tonsillitis or abscess. Do not use the classification table of the *ASSESS & CLASSIFY* chart to classify the child's fever. Instead, choose the appropriate treatment shown in the follow-up box.

If you suspect a cause of fever other than malaria, assess the problem further if needed and refer to any guidelines on treatment of the problem.

If the child has **any general danger signs, bulging fontanels or stiff neck**, treat as described on the *ASSESS & CLASSIFY* chart for VERY SEVERE FEBRILE DISEASE.

12.6. Conduct A follow-up visit for fever –No malaria (Low/high Malaria Risk)

➢ FEVER-NO MALARIA (Low/High Malaria Risk)

If fever persists after 2 days:

- Do a full reassessment of the child. See ASSESS & CLASSIFY Chart
- Assess for other causes of fever.

Treatment:

- ➢ If the child has ***any general danger sign or stiff neck***, treat as VERY SEVERE FEBRILE DISEASE.
- ➢ If fever has been present every day for more than 7 days, refer for assessment.
- ➢ Suspect relapsing fever if other cases are occurring and the child has high fever, headache wi chills and rigor, refer, if not possible treat with Amoxicillin. Advise the mother to return again in days.
- ➢ If the child has any ***cause of fever other than malaria***, provide treatment.

If *malaria is the only apparent cause of fever:*

- Repeat BF/RDT:
  - If positive treat with the first -line oral antimalarial. Advise the mother to return again in 2 days if the fever persists.
  - If negative manage for other causes of fever

When a child has a low malaria risk, and fever persists after 2 days, there may be some cause of fever that was not apparent at the first visit. Do a full reassessment of the child as on the *ASSESS & CLASSIFY* chart. Then select the appropriate treatment in the follow-up box. Look for other possible cause of fever, such as tuberculosis, urinary tract infection, osteomyelitis, tonsillitis or abscess.

➢ FEVER (No Malaria Risk)

If fever persists after 2 days:

Do a full reassessment of the child,. See ASSESS & CLASSIFY Chart
Enquire thoroughly about travel to malarious areas
Assess for other causes of fever.

.

Treatment:

- If the child has ***any general danger sign or stiff neck***, treat as VERY SEVERE FEBRILE DISEASE.
- If there is travel history do BF/RDT.
  - If positive treat with first-line oral anti malarial and advise the mother to return again in days if the fever persists.
  - If BF/RDT is negative manage for other cause of fever
- If *fever has been present every day for more than 7 days, refer for assessment.*
- Suspect relapsing fever if other cases are occurring and the child has high fever with chills a headache, refer, if not possible treat with Amoxicillin. Advise the mother to return again in 2 days if fever persists

12.7. Conduct A follow-up visit measles with eye or mouth complications

When a child who was classified as having MEASLES WITH EYE OR MOUTH COMPLICATIONS returns for follow-up in 2 days, follow these instructions:

➢ MEASLES WITH EYE OR MOUTH COMPLICATIONS

After 2 days:

Do a full reassessment of the child. See ASSESS & CLASSIFY Chart
Look for red eyes and pus draining from the eyes.
Look for mouth ulcers.

Treatment

- If the child has ***any general danger sign or clouding of cornea or deep or extensive mouth ulcer, treat as SEVERE COMPLICATED MEASLES***
- If ***pus is draining from the eye,*** ask the mother to describe how she has treated the eye infection. If treatment has been correct, refer to hospital. If treatment has not been correct, teach mother correct treatment.
- If ***the pus is gone but redness remains***, continue the treatment.
- If ***no pus or redness***, stop the treatment.
- If **mouth ulcers are the same or better,** continue using half-strength gentian violet for a total of 5 days.

The mother should continue to feed the child appropriately to make up for weight lost during the acute illness and to prevent malnutrition. Review with the mother when to seek care and how to feed her child as described on the *COUNSEL THE MOTHER* chart. Tell her that attention to feeding is especially important for children who have measles because they are at risk of developing malnutrition.

Because the child with measles continues to have increased risk of illness for months, it is important that the mother knows the signs to bring the child back for care. Children who have measles are at increased risk of developing complications or a new problem, due to immune suppression which occurs during and following measles.

12.8. Conduct A follow-up visit for ear complications

When a child classified as EAR INFECTION, return for a follow-up visit after 5 days. Follow the instructions below. These instructions apply to an acute or a chronic ear infection

➢ **EAR INFECTION**

After 5 days:

Reassess for ear problem. *See ASSESS & CLASSIFY* chart

Treatment:

- If there is ***tender swelling behind the ear*** refer URGENTLY to hospital.
- ***Acute ear infection:*** if ear pain or discharge persists, treat with same antibiotics for 5 more days. Continue wicking to dry the ear. Follow-up in 5 days.
- ***Chronic ear infection:*** Check that the mother is wicking the ear correctly.
- Encourage her to continue wicking and the topical Quinolone ear drops.
- If ***no ear pain or discharge,*** praise the mother for her careful treatment. If she has not yet finished the 5 days of antibiotic, tell her to use all of it before stopping.

12.9. Conduct A follow-up visit for anemia.

When a child who had palmar pallor returns for a follow-up visit after 14 days, follow these instructions:

> ➢ **ANEMIA**
>
> **After 14 days:**
>
> Reassess feeding. See question at the top of the COUNSEL chart.
>
> Ask about any feeding problems found on the initial visit.
>
> **Treatment:**
>
> - ➢ Give iron. Advise mother to return in 14 days for more iron.
> - ➢ Continue giving iron every 14 days for 2 months.
> - ➢ If the child has palmar pallor after 2 months, refer for assessment

12.10. Conduct A follow-up visit for feeding problem

When a child who had a feeding problem returns for follow-up in 5 days, follow these instructions:

> ➢ **FEEDING PROBLEM**
>
> **After 5 days:**
>
> Reassess feeding. See question at the top of the COUNSEL chart.
>
> Ask about any feeding problems found on the initial visit.
>
> **Treatment:**
>
> - Counsel about any new or continuing feeding problems. If you counsel the mother to make significant changes in feeding, ask her to bring the child back again.
> - If the child is <2 months and Underweight or has Moderate Acute Malnutrition, ask the mother to return 14 days after the initial visit to measure the child's weight gain.
> - If the child is 2 months to 5 years and has Moderate Acute Malnutrition or Underweight, ask the mother to return 30 days after the initial visit to measure the child's weight gain.

Reassess the child's feeding by asking the questions in the top box on the *COUNSEL THE MOTHER* chart. Refer to the child's chart or follow-up note for a description of any feeding problems found at the initial visit and previous recommendations. Ask the mother how she has been carrying out the recommendations. For example, if on the last

visit more active feeding was recommended, ask the mother to describe how and by whom the child is fed at each meal.

- Counsel the mother about any new or continuing feeding problems. If she encountered problems when trying to feed the child, discuss ways to solve them.
    - For example, if the mother is having difficulty changing to more active feeding because it requires more time with the child, discuss some ways to reorganize the meal time.
- If the child is underweight or has moderate acute malnutrition, ask the mother to return 30 days after the initial visit. At that visit a health worker will measure the child's weight gain to determine if the changes in feeding are helping the child

Example:
On the initial visit the mother of a 2-month-old infant said that she was giving the infant 2 or 3 bottles of milk and breastfeeding several times each day. The health worker advised the mother to give more frequent, longer breastfeeds and gradually reduce other milk or foods.

At the follow-up visit, the health worker asks the mother questions to find out how often she is giving the other feeds and how often and for how long she is breastfeeding. The mother says that she now gives the infant only 1 bottle of milk each day and breastfeeds 6 or more times in 24 hours. The health worker tells the mother that she is doing well. The health

worker then asks the mother to completely stop the other milk and breastfeed 8 or more times in 24 hours. Since this is a significant change in feeding, the health worker also asks the mother to come back again. At that visit the health worker will check that the infant is feeding frequently enough and encourage the mother.

12.11. Conduct A follow-up visit for uncomplicated severe acute malnutrition.

Most children with uncomplicated severe acute malnutrition are cured within 6 weeks of follow up and treatment in OTP. Children who fail to achieve the discharge criteria after

8 weeks of OTP treatment, are reported as **non-responders** and should be referred for further investigation and management.

Children with uncomplicated severe acute malnutrition are followed up every week.

Follow-up done every 7 days for at least 2 months as follows: -

Ask about

- Feeding, if the child is finishing the weekly ration
- Diarrhea, vomiting, fever or any other new complaint

Check for –

- General danger signs, Medical complication, Temperature and Respiratory Rate
- Weight, MUAC, edema and anemia
- Do appetite test
- Assess and classify if there is any new complaint (Use Assess & Classify Chart)

Treatment:

If there is any one of the following, refer for inpatient care :

- Any danger sign or medical complication present or failed appetite test
- Poor response - Increase/develop oedema, weight loss of more than 5% of body weight at any visit or for 2 consecutive visits, static weight for 3 consecutive visits or failure to reach the discharge criteria after 2 months of OTP treatment.

If there is no indication for referral:

- Continue OTP treatment :give a weekly ration of RUTF
- Give routine drugs at appropriate times: Mebendazole on 2nd visit; Measles Vaccine on the 4th week; Vitamin A on the 4th week or at discharge if edema persist.
- Record the information on the OTP card
- Give appointment for next follow up

If the following criteria are fulfilled, discharge from OTP follow up:

- For a child admitted with edema - absence of edema for 2 consecutive visits

The table below summarizes **the criteria for failure to respond in OTP**. If a child in OTP has any one of the criteria below, should be transferred to inpatient unit.

Table 12.1: criteria for failure to respond in OTP

Out Patients	
Criteria for failure to respond	**Time after admission**
Primary failure to respond	
Failure to gain any weight (non-oedematous children)	21 days
Failure to start to loose oedema	14 days
Oedema still present	21 days
Secondary failure to respond	
Failure of Appetite test	At any visit
Weight loss of 5% of body weight	At any visit
Weight loss for two successive visits	During OTP care
Failure to gain more than 2.5g/kg/d for 21days (after loss of oedema (kwashiorkor) or after day 14 (marasmus)	During OTP care

12.12. Conduct A follow-up visit for moderate acute malnutrition or underweight

A child who is classified as MODERATE ACUTE MALNUTRITION should return for follow-up after 30 days. The child would return in 5 days if there is a feeding problem.

Some clinics have specially scheduled sessions for nutritional counseling, and malnourished children are asked to come for follow-up at this time. A special session allows the health worker to devote the necessary time to discuss feeding with several mothers and perhaps demonstrate some good foods for young children.

To determine whether a child aged 2 months to 5 years, is underweight or not underweight, measure the weight of the child and determine weight for age (WFA) on the weight for age Z-Score chart. If the child's **WFA is below -2 Z-score; then the child has UNDERWEIGHT.** If the **WFA Z-score is > -2 Z-score, then the child is NOT UNDERWEIGHT**.

Follow these instructions for a follow-up visit after 30 days for a child with MODERATE ACUTE MALNUTRITION OR UNDERWEIGHT:

➢ Moderate Acute Malnutrition (MAM)

After 30 days:

- ▶ Assess the child using the same measurement (WFH/L or MUAC) used on the initial visit:
- ♦ If WFH/L, weigh the child, measure height or length and determine if WFH/L.
- ♦ If MUAC, measure using MUAC tape.
- ♦ Check the child for oedema of both feet. See questions at the top of the COUNSEL chart.

Treatment:

- If feeding did not improve and/or child has lost weight, refer the child. And also if you think that feeding will not improve, refer the child.
- If the child **no longer has MAM**, praise the mother and encourage her to continue age appropriate feeding.
- If the child still **has MAM**, counsel the mother about any feeding problem found. Ask the mother to return again in one month. Continue to see the child monthly until the child is feeding well and gaining weight regularly or no longer has MAM or UW for age.

12.13. Give follow-up care for the sick young infant

Follow-up visits are recommended for young infants who are classified as having LOCAL BACTERIAL INFECTION, FEEDING PROBLEM OR LOW WEIGHT (including thrush). Instructions for carrying out follow-up visits for the sick young infant age birth up to 2 months are on the *YOUNG INFANT* chart.

As with the sick child who comes for follow-up, a sick young infant is assessed differently at a follow-up visit than at an initial visit. Once you know that the young infant has been brought to the clinic for follow-up, ask whether there are any **new** problems. An infant who has a new problem should receive a full assessment as if it were an initial visit.

If the infant does not have a new problem, locate the section of the *YOUNG INFANT* chart with the heading "Give Follow-Up Care for the Sick Young Infant." Use the box that matches the infant's previous classification.

The instructions in the follow-up box (for the previous classification) tell how to assess the young infant. These instructions also tell the appropriate follow-up treatment to give. Do not use the classification tables for the young infant to classify the signs or determine treatment.

12.14. Routine Newborn Follow-up

Routine Postnatal care (PNC) practices are crucial for the survival of both the baby and mother by enabling early detection, referral and treatment of potentially life-threatening complications. PNC also helps to reinforce preventive behaviors and practices, such as optimal breast feeding, warming and hygienic care of the infant. Early postnatal care visits are crucial because the majority of maternal and newborn deaths occur in the first week, especially on the first day, and this period is also the key time to promote healthy behaviors. It is estimated that 50% of neonatal mortality occurs during the first 24 hours and 75% during the first week of life. In Ethiopia, 32% of neonatal deaths are due to infections, 29% due to birth asphyxia and 24% related with prematurity and low birth weight.

PNC services can be delivered at a health facility, through home visits by health workers, or through a combination of care in facilities and at home. If the mother is in a facility, she and her baby should be assessed within one hour of birth and again before discharge. If birth occurs at home, the first visit should target the crucial first 24 hours after birth plus additional contacts at days 3 & 7 and at 6 weeks.

Since the majority of newborn deaths occur among low birth weight (LBW) babies, PNC should also include extra care of LBW newborns for breastfeeding, warmth, and early identification of danger signs.

Postnatal care for all newborns should include immediate and exclusive breastfeeding, warming of the infant, hygienic care of the umbilical cord, and timely identification of danger signs with referral and treatment.

For mothers, recommended care includes monitoring and referral for complications such as excessive bleeding, pain, and infection; counseling on breast care and breastfeeding; and advice on nutrition during breastfeeding, newborn care practices, and family planning.

6 to 24 hours evaluation/visit:

- Measure and record weight & temperature
- Check for any newborn danger signs listed below
- Check for any danger signs in the mother (see page 10)

- Refer newborn & mother to hospital if any danger sign in the newborn or mother
- Classify by birth weight/GA (see Assess & Classify Chart) & counsel on extra care for the Low Birth Weight baby (pg.12& 13)

- Give Vitamin K, OPV-0 & BCG if not given
- Counsel mother on optimal breastfeeding, & teach ALL mothers on proper positioning & attachment for breastfeeding
- Counsel mother to keep the baby warm (delay bath after first 24 hrs, skin-to-skin care, proper wrapping & put a hat)
- Counsel on hygiene and good skin, eye and cord care
- Teach mother to identify neonatal danger signs & to seek care immediately

- Counsel the lactating mother to take at least 2 more variety meals than usual
- Give one capsule of 200,000 Vitamin A to the mother
- Advise on importance of postnatal visits on days 3 & 7

3 and 7 days' visit:

- Measure temperature; & weight (if no birth weight record)
- Check for any newborn danger signs listed below
- Check for any danger signs in the mother (see page 10)

- Refer newborn & mother to hospital if any danger sign in the newborn or mother
- Classify by birth weight/GA (see Assess & Classify Chart) & counsel on extra care for the Low Birth Weight baby (pg.12& 13)
- Give OPV-0 & BCG if not given before
- Counsel mother on optimal breastfeeding, & teach ALL mothers on proper positioning & attachment for breast feeding
- Counsel mother to keep the baby warm (delay bath after first 24 hrs, skin-to-skin care, proper wrapping & put a hat)
- Counsel on hygiene and good skin, eye and cord care
- Teach mother to identify neonatal danger signs & to seek care immediately

- Counsel the lactating mother to take at least 2 more variety meals than usual
- Give one capsule of 200,000 Vitamin A to the mother if not given before
- Advise mother to return for next PNC follow up visit

6 weeks visit:

- Check for danger signs in the newborn and mother
- Check for Feeding Problem or Underweight (see ASSESS & CLASSIFY Chart)

- Refer newborn & mother to hospital if any danger sign in the newborn or mother
- Give appropriate counseling based on the assessment for Feeding Problem or Underweight
- Give DPT1- HepB1-Hib1, OPV-1, PCV-1; & BCG (if not given before)
- Follow-up advices given during previous visits
- Counsel mother to protect baby from infection & to continue immunization schedule

- Counsel mother on the need of family planning & eating 2 more extra meals
- Give 200,000IU Vitamin A to the mother if not given before
- Advise mother & baby to sleep under ITN (in malarious areas)

Newborn Danger signs:

Refer baby urgently if any of the following is present:

1. Unable to feed or sucking poorly
2. Repeated Vomiting
3. Convulsions
4. Movement only when stimulated or no movement, even when stimulated
5. Gasping or breathing < 30 per minute

6. Cyanosis (Blue tongue & lips)
7. Fast breathing (>60/minute, counted 2 times), grunting or severe chest in-drawing
8. Fever (hot to touch or axillary temperature ≥ 37.5°C)
9. Hypothermia (cold to touch or axillary temperature <35.5°C)
10. Severe jaundice (observed at <24 hrs or ≥ 14 days of age, or involving soles & palms)
11. Pallor or bleeding from any site,
12. Red swollen eyelids and pus discharge from the eyes
13. Very small baby (<1500 grams or <32 weeks gestational age)
14. Any other serious newborn problem

Maternal danger signs:-

Refer mother and baby urgently for proper care if any of the following is present:

1. Excessive Vaginal bleeding
2. Foul smelling Vaginal discharge
3. Severe abdominal pain
4. Fever
5. Excessive tiredness or breathlessness
6. Swelling of the hands and face
7. Severe headache or blurred vision
8. Convulsion or impaired consciousness

12.15. Low birth Weight /Preterm , low body temperature

LOW BIRTH WEIGHT/PRETERM, LOW BODY TEMPRATURE

After 2 days for low body temperature,

Weekly follow-up for low birth weight or preterm

- Check for danger signs in the newborn
- Counsel and support optimal breastfeeding
- Follow-up of kangaroo mother care
- Follow-up of counseling given during previous visits
- Counsel mother/ family to protect baby from infection
- Give one capsule of 200,000IU Vitamin A to the mother if not given before
- Immunize baby with OPV & BCG if not given before

12.16. Jaundice

JAUNDICE

After 2 days:

- Ask for new problems, if there is any do a full assessment.
- Look for jaundice - Are the palms and soles yellow?

Treatment:

- If the palms and soles are yellow or age ≥14 days. refer to hospital
- If palms and soles are not yellow and age ≤14 days, and jaundice has not decreased; advise on home care, when to return immediately and ask her to return for f/up in 2 days.
- If jaundice has started decreasing, reassure mother and ask her to continue home care. Ask her to return for f/up at 2 weeks of age. If jaundice continues beyond 2 weeks of age, refer to hospital.

12.17. Local Bacterial Infection

When a young infant classified as having LOCAL BACTERIAL INFECTION returns for follow-up in 2 days, follow these instructions:

Look at the umbilicus. Is it red or draining pus? Does redness extend to the skin?

Look at the skin pustules. Are there many or severe pustules?

LOCAL BACTERIAL INFECTION

After 2 days:

- Ask for new problems, if there is any do a full assessment.
- Look at the umbilicus. Is it red or draining pus? Does redness extend to the skin?
- Look at the skin pustules. Are there many or severe pustules?

Treatment:

- If ***pus or redness remains or is worse,*** refer to hospital.
- If ***pus and redness are improved***, tell the mother to continue giving the 5 days of antibiotic and continue treating the local infection at home.

12.18. Feeding Problem

When a young infant who had a feeding problem returns for follow-up in 2 days, follow the instructions in the box below

FEEDING PROBLEM

After 2 days:

- Ask for new problems, if there is any do a full assessment.
- Reassess feeding. See “Check for Feeding Problem or Underweight” chart.
- Ask about any feeding problems found on the initial visit.

Treatment:

- Counsel the mother about any new or continuing feeding problem. If you counsel the mother to make significant changes in feeding, ask her to bring the young infant back again.
- If the young infant is underweight for age, ask the mother to return in 14 days after the initial visit to measure the young infant’s weight gain.

Exception:

- If you think that feeding will not improve, or if the young infant has ***lost weight***, refer the child.

Assess breastfeeding if the infant is breastfed.

Refer to the young infant's chart or follow-up note for a description of the feeding problem found at the initial visit and previous recommendations. Ask the mother how successful she has been carrying out these recommendations and ask about any problems she encountered in doing so.

- Counsel the mother about new or continuing feeding problems. Refer to the recommendations in the box "Counsel the Mother about Feeding Problems" on the *COUNSEL* chart and the box "Teach Correct Positioning and Attachment for Breastfeeding" on the *YOUNG INFANT* chart.
    - For example, you may have asked a mother to stop giving infant drinks of water or juice in a bottle, and to breastfeed more frequently and for longer. You will assess how many times she is now breastfeeding in 24 hours and whether she has stopped giving the bottle. Then advise and encourage her as needed.
- If the young infant is low weight for age, ask the mother to return 14 days after the initial visit. At that time, you will assess the young infant's weight again. Young infants are asked to return sooner to have their weight checked than older infants and young children. This is because they should grow faster and are at higher risk if they do not gain weight.

12.19. Underweight

When a young infant who was classified as UNDERWEIGHT returns for follow-up in 14 days, follow the instructions in the box below

UNDERWEIGHT

After 14 days:

- Ask for new problems, if there is any do a full assessment.
- Weigh the young infant and determine if the infant is still underweight.
- Reassess feeding. See “Check for Feeding Problem or underweight.” above.

Treatment:

- If the infant is ***no longer underweight***, praise the mother and encourage her to continue.
- If the infant is ***still underweight, but is feeding well;*** praise the mother. Ask her to have her infant weighed again within a month or when she returns for immunization.
- If the infant is ***still underweight and still has a feeding problem***, counsel the mother about the feeding problem. Ask the mother to return again in 14 days (or when she returns for immunization, if this is within 2 weeks). Continue to see the young infant every few weeks until the infant is feeding well and gaining weight regularly or is no longer underweight.

Exception:

- If you think that feeding will not improve, or if the young infant has **lost weight**, refer to hospital

12.20. Thrush

When a young infant who had thrush returns for follow-up in 2 days, follow these instructions:

THRUSH

After 2 days

- Ask for new problems, if there is any do a full assessment.
- Look for ulcers or white patches in the mouth (thrush).
- Reassess feeding. See “Check for feeding problem or underweight” above.

Treatment:

- If ***thrush is worse,*** or the infant has problems with attachment or suckling,

refer to hospital.

- If ***thrush is the same or better***, and if the infant is feeding well, continue Nystatin or half-strength gentian violet (0.25%) for a total of 7 days.

Self-Check -12	Written Test

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

Read about each child who came for follow-up of pneumonia. Then answer the questions about how you would manage the child.
Refer to any of the case management charts as needed.

1. Ahmed has been brought for a follow-up visit for PNEUMONIA. He is three years old male and weighs 12.5 kg and his height is 90 cm. His axillary temperature is 37^0C. He has been taking Amoxicillin His mother says he is still sick and has vomited twice today.
   A. How would you reassess Ahmed today?
   B. List the signs you would look for and the questions you would ask his mother?

When you reassess Ahmed, you find that he is able to drink and does not always vomit after drinking. He has not had convulsions. He is not lethargic or unconscious. He is still coughing, so he has been coughing now for about 2 weeks. He is breathing 55 breaths per minute. He has chest indrawing. He does not have stridor. His mother says that sometimes he feels hot. She is very worried because he is not better. He has hardly eaten for two days.

   A. Is Ahmed getting worse, the same, or better?
   B. How should you treat Ahmed? If you would give a drug, specify the dose and schedule.

2. Sara's mother has come back to the clinic because Sara still has a fever. Three days ago she was given coartem for MALARIA. Her mother says that she is sicker now,

vomiting and very hot. Sara is 18 months old and weighs 11 kg. Her length is 79 cm. Her axillary temperature is 39.^{0}C today.

When you assess Sara, her mother says that yesterday she could drink, but she vomited after eating. She did not always vomit after drinking a small amount. She has not had convulsions. She will not wake up when her mother tries to wake her. She is unconscious. Her mother says that she does not have a cough or diarrhea. She has now had fever for 5 days. She does not have stiff neck, runny nose or generalized rash. She does not have an ear problem. She was classified as having NO ANAEMIA AND NO ACUTE MALNUTRITION.

a. How would you treat Sara?
b. If you would give drugs, specify the dose and schedule?

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

Score = _____

Rating: _____

Name: _____ Date: _____

Operation Sheet 1	Techniques of Providing ICCM

The method used for providing ICCM

Step 1: Great the mother or care giver & offer a seat

Step 2: Ask why she/they came to you and take history

Step 3: Explain the procedure, wash your hand and collect equipments

Step 4: Take vital sign and anthropometric measurements

Step 5: Ask any general danger sign

Step 6: Assess the general condition of the child (ASK, LOOK, FEEL)

Step 7: Based on the presenting symptom and sign of the child classify him/her by using the chart booklet

Step 8: Provide the appropriate management/ referral in line with your classification of the case

Step 9: Provide counseling and follow-up care

Step 10: Record all your activities

Step11: Clean equipments and wash your hands

.

\

LAP Test	Provide ICCM

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: W/o Worke brought her 14 months old boy whose weight is 9kg to your health post with compliant of diarrhea for 14days. When you assess you found that he has sunken eye, irritable and restless on physical examination you found he drink water eagerly and skin pinch goes back slowly.

A. Classify the child illness?
B. Identify the treatment needed ?
C. Provide health education foe his mother?

Task 2 A 10 months child Presents to your health post having MAUC 10cm, edema of both feet with no other medical complication

A. Classify the child illness?
B. Identify the treatment needed?
C. Provide heath education foe his mother ?

Instruction Sheet	LG54: Refer child requiring further care

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

- Refer child with serious illnesses
- Effective communication with care givers

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 –**

- Document relevant child's details according to standard guidelines.
- Maintain client confidentiality at all times and levels.
- Ensure documentation for activities and procedures
- Convey appropriate information to individuals involved in referral to facilitate understanding and optimal care.
- Maintain child's care until responsibility is taken over by staff of the receiving institutions during referral.

Learning Instructions:

10. Read the specific objectives of this Learning Guide.
11. Follow the instructions described below 3 to 4.
12. Read the information written in the information "Sheet 1, and Sheet 2,**in page 1, and 7** respectively.
13. Accomplish the "Self-check 1,and Self-check 2" **in page 6, and 11** respectively

Information Sheet-1	Refer child with serious illnesses

1.1. Introduction

Most sick children often begin treatment or care in the health post and need to continue treatment at home. In some cases, the very sick children with serious problem are to be referred to a health centre or hospital for additional treatment. If so, you will begin urgent pre-referral treatment before the children leave your health post. You will communicate and counsel the mother about the care with urgent referral and to help her organize possible community transportation in situations where referral of children with severe illness is critical.

1.2. Definition of referral for further care

Referral can be defined as a process of referring a sick child to a health centre or hospital for further care and treatment. Because the health post having insufficient resources (drugs, equipment, skills).

Referral is a two way process and ensures that a continued care is maintained to clients/children. It is done from the community to your health post and from your health post to next higher health facility. It also involves not only direct patient care but support services such as transport and communication. The referral process begins by the referring health professional communicating to the receiving health professional relevant patient information. The receiving health professional communicates back to the referring health professional with information and plan for continuum of care thereby completing the referral process.

1.2.1. **Referring Unit/Facility** is a health service facility that initiates the referral Process. Your health post can be both a referring to higher health centre or hospital and receiving unit from higher facility for follow up and continuous care. If you are referring unit, facilitate transportation and write communication format to inform your actions to solve the problem on the way.

1.2.2. **Receiving Unit/Facility** is a health service facility that receives clients from referring units and ensures that required care is given to the client and

returns the patient with feedback. As a community health worker should incorporate the feedback given into your future child health activity.

1.2.3. Reasons of referring a child to a health centre or hospital

The following are considered good reasons for referring a child to higher facility:

- When a child needs urgent care for severe health problem
- When a child has a severe classification/s in the ICCM classification chart
- When the identified care is beyond the capabilities of your facility
- When children's require inpatient care that cannot be given at your facility

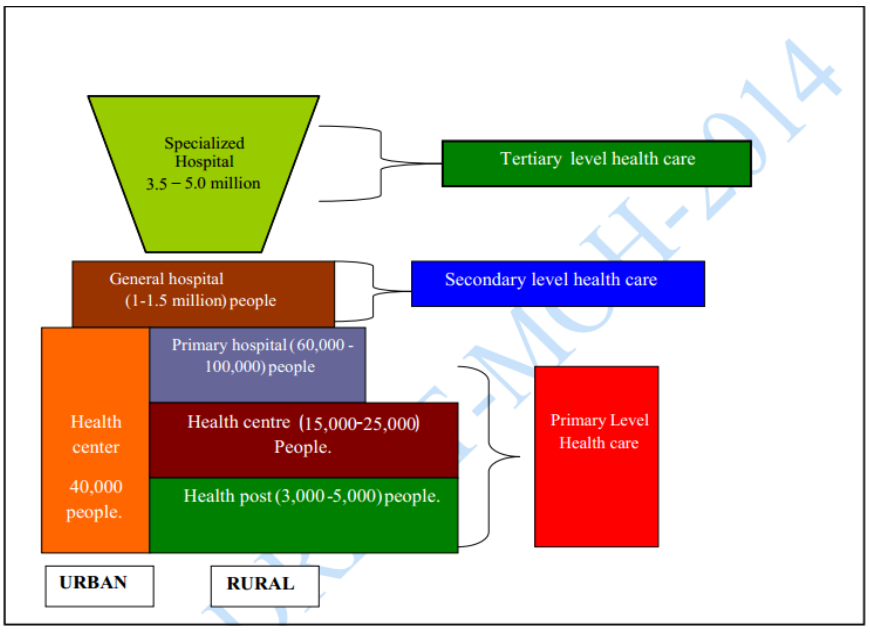


Figure 1.1: The New Ethiopian Health Tier System (FMOH, 2010: Guideline for referral system)

1.3. Children with serious childhood illnesses need referral

Most children who have a general danger sign also have a severe classification. They will be referred for their severe classification. In rare instances, children may have general danger signs without severe classification. The children with those severe conditions should be referred urgently. Make sure a child with any general danger sign is referred after taking first dose of appropriate pre-referral treatment.

You must ask yourself whether a child have any severe classification or other severe problem that cannot be treated at your health facility. For example, the child may have a severe problem that is not covered on the ICCM chart, such as severe abdominal pain. If

you cannot treat a severe problem, you will need to refer the child. Determine the severity of health condition for all children from birth up to 5 years age.

1.3.1. The New born danger signs for referral

The danger signs for newborn baby are listed below, refer baby urgently if any of these is present in newborn baby up to 7days of age:

1. Breathing ≤ 30 or ≥ 60b/m, grunting, severe chest in drawing, blue tongue & lips, or gasping
2. Unable to suck or sucking poorly
3. Feels cold to touch or axillary temperature < 35.5°C
4. Feels hot to touch or axillary temperature ≥ 37.5°C
5. Red swollen eyelids and pus discharge from the eyes
6. Redness, pus or foul odour around the cord or umbilicus
7. History of Convulsion (abnormal/unusual movement) or convulsing now
8. Jaundice/yellow skin — at age < 24 hours or > 2 weeks involving soles and palms
9. Palmar pallor

1.3.2. Severe classifications in newborn baby and young infants

Based on the ICCM chart booklet classification, if any one of the following classifications is for any infant refer him/her immediately with the appropriate pre-referral treatment and care.

- Very preterm and/or very low birth weight
- Very severe disease
- Local bacterial infection
- Severe jaundice
- Severe dehydration
- Severe persistent diarrhoea
- Dysentery
- Possible HIV infection (HIV exposed)
- Any other severe problem

1.3.3. Severe classifications for children 2months up to 5 years age

- Severe pneumonia or Very severe disease
- Severe dehydration

- Severe persistent diarrhoea
- Persistent diarrhoea
- Dysentery
- Very severe febrile disease
- Severe complicated measles
- Acute ear infection
- Severe complicated malnutrition
- Severe anemia
- Anemia
- Confirmed HIV infection
- Possible HIV infection
- Other severe problems

1.3. Identify urgent pre-referral treatment needed

The first dose treatments below are urgent because they can prevent serious complication such as progression of bacterial infection or cerebral malaria, corneal rupture due to lack of Vitamin A, or brain damage from low blood sugar and are also important to prevent worsening of the illness. When a child needs urgent referral, you must quickly identify and begin the most urgent treatments for that child. The following are urgent treatments. You will give the first dose of the drugs before referral in your health post. Give appropriate antibiotic and other drugs as follows and see the dose from each classifications of childhood illness.

First dose of Ampicillin and Gentamycin IV/IM for:

- Severe pneumonia or very severe disease
- Very severe febrile disease
- Severe complicated measles
- Complicated severe acute malnutrition
- Mastoiditis

First dose of Vitamin A for:

- Severe persistent diarrhea without oedema
- Severe complicated measles

First dose of Paracetamol for:

- Very severe febrile disease
- Any fever ≥38.50c
- Acute ear infection

First dose Artesunate rectal suppository for children ≥5 kg

- Very severe febrile disease

First dose of Tetracycline eye ointment

- Clouding of cornea in severe complicated measles
- Pus draining from the in severe complicated measles

Treat the child to prevent low blood sugar (this involves giving breast milk, other milk, or sugar water as described on the home care. When the child having sever persistent diarrhea Provide ORS solution and refer the child urgently.

Self-Check -1	**Written Test**

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

1. Nebiyu is a 6-month-old child. He has no general danger signs. The health extension service provider classified him as:NO PNEUMONIA:COUGH OR COLD, Diarrhoea with NO DEHYDRATION, PERSISTENT DIARRHOEA, NO ANAEMIA AND , and No other classifications Does Nebiyu need urgent referral? ___ **YES** ___ **NO**

2. If you classify a child as severely ill or with severe health problem in a health post, you are going to refer him or her to the next higher health centre in your woreda. Then which is the referring facility in this referral system?

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

Name: _____ Date: _____

Score = _____

Rating: _____

Information Sheet-2	Effective communication with care givers

2.1. Effective communication with care givers and receiving facility

Information to the mother, the family/support network is critical step before referral. Inform reasons and importance of referral, risks of non-referral, how to get to the receiving facility – location and transport, who to see and what is likely to happen.

2.1.1. Sharing information, confidentiality and consent

Consent should be informed and clearly explaining the process of referral and the information that will be shared for decision making. Everybody who works with or who has contact with children should be able to recognize and know how to act upon evidence. The referral process involves children and their families. Focus on outcomes for children after referral. The mothers socio-economic condition must considered in the referral process.

2.1.2. Communicate with child's mother during child referral

1. **Do four steps to refer a child to the health center or hospital:**

Explain to the mother about the need for referral, and get her agreement to take the child. If you suspect that she does not want to take the child, find out the possible reasons. These are:

- She thinks that hospitals are places where people often die and she fears that her child will be dying.
- She does not think that the hospital will help the child.
- There is no one to take care of her other children during her stay in the hospital/health centre
- She is needed for farming or any job during child care in the health center or hospital.
- She does not have money to pay for transportation, hospital bills, medicines or food for her during the hospital stay.
- Calm the mother's fears and help her resolve any problems.

- For example:
- If the mother fears that her child will die at the hospital, reassure her that the hospital has physicians, supplies, and equipment that can help cure her child.
- Explain what will happen at the hospital and how that will help her child.
- If the mother needs help at home while she is at the hospital, ask questions and make suggestions about who could help. For example, ask whether her husband, sister or mother could help with the other children or with meals while she is away.
- Discuss with the mother how she can travel to the hospital. Help arrange transportation if necessary.

You may not be able to help the mother solve all her problems and be sure that she goes to the hospital. However, it is important to do everything you can to help. If referral is not possible, there are some things you can do for the child from your clinic.

2. **Write a referral note to the child.**
    - The name and age of the child
    - The date and time of referral
    - Description of the child's problems
    - The reason for referral (symptoms and signs leading to severe classification)
    - Treatments that you have given
    - Any other information that the health worker at the hospital needs to know in order to Care for the child, such as earlier treatment of the illness or immunizations needed
    - Your name and the name of woreda, Keble and your health facility.
3. Give the mother any supplies and instructions needed to care for her child on the way to the hospital:
    - If the hospital is far, give the mother additional doses of antibiotic and tell her when to give them during the trip. If you think the mother will not actually go to the hospital, give her the full course of antibiotics, and teach her how to give them.
    - Tell the mother how to keep the young child warm during the trip.
    - Advise the mother to continue breastfeeding

2.1.3. Effective communication between referring and receiving facility

Write a referral note for the mother to take with her to the health centre. Tell her to give it to the health worker in the health centre and write the information below:

- The name and age of the child
- The date and time of referral
- Description of the child's problems
- Symptoms and signs leading to severe classification
- Treatments that you have given

Any other information that the health worker at the health centre needs to know in order to care for the child, such as earlier treatment of the illness or immunizations needed Your name, Woreda, Keble the name of your health post

REFERRAL FORM

Name _____

Date:_____

Referred to:_____Health center/hospital

Referring health post:_____

Name: _____Age:_____

Key Signs identified: _____

_____

Classifications: _____

_____

Any treatment/care given:_____

_____

Name of the HES Provider: _____Kebelle_____Woreda _____

Signature:_____

Note to receiving facility: On completion of child management please, fill this space, detach it send with patient or send by fax or mail to my facility.

Figure 2.1. Referral format

self-Check -2	Written Test

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

1. Abush is 11 months age male child, 9kg in weight and his body weight is measured 390c. His mother brought to a health post complaining cough for 3 days. On assessment he has generalized body rash, red eyes and clouding of the cornea. Depending on these finding, the health extension service provider classified Abush's condition as Severe Complicated Measles. For that classification he got urgent pre-referral treatment urgently. Ampciline 500mg 3ml and gentamaycine 40mg/ml 0f 2.7.ml IM, Vitamin A 100,000 IU orally1 capsule and Paracetamole100mg orally 1tab in the health post. A.

   Fill the referral form from the given information for Abush as pre-referral treatment and means of communication with receiving health centre

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

Score = _____

Rating: _____

Name: _____ Date: _____